Experimental CORN HYBRIDS TESTED IN 1955

By R. W. Jugenheimer
and
A. F. Troyer

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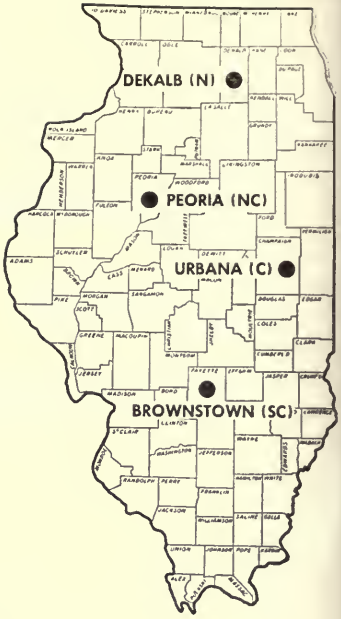
Location of regular experimental-hybrid test fields



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EXPERIMENTAL CORN HYBRIDS TESTED IN 1955

By R. W. Jugenheimer and A. F. Troyer[1]

THIS REPORT summarizes the results of advanced tests of experimental corn hybrids conducted in 1955 by this Station. Data from many preliminary tests involving specialized phases of the corn-research program were not included in this bulletin.

Trials were made at four locations: in DeKalb county in northern Illinois, in Peoria county in north-central Illinois, in Champaign county in central Illinois, and in Fayette county in south-central Illinois. These four locations are representative of the soil, rainfall, and length of growing season in their respective areas.

Hybrids were compared for yield, maturity, resistance to lodging, and other agronomic characters. Only hybrids of similar maturity were tested on the same field. A familiar hybrid whose maturity was considered the standard for the group is named in each table heading.

Since most of the hybrids whose performance is recorded here are not yet in commercial use, the information about them is of most value to producers of hybrid seed. The 1955 performance of hybrids available in commercial quantities to farmers is reported in Bulletin 598 of this Station.

MATERIAL TESTED

One hundred and forty-five different double-cross hybrids were grown at the four locations. Most of the Illinois hybrids were developed by the senior author. The seed was produced by controlled hand-pollination.

Three sets of single crosses and four sets of three-way crosses differing in maturity were tested in 1955. The three-way crosses (Tables 5, 8, 9, and 12) are a part of the "uniform" tests conducted cooperatively by corn-belt states, including Illinois, and

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the U. S. Department of Agriculture. Seed of the unreleased inbred lines involved in these crosses was contributed by the state or by the federal corn breeder who developed them. Single crosses whose performance is reported in Tables 3, 7, and 10 were developed by the Illinois Station and tested only in Illinois.

The following individuals are responsible at the present time for collecting seed of inbred lines, making the crosses, and distributing crossed seed of the entries in the uniform tests: J. H. Lonnquist (Nebraska), R. W. Jugenheimer (Illinois), and G. F. Sprague (Iowa) — Tables 5 and 8; M. T. Jenkins (U. S. Department of Agriculture) — Table 9; and L. A. Tatum (Kansas), W. R. Findley (U. S. Department of Agriculture), and M. S. Zuber (Missouri) — Table 12.

The University of Illinois does not produce hybrid seed corn in commercial quantities. If a hybrid gives satisfactory performance, the parental lines are released for use by seedsmen. Hybrids that include new inbred lines are produced under the "delayed release" program adopted by most of the states in the corn belt. Multiplication of a new line is handled by the Station, and the production of single crosses in quantity is handled by the Illinois Seed Producers Association, Champaign, Illinois. After a satisfactory probationary period of two to five years, a new line is released to the public.

Table 14 (see pages 30 to 32) lists the double-cross hybrids whose performance is shown in this report and the tables in which each appears. It also contains the pedigrees of the hybrids tested. In the pedigrees, the order of the single crosses and of the lines in the single crosses has no significance; it does not indicate which should be used as seed or pollen parent.

Illinois yellow hybrids are numbered consecutively below 2000 and above 6000. White hybrids are numbered in the 2000 series; these are usually followed by the letter *W*. Hybrids that have performed well after wide testing in several corn-belt states have been designated AES (Agricultural Experiment Station) hybrids. Hybrids in the 600 series are similar to Illinois 1277 in maturity; those in the 700 series correspond in maturity to Illinois 21; those in the 800 series correspond to U. S. 13; and those in the 900 series to Illinois 448.

The letter *A* or *B* following an Illinois hybrid number indicates that the combination of inbred lines making up the hybrid

has been rearranged or permuted. For example, if the original pedigree of an Illinois hybrid was (1 × 2) (3 × 4), the letter *A* following the number means that the hybrid was put together (1 × 3) (2 × 4), the letter *B*, (1 × 4) (2 × 3). A difference in reciprocals is not recognized in this method. When a short dash (–) followed by a number occurs as part of an Illinois hybrid number, it means that a tested related line has been substituted for one of the inbred lines included in the original hybrid.

Performance of three-way and single-cross hybrids is of interest to corn breeders, producers of hybrid seed corn, and to farmers. Characteristics of single crosses such as yield, standability, seed size, shape, and quality definitely affect the practical production of hybrid seed corn. Some farmers are interested in growing single-cross and three-way-cross hybrids commercially because of their attractive appearance and extreme uniformity. Use of single-cross and three-way-cross data for the prediction of desirable double-cross combinations creates additional interest in the performance of single crosses.

Prediction studies are an extremely valuable part of a research program. Methods are available to predict the performance of the better hybrid combinations without making and testing large numbers of undesirable crosses. For example, 1,225 single crosses and 690,900 double crosses are possible with 50 inbred lines. However, by using single-cross performance data, the corn breeder can predict which of the many possible double-cross combinations are likely to be most desirable. The following six single crosses can be made with four inbred lines: A × B, A × C, A × D, B × C, B × D, and C × D. The average per-

Table 1. — GENERAL INFORMATION: Tests of Illinois Experimental Corn Hybrids, 1955

County[a]	Section of state	Number of hills per plot	Plants per hill	Date of—	
				Planting	Harvesting
DeKalb	Northern	10	4	May 20	Oct. 18
Peoria	North-Central	10	4	May 19	Oct. 11
Champaign	Central	10	4	May 17	Oct. 25
Fayette	South-Central	10	3	June 3	Nov. 1

[a] The fields are located near the following cities and towns: in DeKalb county near DeKalb, in Peoria county near Peoria, in Champaign county near Urbana, and in Fayette county near Brownstown.

formance of the four non-parental single crosses gives the predicted performance of a specific double-cross hybrid. For instance, the average yields of the four single crosses A × C, A × D, B × C, and B × D give the predicted yield of double cross (A × B) (C × D). The procedure in predicting acre yields and percentage of erect plants from single-cross data is shown below. The single-cross data are taken from Table 3.

(R161xR168)(R170xR169)

	Bushels per acre	*Percent of erect plants*
R161×R169	112	82
R168×R170	103	61
R161×R170	68	63
R168×R169	108	71
	4 | 391	4 | 277
Prediction	98	69

(R129xR162)(R165xR166)

	Bushels per acre	*Percent of erect plants*
R129×R165	79	80
R129×R166	91	84
R162×R165	88	37
R162×R166	90	66
	4 | 348	4 | 267
Prediction	87	67

Similar predictions can be made for other characteristics. Predicted hybrid combinations, however, should always be thoroughly tested under field conditions before being put into commercial production.

