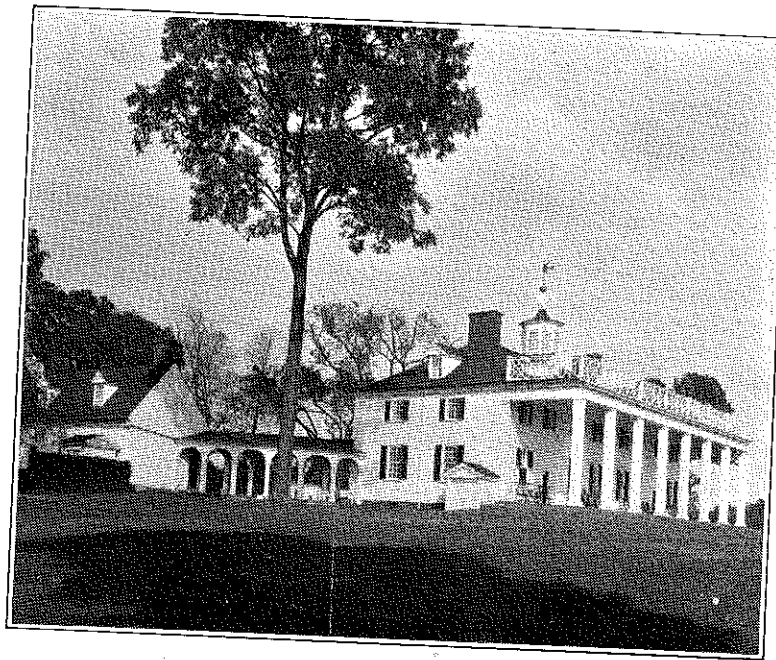


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Agricultural Education



Farm Home of an Illustrious Farmer
The Farm Home of George Washington
(See editorial page)

"In the next quarter of the century, there will be less cultural education, with more emphasis on the vocational. It will be the students who cannot succeed in vocational studies who will turn to the cultural, thus reversing the conditions as they exist today."

—E. P. Cubberley

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THE FARM HOME OF GEORGE WASHINGTON

MANY people think of Washington, the first President of the United States, and of Washington at Valley Forge, but how many think of Washington, the farmer, and of Washington at his farm home? O yes, people know about Mount Vernon, but do they think of this as a farm home? Washington was a farmer, and he found his greatest happiness in his marriage and in the care and development of his home. He often said that farming was the favorite of all his pursuits, and that, if he could have had his way and still have done his duty by his country, he would have spent his entire life on the acres of Mount Vernon. To him farming was a life of full satisfaction.

Having settled at Mount Vernon in 1759, each time Washington was called to his country's service he left his farming and farm home with greater reluctance. During the long and trying years of the Revolution and also during his presidency, he constantly looked forward to the time when he could return to his farm.

Washington surrounded his farm home with broad lawns, flowers, trees, and shrubbery. He rode for miles selecting the trees and shrubs which were to be moved to the home grounds. He personally trimmed, staked, and worked among them. His diary has a touch of sentiment in it when he records the opening of the blossoms in the Virginia spring-time. The dignity and gracious simplicity of Mount Vernon express the personality of a great farmer. To see Mount Vernon is to know the true Washington.

All health or storms little daunted the master of Mount Vernon as he made the daily rounds of his estates. It was such a ride through alternate periods of rain and sleet, taken on a December day of 1799 by the 67-year-old farmer, that resulted in the acute cold which cut short his years in the midst of a marvelously rich and mellow life in the beloved retirement of his farm. At Mount Vernon lies buried the master farmer, the master citizen, who was first, last, and all the time a home lover.

(The photograph for this cover picture was presented to the magazine by Tenschert, Photographer, Washington, D. C.)

FUTURE FARMER WORK ESSENTIAL TO OUR PRESENT-DAY NEEDS

FOR the past three years our country, with others, has been slipping badly. The challenge to our educators is to set up an educational system that will stop this friction and slipping in the social and economic machinery and thereby train for complete living under an adequate living standard.

The old ideals of individualism must give place to group consciousness and responsibility for the general good of community life. Nowhere is this task to be greater than in our farming occupations, yet their very salvation depends upon our successfully completing one of the greatest experi-

ments of history, that of so directing our present economic revolution as to bring a new deal to American agriculture. The Future Farmer movement is the device in our rural public school system for developing and putting into practical use the ideals of the great "new deal." This organization is the "rising sun" of the new era in agriculture, as reflected in these youthful farmers being trained for leadership and community cooperative responsibilities; but before we can train youth to use the ideals, we must have teachers with the proper attitude and vision as well as ability to cooperate among themselves.

The challenge to teachers of vocational agriculture is to give less attention to production if necessary and more attention to developing a cooperative spirit and group consciousness as well as leadership for rural life. The developing of group consciousness and youthful responsibility through leadership training is essential to a functional vocational education program. It must be accomplished on a local, county, state, and even a national basis.

While membership of students in the Future Farmer organization is voluntary on their part, with the teachers of vocational agriculture it is altogether a different proposition. Teachers are charged with the responsibility of balancing their program of work, and the organizing and advising of a local F. F. A. chapter is now recognized as one of the major responsibilities of every teacher of vocational agriculture. It touches the essential phases of their program at more places than any other responsibility they have. We now have manuals for teachers, and there is no legitimate excuse why they should not give definite instruction in student group-activity work. We know how it can be successfully done under proper advisement, and it is being done in almost every state in the union.

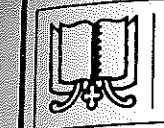
If it is professionally right to hold supervisors and teacher-trainers responsible for meeting national, regional, and state goals for participation in F. F. A. work, it is likewise right to pass that responsibility on to teachers. It certainly is not out of order to ask all teachers to do what 90 percent are now doing willingly as a part of their recognized responsibilities. There must be something wrong with that small percent who do not have qualified chapters, and if they cannot inspire their students and lead them in group leadership activities to that stage of participation where they take pride in their organizations and keep them qualified, it is prima facie evidence that they are either on the wrong job or in the wrong type of work. Weak pleas of financial inability may hold for some of the students, but it is not a sound alibi for teachers of vocational agriculture who are supposed to be teaching boys how to finance and operate a real farmer organization.

We cannot manage our schools with economy and efficiency with part of our chapters qualified and part unqualified. Every teacher and every chapter must be a part of a well balanced program. Let us all therefore face our responsibility to develop the plans of cooperation that are now being sponsored by centralized agencies designed to lift American agriculture to its rightful place in our economic system. Those who meet these goals and standards will always feel that happy thrill that comes from achieving success in their chosen profession.—R. B. Smith.

FARM FLASHES

C. H. LANE
DR. FREDERIC CLEMSON HOWE, Consumers' Council in the Agricultural Adjustment Administration, calls attention to some very important facts which agriculture teachers and pupils should be familiar with just at this time. He points out thru "Farm Flashes," which are broadcast almost daily, that the facts and figures on bread and wheat prices indicate that no more than one cent or a cent and one-half per pound increase in bread prices is warranted in recent advances in wheat price and the processing tax imposed on wheat milling.
 Dr. Howe points out "that in May of this year, when the price to consumers for a pound loaf of bread was 6½ cents,

(Continued on page 23)



Ellwood Patterson Cubberley, The Educator

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



Julian A. McPhee

the name of the man who inspired it. A survey of the work of Dr. Cubberley is particularly fitting at this time, for on June 6, 1933, his sixty-fifth birthday, he was given national honor and acclaim upon his retirement as dean of the School of Education at Stanford University. At that time a reunion dinner of hundreds of former students was held and was participated in by educators thruout the United States.

Ellwood Patterson Cubberley was born in Andrews, Indiana, June 6, 1868. He cannot recall that his birthplace held any particular significance, yet his entire career may have been shaped by an occurrence there, which might not have happened elsewhere.

His father was a druggist, and wanted young Ellwood to follow the same profession. While the latter was a high school student, Dr. David Starr Jordan, then president of the University of Indiana, spoke to the student body on college education. His words so inspired the young man that he determined to get as much educational training as possible.

Dr. Jordan was again a factor in persuading Mr. Cubberley, Senior, to allow Ellwood to enter the University of Indiana. A contact was then and there formed which had the greatest influence on the future educator and editor, especially in the moves he made in professional betterment following his university graduation in 1890.

Two of young Cubberley's high school teachers made him want to learn, and to learn well. His early interest was in scientific fields, and he majored in these subjects in the university. Education itself as a career had not been definitely formulated, and he took only one two-unit course in education. He intended to be a professor of physics.

After a short period as instructor in mathematics and science at Ridgeville College, Indiana, he accepted a position of physics at Vincennes University. Again Dr. Jordan, later to become president at Stanford, had an influence in the choice.

The dynamic personality of the young professor must have been impressive, for

at the end of his second year he was made president of the university. What an honor and what an opportunity! And Mr. Cubberley made the most of the latter. His three years ending in 1896 were largely spent in revising the curriculum of the university, and it was in this task that some of his later philosophy was formulated.

Of even greater significance, however, was his next move. He received a letter from Dr. Jordan telling him that the latter had nominated him for the position of superintendent of schools at San Diego, California. He recalls this event with a touch of humor.

"Dr. Jordan had been of such an influence in my career that there was little to do but accept the position—in fact, it was almost a dictum."

At San Diego, the young educator found need for plenty of creative effort.

executive head of the department and with the creation of the school of education in that year, became dean. He held this position until his retirement in June. In the meantime, his influence was spreading. His work in the San Diego schools made known in two published reports, was generally followed in California schools and was later taken up in other states. Shortly after coming to Stanford, he was asked to recast the course of study in the San Francisco schools, which he did in 1900.

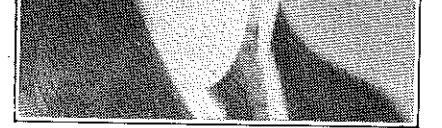
"My ideas on educational matters have not changed greatly since then," he says. In the meantime, degrees and honors followed. He was an honorary fellow at Columbia University in 1901-2, receiving his master's degree in 1902 and his Ph. D., in 1905 from Columbia. He was granted his LL.D. degree from the University of Iowa in 1923.

From 1913 to 1931 Dr. Cubberley was engaged almost continuously, when free from teaching at Stanford, in studying and recommending school curricula, and in financial and administrative changes in cities thruout the country. This was followed by work on legislative and advisory committees of state and national scope, including the advisory committee of the National Survey of Secondary Education; and the National Advisory Committee on Education, 1929-31.

The first contact with Dr. Cubberley is pleasant, personal. In the briefest possible time, you have a feeling that you would like to be a child, studying the things you like to study as Dr. Cubberley would like to have you study them.

The child to him is a real creature—not a microscopic specimen identical with millions of others. There is no cut-and-dried educational formula in his philosophy; he feels that instead of attempting to mold every mind to a common pattern, the attempt must be made to develop that mind along the lines most logical and most pleasing.

In brief, Dr. Cubberley would begin with the elementary school child, in the terms of things around him. If at the age of 14 the boy or girl wants to drop his regular education to go to work, let



Ellwood Patterson Cubberley

In common with other schools thruout the country, the work of the lower grades was largely in the abstract. History was taught only in the upper grades. Mr. Cubberley put it in the first grade, introducing it at a time when children love stories. Science was also reserved for the "older children." This new superintendent put that in the first grade, also. Literature was at that time studied only from the standpoint of grammar. In the curriculum changes effected, a study of literature for its own sake was created.

From this superintendency came another and the final move, and this was again due to the interest of Dr. Jordan. In 1898, Mr. Cubberley came to Stanford University as Associate Professor of Education. Up to 1917, he served as

"The Universities are dictating to the high schools what the latter should teach to turn out raw material for the institutions of higher education. The reverse should be true; and the high schools should be in the position of advising the university what it should teach to put the finishing touches on that raw material."
 Thus goes one of the challenging statements by the subject of this article, the ninth in a series of ten articles dealing with the contributions of leading American educators. The tenth article will appear in the September issue. Then the ten articles will be brought together in booklet form.

plied, he will want to return later, as he is more able to appreciate history, art, music, and literature. He will learn more rapidly and more permanently when he learns because he wants to—not because he is forced to do so.

