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Proficiency in Crop Production is Demonstrated by Utah Future Farmer. Union Pacific Railroad Photo. (Story on Page 180)

The Agricultural Education Magazine



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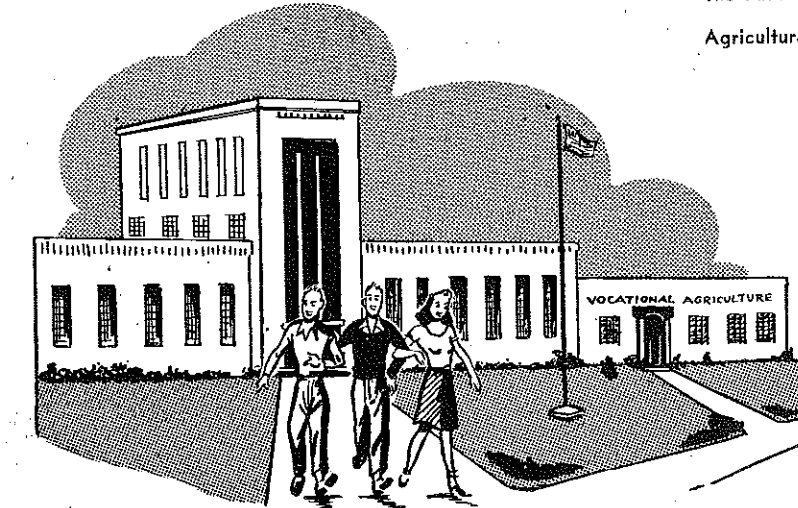
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Editorials	
Land of Learning	171
Teacher Representation	171
Time for Individual Instruction	
H. M. Byram	171
Teaching Agriculture in a Fruit Area	172
Walter W. Fisk and Kenneth Thomas	
Value in F.F.A. Horticultural Exhibits	172
Clarence V. Jean	
Education and Greener Pastures	173
Arthur J. Pratt	
Pasture Contest in Georgia	174
T. G. Walters	
Demonstration Plot	175
J. B. Morton	
Cooperative School Farm	175
C. M. Spearin	
Conservation Conference	176
Fred A. Tuthill, Jr.	
Getting an Early Start With Crop Projects	177
E. G. Ford	
Farmers Trade Bahia Grass Seed for Pasture Mowing at Cottondale	177
Sam Morrow	
Crop Projects in Farming Programs	178
James H. Handy	
Keep Veterans Interested	179
Vernon Luther	
Wise Use of Soil and Water Basis of Program for Adults	180
Orval C. Floyd	
Story of Our Cover Farmer	180
L. R. Humpherys	
Developing Departments of Vocational Agriculture in Cities	182
James P. Bressler	
Young Farmers Associations	183
San Hoy Wong	
Bringing the Farm to the School	184
E. Kenneth Ramsburg	
Recognizing the Individual	185
L. W. Bracey	
Parents' Night	186
Water L. Wess	
Change Judging Contests	187
Claude Gillette	
Program in Agricultural Education	188
Verd Peterson	
The Future of Agriculture	189
W. I. Myers	
Agricultural Education in Cyprus	191
British Information Services	



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Editorial Comment

Land of learning

WE are focusing attention on the problem of developing abilities in crop production. It is a unique problem in terms of education. It is an important problem to our society. A land of learning is required in the literal sense, to insure maximum development of our capacity to produce in abundance, and to protect our renewable resources.

Providing participating experiences for the learner is accepted as an essential requirement in all types of vocational education. In general, learners can have only one experience per year in producing a crop of corn, wheat, cotton, hay, tobacco or other major crops. A lifetime of learning does not provide for many trials, let alone guided trials which are generally possible in other types of occupational preparation.

It is true that in teaching we break crop production into many parts including seed selection, fitting the soil, choosing a fertilizer and other units. A number of trials may be provided in each. However, the complete experience of producing a crop is obtained a small number of times. It is important that provisions for learning experiences should be most carefully evaluated.

A land laboratory for each department of vocational agriculture is regarded by many as essential. There is merit in its supporters' claim, that a land laboratory makes possible an increase in the number of learning experiences which are satisfactory even though conducted on a non-commercial scale. New varieties can be tested. Rates and practices of fertilization can be tried. Various rates of seeding and fertilization recommended by research can be evaluated in terms of local conditions. In these and other ways it appears that the learners are provided extended opportunities over those available to them in an enterprise of their own. It also permits ideas to be tried out and tested which may not be common to the community.

We will need to go beyond the laboratory type experience to insure a sufficiency of learning. The organization of crop projects in each farming program will continue to constitute a basic learning experience in which the learner sets goals, makes plans, carries them out and judges results. The extension of instruction in crop production to young and adult farmers is definitely indicated by the rapidity of new developments. A land laboratory can function to advantage even for instruction with established farmers, it can help to make a land of learning.

Rapid and widespread application of new findings in crop production offers tremendous possibilities. Educators can speed the process by recognizing its nature and importance and by providing the necessary facilities and resources. Land owned by students and land in farms of the community can usually be used in affording experiences to youth. When conditions prevent or limit the use of such private land, public land for learning may rightly be regarded as essential.

Time for individual instruction

A recent excellent editorial entitled "Teachers Our Best Resources" has called attention to the important role of the teacher as a resource in group learning. Included, however, in the discussion is one statement which constitutes a challenge to everybody engaged in the important business of training farmers. It is, "Not until another summer will we have time for intensive work with individuals if our assignments include the high-school group."



H. M. Byram

In the main, this statement, unfortunately, is true. As contrasted with the schedule of typical teachers of institutional on-farm training, the schedule of the typical teacher of in-school assignments. Administrators frequently apply pupil-teacher ratios of other teachers in justifying schedules of teachers of vocational agriculture. Often times they do not understand that individual instruction, including year-round instruction on the farm is essential in the training of farmers. If the superintendent does not understand this fact, how can the principal and other teachers in the school be expected to? Here is an important task of the teacher of agriculture, but also of all teacher-educators: to acquaint school staffs with the essentiality of individual instruction in farmer training.

Other Areas of Vocational Education Solve Problem

Coordinators of distributive education, office training, and cooperative trade and industrial education programs typically are free from class or other in-school activity for a half day. Even in scheduled classes much of the activity is supervised study and individual instruction. There apparently is little criticism by administrators and teachers regarding this arrangement. Its purposes are understood. Of course, in the program of veterans' training the teacher of veterans spends even more time in individual instruction. Are we to allow this program to be discontinued—as it must be when entitlements run out—without salvaging from it the idea of individual on-farm instruction which is proving so effective, and without incorporating at least some of it into high-school programs? We shall either have to do this or to confess that our high-school classes in agriculture are not truly vocational, i.e. actually training farmers. We can not claim that classroom work alone will do the job. We know better now.

How can teachers get time for individual instruction? At present the importance of individual instruction is given scant recognition by Federal policies which govern State plans for vocational education. Minimum standards for length of period for classes are very specific and are vigorously defended. But no comparable time requirement is set up nor even suggested for activities in the development of supervised farming programs and for other individual on-farm (Continued on Page 181)

Teacher Representation

TEACHERS gained an additional representative on the Editing-Managing Board of the magazine as a result of the action taken at the Board's meeting held in Atlantic City at the time of the A.V.A. Convention. Mr. Maxwell Lampo of Neosho, Missouri was elected by the National Agriculture Teachers Association for a three year term as special representative. The President of the National Association, Mr. Parker Woodul, New Mexico, was named as ex-officio member. The practice of having the president of the state association in the state which is host to the convention serve on the Board will be discontinued. This action is designed to give teachers, through their organization, a real opportunity and responsibility for the magazine. The

¹"Teachers Our Best Resources," *The Agricultural Education Magazine*, 22-51, September, 1949.

²Federal Security Agency, Office of Education, *Administration of Vocational Education*, Voc. Ed. Bul. No. 1, Gen. Series No. 1, Revised 1948, p. 39, Washington: U. S. Government Printing Office, 1949.

manner of selection and length of term insure opportunity to discharge the duties efficiently.

An additional special editor, a classroom teacher, was also authorized. Mr. L. E. Cross, Past President of the National Association has been elected to serve as special editor. The full cooperation and support of the profession will be given to these men in their new positions.

Teaching agriculture in a fruit area

WALTER W. FISK AND KENNETH THOMAS*, Teachers, Wolcott, New York

DO any problems arise in the planning and carrying out of the high school vocational agriculture and/or supervised farming programs which are peculiar to the fruit area? The answer is definitely yes. Though problems in other areas may be no closer to solution, the teaching problems in a fruit area have not been solved and any "solutions" here presented represent merely what seems to be the present best answer in this area.

In the fruit belt the most apparent problem in the agriculture department program is in the setting up of supervised farming programs. In the dairy area, a teacher interests the boy and his parents in letting the boy raise a calf, care for a cow on a partnership basis and/or keep records on the home herd. Under these conditions, a boy can start building a small herd which later will make it possible for him to join his father in business, or buy a farm of his own. Obviously, this makes it comparatively easy to set up a supervised farming program.

In the highly specialized, lifetime-consuming fruit industry, it is not so simple. A boy's project such as illustrated above, cannot be practiced successfully or supervised with any degree of practical, constructive results. Why? There are many reasons. Normally a boy spends no more than four or five in-school years under the supervision of the teacher of agriculture. If a boy, in the eighth grade, planted a McIntosh apple tree, he might harvest his first crop of apples in his post-graduate year. The boy would get some training in the early development of an orchard but not in the equally important and more complicated years of an orchard's life when it was in bearing. Not only will he miss this essential training, but with a total lack of income from a non-bearing orchard, it is likely to be impossible to hold the interest of a growing high school youth.

A fruit farmer might give his boy a small section of an orchard and let him take care of it on his own. This, with modern equipment is clearly not at all practical because it could be done in so few instances.

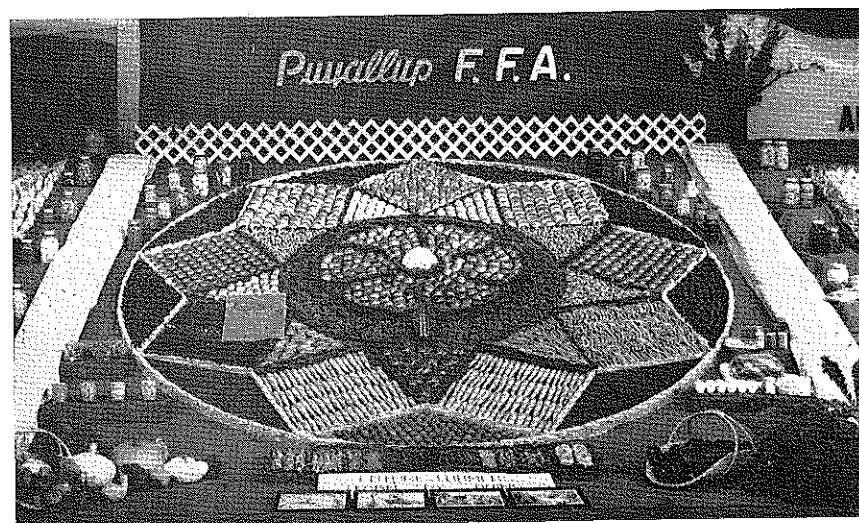
A solvent fruit farm represents to the owner a large investment, (\$50,000 to \$100,000), and no financial return during the "slim years" when it was a young, non-bearing orchard. It takes a large part of a lifetime to learn the fruit business. Could a boy 14 years old satisfactorily manage a part of an orchard successfully? The stakes are too high to take the chance that he may succeed.

With the above in mind it is questionable whether the father of such a boy would be favorable toward a project of this nature. The risks involved are too great. Most farmers and teachers tend to believe both of the previous programs to be unfavorable and inadequate.

There are two general ways in which

the needs for supervised training of boys on fruit farms may partially be met:

1. Supplementary or side enterprises, e.g. truck crops or poultry. This provides some boys, reared on fruit farms, with a means of entering 4-H and F.F.A. with desirable and practical



1949 Champion F.F.A. Horticultural Exhibit; Western Washington Fair.

Value in F.F.A. horticultural exhibits

CLARENCE V. JEAN, Teacher, Puyallup, Washington

CAN F.F.A. horticultural exhibits be justified? Can it be said that they are of great educational value? Can they be justified on the basis of earning money by premiums won for Future Farmer chapters? Do they exhibit what we are doing? Do they represent what is produced in the community?

These questions are often in the minds of a group of instructors in central Western Washington. One reason for the great interest in these questions is that the Western Washington fair held at Puyallup, each September is the scene of much activity and colorful displays including eight Future Farmer horticultural exhibits. Fairs mean work for teachers and Future Farmers, but they also have their rewards, some of which are quite intangible and often overlooked.

These exhibits win praise from many people. They are said by many to be the highlight of the fair. Others who have traveled much have said that these exhibits are the best horticultural exhibits they have ever seen at any fair. These displays are the result of considerable planning and hard work on the part of the instructors and their students.

The real value, as I see it, is in the publicity value—a field in which vocational agriculture and the F.F.A. are woefully weak. Daily, as literally thousands of people pass by the exhibits during the nine-day fair, the F.F.A. makes new acquaintances and friends.

projects. One student's father in the Wolcott area started a number of acres of young orchard. The young trees did not take up the room allotted them between the rows; so the boy planted cabbage and tomatoes. He could grow 9 or 10 rows of cabbage or 7 or 8 rows of tomatoes. Other projects, such as poultry are carried on if land and buildings permit. Usually the boys care for their projects and also work in the

(Continued on Page 176)

Education and greener pastures

ARTHUR J. PRATT, Teacher of Farm Veterans, Lyndon Center, Vermont



A. J. Pratt

VETERANS enrolled in the On-Farm Training Program in Lyndon, joined hands with each other in an effort to better acquaint themselves with the fundamentals of good crop production in their farming programs. To accomplish these objectives the veterans, the school, and the community agricultural leaders contributed their wholehearted support. Each of the 20 enrolled veterans, with the assistance of the instructor, carefully planned a crop production program specific to his own farm. The veterans received instruction relative to the management of specific crops grown in the area and essential to their farming programs; and the community farm leaders and businessmen supported the class projects.

Failure

In January, 1948, Vermont launched a state wide Green Pastures Contest in challenge to similar contests in the other New England States. Our county agent published several articles in the local paper and regional meetings for dairymen were arranged throughout the county. The veterans class newsletter featured the Green Pastures Contest and all members of the class were required to attend one of the regional meetings.

Then came sign up time for contest entrants. The instructor distributed entry blanks and all veterans were advised as to deadline date.

One man signed up!

The day before the deadline, the instructor was compelled to single out five of his "better" farmers and really "put the bite on them," in order to have a class showing in the contest. Under pressure and with reluctance they entered the program. Results—no winners, no interest, no change.

Education and Change

In the wake of this disappointing showing in 1948, the instructor turned to cooperative projects in 1949 in an effort to improve the situation.

During the winter months in the classroom, pasture rotation, clipping, and fertilization; the use of winter rye and emergency pasture crops, the production of grass silage, the advantage of a brome ladino mixture, and general pasture management were the topics of instruction and discussion.

