THE RELATION OF COB TO OTHER EAR CHARACTERS IN CORN.¹

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INTRODUCTION.

One of the objects of the corn breeder is to produce a type of ear that will carry the maximum quantity of grain. This has led to a critical examination of the physical characters of the ear, with the result that many varieties of corn have been improved to such an extent that they exceed the percentage of grain required by the standard, viz., 80 percent for the commercial grades. The increase in the yield of grain per ear has been accomplished largely by the selection of seed ears with well-filled butts and tips and with deeper kernels of a more desirable shape. The question then arises, "Is the cob, as the carrier of the grain, an important character to be considered in relation to type of ear?" To what extent the characters of the cob are correlated with those of the ear as a whole has not been carefully determined. While some biometrical work has been done upon the corn plant, little attention has been given to the statistical relations of the characters that determine the grain weight of an ear.

It is the object of this paper to present some of the correlations that exist between the cob and other ear characters. The cob itself has been largely overlooked from a mathematical standpoint in corn breeding. This paper attempts to answer some of the questions which may arise concerning the size, weight, and density of cob in

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