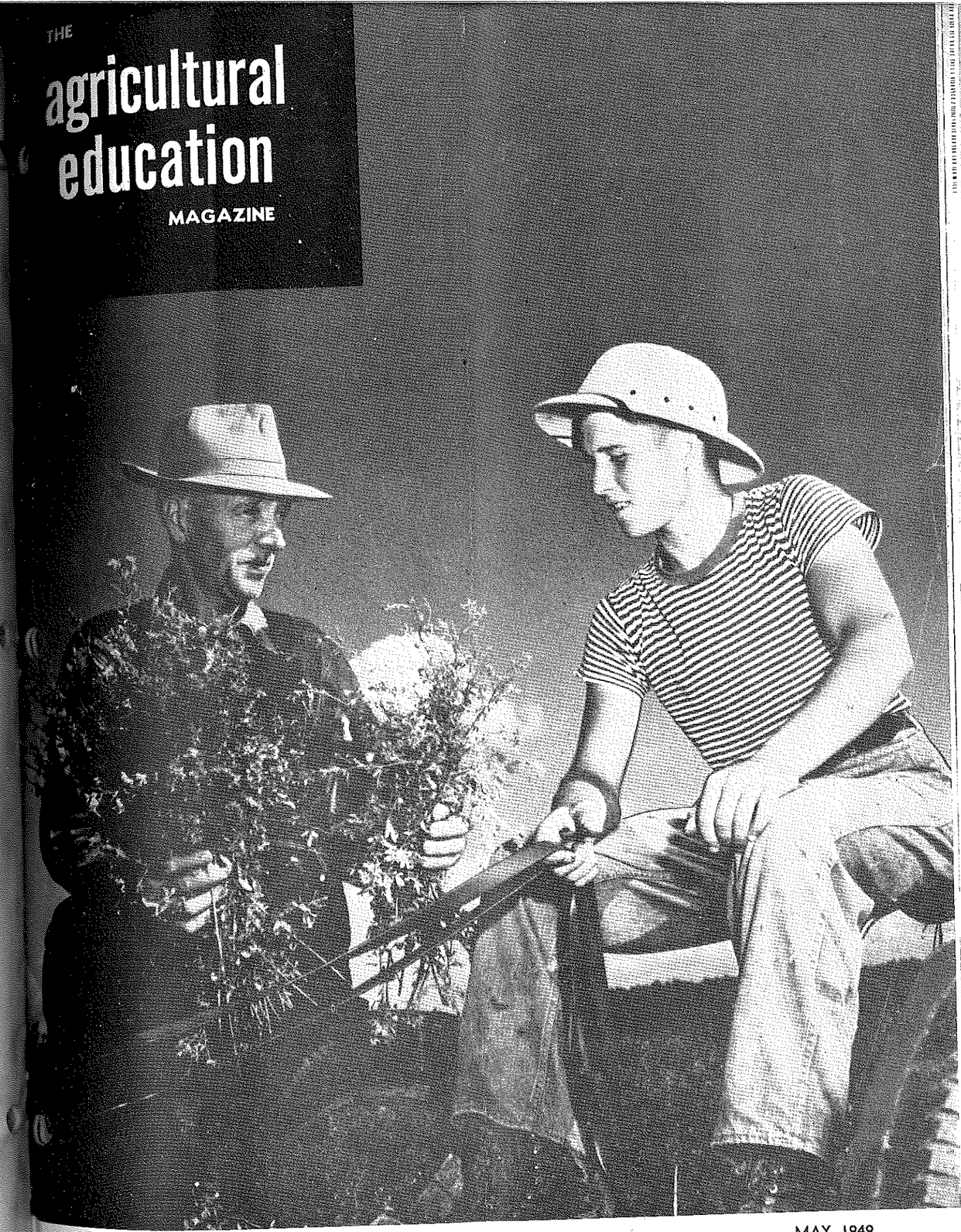
THE agricultural education MAGAZINE



Emil Schauer and son, Hollis, are an effective team in the program of vocational agriculture at Eau Claire, Wisconsin.
Courtesy Wisconsin Board for Vocational and Adult Education.

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The Agricultural Education Magazine

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THE INTERSTATE DANVILLE, ILL.

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H. M. Byram

"I WILL STUDY and prepare myself, and some day, somehow my chance will come." These words spoken by Abraham Lincoln when he was a young man are expressive of the spirit which dominated his life and helped him to rise against great odds to the highest position in our land. This same spirit in many others has accounted for the fact that they have been able to "arise to the occasion," when called upon to assume greater responsibilities.

Greater opportunities will come to teachers and others in the field of vocational education in agriculture. How do we know this? First of all, we know it because it has been true in the past. Who are in positions of leadership in the states? Who are in charge of the more effective and the more comprehensive programs within the states? Who are the persons called upon to administer programs, or to train or supervise other teachers to develop in them some of the skill in teaching which they have demonstrated? They are men, as you and I, who have taken some of their spare time during the summer or at other times to study their job, to get advanced training, and to broaden their horizons.

Secondly, some of our past experiences, coupled with observation of current trends, enable us to foresee some future developments. Better positions will go, not to those who happen to be available—as they sometimes do during a serious teacher shortage—but to those who are prepared for them. Such is the nature of things in a competitive society. Competition for jobs is becoming keener.

A casual survey of state leadership will reveal that many teacher trainers and supervisors have reached, or will soon reach retirement age. The well-trained personnel for replacement are not now available but will be needed.

But the need for trained leadership is also apparent in local communities. People in these communities are learning more about what a strong program of vocational education is like and are more willing to pay for it. They are seeking, not only administrators who understand vocational education and how to develop significant programs, but teachers who possess abilities of a new character, needed to discharge large responsibilities.

What are some of these abilities? First we should list ability to organize and use an advisory council in planning and evaluating. Coupled with this is ability to organize a *complete* program of vocational education in agriculture. Teachers are needed who have the ability to select and supervise teaching assistants. Another ability which is generally recognized as needed is that of utilizing appropriate techniques in guidance of farm youth. Many teachers are needed who can transform "ability to teach the subject matter of agriculture" into "ability to develop and direct comprehensive programs of farming with youth which will result in progressive establishment in farming." These abilities do not just happen. They come from study and professional growth.

Many, perhaps most colleges of agriculture have recognized these needs by providing short intensive courses in agricultural education and in technical agriculture during the summer. As we look forward to the summer months and make plans for the best use of our time, why not check on these opportunities in our state and the neighboring states? Then let us take advantage of the chance for professional growth. Let us realize the meaning of the statement by a wise philosopher who said, "The future belongs to those who prepare for it today." —H. M. Byram, Mich. State Col.

New staff Management

W. H. MARTIN, Editor

W. H. Martin

AT THE ANNUAL MEETING of the editing-managing board W. H. Martin of Connecticut and Mark Nichols of Utah were designated as editor and business manager for the *Agricultural Education Magazine*, effective July 1, 1949.

The new editor is Associate Professor of Agricultural Education at the University of Connecticut. He was reared in Vermont and received his early education in a one room rural school and at Craftsbury Academy. His undergraduate work was taken at the University of Vermont with a B.S. degree in 1931. An M.S. degree was received at Cornell University in 1937 and advanced study has since been taken at Cornell and Harvard.

Mr. Martin has had considerable experience in agriculture and in related occupations appropriate to the North Atlantic Region. At one time he owned and operated, on a part-time basis, a fruit farm and greenhouse for two years. His professional employment includes six years of teaching in the high schools at Cabot and Vergennes, Vermont. From 1937 to 1940 he served as instructor of agricultural education at the University of Vermont and assistant state supervisor of agricultural education. In 1940 he became the state supervisor and was advanced in rank as teacher trainer, first to assistant professor and later to associate professor. During the 1948 summer session he was employed as a visiting professor at the Michigan State College. The change to the position at the University of Connecticut was made in 1946.

Mr. Martin has served on many committees and has received numerous professional recognitions. In the area of vocational education he has been president of the Vermont Association of Teachers of Agriculture and of the Vermont Vocational Association. Currently he is chairman of the research committee for the agricultural section of the American Vocational Association. He was a special editor for the *Agricultural Education Magazine* for five years and for the past three years has served as business manager of the magazine.

Mark Nichols

MARK NICHOLS, Business Manager

THE NEW business manager is the state director of vocational education and state supervisor of vocational agriculture in Utah. He was reared in Utah and was registered in the first class in vocational agriculture taught at the Box Elder high school in 1918.

Mr. Nichols graduated from the Utah State Agricultural College in 1924 following which he taught vocational agriculture at Weston for three years and at Garland for 10 years. He became state supervisor in 1937 and served in that capacity until assuming the dual position in January, 1949. During the year 1948 he was given a leave to serve as director of the youth division for the American Institute of Cooperation. During his tenure as state supervisor an outstanding program of young farmer instruction was developed in the state. A state Young Farmers Association has been an outgrowth of this work.

Mr. Nichols has been a member of the Salt Lake Council of Boy Scouts of America during the past 10 years and also a member of the Young Mens Mutual Improvement Association

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Professional

S. S. SUTHERLAND B. C. LAWSON

Improving directed teaching in vocational agriculture*

ROY L. DAVENPORT, Director, School of Vocational Education, Louisiana State University

THERE is great variation in the procedures used in training teachers of vocational agriculture. Various plans of organization and course have been set up. In recent years there has been a growing interest in the development of programs of apprentice teaching, cadet teaching, or internships, as they are variously termed.

An adequate training center is essential in the program for educating teachers in order that trainees may acquire skill in the techniques of teaching, in classroom management, in the selection and organization of educational materials and other major activities of teachers of vocational agriculture. Such skill is acquired both in observation of the procedures of master teachers and in practice under close direction and supervision. The training center is, therefore, under obligation to employ superior teachers for the purpose of giving superior instruction to students, for demonstrating superior procedures to trainees, and for habituating prospective young teachers in the best teaching procedures and viewpoints. If the training center is to fulfill its varied functions, including the study of growth and development of people, as well as to demonstrate superior instruction to all groups, (all-day farm boys, young farmers, and adult farmers) should be included in the enrollment.

Should be Development Centers

The training center, or "development center" as we term them in Louisiana, should experiment with varied types of classroom procedure and with methods and materials of instruction designed to improve the educational process, but always with a planned approach and with adequate plans of testing and evaluating in order that true standards of achievement may be secured. It should also serve the state as a center to which all types of teachers in service, school administrators, and parents may come to observe the best facilities and practices in vocational education in agriculture. The function of a training center is what the term implies. It is a laboratory, or clinic, or workshop, where prospective teachers work with students under professional guidance for the primary purpose of acquiring skill. Training centers are known by various names, but the function is as it has always been, to serve as "the heart of a professional program in the education of teachers."

I believe we are all in agreement that there should be provided for prospective teachers in training, an actively responsible participation in teacher's work of a type determined by the organization of vocational education in agriculture within the state which our institution serves. This pre-service experience is generally regarded as the final goal of pre-employment training for prospective teachers of vocational agriculture. While the importance of supplying suitable participation activities for trainees is recognized, the existence of the various plans for furnishing these experiences indicate the need for more thorough study of the problems involved.

Those of us in agricultural education at Louisiana State University have had experience in using the laboratory school on the campus and in using schools located near the institution. Many years ago we came to the conclusion that those arrangements for directed teaching did not provide adequate participation for our trainees. Believing that many aspects of this pre-service experience could be improved, we initiated a long time plan looking to the improvement of this important phase of the professional preparation of teachers.

Coordination with Resident Training

An essential to the success of teacher training is the coordination of resident teacher training and the work of the directed teaching centers. Elements in the securing of this coordination are:

1. The careful selection of training centers
2. The selection and training of teachers for their duties as supervising teachers
3. Familiarity on the part of supervising teachers with the resident teacher training program
4. Familiarity on the part of the teacher trainer with all aspects of the facilities used for directed teaching, such as the communities, farms of persons enrolled in classes, etc.

In the program we have initiated to improve our directed observation and directed teaching, we set about to carefully select training centers, or "development centers," out in the state. We have selected eighteen schools which we now use as training centers. This selection is not considered final and the follow-up has already indicated need to change some of the centers. It appears that for one reason or another a few centers have not developed in a manner to be satisfactory for directed teaching. A tentative selection of development centers was made after conferences by members of the agricultural education staff with the local school administrators, and a visit with the teacher of vocational agriculture and the principal at the school. Following these visits, a conference was held with the state supervisory staff and final approval was made by the state supervisor. The object of these conferences was to consider the factors that satisfactorily meet present requirements and those conducive to development in the future.

Criteria for Selection of Centers

The criteria applied to the selection of the developmental centers are:

1. The supervisory teacher to be fully qualified, preferably with a Masters degree; with tenure of at least three successful years on this job. He should be a full time teacher of vocational agriculture and have developed satisfactory working relationships with the other teachers of the school. He must be a superior teacher who has evidenced success in developing a program of vocational agriculture in the community, a man of pleasing personality, plenty of enthusiasm, desirous of working with the trainees, and well acquainted with the people and the agriculture of his community. In the degree that he is superior and effective, the teacher is probably the most important feature of the representative situation through which we are training our prospective teachers. For the sake of our trainees, as well as for the sake of the high school students, he must be an outstanding teacher to compensate for the slight distortion of normal conditions resulting from the trainees entering the department.

2. The training center should have a complete program of vocational education in agriculture in operation. Trainees sent to a high school department for directed observation and directed teaching have every reason to believe that the supervising teacher is one of the best of teachers and that the program of vocational agriculture in the community is typical of the most effective to be found in the state. The trainee has a right to expect that what he observes and experiences represents the pattern he should follow in order that he, too, become an outstandingly successful teacher.

Three major groups for which instruction should be provided are now recognized by the states when developing plans, policies, and programs for vocational education. They are: (1) high school farm boys who are regularly enrolled in all-day classes and are preparing for farming; (2) out-of-school farm boys who are enrolled in young farmer classes to develop ability to establish themselves in farming, and (3) adult farmers who are enrolled in adult farmer classes to improve themselves in specific farming occupations. Instruction must be provided for these three groups if we are to have a complete program. We now have in the states a program of institutional on-the-farm classes for veterans. Most of our teachers of vocational agriculture cooperate closely with the instructors of these classes. It is important, therefore, that such a program be found in the training centers. The fact that we must include experience in the instruction of all these groups, found only in genuinely rural communities, is a sound argument for using centers located in the state rather than a laboratory school on the campus. We must provide opportunity for contact with the instruction of these groups as well as community work, since these activities are required in active service.

3. The center should be provided with a physical plant, adequate equipment and instructional materials to meet the instructional needs of a complete program. This will include a classroom adapted to the needs of vocational agriculture, a farm shop of adequate size, shop equipment, storage space, library and laboratory. In addition to these usual facilities, there may be added, depending upon the policy of the state, community service plants such as canneries, frozen food lockers, food preservation laboratories, and hatcheries. If the policy of the state is to consider these units as a part of the educational plant and they are operated to meet an educational need then our trainees should have experience in their use as an educational facility.

4. The departments of vocational agriculture used for directed teaching should be selected to represent the different farming types and areas, so that the course of study and the local resources appropriately used will be such as will provide experience of practical value for a majority of teachers after graduation. We have selected centers in the intensive strawberry area with truck, small fruit and general farming predominating; in an area of small farms devoted to cotton, potatoes and dairying; in a community of medium sized farms devoted principally to sweet potato production; in a community of extremely large farms equipped with heavy power machinery with the farming almost exclusively rice and cattle raising; several communities in the hill country devoted to general farming, and a delta area given over to cotton production on an extensive scale. Through proper placement of trainees, participation experience is possible in practically any type of farming followed in our state. While the practice followed is to assign trainees to a single community for the duration of the directed teaching period, most of our trainees visit other departments for observation and evaluation during the period they are out in the field.

5. The parish of county superintendent, county supervisor, principal, and teacher should be in sympathy with and actively interested in developing a strong, well-balanced program of vocational agriculture for the community. They should evidence a desire to cooperate with the institution in developing a well rounded training program. Other school officials, teachers, patrons and pupils should demonstrate a spirit of cooperation conducive to [illegible] community program in vocational agriculture. A situation in which all agencies interested in improving agriculture and rural life coordinate their efforts toward that end is very desirable.