Three-way crosses also provide useful predictions of the performance of double-cross hybrids. A large number of inbred lines can be compared, and the method is especially valuable where a desirable seed-parent single cross is available for use as a tester. Three-way crosses provide information on specific hybrids and may often eliminate the time and expense required for testing inbred lines in top crosses and single crosses.

The procedure in predicting acre yields and percentage of erect plants from three-way-cross data is shown below. The three-way-cross data are taken from Table 8. One hybrid is much more promising than the other hybrid.

(WF9xHy)(R127xB38)

	Bushels per acre	*Percent of erect plants*
(WF9×Hy)R127	116	80
(WF9×Hy)B38	108	72
	2 | 224	2 | 152
Prediction	112	76

(WF9xHy)(N15xN25)

	Bushels per acre	*Percent of erect plants*
(WF9×Hy)N15	84	42
(WF9×Hy)N25	97	62
	2 | 181	2 | 104
Prediction	90	52

MEASURING PERFORMANCE

All plots in these tests were planted, thinned, and harvested by hand in well-fertilized fields prepared in the usual way for corn. Individual plots were 2 × 5 hills in area. Six kernels were planted in hills spaced 40 inches apart. The plots were thinned to four plants per hill at DeKalb, Peoria, and Champaign, and to three per hill at Brownstown.

Lattice-square designs were used to obtain the data reported in Tables 2, 4, 5, 6, 7, 11, and 12. The data in Tables 3, 8, 9, and 10 were obtained in randomized blocks. Data in Tables 8 and 10 are the means of three replications of each entry; data in all other tables are the means of four replications per entry.

RESULTS OF THE TESTS

Data obtained from the tests are summarized in Tables 2 to 12. Long-time averages are more reliable indexes of the performance of hybrids than a single year's result. The parts of the tables summarizing the results of two or more years therefore deserve the most weight when the results are studied.

Hybrids are listed in the tables in the order of their yield. Acre yields are reported as shelled grain containing 15.5 percent moisture, the maximum allowable for No. 2 corn. The crop from two replications of each entry at each location was shelled to determine the shelling percentage and moisture percentage. The percentage of moisture in the shelled grain was obtained with a Steinlite moisture meter. Erect plants at harvest and stand were determined from actual counts on all replications of each test.

Data from all plots are included in the report on yield. The only correction for imperfect stands was the following adjustment for missing hills:

$$\text{Corrected weight} = \text{Field weight} \times \frac{\left(\begin{matrix}\text{Number of hills}\\ \text{per plot}\end{matrix}\right) - \left(\begin{matrix}0.3 \times \text{Number of missing}\\ \text{hills per plot}\end{matrix}\right)}{\left(\begin{matrix}\text{Number of hills}\\ \text{per plot}\end{matrix}\right) - \left(\begin{matrix}\text{Number of missing}\\ \text{hills per plot}\end{matrix}\right)}$$

This adjustment adds 0.7 percent of the average hill yield for each missing hill, and assumes that 0.3 percent is made up by the increased yield of surrounding hills.

Relative performance cannot be determined with absolute accuracy by any method of testing. Small differences between

entries are seldom of any significance. In fact, small differences are to be expected among plots planted even with the same lot of seed. Variations in growing conditions such as soil fertility are reduced but not completely eliminated by replicating the same entry several times in the same test. Unavoidable variation may be determined by a mathematical procedure known as analysis of variance. From this procedure figures may be obtained that represent the range which differences between two entries must exceed before those entries can be considered significantly different. The method used to determine this range is called the "Multiple Range Test."[1] This method considers the number of entries that fall within the range as well as the variability of the test. Data shown in **boldface** were not statistically different from the best performance for that characteristic.

The season was favorable for corn at DeKalb, although corn borers were quite prevalent. Hot, dry weather lowered yields at Peoria. Conditions were good for yields at Urbana, but wind and rain storms severely increased the amount of lodging. At Brownstown conditions were better than average for yield, but stalk rots greatly increased the amount of lodging.

The following double-cross hybrids, arranged in order of yield, were outstanding in performance:

Northern Illinois

Five-year average: Table 2A — Ill. 1555A, Ill. 1575, AES 702, Ill. 1279, Ill. 1289, Ill. 1493.

Four-year average: Table 2B — AES 702, Ill. 1277, Ill. 1555A, Ill. 1575, Ill. 1279, Ill. 1493.

Three-year average: Table 2C — Ill. 1555A, Ill. 1863, Ill. 1279, Ill. 1559B, Ill. 1575, Ill. 1281.

Two-year average: Table 2D — Ill. 1555A, Ill. 1281, Ill. 1279, Ill. 1559B, Ill. 1575, Ill. 1863.

1955 results: Table 2E — Ill. 1936, Ill. 1279, Ill. 1281, Ill. 1863, Minn. 511, Ill. 1799.

North-Central Illinois

Five-year average: Table 4A — Ill. 1511, Ill. 274-1, Ill. 1575, Ill. 1760, AES 805, Ill. 1560A.

Four-year average: Table 4B — Ill. 274-1, Ill. 1511, Ill. 1555A, Ill. 1831, Ill. 1575, Ill. 1760.

Three-year average: Table 4C — Ill. 1332, Ill. 274-1, Ill. 1819, Ill. 1875, Ill. 1555A, Ill. 1831.

[1] "Multiple Range and Multiple F Tests," by D. B. Duncan, in *Biometrics* 11 (1), 1-43, 1955.

Two-year average: Table 4D — AES 806, Ill. 1332, Ill. 274-1, Ill. 972A-1, Ill. 1912, Ill. 1919.

1955 results: Table 4E — Ill. 1916, Ill. 274-1, Ill. 1280, Ill. 1555A, Ill. 1913, Ill. 1919.

Central Illinois

Five-year average: Table 6A — Ill. 1421, Ill. 1511, Ill. 972A-1, Ill. 1332, Ill. 1777, AES 805.

Four-year average: Table 6B — Ill. 1421, Ill. 972A-1, Ill. 1332, Ill. 1511, AES 801, Ill. 1777.

Three-year average: Table 6C — Ill. 1332, Ill. 1813, AES 801, Ill. 1880, Ill. 1890, AES 805.

Two-year average: Table 6D — Ill. 1919, Ill. 1913, Ill. 1909, Ill. 972A-1, Ill. 1332, Ill. 1421.

1955 results: Table 6E — Ill. 1919, Ill. 1421, Ill. 1880, Ill. 1332, AES 803, Ill. 1889; Table 8 — Ill. 1927, Ill. 1921, Ill. 1922, Ill. 1926, Ill. 1928; Table 10 — Ill. 1935.

South-Central Illinois

Five-year average: Table 11A — Ill. 1332, Ill. 1349, Ill. 1656, Ill. 1539A, Ill. 1771, Ill. 2235W.

