The transpiration studies reported in this paper have been conducted at the Nebraska Agricultural Experiment Station supplementary to field experiments with selfed lines of corn and various hybrid recombinations thereof. Their purpose has been to indicate the relation of heterozygosity to the water economy of corn, and to suggest the variability in this regard which may be expected between different selfed lines and hybrids. The results of these tests have been summarized in seven accompanying tables. The first three of these report the data for selfed lines and hybrids of Hogue Yellow Dent corn grown in potometers in 1924. The next three tables report similar data for Nebraska White Prize corn grown during 1923 and 1924. The seventh table averages three years' results with 13 F\textsubscript{1} hybrids between selfed lines of Hogue Yellow Dent corn tested during 1916, 1917, and 1919.

METHODS

Individual corn plants were grown to normal maturity in large, galvanized iron potometers 36 inches deep and 16 inches in diameter. These were situated in excavations in the corn field with their tops level with the adjacent land.

The soil moisture supply was maintained fairly uniform by keeping a constant supply of water in the jars connected at the base of the potometers. Rainfall was excluded and evaporation was reduced to a negligible amount through the use of a modeling clay seal and a 3-inch gravel mulch as described in Nebraska Research Bul. 6. The water used by the crop was determined from the difference in initial and final weight of the potometer and from the net water supplied during growth.

The inbred strains were assembled in one group surrounded in the field by inbred corn, whereas the hybrids were grouped 30 yards

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