Project Started in 1940

Our project for the improvement of directed teaching started in the summer of 1940. It was recognized that if the trainee is to receive the greatest benefit in his training, there must be cooperation and coordination of efforts between resident teacher-trainers and the supervising teacher in the directed teaching center. It was with this thought in mind that an invitation course of three weeks duration, dealing with the responsibilities of supervising teachers, was offered during the summer session of 1940. This course was conducted by the head of the agricultural education department assisted by Dr. H. B. Swanson who worked with us during the first week. Our grateful appreciation is extended to Dr. Swanson for his assistance in planning and conducting this training conference as well as the training courses which followed in the summer of 1947 and 1948, together with his follow-up visit of two weeks.

During the first workshop in 1940 a guide for training teachers of vocational agriculture in Louisiana was prepared. A list of the major activities of the teacher of vocational agriculture in Louisiana was prepared and agreed upon by the group. The major activities included the abilities of teachers of vocational agriculture to be developed through teacher training. The group then made an analysis of each of the major activities with definite assignments as to responsibility of resident teacher trainers or developmental center or both. Degree of responsibility was indicated as information, appreciation and doing for each activity. The resulting guide served to indicate a list of teacher activities that might appropriately be provided through directed observation and teaching and an analysis of these same activities from the standpoint of the contribution to be made by the resident methods courses in preparing the trainee for the directed teaching experiences. The quality of the directed teaching was greatly improved as a result of this workshop and it was planned to continue them. The war intervened.

Reinstated in 1947

Interest in the workshop activity continued, however, and with the cooperation of state supervisory staff and the U. S. office of education, the project was reinstated in the summer of 1947. Dr. Swanson again spent the first week of a three weeks course with us and contributed greatly to the final outcome. During the 1947 workshop, conducted as a graduate course carrying three semester hours of credit, a further attempt was made to analyze directed observation and teaching into its various activities. The deliberations of the three weeks were centered upon the following:

1. The status of teacher training in vocational agriculture
2. Directed observation and teaching in relation to the training of teachers
3. Improvement of the program of vocational education in agriculture
4. Agreement as to major activities of the job of the teacher of vocational agriculture in Louisiana
5. Committees were then appointed to prepare an analysis of each major activity and present a report to the entire group to secure common understanding on the part of all present. The committee reports included abilities of teachers to be developed through teacher training

The eleven major activities agreed upon for this analysis were:

a. Becoming located as a teacher of vocational agriculture
b. Discovering individual and community needs
c. Establishing and maintaining satisfactory working relationships
d. Planning and maintaining adequate instructional facilities.
e. Developing and conducting all-day classes
f. Developing and conducting a young farmer program
g. Developing and conducting an adult farmer program
h. Formulating the immediate and long-time program of agricultural education for the community
i. Evaluating the outcome of the program in vocational agriculture
j. Keeping adequate records and preparing reports
k. Planning and carrying out a program of professional improvement.

6. Following the first round of committee reports, the members of the workshop were re-grouped into new committees to identify and define, very specifically, participation that could be provided the trainee to develop "doing ability" during off-campus directed teaching. Reports dealing with each item of the major activities were presented before the group for agreement.
7. After agreement on the second round reports, each individual checked the items indicating the activities that they considered "must items" and which could be carried out with trainees during the directed teaching period. A majority vote or check of an item was necessary to retain the item for inclusion on the "must do" list.
8. The group in attendance was now divided into three committees to work and report on the following, arriving at group understanding and agreement:

Committee 1—What information does the supervising teacher need regarding the trainee?

Committee 2 — What instructions specifically should be given the trainees before leaving for the field for directed teaching?

Committee 3—What type of records should the trainee keep of his directed teaching experience?

What type report should the trainee make to the teacher trainer regarding directed teaching?

What form of record and report should the supervising teacher make to

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*Address presented at breakfast of teacher trainers, A.V.A. Convention, Milwaukee, Wisconsin.

A training project for critic teachers

W. A. SMITH, Teacher Education, Cornell University

W. A. Smith

CRITIC teachers or cooperating teachers have had an important place in teacher education in agriculture during the thirty years and more of the Smith-Hughes program. Directed teaching experience, more commonly referred to until recently as practice teaching, has been looked upon in teacher education as the means of applying the principle of "learning through doing" so basic in vocational education. The critic teacher and the department of vocational agriculture which he represents have been responsible in large measure for the character and quality of that directed experience in the education of the prospective teacher.

What has been done to assist the critic teacher to perform this important responsibility he has in teacher education? This is the question which prompted the twelve states in the North Atlantic Region to organize and adopt a training project for critic teachers. The project is now approaching its third year of operation. If interest on the part of critic teachers and support on the part of teacher trainers and supervisors in the various states of the region can be taken as a criterion the project seems destined to continue for some time.

Work Shops Organized in 1947

Under the guidance of the regional committee on teacher education and the valuable consultant service of Dr. H. B. Swanson of the U. S. Office of Education, a series of workshops for critic teachers was organized and held during the summer of 1947. Four major problems were attacked—(1) What are the major phases of the work of a teacher in vocational agriculture? (2) What are the dutics and responsibilites of the teacher in each phase of his work? (3) What are the participating experiences needed to learn to perform these dutics and responsibilities? (4) What facilities and materials are needed to provide opportunity for such experiences?

The personnel in the workshops, largely critic teachers with varying years of experience, and representative teacher trainers and supervisors, was divided into committees to work on the above problems except for the first which was dealt with by the workshop group as a whole. Incidentally, it was agreed that there is need for careful study of the problem of the work of the teacher in vocational agriculture beyond anything that this particular project could undertake. Therefore, it was agreed that until such study is made we would accept whatever agreement that could be obtained in the workshops growing out of the experience of the participants. This resulted in defining 14 major phases of the work of the teacher.

As a result of the committee action in the workshops on problem TWO a list of duties and responsibilities of the teacher under each major phase of his work was agreed upon. These in turn were turned back to the committees to be examined with the purpose of determining what kind and amount of participation a prospective teacher should obtain in a critic center or cooperating school if he were to learn to perform each duty and responsibility. For example, if the trainee were to become prepared to assist pupils in planning and developing supervised farming programs what experiences should he have in the critic center as a part of his preparation. This resulted in a list of experience opportunities to be provided to the trainee for each duty or responsibility of a teacher insofar as those experiences could be made available most effectively in critic centers.

Finally, with the lists of participating experiences in mind, the committees listed the materials and facilities needed for conducting a program of training in critic centers. This included information needed by the critic teacher about the trainee, information needed by the trainee about the critic center, records and reports needed as well as physical resources necessary for effective participation.

The results from all the workshops held the first summer were summarized into a regional report accompanied by a check list to be used in critic centers by trainees during the ensuing year. Through the experience with the check lists during the year need for revision of the results of the previous workshops was discovered. Needs for revision took the form of items to be added, items to be deleted, and, particularly, the need for more careful definition of experiences to be obtained both as to kind and amount.

Continued in 1948

The workshops of 1948, attended by the critic teachers who had participated in 1947, and others who had either been added to the program in a state or who had been unable to participate before, re-examined the results of the previous workshops in the light of trial experiences with the check-lists during the year. The procedure of committee action in which committee reports were brought before the conference group for approval was followed again.

A second regional report was prepared and check lists were revised accordingly to be used in each state by each trainee during the school year 1948-49. These will be summarized at the end of the year for each trainee, for each critic center, for each state and for the

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Where are we going in vocational agriculture?*

LEWIS E. HARRIS, Superintendent of Schools, Floodwood, Minnesota

ATTEMPTS on the part of educators to determine where we are going in vocational agriculture have brought them face to face with certain problems. Some of these problems are:

What curricular changes are necessary if agricultural education is to serve the needs of the community?

What are the obstacles to effecting changes in existing curricular concepts?

To what extent do federal requirements for financial assistance make adjustments to local needs more difficult?

Is it possible to determine satisfactorily that a given body of knowledge should be learned during any certain year in school?

What devices or procedures can be utilized to determine community and individual farm needs as a basis for an agricultural education program?

How can continuity be maintained in the agricultural education program in a community?

To what extent should agricultural education programs harmonize with that of general education?

Should vocational agriculture be confined to the senior high school?

Should federal time requirements be relaxed as to make it possible for the instructor of vocational agriculture to assist the junior high school with its exploratory functions?

The answers to such problems indicate steps which must be taken to continue the development of agricultural education.

Must Serve Community Needs

Vocational agriculture is entitled to a place in the high school program only because it can assist in solving problems of living and in meeting the needs and desires of a community.

The vocational agriculture curriculum has tended to become stratified by custom and habit without reference to whether real learning has taken place. Vocational agriculture, taught as a textbook course, is as outmoded as the teaching of dead languages. Learning in vocational agriculture, as in all educational endeavor, may be defined as an experience which effects a change in behavior and results in action. There is no learning in a farm community where agriculture instructors have lectured for years about better breeding and milk testing but where those practices are not to be seen on many farms.

As the years lend enchantment to a habit and hallow a custom, requirements set up by state departments and the federal office make it difficult for enterprising schools to make functional curricular adjustments necessary if the needs of the community are to be met. The evidence does not exist—justifying a requirement that a certain package of knowledge be doled out during any given year in school. Needs of communities vary and the needs and desires of the individual student require a more realistic approach to the problems of learning.

The survey technique is one way in which needs of a community can be determined. Gathering of information similar to that summarized in the federal farm census can become a good learning activity for senior high school students in vocational agriculture. Survey questions will need to be adjusted to the local situation. Summarizing, tabulating, and interpreting results are good general, as well as vocational experiences.

Individual farm surveys by each student should form a basis for the curriculum in vocational agriculture for that individual. These farm surveys will also form a basis for the general community survey and give the student a variety of learning experiences.

Community Agricultural Councils

Establishment of community agricultural councils can become a determining factor in achieving continuity in the program of vocational agriculture. The council should be composed of farmers primarily. It should also include agricultural experts, representatives of federal farm agencies, some representatives of business serving the farmers, coperative organizations, and local educators. The group would be a sounding board for proposals in agricultural education, and for farm programs proposed by the county agent as well as for any problems of general concern to agriculture. It should not be an action committee but rather a means of making clearing house recommendations to other groups represented on the council. The council should not assume primary responsibility but, through its members, should be influential in getting other community organizations to carry out the program suggested. It would form a basis of support for the school program. If support could not be enlisted from such a group there is serious danger that the vocational program will exist in a vacuum; on paper in the school office, verbally in the agriculture department but not in evidence on the farms in the community. Such a community agricultural council acting in an advisory capacity to the agriculture department will provide greater continuity during a turnover in instructors than can be achieved by the new instructor reading reports left by the one who departed.

Flexibility In Federal Contracts

Flexibility should be provided in the federal-state contracts allowing local schools to utilize instructor time in any way which will further the program in the school and community. Variance in needs in widely separated parts of the nation makes this necessary.

What Are Our Purposes?

Most of the goals of vocational education are in harmony with those of education generally. The goal of all education should be the developing of effective citizens in a democracy. Vocational efficiency is only one phase of effective citizenship. The goal of better living is common to all. Acquisition of general knowledge, learning fundamental skills, learning cooperation in group action, self and group evaluation are justifiable goals regardless of the vocation one follows in a democracy. Greater flexibility on the local level might result in the instructor of vocational agriculture working with a mixed group of boys and girls attacking such a problem as "Better Living on the Farm." We might well find that by the end of the year the group would have traveled far beyond the confining limits of a grade level course of study.

Such a development migh lead eventually to the need for more than one agriculture instructor—even in smaller rural high schools. Under this plan, the typical rural high school faculty might be composed of two instructors each trained in agriculture, homemaking, business and shop plus the necessary general education teachers to fill special needs in the related fields.

With the entire school organized around the problems of *Better Living In A Democracy,* the junior high school period could be free to pursue its intended exploratory functions, with vocational instructors free to give consultant service to group teachers. They should be free to handle occasional short experience units without fear of the school losing federal aid via the deduction route.

The more that can be done to make vocational training in agriculture become an integrated part of the whole community school program, the brighter will be the outlook for meeting the needs and desires of the students, adults, and the community as a whole.

*Contribution to a panel discussion presented at the AVA Convention held at Milwaukee, Nov. 29 to Dec. 4, 1948.

A special rodeo for Future Farmers, Future Homemakers, and 4-H clubs was held at the Fort Worth, Texas Stock Show on January 29.

Should teachers of agriculture know what they are getting into?

VERNON V. LUTHER, Teacher
Neponset, Illinois

Vernon V. Luther

WHEN you apply for most common jobs, and also school positions you are usually required to fill out an application blank. On the basis of this information the employer decides whether he thinks you can do his job.

Rarely do we find a case where the applicant can get a survey of the job to find out if the prospective position has the characteristics which meet his desires. Perhaps if there were an examining blank on both ends of an employer-employee agreement we would have better relationships between the two, have better qualified men, and have longer tenure. Undoubtedly this is more important in the professions and if vocational agriculture is to be classed as a profession, then I believe there is a need for an application for such a form. I have prepared a suggestive form which I believe would help many teachers make a decision in accepting a given position.

Even though it may not be strictly advisable for an applicant to present such a form to the employer he might obtain the data and jot the items down so he can see the position in a broader view.

SCHOOL-COMMUNITY INFORMATION BASIC TO INSTRUCTION IN VOCATIONAL AGRICULTURE

A. THE CITY
1. Name..... Size.....
2. Does it have a water system?.....
3. Does it have a sewage system?.....
4. Is it possible to obtain a house or apartment?.....
5. What is the location of the nearest hospital?.....
6. What is the location of the county seat?.....
7. What churches are there?.....

B. THE SCHOOL
1. Name .....
2. Number of vocational agriculture students..... Number of classes.....
3. Is the supervision of study halls required of the agriculture teacher?.....
4. What other classes may be assigned to the agriculture teacher?.....
5. Age of principal..... Tenure in years.....
6. Tenure of last agriculture teacher.....
Reason for leaving.....
7. Are adult farmer classes taught in the winter?.....
8. Is there an adequate farm shop?.....
9. Does the school have a sound motion picture projector?.....
10. Who supervises the veterans program?.....
11. Who teaches the veterans?..... Enrollment?.....
12. Total salary offered the agriculture teacher.....

C. THE COMMUNITY
1. Number of townships served.....
2. Per cent of roads hard surfaced.....
3. Major farming enterprizes.....
4. Per cent of the farms owner-operated.....
5. What is the land topography?.....
6. What nationality descent prevails?.....
7. Where is the Farm Bureau located?.....
8. Where is the Soil Conservation Service located?.....
9. Where is the county fair held?.....
10. What major farm problems are there?.....

Methods and Materials

W. A. SMITH

Cooperation in soil conservation education

DELMER K. SOMERVILLE, Assistant Superintendent Jackson County Schools, Ripley, W. Va.

IN JACKSON COUNTY we are trying through the schools to develop a program of education in soil conservation that will provide a better living for all. By making the land more productive we hope to encourage young people in our country to stay on the farm, and to induce veterans to return to the land.

Jackson County has an area of 472 square miles and is located in the foothill region of the Ohio Valley. The population of about 16,000 is all rural. The land is generally hilly with some broad valleys. Agriculture is the major enterprise of the people. Many of the farms are small. Some of the land has been well cared for while much of it has been depleted by erosion and other forms of improper land use. Early settlers grew too many cash crops such as corn, wheat and tobacco without proper crop rotation. Too little grassland farming was practiced and as a result much of the best top soil has been carried down the streams during heavy rains and floods. The forests have been largely depleted. Streams that once were clear and deep now are shallow and are often dry during the summer months. This general condition has resulted in decreasing farm income in our county which directly lowers the standard of living and the health and happiness of our people.

Decreasing land values affect the amount of tax money available for schools since part of the revenue is derived from that source. The future of the educational system itself is related to the care of the land. Since most of our youth come from farm homes many should stay on the land after graduation from school, but the outlook for agriculture as a life work has not been too encouraging to these young people. Many of the more ambitious and capable youth move where opportunity is better. Many veterans returning from the service hesitated to return to the land and to a future of low income.

