

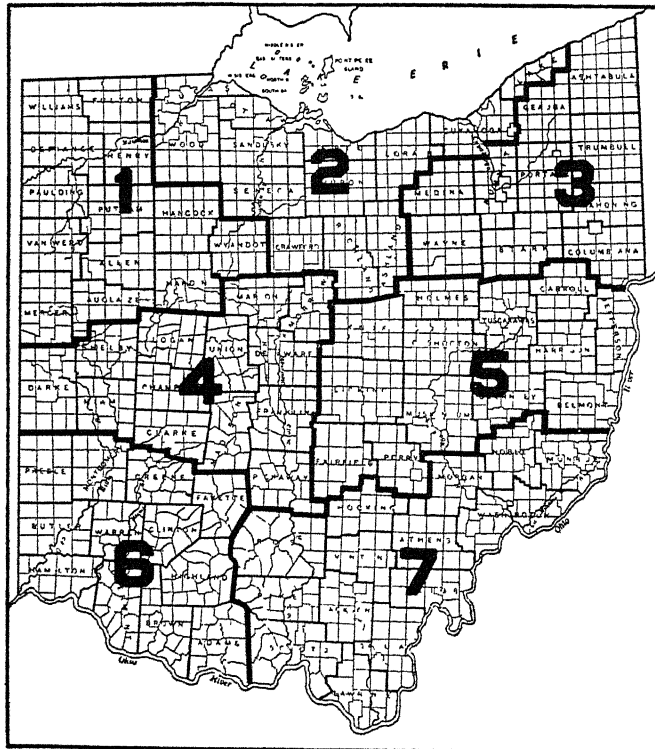
Ohio Agricultural Experiment Station

CIRCULAR No. 127

WOOSTER, OHIO, JUNE 1, 1912

FARM MANAGEMENT FIELD STUDIES AND DEMONSTRATION WORK IN OHIO

BY L. H. GODDARD



The seven Farm Management districts.

FARM MANAGEMENT FIELD STUDIES AND DEMONSTRATION WORK IN OHIO

BY L. H. GODDARD

THE PLAN ADOPTED FOR THE EXECUTION OF THE WORK

The following is the outline of a plan which has been adopted by the Ohio Experiment Station, Department of Cooperation, and the U. S. Department of Agriculture, Office of Farm Management of the Bureau of Plant Industry, for reorganizing the Extension Work which has previously been conducted by the former institution. In the execution of this plan there will be required:

(1) **A State Leader**, to be employed jointly by the two institutions who, as the representative of both, will have charge of all their work of this character in the State.

(2) **Seven District Supervisors**, to be employed in the same manner as the State Leader, to be responsible directly to the State Leader, each to have charge of the Farm Management Field Studies and Demonstration Work which may be conducted in an assigned District of from ten to fifteen counties. See map on front cover.

(3) **County Agents**, to be installed by the State Leader at the request of the counties interested, to be under the direction of the Supervisor of the District in which that County is situated, and to be supported jointly by the Ohio Experiment Station and the people of that county, and possibly by other organizations interested in the work. These County Agents are to have charge of the field studies and demonstration work which may be conducted in the county to which they have been assigned.

Township Assistance will be afforded temporarily by each District Supervisor in a single township of his District in which special interest is shown in demonstration work.

PURPOSE AND CHARACTER OF THE WORK TO BE UNDERTAKEN

The prime purpose of farm management field studies and demonstration work in Ohio is to bring to each farmer on his own farm and interpret for his farm the results of the years of experimental investigation made by the Experiment Stations and the Departments of Agriculture of this and other countries, and to combine these results of scientific investigation with the successful farm practices worked out by the best farmers of the country. In short, it is a plan designed to help the farmer combine science with practice on his own farm.

District Supervisors and County Agents should be men who have had training in our best agricultural colleges, who are therefore familiar with the advanced theories of agricultural production and who have also had practical experience on the farm as boys and for several years after leaving college.

