THE RELIABILITY OF NURSERY TESTS AS SHOWN BY CORRELATED YIELDS FROM NURSERY ROWS AND FIELD PLATS

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Nursery trials of cereal crops are usually looked upon as a means of eliminating new strains or varieties and as being preliminary to field plat tests. Since many selections properly replicated can be grown on a small area and since with facilities available to the agronomist such tests can be readily conducted, nursery rod row trials provide an excellent method for not only preliminary testing but for obtaining reliable yield data.

What has been stated above may infer that yield data from nursery tests are less accurate and reliable than results obtained from field plat trials. This need not necessarily be the case. It has been shown by a number of investigators of field plat technic that the variability in the yields of such plats can be reduced by increasing, up to certain limits, the size of plats used—but increased size of plats necessarily entails an increase in the area to be covered by the experiment and in that way not infrequently increases the disturbing influence of soil heterogeneity. The fact that nursery plats can be replicated more readily and that the number of replicates used in these trials is generally greater than in the regular field plat variety tests serves to enhance the reliability of nursery results.

Some measure of the reliability of yield data obtained from rod row nursery tests may be obtained by correlating the yields of varieties included for the same year or period of years in both nursery and field plat tests. Since both rod row and regular field plat trials are made use of in agronomic research, it will be interesting to compare yields obtained from these common types of field tests.

PLAN OF EXPERIMENTAL WORK

For a period of 3 to 4 years varieties of common spring wheat, durum wheat, oats, barley, and flax were included both in the regular variety test plats and nursery trials at Brookings. The regular

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