Day Pupils and Veterans Cooperate

We realized that these problems existed and sought to bring about an understanding and appreciation through the schools that they needed to be corrected. Our classes in vocational agriculture and the Veterans-On-Farm Training classes offered a wonderful opportunity to get better farm practices into effect on the land. A survey revealed that these programs covered 216 farms consisting of 39,923 acres, or an area of 62.2 square miles, which is more than 13 per cent of the total area of the county. We felt that a unified program for all of these farms could be organized that would have the following features:

1. A long term conservation plan in effect on each farm using the resources of all the agricultural agencies in the county.

2. Proper classroom instruction and field trips to supplement the plan.

3. Necessary "follow up" by teachers through supervisory visits to the farms.

Outside Agencies Assist

Our problems then became one of *how to get the job done.* We developed a program of soil conservation education based on cooperation. The people who had the "know how" to get the job done were called together to plan a program that would unify the efforts and use the resources and services of all the agricultural agencies and the schools. These agencies involved the county agricultural agent, soil conservation service, district forester, game protector, farmers home administration and the farm bureau. The activities of the foregoing were supplemented by the teachers of vocational agriculture and veterans instructors from the schools. All of the agencies concerned had already been doing a fine job of agricultural planning in the county and were anxious to cooperate with the public schools to build a better and more comprehensive program. Walter Gumbel soil conservationist of the Monongahela Power Company, and H. N. Hansucker, state supervisor of vocational agriculture in West Virginia, served as out-of-county advisers to the group.

At a conference held in March, 1948, a definite program of soil conservation education for the work in vocational agriculture and veterans training was developed. Three objectives were established.

1. To familiarize the teachers with the program so that they would understand its far reaching implications.

2. To get the students in a receptive mental attitude.

3. To have a long term conservation plan in effect on each individual farm.

The major problems existing in the county because of improper land use were found to be:

1. Soil erosion
2. Loss of soil fertility
3. Nutritional deficiencies
4. Depletion of timber
5. Unbalanced wild life
6. Improper drainage
7. Floods

These problems were analyzed and studied by the conference group; then specific solutions to each of them in the form of correct farm practices were listed. Time prevents going into detail on this point but the solutions might be briefly summarized under two broad statements:

1. Proper land use and management based upon classification of land according to "land use capabilities."

2. Physical treatment of the land with the best known practices.

The conference group was next confronted with the task of actually getting the practices into effect on the farms. Ollie E. Fink, of Friends of the Land, has said that "conservation must exist in the mind before it exists on the land." Following this line of thought, a two-day school of instruction was held for the teachers of vocational agriculture and of the veterans. They were given detailed training in the principles and application of soil conservation practices both in the classroom and by actual experiences in the field.

The instructional program was extended to the students of vocational agriculture and the veterans. Each veteran and vo-ag student was given a map of his farm and the actual planning for the conservation program began at the student level. Class periods were devoted to such subjects as land use capabilities, soils, pasture care, woodlands, meadows, crops, farm management and wildlife. These units of study were organized around the program so as to help the students carry out the specific practices recommended for their own farms. Motion pictures, strip films and slides were used with good results. Some of the slides were made from pictures taken on farms in the county.

Specialists in soils, farm management, and in land-use capabilities from the Soil Conservation Service, the Extension Division of West Virginia University, and from the Monongahela Power Company supplemented our regular instructional staff. Also representatives of each of the agricultural agencies discussed with the students the services that their particular organization could render. The district soil supervisors of our area were active in arranging demonstrations and tours to other areas where the students could get first hand information on work already done. Visits were made to a land utilization project in a nearby county and to Second Frontier Day, a farm "face lifting" project at Rio Grande College in Ohio.

The trainees were never asked to sign an agreement with the Soil Conservation Service during classes. This was always done during a visit to the farm by the teacher and the work unit leader of the Soil Conservation Service. A copy of the agreement with all the practices written out and a map of the farm were given to the boy and it then became his individual plan for his part in the program. In the case of the all-day students the conservation plan became one of the more popular improvement projects. At the beginning of the current school term it was the first project of all freshmen students.

Results Becoming Apparent

Although only about a year has elapsed since the program was inaugurated many definite and beneficial results have already been achieved. First of all, the total program has expanded to cover 303 farms consisting of 51,050 acres, or in an area of 80 square miles which is 17 per cent of the total area of the county. As the program increases in scope the opportunities and responsibilities of it also become greater.

The Soil Conservation Service has already signed agreements on 138 farms owned by veterans this year. Several of them had agreements before the pro-

(Continued on Page 259)

*Talk given to Agricultural Section, A.V.A. Convention, Milwaukee, December 4, 1948.

Clement Skeens, Jackson County, West Virginia veteran, enrolled in the Institutional On-Farm Training Program, adopts modern soil conservation practices on his home farm. Clement was recently awarded first place in a western soil conservation district contest.

James Harpold, a veteran enrolled in the Institutional On-Farm Training Program, is shown with Ben Speicher, County Soil Conservationist signing a soil conservation agreement for his farm while veterans administration and local school officials observe.

South Carolina instructors study and teach farm forestry

F. E. KIRKLEY, Teacher Education, Clemson College

DURING the recent fall and winter months over 1,500 agriculture and farm veteran teachers, both white and Negro, received training in the teaching of farm forestry. Thirty-five group meetings with from 40 to 60 men each were held in different areas of the state. These one-day workshops, which consisted principally of field work with some discussion, were planned and carried out by the state department of education, and the teacher training department of Clemson College together with the assistance of district foresters from the South Carolina Commission of Forestry.

Emphasis on the need for teaching farm people to properly care for their woodlands was begun last summer in the state conferences for both agriculture and veterans teachers. After discussing the importance of forestry in the state by considering such facts as: 58 per cent of the state's area is timber land, forests rank fourth as a money crop, and there are thirty-five acres of woodland on the average farm,—it was agreed that each teacher should teach forestry based upon the needs of the young farmers enrolled in both all-day and farm veteran classes.

It soon developed that the teachers not only needed help in planning *what* and *how* to teach forestry, but they also needed to develop some skill in such jobs as planting trees, making improvement cuttings, constructing firebreaks, and estimating timber. This led to the planning and holding of the field workshops which usually consisted of the following activities:

Field Work

9:00 A.M.-11:00 A.M.
Planting trees, reforestation
11:00 A.M.-1:00 P.M.
Making improvement cuttings
2:00 P.M.-3:00 P.M.
Constructing firebreaks
3:00 P.M.-4:00 P.M.
Estimating and measuring timber

Discussion

4:00 P.M.-5:30 P.M.
How to teach forestry and the use of teaching material

Two or more foresters, either from the various districts or from the state office meet with each group of teachers for the technical instruction in the field. This made possible small working groups of 20 to 30 men which resulted in each teacher being able to participate in the field activities. All needed teaching aids such as seedlings, planting bars, rakes, tractors and plows, axes, saws, and measuring sticks which were on hand for field work.

The discussion or classroom period was used largely for studying and learning how to use the bulletin "Farm Forestry Practices For Students of Vocational Agriculture" which was prepared primarily for teachers and students studying forestry in South Carolina. This publication contains specific lessons dealing with the major activities in caring for the farm woodlands and developing an appreciation of the forests in this state.

A form sheet for listing the lessons in group instruction and the planned individual work was given each teacher in order to encourage the planning of a definite teaching program in farm forestry for the current school year. A copy of this proposed work is to be submitted to the state office.

The need for including farm forestry in our teaching calendar in this state is further emphasized by the fact that South Carolina needs to reforest over one and one-half million acres.

The results from this program are very encouraging at present, as many teachers have secured seedlings for their students and also are teaching other needed lessons on properly caring for the home-farm woodlands.

District forester Hardin explains the proper construction of fire lines to instructors of farm veterans at school forestry project.

Giving cadet teachers participating experiences

HARRY W. KITTS, Teacher Education, University of Minnesota

NOTE: *This is Part I of two articles on methods of training prospective teachers of vocational agriculture. Mr. Walter Bjoraker, graduate student at the University of Minnesota will have an article next month discussing record forms and evaluation sheets for teacher-training experiences.*

Harry W. Kitts

TIME is indestructible but man has not found a means of creating additional moments, regardless of how vital they may seem. The teacher-trainer in planning adequate participating experiences for the cadet teacher, has the problem of including a maximum of worth-while activities in a limited period. His is the problem to plan a program that will best prepare a future teacher of vocational agriculture within the available time.

Participation Experience In Early Fall

In Minnesota, although our program is not ideal, it is favorably accepted under the existing conditions. Students receive their training during a six-week period between the close of the first summer session and prior to the opening of the fall quarter of their senior year. This is the minimum period. Those who need more experience in certain areas are sent ont again during the remainder of their course. This arrangement gives students the opportunity to attend the first summer session and register for the second session in absentia.

During the spring term, juniors are requested to indicate their preference for partners and their first, second, and third preference for a community in which they would like to work. Those data are tabulated, two students are paired to work in a community together, and they are assigned to training centers. During the past two years, married veterans were placed to be as convenient to their homes as possible. The usual procedure is to place the student in a school located in an area of a particular type of farming in which the student needs experience. These participating centers are chosen primarily on the basis of the adequacy of the program, the cooperation of the teacher of vocational agriculture and the school administrative staff of that community.

If the necessary cooperative arrangements can be made, the University of Minnesota negotiates a written contract with the local school board and agrees to pay a fee, usually $25 per trainee, for the cooperating service. This is paid to the local school board which in turn adds it to the salary paid by them to the teacher of vocational agriculture.

The students enter the community as new teachers and make necessary arrangements for board and room for the period. They work with the teacher of agriculture during an important period of the year, which includes three weeks before the opening of school and three weeks subsequent to the fall opening. During the three weeks prior to school opening they have an opportunity to visit students and discuss the problems in connection with their supervised farming activities. They visit the homes of prospective students and discuss the program of vocational agriculture with the boy and his parents. The student teacher is in the community during a period of preparation for an exibition of various activities at local, county and state fairs. The student teacher also benefits in the experiences of the final preparation prior to the opening of school, the organization of classes, and the three weeks of classroom teaching. All of these experiences enrich the program and combine community activity with classroom responsibility. While in the community, each student teacher "adopts" a student of vocational agricultural as a case study. He confers with the individual and his parents regarding his supervised farming problems. He maintains contact with the pupil during the remainder of the year, being advised of his progress and his problems, either by correspondence or during return visits to the community.

During this six-weeks period, staff members from the teacher training department of the university visit each community and confer with the resident instructor and the student teachers. The amount of time available for these visits is insufficient for detailed observations but a limited knowledge of the quality of work being accomplished can be gained. Each student teacher is required to submit a written report at the completion of the period including a daily diary, and information regarding the community, the school, the department of vocational agriculture, agricultural and human resources of the community, and his case study. The resident teacher submits a report of the strong and weak points of the student with recommendations for additional training which the student should secure during his senior year.

Disadvantages Of Arrangement

This organization for providing teaching experience has several disadvantages. First, the centers are not strategically located geographically for ready access from the university. Secondly, the centers are not necessarily the same each year so all resident teachers do not maintain the same standards nor offer the students equal training. Third, there is insufficient time for the desired supervision by the teacher training staff. Fourth, there is insufficient time for the student teacher to participate in all of the desired experiences. Fifth, the student is in the department at the beginning of the classroom instruction and usually has no opportunity to participate in activities such as evening or adult class instruction, parent and son banquets or other departmental activities which occur after October 1. Sixth, students are required to return to school six weeks earlier during the summer following their junior year than is required of students in other departments. Seventh, there is little opportunity for the teacher training staff to confer with the resident teacher and the student teacher to evaluate the instruction and other activities. Eighth, but perhaps not always a disadvantage, all experience and observations are made in one community under the guidance of one teacher of vocational agriculture and his supervisory staff.

Desirable Features

Some of the more desirable features are: first, the program does not take the student from the campus during the regular school session. Second, it affords the student opportunity to observe the teacher of vocational agriculture at work over an extended period of time under natural conditions. Third, it gives experience in three critical periods in the vocational agricultural program, (a) supervised farming program visits, (b) launching new students in the program and, (c) classroom instruction. Fourth, it gives the student opportunity to choose the type of farming area where he desires or needs experience. (Minnesota is divided into nine regions according to types of farming. Many students from the small dairy farms of northern Minnesota request opportunity to work in the grain and swine belt of southwest Minnesota while others shift to other regions to acquire experience in types of farming differing from that where they were reared). Fifth, the student has the experience and observation in teaching vocational agriculture one year prior to completion of college training so material taught during the senior year has greater meaning and much of the material can be taught in terms of the student's experiences in the practice centers.

Minnesota is not able at present to adopt a five-year training period for teachers of vocational agriculture but when that time comes, it is the desire of the staff in the teacher training department to have the students spend the entire fourth year in the field. This will offer opportunity to observe a program of vocational agriculture throughout the entire yearly sequence. The student will return to the campus for one year after receiving his teaching experience and will be able to build his program on the basis of that experience. When the program is instituted, additional financial funds will be needed to pay selected schools for the cooperative efforts. On the basis of this financial grant, the staff anticipates opportunity for greater uniformity of supervision and maintenance of desirable standards in the selected centers. Until that time arrives, the members of the teaching staff, the state supervisory office and the teachers of vocational agriculture in the state are cooperating in offering their best facilities and constantly studying them and improving them so that the newly trained teacher will be trained under the best existing conditions available.

Teaching and learning as applied to vocational agriculture

ARTHUR FLOYD, Teacher Education, Tuskegee Institute

Arthur Floyd

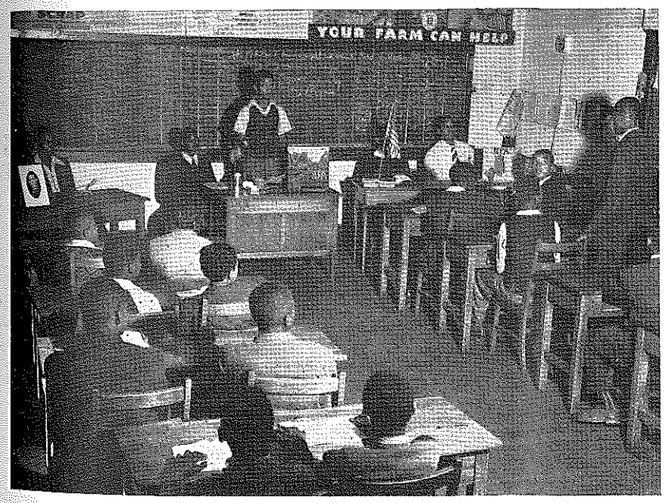
THE major objective of teaching is to change the behavior of individuals in ways that will be beneficial to the individuals and to society. But the learning process of students is broader than can be included in the teaching received from their instructors. Desirable changes in behavior are brought about from the students' learning by observation, emulation, and consciously conforming to patterns set before them. Therefore, the instructor of vocational agriculture in working out his teaching plans and procedures should give much consideration to improving the environment of his students.

Let us take as an example Jim, a retarded, untidy youngster who has not made his grade and hence is unclassified. He comes to school with his older brothers and sisters. He is given no assignments, but is allowed to sit in the class with other pupils of his own age. He is not called on to recite or perform. He watches the other pupils. He listens to the instruction and direction of the teacher. He observes the reactions of the pupils. He watches their action and behavior in the home room, at devotion, on the playground, and in the lunchroom. He notices how they dress and how they take care of their simple, personal, physical needs. As a result of this contact he begins to pick up and take on many of the thoughts and ways of those around him. He begins to talk as the other pupils talk, act as they act, and wear his clothing as they wear theirs. He soon discovers himself as a real individual among other people. His whole pattern of behavior tends to adjust itself to those around him. He is happy to be in accord with and have the approval of his associates. Thus he has benefited from the learning situation that the school afforded, notwithstanding the fact that no direct teaching effort was exerted by the school to perfect this learning.

Application To Vocational Agriculture

The same principle of learning through environment would apply to teaching vocational agriculture. A teacher of vocational agriculture should work as hard as possible and be as resourceful as his ability and facilities permit to do a worthwhile and satisfactory job of teaching and carrying out the objectives planned. He makes contacts with the farms and homes in his service area. He learns the recommended practices that better farmers have proved through experimentation bring about the best results in his locality. He discovers the community needs by making studies of the farms and homes represented in his patronage area and by making contacts with other agricultural and related workers and agencies. On the basis of these findings and contacts he then works out a program of teaching for his day pupils and adult classes.

