RELATION BETWEEN YIELD AND EAR CHARACTERS IN CORN.¹

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In recent years some doubt has arisen as to the value of certain score-card points as a criterion for selecting high-yielding strains of corn. The question is, do the points emphasized on the score card have any relation to the yielding capacity of the individuals possessing these characters? It would be of great importance to determine which of these points are and which are not indicative of high yield, if any relation at all exists. Considerable work has been done along this line, some of which will be reviewed briefly in this paper.

The usual method in studying the relation of ear characters to yield has been to select ears with the characters desired and then obtain the yield from these selected ears when planted. In this method of procedure, there is likely to be some variation in the yield of different ears, due to cross-pollination. It is well known that the effect of broad breeding in corn is often marked. It may be that this effect has overshadowed differences in yield due to different characters possessed by the selected ears.

The data in this paper deal with the relation between yield and ear characters of the progeny of certain seed ears selected at random. The characters studied in relation to yield are average length, average circumference, ratio of tip to butt circumference, average circumference of cob, percentage of grain, average number of rows, average length of kernels, uniformity of exhibit, shape of ears and true-ness to type, character of tips, character of butts, uniformity of kernels, space between kernels, and space between rows.

REVIEW OF LITERATURE.

In extensive experiments conducted at the Ohio (10)³ station it was found that there was no material relationship between various seed ear characters and yield.

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³ Numbers in parentheses refer to "Literature cited," p. 255.