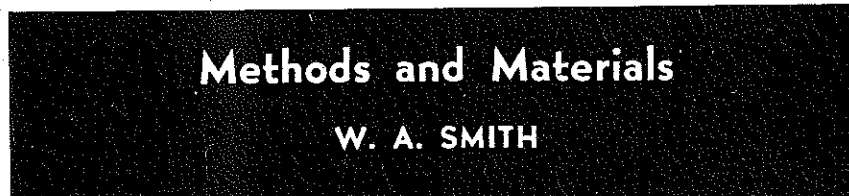
Each veteran analyzed his farm program and outlined definite steps to take in the spring to improve his crop production. Each veteran made a map of his farm. This showed acreage of fields and pasture and past, present and future cropping practices. Soil tests were taken and suggested fertilizer and lim-

ing, and seeded 22 acres with a brome-ladino mixture. Swampy pastures were seeded to Reed Canary grass.

In the 1949 State Pastures Contest one veteran placed third in Caledonia County and another was a regional winner. All of the veterans had made remarkable progress in pasture improvement for their efforts.

This year, 1949, we have a Green Pastures Contest within the class. All enrollees were automatically entered. Judges were carefully chosen from the better practical farmers in the community. The County Agent also served on the judging committee. First prize winner was awarded five hours use of the tractor. The second and third place winners received three hours and one hour use of the tractor respectively.

These procedures have spurred the movement on. Now you frequently hear a veteran say, "Next year is going to be different." As an instructor, I hope it is. No matter how good anything is, it can always be better!



Methods and Materials

W. A. SMITH

projects all of the veterans had a chance to make constructive improvements in carrying out their proposed crop improvement program developed in the classroom.

One of the veterans took a large field next to his barn and made a series of seven wedge-shaped plots. These were like spokes of a wheel with his hay barn and water tank as the hub. Milk production increased 100 pounds a day with twenty (20) milkers. Another veteran pulled small trees from two acres of neglected pasture and with the use of the school tractor and quality and fertilizer, now has a fine stand of ladino clover.

Another veteran plowed, fertilized,

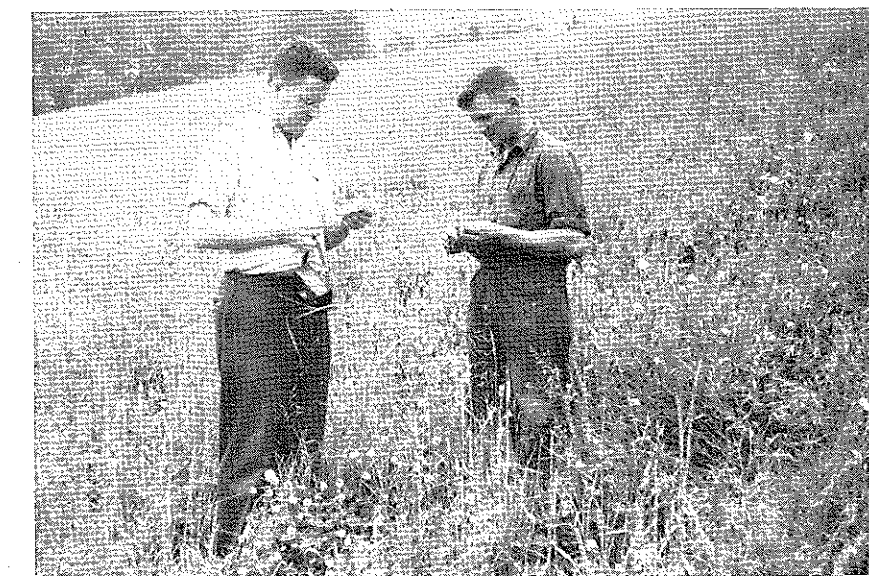
The strength of our nation is due to the continent of North America. It has molded us, nourished us, fed its abundant vitality into our veins. We are its children, lost and homeless without its strong arms about us. Shall we destroy it?

—Stuart Chase

* * * * *

It is time that we face about and reorient education toward the process of engineering a permanent and enduring society. Foremost among the problems requiring immediate attention and frontal attack is the waste of our natural resources—our physical and biotic wealth.

—George T. Renner



This veteran changed his pasture from the poorest to the best in the country.

*Mr. Thomas is a student teacher, assigned to Wolcott for practice teaching.



Year-round pasture is becoming a reality.

Pasture contest in Georgia

T. G. WALTERS, Supervisor, Georgia



T. G. Walters

SOMETHING is happening on Georgia farms which two decades ago farmers would have called foolish or impossible. Grasses are being planted, fertilized, and nurtured. Not just grasses alone, of course, but other good pasture crops like cloves, fescue, and Lespedeza.

This is significant because it means that farmers who for generations have been wearing out their lands by repeatedly planting row crops like cotton, corn, and peanuts are recognizing and beginning to exploit their great natural advantages for producing livestock economically and profitably.

In 1948 the Georgia Power Company became interested in the pasture development work being done through vocational agriculture. This firm wished to encourage Future Farmers and Veteran Farm Trainees to establish improved pastures, and to reward those whose work was outstanding. In cooperation with the vocational agricultural division of the state department of education, the company set up two contests—a winter grazing competition for F.F.A. members and Year-Round grazing contest for veterans.

Both contests were set up so that they tied in very closely with the instructional program. For example, the year-round grazing contest was divided into three parts: (1) permanent pastures, (2) temporary winter grazing, (3) temporary summer grazing. For each of these parts five major practices which should be taught as jobs were included in the score-sheet. These practices were, (1) selecting the area, (2) preparing the area, (3) fer-

tilizing and liming, (4) seeding or re-seeding, and (5) management.

The scoresheet was further broken down to give detailed information about each of these practices. Under management, for instance, the completed scoresheet indicates whether the grazing area is new or old, the methods used and the dates of weed control; the number of days of grazing afforded for cows, calves, hogs, mules and poultry, and the overall grazing period. The point system used allowed 500 points for each of the three major parts of the contest, or 100 points for each of the five major practices.

Emphasis in these contests was placed upon following the recommendations of experiment stations. Consequently, it was appropriate that when the time came for final judging, representatives of the state's experiment stations were chosen to select state winners. Prizes



were set up so that eight veterans and eight Future Farmers in each of the four vocational districts received awards ranging from \$50 downward to \$7.50, and the state winner received an additional \$50.

All of the judging was completed during the month of May when it was possible to see evidence of winter grazing, permanent pasture progress and temporary summer grazing possibilities. In the veterans contest which was run on a fiscal year basis, each teacher picked two outstanding entries from his class, a county committee visited the class winners to choose two county nominees, then the visiting teacher for each sub-district visited the county winners and nominated two winners from his area to be placed in the district. The eight men nominated by the visiting teachers were visited and placed by a district committee, and the two top men from each district were visited by a state committee to choose the outstanding pasture.

Nearly 10,000 veterans participated in the contest, establishing or improving 81,357 acres of permanent pasture, and in addition seeding 47,500 acres of temporary winter and 25,608 acres of temporary summer grazing. In the F.F.A. contest which was set up and judged on essentially the same basis as the winter grazing part of the veterans competition, 1,621 boys planted 5,631 acres of winter grazing crops.

The influence and result of these contests, however, does not end with the participants. Thousands of fathers and other farmers have had an opportunity to see for themselves that grass can be grown in winter, that they can have year-round pastures. This influence will be reflected this year in vastly increased acreages of improved pasture. Farmers gather at the country store to talk about it. It's contagious. One elderly man from Gwinnett County who started building pastures in 1948 has but one regret. "I should've known about fescue and ladino clover when I was young," he declares. The father of one F.F.A. winner said he'd never had winter pasture on the place before. Now he wouldn't be without it.



Demonstration plot

J. B. MORTON, Teacher, Rocky, Oklahoma

THE Small Grains Testing Program is carried on by the Rocky F.F.A. in Cooperation with Oklahoma A & M Experiment Station. Oklahoma A & M College furnishes information on yield per acre, test weight per bushel and per cent of protein in wheat. The F.F.A. boys prepare the seed bed, plant the seed, spray when necessary for weeds, and harvest as the varieties ripen.

When the F.F.A. boys started their plot, in October, 1947, the land was covered with bindweeds. After considerable study, the boys decided to use cultivation and 2,4-D in control of the weeds. In our fall spraying this year, there were only six weeds to spray. This successful spray program has been extended to the farmers in the community through our F.F.A. spray equipment.

On some extra land in our plot last year, we planted wheat with different applications of 4-12-4 fertilizer (50-75-100-150), at this time there were only two fields of fertilized wheat in this area. Already three car loads of fertilizer have been shipped in for fertilizing wheat in this fall planting.

Each year in the latter part of May, we have our Small Grains Field Day. At our last Field Day, there were about 200 farmers present.

Farmers compare their own yield with



that of the plot. They are eager to find out which variety had the highest yield. The results are studied in an evening class on small grains. In the evening class we study and discuss land preparation, seeding, disease, and insect control, harvesting and storing, soil conservation, and varieties for the Rocky community. It is the most interesting evening class I have ever taught. It means something to the farmer to figure how much more he would have made had he planted an acceptable variety of wheat.

The results are used in vocational agriculture classes in studying small grains. Each senior group learns to identify varieties of wheat by the grain and by the head. The Rocky F.F.A. is proud of their Plot and refer to it as the "Best Small Grains Plot in the State." The large highway sign and the individual signs for different varieties of wheat, oats, and barley were made by the F.F.A. boys. Many times a father and his F.F.A. son visit our plot and compare the growth and development of the different varieties of small grains.

During the year, there are numerous inquiries by farmers from all over the county about getting seed of some variety which they have seen in the plot. Before we started our plot there were no growers of certified seed in the community and there was a considerable acreage planted to undesirable varieties. Little if any wheat of the undesirable varieties was planted in this community last fall. There now are four certified seed growers in the community and one registered wheat grower.

Cooperative school farm

C. M. SPEARIN, Teacher, Old Town, Maine

THE Old Town chapter cooperative farm made a total income of over \$2,000 in 1949. The farm has been in operation for eight years but this was by far our best year. We started the cooperative as means of making an opportunity for supervised farm practices. The department is located in a small city with the majority of the boys coming from city homes hence, they lacked proper facilities for supervised farming.

The farm was a piece of abandoned land of about fifteen acres. It was acquired by the city some years ago for the two gravel pits it contained. The farm is four miles from the school which is an obvious handicap. One of the gravel pits is now being used by the city for a dump which is handicap number two. When we started the land was badly run down as it had not been farmed for a number of years. We are slowly building up the soil by the use of green manure crops. We try to raise two or more acres of buckwheat or millet each summer, besides fall seeding much of our current season crop land. During the first years we got along with a few pieces of worn out machinery and what other equipment we could borrow. We now have an equipment inventory value of over \$1,500. We are planning to add a station wagon and an irrigation system as soon as we can finance them.



J. B. Morton, Teacher, Inspects Grain Crop.

Our most valuable and useful piece of equipment at present is a small John Deere tractor that we bought new four years ago.

In 1949 we raised five acres of factory beans, one-half acre of market tomatoes and one-half acre of peas and sweet corn. For soil improvement we raised an acre each of buckwheat and millet. This fall we seeded six acres to winter rye and vetch.

After each year's expenses are paid we divide the amount remaining by the member hours to determine the labor income per hour. This year's figures are not completed but last year the members realized \$0.44 an hour. Our contract provides that a member must have a total of at least 100 hours before he can draw his share. If a member has less than 100 hours his money remains in the farm business until the end of the following season. Some of the members get as many as 400 hours a season.

We have moved an abandoned school house to the lot where a former cabin burned and it will become our F.F.A. lodge. A large stream that borders one side of the farm affords an excellent place for swimming. The other gravel pit furnishes an ideal place for a rifle range. As time goes on we plan for our farm to be a place for fun and recreation as well as work and profit. In other words we will, "Make life pleasant and profitable on the farm."



A Community Show can be Educational and Rewarding.

Conservation conference

FRED A. TUTHILL, JR., Teacher, Waverly, New York

CONSERVATION is a job for all. Everyone of us must make up his mind, though we may work in a factory or an office instead of earning our living from the land, that what happens to our land and our wildlife will dictate our future greatness as a nation. If we are to forget and dismiss conservation with a shrug of the shoulders, we are also, at the same time, dismissing any thought of our country's future. We have always depended upon the land for our national welfare and we must continue to depend upon it.

In New York State a Conservation Council which was founded in 1933. Its main purpose was "to coordinate and stimulate the efforts of individuals and organizations interested in conservation in the State of New York and to interest and educate the people of the state with respect to conservation." Through this council, a program is now being planned to carry the subject of conservation into the schools of our state and to educate our future citizens concerning the importance of conservation and the part it will play in their lives.

A conservation convention was held at the New York State College of Agriculture at Cornell University, Ithaca, New York in 1949. It was an attempt to orientate the teachers of New York and to introduce the subject of conservation into our schools.

A selected group of teachers was invited to this first conference. They participated in a two-day school sponsored jointly by the Conservation Council and the College of Agriculture. The group, numbering approximately forty, was made up of science teachers and teachers of vocational agriculture from the various sections of the state. Teachers attending were chosen by the heads of the state departments concerned, and the Conservation Council. Each teacher was allowed expenses to cover his room, meals, and travel. Facilities for holding meetings and leaderships for these meetings was supplied by the Council and the College.

The first day's session, after the preliminary introduction and the outlining of the course, was devoted to an all-day field trip. During this trip, the group visited eleven areas at which various aspects of conservation were illustrated. The use by teachers of comparable areas in their own communities, for the teaching of conservation, was stressed. These areas included:

1. Soil profile.
2. Mixed, all-age woodlot.
3. Enfield Glenn—the action of water.
4. Strip cropping.
5. A county forest.
6. Farm fish ponds.
7. Diversion terracing, and plantings for wildlife.
8. A hardwood stand.
9. A salt lick.
10. A pine woods.
11. Streams and stream improvement.

At each stop specialists in their own field reviewed what had gone on before and what steps have been or should be taken to control the wastes that are now taking place. Conservation practices were studied which had proved successful.

Bus transportation for the trip was furnished by the conference sponsors and a box lunch was enjoyed by the group at noon. This particular session was especially valuable in bringing to the attention of the group, teaching devices and conservation needs that are applicable to the various sections of our state.

The second day's session was devoted to a discussion and demonstration of teaching procedures and sources of materials that could be used in the classroom and on the field trip. The many sources of material were reviewed and their uses were discussed. The materials and aids in teaching were examined.

This discussion was followed by a critical analysis of source materials for the teaching of conservation, and an evaluation of some current conservation books.

Teaching agriculture in a fruit area

(Continued from Page 172)

orchard, learning the business from the bottom up. This set-up provides the boy with some income for his efforts and a chance to gain valuable experience in the workings of a fruit business. (See 2 following.) This training in fruit farming plus a side project will be of much greater benefit than if the boy had started out to run his own section of an orchard, only to abandon the project.

2. Directed practice or apprenticeship type of program. This second program is used principally when the boy and/or his father have no desire to carry on other projects or other types of farming, (see 1 above). There are two main divisions to this type of program:

A. *Practical farm work:* In winter the boy can help make crates; in early spring and summer he can graft and trim trees, and perform spray operations, thereby learning how to mix sprays and run sprayers. In the fall, he can spend his time harvesting and storing fruit.