When these County Agents are placed in a community, it will be their duty first of all to study the local farming condition. They must get acquainted with the farmers and learn what is being done in the way of crops grown, cultural practices, means taken to keep up the production of the farm, the usual enterprises of the farm, how these are organized into a farm system; in short, what the actual farm problems of the community are, and then to cooperate with each farmer in helping him to place his cultural operations and farming system on a better paying basis. Such a man will not be able to reach conclusions nor revolutionize agriculture in a day; but if he is aggressive and farmers will make use of him in the same way they do a doctor or a lawyer, he will prove of great helpfulness in any agricultural community.

PREVIOUS EXPERIENCE IN EXTENSION WORK AT THE OHIO STATION

The Ohio Experiment Station is not without experience in carrying on demonstration work with farmers, but never before has it been able to place a trained man in a local area to give all his time to the agricultural problems of that area. Extension work was launched at the Ohio Station in 1904, when the author of this circular was called upon to organize the work there, after having been connected for several years with similar work in the Agricultural Students' Union of Ohio, which had always worked in close cooperation with the Experiment Station.

Recognizing from the first the fundamental principle that nothing teaches like a demonstration, the Experiment Station arranged to continue the work as it had been carried on by the Students' Union, through cooperative experiments with farmers on their own farms, conducted in accordance with the Station's plans and instructions, and in some cases under personal supervision of the Station's representative. Farmers were thus enabled to see with their own eyes what any crop or method would do on their own farms and under the conditions which existed there. After a number of years' experience with cooperative experiments of this kind we feel justified in recommending their use by all agricultural extension workers.

Cooperative experiments serve another purpose. By embodying in the instructions for all experiments, as did the

Ohio Station in most cases, the statement that "negative results are just as valuable to the Experiment Station as are positive results," many an embarrassing situation may be avoided. It may be well to add in passing that owing to the dislike of people to criticise us to our faces, the extension worker rarely learns of those unfortunate cases in which his work has been discredited, unless he has some such means as a report from a cooperative experiment to learn of it. Since the organization of the extension department at the Experiment Station eight years ago, 4,348 experiments, which have had a direct bearing upon the soil and which were of a real scientific nature, were conducted by farmers in cooperation with the Station. At least as many more experiments of a less scientific character were conducted within this same period. Of the former, 1,006 were tests of varieties of potatoes, 985 considered varieties of corn, 427 took up the methods of growing alfalfa; of wheat variety tests there were 206 and of oats 160. The remaining 1,864 tests were given up quite largely to studies of varieties of a number of different crops. The fact that these experiments were thoroughly distributed over the entire State (Fig. 1, page 172), thus being made under almost all the different soil and climatic conditions which exist in the State, will explain to the thinking person why probably two-thirds of them failed to yield definitely positive results. In explanation of this last statement we would add that whenever a cooperative experiment failed to demonstrate to the satisfaction of the farmer upon whose farm the test was made that it was worth his while to adopt something which the experiment had been planned to demonstrate, we assumed that it had failed to yield "positive results" which were of direct value to him, even though scientifically the experiment might be of much value to the Experiment Station.

AN AGRICULTURAL SURVEY OF THE STATE

In order, therefore, that these negative results might become of real value to the State, it became necessary to find a means of scientifically classifying them, that we might know where in the State the lessons learned from them would apply. The same may be said with equal accuracy of the experiments which yielded positive results and indeed of much of the work which is being conducted by all Departments of the Experiment Station. Accordingly, it was decided, in the spring of 1911, to abandon for the time being the regular Extension Work of the Department of Cooperation, and to devote its energies to the securing of fundamental information which would enable us to utilize to the best advantage what had been done in the past and to plan with greater precision that which we would later undertake.

