The Rise of Hybrid Corn

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The rapid rise of hybrid corn into prominence in Illinois is clearly shown by the records of the Corn Performance Tests carried on in different parts of the State. During the last ten years the number of entries of hybrid corn ranged from 6 in 1927 to 48 in 1936 in central Illinois, and from 1 to 41 for these same years in northern Illinois. In 1927 only 2 per cent of the corn entries in the tests in northern Illinois were hybrid and in 1936, 89 per cent of them belonged to the hybrid class. Hybrid corn entered the test plots at Urbana earlier than at DeKalb, and in 1927, 24 per cent of the entries were of hybrid breeding. In 1936, a little over 90 per cent of the entries in the central Illinois tests were hybrid.

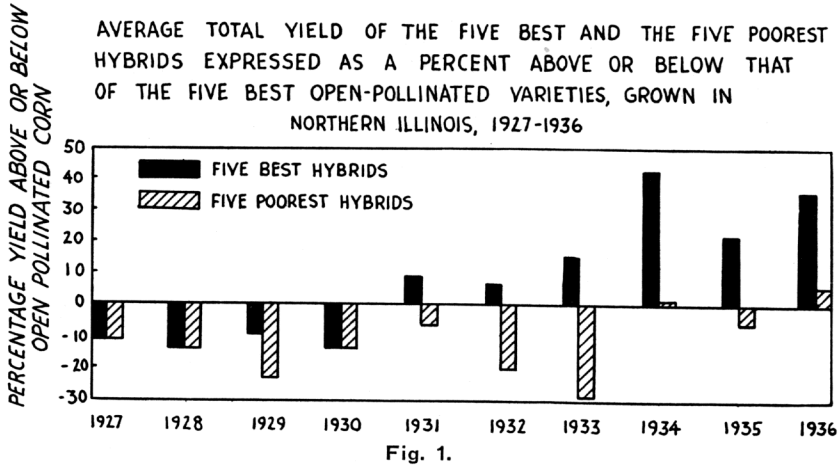

Fig. 1.

A more striking picture of advancement made by hybrid corn can be had from a study of the yield data. As shown in Table I and in Figure 1, the average yields of the five best hybrids grown in northern Illinois were lower than those of the five best open-pollinated varieties during the seasons 1927, 1928, 1929, and 1930. In 1931 the five best hybrids exceeded the five best open-pollinated varieties by 9.5 per cent. In every subsequent year the five best hybrids excelled the five best open-pollinated varieties. In 1934 the per cent superiority was 42.1, in 1935 it was 22.2, and in 1936 it was 36.3. Hybrid corn has been so improved by the use of better inbreds, new combinations of inbreds, and by the elimination of low yielding hybrids until in 1934 and in 1936 the five poorest yielding hybrids produced more grain than the five best open-pollinated varieties.

In central Illinois the average yield of the five best hybrids has been greater than the five best open-pollinated varieties every season but one since 1928, reaching a high of 49.2 per cent in 1936, as shown in Table II and Figure 2. The five lowest yielding hybrids produced less grain than the five highest yielding open-pollinated varieties from 1927 to 1934, inclusive. During 1935 and 1936 the average yield of the five poorest hybrids exceeded that of the five best varieties.

TABLE I.—PERCENTAGE BY WHICH THE AVERAGE YIELD OF THE FIVE BEST HYBRIDS AND THE FIVE POOREST HYBRIDS EXCEEDED OR FELL BELOW THE AVERAGE YIELD OF THE FIVE BEST OPEN-POLLINATED VARIETIES IN NORTHERN ILLINOIS, 1927-1936

Group	1927*	1928*	1929	1930*	1931	1932	1933	1934	1935	1936
Five best hybrids	—11.7	—14.2	—9.4	—14.1	+9.5	+6.7	+15.8	+42.1	+22.2	+36.3
Five poorest hybrids	—11.7	—14.2	—23.6	—14.1	—7.0	—20.1	—29.6	+1.3	—6.1	+5.7

* Fewer than five hybrids were in the tests.

(Data for the seasons 1927-1933, inclusive, were obtained from the DeKalb field; 1934, from the Stockton and Rochelle fields; 1935, from the Stockton, Rochelle, and Plainfield fields; and 1936, from the Stockton, Kings, and Plainfield fields.)

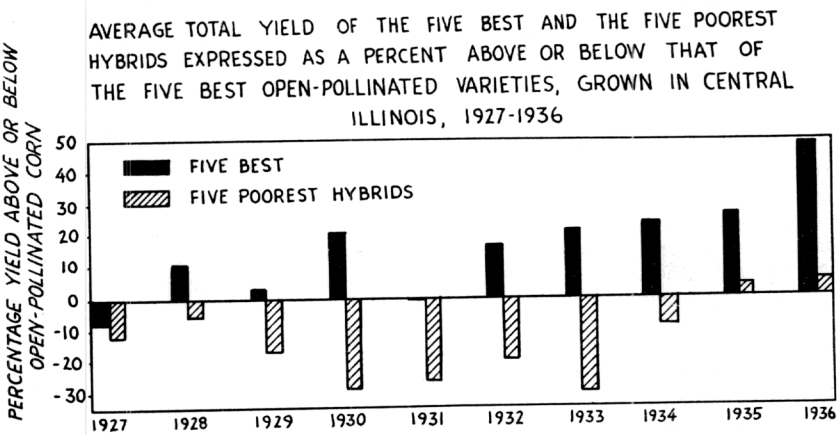

Fig. 2.

TABLE II.—PERCENTAGE BY WHICH THE AVERAGE YIELD OF THE FIVE BEST HYBRIDS AND THE FIVE POOREST HYBRIDS EXCEEDED OR FELL BELOW THE AVERAGE YIELD OF THE FIVE BEST OPEN-POLLINATED VARIETIES IN CENTRAL ILLINOIS, 1927-1936

Group	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Five best hybrids	—7.9	+11.0	+3.4	+21.2	—.3	+16.2	+21.5	+24.1	+25.9	+49.2
Five poorest hybrids	—12.1	—6.2	—17.1	—29.0	—26.9	—20.5	—30.5	—9.5	+3.2	+4.6

(Data for the seasons 1927-1933, inclusive, were obtained from the Urbana field; 1934, from the Minier field; 1935, from the Adair, Bellflower, and Armstrong fields; and 1936, from the Adair, Stanford, and Armstrong fields.)

Assuming that the trends presented in this ten-year record are indicative of the direction of developments in the future, the outlook for more and better hybrids is bright. The data show that the hybrids included in the tests during recent years were improvements over those formerly grown. Should this improvement continue, it will not be many years until all commercial hybrids will be superior to the standard open-pollinated varieties.