First, and most essential, we must know the physical realities which we face. Too long we have reckoned our resources in terms of illusion. Money, even gold, is but a metrical device. It is not the substance of wealth. Our capital is the accumulation of material and energy with which we can work. Soil, water, minerals, vegetation and animal life—these are the basis of our existence and the measure of our future.

—Paul B. Sears

The formal session was concluded by a discussion of the personal assistance available to the teachers in offering conservation to the pupils, and the place of conservation in the school curriculum.

The conference proved to be educational and inspirational in nature. It was a well-planned program and each teacher attending came away with a favorable point of view toward the offering of conservation in our schools. One of the things that helped make the conference a success was the careful thought and planning that went into it. One specific thing that did so much for the participants was a well planned outline of the course offered in the form of a booklet, which was presented to each teacher at the first session. This outline was bound with a durable cover and was very readable. This enabled everyone to follow the program at all times.

It was a conference that could well be repeated and that other departments might follow as a guide in their planning and presentation of subject matter. It was an excellent demonstration of the need for and means of cooperation of various agencies within and outside the school in solving problems.

Other jobs, such as setting out trees, handling of bees, rodent prevention, and repairing machinery are a vital part of a boy's training. The practical experience part of the program would be closely supervised by the teacher as well as the parent.

B. *Classroom instruction.* There are various phases to this part of his training:

1. Setting up spray schedules. This schedule should follow recommendations and recent developments in the combating of diseases and insects.

2. Keeping the boy informed regarding new methods and devices to make the business more profitable. New methods and devices are of most value to those who use them first after their development.

- a. Watching dusting and spraying operations by plane.
- b. Use of liquid fertilizers.
- c. Watch new types of sprayers in action.
- d. Constant watch for new varieties: grafting new strains into the orchard.

3. Recognizing the area's market problems. Fruit growing, like most other phases of farming, has as its chief problem that of marketing the product of its labors. In meeting this problem, the teacher must provide experiences along this line, such as:

- a. Selection of apples for a fair, keeping in mind the qualities of desirable fruit. Most of this work is done in an orchard where care in handling can also be emphasized.
- b. Grading and packing of fruit can be accomplished by visiting a cold storage plant. There the boy can

(Continued on Page 177)

Farming Programs

C. L. ANGERER

Getting an early start with crop projects

E. G. FORD, Teacher, Camilla, Georgia



E. G. Ford

CROP projects are a part of the supervised farming program of every Future Farmer in our school, because crop enterprises play such a large part in the farming program of Mitchell County. Many of the boys have livestock but crop projects make up 60 per cent of all the enterprise projects in the boys' programs. Careful consideration is given to the matter of setting up the crop enterprises in each supervised farming program.

Experience has shown that poorly planned projects set up mostly by the boy and teacher in the classroom result in poor teaching, and in little or nothing being done about the decisions that are made in the classroom. "Claimed" projects generally result when proper planning is neglected. It is hard to teach a boy who does not have a real problem. The time spent on farms and with families in setting up sound projects is well used.

Careful planning with the boy and the family is necessary if the project program is to represent a cross section of the type of farming on the home farm. During his agricultural training the boy should have projects that are commonly grown on the farm. In other words, the project program should fit into the farming program on the farm.

In the summer, after knowing who the students will be for the coming school year, a detailed study is made of the boy's farm. It is highly important that one have all the knowledge he can get about each boy and his farm. The purpose of this study is to get the best knowledge possible regarding the farming program and the needs and facilities of the farm. Generally, about three visits are made to each farm before attempting to help the boy set up a project. On these visits I walk over the farm and talk with the farmer and the boy about various enterprises, buildings, and facilities of the farm. I try to remember as much of the information as possible and record it on a "Guide Sheet for Setting Up Practice Programs," which I keep on file.

When I have a sufficient knowledge of the farm I try to arrange for a conference with the boy and his parents on their farm, and we all agree on the enterprises, improvement projects, and

supplementary jobs that he should deal with in his farming program during the year. The criteria I consider are as follows:

1. Do they fit into the farming type of the farm?
2. Do they contribute to the needs of the farm and the family?
3. Can they be handled with the facilities on the farm?
4. Are they compatible with the age and size of boy?
5. Can they be handled along with the boy's other necessary responsibilities on the farm?

It is difficult to find available time for setting up projects during the summer with a large canning program and other duties. The results from early project planning are well worth the difficulties involved in finding the time for it. I have about 40 students each year and of that number about 12 or 14 are beginners. I try to get their farms studied and their projects planned with them and their parents during the month of August. In our section the time for getting cover crops, small grain and grazing crops started is about time school opens, and if one delays setting up crop projects until after school starts the result is that none are initiated.

Students in my class for the second, third and fourth years will not require as much time for setting up their projects as is required for the others. Almost all have livestock and have learned the place of soil buildings crops, grazing crops, and other feed crops in their programs. Where boys' farms are continuously studied and project programs are more or less continuously re-planned the practice of setting aside a certain short period of the year for intensive planning is not as necessary for upper class groups. About one visit in September or October to get approval with the parents is all that is required to set up projects for older groups.

On the farm with the boy and his parents is the best place to get real projects set up and going. I like to record the agreement between the boy, his parents, and myself, and I use the agreement page in our project record book for this purpose. Right there on the farm with the boy and his parents is the best place to get this agreement filled in and signed.

A sound supervised farming program set up before school opens by means of a three-way agreement between the boy, his parents, and the teacher, provides a sound basis for a good instructional program to meet the needs of the boys in our classes in vocational agriculture.

Teaching agriculture in a fruit area

(Continued from Page 176)

gain experience. The importance of a quality product is further emphasized by entering various judging contests at fruit shows.

- c. Fruit shows and fairs make available a chance for the boys to enter their fruit in competition. (Further emphasis upon quality here.)

Not everyone in a fruit belt lives on a fruit farm. The teacher's problem lies in the boy who comes from the fruit farm; the other boys fit into the program comparatively easily. Side enterprises or directed practice (apprenticeship) type of programs do not mean that the problem is solved; they merely emphasize the fact that real problems do appear in the teaching of agriculture in such an area. Recognizing the problems and the limitations caused by the existing type of farming, a teacher might adopt the methods here listed as more practical than if the traditional project-type program was carried on.

Farmers trade Bahia grass seed for pasture mowing job at Cottondale

HUBERT A. Christmas, a Veterans Trainee, of Cottondale, Florida, wanted some Pensacola Bahia grass, but didn't want to wait too long to get it. He also figured he could keep his money and still get the grass seeded on his farm.

W. C. Fitz has a tract of Pensacola Bahia grass that was seeded with seed harvested by R. L. Price and returned to the Chipola River Soil Conservation District in a two-pounds-for-one agreement. The seed furnished Price was grown on the Soil Conservation Service Nursery at Brooksville and granted to the District to be used in long range soil and water conservation programs.

Now, Christmas wanted Bahia grass seed, but didn't have any. Fitzpatrick had Bahia grass he wanted mowed, but didn't have a mower. Fitzpatrick and Christmas made a deal that would satisfy both. One got seed he wanted, the other got his Bahia grass pasture mowed and neighborly trading helped both.

By SAM MORROW,

Soil Conservationist, Marianna

A True Scientist

A farmer was driving down the road with an experiment station man as a passenger. Seeing a horse in the pasture, the farmer asked: "Is that a white horse?"

The scientific man, fixing his eyes on the animal for a long time, finally answered: "Well . . . yes . . . on this side, at least."

The Mississippi Future Farmer

Unplanned and unconstructive use of leisure time can lead toward delinquency. Rates of juvenile delinquency are reported to be as high in rural areas as urban.

Value in F.F.A. horticultural exhibit

(Continued from Page 172)

majority of the produce (fruits, vegetables, bulbs, nuts, and grain) is displayed. Hours of time and thought go into the drawing of designs for this area. A good design must be attractive and colorful; it calls for simplicity, balance and color grouping of produce that builds up to the design center or focal point. The prerequisites for a good main display area may be summarized by the following: quality of produce; color grouping and general arrangement and attractiveness of the area. Some of the most attractive displays have been made from designs of flowers, stars or other geometrical designs. The most attractive display this writer has ever seen was exhibited by Orting (Washington) chapter in 1948; it won the championship with a beautiful butterfly as the main centerpiece. It actually seemed as though a large beautiful butterfly had gracefully come to rest on the display.

The foreground is a flat ledge about two feet above the floor level of the building. This area is directly in front of the inclined main display area, and it is here that we feature our educational material, large field crops and miscellaneous farm products. We have worked together on our educational material with each chapter featuring some leaning activity of the F.F.A. Each school starts with the caption: "Future Farmers Learn—" and such themes as "Future Farmers Learn to Build Better Buildings" or "Future Farmers Learn By Doing—Supervised Farming Programs" have been used. Scale model buildings, pictures and charts have been used to good advantage in telling the story of the learning activity. By each exhibit featuring some phase of Future Farmer learning it is our hope that we will educate the public in the nature of our organization.

Scoring and Awards

The primary purpose of the background—a flat horizontal back wall—is to identify the exhibit and lend to the overall attractiveness of the display. In the past three years some chapters have been getting away from the conventional backgrounds of crepe paper and F.F.A. chapter banners, finding that other materials are more attractive, easier to work with and that they stand up better during the fair.

Perhaps the most unique feature of these exhibits is the award system and the manner in which they are judged. Each instructor scores all exhibits except his own; in the final analysis, there are seven scores on each exhibit. These are turned over to one of the state supervisors who, in turn, compiles the results and awards the champion banner to the highest scoring exhibit. The other exhibits are awarded blue, red or white banners on the Danish system in accordance with their scores.

This year there were three red awards, four blue awards and the champion banner awarded. By doing our own scoring we are able to judge the exhibits the first day of the fair when they

Crop projects in farming programs

JAMES H. HANDY, Teacher, Waverly, Illinois

MR. Lloyd J. Phipps, instructor of education at the University of Illinois, in the first part of his article, *Creating Interest in Farming Programs*¹, points out the need for further expansion along the lines of supervised practice. I wholeheartedly agree with him in saying that "broad farming programs provide problems for use in classroom discussions which are real, interesting, and challenging because they arise out of the students experiences."

Teachers of vocational agriculture will agree that their best teaching results from the problems that arise on the home farm of the classroom student. Today, in modern agriculture, with the farmer competing against his greatest odds, he has to be prepared to overcome these obstacles if he is financially successful and happy. We have always heard and read that the teacher should stress broad farming programs. Being now in a position to offer the student in vocational agriculture instruction and guidance in the four major phases of agriculture—animal husbandry, soils and crops, farm management, and farm mechanics, we are in a most excellent position to provide these opportunities which will stimulate a broad farming program.

It has been true, too often, that we are able to teach good animal husbandry from the problems that arise in the livestock projects of our students and then dig out textbooks and bulletins to find problems pertaining to farm crops and soils. Why not complete the good job of teaching by going on just a little further and teach soils and crops from problems arising in these projects. Then, last but not least, the farm management and farm mechanics problems would arise from the combination of good livestock and crop projects, and our teaching picture would be more complete.

The first question you will ask is, "How can I get my students to have crop projects?" I think that the answer to this question will vary greatly between the sections of the country. In our particular community we are fortunate in having land and climate suitable to general livestock and grain farming. The majority of our farmers attempt to

¹Agricultural Education Magazine, 22; 108, 109, 119, November, 1949.

are fresh and look their best. Prior to adopting this plan, we had to wait three or four days for the fair's horticultural judge to get around to our division. In addition, we believe we are all striving for the same goal and find our judging more consistent than someone outside the field.

Advisors from the participating chapters meet about twice a year to revise and to make any changes in the score card or rules that may be needed. It was at one of these meetings a few years ago that we decided to divide the premium money equally among the eight chapters. (At present each chap-

ter receives \$150 premium money for their exhibit.) We believe there is as much work in a low scoring booth as in a high scoring booth; therefore, we compete for banners only—these to be awarded on the Danish system.

Not much has been said in this article about the amount of work and planning that goes into an exhibit. Any agricultural instructor reading this article will know the answer when I say that our chapter members worked over 500 student-hours on our 1949 exhibit. This does not count instructor-hours. But, we're mighty proud of the purple banner.

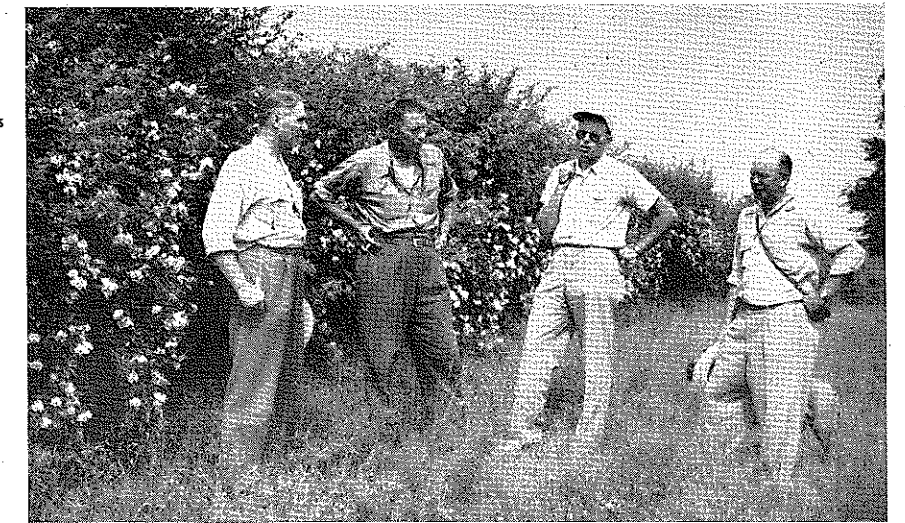
Keep veterans interested

VERNON LUTHER, Teacher, Neponset, Illinois



Vernon Luther

VETERANS have answered the call to education with a zest similar to their answer to the call to arms. But are they students? I believe that many teachers assume that they are, and thus plan a systematic and inclusive two or four year course in agriculture for the "On The Farm Training Program." Such a course may be very educational and supply a lot of information on agriculture. It may also be done very satisfactorily by the use of problem discussion; questioning, movies, lecturing and the like. The best teacher, with a well-planned course may not succeed in captivating the interest of the veterans even with these proved methods of adult teaching. Why? probably because the veterans' needs have



not been satisfied. The average veteran is a person whose prime interest is getting established in life, and whose basic need is money. To satisfy this need he has a more important need, which is information on how to farm efficiently or in other words "Vocational Training."

It is essential to include vocational education training in our course planning for veterans. Of what should our,

"on the farm vocational training" consist? How to plant corn? How to dehorn cattle? How to harvest hay? Some one might answer, "That is the farmer trainers job." And I believe this is true except when the farmer trainer cannot show the veteran how. Then it is the teacher's job to determine what the farmer trainers do not train the veterans to do on the farm. The instructor can obtain this information during the monthly visits. When he finds that certain skills are lacking and needed, he then can plan his course so as to include them.

Our problem is, how to give vocational training along with the *book learning* so that the veterans remain interested, with the final result that they learn something that will help them become better farm operators.

The armed services trained these men for new vocations in a short time and did a good job of it. Can we do the same? Must we do the same? Many of these boys are already doing the job so they need the help now.

I will list the techniques that have been used with the Neponset Veteran's Vocational Agriculture course and have resulted in a great deal of interest and learning.