Four-year average: Table 11B — Ill. 1851, Ill. 1859, Ill. 1656, Ill. 1857, Ill. 1332, AES 805, Ill. 1849.

Three-year average: Table 11C — Ill. 1859, Ill. 1851, Ill. 2246W, Ill. 1332, Ill. 1656, Ill. 1857, AES 805, Ill. 1849.

Two-year average: Table 11D — Ill. 1857, Ill. 1349, Ill. 1893, AES 805, Ill. 1332, Ill. 1849.

1955 results: Table 11E — Ill. 1893, AES 805, Ill. 1849, Ill. 1909, Ill. 1918, Ill. 1919; Table 12 — AES 805, Ill. 1919, Ill. 1913, U.S. 619W.

The following single crosses and three-way crosses were outstanding in grain yield and standability in 1955:

Northern Illinois

Table 2E — M14 × B14, WF9 × I.205; Table 3 — R161 × R169, R165 × R168, R162 × R168, R166 × R168.

North-Central Illinois

Table 5 — K1603-1-3 × (B14 × WF9), B40 × (Oh28 × Oh43), B35 × (Oh28 × Oh43).

Central Illinois

Table 7 — R163 × R168, R159 × R168; Table 8 — R127 × (WF9 × Hy); Table 9 — ((Oh07 × L97)-B-#3-S6-2) × (38-11 × K201), ((Oh07 × L97)-B-#3-S2-1) × (38-11 × K201); Table 10 — R71 × R163, R71 × R101, R71 × R105, R71 × R168.

South-Central Illinois

Table 12 — R74 × (38-11 × K201), R75 × (38-11 × K201), Mo 9150 × (38-11 × K201), CI.49A × (K55 × H28), Mo9187W × (K55 × H28).

Table 2. — DOUBLE CROSSES OF ILLINOIS 1277 MATURITY
Tested in Northern Illinois, 1951-1955

(Data in **boldface** were not statistically different from the best performance for that characteristic)

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	A — Five-year averages, 1951-1955						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	Ill. 1555A	**106**	**22**	**80**	92	**98**	42
2	Ill. 1575	**104**	27	77	**94**	**98**	41
3	AES 702	**103**	26	75	92	**99**	46
4	Ill. 1277	**103**	25	78	90	**98**	41
5	Ill. 1279	**103**	25	78	**95**	**98**	39
6	Ill. 1280	102	24	78	92	96	38
7	Ill. 1289	102	25	76	**94**	**98**	37
8	Ill. 1493	102	26	78	**97**	96	39
9	Ill. 1559B	102	24	78	**94**	**98**	37
10	Ill. 1091A	101	27	77	89	96	41
11	Ill. 1281	101	25	78	**94**	**97**	36
12	Ill. 1557	101	25	77	**96**	96	37
13	Ill. 21	100	26	76	91	**97**	48
14	Ill. 1558	100	25	77	**95**	**97**	36
15	Ill. 1560A	100	24	77	**98**	**98**	38
16	Ill. 101	99	25	78	**94**	**98**	37
17	Ill. 1290	99	25	78	90	95	40
18	Ill. 1375	98	**23**	78	91	**97**	**35**
19	Ill. 1585	98	24	77	90	95	38
20	Ohio K24	98	**22**	**80**	91	95	37
21	Ill. 1595	97	25	76	**96**	**97**	42
22	Ill. 1579	96	24	78	**95**	**98**	**34**
	Average	101	25	78	93	97	39
	B — Four-year averages, 1952-1955						
1	AES 702	112	23	77	91	99	46
2	Ill. 1277	112	22	79	90	**97**	41
3	Ill. 1555A	112	**21**	80	**91**	**97**	43
4	Ill. 1575	112	24	78	**96**	**98**	41
5	Ill. 1279	111	**21**	79	**94**	**98**	39
6	I.S.P. 2	110	25	76	**96**	**98**	39
7	Ill. 21	109	23	78	**91**	**96**	48
8	Ill. 1091A	109	23	78	87	95	42
9	Ill. 1280	109	22	79	**92**	95	38
10	Ill. 1281	109	22	79	**94**	**97**	37
11	Ill. 101	108	22	79	**94**	**98**	37
12	Ill. 1289	108	22	77	**94**	**97**	38
13	Ill. 1493	108	23	76	**97**	**96**	39
14	Ill. 1559B	108	22	79	**94**	**98**	38
15	Ill. 1557	107	23	78	**96**	**96**	37
16	Ill. 1558	106	23	77	**95**	**96**	37
17	Ill. 1560A	106	**21**	78	**97**	**97**	38
18	Ill. 1290	105	23	79	90	95	40
19	Ill. 1375	105	**21**	79	89	**97**	36
20	Ill. 1585	104	**21**	78	88	95	38
21	Ohio K24	104	**20**	80	92	94	37
22	AES 512	103	**20**	80	**93**	**99**	38
23	Ill. 1595	103	22	77	**96**	**97**	42
24	Ill. 1799	103	**20**	**81**	**94**	**99**	39
25	Ill. 1802	103	**21**	80	**93**	**96**	38
26	Ill. 1579	101	**21**	79	**94**	**97**	**34**
27	Ill. 1800	101	**21**	79	**92**	**97**	36
28	AES 610	99	**20**	80	90	**96**	**32**
29	Ohio M15	97	**20**	**82**	83	**96**	43
	Average	107	22	79	92	97	39

(Table is continued on next page)