Such a procedure as just described is regarded as acceptable preparation for teaching agriculture. But the teaching preparation is yet far from the mark of efficiency if the teacher does not also take into consideration the many avenues open for him to help his students to learn through their contacts and environment. Even if these possibilities are not directly considered in connection with his main objectives, the alert teacher will be rewarded with higher teaching accomplishments if he utilizes the many learning situations available in the school and community.



There is need for more Negro departments of vocational agriculture that have excellent facilities like this one. Photo U. S. Office of Education.

Like our example, Jim, many pupils will tend to practice in the upkeep of their farms and homes the kind of housekeeping they see in evidence in their department of vocational agriculture. A systematic, well managed department, where everything is in its place and in good condition, will to a marked extent cause the pupils to take care of their own farm tools and equipment in an efficient manner. If the agriculture teacher works in cooperation with the school authorities to see that the campus is properly landscaped, lawns, trees, and shrubbery are properly planted and cared for, buildings and school facilities are maintained in sanitary condition, roads and walks are presentable and in repair, and the general school premises are maintained in satisfactory upkeep, these achievements will have a positive influence on the behavior of the pupils and patrons at their homes. If the teacher of agriculture is punctual in meeting his classes and attending conferences and if he is fair, honest, and truthful in his dealings with his pupils and others, his pupils will be influenced by his habits to practice similar behavior.

Outcomes Of Instruction

In the teaching of vocational agriculture many completed jobs lend themselves to display and exhibition. Through displaying such examples of quality workmanship desirable attitudes can be impressed upon the students to do good work. A well planned, well kept bulletin board showing consistent, desirable, needful information has learning value to many who are not even members of the teacher's classes. A wide awake, resourceful teacher of agriculture secures and displays samples of crop and animal products, of insects and diseases, and of seed and other supplies as interesting object lessons for pupils, patrons and others in his area. Such efforts on the part of the teacher of agriculture make for a bountiful harvest and bear sweet instead of bitter fruit in the learning and behavior of those who are the beneficiaries of his instruction.

We therefore refer back to our original proposition, which is to say that a good teacher is interested not only in planning and putting over a good teaching job in vocational agriculture but also in making possible desirable changes in the behavior of students through examples of good conduct, high standard workmanship, and a general environment of beauty, order, and efficiency. This teacher by improving the learning situation benefits farm youth in the department of vocational agriculture and indirectly benefits others in the community.

One hundred sixteen entries were made from 32 F.F.A. chapters in a pig litter contest sponsored by the Oregon Bankers Association during the past year. The winning entry in the gilt division was a litter of 10 pigs which weighed 244 pounds at 35 days of age. In the sow division a litter of 10 pigs weighed 322 pounds at 35 days.

Farm Mechanics

R. W. CLINE

Color dynamics in the department of vocational agriculture*

DAVID STARLING, Teacher, Walstonburg, North Carolina

The use of color in farm mechanics shops is being tried out in many states. The author of the accompanying article has worked with Professor J. K. Coggin at North Carolina State College where the shop in the teacher training department has been used experimentally in trying out color combinations.

IN THE LAST DECADE we have made great progress in modernizing our school facilities; but most sadly have we neglected color conditioning, an application of color to provide a responsive atmosphere for work or study.

Colors have both a psychological and physiological effect on an individual. It is shown in Table I that each color has a function of its own. The effect of green, for instance, is peaceful, while red is stimulating. Another example is the coolness of blue and the warmth of red.

The chief physiological effect is eye fatigue. The major causes of eye fatigue are glare, tension, and constant adjusting. Eye fatigue communicates itself to other parts of the body, causing headaches, "nerves," digestive upsets, and many other disturbances.

Glare is caused by reflection of light off bright walls. Color conditioning diffuses sufficient light for proper vision throughout the working area.

Tension results when the color of the material being fabricated is similar to the color of the machine. The extra energy required to distinguish between the material and the machine is a source of eye strain.

Constant adjustment of the iris requires a great deal of energy. This situation exists when an operator glances up from a light colored machine to a dark wall or vice versa. By introducing light and pleasing colors in the surrounding area, there will be less adjustment on the part of the iris. Steady fixation upon a given task is also fatiguing. In this case, eye fatigue is less when the direction of gaze is frequently changed.

The result of eye fatigue is lack of interest, poor quality of work, more frequent accidents, low morale.

Color has energy that varies with the length of the color wave; thus violet has the least and red the most energy. Each material absorbs some of the color waves and reflects others. It becomes apparent that the eye should rest upon surfaces painted with short wave length colors. These colors are green, blue or violet.

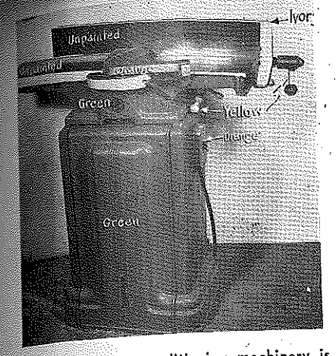
*Summary of a problem conducted as graduate study under the direction of Professor J. K. Coggin, N. C. State College.

TABLE I—Therapeutical Value and Primary Associations of Secondary Colors

	Violet	Blue	Green	Yellow	Orange	Red
1. Therapeutic value	Calms mind, quiets body	Reduces muscular tension	Calm peaceful effect	Stimulating overcomes depression	Nature of red and yellow	Stimulating effect
2. Primary association	Rich, formal luxury, royalty	Cool remote, calm	Naturally refreshing	Sunwarmth Stimulating	Brilliance, cheer, visibility	Danger, fire irritating
3. Type of color	Cool	Cool	Cool	Warm	Warm	Warm

Color Conditioning Machinery

The first job in color conditioning machinery is to separate the critical from the non-critical parts. The *critical* are the moving parts, and the *non-critical* are the non-moving parts. The purpose is to focus the operator's attention on the object being produced with the least possible effect on the eye muscles. To accomplish this, the moving parts are brought "forward," and the non-moving parts are dropped "back" by applying appropriate colors. Another consideration is to paint the machinery so that the material being processed will not blend with the machinery. The third factor is not to place bright colors in the line of vision. They are disturbing to the operator as he changes his direction of gaze.



The job in color conditioning machinery is to separate the critical from non-critical parts. The critical are the moving parts and the non-critical are the non-moving parts. The above picture of a jointer illustrates the use of color to focus the operators attention on the object being produced with the least possible strain on the eye muscles. The critical or moving parts—adjustable levers are done in yellow; the non-critical or non-moving parts of the machine in green and the edge line of surface bordering the ground surfaces are ivory. Consult color engineers for appropriate shades and color. (Photo J. K. Coggin)

Focal colors can be used to make moving machinery parts come to the eye quickly. These colors are focal ivory, buff, light green, blue, yellow, beige, red, orange, focal light gray, and focal white and black.

A soothing or receding color known as vista green has been developed for the body of machinery.

Agricultural shops should use the following colors in color conditioning shop machinery: yellow, orange, focal ivory, vista green. Table II indicates the color each part of machine is to be painted. Only major machines and tools are listed.

Preparing Equipment For Painting

Remove all loose, scaled, peeled or blistered paints. Scrape to remove all rust scales. Remove oil and grease with some cleaning fluid such as varsol. Do not use if there is danger of damaging machine. Remove all dust by blowing down or wiping with a rag.

Mask all serial numbers or other important numbers or insignia. Paint the machinery the same day cleaned. Allow each coat to dry at least six hours before putting into operation. Do not paint surfaces from which grease cannot be removed. Paint entire body of machine vista green; then apply focal color to the applicable surfaces as indicated in Table II.

Colors For The Shop

Walls—The lighter colors should be used in order to secure the maximum of reflected light. Side walls should reflect from 50 to 60 per cent of the light reaching them. Each shop should be painted in accordance to its exposure to natural light. The light in some shops, coming from only one direction, seems particularly concentrated on the wall opposite the window. The reflected light in such a room is equalized by the use of wall colors in three values. Apply the darkest color to the wall opposite the strongest light. Apply a lighter color to the two end walls which receive less direct light, and apply the lighest color to the window wall which receives little direct light.

As an example of the above method, a room with an almost glaring light from the south might be painted as follows: *wall opposite windows,* medium or slightly darker green or blue-green. *End walls,* intermix of equal parts of the darker green or blue-green and white to lighten up walls. *Window wall,* intermix of one part darker green or blue-green and two parts of white. For *wall dado,* select a color in harmony with the walls. A darker color than the walls is recommended because the darker colors do not show soilage so readily. Green colors, harmonious to walls, are used extensively for dado and trim. Examples: *walls,* eye rest green; *dado,* vista green. Remember that any post in the shop has a dado the same height as the wall dado.

For *ceilings,* apply a finish so as to reflect the maximum amount of light. This restricts the range to white, soft-white, cream, ivory, or a very pale tint of a wall color or a contrasting tint. Such colors have reflection factors within the range of 79 to 88 per cent. If light isn't needed, a color can be used from a decorative standpoint. Cascade blue or stratosphere gray can be used to a great advantage if the ceiling seems to "bear down." Floors may be painted or left unpainted. If painted, use a harmonizing floor enamel.

Colors For Other Rooms

Classroom—The choice of colors depends upon such factors as exposure, amount of natural and artificial light available, proportions of the room, the need for a focal wall, and the three-value wall scheme.

In the classroom it is important to secure and retain the students' attention to the front of the room. This is accomplished by having a good wall. The focal wall is usually a darker value of the color than the other walls because it is more restful than a lighter color. The opposite wall that the teacher must face, hour after hour, can also be painted the focal wall color.

The following color schemes make a very pleasing atmosphere: *ceiling*—egg shell white; *focal wall*—eye rest green, other walls a lighter value of the same color. *Dado*—eye rest green, *trim* and *door facings*—vista green.

For the office, the dignified colors, such as medium blues, soft greens, or conservative grays are especially suitable as it is necessary to make use of all the light necessary for eye comfort.

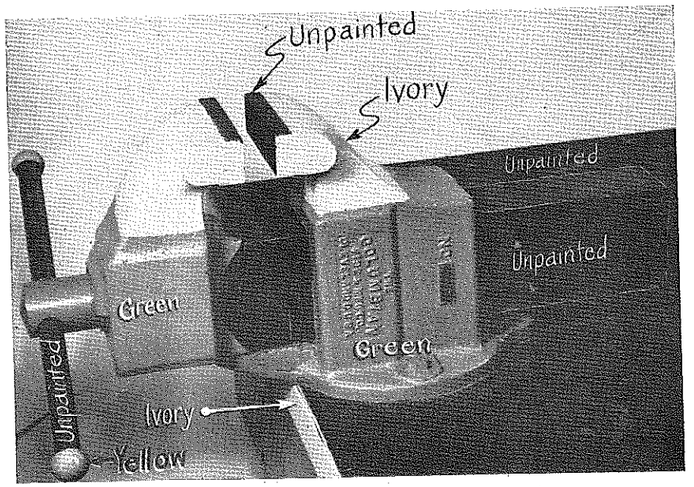
(Continued on Page 262)

TABLE II—Color Chart for Painting Shop Tools and Equipment

Item	Orange	Yellow (M)	Focal Ivory	Vista Green
1. Anvil			Rim around top edges 1" wide	Base and 2/3 of horn extending parallel with focal ivory line
2. Air Compressor	Electric switch	Valve adjusting knob		Cylinder and base
3. Acetylene Welder		Adjusting knobs		Frame of cart
4. Band Saw	Electric switch box	Table clamp, tension handles, wheel to adjust sliding guard	Edges of table, top surface of fence	Non-critical parts
5. Bench Saw	Face of switch box	Micro set knob, fence clamps, tilting & raising handles	Edges of table	Non-critical parts
6. Saw (DeWalt)	Start & stop switch	Elevation handles, clamping & indexing levers, clamping handles, lever latch, operating handle	Saw guard, edges of table	Base casting, cantilever arm saw table (DeWalt)
7. Drill Press	Face of switch box	Feed lever, quill lock, table clamp, index pin	Edges of table	Non-critical parts except the column
8. Electric Welder	Start & stop switch		D. C. Ammeter & Volt-meter facings, current control knobs, voltage & current controls, edges of welding table	Non-critical parts
9. Forge		Blower handle	Outer rim of forge	Non-critical points
10. Grinder	Face of switch box		Tool rest	Non-critical points
11. Jointer	Face of switch box	Fence control handle, table adjusting handle	Edges of table, rabbeting ledge	Guards & non-critical points
12. Metal Lathe	Reverse lever, face of switch	Tailstock wheel and all operating handles	Tailstock, face of headstock	Non-critical points
13. Sander	Face of switch box	Fence clamps, belt tension handle	Edges of table, top edge of fence	Non-critical points
14. Shaper	Face of switch box	Spindle height lock handle, fence clamp handle	Edges of table, top edge of fence	Non-critical points
15. Vice (Machine)		Handle	Throat and jaws, top surfaces	Base and sides of vice
16. Wood Lathe	Face of switch box	Tailstock clamp handle, tool rest base clamp, tool rest clamp, tailstock spindle clamp	Tailstock, tool rest, edges of table, face of headstock	Non-critical points

TABLE III—Color Prescriptions

Room	Ceiling	Walls	Dado	Trim
Classroom A	light bone white	frost green	fern green	light moss green
Classroom B	light bone white	aqua	turquoise	light ocean green
Classroom C	white	sandstone	light suntan	natural wood finish
Rest Room	white	apricot	true ivory waterspar enamel	
Tool Room	light bone white	a light color	Tool racks: vista green	



Ivory jaws and yellow tips on the vise handle aid in pulling the eyes to the parts of work. Color on a machinist vise will hold up very well through constant use. (Photo J. K. Coggin)

THE AGRICULTURAL EDUCATION MAGAZINE, *May, 1949*

Studies and Investigations

E. B. KNIGHT

Collegiate success of high school scholarship winners*

KENNETH K. HEIDMAN, College of Agriculture, University of Wisconsin

YOUR PERSONAL recommendation may be the key to the educational progress of your high school students.

It is a universally accepted fact that the agricultural leaders in the community have the confidence and the highest respect accorded them by the young men within the realm of their influence. As a result of this close, personal feeling, the "boys" request letters of recommendation as occasion demands. These letters, for many a high school graduate, are aids in bridging the gap from secondary education to their future well-being. On the strength of these letters, in marginal cases, the boy will or will not receive a scholarship. Yet it is this scholarship which may open the door for the qualified high school student to advanced education.

To every agricultural leader responsible for such scholarship recommendations, the distracting thought occurs: "If this boy does receive a scholarship, if he does enter college, will he be a success? Just how good will this farm student be in scholastic aptitude after entering advanced education? Can he carry through those enviable personality characteristics from the local home community to a cosmopolitan student society?"

Pertinent information relating to the answers for these questions are found in the study entitled *"An Evaluation of the Scholastic Attainment of Freshman Scholarship Winners in the College of Agriculture, University of Wisconsin, and An Attempt To Determine the Validity of the Methods Used In Their selection."*[1] An abbreviated survey of this report follows:

Objectives Of Study

1. To trace the historical development of the freshman scholarship program, College of Agriculture, University of Wisconsin.
2. To objectively determine the method of selection of the freshman scholarship winners.
3. To determine the scholastic ments of freshman scholarship winners, College of Agriculture, University of Wisconsin.
4. To determine the possible total number of qualified scholarship candidates, for higher education, state of Wisconsin, 1947.

Study Outcomes

1. *Scholastic Averages of Scholarship Winners.*

Computations reveal that the four-year average grade point average of the scholarship winner is 33.1 per cent better than that of the university student body. The differential is outstanding in the first semester of the freshman year where the average scholarship winner's grade point average in 85.8 per cent greater than the average university first semester freshman. This wide differential in the freshman grade point average gradually narrows to a 13.5 per cent positive margin for the eighth semester of senior work by the scholarship winner.

2. *Scholastic rating in terms of degrees received.*

The termination of advanced undergraduate education culminates with the Bachelor degree. Normally, one-fourth to one-third of all students matriculating in the university receive their degrees. An analysis of college of agriculture students made in 1936 revealed that 29.6 per cent of the entering students received degrees. Of the scholarship winners 75.8 per cent received their degrees from the college of agriculture. One man transferred to another college and obtained his degree from that college. The resulting total was that 76.6 per cent of all scholarship winners received their Bachelor degrees.