This educator believes that the greatest development in the future will be in the secondary school and in adult education. This importance is shown in that the succeeding dean of the school of education at Stanford was selected because of his work in the secondary school field. To him, the secondary school field is from the sixth to the fourteenth grades. He feels that in the fields of elementary education and higher education, we have reached a point of development beyond which we will not advance greatly in the next decade or two.

"We are in a period of rapid change," Dr. Cubberley says. "As to what will happen, it is hard to say. One man's guess is about as good as another's. We have a surplus of teachers, and will have for some time to come. It will be a survival of the fittest."

Dr. Cubberley believes that the tenure problem will make the future of education more difficult, in that some of the best prospective teachers will be forced to turn to other fields because of the inability of administrators to weed out the unfit. This tenure also makes it difficult to work over the courses of study in the secondary schools to fit new conditions, he declares.

You gasp at the startling directness of his next statement.

"The high school today is the creature of the university."

He explains that today, the universities are dictating to the high schools what the latter should teach to turn out raw material for the institutions of higher education. The reverse should be true; and the high schools should be in the position of advising the university what it should teach to put the finishing touches on that raw material, he declares.

No less direct nor startling is his statement concerning vocational education.

"In the next quarter of the century, there will be less cultural education, with more emphasis on the vocational. It will be the students who cannot succeed in vocational studies who will turn to the cultural, thus reversing the conditions as they exist today."

The practical arts as well as the practical sciences become an integral part of Dr. Cubberley's philosophy of the future of education. Children must be trained to work with their hands, and the number who can fill their leisure time with activity in, or appreciation of the higher arts, is limited.

"With the increase in leisure time, the educational system of America must be revised, or we are headed for disaster," he prophesies. "If we don't teach the people to use this new leisure time properly, then we are headed for the precipice. Many cannot appreciate art, music, and literature except in the more common forms. It is necessary that we teach people to do things with their hands."

A young couple starting life today with the husband earning a low wage, is

ation upon the ability of both to do practical things. There is an electric light fixture which needs mending, a carpet sweeper which needs adjusting, a flower garden which needs attention, clothes to be made and mended, shingles to be put on the garage.

"They cannot afford to hire these things done," he declares. "We must train them in the art and science of living."

"We have been educating too many people for 'white-collar' jobs," he asserts. "We have somehow had the feeling that railroads would build themselves, shoes make themselves, and other tasks 'just happen.'"

Dr. Cubberley made an early study of rural school conditions, but principally of the elementary school. He feels that consolidation into the larger units of administration is the key to improvement of the rural school.

"But the farmer won't have it," he declares. "The farmer has a personal interest in that local district and is loath to consider unification. In this course, he is influenced by the county school superintendent, who is somehow afraid that he will lose his job under consolidation and thus opposes it."

Rural Life and Education

Dr. Cubberley's purpose in his book on *Rural Life and Education* was to secure better educational advantages for those living on farms. It was an effort to get the rural people and educators to see the need for the larger unit of administration, thus improving the rural school and influencing the people to remain on the farms rather than migrating to the city.

This is an example of Dr. Cubberley's foresight. This book was written in 1914. Today, nearly two decades later, we are seeing the tremendous social and economic evil in the migration which followed; and are concerned with putting into effect every legislative and educational effort to keep people on the farm and get others back to rural living.

Dr. Cubberley has made no particular study of the effects of vocational agricultural education under the Smith-Hughes plans, but its principles coincide with his educational philosophy to a remarkable degree. The agricultural project which crystallizes the boy's desire to learn is the key to similar improvement in the other fields of the practical arts and sciences, he believes.

As editor of the Riverside Textbook series on education and author of six histories of education, eleven books on school administration, and six school survey reports, Dr. Cubberley's influence has reached millions. His retirement as dean at Stanford will permit greater time for writing and editing, and for perpetuation of his useful career in a broader sense.

He is particularly concerned with the teaching profession and its influence on the history and development of the nation. He says, "Education today has been changed from a simple teaching process, as it used to be conceived, to an intricate and difficult instructional procedure, requiring careful professional preparation on the part of those who exercise control, and so intimately con-

ditional welfare that it may truthfully be said to have become, in many respects, the most important constructive undertaking of a modern state." (From his *Introduction to the Study of Education*.)

Much has been said of Dr. Cubberley as a teacher, administrator, author, editor. Much has been said, too, of "Dad" Cubberley as a man. To select at random from a host of statements from among his thousands of admirers and disciples:

"Those knowing Dr. Ellwood Patterson Cubberley, or 'Dad Cubberley' as he is known to all the boys who studied with him at Stanford, think of him first of all as a delightful friend whose chief characteristic is his unbounded enthusiasm for education."—George W. Frasier, president of Colorado State Teachers College.

"He is a great teacher and an honest seeker after truth, but in my opinion his greatest contribution is that he has shown how great is the field of education and how enticing is the profession to any man who has the ability to measure up to its opportunities."—James E. Russell, dean emeritus, of Teachers College, Columbia University.

"The thing that has always stood out has been the man's unassumingness; he has always been quiet, to some extent a listener, a thinker, and yet when he has spoken, he has spoken as one having authority and because he knew."—Lotus D. Coffman, president of the University of Minnesota.

Dr. Cubberley's favorite books are those of the late Dr. Jordan. Of his own books, those in which he takes the greatest pleasure are two histories, *The History of Education*, and *Public Education in the United States*; and two books on administration, *City School Administration*, and *State School Administration*. These have represented a great deal of hard work.

His favorite quotations? They are all favorites. To a man who has spent an active lifetime in the lecture room, at the administrator's desk, and with the author's and editor's pen, many have been uttered or written. From a current issue of the *California Quarterly Journal of Secondary Education*, in which much of the issue pays just tribute to Dean Cubberley, we find two pages of "Cubberley-Grams." Among them is the following, of high significance in the light of present national conditions:

"In times of depression and business reaction the schools are called upon to carry additional loads and additional educational responsibilities, and in a time of such severe reaction as the present, when many are out of work and many families are sinking below the level of ability to provide proper feeding and care for their children and home life is in danger, the educational facilities of a city ought to be operating at their maximum of scope and efficiency. The children now need more than the usual attention, and their birthright as American children—that of a good educational opportunity—should not be unduly diminished. We can wait for streets, parks, and many forms of public improvement and service, but we cannot postpone education. It must be provided at the only time in their lives that children can avail themselves of it."

There we have a picture of Dr. Ellwood Patterson Cubberley—the child and his education first. And in all this, he is inspired with a great national patriotism and an appraisal of the consequences to our national structure if public education is not protected, continued, and changed to meet new conditions. The term "educator" can have no higher meaning than its use as a tribute to "Dad" Cubberley.

Agricultural Education in Boston

THERE is romance as well as inspiration in the developments since 1630 in agricultural education in the vicinity of Boston, beginning with the original lesson of Squanto, the Indian who taught the Pilgrims how to grow maize successfully. The reader can scarcely think of the city of Boston as having had experience in agricultural education for over a century or that in this city of academic learning is to be found agricultural education of a truly vocational nature today. A thesis prepared by Thomas P. Dooley, presented at Boston's Teachers College in 1931, gives such information. Mr. Dooley is head of the department of vocational agriculture in the Jamaica Plain High School.

In Massachusetts, the beginning of positive attempts at formal education in agriculture began with agencies created in 1792, 1811, and finally the Farm and Trade School at Thompson's Island, Boston, founded in 1833, which still functions. Then followed the Bussey Institute of Agriculture and Horticulture in 1870 which today is very much alive.

Vocational agriculture, as now found in the Jamaica Plain High School of Boston is more directly the descendant of the school garden movement which began in 1891.

The vocational department opened with only 6 pupils in 1918 but has grown steadily to 140 in 1933. The guidance function in Boston seems to be exceptionally effective in keeping out of the department misfits who lack a vocational objective. Evidence of this is found in the small mortality, the high scholarship, and the large percentage who enter agricultural pursuits. Of the graduates, 74 percent are reported as in agriculture and related pursuits, 26 percent not in agriculture. This record will compare favorably with agricultural departments throughout the country.

As evidence of the increasing vocational trend of the department, the per pupil hours of summer practice in agriculture has risen from 429 in 1922, to 665 in 1930. The high degree of scholarship is indicated by the fact that 114 vocational students have been on the honor roll of this big high school.—F. E. Heald.

"It is not often that a man can make opportunities for himself, but he can put himself in such shape that when . . . opportunities come, he is ready to take advantage of them."—Theodore Roosevelt.

Address of Chester H. Gray, Washington Representative American Farm Bureau Federation, at University of Virginia, During Memorial Pilgrimage of Future Farm- ers of America

THE spirit of these times is not far different from that which existed when Thomas Jefferson lived and labored for the good of his country and for the advantage of his own occupation, which was agriculture. Then, however, citizens, whether in private life or officially, performed most of their work in political organizations. Now, citizens continue to be as fond of political organizations as ever they have been, but in addition, they advance their various causes thru vocational groups of many names and natures.

It is significant of our times that one of the newest of these groups is Future Farmers of America. Perhaps it is true that this organization is designed mostly for the young farm folks of our nation, the thought being that as mature age comes along, those who are now Future Farmers, then becoming the real farmers of our nation, will align themselves with various organizations which are designed to cope with economic and other issues in the country.

It is no criticism of our form of government to say that organization, other than the political one, is now necessary. This is especially true in agriculture. Farmers now cannot be as individualistic as they one time were. Neither can they be inefficient. There was a time when a farmer needed not worry to any great extent about his efficiency, about his costs of production, even about profit at the end of the year.

In former periods, thru which our nation has gone since the days of Thomas Jefferson, fixed charges in agriculture like transportation, taxation, distribution, high standards of living owing to modern developments, and similar features, were not burdensome; in fact, were so negligible in many instances as to be unworthy of being taken into account in the balancing of yearly books. In those times, a farmer could be careless, could work by and for himself, could deplete his soil, could proceed quite regardless of the welfare of his fellow farmers, and still in his elder years be classed as a rich man.

The reason was obvious. A young nation was growing up around him. Society, in which he could play a small part, if that were his desire, built schools, churches, roads, and in fact built and established the very government which protected him. Unearned increment, as a result of all these developments, made his holdings, even though small in area, of more value decade after decade. The result of all this was that when he became mature, even though from an actual bookkeeping point of view he might have lost money, he was rated as a rich man in the community.

It seems that the time of getting rich in agriculture by the method of allowing unearned increment to add to our farm values, has passed. Nowadays, the farmer who is inefficient is doomed. His fixed charges will submerge him financially if he does not make enough profit to meet them. Farming, as a style

of life or a mode of living in an economic era such as that in which we now live, is a beautiful thing to philosophize about, but farming as a mode of making a profit is the only kind of farm life which can survive. No longer can a farmer be careless, be individualistic, act regardless of costs of production, and farm as his forefathers before him farmed. He must keep step with the times, and a prominent part of that forward march is the making of a profit in agriculture.

To do this, organizations in agriculture have come to be indispensably necessary. The farmer today, who produces any one or several of our farm products, has learned that in getting the best price for such products, it is well for him to market them cooperatively, not only with his immediate neighbors, but with those other neighbors in agriculture who produce the same products perhaps a thousand miles away. The time has ceased to be when farmer can fight farmer for our markets. Farmer must cooperate with farmer in our neighborhoods and thruout the nation in getting the best price possible in this, the greatest consuming nation of the present civilization, and perhaps the greatest buying nation which the world has ever seen.