Table 2. — Continued

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
	C — Three-year averages, 1953-1955							
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
1	Ill. 1555A	116	22	81	89	96	42	..
2	Ill. 1277	113	22	80	87	97	41	..
3	Ill. 1861	113	20	81	86	98	38	..
4	Ill. 1863	113	24	79	92	97	35	..
5	Ill. 1279	112	22	79	93	98	38	..
6	Ill. 1559B	112	23	79	91	99	39	..
7	Ill. 1575	112	24	78	94	98	42	..
8	Ill. 1281	111	22	80	92	96	37	..
9	AES 702	110	23	77	88	99	46	..
10	Ill. 1091A	110	23	78	83	94	42	..
11	Ill. 1375	109	21	80	86	97	36	..
12	Ill. 21	108	23	78	88	96	48	..
13	Ill. 101	108	22	80	91	98	37	..
14	Ill. 1289	108	22	77	93	97	38	..
15	Ill. 1493	108	24	78	96	95	39	..
16	Ill. 1557	108	24	78	94	95	37	..
17	Ill. 1866	108	23	79	91	96	37	..
18	Ill. 1280	107	22	79	89	95	37	..
19	Ill. 1585	107	22	79	84	97	38	..
20	I.S.P. 2	107	25	76	94	99	38	..
21	AES 512	106	21	81	91	98	38	..
22	Ill. 1560A	106	22	78	97	97	38	..
23	Ill. 1862	106	22	80	89	95	33	..
24	Ill. 1864	106	22	80	91	97	34	..
25	Ill. 1865	106	23	79	90	96	35	..
26	Ill. 1595	105	23	78	94	96	42	..
27	Ohio K24	105	21	81	89	93	37	..
28	Ill. 1558	104	23	78	93	96	36	..
29	Ill. 1799	104	20	81	92	99	38	..
30	Ill. 1802	104	22	80	91	98	37	..
31	Ill. 1290	103	23	79	87	93	39	..
32	Ill. 1579	100	22	79	92	97	34	..
33	Ill. 1800	99	22	79	90	97	35	..
34	AES 610	98	21	81	87	94	33	..
35	Ohio M15	97	21	82	78	97	42	..
	Average	107	22	79	90	96	38	..
	D — Two-year averages, 1954-1955							
1	Ill. 1555A	122	25	79	85	96	44	5
2	Ill. 1281	117	25	80	89	98	40	3
3	Ill. 1861	116	22	79	79	98	39	3
4	AES 702	114	25	78	84	99	49	11
5	Ill. 1279	114	25	78	90	97	40	4
6	Ill. 1559B	114	26	76	88	98	42	4
7	Ill. 1277	112	25	79	81	96	43	5
8	Ill. 1375	112	24	79	80	96	38	3
9	Ill. 2247W	112	25	77	83	97	44	3
10	Ill. 1575	111	27	76	91	97	44	4
11	Ill. 1863	110	27	78	89	96	35	3
12	Ill. 1091A	109	26	76	76	93	43	3
13	Ill. 1289	108	26	75	90	98	40	5
14	Ill. 1557	108	27	77	92	96	39	5
15	Ill. 1864	108	24	77	88	95	36	5
16	Ill. 1866	108	26	78	88	95	39	2
17	Ill. 101	107	25	79	88	97	39	5
18	Ohio K24	107	23	80	86	92	37	4
19	I.S.P. 2	107	27	75	92	99	38	3
20	AES 512	106	24	79	86	98	40	6
21	Ill. 21	106	26	76	85	96	48	3
22	Ill. 1493	106	27	77	95	92	41	3
23	Ill. 1560A	106	24	77	95	96	40	4
24	Ill. 1585	106	24	78	80	96	40	5
25	Ill. 1595	106	27	77	91	96	44	2
26	Ill. 1799	106	22	80	88	98	40	4
27	Ill. 1802	105	24	79	87	96	39	4
28	Ill. 1862	105	25	79	84	93	33	4
29	Ill. 1280	104	25	77	84	94	37	3
30	Ill. 1290	103	26	78	81	93	41	4

(Table is concluded on next page)

Table 2. — Concluded

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
	D — Two-year averages, 1954-1955 (concluded)							
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
31	AES 510	102	22	79	90	94	40	6
32	Ill. 1865	102	26	78	86	96	37	5
33	Ill. 1903	102	24	76	88	94	41	3
34	Ill. 1558	100	25	76	89	95	38	2
35	AES 610	99	23	80	82	94	35	3
36	Ill. 1579	99	25	78	88	97	35	5
37	Ill. 1800	99	25	78	84	96	37	4
38	Ohio M15	98	23	81	72	96	44	4
39	Ohio 5305	83	22	78	92	94	40	9
	Average	107	25	78	86	96	40	4
	E — 1955 results (4 replications)							
	Double crosses							
1	Ill. 1555A	107	24	79	74	97	48	8
2	Ill. 1375	98	23	79	68	97	38	4
3	Ill. 1936	97	24	77	83	97	43	7
4	Ill. 1279	95	24	78	88	97	41	4
5	Ill. 1281	95	23	80	84	97	38	4
6	Ill. 1863	95	25	77	84	95	38	5
7	Ohio K24	94	23	79	77	92	38	5
8	Minn. 511	93	23	79	84	97	41	2
9	AES 702	92	24	78	74	99	58	19
10	Ill. 1861	92	22	78	69	98	41	2
11	Ill. 1862	92	24	79	76	98	37	6
12	Ill. 1277	91	24	78	72	99	45	6
13	Ill. 1799	91	22	81	82	98	40	6
14	Ill. 1802	91	24	79	77	96	40	5
15	Ill. 1091A	90	25	76	63	90	45	4
16	Ill. 1559B	90	24	75	80	98	44	8
17	Ill. 2247W	89	25	76	73	100	46	3
18	Ill. 1864	88	24	76	80	94	39	6
19	Ill. 1866	88	25	77	86	95	39	3
20	I.S.P. 2	88	26	75	87	98	42	5
21	Ill. 1560A	86	24	77	92	97	41	6
22	Ill. 1585	86	23	77	71	98	42	8
23	Ill. 1595	86	25	76	88	95	45	4
24	AES 512	85	22	78	80	99	41	8
25	Ill. 1575	85	26	76	86	98	46	6
26	Ill. 1280	84	24	76	81	94	37	2
27	Ohio M15	84	23	81	59	97	45	4
28	Ill. 1865	83	24	77	79	95	39	7
29	AES 610	82	23	80	80	93	36	4
30	Ill. 101	82	24	78	82	97	38	6
31	Ill. 1557	81	25	77	90	94	39	9
32	Ill. 1800	81	24	77	79	97	39	7
33	AES 510	80	21	78	88	94	41	10
34	Ill. 1289	80	25	73	88	98	41	6
35	Ill. 1558	80	24	76	84	96	39	2
36	Ill. 1290	79	25	77	75	92	42	5
37	Ill. 1903	78	24	76	80	92	41	3
38	Ill. 1937	78	27	74	89	98	42	6
39	Ill. 1579	77	25	78	87	99	36	9
40	Minn. CB8504	77	23	76	79	97	35	4
41	Ill. 21	76	26	75	77	95	51	3
42	Ill. 1493	76	25	75	93	93	41	5
43	Ill. 1902A	72	25	75	71	97	43	3
44	Ohio 5305	70	23	77	87	97	42	17
	Average	85	24	77	80	96	42	6
	Single crosses							
1	M14×B14	107	22	81	94	99	39	1
2	WF9×B14	107	24	77	78	95	46	7
3	Hy2×WF9	100	25	77	55	98	60	13
4	WF9×I.205	97	26	78	94	99	41	10
5	M14×WF9	92	24	77	58	98	45	5
	Average	101	24	78	76	98	46	7