- A. Field trips: Much can be gained by visiting three or four farms which are up-to-date in some phase of farming such as raising livestock, soil conservation, and building repair. This affords an opportunity for the veterans to see practices that are successful, and at the same time the owner of the farm can tell how and why he is carrying on such practices.
- B. Demonstrations: These can be done at school, the shop, or on the farm. Skills such as castration, culling, and machine repair, can be taught. Again the veteran has a chance to see how the job is done, and also has a chance to actually do it.
- C. Veteran Participation: Besides the class discussion, veterans like to tell what they are doing or how to do something. They may be assigned a topic, or called upon

(Continued on Page 191)



A convenient cabinet for storing filmstrips.

—Photo by J. K. Coggin

Wise use of soil and water basis of program for adults

ORVAL C. FLOYD, Teacher, Mt. Carmel, Illinois



O. C. Floyd

THE teaching of conservation to adults is shunned by many teachers because they are not sure of what to teach. The objective of education is considered to deal with the growth of people and the resulting changes that growth brings.

No more desirable place to start on an adult farmer education program exists than on the soil and its use.

I will concede at the outset that it may be easier for some to teach livestock production and management. This is probably one reason why we have more livestock farming programs even in strictly cash crop areas.

How can an educational program for adults be established on soil conservation? The following ideas proved helpful in conducting such a program.

the "school farm" has one of its greatest values. The Soil Conservation District recognizes our school farm as the outstanding conservation farm in the county.

It is used as a constant teaching aid in adult education as well as for high school classes.

6. Some *evaluation* is necessary. Class members are most effective in this work. For the last few years we have been holding an annual tour and field day. This is held in the fall at a time when few are too busy to come. Class members are visited; their soil conservation plans are discussed; progress and implications are noted.
7. A system of *visitation* is helpful in getting results regardless of how little teaching may result at the visit. Sometimes the incidental instruction is much more effective than the formal teaching. On the farm valuable help can be given in using the farm level, laying off contour lines, and in other ways.
8. The *instruction* must be well or-

ganized, systematic, and well presented. The following is the plan used last year in two classes of 88 farm people in adult education in agriculture in Wabash County.

A preliminary meeting was called by council members in outlying areas of the county. The council representative had charge of this meeting. He announced the purpose of the meeting and determined interest. Later, he helped select a night and place to meet. The group selected broad areas of interest which resulted in the soil conservation class.

Each adult school should be organized. The school should be the farmers and not a puppet of the teachers.

In any educational program we must start with people where they are. To show the abuse of the land, we asked the oldest member to review crop yields in his area. With the aid of a county history we found our yields to be less than half of what they were a century ago. This fact properly presented created an interest in doing something about it. They did. The first meeting outlined in the previous paragraph was called, *capability of our land*. It was followed with others listed herewith.

2. Lime and Liming
3. Phosphate and Phosphating
4. Potash and its use (we are in a potash deficient area)
5. Commercial Fertilizers and their use

(Continued on Page 181)

Farmer Classes

J. N. WEISS

MARK NICHOLS

Story of our cover farmer

Father-son partnerships

L. R. HUMPHERYS, Teacher Education, Utah State Agricultural College



L. R. Humpherys

THE greatest adjustment in agriculture in this country takes place when the title of a farm changes from father to son. This operation is going on silently from day to day. The general public is unaware of this continual change of ownership from one generation to

another. Agriculture is better or worse depending on how efficiently the father-son relationships are established. Too often there is misunderstanding or lack of understanding between father and son as to farm business transactions. Too much is taken for granted with no specific contract in writing. It is not so with Adair Bromley and his son Jess, a State Farmer of American Fork, Utah.

Jess Bromley has profited from four years of Future Farmer activities in the American Fork high school and is ex-

tending his training to include some college work for the purpose of equipping himself thoroughly for the business of celery production. His first and foremost ambition is to become successfully established in farming as an owner and an operator. He passes on to his father new information, new methods, and new varieties in the production of celery which he secures from his systematic study. The father in turn cooperates with his son and the teacher in adopting improved practices. Together they are building an expanding celery business.

Celery, cabbage, and tomato plants are planted and grown in the Phoenix, Arizona area. Bromley, Senior, assumes the responsibility of planting and growing the plants to the setting-out stage in the warm Arizona climate. Sufficient plants are grown to take care of the needs of the Bromleys and all the needs of neighbor farmer cooperators. Jess works on the receiving end at American Fork, Utah. He receives the plants and takes charge of the planting on the home farm and supplies the needs of other growers in the immediate area.

Jess Bromley has worked out a unique celery planting machine, using a patented machine with homemade adaptations suitable to large areas of celery, tomatoes, and cabbage. Last year with this machine he planted over one and one-half million celery plants on his own ground, in addition to plantings for adjacent farmer cooperators.

Cooperation is the word which describes the working relations of the Bromleys and adjacent celery producers. Together they exchange labor in planting, cultivating, harvesting and processing celery. Cooperatively they purchase needed fertilizer, shipping crates and market their much sought after product. Last year Jess Bromley produced 17,500 crates of celery, graded it, packed it for shipment, and sold cooperatively for a good price.

As mentioned, there is a definite business working relation between the father and son. Jess has a contract for the purchase of specific acres of land and makes payment each year in conformity to a business agreement. They plan on 40 acres of choice Utah celery for 1950. Over a period of years, they have had experimental plots of celery for the purpose of securing improved bolt resistant strains which meet the best specifications for packing and the demands of the market.

Jess Bromley's plans read like a detective story. He has it all worked out in writing by months and years and he is working his plans. His operations include the building of a storage pit for potatoes, cabbage, and onions. He has worked out a plan for a dairy barn and has purchased five head of high grade dairy animals as a beginning operation in dairying and a part of the farm operations.

He takes pride and receives joy in performing his duty as State Reporter. It is also to his credit that he is prominent and active in civic, community and church functions. His list of achievements is long and noteworthy. Among other activities young Bromley has accepted an assignment with the local Farm Bureau Federation to help strengthen the organization and make it function efficiently and effectively. He is reputed to be the youngest worker in the Farm Bureau Organization of Utah. He has little difficulty in making the transition from Future Farmer activities to the activities that characterize the adult farmer in the Farm Bureau.

Crop projects in farming programs

(Continued from Page 178)

necessarily mean for more dollars the next year, but a good soil building program with maximum yields and highest net profits from those crops giving best returns.

With a broad program of supervised practice and record keeping, I would like to repeat that teaching will be more effective, greater interest will be created, and more developments will show up on the home farm. The students will be learning by doing, and those profitable practices shown by record keeping will be increased and those less profitable, decreased.

Wise use of soil

(Continued from Page 180)

6. The Role of Organic Matter
7. Water Conservation and Mgt.
8. Crops to Fit the Soil
9. Crop Sequence (rotations)
10. Pasture Programs and Pasture Crops
11. Soil Testing
12. Graduation

At the beginning it was announced that a laboratory session on soil testing would be held. The response was so great that extra evenings were required to do the work.

9. *Visual Aids* were used.

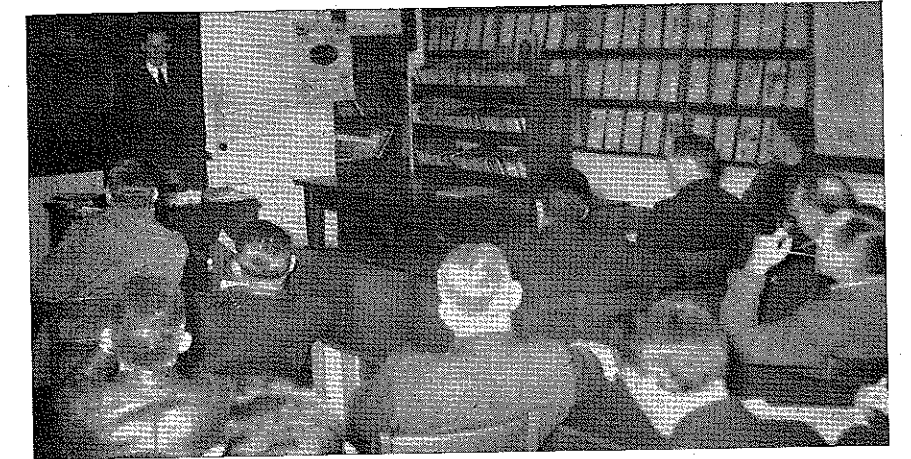
Both classes were brought into the local high school for the final joint meeting. At this meeting a summary of the school was given. A guest speaker spoke on "The Future of Agriculture."

Effective use was made of the demonstration farm. Two years

ago we used this method. As we studied each topic we worked on the demonstration farm as an example. (When lime was studied we tested the farm for lime. This farmer carried through with our findings and recommendations.) Class members are still interested in watching the results. Incidentally it was effective in giving value to the scientific approach to the problem of soil improvement.

10. No definite pattern can be set up. Local situations are as variable as the farmers in the local area. The teacher must be ever conscious of neighborhood problems and individual needs to turn them into useful tools in the interests of a good program of soil conservation.

When the course is near its end and the adults themselves begin to talk of their plans for a course next year, "The pay off" is present. The time spent has been fruitful. Growth has taken place.



Schools for all the people.

Time for individual instruction

(Continued from Page 171)

instruction. The only requirement listed relates to making of satisfactory transportation arrangements.

It Can Be Done

In attacking the problem of securing time for individual instruction, teacher, administrators and others are still handicapped by the concept of the activities of a department of vocational agriculture being the responsibility of one teacher. We have barely scratched the surface in determining the need and possibilities of departments with two or more teachers.

Coming back to the statement quoted in the beginning from the editorial, one other comment needs to be made. It is to be hoped that teachers do not conclude from the statement and from their present schedules that individual instruction is not possible nor feasible during the school year. This attitude has been in part responsible for the farming programs of the past that turned out to be merely "summer projects" and which did not result in establishment in farming.

We have outstanding examples of teachers who have carried on individ-

ualized instruction in their regular all-day classes and have found time to carry on important instruction on the farm. Many teachers have arranged "conference periods" within the school day. Others have taken a class with them to a boy's farm to analyze his situation and to aid him in planning. Still others have found different ways of getting away from the traditional "class-in-a-room" teaching to individual instruction, much of it on the farm. Ways can be found if we decide to do it, rather than to say, "the summer is over, no more intensive work with students can be done until the school year is over." By "we" is meant teachers, teacher-educators and supervisors working together as a team on a problem which concerns all of us. Let us not condone "what is." Let us work diligently to find ways of improvement so that teachers of vocational agriculture can do the job they are supposed to do, namely to train farmers.

H. M. BYRAM
Teacher Education
Michigan State College

²Ibid, p. 41.

³See articles by Wilson, Raine, Baysinger, Howard, and Bradford in *The Agricultural Education Magazine*, 10: 48-9, Sept. '37; 11: 226, June '39; 12:8-9, 18, July '39; 12:48-9, 58, Sept. '39; 13:8-9, July '40; 28-9, Aug. '40 and 14:8-9, July '41 as well as Deyoe, G. P., *Supervised Farming in Vocational Agriculture*, Chapters V and VI, Danville, Ill., Interstate, 1943.

Studies and Investigations

E. B. KNIGHT

Developing departments of Vocational agriculture in cities

JAMES P. BRESSLER, Teacher, Williamsport, Pennsylvania



J. P. Bressler

In recent years we have become increasingly aware that there is a place for vocational education in agriculture in many of our urban schools. This is especially true in those city systems that have added rural districts as a result of reorganization into larger administrative units. Teachers who have had experience in conducting agricultural classes in such schools will readily agree that this new association presents an entirely new set of problems. Unless the city administrators and teachers who are directly concerned with the conduct of the program are aware of these problems, vocational agriculture is apt to have rough sledding and may very likely end in failure.

The Study

A study was made in an attempt to isolate the problems of city department organization and to present specific proposals for solutions to these problems. Ten urban type departments were selected in various parts of Pennsylvania. Informal interviews were held with teachers and principals in these schools in an effort to determine the problems that were to be included in the study. While no attempt will be made here to present all the data collected from these schools, a few facts relative to the present status of such departments in Pennsylvania would be interesting.

Facts About the Ten City Departments

Average tenure of teachers (yrs.).....	3.8
Average age of departments (yrs.).....	8.5
Departments conducting young farmer classes	None
Average enrollment during previous year	45.1
Number of departments employing two or more teachers.....	6
Departments with more than 80% students coming from farms.....	5
Departments with 50% to 80% of students from farms.....	4
Departments with less than 50% of pupils from farms.....	1
Average distance from school to home and non-resident pupils (miles)	7.1
Number of teachers reporting agricultural activities directly to board of directors.....	4

Number of schools having bus facilities for field trips..... 2

The most important problems found common to the teachers and administrators interviewed were: organized into a tentative draft of proposals for their actual solution. This draft of proposals was then submitted to a selected jury of eight recognized expert administrators who would be in the best position to evaluate the proposals made. The jury of experts included one man from each of these fields: County Superintendent of Schools, City Superintendent of Schools, County Supervisor of Agriculture, District Superintendent of Schools, Director of Vocational Education, Teacher of Agriculture, Supervising Principal, and City Principal.

Some Interpretative Outcomes

Interpretations from the final paper, revised by this jury until agreement was reached on a positive program for organizing and developing the City Department, are herewith presented to indicate the present trend of thought in this phase of education.

A. Determining the Patronage Area

1. The maximum distance from school to home for agricultural pupils should be twenty miles.
2. City schools should exert special effort to attract tuition pupils not now served by an agricultural program.
3. The city schools should not attempt to attract pupils from other districts maintaining an inferior program.
4. Everybody concerned with the conduct of school affairs in the new area to be served should be included when the patronage area question is being discussed.

B. Facilities Required for City Departments

1. The classroom and farm shop should be in separate rooms.
2. The agriculture shop should be located in close proximity to other vocational shops if they exist or at least be so located that the noise of operation does not interfere with other classes.
3. The farm shop must be equipped with doors large enough for the passage of farm machinery.
4. The classroom should be equipped with movable work tables.
5. The agricultural classroom should be used only for agriculture.
6. When individual classes exceed twenty-five pupils, separate rooms

should be provided to permit division of groups, with a teacher for each group.

7. Concrete should not be used for classroom floors.
8. The school district should make available school busses for field trips. The use of student cars should not be permitted.
9. A sink and running water were considered as essential classroom facility.

C. Providing Practical Experience

1. Agricultural occupations other than farming must be recognized by the city department and practical experience offered in such areas.
2. The teacher of agriculture is responsible for placing students for farm experience, whenever home farm training is not adequate.
3. It is desirable that the city department operate a school farm if facilities for supervised farming programs are lacking for as many as one-third of the students.
4. The teacher of agriculture should not be responsible for the actual operation of the school farm. A farm manager should be hired.
5. The teacher of agriculture must maintain constant contact with business men who might wish to hire trainees from the agricultural department. This infers that the training responsibilities include allied agricultural occupations such as nursery men, farm machinery workers and marketing specialists.

D. Recruiting Agricultural Classes

1. The agricultural department should be represented on any advisory board that functions to counsel students regarding their objectives in school.
2. Where possible, junior projects or agricultural clubs should be organized in the junior high schools.
3. Suitable literature in folder or pamphlet form should be prepared explaining objectives and opportunities of the agricultural course.
4. Enrollment should be limited to students who agree to engage in a supervised farming program in keeping with their objectives.
5. The agricultural teacher should not be assigned disciplinary cases or students not interested in agriculture. He should have the option of rejecting from the course students for whom the course does not meet vocational objectives.

