FURTHER EVIDENCE OF THE IMMEDIATE EFFECT OF CROSSING VARIETIES OF CORN ON THE SIZE OF SEED PRODUCED.¹

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INTRODUCTION.

There is abundant evidence which goes to prove that crossing varieties or strains of corn frequently increases the yield, especially in the first hybrid generation. Corn differs from most other plants in that the effect of crossing can be seen the current year. This is due to xenia, or the hybridization of the endosperm as well as of the embryo.

The first recorded experiments along this line seem to have been made by Professor Beal (¹), beginning in 1876, and these experiments were followed by those of Sanborn (¹⁵), McCluer (¹²), Morrow and Gardner (¹³), Shull (¹⁶), East (⁷), and Collins (⁵).

Hartley (⁹) found that in one instance F₁ generation hybrid seed proved 20 percent more productive than either parent. Hayes and East (¹¹) obtained an increase in yield of the hybrid over the parent in five out of seven crosses. The increase varied from 7 to 44 bushels

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² Figures in parenthesis refer to publications similarly numbered in the literature cited at the end of this paper.