

8. Influence of shape and size of plots on the accuracy of field experiments with rice, Chinsurah, Bengal.

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A uniformity trial experiment with transplanted rice (Chinsurah No. 2) was conducted by the rice research section, Chinsurah, in 1932 with a view to obtain the optimum size and shape of plots for future experiments on the given area. Single seedlings were transplanted 9" apart on an acre of land and at harvest the whole field was divided into 7,040 plots (excluding border) of size 9" x 90" ($=\frac{1}{77\frac{1}{10}}$ acre) containing 10 plants each. The yields of grain and straw were collected for each individual plot and the results analysed by Fisher's method of analysis of variance.

The S.D. of the smallest plot (9" x 90") was 13.69 p.c. of mean. The S.D. decreased as the plot size increased, but the decrease in the magnitude of the S.D. was not commensurate with the loss of accuracy due to the smaller number of replications.

Detailed analysis was carried out with blocks of different sizes, keeping constant the size of individual plots, to find out the optimum size (of blocks) for the elimination of soil heterogeneity in the field.

Contour lines of equal fertility have also been drawn, for a study of the fertility distribution over the field.