E. Proposed Administrative Organization

1. In a multiple teacher department, one man should be appointed as department head.
2. The teaching load may be divided according to subjects, grades, or students.
3. The department head should not have a full time teaching assignment.
4. The department head for agriculture should handle all matters of

(Continued on Page 183)

Young Farmers Associations

SAN HOY WONG, Teacher, St. Hilo, Hawaii

INCREASED interest in Young Farmers Associations in vocational agriculture at the state and at the national levels has been evident the past few years. Local associations have been organized from time to time and have, in most cases, been accepted as part of the program for young farmers in vocational agriculture. Differences of opinions have arisen among teachers of agriculture and among supervisors of agricultural education on the need and the desirability of affiliating these local Y.F.A. groups into statewide and for national associations.

For the past year, the writer as a graduate student at the University of Wisconsin has been studying Young Farmer's Associations as a thesis problem. He sent out 50 questionnaires to the supervisors of agricultural education in the 48 states, Hawaii and Puerto Rico, with 40 of them being returned. Also, 73 questionnaires were sent to teachers of agriculture suggested by the state supervisors in Hawaii, Utah, Ohio and Wisconsin. Of these latter questionnaires, all were returned from the eight sent to Hawaii; eleven from the 14 sent to Utah; 14 from the 20 sent to Ohio; and 14 from the 25 sent to the teachers of agriculture in Wisconsin.

The following general summary should be of interest to those persons who are active in the young farmer work.

I. The extent to which Y.F.A.'s or similar groups connected with vocational agriculture, have been organized in the various states and throughout the United States.

Of the 40 state supervisors of agricultural education, only 18 reported that their states have local associations of young farmers connected with the departments in their states.

There were a total of 384 local Y.F. associations reported by these 18 supervisors. The Southern states have the greatest number, 216; the Pacific states follow with 99; the Central or Midwest states, 66; and the North Atlantic states, 3. The number of states having state organizations of Y.F. associations shows the Pacific states have three (California, Hawaii, and Utah); the Southern states have two (South Carolina, and Arkansas); and the North Atlantic states have one (Pennsylvania); and the Central or Midwest states, none.

Arkansas had the greatest number of local units, 178 composed entirely of veterans. California with 50, Utah 34, Ohio 33, and Puerto Rico with 30, were the next four ranking states.

II. The objectives

There were three general objectives under which these local units and state associations, were organized. These are presented in the order of their rank, as reported by the state supervisors and the teachers of agriculture in Hawaii, Utah, Ohio, and Wisconsin.

1. To further Young Farmer class

enrollment and interest. (14 supervisors and 30 teachers.)

2. To provide a rural organization for out-of-school farm youth. (10 supervisors and 16 teachers.)
3. Under the state department of agricultural education promotion or sponsorship. (9 supervisors and 3 teachers.)

III. Should the organization be an integral phase of organized, systematic instruction in agriculture?

Probably the greatest problem facing the instructor and the supervisor of agricultural education is that of the relationship between the Y.F. organization and the young farmer course. Practically all the supervisors who reported, felt that there should be a definite and a direct relation between the two.

Thirty-eight supervisors believed that the local unit should be an outgrowth of organized instruction in agriculture, namely, the young farmer course. Forty-two of the 46 teachers reporting, agreed.

Thirty-eight supervisors and 42 teachers felt that the young farmer course should be an integral phase of the annual program of work and that these two are not separable.

Thirty-five supervisors felt that the organization should not be merely an association for rural out-of-school farm youth, without organized courses in agriculture as a part of its annual program of work. Thirty teachers agreed on this point.

Thirty-three teachers stated that a teacher should not assume the responsibility for a unit if the members were not interested in organized instruction in agriculture.

IV. The responsibility of the teacher of agriculture.

The great majority of the supervisors (30) and the teachers (40) agreed that the teacher should be the "adviser-instructor" of the Y.F.A., if he is to be connected with the group. Seventeen supervisors and 33 teachers felt that the teacher of agriculture should be the "organizer" of such a group. A very small minority of the supervisors (4) and the teachers (3) felt that the teacher of agriculture should also be a "member of equal rank" in the Y.F.A.

V. Views on state and national affiliations of young farmers associations

Twenty-six state supervisors favored state affiliation. Six of these were from the states which have state associations of local units at present. But thirteen of these 26 supervisors had reported no local units in their states.

The great majority of the teachers reporting from Hawaii and Utah, favored state and national affiliations. Nine out of the 14 teachers reporting from Ohio, favored such large scale affiliations. Teachers from Wisconsin did not favor state or national affiliations.

In summary, the following are the important reasons advanced for favoring state and national affiliations.

1. To provide cooperative activities at state and national levels.
2. To provide exchange of ideas.
3. To provide competition among chapters and state associations.
4. To provide statewide and nationwide guidance and inspiration to locals.
5. To develop influence of a large group in group action.
6. To aid program in vocational agriculture.

Those who did not favor large scale affiliations, advanced the following reasons.

1. There is no need for state and national associations at present; the local units are doing good work.
2. The present teacher load and teacher shortage limits opportunity.
3. There are more pressing matters in the program.
4. The cost of organizing and maintaining such a large organization would be prohibitive.
5. The problems of national Y.F.A. are too wide in scope.
6. There are enough general farm organizations at present.

Developing departments - - -

(Continued from Page 182)

policy through his superior, usually the principal or director of vocational education.

5. Regular meetings must be held by the department head with his staff to plan an orderly sequence of work.
6. If the teaching load is divided among several teachers, the teacher who conducts the classroom work for a particular group should also supervise the farming programs of that group.
7. The teacher of agriculture should form an advisory committee to help formulate the objectives of the program.

F. Maintaining Public Relations

1. Before releasing news items involving school policy, the teacher should submit a copy to his administrative officer for inspection.
2. The teacher should write a periodic progress report for his department in order to keep the support and confidence of other departments and school administrators.
3. Future Farmer radio programs are very desirable.
4. Constant promotional activities are necessary for the city department since many of the taxpayers are not well acquainted with the nature of the program.
5. Teachers of agriculture should appear before civic and agricultural groups when asked to do so.
6. Local fairs and industrial shows should be used as a means of promotion.
7. Advantage should be taken of other agricultural services such as demonstrations by specialists and through various field trips.

Future Farmers of America

H. N. HANSUCKER

Bringing the farm to the school

F.F.A. members take lead

E. KENNETH RAMSBURG, Teacher, Boonsboro, Maryland

THE Boonsboro F.F.A. chapter has developed the first school farm in Maryland. Boonsboro is located on Route 40, about halfway between Hagerstown and Frederick. Most of the students are transported by bus from the outlying school patronage area. The people are rural. Those who do not own and operate farms work on farms by the day or month and in nearby industrial plants.

Knowing the community one gets a rather clear picture of the great need on the part of the students to learn first-hand the problems that arise in the operation of a farm. School officials have realized this important fact and through a school farm have tried to provide the necessary learning experiences that will ultimately develop a more worthwhile citizenry.

The farm has enabled all students to have practical experience in doing such jobs as castrating pigs, caponizing cockerels, treating swine, and mange using the benzene hexachloride treatment, balancing rations, caring for the sow at farrowing time, constructing and using electric brooders for chicks and pigs, preparing and training hogs for show, as well as the many other jobs that are necessary to keep animals and poultry in a healthy, growing condition. They have had full responsibility for preparing all land for crops, applying fertilizers, planting the seeds or plants and controlling insects and diseases.

There have been times when an entire class would walk over the farm to observe how the crops were growing and to develop any ideas that might be helpful. The school farm now owned is the result of a gradual development of the program in vocational agriculture for the school and community.

Projects were watched carefully by our county superintendent, Mr. Benjamin C. Willis, and our principal, Mr. Douglas Bivens. During the month of May, 1947, they discussed the advisability of purchasing land to make possible the further development of the department of vocational agriculture. On June 1 twenty acres of land were purchased for the department by the Board of Education. It adjoined the high school grounds.

By June 9, a tomato contract had been drawn up with a packing company, and one acre of land had been prepared and planted to tomatoes. By the time school closed on June 15, two acres were planted to field corn and 3½ acres to soybeans for soil improvement purposes.

Other summer work included making alfalfa hay that was on some of the land. A portion of it was sold to one of the F.F.A. members, and rest was kept for our own use for fall feeding.

During the summer of 1947, Ralph Reeder, of the graduating class, was hired to carry on the farming operations. Since the tomatoes were planted rather late very few had to be picked before school started. A late fall enabled us to harvest a crop of 9.6 tons. Our expenses were very low and this one acre of land cleared about \$200 for us. The boys learned the importance of picking No. 1 tomatoes as they were sold on a graded basis. Our average was 83.3% of No. 1's for all tomatoes marketed. One load graded 92%.

Values Were Significant

Members of the F.F.A. chapter received many benefits from this first year's operation of our farm. They can be enumerated as follows in order of importance: (1) A school farm can be successful when all members willingly share the responsibilities involved; (2) Working out plans for the growing of crops and livestock and putting them into successful operation gave new meaning and impetus to classroom work; (3) Financing the enterprises provided down-to-earth problems in farm economics; (4) Marketing our products through the school cafeteria gave us a greater sense of importance in our school; (5) Solving the problems that arose from time to time provided real-life situations, broadening our knowledge of some of the farming problems; (6) We made sufficient money that the chapter members felt that a great service could be rendered to the community by allocating \$400 to the development of our annual farm products and household arts show for prizes and ribbons; (7) It was decided that up to \$200 would be allocated annually to help worthy and needy F.F.A. members get started in their supervised farming programs; (8) The opportunity for experimenting with certain crops in a small way became apparent to all; (9) By continuing to cooperate, the school cafeteria could be supplied with more farm products of a very desirable nature, providing still greater opportunities for real learning experiences such as butchering hogs and cutting up meat. (10) Town boys enrolled in vocational agriculture had an opportunity to learn some of the great wealth of knowledge that is stored in the soil and to experience the real pleasures in growing poultry and livestock.

The teacher supervised all operations for the year. Our capital outlay for the year was not excessive. All bills were paid and notes discounted at the bank and a good bank account remained. We felt that this was a successful year and that we had a good start for 1947-48.

Our experiences thus far showed it was essential that new plans be made for the further development of our school farm. Therefore, a new farming program, to be developed during the 1947-48 school year, was planned to meet the interests and needs of the F.F.A. members. Members were required to submit new crops and livestock that they would like to grow during this school year. These suggestions were considered in meetings. The enterprises selected were as follows: (1) Six and one-half acres of wheat to be inter-planted with Ladino clover in the spring of 1948; (2) Fifty Rhode Island Red Layers; (3) One-fifth acre containing 10 different varieties of strawberries; (4) One hundred turkeys for the school cafeteria and friends in the community; (5) One acre of tomatoes; (6) One acre of corn with fertilizer at the plow sole at the rate of 700 pounds of 3-12-6 per acre and 12 to 14 thousand plants per acre. A second acre of corn planted next to this one applying 300 pounds of 3-12-6 fertilizer to the acre and cultivated into the soil; (7) Three purebred OIC sows and 1 purebred OIC boar; (8) Five steers to supply meat for the cafeteria; (9) Four hundred and fifty Rhode Island Red chicks to supply eggs and meat to the cafeteria; (10) OIC Swine for show purposes.

The program of 1947-48 really established the school farm as a definite part of the agriculture program at Boonsboro. The trials of starting something new had been overcome. We went into the 1948-49 program with vigor that results from success. The program was again decided upon by the F.F.A. members and carried out by them under direction of the adviser. The accomplishments of 1948-49 were as follows:

1. Provided food to the school cafeteria consisting of 7 hogs, 5 steers, 100 roasting chickens, 25 turkeys, eggs, tomatoes and strawberries. The products were all grown on the school farm and prepared and delivered to the school cafeteria for final consumption. All killing and dressing of animals and poultry was done by the chapter members.
2. Purchased and cared for 4 steers to be used to supply meat to the cafeteria during the 1949-50 school year.
3. Raised 59 pigs, 23 being fattened for the spring F.F.A. Fat Hog Show and Sale, 7 butchered for school cafeteria, 3 kept as replacement stock on the school farm, and the remaining ones sold to farmers and F.F.A. members as breeders or feeders. These pigs consisted of OIC's, Hampshires, Durocs, Berkshires and Spotted Poland Chinas.
4. Raised three different flocks of chickens consisting of 950 chicks.

(Continued on Page 186)

Recognizing the individual

L. W. BRACEY, Teacher,
Progress, Mississippi

I DO NOT KNOW of any better way for a farm boy to develop into a useful, contented, and patriotic citizen than through active participation in a well diversified program of work. It has been the aim in our department to place as many duties and responsibilities on each individual student as he is capable of discharging creditably. No other course in our school curriculum offers the range in latitude to fit the individual's needs as does vocational agriculture. Even though there is sometimes a vast difference in the abilities and capacities for work among boys of the same group, there is opportunity for a most challenging program of work for every student.

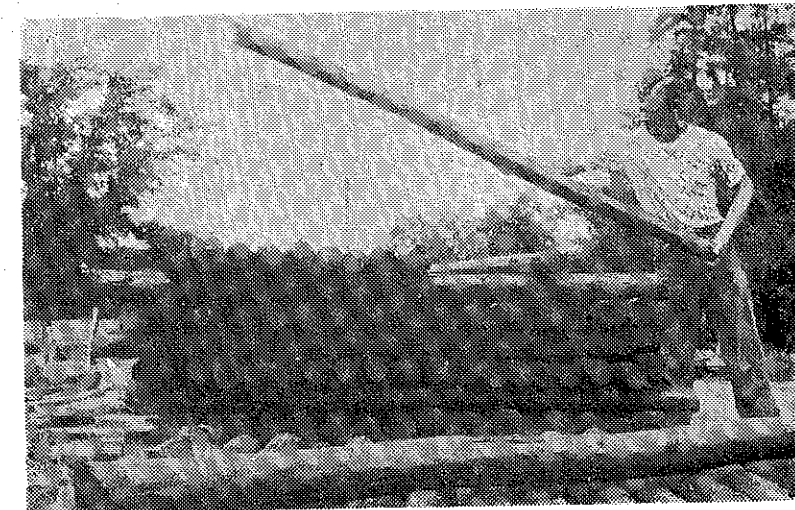
We all recognize the necessity of the ability, "Becoming established," being reflected in every boy's program. In order for this to be a reality, and for progression to predominate, every major enterprise must be kept on a sound economic basis. It would be disastrous on the morale and interest in farming for a trainee to lose what earnings he has managed to save from one enterprise on some exploratory venture. Therefore, it behooves every instructor to exercise vigilance in directing each boy through the selection of his program that no financial failures may be experienced.

The fact that a student—is becoming established—within itself is very motivating to most boys. Any achievement made today, increases the desire for greater achievement. One of the most powerful tools of motivation available to the instructor is the art of giving proper recognition to a job well done by a boy through a good public relations program. It is a human trait for an individual to like recognition. I know of no boy who doesn't like to have his picture, or an article written on his achievements appear in the local newspaper, or to hear his accomplishments broadcast by radio.