Then, in addition to the present large development of cooperative marketing organizations, there stand before us several general nation-wide farm organizations which are not devoted to the proposition of selling their products, but are rather consecrated to the idea of selling to the nation as a whole rural life and the needs of agriculture. These great national membership organizations are the ones which speak for agriculture with a national voice. If a tax proposition is to be adjusted over the nation, they are the ones which view it from every possible angle, arrive at conclusions, and advocate them so that farmers as a whole, wherever they live, will be adequately protected. Should it be transportation matters, tariffs, monetary affairs, appropriations for agriculture, or any other great national project, these far-flung organizations of farmers, supported as they are by actual membership fees, paid by the individual farmers, are alone capable of declaring for the farmers of our nation the proper solution so as to benefit agriculture and not harm other great groups in our society.

Every Future Farmer of America in your present great and commendable organization, will, if he follows the trend of these times, be in future years a member of the cooperative marketing groups which are organized for the purpose of selling farm products, and of one or more of the great national membership groups in which now most forward-looking and progressive farm families maintain membership.

We had better learn how to deal with facts, since we have to live with them anyway.

The Problem Procedure in Teaching Agriculture

Presenting the Problem to the Class for Study

J. A. STARRAK, Iowa State College

THIS step in the procedure of teaching by problems corresponds to the well-known "assignment" of the more traditional method. In the following discussion I shall make use of this term in the interest of economy of space, although it is difficult for me to rid my mind of unpleasant associations of the term, retained from my schooldays when the assignment usually took the form of "Take the next ten pages," or "Name and locate all the bones of the body," or some equally unchallenging task.

Probably there is no step in the teaching process which is so poorly handled as the assignment usually is, and this in spite of its admitted importance. A superintendent, whose opinion I valued quite highly, once told me that, in order to evaluate the teaching ability of any candidate for a teaching position, all he wished for was an opportunity to observe him making an assignment. This seemed a gross exaggeration of the importance of the step, but further study and experience has led me to entertain a greater respect for his professional acumen. Maguire in his *Group Study Plan*,¹ insists that "most of the difficulties which beset a teacher arise from faulty assignment." Recently a book² devoted wholly to the assignment has been published, the author claiming that the importance of the assignment merits an entire volume devoted to it. It is my opinion that the quite general failure of teachers to carry out this step effectively is very largely responsible for the demand for supervised study.

A word as to the time at which to make the assignment is probably in order here. It is part of the theory of problem teaching that the new problem should grow rather naturally (psychologically) out of the one being brought to a conclusion at the time. This precludes, for the most part, making the assignment at the beginning of the class period and places it, in point of time, somewhere later on during the period. Skillful teachers, if they plan their assignments carefully, can "draw" them out of the discussion at the psychological moment, and of course we should all be skillful teachers. But even if done effectively at such a time, it is without doubt a good plan to bring the assignment up again at the conclusion of the discussion of the "old" problem, stating it in good form and making sure that every student makes a written state-

This is the third in a series of four articles by Dr. Starrak, dealing with the problem procedure in teaching agriculture. Two articles of the series have appeared in the June and July issues of this magazine. In the September issue will be presented "Bringing the Problem to a Satisfactory Conclusion."—Editor.

ment of the "new" problem, in the same words in which the teacher has finally couched it.

In planning any technique, the purpose to be achieved by it should be definitely established first, and thereafter constantly kept in mind. The two chief purposes to be achieved in assigning a problem are: first, motivating the problem to all the students; and, second, giving some direction to the thinking of the students in their attempt to arrive at the conclusion of the problem, thru their own independent study.

It is obvious that the problem must be "sold" to the class; that it must, in effect, be made theirs. Until it is wholeheartedly accepted by the students as being important and worthwhile, it is not really a problem at all to the members of the class, no matter how well the formal statement of it measures up to our standards. This is obvious, I am sure, but teachers are fain to forget it and to slight this essential step.

It is equally obvious that, in order to motivate the problem to all the members of a given class, a teacher must be rather a master of the techniques involved in the effective manipulation of the interests of high school students. Space does not permit any treatment of these "interest-getting" and "interest-maintaining" techniques, and moreover, the readers of this magazine may be assumed to be already expert in their use.

A second purpose of the assignment, as has been stated above, is to give some direction to the students in their attack upon the problem, to the end that they may, thru proper practice, develop the ability and habit of thinking effectively on practical problems. Perhaps the most effective way of giving the direction required is to encourage the students to offer a tentative solution of the problem at the time it is seen by them to be a problem, and to allow a more or less limited amount of exchange of opinion upon the solutions proposed. I believe that this is one of the most crucial steps in the technique of teaching by problems. If skillfully handled, this practice of encouraging an expression of the tentative solution of the problem, when it

is first presented, can be made to produce certain conditions which are quite essential to the success of problem teaching. Space at my disposal does not permit elucidation of this idea.

Still further direction of the right sort may be given to the students by the manner in which they are referred to sources of information on the problem assigned. The easiest way to handle this step is to give the students the exact pages in one or more books. Such a practice will never produce in the student the ability to find information for himself when he needs it in solving the problems of his adult life. At that time he will not have a teacher at his elbow. A teacher must never forget that his chief objective is to be done without. It is the teacher's duty however to have on hand, in readily accessible form, all the best available sources of information on the subjects he teaches. Lack of funds is no excuse for failure of the teacher of agriculture in this respect, as bulletins on all phases of agriculture may be obtained for little or no cost.

The skillful teacher can plan beforehand to apply these suggested techniques. In addition, if he takes the trouble to master them, he will be able to take advantage of such opportunities to employ them extemporaneously as will undoubtedly arise in any live discussion.

In order to illustrate the application of these techniques, we shall take the second problem in the series submitted in the preceding article. The statement of this problem is as follows: "In our field trips this fall we found some farmers using a large community house for farrowing, while others used small movable houses. If you had a herd of ten brood sows to care for, and could choose the type of housing, would you use a large permanent house or small movable hog houses? Why?"

Illustration of Technique

Teacher: "In our last discussion we were led to believe that housing was an important factor in the economical production of hogs. There was not unanimous agreement on this point. You will remember that John insisted that housing was not important. Have you changed your mind since our last meeting, John? What caused you to do so?" (John's reasons are checked by other students and by instructor for their soundness and relevancy.)

Teacher: "We had some very good reasons advanced last day for believing that the proper housing of hogs had a

large influence upon the profits which could be made in hog-raising and that farmers should give housing careful attention. Have you thought of any additional ones, Walter? Peter?" (One or two may be advanced by the boys or instructor, and properly evaluated.)

Teacher: "You will remember that John, in our discussion last day, warned us against spending too much for housing. Do you think such a warning necessary? Is it possible for a farmer to have hog houses which were too good, James? Henry? etc. How much per sow should a farmer allow for housing costs?" (It should be possible to come to a satisfactory decision on this question and in so doing to emphasize that there is a point of diminishing returns in the investment in hog houses.)

Teacher: "In arranging for the housing of his hogs, what else besides initial cost should a farmer consider?" (Various suggestions will be made, among them the question of the individual versus the community type of house. All will receive brief comment as they are brought into the discussion, but the one mentioned above will be selected for special attention.)

Teacher: "Do you regard this as an important question for the hog-raiser to decide, James? Henry? Why? Which is the better system—the individual or the community house, William? etc.? Which do you use at home? Do you find it satisfactory? Which type is used most in this community? Have you noticed any uniformity of practice in this regard among the really successful hog raisers whom you know?" (Discussion of this question would probably reveal that no uniformity existed.)

Teacher: "Would you consider this as evidence that neither type was to be preferred over the other? It is possible that some of the farmers may not be using the type of housing they deem the better, because of the expense of changing from one system to another?" (The fallacy of relying entirely upon prevailing practice would be brought out and the necessity of taking into account other factors besides tradition and custom would be emphasized.)

Teacher: "If you were going into hog raising, starting from 'scratch' (with no buildings), which type would you adopt—the individual or the community house? James? Henry?" (Some expressions of opinions, briefly supported by reasons should be encouraged at this point. The discussion should be so directed as to leave each student less confident of the correctness of his own expressed opinion, more respectful of the opinions of others, and more clear as to just what is involved in the problem and what information he needs to secure in order to maintain his opinion, or in order to arrive at the correct solution, if he finds his own untenable. This is "encouraging a tentative solution," referred to above.)

Teacher: "It seems that this is a more complicated problem than it appeared to be at first. Evidently we shall have to think about it and get more information than we now possess. Where are you going to get the information you need in order to check the opinion you have given, John? Henry? etc.?" (Suggestions will be given by the students as to persons, books, bulletins, and other avail-

able sources of information. Successful hog raisers in the community and the manager of the local lumber yard, who could quote prices and supply illustrative material, will be suggested. Books and bulletins will of course be in the department library or in the possession of the students. If additional sources are needed, the teacher may suggest them, being careful not to be specific as to page or chapter, as one purpose to be achieved is the development in the student of the ability to find information without assistance.

Teacher: "We have just demonstrated how easy it is for anyone to go wrong in his thinking, if he accepts without criticism the first suggestion which comes to his mind. Let us each decide, after careful consideration of all the facts involved, which type of housing he would recommend for anyone starting hog raising in this community. After arriving at your conclusion write it out carefully and place in two parallel columns the arguments for and against your conclusion. Is there any question? Is the problem clear to all? Let us all try to do some straight thinking on this problem."

It must be understood that the procedure described above is only suggestive. There is no one best way of presenting a problem to a class for study. Local persons, conditions, resources, events, and problems must be taken advantage of to make the discussion more interesting and meaningful. However, it is believed that the essential steps in the suggested technique of assigning a problem are brought into play more or less effectively in the foregoing illustration. In a succeeding article the process of bringing the problem to a successful conclusion will be demonstrated.

Agricultural Bulletins

UDDER Diseases of Dairy Cows. Revised, 1933. (Farmers' Bulletin 1422.)

Diseases of Sheep. Revised, 1933. (Farmers' Bulletin 1155.)

Breeds of Horses. Revised, 1933. (Farmers' Bulletin 952.)

Parasites and Parasitic Diseases of Horses. Revised, 1933. (Agriculture Circular 148.)

Turkey Raising. Revised, 1933. (Farmers' Bulletin 1409.)

Potato Storage and Storage Houses. Revised, 1933. (Farmers' Bulletin 847.)

Production of Late or Main-Crop Potatoes. Revised, 1933. (Farmers' Bulletin 1064.)

Seed Potatoes and How to Produce Them. Revised. (Farmers' Bulletin 1332.)

Asparagus Culture. Revised, 1933. (Farmers' Bulletin 1646.)

Growing Root Crops for Livestock. 1933. (Farmers' Bulletin 1699.)

Marketing Hay by Modern Methods. (Farmers' Bulletin 1700.)

Alfalfa Hay. Revised. (Farmers' Bulletin 1539.)

Testing Farm Seeds in the Home and in the Rural School. Revised, 1933. (Farmers' Bulletin 428.)

The Chinch Bug and How to Fight It. Revised, 1933. (Farmers' Bulletin 1498.)

The Larger Corn Stalk-Borer. Revised, 1933. (Farmers' Bulletin 1025.)

Outworms and Their Control in Corn and Other Cereal Crops. Revised, 1933. (Farmers' Bulletin 739.)

Growing Peaches: Sites and Cultural Methods. Revised, 1933. (Farmers' Bulletin 917.)

Preparing Peaches for Market. 1933. (Farmers' Bulletin 1702.)

Canning Fruits and Vegetables at Home. Revised, 1933. (Farmers' Bulletin 1471.)

Clearing Land of Brush and Stumps. Revised, 1933. (Farmers' Bulletin 1526.)

Black Walnut for Timber and Nuts. Revised, 1933. (Farmers' Bulletin 1392.)

Roses for the Home. Revised. (Farmers' Bulletin 750.)

Small Concrete Construction on Farm. Revised, 1933. (Farmers' Bulletin 1480.)

Construction of Chimneys and Fireplaces. Revised, 1933. (Farmers' Bulletin 1649.)

Farm Budgeting. Revised, 1933. (Farmers' Bulletin 1564.)