3. *Analysis of records of all scholarship students failing to receive their degrees.*

From the total group of 145 scholarship winners, one man was "dropped" from the college by executive committee action, two men transferred to other colleges, two men failed to complete their inital registration, twenty-five withdrew, and five were inducted into the armed forces. Of the two men transferring to other colleges, one man graduated with a Bachelor of Arts degree.

Of the twenty-three men to withdraw without known reason from the college fifteen (10.35%) had grade point averages below 1.5. Seven of these fifteen were below 1.0. Lack of scholastic success was partially, or in whole, the probable reason for the withdrawal of these students.

Eight (5.52%) of the twenty-three men had, upon withdrawal from the college, a grade point average of 1.5 or above. Six of these eight men had a grade point average above 2.0. These men, obviously, were not in scholastic difficulty upon withdrawal from the college.

4. *Honors.*

Honors are awarded to scholastically superior students. Five members of the freshman class receive honors annually. All sophomores and seniors with a grade point average of 2.25 or above have the distinction of being placed on the honor roll.

Thirty-seven per cent of all scholarship winners had the distinction of being placed on the honor roll one or more times during their participation in college of agriculture activities. The average number of honors per individual for this group was 1.76. Of the total scholarship group 9.3 per cent won honors annually in contrast to a 3.05 per cent for all students enrolled in the college of agriculture.

5. *The annual number of possible qualified scholarship candidates.*

In view of the increasing number of scholarships available annually, the question rises as to the number of possible candidates that there might be to compete for these awards. The question concerning the number of candidates reverts back to the question of how many rural men graduating from high school are of a college caliber.

In the spring of 1946, 28,368[1] students graduated from 457[1] high schools in Wisconsin. Knowing that 27.8 per cent[2] of the population in Wisconsin is rural and applying this figure would give 7,780 rural graduates; but also known is the fact that only 51.5 per cent[2] of the rural students are in attendance in contrast to 91.4 per cent[2] for the urban group in the high school senior age group. Applying this data shows results of 4,380 rural graduates. Of this number, by using the 16-17 year age grouping, 47.3 per cent[2] are young men. The final figure of 2,075 is an approximate indication of the number of young farm men graduating from high schools in Wisconsin.

The results of the Army General Classification Test[3] indicate that 49 per cent of the young men are of a caliber to satisfactorily complete a junior college level of education. Thirty-two per cent are of a caliber capable of completing a four-year college curriculum. By applying this figure to rural Wisconsin high school graduate men, the derived figure of 664 indicates the number of potential eligible college candidates and scholarship applicants. This figure is necessarily low because the high school graduates are of a more select group than that from which the Army General Classification Test figures were derived; also, the ratio of youth to adults is greater in the rural areas than in the urban areas.

Conclusions

1. *History and development.*

Since the initiation of the Freshman Scholarship Program into the College of Agriculture, University of Wisconsin, in 1926, 324 scholarships have been awarded to selected young farm men. The individual awards range from $100 to $200 each, the total cash value for the period 1926-1947 being $35,600. These funds have been made available by the State of Wisconsin, private business, and industry. The inital 1926 fund was made available by the state through the University Board of Regents. Since then the available funds have been gradually pyramiding due to the apparent success and workability of the philosophy projected by the donors.

2. *Method of selection of freshman scholarship winners.*

Recipients of the awards are selected and notified by a college of agriculture scholarship committee. This committee consists of the dean in charge of resident instruction, plus two faculty members of professional rank. The committee's selection is based on information supplied by: (1) A personal record sheet (standard form) submitted by the applicant; (2) Letters of recommendation (a minimum of four are requested); (3) The high school transcript; (4) An essay written by the applicant on an assigned subject.

From these sources of information, the committee objectively grades the individual candidates by a score card system. Seventy-five points are allowed for scholarship, 25 points for need. The total final score determines the rating and eligibility of each applicant.

3. *College scholastic attainment by freshman scholarship winners.*

The individual progress of all freshman scholarship winners for the 13-year period following the initiation of the program in 1926 was tabulated. The results obtained from this non-discriminating study of 145 consecutive scholarship winners were the following:

a. The scholastic record of scholarship winners in terms of grade point average is 33.1 per cent better than the average of the university student body.
b. Seventy-seven per cent of all scholarship winners received their Bachelors degree, whereas 29.6 per cent of all the students entering as freshmen into the college of agriculture receive a degree. This essentially means that 2.56 times as many scholarship winners complete four years of college education for a degree than do the total matriculating group of college of agriculture freshmen.
c. Twenty-three per cent of the scholarship winners did not receive degrees. From this group and of the total, 10.35 per cent had grade point averages of less than 1.5. This small group with a grade point average of 1.5 or less may be assumed to have withdrawn for scholastic reasons.
d. College of agriculture executive committee scholastic deficiency letters are received by 71.0 per cent of the entire student body at some time during their college careers. Of the scholarship winners, 48.2 per cent receive such letters.
e. Three times as many scholarship winners receive scholastic honors in comparison to students in the total college of agriculture student body.

4. *Number of qualified scholarship candidates for higher education.*

A total of 664 rural Wisconsin young men from the 1946 high school graduation class were of a caliber capable of doing satisfactory college work.

*Submitted by Kenneth K. Heideman to the University of Wisconsin as partial requirement for the degree Master of Science in Agricultural Education, 1948.

[1]Statistics from State Department of Public Instruction.

[2]U. S. Census, 1940.

[3]Source: Report of the President's Commission on Higher Education, 1947.

Some prospective farmers do not care for high school*

WILLIAM H. DREIER, Graduate Student, University of Minnesota

IN A RECENT SURVEY of Minnesota rural youth attending graded schools, 28.8 per cent of the seventh and eighth grade farm boys who want to be farmers said they did not plan to attend beyond eighth grade.

One of these boys is John. He plans to be a farmer like his father, who operated a 310 acre livestock farm. John is 15 years old and is enrolled in the eighth grade of a consolidated school. Every morning he is picked up by the school bus that collects children from grade one through twelve. John's five younger brothers and sisters attend a parochial school.

On the same questionnaire in which John stated his plans to be a farmer, he indicated he would not go to high school. The reason: "I'm going to be a farmer and do not need further education beyond eighth grade for that." John also checked another reason: "I have to work at home."

John was one of 1,159 farm boys surveyed. These boys were attending grades seven through twelve in graded schools in four widely separated counties in Minnesota. They indicated their future vocational and educational plans on a two page questionnaire.

About one-fourth of the boys indicated they wanted to be farmers. A few more than that number had no vocational choice.

TABLE I. NUMBER OF RURAL BOYS WHO PLAN TO BE FARMERS

	7th & 8th grade		High School	
Vocational Choice	No.	%	No.	%
Farmer	109	26	190	25
Other vocations	190	47	346	47
No vocational choice	113	27	211	28
Totals	412	100	747	100

Table I indicates that the per cent of rural boys who plan to be farmers changes little from the 7th and 8th grades to the high school grades. In this rural group about 54 per cent of the boys lived on farms and the remainder in non-farm rural areas.

The educational plans for the seventh and eighth grade boys and high school boys were not computed separately. We know, however, that only the seventh and eighth graders will indicate they do not plan to continue into high school. It is in this group of boys who plan to be farmers that 28.8 per cent said they planned to stop attending school with the eighth grade. In this same group of farm boys, 6.6 per cent of those who gave no vocational choice said they did not plan to attend high school.

The four counties included in the survey have a total of 26 graded and high schools. Nineteen of these schools were included in the survey. Eight schools in the four counties had departments of vocational agriculture. Seven of these eight schools were included in the survey. In the state of Minnesota departments of vocational agriculture average about 1.5 per county.

A higher proportion of the eighth graders in the graded schools continue into high school than do eighth graders from the rural one-room schools. Ekstrom at the University of Minnesota in 1946 reported that 40.4 and 54.2 per cent of the rural eighth graders in two Minnesota counties were not attending high school the following year. The principle reasons these boys and their families gave for not continuing beyond eighth grade were: (1) they were needed at home, (2) they did not care for school, and (3) transportation was not accessible.*

Reasons for not attending or not completing high school were checked by the rural youth in the 19 schools. The largest share of seventh and eighth grade farm boys indicated, "I have to work at home" as a reason for not attending high school. The second most popular reason was the other one given by John, "I do not need further education for my occupation." These farm boys also checked thirteen other reasons less frequently.

TABLE II. REASONS CHECKED BY 123 7TH AND 8TH GRADE FARM BOYS FOR NOT PLANNING TO ATTEND HIGH SCHOOL

1. I have to work at home	80
2. I do not need further education for my work	20
3. I will go to ag or trade school	19
4. I do not like the teachers	13
5. I am not a good student	12
6. I have a job away from home	11
7. School is not helping me	8
8. The bus does not go by my house	8
9. Work at school is too difficult	6
0. I will be older than my classmates	5
11. My parents are not interested in my attendance	4
12. It cost too much money	3
13. I will join the Armed Forces	3
14. My younger brother or sister must go to school	1
15. My friends don't go to high school	1
Total	194

Farm boys have many reasons for not planning to attend high school. From the replies of these seventh and eighth grade farm boys, indicated by Table II it is evident that they feel their family, the draft, something about the high school and their own future vocational plans influence their educational plans. Boys like John who work on a farm with their fathers give this wide range of reasons for not attending high school; even though they are attending seventh and eighth grade in a school that offers subject matter through the twelfth grade.

*Before entering the service Mr. Dreier taught vocational agriculture in Iowa. His article is based on a study which he conducted in collaboration with Burton W. Krietlow, under the direction of Dr. Clifford P. Archer.

*Ekstrom, George F. "Education of Farm Boys and Girls in Minnesota" *The Visitor*, 33, January, 1946, 4 p.

Future Farmers of America

H. N. HANSUCKER

Building a chapter camp

P. E. THORNTON, Adviser, Limestone, Maine

P. E. Thornton

Recreation plans play an important role in the program of F.F.A. chapters. Mr. H. N. Hansucker, special editor for the F.F.A. section, arranged for the several articles on recreation which are included herewith.

"AN interested Future Farmer is an active Future Farmer:" this is the belief of the members of the Limestone chapter, located in northern Maine. To help keep up that interest, we found that the boys need and enjoy a variety of recreation. One type of recreation that almost all the boys seem to like best in the spring, summer and fall is to go camping.

After camping out at different lakes for several years, our chapter voted to build a camp for themselves. We had some very interesting meetings discussing different plans, the location, and the type of building materials, until finally we were ready to start the project in the spring of 1946.

Lumber was very scarce at that time but negotiations were made with a lumberjack about 130 miles away to cut some logs for us and to have them sawed at a portable mill. After the lumber had seasoned for a couple of months the boys took three trucks from their home farms and by making an overnight trip they hauled the lumber 180 miles to our camp site at Long Lake, near Sinclair, Maine, a distance of about 50 miles from Limestone.

To get the lumber across the lake required the renting of an old scow and a borrowed motor. Transporting the lumber across the lake in the scow involved some interesting experiences, including that of two freshmen boys being frightened by a bear while waiting on shore about eleven o'clock at night for the last load of lumber to come across.

Built During Week Ends

Several week ends were spent tenting out while the camp was being built by the boys, and a few of the dads. The roof was finally shingled in November, during a snow storm, and although the camp was only about two-thirds completed, the boys were happy to think that the hardest work was almost over. Their joy soon turned to sorrow for the report came to us in March that our camp had broken down, due to three extra heavy snowstorms that had come within a ten day period.

At the next Future Farmer meeting the members, however, voted unanimously to rebuild it. Practically all the lumber was broken up so that only about 20 per cent was salvaged. The entire camp had to be torn down to the bare sills. Several more pleasant week-ends were spent at the campsite during the summer of 1947 while rebuilding the camp. This time we decided to hire a carpenter to work with us a few days in order to complete the structure by fall. Last summer we spent some more week-ends with different class groups finishing it on the inside.

Our present camp is located high on a hill with a grand view of the lake from a screened porch that is 25 feet long and 8 feet wide. The main building is 24 feet by 20 feet with a 10 feet by 10 feet kitchen and a small shed attached.

The members cleared away a space so that they might play basketball. There is an excellent place for swimming near the camp and a good spring about 10 yards away. Last year the chapter bought a new 16 foot lapstrake Old Town Cedar boat and a new 5 H.P. motor. The boat is in use about twelve hours a day when the members are at camp, unless they are working. The members who enjoy trying their luck with a rod have only to get in the boat and motor about a quarter mile to some of the best salmon fishing in Maine.

This year we hope to build a fireplace for the camp to make it "cozier" in the spring and fall.

In addition to using the camp for the enjoyment of the members, it will be used to help entertain parents, special guests, and members from visiting chapters from the areas of the state and country who might care to motor to northern Maine to visit our great potato area, and also enjoy a camping trip.

New staff management

(Continued from Page 243)

of the Latter Day Saints Church for a corresponding period. Professionally he was a member of the National F.F.A. Advisory Committee in 1946 and 1947, and of the A.V.A. Vocational Agriculture Progress Committee in 1944. In 1946 and 1947 he was chairman of the planning committee for the agricultural section of the A.V.A. Convention. He was a member of the Editing Managing Board for the *Agricultural Education Magazine* from 1944 to 1947.

Four Phase Recreation

DAVID SKOLNICK, Adviser,
Agawam, Massachusetts

David Skolnick

FOUR phase recreation—that's what we call it here in Agawam, Massachusetts. The term "four phase" means four types of recreation, placed approximately in the four quarters of the calendar year. We endeavor to maintain interest throughout the entire year, not merely throughout the academic year—and it really works!

Here is our recreational schedule for one year. In the fall, our first major event is our annual F.F.A. square dance in the high school auditorium. This is an excellent opportunity to give every boy a chance to shoulder responsibility, and show initiative. The members are placed on the program, refreshment, ticket, checking, and decoration committees. Each committee works independently in performing its function, and at the chapter's regular meeting, all these efforts are coordinated into one integrated program. Each boy is fired with the enthusiasm to make the F.F.A. dance the outstanding event of the school year.

Following the dance, the athletic committee extends invitations to nearby F.F.A. chapters, to plan the league basketball schedule for the winter. This committee assumes full responsibility for developing and executing the schedule. Although we have only eighteen boys in our chapter, we use the "platoon system" of play, i.e.,—teams alternating with one another, giving everyone a maximum amount of opportunity to play. We firmly believe that athletics should be a basic function in any F.F.A. program, because it is an excellent medium to develop healthy bodies, alert minds, and high standards of sportsmanship and fair play.

In February, we start planning our annual father and son banquet, and organize all the committees necessary to make it a success. A family spirit is injected into this occasion, for the mothers are asked to cook the food, each one, of course, dying to create the most delicious concoction of all. The most interesting aspect, is that the basic foods have been raised or grown by the boys themselves, in their project work.

As our summer activity, we have heretofore gone on a deep-sea fishing trip. Every one has an excellent time, although, a few experience seasickness for the first time.

To attract and maintain excellent attendance at F.F.A. meetings, programs should be developed for full-year participation with each boy an integral part of the group work. To paraphrase Abraham Lincoln's famous words and to insure success, the recreational program should be "of the boys, for the boys, but most of all, by the boys."

Square dancing—a natural for F.F.A. recreation

JOSEPH FREEH, Adviser, Quakertown High School, Bucks County, Pennsylvania

THE OLD, country form of entertainment and sociability called square dancing is currently enjoying a national revival. Now, this has happened on smaller scales in the past and I think we can count it as being just another fad like the "new look" for women and hand painted neck ties for men.

But at the Quakertown high school square dancing is here to stay for quite a spell. The F.F.A. boys are the envy of the academics for the first time in history because they learned to square dance first. It all started like this . . .

Last fall the Toheca chapter of F.F.A. at Quakertown high school in Bucks County, Pennsylvania, decided to enter a float in the local Halloween parade. The previous year the boys had more or less thrown a float together at the last minute and it didn't fare very well. This year we resolved to do better, so a committee was appointed and went to work.

As frequently happens the committee's zeal and ingenuity didn't match the enthusiasm of the chapter and the project was about to be abandoned. I suggested to the committee that we get a float together with a square dance as the theme. When they reported at the next meeting the idea was adopted and we went to work.

