MAKING AGRONOMIC RESEARCH EFFECTIVE BY MEANS OF FIELD DEMONSTRATIONS

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AGRONOMIC research, insofar as it is supported by public funds, must be justified by increased efficiency in the management of soils and the production of field crops. Results of research should not only be made available to farmers, but they should be interpreted from the standpoint of their application to farm practice, and an effective program must be developed to assure their wide adoption by farmers. The accomplishment of this objective requires not only coordination of research and resident and extension teaching, but the whole-hearted cooperation of the workers in the three fields.

The research agronomist should be primarily interested in securing new information, the resident teacher in instructing college students in the fundamentals of soil management and crop production, and the extension agronomy specialist in inculcating the same subject matter in the agricultural practices of the state. Nevertheless, each group to be most effective in its particular field, should and must be familiar with the problems, methods, and results of the workers in the other two fields.

There are three important means of transmitting information to farmers. They are speaking, writing, and demonstrating. A possible fourth means is illustrating by cuts, slides, or movies. However, since illustrations to be effective require some explanation, they may well be considered a means of increasing the effectiveness of the written or spoken word and not as a distinct method in themselves. This paper deals exclusively with the third method, teaching by demonstration.

The value of demonstrations has been recognized from the very beginning of organized extension work. The broad objective of the Smith-Lever Act itself is stated as “the giving of instruction and practical demonstrations,” and “imparting information through demonstrations, publications, and otherwise.” Congressman Lever made the following statement in advocating the original Smith-Lever Act: “The fundamental idea of the system of demonstration or itinerant teaching presupposes the personal contact of the teacher with the person taught, the method being proposed. It is a system which makes the pupil from the slavishness of textbook study to the field, the garden, the orchard, the parlor and kitchen classrooms. It teaches 'learn to do by doing.'” As President Woodrow Wilson said, “It constitutes the kind of work it seems to me is the only kind that generates education; that is to say, the demonstration process and the personal touch with the man who is demonstrating.”

The value of the demonstrational method was appreciated and extensively used prior to the Smith-Lever Act in 1914 by that pioneer extension worker, Dr. Seaman A. Knapp in extending throughout the southern states. He is credited with the following statements: “Can agricultural conditions be changed by simply talking? No! Demonstrations! Yes! There is only one effective way to reach and influence the farming classes and that is by object lessons.”

Others have proclaimed the value of the demonstrational method of teaching. For example, Benjamin I. Wheeler claimed that, “It is the only way whereby we can reach the lone man on the hillside” ; and Gladstone said, “One example is better than a thousand arguments.”

In extension work the demonstration has been used effectively in persuading farmers to adopt new practices. In fact, at times certain extension workers have been referred to as “demonstrators.” There is probably no other type of subject matter in which field demonstrations can be used more extensively than in agronomy. But it is not my intention to argue for the value of demonstrations, but rather to discuss the efficient use of field demonstrations as a means of getting agronomic information put into practice by farmers.

Agronomy field demonstrations fall into three broad classes, namely, (1) single practice demonstrations, (2) result demonstrations frequently referred to as field tests, and (3) farm unit demonstrations.

The first group includes practices the soundness of which has been definitely established. They are clearly outside the realm of experiments; that is, the ‘Contribution from the Department of Agronomy, Cornell University, Ithaca, N. Y.
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