Farm Flashes

(Continued from page 18)

the millers and bakers and handlers and sellers were getting 5½ cents of that 6½ cents; and the farmer was getting just under 1 cent of that 6½ cents the consumer paid." In fact, Dr. Howe recalls that when the price of wheat was falling a few years back a committee of the United States Senate began investigating to see why bread prices to consumers had not come down as fast as the prices of wheat to farmers.

At that time, millers' and bakers' representatives pointed out that 1 bushel of wheat will provide enough flour for 62 loaves of bread. As they figured out then, if wheat was to drop 62 cents a bushel and all the decline in the price of wheat was reflected in lower flour prices to the baker that would make a difference of only 1 cent a pound loaf in the cost to the baker.

In passing out these facts and figures about bread and wheat prices so that consumers can help protect themselves from any profiteering in bread that may be attempted, Dr. Howe says "Protection of consumers from undue price raises is essential to the success of the whole program of national recovery."

"This program of agricultural adjustment is only in a restricted sense a farm program; in the broader sense, it is a national program calculated to benefit all our people by increasing farm buying power. Such increases in retail prices as may be warranted are for the purpose of increasing buying power.

"The aim of the Agricultural Adjustment Act is to restore buying power to farmers, as the aim of the National Industry Recovery Act is to restore buying power to workers.

"Unfair, unjust price boosting strikes at the very heart of the plan to protect consumers from extortion." It is the plan of Dr. Howe to keep consumers acquainted with the facts thru "farm flashes" broadcasted daily. It would seem therefore very important that all agriculture teachers make every effort to find out thru the program maker of the station that they get the best reception from, the time at which these "flashes" are on the air, so that they might advise their farmer patrons and students to also listen in.

1. Maguire, E. R., *Group Study Plan*. Charles Scribner's Sons, 1928, p. 21.
2. Yoakum, G. A., *The Improvement of the Assignment*. The MacMillan Co., 1932, pp. 398.

Summary of Studies in Evening School Instruction

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EVENING school instruction in agriculture is one of the most recent developments in education. The 16th annual report of the Federal Board for Vocational Education: 1932 shows no teachers engaged in evening school instruction in agriculture prior to 1921. In 1926 approximately 900 teachers gave evening class instruction, with about 3,500 men teaching all-day classes in agriculture at that time. In 1927 the number of teachers of evening schools decreased slightly, but since 1928 there has been a yearly increase, and in 1932 2,189 teachers gave evening class instruction. However, that year 4,487 teachers gave instruction to all-day pupils. In other words, evening class instruction in agriculture had been in existence for 11 years in 1932, and in that year, in spite of recent rapid development of this type of instruction, less than half of the vocational agriculture teachers held evening classes. The above facts may account in part for the small number of studies reported on evening school instruction.

These studies are:

1. Ayers, Thomas L.—*Effectiveness of Agricultural Evening Class Instruction*. Masters thesis, unpublished. Typed copy in library of George Peabody College for Teachers, Nashville, Tennessee. 1929. 61 pages.
2. Bender, Wilbur H.—*Extra-Institutional Adult Education for Vocational and Social-Civic Efficiency*. Masters thesis, unpublished. Typed copy in library of Iowa State College, Ames, 1924. 40 pages.
3. Brimmer, Clifford Carl—*The Personnel of Agricultural Evening School Classes in Iowa and Eastern Nebraska*. Masters thesis, unpublished. Typed copy in library of Iowa State College, Ames. 1932. 51 pages.
4. Brown, Ralph N.—*The Development of Agricultural Evening Classes in California*. Masters thesis, unpublished. Typed copy in library of the University of California. Duplicate copy filed with the Division of Vocational Education, University of California, Berkeley. 1926.
5. ————*How We Appear Nationally in Part-Time and Evening Classes in Agriculture*. (A summary of a study made by the author while a graduate student in the University of California.) Vocational Education News Notes. Published by the Division of Vocational Education, University of

This is the second of the sections of the summary of research in agricultural education prepared by the committee on research of the agricultural section of the American Vocational Association. The first section, summarizing studies in part-time education, was published in the November 1932 number. Other sections dealing with the high school program, teacher-training, administration and supervision, and measurements will be printed soon. All will eventually be gathered in a book.—H. M. Hamlin.

California, Berkeley. Vol. III, No. 7. January 1926. Pages 12-15.

6. Cox, Omar C.—*Evening School Instruction in Virginia*. Masters thesis, unpublished. Typed copy in the Department of Agricultural Education, Virginia Polytechnic Institute, Blacksburg, 1931. 163 pages.
7. Crandall, W. G., Ayers, T. L., and Duggan, I. W.—*An Investigation of Evening Class Instruction in Agriculture*. Published by the Clemson Agricultural College, Division of Education, as Bulletin 5, Education Series 1, February 1930. 15 pages.
8. Dean, Clarence Exavior—*A Survey of Agricultural Instruction Offered in Evening Schools for Negro Farmers in North Carolina and Virginia*. Masters thesis, unpublished. Typed copy in library of Iowa State College, Ames. 1930. 74 pages.
9. Fleenor, Beatty H.—*Adult Education in Agriculture Through Evening Schools Conducted by Departments of Vocational Agriculture*. Doctors thesis developed in the Department of Agricultural Education, University of Missouri in 1931. Published as a bulletin by the Extension Division, Kansas State Agricultural College and the Kansas State Board for Vocational Education, Topeka. 1932. 114 pages.
10. Jacobs, Volna Gustavus—*Farmers' Correspondence with the Iowa Agricultural Experiment Station as a Guide to the Content of Iowa Agricultural Evening School Courses*. Masters thesis, unpublished. Typed copy in library of Iowa State College, Ames. 1931. 63 pages.
11. Johnson, Alex R.—*The Organization, Instruction, and Results of Evening Classes in Poultry Production*. Masters thesis, unpublished. University of Florida, Gainesville. 1932.
12. Knight, F. K.—*The Organization and Results of an Evening Class in Citrus*. Masters thesis, unpub-

lished. University of Florida, Gainesville. 1932.

13. McClarren, Howard—*Evening Instruction in Vocational Agriculture; Its Principles and Procedures*. Masters thesis, unpublished. Typed copy in library of the Ohio State University, Columbus. 1931. 102 pages.
 14. Mobley, M. D.—*An Evaluation of Evening Class Instruction in Terms of Changed Practices*. Masters thesis, unpublished. Cornell University, Ithaca, New York. 1930. 155 pages.
 15. Shields, Norwood Rarason — *The Content of a Series of Evening Courses for Negro Farmers of the Welberforce, Ohio Community, Based upon a Farm Survey of Practices and Needs*. Masters thesis, unpublished. Typed copy in the library, also in the Department of Agricultural Education, the Ohio State University, Columbus. 1931. 139 pages.
 16. Umstattd, James G.—*The Short Course in Vocational Agriculture*. Masters thesis, unpublished. Typed copy in the library of the University of Missouri, Columbia. 1924. 100 pages.
- In the following briefs of these studies the study is designated by number and name of the author.
1. Ayers, Thomas L.—
Method: A case study was made of the record of each of 484 farmers enrolled in evening classes taught by student teachers of The Clemson Agricultural College at 12 centers, 1925-26 to 1927-28, inclusive. Records were kept by student teachers on practices around which the instruction centered, showing the practices of each farmer during the years previous to enrollment in evening school, and his practices after attending. Records of each farmer's evening school attendance and of the supervisory visits made to him were kept also.
The 484 case records were checked to determine the changes in practices which each farmer needed to make and the number of the needed changes which were made following the evening class work. From these data the per cent of needed changes put into effect was determined.
Findings: The effectiveness of evening class work as measured in this study varies from year to year. This is shown by the percent of needed changes put into effect as the result of evening schools on different enterprises for different years, as follows:

ENTERPRISES	1925-26	1926-27	1927-28
Cotton—Per cent of needed changes made.....	65.9	41.3	70.5
Corn—Per cent of needed changes made.....	68.6	46.4	59
Oats—Per cent of needed changes made.....	51.7
Poultry—Per cent of needed changes made.....	50
Cover Crops—Per cent of needed changes made.....	84.5

Out of a total of 1,445 changes in practices that needed to be made in connection with the problems studied, 900 or 62.2 per cent were put into effect.

More than one year of evening school work on the same problems was required to get desirable practices generally adopted. In 2 of the 12 evening school centers considered in this study work was given each of the three years, while in 4 of the remaining centers work was given during two years.

2. Bender, Wilbur H.—
Method: The study reviews the development of adult education, using historical sources.

Findings: Progress in the field of adult education was discovered in many parts of the country and in many types of schools. A selected list of 29 references helps to bring up to date (1924) the sources of information on this subject.

3. Brimmer, Clifford Carl—

Method: Four hundred and sixty farmers, 46 per cent of the enrollment in 20 agricultural evening schools, were studied. The 20 evening schools were taken as representative of 93 evening schools held in the territory included in the study. The author attempted to secure information from these farmers to answer the following questions: (1) Is the range in age and schooling and in other respects in our evening schools too great for efficient work? (2) Are evening classes doing a better job than other agencies in reaching the masses of farmers? (3) How do farmers attending evening schools compare with farmers in general? The desired information was secured from the farmers thru questionnaires administered by the local teachers and filled out during the class period. (In some of the schools the number who filled out and returned questionnaires fell as low as 9 to 30 per cent of the class membership, and it has been suggested that in these cases the response may have come from a select group of the more intelligent and more cooperative farmers.)

Findings:

1. The range in age of these evening school members was from 15 to 77. Their median age was 40 years. The first quartile fell at 33 years, the third quartile at 48 years.
2. Fifteen per cent of these evening school members were 25 years old or less.
3. Eighty per cent were farming as owners or tenants. Farm owners made up 41.6 per cent of the total number; tenants, 38.6 per cent.
4. Sixty-nine per cent of these farmers belonged to one or more farmers' organizations (general or specialized, national, state, or local).
5. Fifty-two per cent were members of the Farm Bureau, in comparison with 30 per cent for the same year for the state (Iowa) as a whole.

6. Nine per cent were members of the Farmers Union, in comparison with a statewide average for Iowa of 4 per cent for the same year.

7. Twenty per cent of these men had attended college one or more years; 39 per cent had attended high school one or more years. In Iowa as a whole, 10 per cent of the persons over 18 have attended college and 26 per cent have attended high school.

8. There was a direct relationship (father, brother) between the members of the evening classes and of the all day classes in the case of 32 per cent of the evening class members.

9. Thirty per cent reported that they took part in the discussions often; 50 per cent that they took part occasionally, 20 per cent that they never took part. There were wide variations from school to school in this respect. Persons with the least schooling took the smallest part in discussions.

The author draws the following conclusions:

1. The differences in age, schooling, and general background of these evening school students are too great for the most effective teaching.
2. Something would be gained in homogeneity by splitting off those evening school members 25 years of age or less and putting them in a part-time class. The provision of a separate class for the younger group would probably result also in attracting larger numbers of persons of that age. Persons under 25 years of age are not being reached to the same extent as the older group.

3. Evening classes are reaching large groups of farmers not reached by other agencies of agricultural improvement.
4. Evening classes are reaching a higher percentage of the Farmers Union membership than of the Farm Bureau membership in spite of the supposed opposition of the Union to publicly supported programs of agricultural education.

5. The superiority of these evening school members to farmers generally with respect to schooling and certain other factors may have been due to the imperfect sampling method employed in the evening classes.
6. Attendance at evening classes is not confined as closely as is sometimes alleged to persons related to students in day classes.
7. The efficiency of evening schools could be materially increased by bringing into the class discussion the members who now take little or no part.

4. Brown, Ralph N.—
Method: The various state supervisors were requested to submit a list of agriculture teachers who had conducted evening class work for adult farmers (up to 1925-26). Thirty-four supervisors reported 483 centers.