My responsibility of the deal was to teach several sets to dance while the boys and Mr. Ray Hagenbuch, supervisor of vocational agriculture here, converted the wagon at the high school farm into a perambulating dance floor to be towed by a Jeep.

Future Homemakers Collaborate

Boys never could dance very well with boys and there are no girls taking vocational agriculture at Quakertown, so an invitation was sent to the girls of the Future Homemakers from the home economics department to come out and learn. I was amazed at the number of boys who came out for the practice and the girls the more enthusiastic of the two sexes, practically overran the place. The second practice turned into a sort of a party because there were so many boys and girls there.

That's the way it started. We didn't make a mint of money in prizes but the boys and girls had a big time dancing on a moving dance floor in front of their folks and thousands of strangers in four towns about the neighborhood. I might state here that calling figures for square dances is a hobby with me and besides getting a big bang out of the parades, I got four sore throats from calling. Some of those parade routes were mighty long.

For their participation and help in decorating the old wagon to make it look like a float, the F.F.A. threw a Christmas party for the F.H.A. girls in the spacious farm shop at the high school farm. A good time was had and the evening was spent, exclusive of the time for eating, and square dancing. I never saw the old shop look so good. The boys scrubbed and dusted and the girls decorated.

In January a small group of the most ardent square dancers organized a barn dance in its most logical setting—a barn. Ed Adamow, Toheca's F.F.A. president, had the boys and girls out to his barn. I couldn't talk quite right the next morning, but everybody had a fine time.

Now the modern dance club has me calling figures for them to learn to square dance. Toheca F.F.A. is planning a big dance in the school gymnasium.

The keen interest and active participation in square dancing at Quakertown is surprising but easily understood. Ask any of your friends who has spent some time square dancing and you'll see that most of them will say they had a wonderful time. Youngsters take to it even more than grown-ups.

Cultural Values Derived

But the fact that the boys take to it and enjoy it is not the only reason for its being an ideal recreational activity for Future Farmers. It also gives them an experience which they do not get anywhere in class or in the usual extra-curricular activities which we all use and are familiar with; field trips, father and son banquets, judging contests, public speaking contests, and the like. The process of learning agriculture is a strictly male enterprise; there is no provision for adolescent boys to learn how to conduct themselves in the company of girls their own age, either in or out of class. Sure, they'll all learn sooner or later but they'll have to use trial and error methods, experiment, and suffer a lot of embarrassment before they feel confident and at home in a heterogenous group. This, I'll admit, is vague and apt to be misinterpreted, so let me cite a concrete example.

Watch your own ag boys at a school dance sometime. Most of the few who do attend sit around all evening doing their best to hide their discomfort and embarrassment. The underclassmen don't show up at all, usually, and the juniors and seniors are more or less shamed and coerced into being there out of loyalty to their classes and to avoid the embarrassment of "Where were you Saturday night?" when they come to school on Monday. They are afraid to dance because they think others will watch them and comment on their inability and awkwardness, with which they are usually well supplied.

In square dancing, things are different. The fear of being singled out, watched and laughed at is largely eliminated because not two, but eight people form a unit. Usually there is an interchange of partners and a boy doesn't have to worry about what to do next because the caller is right up there telling him.

A short time at square dancing usually teaches the boy the idea of rythm and keeping time with the music. Once he has mastered this, he can branch off into so-called social dancing without feeling foolish and embarrassed.

And the venture will not be costly to the F.F.A. chapter. A record player and records make a good substitute for an orchestra and caller. You do need somebody who knows a little about square dancing, to read the directions which come with the records, to interpret them and to demonstrate the movements and point out errors. The last requirement is the place to dance. The school gym is usually ideal but a barn or large school shop make good substitutes.

Square dancing is an economical, exhilerating, and enjoyable activity for F.F.A. boys and it provides a means of learning a phase of a boy's training that is often overlooked in the strictly male business of learning to farm.

The picture shows a group of F.F.A. boys and F.H.A. girls square dancing in the barn of Ed Adamow, president of the F.F.A. chapter at Quakertown High School, Bucks County, Pennsylvania. The musicians are all F.F.A. boys, except the man with the accordian. He's the author, and from the strained look you can see that he's also calling at full speed.

Recreation emphasized at Groton, South Dakota

E. W. GUSTAFSON, Adviser

THE F.F.A. PROGRAM of work has been divided quite conveniently into eight parts. The recreation phase is one of the most important, and also, one of the most easily overlooked of all phases of the program.

At the Groton high school we have tried to develop an active recreation program. We have found that through sports we can keep the boys occupied with wholesome fun; besides it keeps the boys conscious of the F.F.A. during the summer months. Many times we have been prone to let the organization become a secondary feature of our programs during the summer, but with an active sports program, the boys are brought together at least once a week and this helps to make the entire organization function more smoothly.

At Groton we have set up a recreation committee whose job consists of scheduling games with other chapters for both basketball and softball. The adviser merely sits back and checks with the boys to see that there are no overlapping of dates. The committee also sets up a F.F.A. inter-league schedule for basketball. This system makes it possible for every boy who wishes to participate to actually compete on a team. We have 56 boys in the chapter, some of whom are on the high school athletic team and are not eligible for the F.F.A. teams—but 36 of them do play on inter-league teams. Each team is managed by a F.F.A. member who is a member of the regular high school team. This phase of the program lasts during the basketball season and takes one night a week.

The softball team plays other chapter teams as well as being represented in the city recreation program during the spring and summer. This program calls for playing at least one game a week. It also provides the adviser with an opportunity to motive interest on the part of the boys in their farming programs.

Fishing Trip for Seniors

It has been the policy to hold one fishing trip during the summer for the entire chapter. The seniors arrange a special trip which is closed to other members. This is the trip the boys look forward to and make plans for, for four years. The seniors are given 50 per cent of the net monies of the chapter at the end of the year. This is used for a trip, and no doubt is the high light of the recreational activities for members of the class.

During the school year, especially the winter months, swimming trips are arranged. We are near the Northern State Teachers College which is very gracious about letting the boys use the pool.

Naturally, recreational activities cost money. The boys have fun raising some funds by putting on a stage show, the Barnyard Follies, produced by the boys with their own director, stage manager, and personnel. The show is the variety type, and usually attracts a large crowd.

Recreational activities at Hillsboro, Oregon

J. B. THOMAS, Adviser

"ALL WORK and no play makes Jack a dull boy," holds true today as much as ever. Boys of today have many forms of recreation.

In our chapter of Future Farmers of America at Hillsboro, Oregon we find time to play in planned organized groups. One or two roller-skating parties are planned with local Future Homemakers of America members, and members of the neighboring F.F.A. chapters, who are asked to bring girl friends. This is held on party nights at the skating rink, and no one else is allowed on the floor. This is a good plan as many of our members are not qualified skaters, but do turn out for these scheduled parties and enjoy an evening of fun.

Some Activities Co-educational

A co-educational party is also one of the big events, and is usually held in the basement of the high school as a cooperative project with the F.H.A. A committee from each group makes the necessary arrangements. One fall we substituted an old-fashioned hay ride in a large truck owned by one of the members. After an enjoyable ride the truck stopped at a nearby park, and everyone helped roast wieners. The plans for the evening of fun are worked out by committees beforehand and approved by the instructors.

Basketball games with nearby chapters affords the boys an opportunity to play a few games with boys of equal skill. Four or five games a season are found to be sufficient from past experience. For various reasons this form of activity should be curtailed.

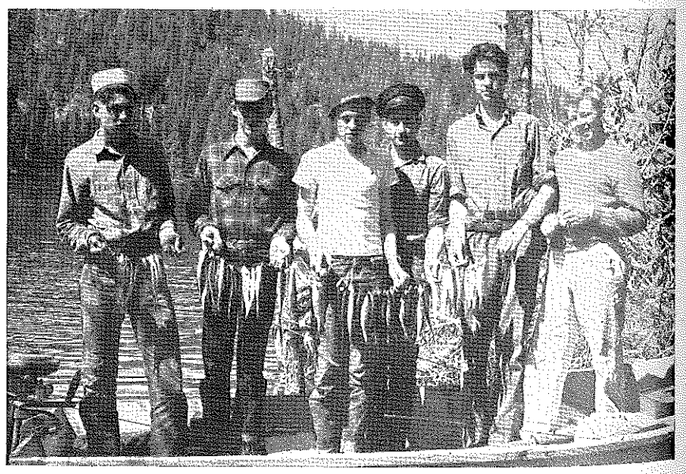
In the spring, an all-day picnic with the Future Homemakers provides a means for an enjoyable outdoor type of recreation. As we are only 80 miles from the ocean the picnic is held there. One or two school busses are loaded with boys and girls and their instructors, and of course, the large amount of food it takes to curtail the pangs of hunger of such a large group. Hiking and swimming are the main means of entertainment.

Joint meetings, when properly supervised, teach the boys and girls good manners and courtesies toward the opposite sex. We are very fortunate in having home economics teachers who enjoy working with the young people both in and out of school.

An outdoor camping trip is the climax of the year, and is held after school closes in the spring. The boys are organized in groups of four or five. These groups then make their own plans—the food and cooking utensils needed, and also the necessary camping equipment. Either a school bus or truck is used for transportation. This year we plan to go to the coast where the boys can fish, swim, or take hikes. Some prefer to go boating on these occasions. We usually catch a lot of crabs and cook them in sea water. Clam digging is a favorite among the Future Farmers, as well as fishing off the rocks for sea bass and perch. Stream fishing is also available. One season the boys went deep-sea fishing and every boy caught a salmon. What a thrill!

Last year we visited Suttle Lake in the Cascade Mountains, approximately 170 miles from Hillsboro. Twenty-seven boys made the five-day trip, and 263 trout were caught. Rowing and boating with three outboard motors was greatly enjoyed by the group.

Out of the 75 members of the chapter 65 boys have participated in one or more of these activities, and for some the activities represent a new experience. I feel that the recreational phase of our program is as important as the classroom assignments, since the "know how" to play as well as work makes for a happy contented citizen.



Hillsboro Future Farmers display results from a few hours of fishing at Suttle Lake.

Butchering as an F.F.A. activity

J. L. REYNOLDS, Teacher, Rural Retreat, Virginia

IN FOUR YEARS, members of the Cabbage chapter at Rural Retreat, Virginia have butchered 893 hogs as a service to farmers or as a convenience to themselves. Farmers may also use the facilities for their own private butchering by furnishing their own help. The slaughter house is in a building adjoining the cannery with a track running from the slaughter room into the division of the cannery that is used for blocking and trimming the carcasses. Overhead tracks are also provided for conveying hogs from one operation to another.

Based on their experience, the boys have fixed the following schedule of rates when butchering is done on a service basis:

Hog dressing up to 299 lbs.	$2.50
Hog dressing over 300 lbs., per lb.	.01
Blocking, per hog	.50
Blocking and trimming, per hog	1.00
Trimmings cut for lard and sausage, per hog	1.25
Rendering lard, per lb.	.02
Grinding meat, per lb.	.02

Although the boys operate the facilities as a service to farmers, the educational values are given especial emphasis. Each boy is required to perform a number of specified jobs, a list of which is posted on the wall of the slaughter house. When a job has been satisfactorily completed, a check mark is placed in the appropriate space after the boy's name. The check list of jobs is as follows:

1. Checking water temperatures
2. Liming water
3. Shooting
4. Sticking
5. Scalding
6. Gambreling
7. Washing
8. Removing entrails
9. Cutting off head
10. Splitting
11. Blocking
12. Removing feet
13. Cutting up
14. Cutting sausage meat
15. Cutting lard
16. Hauling
17. Serving as "big brother"

Our slaughtering service is merely one example of how the F.F.A. chapter has found a practical way to help its own members and to render a much needed service to the farmers of the community. It is not suggested as an activity for every chapter. Actual installation of the facilities followed after a careful estimate of cost and a survey to determine the need indicated that the undertaking would be successful. Under our particular conditions the conclusion that the boys are justified in "going ahead" seems amply justified.

The slaughter house at Rural Retreat is connected by a track to a room in the cannery used for blocking and trimming carcasses.

Training project for critic teachers

(Continued from Page 246)

region as a whole. Each state may make whatever use of summarization it may desire. For the region it is expected that the summary will provide a basis for indicating wherein the program of training in critic centers needs further attention and, consequently, what directions the training of critic teachers should take. It must not be forgotten that the first aim of the project is the training of critic teachers.

There was unanimous agreement in the region in the beginning of this project that it should be accompanied with a study of its effectiveness. All concerned are agreed that we are depending to a large extent upon past experiences plus present beliefs in trying to define what the participation of a trainee in a critic center should be. However, we are agreed also that it is possible to determine within limits what the effects are of the experiences which have been defined. Consequently, a research project to accompany the project on critic teacher training has been adopted and is underway. It will use the results of annual checking of participating experiences made by trainees and then follow those trainees into their employment as teachers to examine their obtained in critic centers. It is too early yet to give the details of such research but we will have the group of teachers who were trained in 1948-49 to follow up as the initial group next year.

This research project holds promise of help in answering such questions as—1. What are the needed points of emphasis in training critic teachers? 2. How effective are the experiences obtained by trainees in critic centers? 3. What changes are needed in opportunities for experience in critic centers, e.g. kind and amount? The question of relationship of the training in critic centers to that obtained elsewhere, particularly in resident training in the college, is another which has appeared thus far. Further study in the present project may be of help in solving such problem as may exist. Also, it seems conceivable that the project may throw some light on the basic problem of defining the work of a teacher in vocational agriculture.

Soil conservation education

(Continued from Page 249)

gram started and the few who work for wages were not signed. So we can say that the veterans on our program are practically 100 per cent conservationists. At the present time agreements are also being signed with the vocational students and their parents. The instructors report that they hope to have a 100 per cent sign up in this group within a few months.

The program has scattered conservation ideas over the county and into areas in which soil agencies heretofore had not been able to get a foothold. The Soil Conservation Service reports that they are now receiving applications from neighbors of the boys in the program. They have "seen the light" from what has been done on these farms.

The chief objective of our plan was to get better farm practices into effect on the land. Since the planning conference last March the following improvements have been put into operation as a direct result of our program:

1. Ten farm ponds built
2. 10,475 feet of diversion ditches constructed
3. Strip cropping to the extend of 409 acres
4. 170 acres of contour furrows
5. Pasture improvement—1,132 acres
6. Pasture mowing—2,971 acres
7. 33 acres of mulching
8. 12,263 feet of stream channel improved
9. Cover crops planted—996 acres
10. 531 acres permanent meadow seeded to alfalfa

To some persons these data may appear to be meaningless statistics, but to us and to the boys on the land they appear as the first rays of a dawn breaking over the horizon heralding the arrival of a new day in agriculture in Jackson County; and era of innovations in modern conservation farming, bountiful crops, and secure soil; a way of life that will make American land safe, strong and forever free.

Future Farmers of America National Contests in 1949

E. J. JOHNSON, U. S. Office Of Education

E. J. Johnson

FOLLOWING the National F.F.A. Convention at Kansas City, Mo., last November, the Special Study Committee for National Contests met for two days to make recommendations for the 1949 judging contests. This committee is comprised of a teacher trainer and a supervisor in agricultural education from each of the four regions.

This democratic procedure of bringing together the ideas of all states for these contests was started in 1946 in an effort to make these events more educational as well as to provide for the varied conditions existing in the United States. The recommendations of the committee are then presented by Dr. W. T. Spanton, Chief, Agricultural Education Service, to the F.F.A. Advisory Council, ex officio, that serves as the National Committee in charge of all judging contests. It is their duty to take the final action upon recommendations pertaining to contests.

The Special Study Committee has endeavored to set up competitive events that will encourage improvement of some of the abilities needed in the successful production activities of a farmer. In some judging classes the placings are made on a broadened basis to include emphasis on production and inheritance in addition to outward appearance or type. Through this means students engage in contests which require the use of abilities closely akin to those needed when selecting animals for a breeding herd. Other classes are included that require abilities for grading livestock, poultry and products from these classes on a market basis in an effort to make them meet life-like situations.

Teams and individuals participating in these contests are rated and placed in five groups, rather than being ranked in numerical order. This procedure serves to give recognition to many rather than just to those ranking at or near the top even though the margin of advantage might be small and insignificant.