Then there is another most powerful tool for motivation and training for leadership available to the instructor of vocational agriculture, the F.F.A. There is a hidden desire in the heart of every boy to excel in something. Nothing gives the boy the thrill that is received when he and his team-mates win recognition in some chapter contest. F.F.A. work, like becoming established on a farm, is a trend of progression.

What other group of workers has a greater opportunity towards training the youth of today for leadership and the development of boys into more useful, contented, and patriotic citizens than do teachers of vocational agriculture!

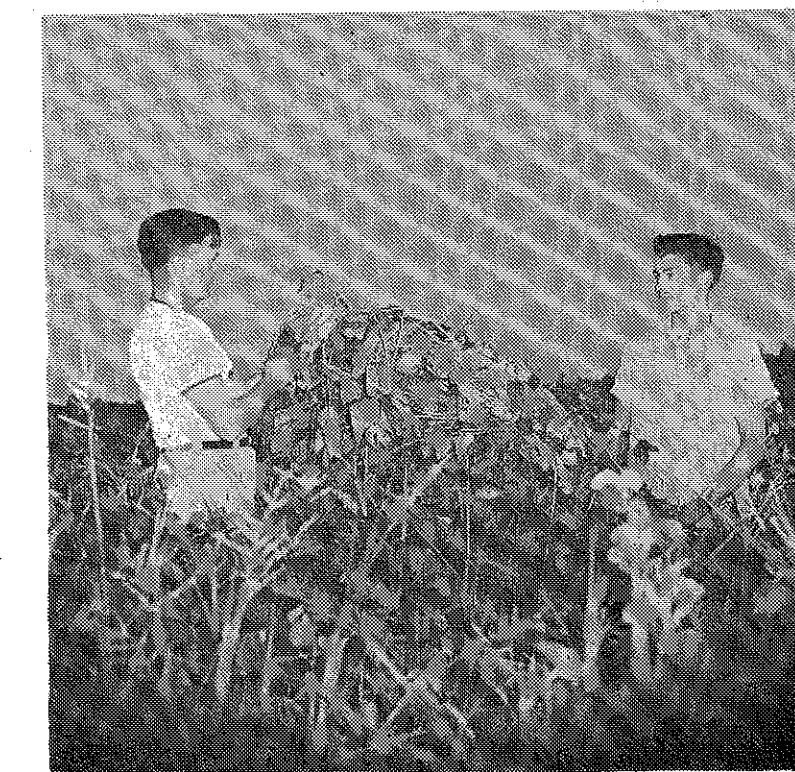
TOP—Jack Tucker, Charleston, Mississippi, at work on one of the first jobs of a farm improvement project.
CENTER—C. W. Parker, teacher of agriculture, and student Wayman Carty, Pheba, Mississippi.
LOWER—Bobby Hall is the student. His five acres of soy beans helped him to become one of Mississippi's Star Farmers of F.F.A.



Stacking treated fence posts for a farm improvement project.



Pheba, Mississippi, chapter member checks prospects for membership in 100 bushel club.



L. W. Bracey aids student to estimate yield of soybeans



Picking Strawberries on School Farm.

Bring farm to school

(Continued from Page 184)

5. We used 6½ acres of Ladino clover for pasture to reduce our feed bill. It had been seeded in the wheat field in the spring of 1948 at the rate of fourteen pounds of seed per acre.
6. Contracted 2 acres of tomatoes with the Greencastle Packing Company. These were planted about May 15.
7. Harvested 4 acres of certified Leapland wheat and ½ acre of Balboa rye.
8. Planted ½ acre to garden vegetables consisting of sweet corn, bush lima beans, pop corn, strawberries, cauliflower and tomatoes.
9. Raised 5 pheasants to be turned loose on the school farm.
10. Seeded 4 acres of land to alfalfa for hay purposes.
11. Beautified the school premises by cleaning off an unsightly apple orchard that was directly in front of the school. This land was planted to soybeans to improve the soil before we put it into a permanent lawn.
12. Cared for and harvested 1/5 acre containing 10 varieties of strawberries, determining the yields from each variety.

During these years the Board of Education purchased a tractor and a mower for our use. The F.F.A. chapter purchased the remainder of the machinery which is as follows: tractor plow; spring tooth harrow; binder; manure spreader; 5 poultry houses, two 12' x 14', one 12' x 18', one 10' x 10', and one 12' x 12' range shelter; 3 semi-A type hog houses; steer shed; 6 hog feeders; 2 self-waterers for hogs; numerous chicken fountains and feeders and other small pieces of equipment such as forks, rakes, hoes and small cultivators. This equipment represents

an investment of approximately \$1,000 and was purchased from the profits made on our farm.

Some may say after reading this that the boys and their time were exploited, but such is not the case. A committee was appointed to work out a chart showing the names of the boys that were to care for the livestock, the poultry, and to gather the uneaten food materials for the cafeteria. Usually six boys were assigned for a week at a time to do the necessary farm chores. There were days, however, when it would be necessary to use an entire class for the construction of a poultry or hog house, to erect a fence for a hog lot, to dress chickens or turkeys, to butcher hogs and to pick strawberries. We have always followed this plan. The boys that would not be working on the farm would spend their time in class.

After almost three years of operating a school farm it is not difficult for one to visualize the great changes that will come about in the teaching of vocational agriculture in the rural schools of tomorrow as more departments use land as a supplement to textbooks, bulletins, films, slides, charts and other teaching aids.

With a farm the opportunity for demonstrating sound farming practices is available for the teacher to use every day. Real-life projects are at hand to teach team-work and cooperation. Town boys that choose the agricultural course will learn that farming requires work, but at the same time provides an enjoyable way of earning a livelihood and an opportunity to enjoy the blessings of nature. The school farm provides funds for the chapter to sponsor many worthwhile F.F.A. activities without begging school patrons for financial assistance. The school farm breathes life into the whole program of the department.

A free and wise society must expect the educator to point courageously at the faults which it suffers, and to seek remedies for them.—Robert Ulich

Parents' night

WALTER L. WESS, Teacher,
Slippery Rock, Pennsylvania



W. L. Wess

ONE can scarcely conceive of a department of vocational agriculture in a secondary school being much of a success without a Future Farmer chapter. Through the Future Farmer chapter the boys have an opportunity to express themselves in many ways and thus develop initiative. The qualities which the boys develop will help to develop a sound and practical program of vocational agriculture for the community.

One of the activities of the Slippery Rock chapter which has helped to promote the work of the department of vocational agriculture in the school, is a program which is called "Parents Night." This program is staged early in the school year, about the second week of the school term. Committees for this activity are set up at a meeting of the executive committee of the chapter during the summer months. There is a committee on invitations to see that all of the parents, school officials, and classes in the high school and grade school are invited. The program committee arranges for the program for the evening. After the evening program refreshments are served by a refreshment committee. The committee on vegetable display plans for and arranges the exhibit. At the opening of school the committees are announced at a chapter meeting and they immediately begin planning their work.

A display of home grown vegetables is set up during the class periods on the day of the "Parents Night" meeting. Care is taken to have high quality vegetables in all cases. The vegetables are arranged and displayed just as they would be at a large fair or show. An effort is made to have at least one exhibit of every type and kind of vegetable grown in the community. Committees have charge of preparing the display space, arranging the exhibit, preparing and keeping entry lists. A committee of senior boys judges the exhibit on standards similar to those used at fairs and shows. The committee on invitations prepares written invitations and sees to it that each parent is invited. This committee is on hand when the parents arrive to greet them and make them welcome.

After the parents have had ample time to view the display and visit, the program chairman calls the meeting to order. The program is brief. It usually consists of a few words of welcome by the chapter president, several of the members tell of their supervised farming programs, and the adviser explains at some length the meaning and place of the supervised farming programs of the chapter.

Change judging contests

To suit vocational training needs

CLAUDE GILLETTE, Teacher, North Rose, New York



C. C. Gillette

AMONG teachers of agriculture few topics raise as much controversy as the judging contests. This condition is not surprising since (1) the teacher is involved in selecting and training the teams, (2) judging contests have not been developed primarily for the students, (3) responsibility for setting up and conducting contests has in many cases fallen on those primarily interested in other fields of work or upon teachers who are too busy to give the time to selecting specimens which would be of the greatest vocational interest.

It is impossible, in the process of developing and selecting boys to take part in a judging contest, not to allow one's personal interest to become involved. No teacher wants to accept the point that his boys are not as good as boys in some other school, that his judgment in selecting boys is poor, or that the training he has offered is not up to the standard in some other school.

The organization of the contests has made for differences of opinion. The judging contests, until recently, have been largely a matter of using with little or no adjustment the contests developed for college students with which the teachers were familiar in their judging efforts during student days. Proposed changes have bogged down under an avalanche of questions concerning minor points, or have failed because they were too difficult to administer. Under these conditions, most teachers have returned to the college patterns as the only practical forms. The standards have been set up with perfection, exemplified in the ideal, as the basis upon which placings are made. In many cases the ideal form is of no economic importance and since most judging contests are held at fairs where the differences between specimens in a class have been extremely close, there may or may not be a relationship between proficiency in judging based on form and proficiency in farming. Cows with minor defects have frequently been placed down in the class even though, from an economic standpoint, such animals were superior animals in the class. Little or no consideration has been given to the laws of inheritance in spite of the fact that the main purpose of exhibiting is to distribute superior animals throughout the producing area. Standards change from year to year because differences in growing conditions influence the type in fruits and vegetables.

Minor differences among authorities on the values given defects has led many teachers to overlook the point that

the final score between experts is in fairly close agreement. The failure of a judge to be in exact agreement with previous scores when a class is judged at intervals is another cause of dissension. The judging score card is at best arbitrary in the relative values assigned each part. For example, what research work proves that color should be given 35 per cent and freedom from insect and disease injury 30 per cent of the points in placing apples?

Setting up contests with little differences between individuals in a class leads to guessing. Contests with obvious and wide differences between individuals in a class leads to ties between contestants and a scramble over breaking such ties. A contest in which contestants are not given a reasonable opportunity to show their training is a waste of valuable time. Turning forty of fifty boys loose in a room for a more or less well marked contest cannot produce satisfactory results. A contest must be conducted in a manner in which boys cannot communicate with one another. Boys learn most from judging contests where papers are corrected and passed back for the boys to compare with the placings of the judge. A contest in which well informed teachers differ widely in placings indicates a lack of forethought and work in preparing the exhibit. Mistakes in correcting papers lead to much dissatisfaction. It is impossible to avoid all mistakes but a system of checking and re-checking papers should result in reducing to a minimum the number of errors and the possibilities of dissension.

Judging Contest An Effective Means of Instruction

The judging contest is a teaching device, which, in the hands of a skillful teacher, is as useful as any other means of training students in agriculture. Competition is a natural incentive for

learning above and beyond the need of producing satisfactory grades. Training for the judging contest provides an opportunity for activities not closely associated with the classroom. That is, it may be held in the classroom but as a laboratory exercise.

Farming is a business of details. Selection is one of those details which the farmer must master. Judging is one of the best ways to teach a boy selection. Selecting the best animal for a herd or selecting the best varieties of apple trees to plant are decisions which the boy can and does make in his project work. Increasing the size of the farm business is a decision over which the boy has little or no control unless the father is so inclined. It is impossible to divorce the influence the boy receives from seeing better work methods in the dairy barn, the proper housing of dairy cattle, keeping milk and herd records, etc. from the training he receives in judging two or more rings of dairy cattle when he goes on a field trip to judge dairy cattle. Similarly, it is impossible to separate the training a boy receives in selecting apples from the observation which he makes on the effects of thinning sprays, use of hormone sprays, disease and insect control, grading, harvesting methods and so forth.

Selection is important from an economic standpoint. The failure of growers in my own school district to plant McIntosh instead of Baldwin and Ben Davis apples in orchards set out from the year 1908 to the present time has meant a loss of at least ten million dollars to growers. Similar studies in communities throughout the state would show the loss of tremendous sums through failure to properly stock farms. Whether, after all the training received, a boy will use only the most adaptable varieties is, of course, problematical. Certainly boys who have had a chance to learn by doing are more apt to retain training than are those taught in some other manner. Most teachers know of cases where boys have been influenced to adopt the best methods.

Wholehearted interest of boys in vocational agriculture is essential for success. (Continued on Page 190)



Preparing for the contest often requires much time. Can we justify it?

Professional

B. C. LAWSON

R. H. TOLBERT

Program in agricultural education An overview of its relationship with school and community

VERD PETERSON, Director of Vocational Education, South Carolina



Verd Peterson

IT seems to be the opinion of some workers in agricultural education that the pattern of the program of the teacher of agriculture has been changing to some extent and perhaps ought to change more. I do not believe that there is anything like a uniform pattern of programs. In different parts of the country emphasis has been placed on different phases of the program. The original Smith-Hughes Law stated that agricultural training was intended for those who had entered upon the business of farming and for those who were preparing to enter upon it. I think it is true that in most sections of the country the pattern of early programs was developed around problems of teaching farm boys in the public high school rather than around adult problems.

Broad Service Base

These programs, through the requirement of six months' supervised practice, were tied more definitely to the community than were other phases of the public school. It is safe to assume, I think, that much of the early supervised practice was somewhat academic and superficial and not based upon the real farm problems faced by adults on their farms. At the present time in a good many of the states, and especially in South Carolina, the program of the teacher has moved far over into the problems of adult farmers in the communities. As this has happened, the development of educational services that are helpful to all the citizens of the rural communities has taken place.

This is especially true where the schools operate farm shops for high school boys and adult farmers, community canneries, refrigeration and locker units for frozen foods, sweet potato curing houses, and other services that are used both as teaching devices and as services to the people in the community.

The fact that adults in these communities realized such services helped them in learning to solve their problems and to improve their standards of living did much, no doubt, to cause them to support such services and to help the teacher in the development of them. In a great many of these communities it is not a question of whether the pattern of the program and its relationship to the rest of the school and community

should be changed—the change has already been made. The teacher of agriculture, the school authorities and community leaders are now face to face with the problem of meeting the situations that have grown up out of these changes.

I think it has been the experience of teachers and school officials when the local program in vocational agriculture begins to work with and meet the problems of adults that immediately the effectiveness of the all-day or in-school program is improved. The adult program brings the teacher face to face with the real farming problems of the community and he is thereby able to make his instruction in the classroom and in his supervised practice much more effective.

In public schools that have been struggling to make their total high school program more functional in the

This philosophy (of education) commits itself, first of all, to the building of a new culture. It is infused with a profound conviction that we are in the midst of a revolutionary period out of which should emerge nothing less than control of the industrial system, of public services, and of cultural and natural resources by and for the common people who, throughout the ages, have struggled for a life of security, decency, and peace for them and their children.

—Theodore Brameld

lives of people in the community, the program in agriculture dealing with problems of adults and out-of-school youth has found a fertile field for work and has received more support than all other phases in that type of public school. For this and other reasons the program in agriculture tied into adults' and communities' problems is favorably received by the other workers in the school because it makes a real contribution to the whole school program.

Patterns for training teachers of agriculture, both pre-service and in-service, must necessarily change as the program changes in relationship to the local school, and to the community. This problem is likely to be a more difficult one to solve than that of making adjustments in the local schools and communities because it will involve many factors that have to do with the operation of the total program of the state agricultural colleges.