A questionnaire was sent to each evening class teacher reported. Replies were received from 279 teachers, and 209 of the questionnaires were usable. From the information obtained thru the questionnaires, certain conclusions were drawn which were made the basis of a program for promoting and conducting evening classes in a few rural centers in California. Five centers were selected, and the investigator, with the aid of the

6. Cox, Omar C.—
Method: The author prepared a questionnaire, based upon his analysis of evening school instruction into 10 jobs, in order to secure data showing the methods and practices used by evening school teachers. This questionnaire was sent to 36 successful and to 34 unsuccessful teachers of agricultural evening schools. Supervisors in 20 states had been asked to furnish names and ad-

agriculture teachers in the selected communities, sought to determine further suggestions for promoting the work.

Findings: From the practices followed by the instructors who had carried on 393 evening classes in agriculture throughout the country and from the results of the work conducted in 6 classes in five centers in California, the following recommendations were suggested:

1. The agriculture instructors should determine by means of personal contacts with individuals, as well as by observation, the needs and attitudes of the farmers concerned.
2. The courses should be outlined by the teachers with the help of the farmers who will attend the classes.
3. Instructors should be selected who are familiar with the local farming conditions and qualified to give the instruction. The local agriculture teachers should have charge of the evening class instruction, excepting in very specialized courses for which the local teacher is not well qualified. In such instance, a local farmer should be employed, if available.
4. Enrollment may best be secured by the local teacher thru personal contact with the farmers in the community. Visits may be supplemented by form letters and newspaper announcements.
5. The conference method of teaching, rather than the lecture method, should be used.

5. Brown, Ralph N.—
Method: Some of the data for this study were obtained thru a questionnaire sent to all teachers of vocational agriculture in the United States who were reported by their state supervisors as having conducted part-time or evening classes in agriculture. Other data were gathered by the author in his co-operative work with teachers in California.

Findings: The following conclusions were reached (conclusions on part-time classes omitted):

1. The evening classes in agriculture are not taking the place for which the program was designed. (The data indicated that 76 per cent of the students enrolled in evening classes are over 21 years old.)
2. Greater progress has been made in instructing adult farmers than in teaching boys 14 to 21.
3. The success of the part-time or evening program depends upon the local teacher's ability to analyze the community needs, to provide a program that will meet the needs, and to put the program before the students in an interesting and impressive way.
4. The agriculture teachers who have had experience in conducting evening classes for adult farmers believe that such instruction is a responsibility of the secondary schools.

6. Cox, Omar C.—
Method: The author prepared a questionnaire, based upon his analysis of evening school instruction into 10 jobs, in order to secure data showing the methods and practices used by evening school teachers. This questionnaire was sent to 36 successful and to 34 unsuccessful teachers of agricultural evening schools. Supervisors in 20 states had been asked to furnish names and ad-

were received from 32 of the successful teachers and from 20 of the unsuccessful teachers. The same questionnaire was submitted to 44 instructors in Virginia who had conducted evening classes, and replies were received from 37. After the data secured by the questionnaire had been studied, the available literature had been read and conferences with instructors and agricultural workers had been held, a tentative program for conducting evening classes was formulated. This tentative program was tried out by teachers in Virginia during 1926-27. Observations were made of the results of the tentative plan, and a proposed program for evening school instruction in Virginia and a proposed procedure to be followed by teachers were formulated.

Findings: Contrary to expectation, little variation was found in the methods reported used by successful teachers and those reported used by the unsuccessful teachers. It is concluded that success in evening school instruction depends more upon the efficiency with which methods are carried out than upon using or not using any certain method.

The following recommendations, here presented in somewhat abbreviated form, are made for developing evening classes in Virginia.

1. The needs of a community for evening class instruction should be determined by means of a personal survey.
2. Evening school instruction should be based upon the needs of the community.
3. The local agriculture teacher should have charge of the evening class instruction.
4. The enrollment in evening courses should be secured thru personal visits to the farmers by the instructor.
5. The method of instruction should be the conference procedure.
6. Members of the class should be assisted in applying the principles set forth in the class.
7. Results of the evening school should be measured in terms of:
 - (a) Improved farm practices as a result of the instruction.
 - (b) The members who will attend another course.
8. Provision should be made for evening classes, and the teacher should be given time to devote to this work.
9. Evening school instruction should be recognized as a part of the state program.
10. Every instructor should make a survey of the farmers of his community.
11. The objective of the work should be to reach a definite number of farmers each year for the purpose of rendering specific training for vocational improvement.

7. Crandall, W. G., Ayers, T. L., and Duggan, I. W.—

Method: A study of the activities of two groups of trainees who conducted evening classes in 1927, 1928, and 1929. One group consisted of seniors in training at Clemson Agricultural College who participated in the work during the scholastic year. The other group consisted of employed teachers of vocational agriculture who participated in the work for one month during June and

trainees in neighborhoods located within a radius of 15 miles of the college. The trainees were instructed and supervised in all their activities by the teacher trainers. The procedure used by both groups of trainees was the same and is briefly described in the bulletin.

In this study the authors attempt to measure the efficiency of evening class instruction by yearly changes in farm practice. The amount of ammonia applied yearly to cotton was selected as the practice for investigation. In 11 centers the problem of how much ammonia to apply to cotton was taught for three consecutive years.

1. A study was made of the record of practices of farmers in each of the 11 communities, to discover any changes made in the amount of ammonia applied following the evening class instruction.

2. In order to show to what extent the improvement in the practice of applying ammonia to cotton was due to evening class instruction, four centers were selected as check centers. These centers were adjacent to and lying on three sides of the area in which the evening school instruction was given. An effort was made to select check centers typical of the 11 centers in which evening class work was offered. No organized evening class instruction had been offered in the check centers. Records of the number of acres of cotton planted and the number of pounds of ammonia applied per acre were collected from 95 farmers in 1928 and from 117 farmers in 1929 in the check centers, and a comparison was made with similar data collected from the farmers in the 11 centers where evening classes were held.

3. To evaluate the increase in the amount of ammonia applied per acre, by farmers attending the evening classes, in terms of increased yield of cotton per acre the authors made use of data from the South Carolina Experiment Station. This station, thru a number of years, ran a series of experiments to determine the increase in yield of cotton as the result of the application of varying amounts of ammonia. Using the average of the increase secured during the series of years by the application of a given amount of ammonia as shown by these experiments, the authors arrived at an estimate of the amount of increase in yield of cotton secured by evening class members.

4. The decrease in the number of farmers who needed to apply more ammonia from year to year as well as the decrease in the acreage to which more ammonia should be applied was also taken as a measure of the effectiveness of the evening classes. If a farmer was using less than 24 pounds of ammonia per acre it was considered that he needed to apply more. Records were kept by the trainees to show the number of farmers who needed to apply more ammonia each year as well as the acreage on which increased application was needed. These records were compared with corresponding records for the check centers.

5. Records were kept showing the enrollment and attendance at each evening class center and the time and travel required by trainees in doing the field work necessary in connection with the evening classes. A study was made of

amount of time and travel was excessive for the number of individuals served.

Findings: 1. There was a gradual increase each year in the average number of pounds of ammonia applied to cotton in the centers where evening class instruction was held.

2. In 1929 farmers in the communities where evening classes had been taught for three consecutive years applied 29 pounds of ammonia per acre, while farmers of the check group applied 19 pounds per acre.

3. The 601 farmers in the eleven centers where evening class instruction was offered grew 14,000 acres of cotton in 1929. Experiment station results show that 29 pounds of ammonia per acre will give an increased yield of approximately 100 pounds of seed cotton over the yield expected from 19 pounds per acre. On this basis the 601 farmers in the eleven centers increased their production of cotton approximately 1,000 bales as a result of evening school instruction.

4. In 1926, 90 per cent of the farmers in the eleven communities selected for evening school work needed to apply more ammonia to their cotton. In 1929, after three years of evening class instruction, only 19 per cent of these farmers needed to apply more ammonia to cotton. Sixty-seven per cent of the farmers in the check areas where no evening classes were held needed to apply more ammonia at the close of the 1929 season.

5. From the study of enrollment and attendance and the time and expense of travel, the conclusion was reached that for the results obtained thru the evening class instruction the expense in time and travel was not excessive.

6. The last section of the bulletin outlines a comprehensive program of evening class instruction for vocational teachers in the Piedmont Section of South Carolina.

8. Dean, Clarence Exavior—

Method: Two types of questionnaire were prepared, one to be filled out by teachers of evening classes and the other to be filled out by members of the classes. Thru the data secured by these questionnaires the author hoped to determine what enterprises should be considered in a program of work for an evening class and what results should be obtained when the program of work has been completed. He also desired to collect information regarding evening school practices of experienced and successful teachers, as a guide to the less experienced and less successful teachers.

The teacher and three evening school members in each of 16 schools in North Carolina, South Carolina, and Virginia assisted in the study. The teachers cooperating were selected by their supervisors as the most successful teachers of evening classes in the negro schools of their states.

Findings:

1. Most of the classes conducted were in farm crops and animal husbandry.
2. The average enrollment in these evening classes was 16.
3. The subjects taken up in evening classes were most commonly chosen as a result of conferences with individual farmers.

4. Evening classes were most commonly started in January or February.

5. About 60 per cent of the teachers found that their evening class members objected to keeping records. About 40 per cent did not try to use the state record book provided for evening class use.

6. Ninety-seven per cent of the teachers used the school building for their evening class meetings.

7. Approximately 80 per cent of the evening school members attended all of the class meetings.

8. Nearly all of the evening class members used two to five new practices as a result of instruction.

9. Most of the teachers used specialist help from the state college in conducting their evening classes.

9. Fleenor, Beatty H.—

Method: A study of evening school procedures by means of personal visitation to such schools, and conferences with teachers and those enrolled was made. In addition, a printed questionnaire of great detail was mailed to all teachers of 21 selected states (762 in all) in order that actual conditions might be checked. Complete returns were secured from 518 evening school teachers.

Findings: The author draws the following conclusions from this study:

1. Agricultural evening schools are meeting the vocational needs of farmers.

2. The evening school teacher has a solid background of rural life experience, and is well trained for his work. He is in the prime of life in age. He receives a reasonable salary.

3. It is necessary to make a definite survey of the community in order to determine the needs of farmers—personal visits and contacts with "key farmers" are the best means of securing interest. Newspaper publicity should be used.

4. Only the more successful teachers should attempt more than one evening school annually.

5. In the most successful evening schools, records show that four-fifths of the students attend all meetings of the class.

6. In teaching evening classes, the instructor should make use of results of all-day class work and significant data from the local community and college experiment stations.

7. Student agreement should be secured for carrying out improved practices as studied in the evening course.

8. Whenever suitable, demonstrations should be held at the farms of class members as a means of teaching more effectively.

9. Farmers should keep complete records of improved practices carried out.

10. Evening school teachers should be given adequate time in which to supervise the evening students' practice work.

11. Teachers unable to arouse interest or secure the adoption of approved practices should be given special help by state supervisors or teacher trainers.

12. The choice of subject for the evening course should be determined by the farmers and the teacher together.

13. If convenient, the vocational classroom is the best location for the evening school meetings; otherwise, the rural school is most satisfactory.

14. The territory covered by the evening school group should not be so

great as to make proper supervision too difficult.

15. A formal evening school organization is not necessary, though a secretary is often helpful.

16. Teachers should not be expected to meet evening school expenses personally.

17. The serving of food at meetings depends upon local conditions. Many teachers close the evening school with a banquet, picnic, or similar event.

18. The limited use of appropriate forms of entertainment is helpful, particularly so at the last meeting.

19. The best results are secured with an enrollment of 30 or less.

20. The school should ordinarily be held during the farmers' dull session.

21. The conference method of teaching is the most effective.

22. The successful teacher must have 60 per cent or more of the students actually participating in class discussion.

23. Good teaching methods are absolutely essential. The use of local results, tours, farm demonstrations, and visual aids are important in securing the adoption of approved practices.

10. Jacobs, Volna Gustavus—

Method: The author made an investigation of the entire correspondence, 2,500 letters, received by the Iowa Agricultural Experiment Station during 1930. This investigation was for the purpose of determining the nature and number of inquiries received by the farm crops section of the experiment station during one year, and the geographical and seasonal distribution of these inquiries.