Several changes were made in the F.F.A. contests for 1949 and these will be presented under two headings, namely: (1) General plans affecting the overall contest program and (2) those changes that are specific to each contest.

GENERAL PLANS AFFECTING THE OVERALL CONTEST PROGRAM

1. The dairy cattle, dairy products and poultry production contests will be held at Waterloo, Iowa. Registration will be in the Waterloo Y.M.C.A. starting at 9:00 A.M. Tuesday, Oct. 4. The dairy products contest will be held the morning of October 5 with the poultry production contest in the afternoon. The dairy cattle contest will start Thursday morning, October 6. A banquet is contemplated for the contestants and their instructors Thursday evening.

2. The livestock and meats contest will be held at Kansas City, Missouri. Registration will be in the Municipal Auditorium starting at 9:00 A.M. October 13. The livestock contest will be held the morning of October 14 and the meats contest in the afternoon. A noon luncheon or evening banquet is planned for the contestants and their coaches on Saturday, October 15.

(The National F.F.A. Convention is scheduled for October 11, 12, and 13. The American Royal Live Stock Show starts October 15.)

3. Livestock holders for the dairy and livestock contests will be given appropriate awards according to their ability evidenced in the holding and showing of animals. State supervisors are to indicate on the certifications of entry forms for their teams the alternates on the dairy and livestock teams, and members of other teams who are qualified to hold and show animals. Such contestants and alternates will be used, as needed, to serve as holders except where the owners of livestock used in the contests make evident the preference of others to hold their animals.

4. F.F.A. members in the past have been limited to one year of competition. However, an eligible contestant may now enter competition more than one year but cannot repeat in a contest in which he has previously competed.

5. Certifications of entry for all teams must be in Dr. Spanton's office not later than September 15, 1949. A *separate certification of entry form must be submitted for each contest in which a state expects to participate.*

6. Cash awards in the past have been given only to teams and individuals ranking in the gold emblem division. These awards, totaling $8,000 will be continued in 1949. However, it is proposed to discuss this matter of awards at the regional conferences in 1949, after which the states will be polled to determine if the awards are to be continued or use these funds for travel costs for the teams participating.

SPECIFIC CHANGES FOR EACH CONTEST

Dairy Products

Cans and covers such as are used by producers to deliver their milk and cream to processors and distributors will be scored rather than glass and paper containers as in the past. This change was made to aline the contest closer to actual farm situations. A cut of one point will be made when a can is dirty on the inside, or has open seams. One-half point cuts will be made for milkstone on inner surface, rust on inside, water or moisture on inside, leaks and dents sufficient to hinder cleaning. A cover with a hole in it will receive a one point cut, and one-half point cuts will be given plug type lids and those that are poorly seated. Umbrella type lids that are otherwise satisfactory will get full credit.

Poultry Production

1. The amount of time to place or grade each class has been reduced from 20 minutes to 15 minutes.

2. Many samples of brown and white eggs will be made up so that each small group will have separate samples to grade.

3. The farmer as a utility flock producer does not ignore completely so-called "fine" points that are sought in exhibition flocks, but most farm flocks producers are more conscious of the need for selecting birds that produce abundantly and make efficient use of feed. With that thought in mind, the special study committee suggested that poultry classes used in the contest need to be selected more nearly to adhere to the needs and desires of the utility or farm flock producer rather than emphasizing the strict adherence to all exhibition standards.

Dairy Cattle

1. Pedigrees, with brief information on how to evaluate them, are shown in the booklet "Future Farmers of America National Contests" for 1949, as an effort to assist instructors to more effectively train students to place animals in the type, production and pedigree class. On the basis of a 100 point total the contestant is to consider type as 30 points, production 40 points, and pedigree as 30 points. However, only the final placing will be graded. The pedigree will include type ratings and performance of ancestors for two generations back of the animals used in the class.

All production records should be standardized to a comparable basis for age, length of lactation, and number of milkings per day. Official classifications on type are valuable and symbols indicate the following: E=Excellent; VG=Very Good; GP=Good Plus; G=Good; F=Fair; and P=Poor. Show ring placings are of value and need to be studied when won at fairs and shows having strong competition.

A sire is desirably proved for production when he has a large number of unselected daughters that exceed the records of their dams by more than 25 pounds of butterfat. When the average production is high for the daughters, including more than a listing of the best daughters it is particularly convincing. For type a sire has a significant proven record when a large number of his daughters are classified having an average score that is high. Scores are as follows: Excellent=90 or above; Very Good=85-90; and Good Plus=80-85.

A dam is desirably proved for production and transmitting ability when at least two daughters have good production, or two sons with at least five daughters of good production, or one such good son and one good daughter. See your dairy department for tables on good production figures. For type a dam has a convincing record of transmitting ability when at least two of her offspring are officially classified as "Good Plus" or above. The placing system using combined type and production ratings has evoked more comment than any other method of placing. This system of placing has met with more favor than disfavor, after being given a fair trial, but some object to the mathematical procedure, therefore, it will not be used in 1949, agreeing however that the mathematics is simple enough for a high school student. The plan to be used when placing dairy cattle on the basis of combined type and production will be as follows: Only four cows will be used rather than six cows as heretofore, and production records calculated on a 305 day, twice a day milking, mature equivalent basis will be provided for the cows used, with space on the card to record this production record. The contestant's final placing should give consideration to both type and production, with equal emphasis to each. Only the final placing will be scored by the tabulators.

3. Twelve minutes will be allowed to place all type classes, 24 minutes for the type, production and pedigree class, and 24 minutes for the combined type and production classes.

Livestock

1. The breeding class of swine is to be a gilt class and will be placed on a basis of type and production records, with 65 per cent being given to type and 35 per cent to production in the final placing. Space on the card will be provided to place the class separately on type and production but only the combined placing will be scored. Space on the placing card will be provided to list the following information relating to production on each gilt; date farrowed, number in litter, number raised to 56 days, and litter weight at 56 days. This information is given to the contestant for his use when placing the class on production records.

Production factors include such things as large litters, mothering ability, rate and economy of gain and carcass excellence. Mothering ability can not be noted in a gilt but with mature sows it is essential to know that excellent care is given the pigs along with plenty of milk. The high milk-producing sow gets thin while nursing her litter. Rate and economy of gain is very important because the thrifty, fast gaining pigs are the ones making economical gains. At 56 days of age thrifty pigs consistently weigh over 30 pounds each. Carcass excellence is evidenced by quality and plenty of length, although length must not be confused with the undesirable factors of ranginess.

Type includes general appearance, breed character, quality, natural fleshing, constitution, and size or weight for age. Size for age can be estimated from the farrowing date. The final placing requires careful consideration as to the extent of differences between the gilts on both type and production records.

2. In the grading of beef cattle, cuts will be made on a graduated scale rather than 2 points off for each half grade away from the official grade as in the past. A deduction of one point will be made for one half-grade above or below the official grade, 3 additional points cut for two half-grades above or below the official grade, and 5 additional points or a total of 9 accumulated points cut for three half-grades above or below the official grade. Placings more than 3 half-grades above or below the official grade will be scored zero.

Meats

1. The placing card for carcasses and wholesale cuts this year will have the lines and spaces omitted for placing on the basis of conformation, finish and quality. However, a statement will appear on the card that the three items deleted are to be considered when making the placing.

2. In the class of retail cut indentification, one point will be given for the correct indentification as to the wholesale trade name as heretofore but only one additional point will be given if correctly identified as to the proper retail name. Previously the proper retail identification was given 3 points. The total perfect score for this class is now 50 points instead of 100 points as previously. Several retail cuts have been deleted from the retail cut identification card and others which the student should know but probably will not be used in a contest have been marked accordingly.

There has been considerable comment about combining the dairy cattle and dairy products contests in a manner similar to that for eggs and poultry. However, dairy cattle and dairy products contests will not be combined in 1949.

The superintendents and assistant superintendents for the several contests are:

Dairy Products

J. B. McClelland, Iowa — Division Superintendent
J. W. Brimm, Tennessee—Assistant Superintendent
W. J. Kortesmaki, Minnesota—Assistant Superintendent
H. M. McDonald, Maryland—Assistant Superintendent
G. Z. Stevens, Pennsylvania—Assistant Superintendent

Poultry Production

H. T. Hall, Iowa—Division Superintendent
J. B. Adams, Illinois—Assistant Superintendent
H. N. Hansucker, West Virginia—Assistant Superintendent
K. W. Kiltz, Indiana—Assistant Superintendent
A. D. Walker, Louisiana—Assistant Superintendent

Dairy Cattle

L. M. Sasman, Wisconsin—Division Superintendent
E. P. Hilton, Kentucky—Assistant Superintendent
Ralph Howard, Ohio — Assistant Superintendent
J. C. Moore, Missouri — Assistant Superintendent
L. J. Phipps, Illinois — Assistant Superintendent

Livestock

W. R. Felton, Oklahoma—Division Superintendent
J. A. Bailey, Missouri — Assistant Superintendent
A. B. Childers, Texas — Assistant Superintendent
S. D. Mitchell, Arkansas—Assistant Superintendent
L. E. Whipps, Kansas — Assistant Superintendent

Meats

Howard Deems, Nebraska—Division Superintendent
Elvin Downs, Utah—Assistant Superintendent
S. S. Richardson, Idaho — Assistant Superintendent
H. E. Rodeberg, Montana—Assistant Superintendent

P. R. Brasch of Rath Packing Company will again serve as the local superintendent to make arrangements for the dairy products and dairy cattle classes and the facilities needed for these contests. L. B. Kropp of Swift and Company will serve as the local superintendent for the poultry production contest including the selection of all classes and arranging for needed facilities. Specialists from Swift and Company also will select the beef grading classes and make necessary arrangements for the meats contest with needed facilities.

The special study committee for National Contests in 1948-49 are as follows:

Central Region—C. M. Humphrey, Missouri, and G. P. Deyoe, Illinois.

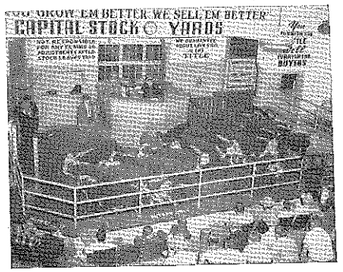
North Atlantic Region—H. N. Hansucker, West Virginia, and H. S. Brunner, Pennsylvania.

Pacific Region—Percy Kirk, Wyoming, and R. E. Rodeberg, Wyoming.

Southern Region—W. R. Felton, Oklahoma, and R. L. Chappelle, Texas, (C. A. Collins, Oklahoma has substituted for W. R. Felton).

Dr. G. P. Deyoe served as secretary and E. J. Johnson of the U. S. Office of Education as chairman of the meeting held at Kansas City. Others in attendance at the meeting included W. T. Spanton, R. E. Naugher, and H. B. Swanson of the U. S. Office of Education, Washington, D. C., and Howard Mathews of the Agricultural Research Division of Swift and Company, Chicago, Illinois. The next meeting of the Special Study Committee will be on October 15 and 16 at Kansas City, Missouri, which follows the national contests at that center.

51 bulls received by Alabama F.F.A



Pictured above are some of the purebred bulls as they arrived in Montgomery from Texas.

ALABAMA F.F.A. CHAPTERS have inaugurated their own livestock improvement project by obtaining registered Hereford bulls from the Sears Roebuck Foundation.

Fifty-one of these bulls were purchased by the Foundation from the Mill Iron Ranches of Wellington, Texas, and placed with F.F.A. boys in thirty-six counties. This large ranch is 312,000 acres in size and has over 3,000 female cattle alone. These boys have agreed to keep and care for them for their F.F.A. chapter. Breeding services will be available to F.F.A. members and other farmers over the state. Many of these fine bulls would sell for $500.00 or more on the market today. They are considered to be some of the finest breeding stock to be found anywhere.

A state wide show will be held next year where all fifty-one bulls will be entered.—*The Alabama Future Farmer*, February-March, 1949.

THE AGRICULTURAL EDUCATION MAGAZINE, *May, 1949*

Color dynamics

(Continued from Page 253)

Colors For Miscellaneous Items

Many items are yet to be painted after the walls and ceiling are completed; so each major item is considered in the following list.

1. Bulletin board—same as background.
2. Chain hoist block—orange.
3. Covered heat pipes—same as background.
4. Electric conduit—same as ceiling.
5. Electric motor—same as machine.
6. Electric control switch boxes—same as dado or background.
7. Electric fans and stands—same as dado.
8. Fire extinguishers and fire fighting equipment—a six inch band of red to be applied to post from which fire extinguishers hang, high enough on these posts that the band can be seen from all places in the room. The background (red) of fire fighting equipment should extend 4 inches beyond the hose so that the area will be very noticable.
9. First-aid cabinet—same as background with white cross in center of door.
10. Fixed bins and box exteriors—vista green and interior surfaces a focal buff.
11. Hand pushed truck—body same as machinery, strip edges with yellow and black.
12. Hazard areas—such as low beams, etc., should be striped in yellow and black as is used on dead-end road signs.
13. Light cords and chains—none.
14. Stairs—focal light gray, handrails and banisters in red.
15. Tool cabinets—same as the wall and lettering in a lighter harmonizing focal color.
16. Waste refuse can—outside surface in aluminum, apply black band six inches wide at top.
17. Windows—same as walls.

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4. Pittsburgh Color Dynamics for Grade Schools, High Schools, Colleges. Pittsburgh Plate Glass Co., Pittsburgh Pa., 1945.
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8. Du Pont, "Three-Dimensional-Seeing." E. I. Du Pont Nemours and Co., Inc., Wilmington, Delaware, 1945.
9. A Practical Guide to the Use of the Optonic Color System. The Arco Company, Cleveland, Ohio.
10. Pigments of Imagination, John Lear, March, 1948, issue of "Steelways," page 21. Published bi-monthly by American Iron and Steel Institute, 320 Fifth Ave., New York 1, New York.

Members of the Spencer-Penn F.F.A. chapter in Virginia realized $600 from the community fair they sponsored last fall.

Improving directed teaching

(Continued from Page 245)

the teacher trainer regarding the work of each trainee covering the directed teaching period?

The report of the workshop was sent to the school administrators having developmental centers in their school systems.

A follow-up of this workshop for supervising teacher was made during the directed teaching period of the second semester of the 1947-1948 session. We were fortunate to be joined in this follow-up by Dr. Swanson and members of the state supervisory staff. A half-day meeting was held with the state supervisory staff at which procedures were outlined with respect to the nature of the follow-up program of the workshop. Emphasis was given to developing a concept of a program of vocational agriculture having continuity.

Visits To Training Centers

This conference was followed by visits to the training centers by a member of the teacher training staff, a representative of the state supervisory staff, and Dr. Swanson. These were joined at the training center by the parish or county superintendent and the local high school principal. In addition to observation of the trainees, a number of individual farm visits were made. At the close of the observation period a conference was held at each center participated in by all members of the visiting group, the supervising teacher and the trainee.

After ten of the eighteen developmental centers has been visited, a second half-day session with the state supervisory staff was given over to the observations and the need for further development of the program for the improvement of directed teaching. The following recommendations were discussed and tentatively agreed upon:

1. That the supervising teachers be brought to the university for a three to five day period during the summer of 1948. In this conference a summary of the follow-up visits made during February and March would be presented, together with a summarized report of the trainee diary records covering the directed teaching experience. Committees of supervising teachers would be assigned, taking into account the follow-up and the detailed trainee records, to revise the plans for directed teaching developed in the workshop in the summer of 1947, thus developing the directed teaching guide for 1948-49.

2. That the parish or county superintendents and principals of the schools used for directed teaching be invited to come to the University for one or two days while the supervising teachers were present. These local administrators would be given basic information based upon the field follow-up visits to their respective schools and a summarized report based upon the actual records trainees kept of their participation experiences. In addition, it was thought desirable to develop with the local administrators of these schools the concept of the long time continuing program which should characterize vocational agriculture and the purposes of the directed teaching program. This would be done in a manner to emphasize the importance of their participation in the program to the extent of giving the prospective teacher the type of indoctrination program that they felt necessary to give all beginning teachers in their respective school systems.