The pre-employment training program for teachers needs to be made up

What's new in Programs of Education in agriculture will be the feature of the month for July. We need contributions to answer questions like the following: What are the promising developments in programs of agricultural education? How were they initiated? How have they changed the job of the teacher of agriculture? What innovations are we testing? How can we really determine needs? How can teachers have an active part in developing programs? How are we bringing the administrator into the picture?

Copy should be submitted in April.
—Editor

largely of the type of material that will help the teacher in developing a broad understanding of the major factors which will be involved in the development of future programs. The teacher needs to have assistance in his training program in developing human relationship skills that will make it possible for him to deal effectively with people. Traditional subjects that make little or no contribution to this, need to be left to the people who have the time for them and who are not required to meet the real problems of economics and community life.

Since, in many sections, the teacher of agriculture is spending much more of his time with adults and out-of-school youth than originally, he is dealing directly with the perplexing economic problems that farm people must meet. The teaching of superficial, general principles of economics in the colleges will not give the teacher the ability needed to operate in the real economic situations. Economics will need to be taught by the people who have the facts and know how to help a teacher understand how economic forces work. The place of consumer economics, of farmer cooperatives, the matter of parity prices, the problems of marketing and other definite economic problems must be dealt with in a realistic way.

The experiment stations and the U. S. Department of Agriculture have been for years providing excellent opportunities for research on the economic and human relationship problems that must be met by farm people. Out of this research gradually has been developed the basal facts that teachers of agriculture need to know in setting up and operating an effective program. The pre-employment or in-service training of teachers must make maximum use of this content. It is both the responsibility and the opportunity of the Land Grant colleges to render a great service to the farm people of our country through the research programs and the training of teachers of agriculture.

People dealing with the patterns of programs for teachers of agriculture in the public schools need to recognize that these programs are a part of the total educational program and that they can render to that total program the best service by making these programs more effective.

The future of agriculture*

W. I. MYERS, Dean, College of Agriculture, Cornell University



W. I. Myers

DURING the past century American agriculture has shifted from being dependent on the muscles of men and work animals to largely mechanized production. This change has resulted in a great increase in the efficiency of production of food and fiber.

In 1850 there were about five million persons employed in agriculture. They produced the food and the leather, cotton and wool for the shoes and clothing for a little over twenty million persons. Each farm worker, therefore, fed himself and about four other persons. The 1948 farm worker fed himself and about 14 other persons. In 1850 most of the four "others" lived on farms whereas in 1948 most of the 14 "others" lived in cities.

The fact that each farmer is feeding many more persons than formerly means a better living for everyone. The goods and services that make up a large part of our standard of living can be provided only by those workers who are not required for the production of food and fiber.

Factors Leading To More Efficient Production

While this phenomenal progress was the result of many minds and industries, the most important single factor was farm power machinery which made it possible for one man to till more acres. When Jerome I. Case left Williamstown for the West, it took fifty man-hours to grow an acre of wheat, using a team of oxen, an iron-tipped wooden plow, a wooden-tooth harrow, a cradle and a flail. Today a man can do the same job in three and a half hours with a tractor, gang plow, tractor disk, drill and combine.

The phenomenal increase in output per worker is a result not only of more acres per man but also of higher yields per acre, due to better varieties of crops and to improved methods of production and pest control. Countless years of research in many sciences are returning dividends in more and better food for all of us.

The advance in methods of fertilizing the soil is significant. A little more than a hundred years ago a scientist first established the relationship of plants and soil and was daring enough to predict that the time would come when plants would be supplied with the appropriate manures made in chemical factories. He recognized the value of liming soil and the need for phosphorus in plant growth. By discovering the value of the sul-

*The Future Of Agriculture, by Dean Myers appeared in the September, 1948 issue of Farm Economics a publication of the Department of Agricultural Economics, New York State College of Agriculture, Cornell University. It is reprinted by permission.

phuric acid treatment of bones, he laid the basis for the superphosphate industry, a potent factor in our increased crop yields.

Equally important are the development of high-producing, disease-resistant varieties of plants and the great strides made in chemical control of insect pests and plant diseases. These improved practices are increasing yields and reducing risks in farming.

Similar advances have been made in livestock production by the use of better methods of feeding, breeding and disease control. In 1860 Ezra Cornell cited an average production of 2,400 pounds of milk per cow in Tompkins County, New York, and hoped for 4,000 pounds sometime in the future. The New York State average now is approximately 6,000 pounds and many herds average more than 10,000 pounds per cow. Comparable gains have been made in the production of beef and pork while egg production per hen has doubled in less than fifty years.

Family Farm Prevails

In spite of these far-reaching changes and the increasing dominance of corporations in business life, the family farm has continued to be the prevailing type in our agriculture because it has demonstrated greater efficiency in production. The average size of the family farm has increased as machinery has enabled the farm family to work more land; and this process will continue. However, with agricultural research and extension to point the way to further improvements in methods of production, the family farm will remain the dominant factor in our agriculture and the cornerstone of our free-enterprise economy.

Although American agriculture is the most efficient in the world today, it will be made better in the years ahead. An abundance of food for our increasing population can be produced by not more than three million efficient family-sized commercial farms, about one-half the present six million farms counted by the census. Progress in this direction will contribute to steadily rising standards of living for farm families as well as for consumers.

Much of this increased efficiency will be made possible by greater use of power machinery for many more farm tasks. Up to now the most striking gains have been made by machines for tilling land and for the harvesting of grain crops. There is great need for machines to make comparable savings in labor on fruit and vegetable crops. These include improved sprayers to apply high-concentrate sprays, improved methods of weed control such as chemical or flame weeders, efficient machines for harvesting vegetable crops and many others.

With a few striking exceptions, such as the milking machine, comparatively little progress has been made in the application of power to barn chores on dairy cows, hens and other animals. Time and motion studies will be needed to plan barns for efficient work. In-

genuity in devising equipment and increased use of power are also required to increase efficiency in these operations which constitute a large part of the work on dairy and poultry farms. With the enormous increase in the progeny of proven dairy sires made possible by artificial insemination, further marked increases in milk production per cow may be expected in the years to come.

The principal way to increase food production for our growing population is through higher yields from the land already in use. Unproductive land and land not suited to machine operation will not be able to compete in crop production and will be used for pasture or will be reforested.

The impact of chemistry on farming has already been tremendous. Further research using radioactive material will show us how plants grow and make possible higher yields through more effective ways of using lime, fertilizers, insecticides, fungicides, hormones and the like.

Adequate Diets For All People

The basic purpose of agriculture has always been the production of food and fiber for the nation. It is only recently, however, that we have begun to realize that the nutrition of human beings is as important as that of other animals and of plants. Although we enjoy the highest standard of living in the world, we have a long way to go to provide a really adequate diet for all our people. The first step toward this goal is unrestricted production of milk, eggs, fruit, vegetables and other choice foods. In the longer run it will also involve the breeding of varieties of fruits and vegetables with higher nutritive value as well as palatability and other desirable qualities.

Problem of Distribution

Closely related to the growing of better food will be the need to get it to consumers without loss of quality. We shall be able to devise better methods of processing and marketing foods to preserve their nutritive value as well as their palatability. The development of frozen foods has opened up a whole new vista, with many possibilities for producing foods of superior taste and quality.

All this adds up to the need for a continuing increase in production and efficiency on American farms. In the future, as in the past, progress will be based primarily on the application of science and engineering to agriculture. It will also be necessary further to improve conservation practices as we make more intensive use of our agricultural resources on a sustained yield basis. Equally important is the goal of reducing drudgery in farm production and in the farm home so as to make possible more leisure time for recreation and for gracious farm living.

Perhaps no greater revolution occurred in the relationship between man and nature—the introduction of fire not excepted—than that brought on by the introduction of science.

—Erich W. Zimmerman

Change judging contests

(Continued from Page 187)

tional agriculture is quite important in teaching. The motivation a boy receives toward entering or remaining in agriculture from the field trips on judging cannot be easily measured.

In most schools a very large portion of one man's time is taken up in developing athletic teams. Much has been claimed for this training. The best qualities coming out of such training can be claimed for training in judging. Good sportsmanship is not limited just to the athletic contest. If the athletic coach can spend weeks and months in developing skills in pivoting, passing, and shooting, why are we not justified in spending some time in judging since it, unlike the skills in athletics, is useful in adult life.

Many judging score cards are artificial. The results which can be secured through the judging contest are worth the effort to make such changes in the judging score card and in the judging contest as will produce the results sought. Most teachers of agriculture want to give their pupils the following training through the judging contest:

First—

Ability to distinguish between breeds, varieties, and kinds of plants and animals; to spell the names of plants and animals; and to use the educational opportunities available at the fairs to improve their understanding of agriculture.

Second—

Ability to recognize grades of apples, eggs, milk, potatoes, and vegetables. All boys are consumers and a knowledge of grades is fundamental to enjoy the best standard of living. Grading is also an important step in marketing.

Third—

Ability to recognize the ideal type toward which plant and animal breed-



An attractive exhibit planned in advance for a special event.

ers are working, and the ability to select and purchase the plants, seed and stock which will most nearly produce this ideal type.

Fourth—

Provide an experience pattern upon which to build in teaching other lessons that will complement and supplement the instruction given at that time.

Fifth—

To motivate the boy's interest in vocational agriculture.

Sixth—

Promote good sportsmanship, teamwork and co-operation.

Seventh—

Ability to use tool subjects (arithmetic, spelling, writing) in filling out the forms used in the contest.



Pictured above is the Colfax County, New Mexico, veterans on-farm training program exhibit, which was shown at the Colfax County Fair. The exhibit was prepared by the instructors and their students. The instructors were James Gilstrap, Springer; Paul Crane, Raton; and Nick Vukovich, Abbott.

Parents' night

(Continued from Page 186)

the individual members of the chapter as the major part of the course in vocational agriculture. Care is taken to bring out that the greater part of the class instruction is based on the supervised farming programs of the individual members.

The explanations of the individual supervised farming programs given by the boys and the adviser are valuable. The parents learn how important the supervised farming program of the individual member is in the entire course. In this presentation the use of slides and pictures of the present and former members of the chapter proves very effective.

The use of this opportunity at "Parents Night" to present facts and information relative to the supervised farming programs of the different members of the chapter does not and should not in any way take place of or interfere with the home visitation the adviser makes to explain and initiate farming programs of the individual members of the group. The "Parents Night" program is supplementary to the home visitation and enriches the experience of all three groups involved, the parent, the pupil and the adviser.

Approximately 900 Minnesota Future Farmer members representing 89 chapters enrolled in the 12th annual Northwest Livestock Marketing School at South St. Paul. This school is sponsored by the market interest at South St. Paul and agricultural service of State Vocational Division.

The revised directory of schools offering On-Farm Veterans Training Program in Minnesota reveals that there are 231 schools with institutional on-farm courses and 462 instructors, and 11, 114 Ex-G.I.'s are in on-farm training.

In 1947, an estimated 593,000 more people migrated away from farms than to farms.



Education of youth in the ways of agriculture is a problem common to all cultures. The boys of Cyprus shown in these pictures are attending a two year school which features agricultural education.

British Official Photograph

Agricultural education in Cyprus

THE Rural Central School, Morphou, Cyprus, was opened in 1940 to give technical education to boys intending to be good practical farmers. Generally speaking, before its opening, rural lads wishing for more than elementary education were obliged to go to urban secondary schools where, not only was the tuition not suited to their requirements but they often became urbanised themselves and promising recruits were lost to the farming industry. Cyprus is economically dependent on agriculture and the Rural Central School is designed to offer the advanced education for which there is a considerable demand.

Candidates for admission must have completed their elementary school course and must have worked for two years on their own or their families' land for two years after leaving school. They must be 15 year old. The course lasts two years. The training is intended to qualify lads to return to their fathers' land with improved practical knowledge as will enable them to lead more profitable agricultural lives.

British Information Services

Hawaii teachers publish own news bulletin

Published on the second Monday of each month by the Hawaii Agricultural Teachers' Association, an affiliate of the Hawaii Chapter, American Vocational Association.

Charles W. Lum.....Editor
Lloyd Kaapana, John Sakai, Jiro Suzuki, Shozun Yamauchi, Robert Fukuda, Hisao Miyasaki, Hartwell Blake, Norman Ignacio, Tin Yan Jim On, Tadashi Ikeda.....Associate Editors

Address all articles to the editorial office: Kaimuki High School, 631 18th Avenue, Honolulu 14, Hawaii.

Hawaii News Bulletin

In 1940, 84 per cent of the 12-year-old boys and girls living in cities attended school, and only 64 per cent of those in rural areas.



Alpha Tau Alpha marks twenty-eighth year

ALPHA Tau Alpha, National Professional Agricultural Education Fraternity, marks the 28th anniversary of its establishment this year by issuing an illustrated brochure of the organization. Seventeen charters for local chapters of the fraternity have been granted in as many leading teacher training institutions across the country. National membership up to 1949-50 totaled 4,028. It is estimated that 300-350 more students of agricultural education now in training will wear the gold key of the fraternity before the close of this school year.

According to the constitution of the fraternity petitions for new chapters should originate with undergraduate and graduate students in a teacher training institution and must have the approval of the university or college, and of the teacher training department. Student petitioners may be sophomores or higher. The petition in the form of a letter should be addressed to the National Secretary. He will also answer questions concerning chapter installation, costs, and other matters.

The present national officers are:—
President: Dr. C. S. Anderson, Pennsylvania State College, State College, Pennsylvania.

First Vice-President: Prof. R. W. Canada, Colorado A and M College, Fort Collins, Colorado.

Second Vice-President: Dr. H. M. Hamlin, University of Illinois, Urbana, Illinois.

Secretary-Treasurer: Dr. M. C. Gaar, Louisiana State University, Baton Rouge, Louisiana.

Keep veterans interested

(Continued from Page 179)

to report on something they are doing, a meeting they attended or place they have been.

D. Combined Farm Visits: I have often called up a veteran and said "I am going to mark some hogs over at John's, would you like to go along?" Many skills can be taught this way.

E. Farm Trainer Night: The farmer trainers or the agricultural council have been called in for a class discussion. A panel discussion problem works well for this. These experienced farmers bring out a lot of information that is needed by the veterans.

F. Trained Technicians: A skilled person such as a veterinarian, conservationist, or banker, can often put on a demonstration or do a better and more interesting job of vocational training in the respective skills than the teacher.

G. Movies: There are probably the least effective for vocational training unless they are the slide type which can be shown while the job is being done. In general, movies are too entertaining, even though they do teach by sight. An occasional moving picture does add to the interest of the class.

The keystone of American family life consists of rural family values—common interests, cooperation, family group activity, character-building activities, closeness of attachment, interest in the future.

Specialists . . .

- H. B. Swanson, Teacher Training; R. E. Naugher, Part-Time and Evening; A. H. Hollenberg, Farm Mechanics; A. W. Tenney, Subject Matter; E. J. Johnson and W. N. Elam, Program Planning
- d—directors s—supervisors as—assistant supervisors
- rs—regional supervisors ds—district supervisors PFA—specialist PFA
- t—teacher trainers it—itinerant teacher trainers rt—research workers
- Nt—Negro teacher trainers sms—subject matter specialists
- fms—farm mechanics specialists

Note—Please report changes in personnel for this directory to Dr. W. T. Spanton, Chief, Agricultural Education, U. S. Office of Education.