Table 3. — SINGLE AND DOUBLE CROSSES OF ILLINOIS 1277 MATURITY

Tested in Northern Illinois, 1955

(Data in boldface were not statistically different from the best performance for that characteristic)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
	A — Single crosses							
1	R129×R159	79	26	77	76	**91**	46	**3**
2	R129×R161	73	24	77	63	**98**	49	**3**
3	R129×R162	90	24	77	54	**94**	48	**0**
4	R159×R161	80	27	77	73	**98**	47	**7**
5	R159×R162	77	27	78	**82**	**98**	45	**1**
6	R161×R162	85	25	77	50	**96**	51	**5**
7	R129×R163	83	24	77	72	**89**	50	**2**
8	R159×R163	85	28	79	70	**94**	47	**5**
9	R161×R163	95	24	79	64	**98**	56	**5**
10	R162×R163	**100**	27	78	54	**96**	54	**6**
11	R129×R165	79	26	78	**80**	**94**	45	**0**
12	R159×R165	80	29	78	**84**	**92**	45	**1**
13	R161×R165	90	28	79	76	**93**	50	**2**
14	R162×R165	88	29	79	37	88	46	**0**
15	R163×R165	94	28	77	68	**94**	49	**1**
16	R129×R166	91	26	80	**84**	**98**	47	**0**
17	R159×R166	88	28	81	**80**	**96**	**42**	**4**
18	R161×R166	90	27	80	68	**97**	49	**4**
19	R162×R166	90	26	80	66	91	45	**1**
20	R163×R166	93	25	81	77	**92**	46	**1**
21	R165×R166	98	29	81	69	**99**	47	**1**
22	R129×R168	98	26	78	**88**	**100**	49	**3**
23	R159×R168	92	28	77	**97**	**97**	46	**1**
24	R161×R168	88	25	80	**79**	**96**	50	**4**
25	R162×R168	**104**	26	80	**80**	**99**	46	**0**
26	R163×R168	97	27	80	**88**	84	50	**4**
27	R165×R168	**110**	30	80	**83**	**96**	48	**3**
28	R166×R168	**102**	26	81	**86**	**98**	46	**0**
29	R129×R169	97	27	80	64	**98**	51	**1**
30	R159×R169	95	29	79	**79**	**98**	51	**1**
31	R161×R169	**112**	28	81	**82**	**98**	55	**1**
32	R162×R169	**109**	26	82	52	**96**	51	**1**
33	R163×R169	**102**	28	80	67	**92**	52	**1**
34	R165×R169	**104**	27	81	58	89	49	**1**
35	R166×R169	87	29	81	66	**94**	48	**2**
36	R168×R169	**108**	28	78	71	**98**	50	**1**
37	R129×R170	77	24	77	52	**95**	49	**2**
38	R159×R170	70	23	78	45	**92**	50	**1**
39	R161×R170	68	23	78	63	88	52	**6**
40	R162×R170	66	24	77	29	**96**	49	**6**
41	R163×R170	87	24	75	46	**96**	52	**5**
42	R165×R170	58	23	79	29	86	48	**4**
43	R166×R170	81	24	79	55	**96**	49	**4**
44	R168×R170	**103**	24	78	61	**97**	53	**5**
45	R169×R170	96	25	80	41	**95**	53	**6**
49	M14×WF9	89	23	77	65	**93**	46	**5**
	Average	90	26	79	66	95	49	**2**
	B — Double crosses							
48	AES 702	96	24	77	77	**96**	57	26
46	Ill. 1277	94	24	79	71	**97**	49	**6**
47	Ill. 1575	90	26	76	77	**96**	50	**3**
	Average	93	25	77	75	96	52	12

Table 4. — DOUBLE CROSSES OF ILLINOIS 21 MATURITY Tested in North-Central Illinois, 1951-1955

(Data in boldface were not statistically different from the best performance for that characteristic)

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	A — Five-year averages, 1951-1955						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	Ill. 972A-1	**96**	22	80	91	**96**	44
2	Ill. 1332	**95**	20	81	92	**97**	44
3	Ill. 1511	**95**	21	81	**94**	90	45
4	Ill. 1617	**95**	22	78	90	**93**	42
5	Ill. 274-1	**94**	20	81	**94**	**97**	44
6	Ill. 1570	**93**	22	78	88	**98**	45
7	Ill. 1555A	**91**	**18**	**83**	93	**98**	**38**
8	Ill. 1575	**91**	22	79	**94**	**98**	39
9	Ill. 1760	**90**	23	77	**94**	**96**	41
10	Ill. 1280	89	19	**83**	91	**97**	**37**
11	Ill. 1277	88	20	82	93	**97**	39
12	AES 805	87	22	77	**96**	94	41
13	Ill. 1560A	87	19	81	**97**	**97**	**36**
14	Ill. 1290	86	19	**82**	92	**95**	**37**
15	AES 702	85	21	78	92	**97**	41
16	Iowa 4297	80	20	80	93	**92**	**38**
	Average	90	20	80	93	96	41
	B — Four-year averages, 1952-1955						
1	Ill. 1819	**95**	19	80	91	**97**	41
2	Ill. 972A-1	**94**	22	80	90	**95**	45
3	Ill. 1332	**94**	20	81	91	**97**	44
4	Ill. 274-1	**93**	20	81	**93**	**98**	44
5	Ill. 1511	**93**	21	81	**92**	88	46
6	Ill. 1617	**92**	22	78	89	**92**	42
7	Ill. 1570	**91**	21	78	87	**98**	45
8	Ill. 1555A	**90**	**17**	**83**	94	**97**	39
9	Ill. 1814	**90**	22	79	**95**	**95**	**38**
10	Ill. 1831	**90**	22	80	**95**	**96**	**38**
11	Ill. 1575	**89**	21	79	**94**	**98**	39
12	Ill. 1760	**87**	23	77	**94**	**95**	41
13	Ill. 1826	**87**	22	80	**93**	**97**	**36**
14	Ill. 1277	86	20	**82**	**92**	**97**	39
15	Ill. 1280	86	19	81	90	**96**	**37**
16	Ill. 1560A	86	**18**	81	**96**	**97**	**37**
17	Ill. 1813	86	23	78	**95**	**95**	42
18	AES 805	83	22	76	**96**	**92**	41
19	Ill. 1290	82	19	**82**	91	**94**	**38**
20	AES 702	81	21	78	91	**96**	41
21	Iowa 4297	77	19	79	**92**	**91**	**38**
	Average	88	21	80	92	95	41

(Table is continued on next page)