There were found 690 letters that had been written to the farm crops section by Iowa farmers during the year. These letters were analyzed, and 1,465 specific requests for information taken from them were tabulated and classified. A questionnaire asking for such information as age, years of farm experience, and years of schooling was prepared and sent to the farmers who made these inquiries. Returns were received from 259 farmers. The offerings in farm crops in 79 Iowa agricultural evening schools were compared with the items regarding which Iowa farmers had sought information from the experiment station, to establish a new approach to the construction of Iowa agricultural evening school courses.

Findings:

1. Twenty-seven per cent of the 1,465 inquiries dealt with facts considered by the farm crops section to be matters of common knowledge. This indicates that care must be taken that such matters are not overlooked in agricultural evening school teaching.

2. The largest number of inquiries was received regarding the following enterprises:

(a) Corn..... 229 (c) Alfalfa... 151
(b) Sweet (d) Soy Beans 146
Clover... 181 (e) Oats..... 107

3. The following facts were gleaned regarding the farmers who had written to the farm crops section during 1930.

(a) They ranged in age from 15 to 82, their median age being 41.

(b) Their farm experience ranged from 1 to 60 years, with a median of 13 years.

(c) Their median years of schooling was 10.3.

12. Knight, F. K.—

Method: For three consecutive years an evening class was taught at Crescent City (Florida) on the improved practices connected with fertilization and cultivation of citrus groves. A personal survey was made each of the three years, to de-

(d) Only 12 per cent had studied vocational agriculture in high school.

(e) Sixty per cent were members of a general farmers' organization.

4. Twenty-one percent of the letters were received in February, the high month. Fifty-two per cent of them were received in three months: January, February, and March. The smallest percentage, 2.8 per cent, came in May. These facts indicate that our agricultural evening schools are being held at the time of year when farmers are most in need of the information which the schools are intended to supply.

5. It appears that more attention might be given to farm crops in Iowa evening schools. In 1930, only 12 of 79 such schools dealt with farm crops even in part. In the courses it appears that major consideration should be given to legumes, since nearly one-half of the inquiries regarding farm crops concerned legumes. Many questions commonly raised by farmers in their correspondence with the experiment station were not treated at all in the courses in farm crops offered in Iowa in 1930.

6. A list of questions compiled in connection with the study is helpful, along with other curriculum-making aids, in determining what to include in agricultural evening schools, particularly since the state is relatively homogeneous agriculturally.

11. Johnson, Alex R.—

Method: Information as to organization and instruction of evening classes was obtained by means of a questionnaire, sent to 162 teachers of agriculture in the Southern Region who had conducted such classes.

Data on the results of an evening class were secured by using the Lake Mary community for a case study. A personal survey was made of 100 farms, and the poultry practices being followed were recorded. After the evening class had been taught and the members had been assisted with their supervised practice, a second survey of the same farms was made. Forty farmers from the 100 farms surveyed were enrolled.

Findings:

1. Personal visits, mailed notices, and telephone calls, in the order named, are the most effective means of securing members for an evening class.

2. The majority of the teachers of evening classes in poultry use the conference method of instruction.

3. Results secured by the case study at Lake Mary, measured by changed practices, indicate that evening classes are effective as shown by the following:

(a) Farmers attending the class made on the average five changes in poultry practices.

(b) Members of the class added on the average, two new practices.

(c) Farmers in the community who did not attend the class added no new practices and changed or improved only one practice on the average.

to obtain the per box cost of production. The survey included 100 farms, approximately one-half of the farmers being members of the evening class. The farms selected were as near equal in size, type of soil, experience of the farmer, and age of trees as was possible to obtain.

Findings:

1. Growers attending the evening class changed from the practice of purchasing mixed fertilizer materials to that of securing separate materials, thereby saving on their per box fertilizer costs.

2. Growers attending the class changed from the practice of clean cultivation to that of mowing the groves, saving on the per box cost for cultivation.

3. During each of the three years, there was little difference in the yield secured by the group of growers who attended the evening class and by those who did not attend.

4. Each group received approximately the same price per box for the fruit over the three-year period.

5. During each of the three years, growers attending the class produced fruit at a lower cost per box than the growers not in attendance.

6. The growers attending the class made a greater net profit per box each year than the group not attending the class.

13. McClarren, Howard—

Method: Thru a study of the literature dealing with adult education and thru observation and study of evening instruction in agriculture, the author has developed this thesis under the following chapter titles: The Development of Adult Education; The Aims and Objectives of General Education and the Relationship to Those of Vocational Education in Agriculture; Evening Class Instruction under the Smith-Hughes Act; Methods of Organizing and Conducting Evening Classes in Vocational Agriculture; and Suggestions for the Improvement of Instruction of Evening Classes in Vocational Agriculture.

Findings: Among the various organizations and groups which have contributed to the development of the adult education movement are the Lyceum, Y. W. C. A., Y. M. C. A., chautauqua, libraries, university extension schools, agricultural extension under federal aid, the Farm Bureau, the Grange, and organized evening class instruction under the Smith-Hughes Act.

The objectives of education accepted in this study are: to foster an ever-expanding social outlook and to develop the intellectual, aesthetic, and practical interests of the individual. The idea that vocational education can well accept more seriously these objectives of general education and can profit by their application is emphasized.

Instruction of adults in evening classes in vocational agriculture is based upon a sound educational philosophy because the social, intellectual, and aesthetic objectives in education are all involved in evening class instruction.

Any evening class program which does not consider all of these objectives falls short of the best educational procedure.

Methods of instruction in evening class work are discussed: (1) the lecture method, (2) the instruction method, (3) the conference method. The lecture method has been decidedly overworked. It cannot, however, be entirely discarded. The instruction method is of considerable value especially when a new operation or managerial practice must be learned. The conference method offers the best means for bringing about constructive thinking by the members of the class. In all these methods place should be given for demonstrations and experiments as devices in instruction. These methods offer a satisfactory means of promoting the learning procedure, but in present practice they fall short of contributing fully to the democratic ideal in education, due to the failure of their users to reach beyond the utilitarian viewpoint.

The following suggestions are offered for the improvement of evening class instruction: more definite training of teachers who will do evening class teaching; more careful and accurate use of the community survey in determining the courses and subjects to be discussed; development of the conference procedure; capitalizing on the possibilities for supervised farm practices as a means of making the instruction function in the lives of the members of the group.

14. Mobley, M. D.—

Method: Two communities in which evening school instruction was given entirely by the teacher of vocational agriculture with the aid of persons preparing to teach were selected for study. At each center the enterprise studied was cotton, and ten 90-minute class meetings were held. For four years previous to this study no extension or other organized agricultural work had been conducted in the county in which the centers selected for study were located. By means of surveys an attempt was made to answer the following questions:

1. What farmers attend evening classes?

2. To what extent do class members change practices subsequent to instruction?

3. Do class members actually use the practices they propose to use?

4. How do practices change by different groups of evening school members compare as to net returns?

5. Are the methods of evening class work in Georgia effective?

Findings: The study shows that none of the following are significant factors of selection for evening school instruction: age of adult farmers; farm ownership or tenancy; size of farm operated; and level of education of the individual. It was found that farmers who attended the evening classes lived within three or four miles from the meeting point. It is suggested that the distance farmers will go to evening schools is influenced by condition of roads, area served by regular day school, and the social area, but that the distance the farmer lives from the center where the evening class is held is apparently a significant factor of selection of class members.

The desire to get higher net returns was found to be the principal incentive for evening school members to make changes in practices. The total monetary value of all changes made by the farmers

included in this study was computed to be \$21,741. It was found easier to get farmers to modify practices that they are already using than to get them to adopt entirely new practices. The per cent of the members who made needed changes in practices varied with the practice. For example, 86.4 per cent of those who needed to change the amount of ammonia used per acre made the change, while only 57.8 percent of those needing to change the amount of potash used made that change.

The study shows that a large per cent of the class members did not use certain improved practices that they proposed to use, indicating that proposed practices cannot be used as a basis for evaluating changes in practice of evening school members.

A comparison of the number of changes in practice made by members of different groups shows that there is practically no difference in the number of desirable changes made by tenants and by owners, or between the number made by operators of large farms and by operators of small farms. A rather marked difference was found, however, between the number of farmers in the higher educational group who made desirable changes and the number in the lower educational group who made changes. Of the group whose academic training was sixth grade and below, 54 per cent made desirable changes, while 74.4 per cent of the group with training from the seventh grade up made desirable changes. It was also found that 78.9 per cent of the group 21 to 30 years old made desirable changes, as compared with 37.5 per cent of the group 61 to 70 years old.

As indications that the methods of instruction were effective the author notes that: (1) there was continued attendance of the same class members as long as the instruction was given, (2) a large per cent of the class members changed practices subsequent to instruction, and (3) farmers asked for instruction of a similar nature the following year.

15. Shields, Norwood Rarason—

Method: An extensive blank requested information such as acreage and yield of crops and number of animals, and information concerning practices now employed in feeding and housing livestock and in growing crops. This blank was used by the author as the basis of interviews with 43 negro farmers living on farms near Wilberforce. Data gathered in these interviews show scope of enterprises and present practices. These practices were contrasted with those recommended by the Ohio Experiment Station and the Ohio Extension Service, and from the variation noted, problems were raised which might be used as the basis of evening courses in the following enterprises: hogs, permanent pastures, corn, oats, wheat, dairy cattle, poultry, and rotation pastures.

Findings: The number of problems raised in each enterprise varied from 12 to 18, with the exception that only 4 problems were raised concerning the permanent-pasture enterprise. The list of problems raised in connection with the corn enterprise is given here and will serve as an example of the lists developed in the other enterprises.

Problems Arising from the Survey of the Corn Enterprise.

1. What losses of local farmers can be avoided?

2. What varieties of corn are best adapted to this community?

3. What should be the rotation in planning a cropping system for a farm with given live-stock data?

4. What method of selecting seed corn shall be used to insure a crop that will mature?

5. Determine a seed corn management program of approved worth.

6. Have cover crops or rotations that cover the soil in winter any advantages?

7. Are there any advantages in testing corn?

8. What fertilizers will supply the food requirements of corn?

9. Can fertilizers be bought cooperatively to advantage?

10. What records should be kept?

11. What are the best methods of controlling insects, diseases, and other enemies of corn?

12. Are any benefits derived from cross-harrowing and intertillage?

13. Are the advantages derived from building a silo always worth the cost?

14. Does it pay to harvest with live-stock?

15. What are the best methods of cutting, curing, and handling corn fodder and stover?

16. What are the best methods of harvesting ear corn?

17. Would you market or feed your corn?

16. Umstaddt, James G.—

Method: Questionnaires were sent to state supervisors and to vocational teachers successful in conducting short courses for adult farmers.

Findings: The following statements briefly summarize the conclusions drawn by the author.

1. The course should be given by the local teacher of vocational agriculture and should be especially offered for adult farmers, both men and women.

2. Demonstration should be the chief means of interesting persons in the course, the use of all-day students being especially desirable.

3. The farmers' "dull season" is the best time to offer such a course.

4. The subject matter should be chosen by the teacher on the basis of community needs.

5. The course should be confined to one important phase of farming.

6. The most common name given to such meetings is "Evening Class," and the most common length is 12 weeks.

7. The course should be held either in the high school or a rural school, depending upon the convenience of the group.

8. Meetings may best be held in the evenings, and once a week.

9. The best method of instruction is the "socialized recitation" or informal discussion.

10. Much use should be made of charts, blackboard, and illustrative material in general.

11. Personal farm visits are the best means of maintaining interest.

12. Projects cannot be forced upon farmers but should be encouraged.

13. Projects should include the com-

mercial cycle of the products chosen, but preferably the life cycle.

14. Supervision should consist of farm visitation for the purpose of encouragement and assistance.

15. Results may be expected in improved community spirit, better regard for cooperation, recognition or value of vocational agriculture, and increased efficiency in farming.