- ALABAMA**
d—R. E. Cammack, Montgomery
s—J. C. Cannon, Montgomery
as—J. L. Dailey, Montgomery
as—L. L. Sellers, Auburn
as—H. F. Gibson, Auburn
as—T. L. Faulkner, Auburn
as—H. R. Culver, Auburn
as—B. P. Dilworth, Auburn
as—H. W. Green, Auburn
t—S. L. Chesnut, Auburn
rs—W. Montgomery, Auburn
t—D. N. Bottoms, Auburn
t—W. A. Broyles, Auburn
sms—E. L. McGraw, Auburn
Nt—Arthur Floyd, Tuskegee
Nt—F. T. McQueen, Tuskegee
Nt—E. L. Donald, Tuskegee

- ARIZONA**
ds—J. R. Cullison, Phoenix
t—R. W. Clinc, Tucson
t—W. A. Schafer, Tucson

- ARKANSAS**
d—J. M. Adams, 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—George Sullards, Jonesboro
t—Roy W. Roberts, Fayetteville
t—LaVan Shoptaw, Fayetteville
Nt—L. R. Gaines, Pine Bluff
Nt—A. G. Kirby, Pine Bluff

- CALIFORNIA**
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s—B. J. McMahon, San Luis Obispo
rs—B. R. Denbigh, Los Angeles
rs—Howard F. Chappell, Sacramento
rs—A. G. Egan, Fresno
rs—J. C. Gibson, Los Angeles
G. A. Hutchings, San Luis Obispo
rs—M. K. Luther, San Jose
rs—R. H. Pedersen, Fresno
rs—J. Everett Walker, Chico
t—S. S. Sutherland, Davis
t—E. M. Juergenson, Davis
t—H. H. Burlingham, San Luis Obispo
sms—Geo. P. Couper, San Luis Obispo
sms—J. I. Thompson, San Luis Obispo
sms—John D. Lawson, San Luis Obispo

- COLORADO**
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s—A. R. Bunger, Denver
as—Irwin C. Elliott, Denver
t—R. W. Canada, Ft. Collins
t—E. J. Farly, Ft. Collins

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s—R. L. Hahn, Hartford
t—W. Howard Martin, Storrs

- DELAWARE**
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s—W. L. Mowlds, Dover
t—Paul M. Hodgson, Newark
Nt—Wm. R. Wynder, Dover

- FLORIDA**
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s—Harry Wood, Tallahassee
t—E. W. Garris, Gainesville
t—W. T. Loftin, Gainesville
ds—J. G. Smith, Gainesville
ds—F. L. Northrop, Gainesville
ds—T. L. Barrineau, Jr., Tallahassee
Nt—L. A. Marshall, Tallahassee
Nt—G. W. Conoly, Tallahassee

- GEORGIA**
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s—T. G. Walters, Atlanta
ds—George J. Martin, Tifton
ds—C. M. Reed, Carrollton
ds—J. N. Baker, Swainsboro
ds—J. H. Mitchell, Athens
t—John T. Wheeler, Athens
t—R. H. Tolbert, Athens
t—G. L. O'Keefe, Athens
sms—Ray W. Neal, Athens
sms—A. O. Duncan, Athens
FPA—T. D. Brown, Atlanta
FPA—A. L. Morris, Atlanta
Nt—Alva Tabor, Fort Valley
Nt—S. P. Fugate, Swainsboro
Nt—B. Anderson, Fort Valley
Nt—McKinley Wilson, Fort Valley

- HAWAII**
d—W. H. Coulter, Honolulu, T. H.
s—C. F. Ferudin, Honolulu, T. H.
ds—Takumi Komo, Hilo, T. H.
as—Riley Ewing, Honolulu, T. H.
t—F. E. Armstrong, Honolulu, T. H.

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s—Stanley S. Richardson, Boise
as—E. L. Lovell, Pocatello
t—H. A. Winner, Moscow
t—Dwight L. Kindschy, Moscow

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- s—J. E. Hill, Springfield
as—J. B. Adams, Springfield
as—A. J. Andrews, Springfield
as—H. M. Strubinger, Springfield
as—P. W. Proctor, Springfield
as—H. R. Damisch, Springfield
t—H. M. Hamlin, Urbana
t—G. P. Deyoe, Urbana
t—J. N. Weiss, Urbana
t—L. J. Phipps, Urbana
t—Leo L. Knuti, Urbana
sms—Melvin Henderson, Urbana
sms—H. J. Rucker, Urbana
sms—W. H. Witt, Urbana

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s—H. B. Taylor, Indianapolis
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t—Ralph Bentley, Lafayette
it—K. W. Kiltz, Lafayette
it—H. W. Leonard, Lafayette
it—E. E. Clanin, Lafayette

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s—H. T. Hall, Des Moines
as—M. Z. Hendren, Des Moines
as—G. F. Barton, Des Moines
t—Barton Morgan, Ames
t—John B. McClelland, Ames
t—J. A. Starrak, Ames
t—T. E. Sexauer, Ames
t—C. E. Bundy, Ames

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s—L. B. Pohlom, Topeka
t—A. P. Davidson, Manhattan
t—H. E. Kugler
it—L. F. Hall, Manhattan
it—Loren Whippis, Manhattan

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s—E. P. Hilton, Frankfort
as—B. G. Moore, Frankfort
as—S. S. Wilson, Frankfort
as—Floyd Cox, Lexington
as—W. C. Montgomery, Frankfort
t—Cassie Hammonds, Lexington
t—W. R. Tabb, Lexington
t—Stanley Wall, Lexington
Nt—P. J. Manly, Frankfort

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s—W. J. Parent, Baton Rouge
ds—J. N. Carpenter, Baton Rouge
ds—C. P. McVea, Baton Rouge
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FPA—Delmer Walker, Baton Rouge
fms—Curtis Jacobs, Baton Rouge
Nt—M. J. Clark, Baton Rouge
Nt—C. H. Chapman, Baton Rouge
Nt—E. C. Wright, Baton Rouge
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t—A. A. LeBlanc, Lafayette
t—Roy L. Davenport, University
t—Malcolm C. Gaar, University
t—J. C. Floyd, University
t—Harry J. Braud, University

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as—Wallace H. Elliott, Orono

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t—Charles F. Oliver, Amherst

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as—B. A. Lightfoot, Lansing
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t—H. Paul Sweeney, East Lansing
t—Raymond M. Clark, East Lansing
t—Raymond Garner, East Lansing
t—Guy Timmons, East Lansing

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as—W. J. Kortezmaki, St. Paul
t—M. J. Peterson, St. Paul
t—H. W. Kitts, St. Paul
t—W. T. Bjoraker, St. Paul

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ds—Joe Moore, Mt. Vernon
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t—G. F. Ekstrom, Columbia

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as—E. W. Holmes, Oxford
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as—T. V. Majuro, Ueno
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t—V. G. Martin, State College
t—J. F. Seagun, State College
t—O. L. Snowdon, State College
t—D. L. Williams, State College
as—A. E. Strain, State College
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Nt—A. G. Gordon, Alcorn
Nt—R. H. Darden, Alcorn

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s—A. W. Johnson, Bozeman
as—Arthur B. Ward, Bozeman
t—R. H. Palmer, Bozeman
t—H. E. Rodeberg, Bozeman

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as—H. W. Deems, Lincoln
t—C. E. Rhoad, Lincoln
t—C. C. Minter, Lincoln
fms—M. G. McCreight, Lincoln

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s—John W. Buntion, Carson City

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s—Earl H. Little, Concord
t—Philip S. Barton, Durham

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as—O. E. Kiser, New Brunswick
as—W. H. Evans, New Brunswick

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as—W. J. Weaver, Albany
as—J. W. Hatch, Albany
as—A. E. Champlin, Alfred
t—R. E. Hoskins, Ithaca
t—W. A. Smith, Ithaca
t—W. R. Kunsela, Ithaca

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ds—J. M. Osteen, Rockingham
ds—T. H. Stafford, Asheboro
ds—T. B. Elliott, Woodland
ds—N. B. Chesnut, Whiteville
t—Leon E. Cook, Raleigh
t—L. O. Armstrong, Raleigh
t—J. K. Coggin, Raleigh
t—F. A. Nyiund, Raleigh
Nt—S. B. Simmons, Greensboro
Nt—C. E. Dean, Greensboro

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s—Ernest L. DeAlton, Fargo
as—Shubel D. Owen, Fargo
as—Winston H. Dolve, Fargo

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s—Ralph A. Howard, Columbus
as—W. G. Weller, Columbus
ds—E. O. Bolender, Columbus
ds—P. J. Ruble, Columbus
ds—D. R. Purkey, Columbus
t—Ralph E. Bender, Columbus
t—W. F. Stewart, Columbus
t—Harold G. Kenstrik, Columbus
t—R. J. Woodin, Columbus
fms—A. C. Kennedy, Columbus
rt—Ray Fite, Columbus

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ds—J. B. Perky, Stillwater
as—W. R. Felton, Stillwater
ds—Byrle Kilham, Stillwater
ds—Hugh D. Jones, Stillwater
ds—Cleo A. Collins, Stillwater
ds—Benton F. Thomason, Stillwater
FPA—Tom Daniel, Stillwater
t—C. L. Angerer, Stillwater
t—Don M. Orr, Stillwater
t—Chris White, Stillwater
Nt—D. C. Jones, Langston

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d—O. J. Paulson, Salem
s—Ralph L. Morgan, Salem
t—H. H. Gibson, Corvallis
t—Henry Ten Pas, Corvallis

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d—Paul L. Crossman, Harrisburg
s—H. C. Fetterolf, Harrisburg
as—V. A. Martin, Harrisburg
t—Henry S. Brunner, State College
t—William F. Hall, State College
t—C. S. Anderson, State College
t—David B. McClay, State College
t—Glenn S. Stevens, State College

- PUERTO RICO**
d—L. Garcia Hernandez, San Juan
s—Nicholas Mendez, San Juan (on leave)
s—Samuel Molinary, San Juan (acting)
as—Rafael Muller, San Juan
as—Juan Acosta Henriquez, San Juan
ds—Frederico Carbonell, San Juan
ds—Juan Melendez, Cayey
ds—Gregorio Mendez, Arecibo
ds—Nicolas Hernandez, Aguadilla
t—Juan Robles, Mayaguez

- RHODE ISLAND**
st—Everett L. Austin, Providence

- MISSISSIPPI**
ds—W. E. Goro, Columbia
ds—W. M. Mahony, Honea Path.
ds—W. R. Carter, Walterboro
ds—F. I. Barton, Chester
ds—C. G. Zimmerman, Florence
t—J. B. Monroe, Clemson
t—H. B. Stribling, Clemson
t—F. E. Kirkley, Clemson
t—W. R. Cowden, Clemson
t—T. A. White, Clemson
Nt—Gabe Bookman, Orangeburg
Nt—K. M. Keyes, Orangeburg

- SOUTH DAKOTA**
d—H. S. Freeman, Pierre
s—H. E. Urton, Pierre
t—Stanley Sundet, Brookings

- TENNESSEE**
ds—G. E. Freeman, Nashville
as—W. E. Goro, Columbia
as—J. W. Brinn, Nashville
as—J. W. Carney, Nashville
as—L. I. Sparks, Nashville
ds—H. N. Parks, Gallatin
ds—J. A. Carpenter, Knoxville
ds—H. C. Colvett, Jackson
t—N. E. Fitzgerald, Knoxville
t—B. S. Wilson, Knoxville
t—R. W. Beamer, Knoxville
t—G. W. Wiegors, Jr., Knoxville
sms—A. J. Paulus, Knoxville
t—E. B. Knight, Cookeville
Nt—W. A. Flowers, Nashville
Nt—H. L. Taylor, Nashville

- TEXAS**
d—W. E. Lowry, Austin
s—Robert A. Manire, Austin
as—R. Lano Barron, Austin
as—George H. Hurt, Austin
rs—O. T. Ryan, Lubbock
rs—Yannoy Stewart, Commerce
rs—C. D. Parker, Kingsville
rs—A. B. Childers, Mart
ds—O. M. Holt, College Station
ds—W. E. Williams, Alpine
ds—J. B. Payne, Stephenville
ds—L. I. Samuel, Arlington
ds—J. A. Marshall, Nacogdoches
ds—T. R. Rhodes, Huntsville
t—E. R. Alexander, College Station
t—Henry Ross, College Station
t—W. W. McIlroy, College Station
sms—W. A. Sherrill, College Station
t—J. L. Moses, Huntsville
t—Ray L. Chappelle, Lubbock
t—T. L. Leah, Lubbock
t—S. V. Burks, Kingsville
it—E. V. Walton, College Station
it—G. H. Morrison, Huntsville
it—F. B. Wines, Kingsville
it—L. M. Hargrave, Lubbock
it—Feral M. Robinson, Huntsville
it—Ray Epps, Huntsville
sms—Kyle Leftwich, Huntsville
Nt—E. M. Norris, Prairie View
Nt—O. J. Thomas, Prairie View
Nt—E. E. Collins, Teakarkau
Nt—S. E. Palmer, Tyler
Nt—Gus Jones, Caldwell
Nt—Wardell Thompson, Prairie View
Nt—Paul Rutledge, Palestine

- UTAH**
d—Mark Nichols, Salt Lake City
as—Elvin Downs, Salt Lake City
t—L. R. Humpherys, Logan

- VERMONT**
d—John E. Nelson, Montpelier
s—C. D. Watson, Burlington
t—James E. Woodhull, Burlington

- VIRGINIA**
d—Richard N. Anderson, Richmond
s—F. B. Cale, Richmond
as—R. E. Bass, Richmond
as—T. B. Downing, Ivor
ds—W. R. Emmons, Boykins
ds—Cabel Love, Blacksburg
ds—W. R. Legge, Winchester
ds—J. C. Green, Powhatan
ds—W. C. Dudley, Appomattox
ds—J. A. Hardy, Pulaski
Nt—C. B. Jetter, Martinsville
t—H. W. Sanders, Blacksburg
t—T. J. Horne, Blacksburg
t—C. E. Richards, Blacksburg
t—C. S. McLearn, Blacksburg
t—B. C. Bass, Blacksburg
fms—T. J. Wakeman, Blacksburg
fms—E. G. Thompson, Blacksburg
Nt—J. E. Thomas, Petersburg
Nt—A. J. Miller, Petersburg
Nt—H. W. Watson, Petersburg

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d—H. G. Halstead, Olympia
s—Bert L. Brown, Olympia
as—M. C. Knox, Olympia
as—H. M. Olsen, Olympia
as—J. W. Evans, Olympia
as—E. M. Webb, Pullman
as—Oscar Lorenz, Pullman
fms—Dave Hartzog, Pullman

- WEST VIRGINIA**
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s—H. N. Hansucker, Charleston
as—S. D. MacMillan, Charleston
t—D. W. Patten, Morgantown
t—C. W. Hill, Morgantown
Nt—W. T. Johnson, Institute

- WISCONSIN**
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s—Louis M. Samsan, Madison
t—J. A. James, Madison
it—D. C. Acibischer, Madison
it—Clarence Bosnack, Madison
t—V. E. Nylin, Platteville
t—J. M. May, River Falls

- WYOMING**
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s—Percy Kirk, Cheyenne
t—Jack Ruch, Laramie