Table 4. — Continued

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
	C — Three-year averages, 1953-1955							
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
1	Ill. 1332	86	20	81	90	96	41	..
2	Ill. 274-1	85	20	81	92	97	40	..
3	Ill. 972A-1	85	22	79	87	94	42	..
4	Ill. 1819	85	19	80	89	96	37	..
5	Ill. 1875	84	21	79	93	92	43	..
6	Ill. 1570	83	21	78	85	97	42	..
7	Ill. 1555A	82	18	82	91	97	36	..
8	Ill. 1617	82	22	78	87	94	40	..
9	Ill. 1831	82	22	80	94	95	34	..
10	Ill. 1511	81	21	81	91	84	41	..
11	Ill. 1814	81	21	79	94	96	35	..
12	Ill. 1868	80	21	79	94	94	38	..
13	Ill. 2247W	80	20	79	84	96	39	..
14	Ill. 1575	79	21	79	91	98	36	..
15	Ill. 1760	79	22	77	92	94	38	..
16	Ill. 1280	78	18	81	87	95	33	..
17	Ill. 1826	78	22	80	92	97	32	..
18	Ill. 1277	77	20	83	89	96	36	..
19	Ill. 1560A	77	18	81	95	96	34	..
20	Ill. 1813	77	23	78	94	97	39	..
21	Ill. 1863	76	20	81	95	94	33	..
22	AES 702	74	20	79	89	95	38	..
23	Ill. 1864	74	18	80	93	96	32	..
24	Ill. 1873	74	20	78	95	94	33	..
25	Ill. 1290	73	19	81	90	93	35	..
26	AES 805	72	22	76	94	90	38	..
27	Iowa 4297	67	20	79	92	90	36	..
	Average	79	21	80	91	94	37	..
	D — Two-year averages, 1954-1955							
1	AES 806	88	24	78	89	99	36	3
2	Ill. 1332	88	22	80	89	100	38	2
3	Ill. 274-1	86	22	80	90	99	39	0
4	Ill. 972A-1	86	25	78	88	98	40	2
5	Ill. 1912	86	23	80	88	96	38	2
6	Ill. 1919	85	22	79	90	98	39	2
7	Ill. 1913	84	22	80	84	96	39	2
8	Ill. 1916	84	22	80	81	97	39	2
9	Ill. 1917	84	22	79	84	93	38	0
10	Ill. 1511	83	23	79	91	96	40	8
11	Ill. 1617	83	25	76	86	95	37	2
12	Ill. 1819	83	22	78	88	98	36	5
13	Ill. 1875	83	24	78	93	96	40	6
14	Ill. 1555A	82	20	81	92	98	36	3
15	Ill. 1570	82	24	77	85	98	40	1
16	Ill. 1905	81	23	75	87	98	39	3
17	Ill. 1918	81	24	79	88	96	39	3
18	Ill. 1908	80	21	79	86	98	38	1
19	Ill. 1910	80	21	81	83	98	39	1
20	Ill. 1915	80	22	78	88	98	38	4
21	Ill. 1814	79	24	77	92	97	35	2
22	Ill. 1909	79	22	79	84	97	39	5
23	Ill. 1914	79	24	77	91	99	39	4
24	Ill. 1906	78	24	77	86	98	39	4
25	Ill. 2247W	78	22	78	84	98	37	4
26	Ill. 1280	77	21	79	88	97	31	4
27	Ill. 1760	77	25	76	92	99	36	3
28	Ill. 1831	77	25	79	94	98	33	3
29	Ill. 1868	77	24	78	94	95	37	4
30	Ill. 1575	76	25	77	92	98	36	4
31	Ohio 3247	76	21	80	88	98	31	4
32	Ill. 1826	75	25	79	92	98	31	3
33	Ill. 1904	75	22	77	75	97	40	3
34	Ill. 6021	75	25	76	74	97	46	4
35	Ill. 1903	74	21	78	95	94	34	2

(Table is concluded on next page)

Table 4. — Concluded

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
	D — Two-year averages, 1954-1955 (concluded)							
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
36	Ill. 1277	73	22	81	89	97	36	1
37	Ill. 1560A	73	20	79	94	97	35	1
38	Ill. 1813	73	26	76	93	98	38	3
39	Ill. 1863	73	24	79	94	95	33	3
40	Ill. 1290	72	21	80	88	97	34	3
41	Ill. 1911	72	26	77	89	94	41	4
42	AES 702	71	23	77	92	96	37	3
43	Ill. 1864	70	21	79	90	100	30	3
44	Ill. 1873	67	23	75	95	98	32	3
45	AES 805	65	24	74	94	95	36	3
46	Iowa 4297	64	23	76	89	97	34	5
	Average	78	23	78	89	97	37	3
	E — 1955 results (4 replications)							
1	Ill. 1332	71	25	78	92	99	33	1
2	Ill. 1916	71	24	78	95	94	32	1
3	Ill. 1917	71	24	77	92	90	33	0
4	Ill. 274-1	70	24	78	95	99	35	0
5	Ill. 1909	70	24	78	92	99	34	5
6	AES 806	69	26	77	90	98	32	5
7	Ind. 4656	68	24	78	94	98	29	1
8	Ill. 1280	67	22	79	97	95	29	1
9	Ill. 1555A	67	21	80	95	99	29	2
10	Ill. 1913	67	24	78	95	95	34	1
11	Ill. 1919	67	24	78	94	98	33	1
12	Ill. 972A-1	66	27	76	90	96	33	1
13	Ill. 1912	66	24	78	97	95	33	1
14	Ill. 1863	64	25	78	98	92	28	2
15	Ill. 1875	64	26	76	95	92	34	3
16	Ill. 1760	63	27	75	97	99	31	2
17	Ill. 1831	63	26	77	96	97	28	1
18	Ill. 1910	63	23	80	94	96	33	0
19	Ill. 2247W	63	24	76	91	97	32	4
20	Ill. 1617	62	30	74	87	90	32	3
21	Ill. 1814	62	26	74	99	94	31	1
22	Ill. 1826	62	28	78	95	96	26	3
23	Ill. 1903	62	22	77	99	91	28	2
24	Ill. 1868	61	26	76	95	92	32	5
25	Ohio 3247	61	21	77	96	97	27	5
26	Ill. 1511	60	25	77	96	95	33	1
27	Ill. 1908	60	23	77	96	96	32	0
28	Ill. 1914	60	26	75	98	99	32	3
29	Ill. 1915	60	23	77	90	97	33	3
30	Ill. 1918	59	25	76	94	95	34	3
31	Ill. 1570	59	26	74	93	98	34	1
32	Ill. 1819	59	22	77	98	96	29	3
33	Ill. 1813	58	27	75	96	98	33	3
34	Ill. 1905	58	24	73	92	97	32	2
35	AES 702	57	24	76	97	95	34	5
36	Ill. 1560A	57	21	78	98	95	30	0
37	Ill. 1575	57	27	76	92	98	30	5
38	Ill. 1873	57	24	74	98	96	27	2
39	Ill. 1864	56	23	76	92	100	25	3
40	Ill. 21	54	26	76	96	100	32	4
41	Ill. 1906	54	26	76	96	97	33	3
42	Ill. 1907	54	25	77	93	96	31	0
43	Iowa 4297	54	24	72	93	96	31	3
44	Ill. 1277	53	24	80	93	96	32	2
45	Ill. 1904	53	22	75	90	96	33	4
46	Ill. 1290	52	23	79	96	96	29	5
47	Ill. 6021	52	27	74	85	95	40	3
48	AES 805	51	26	72	97	95	30	3
49	Ill. 1911	51	32	74	98	91	36	2
	Average	61	25	76	94	96	32	2