THE field of evening school instruction in agriculture is exceptionally broad, offering many distinct problems worthy of study, but as shown by the preceding list only 16 studies were reported as completed. Some of these studies deal quite largely with the history of evening school work, while others deal entirely with one or two specific problems. The result of this small number of studies, together with the wide variation in type, is that some studies have practically no problems in common with others, and the number of problems dealt with in common is quite limited.

The following are some of the important problems dealt with in studies received:

1. Discovering the need for evening class instruction.

2. Selecting the place for holding classes.

3. Interesting farmers and securing attendance.

4. Deciding on the course to be given.

5. Methods of instruction most effective in evening school work.

6. Measuring the efficiency of evening school instruction.

I. Discovering the needs for evening school work.

A number of the studies deal with this problem, tho some touch it more or less incidentally. Emphasis is placed on the importance of the teacher's making a personal survey of the prospective evening school community to discover the actual practices of the farmers and the need for improvement.

Ayers found 1,445 changes in practices that needed to be made by farmers surveyed, before evening schools were started in the communities studied. Johnson and Knight each report that 100 farms were surveyed before evening classes were started. The bulletin by Crandall, Ayers, and Duggan shows emphatically the importance of discovering the practices that need to be changed by individual farmers, before evening school instruction is started.

Brown, Cox, Fleenor, and McClarren all emphasize the importance of a personal survey to determine the need for evening school instruction.

Jacobs shows how questions asked by farmers in letters to the experiment station may be used as aids in determining needs; and Crandall, Ayers, and Duggan make similar use of questions asked by farmers during personal visits.

II. Selecting the center for holding classes.

The selection of a meeting place easily accessible to the members of the group that the evening school is intended to serve is an important factor of success. While the distance that farmers will travel to attend evening meetings will no doubt vary with the conditions found in different communities, there is undoubtedly in every case a rather definite

boundary beyond which regular attendance cannot be expected.

Mobley found that all members of the two evening school groups studied lived within a radius of 3 or 4 miles from the meeting place.

The selection of a building suitable for holding the evening class meeting is also important. Fleenor found the vocational classroom, if within convenient reach of the members of the class, to be the best place for the meetings. He names as second choice the rural school house. Umstaddt says the course should be held either at the high school or at a rural school, depending on the convenience of the group.

III. Interesting farmers and securing attendance.

Interest is the principal factor that must be relied upon for securing and maintaining evening school attendance. Nothing can compel adult farmers to attend evening school, and it does not seem reasonable to think that a sense of duty or of community pride could in many instances be sufficiently great to cause regular attendance. The greatest factor of interest for the practical farmer is the desire for increased returns. The evening school teacher should keep this factor constantly in mind.

Mobley says the desire to get higher net returns was found to be the principal incentive in getting farmers to make changes in practices. The farm survey, suggested in a number of studies as the means to be used in determining the need for evening school instruction, should at the same time afford the teacher opportunity to discover the special interests of the individual farmers. Personal visitation as the most important means of securing attendance at evening school is stressed by Cox, Fleenor, and Umstaddt. In addition to personal visitation as a means of securing attendance, several writers suggest the use of the telephone, post cards, and newspaper publicity; and Fleenor mentions contact with "key farmers" as one of the best means.

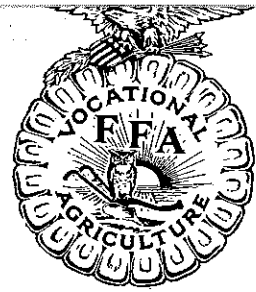
IV. Deciding on the course to be given.

If attendance and interest are to be maintained, it is essential that the content of the course shall meet the needs of the members of the evening school group in a very definite way. A study of these needs, as shown by the survey, should give the teacher rather definite ideas as to what the content of the course should be. Suggestions from farmers who will attend the evening school should be taken into consideration by the teacher before making the final decision as to content of the course.

The importance of cooperation between the teacher and the members of the group in deciding on the content of the course is brought out by Dean and Fleenor.

The study by Jacobs would seem to indicate that, in some cases, the content of evening school courses has not fully met the needs of the farmer group. He found that 1,465 inquiries concerning problems in connection with farm crops were received by the Iowa Experiment Station in 1930, and that during the same year, out of 73 evening schools only 12 dealt with farm crops.

(Continued on page 32)



Future Farmers of America



The Future Farmers' Opportunity

(Extracts from the address of L. J. Taber, Master, The National Grange, at the Dedication of Future Farmers of America Room at Monticello, Virginia, Home of Thomas Jefferson, Flag Day, June 14, 1933.)

A FLAG Day Program is always inspiring, but when combined with an agricultural ceremony, under the auspices of the Future Farmers of America, and at Monticello, it becomes significant and historic.

Thomas Jefferson believed in the necessity, the dignity, and the nobility of rural life. He recognized that no nation could continue to prosper with a decadent agriculture. It was his belief that as high a type of citizenship could be developed in the rural as in the urban areas.

Jefferson, along with Washington, Adams, Madison, Hamilton, and others gave form and character to our government. It was largely from this shrine, however, that liberty in the new world received the breath of life. The great statesman in whose home we today dedicate a room to the Future Farmers of America, believed that liberty could only be protected by a government providing checks and balances against dictatorial power on the one hand, and mob authority on the other. We dare not forget that our forefathers, in the great struggle that was theirs, provided a government of stability. They not only secured, but defended and preserved liberty thru governmental authority.

From this fountain we can today draw agricultural wisdom. One of the greatest accomplishments in the history of the world was the on-rush of pioneer agriculture across the continent. The farmers of Jefferson's day, their sons and grandsons, pushed westward 3,000 miles, subdued a wilderness, conquered distance, and flung our national territory from ocean to ocean. Our pioneer agriculture, its resistless energy, its increasing production, its utilization of prairie and forest, were after all, the glory of the nation. It made history, it developed America, and gave our nation not only the food and fiber and raw material, but the necessary trade balance to lay railroads, dig canals, and build cities. The agricultural expansion of the

past was essential to the progress of the presents.

Just as the unorganized, expanding colonies, with their conflicting interests and ideals, required a national government to preserve liberty, so the new challenge of the farmers of the present and of the future is to plan for agriculture as these leaders did for national government. Agricultural exploitation, haphazard expansion, and high-pressure methods, should be history. We are emerging into the new area of balanced and guided agriculture. Just as checks and balances are essential in our national government, so they may be needed in the rural life of tomorrow. While we pause to dedicate a room in the old home of a great leader, we must rededicate ourselves to the new and more difficult problem of guided and directed rural life.

Your organization has chosen wisely in selecting Washington and Jefferson as its "patron saints." Their ideals can ever be emulated; but just as they blazed a new trail and turned their backs on the dying institutions of the past, so we must have the courage to lead in a program that will give a better and a happier rural civilization to the land we love. New occasions teach new duties; so must we develop a trained rural youth, with the character, the courage, the knowledge and the vision to help build this better rural life thru the agencies of Education, Organization, and Cooperation. You can help lay the foundation for the balanced and guided rural civilization of the generations yet to come.

On this Flag Day, let us remember that since our ensign caught the invigorating breeze of America, civilization, science, invention, and material progress have made greater development

than during the centuries that preceded this period. As long as we can keep alive in the youth of our land the love of liberty, the demand for justice, the belief in equality of opportunity and reward, the moral and spiritual and patriotic idealism of those we today recognize—so long our land is secure.

To the rural youth making up the great army of the Future Farmers of America is the responsibility of utilizing your organization for the good of agriculture. Vocational education will continue as one of the mainsprings of rural progress. Your challenge is not only to preserve liberty, but to increase the opportunities of those who live in rural America by building a just program of production and distribution.

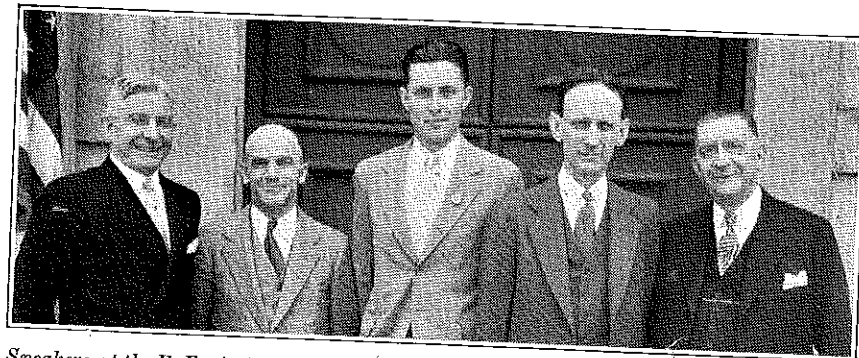
As you retrace your steps from the home of the author of the Declaration of Independence and a framer of our national life, may you have a new conception and a new love for the flag of our country. May you go back to your homes determined to make your star in the field of blue a better part of our great Union. May you realize anew the relation of good government to national and community welfare; and lastly, may you catch the inspiration of the dignity, the necessity, and the usefulness of rural life. May you feel yourselves not only followers of Washington and Jefferson in the fields of agricultural progress, but partners as well in carrying out the divine plan.

Utah Boy Wins Western Regional F. F. A. Public Speaking Contest

Raymond N. Malouf of Richfield, Utah, won the Fourth Annual F. F. A. Public-Speaking Contest of the eleven states in the Pacific Region in Salt Lake City on Friday night, June 16. Mr. Malouf's subject was: "Leadership—The Demanding Need of Agriculture."

For the first time in the history of these western regional contests, each of the 11 states of the Pacific Region had a boy entered to compete in the contest.

Jay J. Bonnet of Ripon, Calif., won second place in the contest and spoke on: "Equalization of Taxes as a Farm Relief Measure."



Speakers at the F. F. A. Pilgrimage, June 14. Left to right: L. J. Taber, Master, National Grange; W. Harry King, Agricultural Member, Federal Board for Vocational Education; Vernon Howell, President, Future Farmers of America; Chester H. Gray, Washington Representative of the American Farm Bureau Federation; Stuart Gibboney, President of Thomas Jefferson Memorial Foundation. (We are indebted to the Virginia State Chamber of Commerce for this picture.)

The F. F. A. Pilgrimage

Vernon Howell, National President, Future Farmers of America

AT THE Fifth National Convention of the Future Farmers of America, held in November at Kansas City, Missouri, the delegates voted unanimously to accept the invitation of the Thomas Jefferson Memorial Foundation to dedicate a room in Monticello, Jefferson's home, unto the ideals of the Future Farmers of America.

On June 12, 1933, over 1,000 Future Farmers of America gathered in Washington, D. C., on an educational, recreational, and inspirational Pilgrimage, to pay tribute primarily to Thomas Jefferson, one of the two patron saints of the organization. After registering at the Auditorium, the entire assembly marched to the White House, where they were greeted and made a talk by Franklin D. Roosevelt, President of the United States of America. Mount Vernon, home of George Washington, was visited in the afternoon, and a wreath was placed on his tomb. Arlington Cemetery, Alexandria, Virginia, and other points of historical interest were also visited. An evening of entertainment was provided at Glen Echo Amusement Park. The regular monthly F. F. A. Broadcast over the N.B.C. hookup was made at 12:30 to 1:30 p.m.

June 13 was spent in the Capitol City. Boys had an opportunity to call and pay their respects to the congressmen and senators. The National Capitol, the new and old museums, Washington Monument, Lincoln Memorial, and many other interesting parts of the National Capital were visited. The Senate and the House of Representatives were in session, and the F. F. A. Boys saw them in action.

On Flag Day, June 14, came the high

light of the entire Pilgrimage. A motorcade of F. F. A. boys drove from Washington to Charlottesville, Virginia, to pay tribute to Thomas Jefferson, the scientific farmer. At 11 o'clock a delicious barbecue was served to approximately 1,500 Future Farmers and their friends. At 12:30 o'clock the boys gathered at the Amphitheater of the University of Virginia, for a delightful program. Thirty minutes of this program was broadcast over the N.B.C. network. Speakers included Dean Armistead Dobie, of the University of Virginia; Stuart G. Gibboney, of the Thomas Jefferson Memorial Foundation; Chester A. Gray, of the Farm Bureau; L. J. Taber, Master of the National Grange; and Harry W. King, Member of the Federal Board for Vocational Education.