By means of very material assistance which has been rendered by the U. S. Department of Agriculture, we now have very complete information regarding the climate and weather of the State, and by the end of this season shall have quite satisfactory information regarding the location of our various soil types.*

With the completion of these foundation surveys regarding the climate and the soils of the State, the next step is the making of application surveys, in which we study the relation of the climate and the soils to the various farm crops and methods used in handling them. We now have positive evidence that both climate and soil must be considered in the selection not only of the crops but also of the variety of the crops which shall be grown upon any given farm, and of the methods which are to be used in growing them. That some soils of Ohio need much lime for maximum production, whereas others need but little or none; that some sections of the state produce large yields of potatoes, whereas others rarely produce a profitable crop; that alfalfa which can be grown only with a struggle in some places, grows as easily as red clover in others; that some soils need no drainage, whereas others need twice the average amount; that some kinds of fruit can be grown more readily in some sections than in others, and that the moving of excellent varieties of wheat or corn from one soil type to another may bring disaster to their yielding qualities—these are facts which are now unquestioned by all persons who have kept in touch with field studies.

DISTRICT SUPERVISORS

It is therefore necessary that we have a staff of men for field investigation who are capable of studying these and many other problems in connection with farm practice, not only in the light of our soil and climatic information but also in the light of any other existing factors of fundamental importance which they may discover. Men for this work must have both breadth of vision and investigational ability of a peculiar kind. They must comprehend the State as a whole and recognize the relation to it of each problem that is pressing forward for solution. In the absence of the ability to see things in a large way and to make use of all the fundamental surveys, statistics and other information available, no man will be able to measure up to this standard, no matter how much he has traveled over the State.

*The U. S. Weather Bureau has furnished and is furnishing all the information regarding the climate and weather of the State without expense on our part. The U. S. Bureau of Soils has joined with us in putting into the State sufficient men to complete a general soil survey of the State by the end of this season. The U. S. Bureau of Plant Industry has arranged to put this year more money into the work which we are doing in connection with the Office of Farm Management, to enable us to put more of our funds into the soil survey.

After having selected a problem, which he shall undertake to solve, the difficulties of the field investigator have only begun. Most Experiment Station investigators are able to control quite largely the conduct of their experiments and the conditions surrounding them. The field investigator, on the other hand, who must study the experiments and experience of farmers, has no such advantage. Most tillers of the soil are as apt to have a hobby as are workers along other lines, and to attribute an observed condition or effect to a cause or causes which have had little if any bearing upon it. In his enthusiasm the farmer is apt even to forget to state many important details which might completely change the conclusions to be drawn from his experience. It is, then, the work of the field investigator, first, to study with a penetrating clearness of perception, in the light of Experiment Station investigations, the experience of successful farmers in connection with the problem which has been selected as most needful of solution, and, second, to determine by means of the soil and climatic surveys and of personal field investigation to what sections of the State his deductions are applicable.

Of the two lines of work mentioned, the second is fully as important in Ohio as is the first. Our Experiment Station is already conducting scientific investigations on twenty or more different farms widely distributed over the State, and the number of these farms is increasing yearly. It is, then, piling up a vast amount of information which eventually will be broad enough to apply to practically all the conditions which exist in the State. But having this information, the question is, just where will it apply? In other words, just what shall we recommend to the farmer, whose farm we are visiting, as best for the conditions under which he is working, keeping in mind all the while the aptitudes of the farmer himself? The inability thus far to answer this question has been a source of much embarrassment to many experiment stations and often a cause of misunderstanding and lack of appreciation of their valuable work on the part of the people.

These are the first problems which will be assigned to our District Supervisors. In the solution of them they will not necessarily be restricted to the boundaries of their own Districts or even to those of the State. They may work independently, or in cooperation with each other, as the conditions warrant. Their work will necessarily be slow, but that they will succeed ultimately within reasonable limits we have not a particle of doubt.

COUNTY AGENTS

But having this information, just how shall we take it to the farmer on his own farm? It would be highly desirable if a District Supervisor could do this himself, but he cannot investigate and demonstrate at the same time. We must keep a staff of investigators constantly at work, if we wish our demonstrations to be of value. To be entirely frank, our experience in Ohio teaches us that the greatest danger which today confronts agricultural extension work in a progressive section is the inability of the extension workers to state to the individual farmer much of anything with definite assurance. While the scientist has developed a vast amount of valuable information, this must be adapted to individual farm conditions, if it is to be of value to the farmer. If it is not so adapted, the demonstrator is just as apt to be discredited as is the doctor who prescribes medicine without having first diagnosed the condition of his patient.

