CORRELATIONS BETWEEN SEED EAR AND KERNEL CHARACTERS AND YIELD OF CORN

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Numerous investigations have been conducted on the relation between seed ear characters and productivity in corn. Most of these have been reviewed in some detail elsewhere (2, 4) and need no mention here, except to state that, in general, there seemed to be a small but consistent tendency for those ears which are heavier and longer and which have fewer rows, smoother indentation, and lower shelling percentages to produce the larger yields. The suggestion was made (3) that part of this apparent relation between yield and ear characters might be a reflection of one between yield and kernel characters, and, if so, kernel characters might have some bearing on the kind of seed ears desirable for planting. A fairly extensive ear-row planting of Pride of Saline corn was made for other purposes at the Kansas Agricultural Experiment Station. Accordingly, it seemed worth while to measure some of the kernel characters, as well as ear characters, and to determine the relation to yield. These studies are herein reported.

MATERIALS AND METHODS

In the fall of 1923 about 1,000 seed ears were picked from the standing stalks in a field of certified Pride of Saline corn on the Agronomy Farm. During the following winter, individual ear germination tests were made. On the basis of these tests and the soundness of the ears, 900 were finally selected for planting. Due to the method of selection and number of ears it was thought these 900 ears represented a very fair sample of Pride of Saline suitable for seed.

EAR AND KERNEL MEASUREMENTS

Ear and kernel measurements were made in centimeters or millimeters. Ear circumference and cob circumference were taken at...