EQUALITY OF KERNEL ROW NUMBERS IN RECIPROCAL CORN CROSSES

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INTRODUCTION

In an earlier paper the writers have called attention to differences in the numbers of kernel rows on the ears of reciprocal crosses between certain strains of corn previously mass selected for kernel row numbers. It was pointed out that in each inequality the distribution of the ears with respect to number of kernel rows tended to be more like that of the pistillate parent strain. It was further noted that, "Whether this was due to some influence of the methods used or to inherent tendencies cannot be determined. In view of the facts that the pollinations were not strictly controlled by bagging, etc., and that the seed ears used to represent the different sorts were not selected, too much importance probably should not be attached to this difference."

The possibility of inequality between reciprocal crosses is of practical as well as theoretical importance. One of the writers already has called attention to inequality in the yields of reciprocal crosses between varieties of corn. Differences in the yields of reciprocal crosses between selfed lines of corn are a common experience of those testing such crosses. Such differences, however, might so readily occur because of difference in seed size, condition, or the like, that they should offer little conclusive evidence as to germinal differences. Differences in the numbers of kernel rows, on the other hand, would be affected little, if at all, by differences in seed value. Accordingly, it seemed desirable to determine whether differences in numbers of kernel rows would be obtained under methods excluding the possible differential effects of the methods used in connection with the strain crosses. The present paper reports the results of such an experiment.

MATERIAL AND METHODS

Lines of C. I. No. 119 corn which had been selfed for four and five generations were used as parents. These selfed lines originated in the

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