3. THE MECHANICAL PROCEDURE OF FIELD EXPERIMENTATION

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The object of most field plat experiments is to compare the performance of various crops or cultural practises in such a manner that the results will be applicable to farm practise. At the same time the equipment and procedure for carrying out the mechanical operations should be of a nature to facilitate rapid and accurate work. It is this phase of field plat experimentation that will be chiefly discussed in this paper.

In all of the operations of growing the crop and determining yields, the watchword should be to develop and maintain uniformity of conditions so far as the nature of the experiment permits. It is just as important to use good technic, within practical limits, in agronomic field experiments as in the chemistry or biology laboratory. In fact it is much simpler in these pure sciences to eliminate all variable factors, except those under investigation, than it is in field experiments. And yet no more important scientific and applied truths are established than in properly conducted agronomic tests.

Ten years ago a trained botanist remarked, as he observed the details of some agronomic field plat experiments, that he had been unaware that comparative yield determinations were so involved. He had thought all there was to a variety test was merely to plant, cultivate, harvest, and weigh the crop. The fact is that there are certain details of carrying out these operations which greatly affect the reliability of the results. Agronomists have come quite generally to recognize the broad principles of good field plat technic which have been compiled by various committees on the standardization of field experiments, and adopted by the American Society of Agronomy. The extent to which these principles may be carried out must depend upon the land, labor, and other facilities available. We should not attach greater significance to our results than the manner of conducting the work justifies. One tendency to be guarded against is to lose sight of large important issues in an endeavor to settle comparatively unimportant controversial points.

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