After winding up the hill to Monticello, a special flag ceremony was given in which boys from 36 states and Hawaii participated. A Future Farmer plaque was hung in the South Sun Room, this being the room which was dedicated to the F. F. A. ideals.

Ashlawn, home of James Monroe, was visited and a wreath was placed at his statue.

From Ashlawn the boys dispersed, and the Future Farmer Pilgrimage was ended.

The young farmers of America who attended the Pilgrimage, and those at home who were unable to attend, received an inspiration and have a new faith and a new vision. A clearer conception of the Future Farmer organization, its aims and purposes, was carried to every part of the nation and the Hawaiian Islands by those in attendance.

Those who aided in the making of the Pilgrimage possible and successful are to be publicly thanked.

Iowa Corn at the F. F. A. Pilgrimage

CORN was selected as the most representative agricultural product of Iowa, since the state in 1932 produced 540 million bushels which is nearly 40 per cent greater than the next ranking corn state and 19 percent of the total crop of the United States.

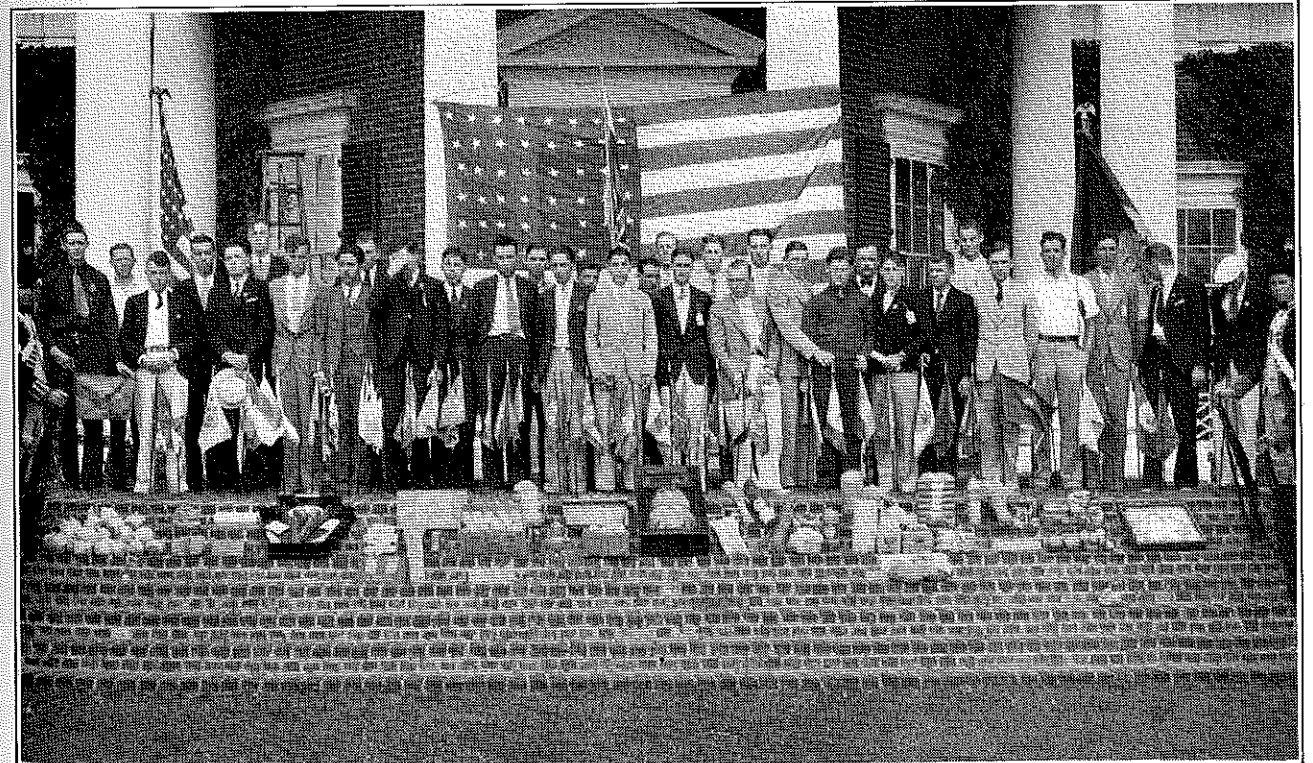
This sample of hybrid corn also represents the most advanced corn breeding methods in use at the present time, and is one of the strains which Mr. Henry A. Wallace was responsible for developing. It was supplied for use in the F. F. A. ceremonies at Monticello, June 14, thru the courtesy of Mr. John P. Wallace, uncle of Henry A. Wallace.

The story of Mr. Wallace's interest in corn improvement goes back to his early teens when he learned his first important lesson about seed corn. He had been eagerly studying corn, observing its habits, and trying to improve it by ordinary selection. One fall there was a large, old-time corn show held in Des Moines, Iowa. When the ten best ears had been given the blue ribbon, young Henry was handed these ears for experimental purposes.

"One row in his field was planted from each of the ears the next spring. During the summer this plot was carefully tended and in the fall was harvested and weighed by Henry himself. To his surprise, he found that the prize winning ears had produced some extremely poor corn in some instances, and most of it was only mediocre.

"This experience gave him a lasting distrust of 'ear looks' as a measure of yielding ability.

"As he grew a little older, 'H. A.' became interested in the 'ear to the row' method of seed corn improvement and



Following the "Building of the Flag" ceremony, on the steps of Monticello, June 14. Official representatives from the various states with their state flags and products after the stars had been built into the national flag. (Picture presented to this magazine by the Virginia State Chamber of Commerce.)

of improvement were reached by these methods.

"About seventeen years ago, Henry Wallace became interested in the hybrid method of improving corn. The almost unlimited possibilities of this method appealed to him greatly.

"Starting in his garden he made hundreds of self-pollinations on corn. He kept careful records of the habits of each self-pollinated corn or inbred. Then when he had produced enough inbreds, he started crossing them. Many inbreds and many crosses were no good, but after a while there were some very outstanding ones.

"Finally, ten years ago, Wallace crosses were entered in the Iowa Corn Yield Test. Soon they began to win the Banner Trophy for the highest yielding corn year after year.

"Today, every Experiment Station in the corn belt is working on hybrid corn. The Hi-Bred Corn Company, being the largest producer of commercial hybrids, has an extensive program of cooperation with these stations, and by pooling our experimental discoveries, there undoubtedly will be almost unbelievable improvements in corn in the next ten years."

Summary of Studies in Evening School Instruction

(Continued from page 29)

V. Methods of teaching most effective in evening school work.

In deciding on the methods to be used in teaching any group of individuals, consideration must be given, not only to the types of information it is desired to impart, but also to the age, experience, and previous training of the members of the group. With these points in mind, it is evident that methods used in evening school instruction should vary from those used in all-day work. In several of the studies summarized, method of instruction is specifically mentioned, and in each case the conference procedure is emphasized as best adopted to evening school instruction in agriculture. This procedure avoids much of the classroom atmosphere which may easily become irksome to adult farmers.

McClarren states that the conference method of procedure offers the best means for bringing about constructive thinking on the part of the members of the class. He also emphasizes the value of demonstrations and experiments as devices to be used in evening school instruction.

Umstatted, writing in 1924, states that the best method of evening school instruction is the socialized recitation or informal discussion.

Johnson reports, from a study of the data secured thru questionnaires sent to 162 teachers of evening classes, that the majority of the teachers of evening classes in poultry used the conference method of instruction.

Brown, Cox, and Fleenor emphasized the use of the conference method.

VI. Measuring the efficiency of evening school instruction.

If evening school instruction is to justify itself, concrete evidence of worthwhile results must be shown. This neces-

sary and adoption of standards by which to measure the results and of methods of applying these standards.

The studies by Ayers, Johnson, Knight, and Mobley, and the bulletin by Crandall, Ayers, and Duggan deal with this problem specifically, and in each case change in practice is used as the standard for measuring the efficiency of the evening school instruction. It is shown by the studies that there must be careful surveys before and after evening class instruction, in order that actual changes in practices may be determined, and that there should be similar surveys in communities not having evening schools, for the purpose of checking.

Mobley found that a large part of the members of the evening classes studied did not use certain improved practices that they proposed to use, and he points out that proposed change in practice cannot be used as a basis for evaluating evening class instruction.

Ayers describes the procedure in first determining the practices of individual farmers that needed to be changed, then following evening school instruction by a determination of the number of changes made. He followed the same group of farmers thru three successive years of evening class instruction on the same enterprise, and recorded the per cent of needed changes made each year. He found the per cent of needed changes made to vary from 41.3 to 84.5.

A plan for determining the per cent of needed changes made, similar to that used by Ayers in his study, is described in some detail by Crandall, Ayers, and Duggan in their bulletin. The authors of the bulletin, however, in addition to discovering the per cent of needed changes made, describe a plan whereby they were able to actually evaluate the changes made in terms of increased production thru the use of experiment station data and records obtained in surveys of check communities where no evening schools were held.

Johnson in his study of evening classes in poultry production made surveys of 100 farmers of whom 40 attended evening class. The changes in practice made by those who attended the class were checked against those made by farmers who did not attend.

Knight during three consecutive years made surveys of a group of 100 citrus farmers, approximately one-half of whom attended evening school. He compared the changes in practice made by farmers who attended evening class with the changes made by the farmers who did not attend. He also compared the cost of production of fruit by those who attended the evening class with the cost by those who did not attend, and found that farmers who attended the evening class produced fruit at less cost per box than did those who did not attend. By means of the results secured thru these two comparisons he was able to show the actual value of the improved practices that resulted from the evening class instruction.

Need for Studies

Need for additional studies in evening school instruction is evident.

Some of the most helpful studies reported have been made under certain quite local and rather specialized farming conditions, and yet the problems studied enter into evening school instruction in any farming section. Further studies of these same problems made in different sections of the country, under different farming conditions, and with evening groups studying various farm enterprises would be valuable. There is also need for studies on problems that have not so far been dealt with. It would seem that among those studies that will be of most value in the future may be those that are planned for making actual measurement of results. An accumulation of evidence that any certain practice is used extensively may be an indication of the correctness of the practice, but the measurement of the results of the practice by checking against results where the practice is not used is much more conclusive.

Some studies that it seems would be of value are:

1. Studies to determine the per cent of regularity of attendance in evening schools where general invitation is depended upon to secure attendance, as compared with the per cent of attendance where a careful survey has been made and a course planned to meet the needs of a definite group.
2. Studies of the results of evening schools held in areas of poor-land farming as compared with results of those held in areas of good-land farming.
3. Studies of the results of evening schools held in specialized-farming areas as compared with results in general-farming areas.
4. Further studies to determine to what extent the content of evening school courses meets farmer needs.
5. Studies to determine the results of giving evening school instruction on a seasonal basis.
6. A study of the personnel of evening classes, making comparison between classes held in areas where there is part-time work and where there is none.
7. Some excellent studies dealing with the evaluation of the results of evening class instruction have been reported, but there is room for more studies of this nature.

Summer Activities for Future Farmers

Percy A. Lemoine, Effie, La.

DURING the summer months it is hard to get a quorum to hold meetings unless something worthwhile is offered to get every member out.

We have been holding meetings twice a month with good attendance. At each meeting we do or take up one of the following in connection with the meeting: keeping record books up to date, project tours, mixing fly and mosquito repellents, and vaccinating for hog cholera.

Recently we held a moonlight meeting and ice cream party. Each member brought a dozen eggs. Part of these were used to make custard, and the rest were sold to buy ice and flavoring.

We are planning on having a fish fry soon, attend the state judging contest and state F. F. A. meeting July 10-15, and the Louisiana Future Farmer encampment at our new home next month.