While we believe firmly in the value of cooperative experiments, we also believe that these experiments will be very much more effective, if their use is directed by a County Agent who can give his attention constantly to a single county. Each experiment ought to be planned specially for the conditions existing on the farm on which it is to be made, and if possible its execution should be carefully supervised. Many farmers will doubtless be able to determine from the published reports of the District Supervisors what is best for their farms, especially if the conditions are not too intricate; just as many of us go with freedom and assurance to our medicine shelf for relief from the minor ailments. But, just as most of us reach the time sooner or later when we are willing to call in the doctor, most farmers will at times be glad to call in the County Agent, who, in the light of his previous training, instruction by his District Supervisor and experience with similar cases, can speak with some assurance as to what should be done under existing conditions.

On the other hand, too much must not be expected of the County Agent. It is necessary that we crawl before we walk and walk before we run. If we are to secure permanent results, it will be necessary to build slowly and securely and to avoid spectacular work. At first thought it might be supposed that a trained man could determine off-hand just what it would be wise for the farmers of any section to do. On the contrary, however, we have observed that almost every farm has some conditions which are peculiar unto itself, and not the least of these peculiarities are the likes and dislikes of the manager, which manifestly are of paramount importance. Therefore, the first step of the County Agent is to make a study of the local conditions, just as a doctor should diagnose carefully his patient's trouble before prescribing medicine.

And again, it must not be expected that the County Agent will know everything in regard to agriculture. That would be impossible. He cannot be an expert in everything. Indeed, in rare instances only is it to be desired that he be an expert in anything. On the average he will have to deal with more than three thousand farmers, among whom almost every line of farming will usually be represented. Clearly, it will rather be his business to know when and how to call in the expert before it is too late for him to be of benefit. It is the business of the County Agent to be as thoroughly informed as possible regarding all sources of agricultural information and to undertake to bring to his people either personally or through others that which applies to their particular condition as may be determined by a special investigation on his part. In doing this, he is to be perfectly free to turn either to the Experiment Station, other state institutions or the National Government. He may arrange to have the information come by means of the printed page, of the personal letter, of the personal visit, of the expert investigation, or of a special field demonstration. The presence of the County Agent and his county organization should invariably secure the maximum of benefit from such assistance and the maximum of credit to the institution which is rendering it.

TOWNSHIP ASSISTANCE

As previously stated, County Agents will be installed only in case the counties have become sufficiently interested and convinced as to the benefit to be derived from their installation to lead them to be willing to pay their share of the necessary salary and expense.

There is no desire on the part of the Experiment Station or of the U. S. Department of Agriculture to thrust these County Agents upon the people. Indeed, they wish the work to go slow. They feel that it would be peculiarly unfortunate for the people of any county to get a false idea as to the benefit these Agents could afford them and have one installed with such a misconception of the work.

In the meantime, arrangements have been made whereby the District Supervisor may temporarily take up this work in a single township in his District, when such is specially desired by the people of that township and when they are not able to bring the entire county into line with them for the time being; this to be done without expense on the part of the people of the township interested. All that is required of them is their earnest, hearty and persistent cooperation with the movement. Such work as this is being conducted in Butler township, Columbiana County, this season, by Mr.

M. O. Bugby, who as District Supervisor will have charge of the Northeast District of the State. Persons who are interested in this township work in any of the other six Districts of the State (see front cover) are invited to correspond at once with the Experiment Station regarding it.

FARM MANAGEMENT EXTENSION WORK

Thus far the only kind of Extension Work to which special reference has been made is that associated with farm practice, which considers only the selection and arrangement of the operations, in connection with individual farm crops or farm enterprises, to enable the production of maximum yields. While large yields are certainly very important, maximum yields and the most successful farming do not necessarily go hand in hand. The only basis on which the success of a farm can really be judged is that of net income from the whole farm, providing the productive capacity of the farm has not been impaired.