Table 5. — THREE-WAY AND DOUBLE CROSSES OF ILLINOIS 21 MATURITY

Tested in North-Central Illinois, 1955

(Data in boldface were not statistically different from the best performance for that characteristic)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
	A — Inbred lines crossed with (B14×WF9)							
1	B39	63	24	75	99	96	30	1
2	B40	72	27	75	98	98	34	1
3	B35	59	23	78	99	98	30	1
4	Oh460	56	21	75	93	95	23	0
5	Oh480	68	23	78	98	99	32	3
6	Oh481	71	24	76	99	96	30	3
7	N9206	61	23	80	97	99	30	1
8	K1603-1-3	84	25	79	99	99	31	2
9	N32	56	20	78	95	93	30	6
10	N6	69	24	77	99	96	28	1
11	N6/HG 91310-2	61	24	74	100	98	27	2
12	N6/HG 91311-4	61	28	74	99	97	29	3
13	N6/HG 91313-4	68	27	78	98	97	33	5
14	N6/HG 91336-5	59	24	78	99	96	31	1
15	Oh45	73	26	78	98	96	26	2
16	Oh43	68	24	78	99	99	25	2
17	Oh28	67	22	77	97	97	30	0
18	B37	57	22	75	99	99	30	2
	Average	65	24	77	98	97	29	2
	B — Inbred lines crossed with (Oh28×Oh43)							
19	B40	78	29	76	99	100	33	1
20	B35	80	24	81	99	98	27	0
21	Oh460	53	23	75	96	96	20	1
22	N9206	66	23	79	98	97	28	3
23	K1603-1-3	65	26	75	98	96	30	1
24	N32	58	23	80	92	96	27	1
25	N6	64	24	76	97	97	23	0
26	N6/HG 91310-2	69	26	77	97	99	25	4
27	N6/HG 91311-4	61	28	74	98	95	28	0
28	N6/HG 91313-4	65	26	78	96	96	30	3
29	N6/HG 91336-5	64	26	80	97	97	26	1
30	B14	58	29	75	100	97	28	2
31	WF9	65	24	78	99	98	26	0
	Average	65	25	77	97	97	27	1
	C — Double crosses							
45	Ill. 1933	68	25	76	98	97	31	2
32	(WF9×B14)(Oh28×Oh43)	64	24	78	99	95	28	1
35	Ill. 1922	64	27	75	98	96	35	1
39	Ill. 1926	64	24	75	100	99	32	2
40	Ill. 1927	63	25	73	99	96	32	5
34	Ill. 1921	63	27	75	98	99	33	0
48	Ill. 1902A	63	22	78	97	97	31	2
42	Ill. 1929	63	27	76	98	96	34	0
38	Ill. 1925	61	24	76	99	94	34	0
46	Ill. 1934	61	25	74	97	95	35	5
41	Ill. 1928	60	27	75	99	98	35	2
33	Ill. 1920	59	25	75	97	99	33	1
49	Ill. 1896A	59	26	76	97	98	35	4
44	Ill. 1932	58	25	75	99	96	36	3
47	Ill. 1935	58	25	76	97	94	31	3
37	Ill. 1924	57	22	75	96	96	30	2
36	Ill. 1923	54	22	74	99	98	31	2
43	Ill. 1931	49	25	73	99	96	33	1
	Average	60	25	75	98	97	33	2

Table 6. — DOUBLE CROSSES OF U. S. 13 MATURITY
Tested in Central Illinois, 1951-1955

(Data in boldface were not statistically different from the best performance for that characteristic)

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	A — Five-year averages, 1951-1955						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	Ill. 1421	**95**	17	**83**	**77**	**98**	**44**
2	Ill. 1511	**93**	17	**83**	**76**	**99**	48
3	Ill. 972A-1	**92**	**16**	80	**76**	**99**	47
4	Ill. 1332	**92**	**16**	82	**81**	**97**	46
5	Ill. 1777	**90**	17	81	74	**99**	46
6	Ill. 1788	**90**	18	79	71	**98**	48
7	Ill. 1759	**89**	18	80	73	**98**	46
8	U.S. 13	**89**	17	81	69	**98**	51
9	Ill. 274-1	**88**	**16**	**83**	74	**98**	46
10	Ill. 1570	**88**	18	81	71	**99**	47
11	Ill. 1764	**87**	17	79	74	**99**	48
12	AES 805	86	18	81	**84**	**97**	**44**
13	Ill. 1767	86	18	81	70	**99**	**45**
14	Ill. 21	85	17	**83**	72	**98**	47
	Average	90	17	81	75	98	47
	B — Four-year averages, 1952-1955						
1	Ill. 1421	**94**	17	**83**	75	**98**	44
2	Ill. 972A-1	**92**	16	80	75	**98**	47
3	Ill. 1332	**92**	15	82	**82**	**97**	46
4	Ill. 1511	**92**	17	**83**	**76**	**99**	48
5	AES 801	**90**	17	80	**84**	**96**	41
6	Ill. 1777	**90**	17	81	**76**	**99**	46
7	Ill. 274-1	**89**	16	**83**	75	**97**	46
8	Ill. 1570	**88**	17	81	75	**99**	48
9	Ill. 1788	**88**	17	79	70	**98**	48
10	Ohio 4808	**88**	17	81	74	**98**	**41**
11	U.S. 13	**88**	16	81	72	**97**	51
12	AES 802	**87**	16	81	**79**	90	44
13	Ill. 1759	**87**	17	80	72	**98**	46
14	Ill. 21	**85**	16	**83**	**76**	**98**	47
15	Ill. 1767	**85**	17	81	75	**99**	45
16	AES 803	**84**	17	81	**80**	**96**	**42**
17	Ill. 1764	**83**	17	79	75	**98**	48
18	AES 805	80	17	81	**85**	**96**	43
	Average	88	17	81	76	97	46
	C — Three-year averages, 1953-1955						
1	Ill. 1421	**91**	17	**84**	67	**97**	**43**
2	Ill. 1332	**89**	**15**	**83**	**76**	**96**	46
3	Ill. 1511	**89**	17	**83**	70	**98**	48
4	Ill. 1896	**88**	16	**83**	70	**98**	**43**
5	Ill. 972A-1	**87**	16	80	67	**98**	47
6	Ill. 1777	**87**	17	**82**	69	**99**	46
7	Ill. 1570	**86**	17	**82**	68	**98**	48
8	U.S. 13	**85**	16	**82**	66	**97**	50
9	Ill. 1788	**84**	17	80	61	**98**	47
10	Ill. 274-1	**83**	16	**83**	66	**97**	46
11	Ill. 1813	**83**	18	**81**	**75**	**97**	**43**
12	Ohio 4808	**83**	16	**82**	66	**98**	**40**
13	AES 801	**82**	16	79	**79**	**95**	**41**
14	AES 802	**82**	16	**81**	**74**	90	44
15	Ill. 1767	**81**	17	**81**	68	**99**	45
16	Ill. 21	**79**	16	**83**	69	**97**	48
17	Ill. 1759	**79**	17	80	64	**98**	46
18	Ill. 1880	**79**	**15**	**82**	71	**95**	**42**
19	Ill. 1890	**79**	17	80	**79**	**98**	**43**
20	AES 803	**78**	17	**81**	**74**	**95**	**41**

(Table is continued on next page)