Following the first half-day session committees of superintendents and principals would work on various types of problems for the purpose of developing informative materials and participation experiences for trainees assigned to their respective schools, but outside of the specific vocational program, and designed to indoctrinate the prospective teacher of vocational agriculture with the philosophy that he is a part of the total educational program.

The third half-day would be given over to committee reports of supervising teachers and their local school administrators with all reports designed to secure more effective directed teaching in the year ahead.

The recommendations of the joint staff meetings were carried out. The supervising teachers came to the University for three weeks during the summer of 1948. The first two weeks were spent in an intensive course designed to improve the organization and instruction in farm shop activities. The third week was spent carrying out the recommendations enumerated above. The supervising teachers were joined the last day by some of the local school administrators.

For the coming summer it is planned to hold a workshop in the philosophy and administration of vocational education which we hope will reach more of the school administrators.

Benefits From Workshops

We feel that our workshop program for supervising teachers is having a great deal of significance in the development of vocational agriculture in the state. The problems involved are many but we believe they can be solved. The fine cooperation of the members of the state supervisory staff and the genuine interest of school administrators and supervising teachers speaks well of the ultimate outcome.

The supervising teachers are encouraged to cooperate in research problems, and to use their programs, and all other means that may contribute to the development of efficient teachers of vocational agriculture. They are striving continuously to improve the programs of their departments to insure the trainees experiences that reflect a true picture of a complete program in vocational agriculture. As members of the teacher training staff, the supervising teachers more fully appreciate the necessity of coordinating their efforts with others concerned in the development of more functional development centers as a specific phase of teacher training.

The future of vocational education in agriculture will be determined, in large measure, by the effectiveness of the teacher training provided. It is highly desirable that the problems involved be given much more thorough and scientific study than they have received.

The Washington State Association of F.F.A. was represented at the 1948 National Convention by 66 members from 44 chapters.

R. I. Grigsby, Acting U. S. Commissioner of Education
R. W. Gregory—Ass't Commissioner for Vocational Education
W. T. Spanton—Chief, Agricultural Education
D. M. Clements—Ass't Chief, Agricultural Education

Specialists:
R. E. Naughor—Part-Time and Evening
R. B. Swanson—Teacher Training
A. W. Tenney—Subject Matter
A. H. Hollenberg—Farm Mechanics
W. N. Elam—Program Planning
E. J. Johnson—Program Planning

s—supervisors as—assistant supervisors
d—directors ds—district supervisors FFA—specialist FFA
r—regional supervisors it—itinerant teacher trainers
t—teacher trainers Nt—Negro teacher trainers
rt—research workers fms—farm mechanics specialists
sms—subject matter 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
s—L. L. Sellers, Auburn
as—H. L. Gibson, Auburn
as—H. L. Faulkner, Auburn
as—H. R. Culver, Auburn
as—B. P. Dilworth, Auburn
as—H. W. Green, Auburn
as—J. L. Dailey, Auburn
t—S. L. Chesnutt, Auburn
t—R. W. Montgomery, Auburn
t—D. M. Bottoms, Auburn
Nt—Arthur Floyd, Tuskegee
Nt—F. T. McQueen, Tuskegee
Nt—B. L. Donald, Tuskegee

ARIZONA
d—J. R. Cullison, Phoenix
sms—Halbert W. Miller, Phoenix
t—R. W. Cline, 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
as—J. R. Tucker, Little Rock
as—John Bell, Little Rock
t—A. 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

CALIFORNIA
d—Wesley P. Smith, Sacramento
s—D. J. McMahon, San Luis Obispo
rs—B. R. Denbigh, Los Angeles
rs—Howard F. Chappell, Sacramento
rs—A. G. Rinn, Fresno
rs—J. C. Gibson, Los Angeles
rs—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—H. H. Burlingham, San Luis Obispo
sms—Geo. P. Couper, San Luis Obispo
sms—J. E. Thompson, San Luis Obispo
sms—John D. Lawson, San Luis Obispo

COLORADO
d—E. C. Comstock, Denver
s—A. R. Bunger, Denver
as—Irwin C. Elliott, Denver
t—R. W. Canada, Ft. Collins
t—E. J. F. Early, Ft. Collins

CONNECTICUT
d—Emmett O'Brion, Hartford
s—R. L. Hahn, Hartford
t—W. Howard Martin, Storrs

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

FLORIDA
d—T. D. Bailey, Tallahassee
s—Harry Wood, Tallahassee
t—E. W. Garris, Gainsville
t—W. T. Lofton, Gainsville
ds—J. G. Smith, Gainsville
ds—F. L. Northrop, Gainsville
ds—T. L. Barrineau, Jr., Tallahassee
Nt—L. A. Marshall, Tallahassee
Nt—G. W. Conoly, Tallahassee

GEORGIA
d—M. D. Mobley, Atlanta
s—T. G. Walters, Atlanta
as—George I. Martin, Tifton
as—C. M. Reed, Carrollton
as—J. N. Baker, Swainsboro
as—J. H. Mitchell, Athens
t—John T. Wheeler, Athens
t—R. H. Tolbert, Athens
t—C. L. O'Kelley, Athens
t—W. R. Brown, Athens
sms—A. O. Duncan, Athens
FFA—T. D. Brown, Atlanta
FFA—A. L. Morris, Atlanta
Nt—Alva Tabor, Fort Valley
Nit—S. P. Fugate, Fort Valley

HAWAII
s—W. H. Coulter, Honolulu, T. H.
as—Riley Ewing, Honolulu, T. H.
t—F. E. Armstrong, Honolulu, T. H.

IDAHO
d—William Kerr, Boise
s—Stanley S. Richardson, Boise
as—E. L. Lovell, Pocatello
t—H. A. Winner, Moscow
t—Dwight L. Kindseby, Moscow

ILLINOIS
d—Ernest J. Simon, Springfield
s—V. E. Hill, Springfield
as—J. B. Adams, Springfield
as—A. J. Androws, 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
sms—Melvin Henderson, Urbana
sms—H. J. Rucker, Urbana
sms—W. H. Witt, Urbana

INDIANA
d—Deane E. Walker, Indianapolis
s—H. B. Taylor, Indianapolis
t—B. C. Lawson, Lafayette
t—Ralph Bentley, Lafayette
it—K. W. Kiltz, Lafayette
it—H. W. Leonard, Lafayette
it—E. E. Clanin, Lafayette

IOWA
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. Sexaner, Ames

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

KENTUCKY
d—Watson Armstrong, Frankfort
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—Carsie Hammonds, Lexington
t—W. R. Tabb, Lexington
t—Stanley Wall, Lexington
Nt—P. J. Manly, Frankfort

LOUISIANA
d—J. R. Gamble, Baton Rouge
s—W. J. Parent, Baton Rouge
ds—I. N. Carpenter, Baton Rouge
ds—C. P. McVea, Baton Rouge
ds—Gordon Canterbury, Baton Rouge
t—Roy L. Davenport, Baton Rouge
t—J. C. Floyd, Baton Rouge
t—M. C. Garr, Baton Rouge
t—Harry Braud, Baton Rouge
FFA—Delmar Walker, Baton Rouge
fms—Curtis Jacobs, Baton Rouge
t—A. Larriviere, Lafayette
t—A. A. LeBlanc, Lafayette
Nit—M. J. Clark, Scotlandville
Nt—C. H. Chapman, Scotlandville
Nit—E. C. Wright, Scotlandville

MAINE
d—Morris P. Cates, Augusta
s—John A. Snell, Augusta
as-t—Wallace H. Elliott, Orono

MARYLAND
d—John J. Seidel, Baltimore
s—Harry M. MacDonald, Baltimore
t—Arthur M. Ahalt, College Park
Nt—J. A. Oliver, Princess Anne

MASSACHUSETTS
d—M. Norcross Stratton, Boston
s—John G. Glavin, Boston
t—Jesse A. Taft, Amherst
t—Charles F. Oliver, Amherst

MICHIGAN
d—Ralph C. Wenrich, Lansing
s—Harry E. Nesman, Lansing
as—Luke H. Kelley, Lansing
as—Raymond M. Clark, Lansing
as—E. A. Lightfoot, Lansing
t—H. M. Byram, East Lansing
t—H. Paul Sweany, East Lansing
t—Guy Timmone, East Lansing
t—Raymond Garner, East Lansing

MINNESOTA
d—Harry C. Schmidt, St. Paul
s—G. R. Cochran, St. Paul
as—W. J. Kortesmaki, St. Paul
t—M. J. Peterson, St. Paul
t—H. W. Kitts, St. Paul

MISSOURI
d—Tracy Dale, Jefferson City
s—C. M. Humphrey, Jefferson City
ds—J. A. Bailey, Jefferson City
ds—Joe Moore, Mt. Vernon
t—G. F. Ekstrom, Columbia
t—C. V. Roderick, Columbia
sms—Joe Duck, Columbia
as—E. E. Gross, Hattiesburg
as—E. W. Holmes, Oxford
as—V. P. Winstead, Morton
as—T. V. Majure, Utica
as—A. E. Strain, Long Beach
t—V. G. Martin, State College
t—J. F. Scoggin, State College
t—O. L. Snowden, State College
t—J. E. Bond, State College
rms—D. W. Skelton, State College
sms—A. E. Strain, State College
Nt—A. D. Fobbs, Alcorn
Nt—A. G. Gordon, Alcorn

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

NEBRASKA
d—G. F. Liebendorfer, Lincoln
s—L. D. Clements, Lincoln
as—P. W. Deems, Lincoln
t—C. E. Rhoad, Lincoln
t—C. C. Minteer, Lincoln
fms—M. G. McCreight, Lincoln

NEVADA
d—Donald C. Cameron, Carson City
s—John W. Bunton, Carson City

NEW HAMPSHIRE
d—Walter M. May, Concord
s—Earl H. Little, Concord
t—Philip S. Barton, Durham

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

NEW MEXICO
s—L. C. Dalton, State College
t—Carl G. Howard, State College

NEW YORK
d—A. K. Getman, Albany
s—R. C. S. Sutliff, Albany (acting)
as—W. J. Weaver, Albany
as—J. W. Hatch, Albany
as—A. E. Champlin, Alfred
t—Roy A. Olney, Ithaca
t—R. E. Hoskins, Ithaca
t—W. A. Smith, Ithaca
t—W. R. Kunsela, Ithaca

NORTH CAROLINA
d—J. W. Smith, Raleigh
s—Roy H. Thomas, Raleigh
FFA—R. J. Peeler, Raleigh
ds—E. N. Meekins, Raleigh
ds—J. M. Osteen, Rockingham
ds—T. H. Stafford, Asheville
ds—T. B. Elliott, Woodland
ds—N. B. Chesnutt, Whiteville
t—Leon E. Cook, Raleigh
t—L. O. Armstrong, Raleigh
t—J. K. Coggin, Raleigh
t—F. A. Nylund, Raleigh
Nt—S. B. Simmons, Greensboro
Nt—C. E. Dean, Greensboro
Nt—W. T. Johnson, Greensboro

NORTH DAKOTA
d—E. F. Riley, Wahpeton
s-t—Ernest L. DeAlton, Fargo
as-t—Shubel D. Owen, Fargo
as-t—Winston H. Dolve, Fargo

OHIO
d—J. R. Strobel, Columbus
s—Ralph A. Howard, Columbus
as—W. G. Weiler, Columbus
ds—E. O. Bolender, Columbus
ds—F. J. Ruble, Columbus
ds—D. R. Purkey, Columbus
t—Ralph E. Bender, Columbus
t—W. F. Stewart, Columbus
t—Harold G. Kenestrick, Columbus
t—R. J. Woodin, Columbus
rt—Ray Fife, Columbus

OKLAHOMA
d-s—J. B. Perky, Stillwater
as—W. R. Felton, Stillwater
ds—Byrle Killian, Stillwater
ds—Hugh D. Jones, Stillwater
ds—Cleo A. Collins, Stillwater
ds—Benton F. Thomason, Stillwater
FFA—Tom Daniel, Stillwater
t—C. L. Angerer, Stillwater
t—Don M. Orr, Stillwater
t—Chris White, Stillwater
t—Robert R. Price, Stillwater
t—C. E. Kinney, Stillwater
Nit—D. C. Jones, Langston

OREGON
d—O. I. Paulson, Salem
s—Ralph L. Morgan, Salem
as—M. C. Buchanan, Salem
t—H. H. Gibson, Corvallis
t—Henry Ten Pas, Corvallis

PENNSYLVANIA
d—Paul L. Cressman, 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 R. McClay, State College
t—Glenn Z. 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 Henriques, San Juan
ds—Frederico Carbonell, San Juan
ds—Juan Melendez, Cayey
ds—Gregorio Mendez, Arecibo
ds—Nicolas Hernandez, Aquadilla
t—Juan Robles, Mayagues

RHODE ISLAND
st—Everett L. Austin, Providence
as—W. E. Gore, Columbia
ds—W. M. Mahony, Ronea Path
ds—W. R. Carter, Walterboro
ds—F. L. Barton, Chester
ds—C. G. Zimmerman, Florence
t—J. B. Monroe, Clemson
t—B. H. Stribling, Clemson
t—T. E. Duncan, Clemson
t—F. E. Kirkley, Clemson
t—W. C. Bowen, Clemson
t—T. A. White, Clemson
Nt—Gabe Buckman, Orangeburg

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

TENNESSEE
d-s—G. E. Freeman, Nashville
as—J. W. Brimm, Nashville
as—J. W. Carney, Nashville
ds—S. L. Sparks, Nashville
ds—H. N. Parks, Gallatin
ds—L. A. Carpenter, Knoxville
ds—T. J. Hendrickson, Gallatin
ds—H. C. Colvett, Jackson
t—N. E. Fitzgerald, Knoxville
t—B. S. Wilson, Knoxville
t—R. W. Beamer, Knoxville
t—M. M. Clendenen, Knoxville
sms—A. J. Paulus, Knoxville
rt—E. B. Knight, Knoxville
Nt—W. A. Flowers, Nashville

TEXAS
d—W. E. Lowry, Austin
s—Robert A. Maaire, Austin
as—R. Lano Barron, Austin
as—George H. Hurt, Austin
ds—O. T. Ryan, Lubbock
ds—Vannoy Stewart, Commerce
ds—C. D. Parker, Kingsville
ds—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 Rose, 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. Leach, 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
Nit—E. E. Collins, Texarkana
Nit—S. E. Palmer, Tyler
Nit—Gus Jones, Caldwell
Nit—Wardell Thompson, Prairie View
Nit—Paul Rutledge, Palestine

UTAH
d-s—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
as—H. R. Cushman, Burlington
t—James E. Woodhull, Burlington

VIRGINIA
d—Richard N. Anderson, Richmond
s—F. B. Cale, Richmond
as—R. E. Bass, Richmond
as—T. V. Downing, (Forestry), Ivor
ds—W. R. Emmons, Boykins
ds—J. O. Hoge, Blacksburg
ds—W. R. Legge, Winchester
ds—J. C. Green, Powhatan
ds—W. C. Dudley, Appomattox
ds—J. A. Hardy, Fulaski
N-ds—C. B. Jettor, Martinsville
t—H. W. Sanders, Blacksburg
t—C. E. Richard, Blacksburg
t—C. S. McLaren, Blacksburg
t—B. C. Bass, Blacksburg
fms—T. J. Wakeman, Blacksburg
Nt—J. R. Thomas, Petersburg
Nt—A. J. Miller, Petersburg
Nt—R. W. Watson, Petersburg

WASHINGTON
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—J. W. Evans, Olympia
as-t—E. M. Webb, Pullman
as-t—Oscar Loreen, Pullman
fms—Dave Hartzog, Pullman

WEST VIRGINIA
d—John M. Lowe, Charleston
s—H. N. Hansucker, Charleston
as—S. D. McMillen, Charleston
t—D. W. Parsons, Morgantown
t—R. C. Butler, Morgantown
Nt—W. T. Johnson, Institute

WISCONSIN
d—C. L. Greiber, Madison
s—Louis M. Sasman, Madison
t—J. A. James, Madison
it—D. C. Aebischer, Madison
it—Clarence Bomsack, Madison
t—V. E. Nylin, Platteville
t—J. M. May, River Falls

WYOMING
d—Sam Hitchcock, Cheyenne
s—Percy Kirk, Cheyenne
t—Jack Ruch, Laramie