METHOD NOW EMPLOYED IN TESTING F₁ CORN HYBRIDS
AT THE CORNELL UNIVERSITY AGRICULTURAL
EXPERIMENT STATION

R. G. WIGGANS

The large increase in corn breeding work due to the development
of the inbreeding method has presented to investigators the problem
of adequately testing the large number of F₁ hybrids resulting from
the crosses of many inbred strains, particularly where crosses be-
tween strains of different varieties are given considerable attention.
Invariably the investigator has been limited in his testing by the
space and labor available for the work. This phase of the problem
has presented itself very forcibly at the Cornell University Experi-
ment Station, and as a result the method outlined below has been
worked out whereby a fairly economic use is made of the land allotted
to the investigation. The method is described here as one which is
giving good results at this station with the hope that it may be of aid
to investigators who are experiencing similar difficulties, and not
necessarily as an ideal way of testing.

METHOD OF TESTING

To make testing as simple as possible, an uncomplicated and order-
ly system of numbering is necessary. The system used at this station
in the inbreeding and re-crossing work includes both the strain
number and the year number. For example, the numbers for 1925
were 25-1, 25-2, 25-3, etc.; those for 1926: 26-1, 26-2, 26-3, etc.
By this system the pedigree numbers are always comparatively
small, the age of the seed is easily determined, and simplicity in
storage is secured. Cards are used for the complete records of any
strain or cross.

The testing of the many F₁ crosses is made difficult not only by the
lack of labor and space available, and in some cases the small amount
of seed, but also by the possibility of competition between adjacent
plantings. Especially is competition important if inbred strains are
grown alongside either the parent varieties or the F₁'s, or if the parent
varieties are grown alongside the F₁'s. The first two difficulties are
overcome partially by small unit plantings, while the third problem
makes it necessary, or at least highly desirable, to grow parent var-
ieties alongside other parent varieties possessing approximately the

---

1Paper No. 149, Department of Plant Breeding, Cornell University, Ithaca.
New York. Received for publication May 8, 1926.
2Assistant Professor.