RELATION OF BREAKING STRENGTH AND OTHER COB CHARACTERS TO YIELD OF CORN

F. L. WINTER

During 1920, a farmer and seed grower near Pekin, Illinois, divided his corn for planting into two lots on the basis of the breaking strength of the cobs. The corn from cobs having a breaking strength of 60 pounds or more was planted in one plat and the corn from cobs having a breaking strength of less than 30 pounds was planted in another plat. The yields secured from these plats indicated that the corn from the cobs with the higher breaking strength yielded better than the corn from the cobs with the lower breaking strength.

The writer is not aware of any other work pertaining to the relation of breaking strength of cob to yield of the succeeding crop. Other cob characters, however, have been found to be correlated with yield per cob. Grantham (1) states that "the yield of grain per ear is strongly correlated with the circumference of the cob" and that "the yield of grain per ear is correlated to a considerable extent with the weight of cob." Hutcheson and Wolfe (2) state that the relation between yield and the average circumference of cob of the same crop is significant. Their data are based on the average circumference of all the cobs from a high-yielding strain taken as a unit compared with the average circumference of all cobs from a low-yielding strain taken as a unit.

As a result of this work, an experiment was conducted by the writer at Urbana, Illinois, to determine the relationship between cob breaking strength and the yield of corn. Five different strains of corn were used in this experiment, viz., Illinois Special High Yield, Illinois High Yield, Illinois Low Yield, Illinois Non-Pedigree, and Woodford County. The history of the first four strains is given by Smith and Brunson (4). The Woodford County strain is a yellow dent strain composited from four of the ten highest yielding strains of corn as determined by a three-year trial test in Woodford County,