Farm Management considers, among other things, what enterprises (crops, kind of livestock, etc.) shall be undertaken on any given farm, how they shall be arranged and how in detail they shall be conducted in order to fit into this arrangement. The selection of each enterprise depends upon many things, such as adaptability of soil, climate, available labor and possible market. It is useless to undertake to introduce enterprises on a farm which will not produce well under the conditions existing thereon, or for which there will not be sufficient available labor or from which the products cannot readily be marketed at satisfactory prices.

In the absence of a local condition which makes available transient labor of satisfactory quality at reasonable prices, it is necessary to try to select enterprises that will use the same amount of labor all the year round. In doing this it may be necessary to select two crops which conflict to a certain extent in their labor requirements, thus forcing the yield of one or both to be lowered materially for want of attention at the proper time. It may even be wise to grow a crop which produces little if any profit, merely to keep the labor employed continuously. On the other hand, farm management principles forbid the use of an enterprise which uniformly produces a material loss. Unfortunately, this condition is probably not uncommon today upon a large number of Ohio farms.

The study of farms from this farm management standpoint, and the readjustment of farm plans so that a greater net profit per farm may be assured, is the ultimate goal of the Farm Management Field Studies and Demonstration Work which are being launched in Ohio

today by the Ohio Experiment Station and the U. S. Department of Agriculture. It may be necessary, doubtless will be necessary, to give attention at first almost entirely to the improvement of conditions in connection with individual enterprises, since this is the easiest point of attack; but if the work is limited to this, if the District Supervisors and County Agents do not introduce better systems of farming, their work will within a few years be branded a failure.

RURAL ECONOMICS

The net profit, which may be secured from the individual farm, depends very materially on the economic condition of the community in which it is situated. In the minds of all thinking men there is no longer any question but that, after the readjustment of the enterprises on the farm itself to enable the securing of a greater net profit per farm, the next great step in the improvement of the financial condition of the rural people must come from cooperation with each other in working, buying, selling, securing credit, etc. Cooperation has had much to do with the great advancement of the urban people. It cannot fail to have a like effect on the fortunes of the rural people. In pioneer days cooperation was the rule, made such by the law of necessity. But with the removal of this urgent necessity by the progress of civilization the rural people in their independence have turned away from it. The time has now come, however, when they must return to it if they wish to secure the maximum of success in their business.

If the District Supervisors and County Agents do not do everything in their power to demonstrate to their people the very great advantages of cooperating with each other and with all others possible for the purpose of improving the economic condition of their communities, they will have failed signally. That they can accomplish valuable results in Ohio by such means has been abundantly proved by the successes in such work which have been secured in other states by representatives of the Office of Farm Management of the U. S. Department of Agriculture, with which the Ohio Station is cooperating in this Extension Work.

RURAL SOCIOLOGY

It will not suffice, however, to confine the attention of this Extension Work to the production of a greater net profit for the farm or a better economic condition in the rural community, important as both of these are. The development of better rural homes, rural schools, rural churches and all rural institutions that are related to an enlightened rural citizenship, is as much more important

than a larger net profit per farm as a large net profit per farm is more important than the production of a maximum yield for any one enterprise on the farm.

While these Supervisors and Agents cannot be everywhere and do everything—indeed, if their work is to be fruitful they must give most of their attention to a few things at a time—yet with the proper spirit, which we shall hope to develop in each and every one of them, they can wield a wonderful influence toward making rural Ohio one of the best places in the world in which to live, and toward maintaining, or even improving, our present high standard of citizenship. Unless the signs of the times are misleading there are stranger things possible than that the rural teachers and the rural preachers, together with the leaders of many other rural organizations, will become very able lieutenants in connection with this great extension movement. Let us hope that the signs indicate truly; for one man to three thousand farms, which would be the best that could be hoped for when an Agent has been installed in every county of the State, would be but a drop in the bucket. He would have to visit ten farms every day in order to get around once a year.

In conclusion, then, Farm Management Field Studies and Demonstration Work as they are now being launched in Ohio, contemplate not only the improvement of the crop yields of the State but also the production of a greater net income for each farm of the State and the establishment on these farms of better homes, situated in better rural communities.