Table 6. — Continued

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
C — Three-year averages, 1953-1955 (concluded)								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
21	Ill. 1764	76	16	79	68	98	48	..
22	AES 805	74	17	81	81	95	43	..
23	Ill. 1884	73	16	78	79	96	45	..
24	Ill. 1877	72	16	80	82	98	40	..
25	Ill. 1889	71	18	78	83	98	45	..
26	Ill. 6075	70	16	83	50	97	42	..
27	Ill. 1876	69	16	79	73	96	44	..
	Average	81	17	81	71	97	45	..
D — Two-year averages, 1954-1955								
1	Ill. 1919	97	17	84	63	96	43	1
2	Ill. 1913	94	17	85	61	96	42	5
3	Ill. 1511	93	18	84	63	98	46	10
4	AES 806	92	19	84	59	98	40	9
5	Ill. 1909	92	17	84	63	96	46	7
6	Ill. 972A-1	91	17	79	65	98	45	6
7	Ill. 1332	91	17	84	71	95	43	4
8	Ill. 1421	91	18	84	66	96	41	3
9	Ill. 1918	91	17	81	59	97	44	5
10	Ill. 1777	90	18	82	64	99	43	5
11	U.S. 13	90	17	83	63	96	48	11
12	Ill. 1896	89	17	84	68	98	41	9
13	Ill. 1911	88	18	83	64	95	47	6
14	Ill. 1915	88	17	82	61	97	44	4
15	Ill. 1916	88	17	84	62	96	43	5
16	Ill. 274-1	87	17	83	62	95	44	2
17	Ill. 1570	87	19	82	67	98	44	13
18	Ill. 1788	87	18	80	62	97	43	5
19	Ill. 1908	87	17	85	62	95	44	5
20	AES 807W	86	20	82	69	98	41	4
21	Ill. 1906	86	17	81	57	96	41	7
22	Ind. 2609	86	16	83	61	97	40	4
23	AES 801	85	17	79	75	96	39	3
24	Ill. 1914	85	18	81	57	98	44	3
25	Ill. 1813	83	19	81	69	99	42	10
26	Ill. 1905	83	17	79	66	97	43	8
27	Ill. 1912	83	17	83	64	95	41	4
28	Ill. 1767	82	18	81	65	99	43	7
29	Ill. 1917	82	17	82	54	96	42	3
30	AES 802	81	17	80	71	87	43	8
31	Ill. 21	81	17	84	66	98	46	9
32	Ill. 1910	81	17	84	61	99	43	5
33	Ill. 6021	81	18	80	54	96	52	6
34	Ohio 4808	81	18	82	55	98	39	2
35	Ill. 1759	80	18	81	61	98	44	6
36	AES 803	79	18	81	70	96	41	6
37	Ill. 1880	79	16	83	65	96	40	6
38	Ill. 1890	78	18	80	76	97	42	7
39	Ill. 1904	76	17	80	55	93	44	4
40	Ill. 1764	75	17	79	64	97	47	4
41	AES 805	72	18	82	79	93	41	6
42	Ill. 6075	72	17	84	43	99	41	5
43	Ill. 1884	70	17	77	75	96	43	10
44	Ill. 1876	67	18	79	68	94	41	7
45	Ill. 1877	67	18	80	77	98	39	7
46	Ill. 1889	67	19	77	79	97	41	4
	Average	83	17	82	63	97	43	6

(Table is concluded on next page)

Table 6. — Concluded

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
	E — 1955 results (4 replications)							
	Double crosses	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
1	Ill. 1919	100	17	84	36	96	48	2
2	Ill. 274-1	99	17	85	29	91	51	3
3	Ill. 1909	99	17	86	36	96	51	11
4	Ill. 972A-1	98	16	82	49	98	50	12
5	Ill. 1421	97	17	86	44	93	45	4
6	Ill. 1880	96	16	84	43	95	44	7
7	AES 806	94	18	84	32	98	46	11
8	Ohio 4808	94	17	84	19	98	44	3
9	Ill. 1332	93	16	84	53	93	46	8
10	Ill. 1767	93	17	81	43	100	46	11
11	Ill. 1813	93	19	82	47	99	49	17
12	Ill. 1913	93	16	85	29	98	46	6
13	Ill. 1916	93	16	85	36	97	47	8
14	Ill. 1918	93	17	83	31	94	49	6
15	Ill. 1905	92	17	81	42	95	49	13
16	AES 803	91	18	83	47	93	47	7
17	Ill. 1788	91	18	81	37	96	49	6
18	Ill. 1915	91	16	84	33	97	50	7
19	Ill. 1912	90	16	85	35	94	46	5
20	Ill. 1889	89	18	80	58	98	47	7
21	AES 807W	88	20	84	42	98	48	8
22	Ill. 1907	88	17	82	40	98	50	6
23	U.S. 13	88	17	83	39	95	54	18
24	AES 801	87	17	82	56	96	45	5
25	Ill. 1511	87	17	84	40	98	49	15
26	Ill. 1777	87	17	83	38	98	47	8
27	Ill. 1906	87	17	81	36	97	46	7
28	Ill. 1908	87	16	85	27	98	49	8
29	AES 802	85	17	83	46	94	48	11
30	AES 805	85	17	84	61	97	48	12
31	Ill. 1759	85	18	84	39	99	50	10
32	Ill. 1884	85	16	82	56	95	49	13
33	Ill. 1890	85	17	82	58	94	46	14
34	Ill. 1902A	85	16	85	28	98	46	7
35	Ill. 1910	85	17	84	33	99	49	6
36	Ill. 1917	85	17	83	33	96	47	5
37	Ill. 1570	84	18	83	49	98	49	16
38	Ill. 1764	84	18	81	38	99	53	7
39	Ill. 1877	84	16	85	54	98	44	6
40	Ill. 1914	84	17	82	26	98	49	5
41	Ind. 2609	84	16	85	39	95	43	5
42	Ill. 1876	82	16	84	44	94	45	10
43	Ill. 1911	82	18	84	39	92	53	7
44	Ill. 21	81	16	85	36	97	50	10
45	Ill. 1896	81	16	84	47	99	44	8
46	Ill. 6021	79	18	80	34	99	59	8
47	Ill. 1904	73	17	82	22	92	50	5
48	Ill. 6075	73	16	85	16	99	47	3
	Average	88	17	83	39	96	48	8
	Single cross							
	Hy2×Oh7	113	16	85	37	97	51	4

Table 7. — SINGLE AND DOUBLE CROSSES OF U. S. 13 MATURITY

Tested in Central Illinois, 1955

(Data in **boldface** were not statistically different from the best performance for that characteristic)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
	A — Single crosses							
1	R129×R159	84	16	83	26	97	42	0
2	R129×R161	81	16	84	13	93	45	0
3	R129×R162	55	18	82	7	95	45	0
4	R159×R161	83	16	84	22	99	45	2
5	R159×R162	67	17	84	35	92	44	0
6	R161×R162	53	18	84	15	96	48	1
7	R129×R163	86	16	82	24	95	46	0
8	R159×R163	96	16	83	38	97	49	1
9	R161×R163	90	16	85	13	98	49	0
10	R162×R163	70	18	82	25	95	50	1
11	R129×R165	82	16	83	30	95	39	0
12	R159×R165	79	16	86	48	94	45	1
13	R161×R165	75	17	84	7	89	42	0
14	R162×R165	50	19	82	7	95	43	0
15	R163×R165	81	17	81	20	97	46	2
16	R129×R166	72	16	85	16	99	43	0
17	R159×R166	80	16	87	16	95	41	0
18	R161×R166	83	16	87	3	97	48	0
19	R162×R166	52	18	82	3	95	41	1
20	R163×R166	82	16	84	9	98	41	0
21	R165×R166	78	16	85	7	95	41	0
22	R129×R168	90	16	82	50	98	40	0
23	R159×R168	97	16	83	58	98	44	2
24	R161×R168	85	16	86	15	97	43	0
25	R162×R168	86	17	84	38	99	44	0
26	R163×R168	107	16	84	56	99	44	2
27	R165×R168	91	17	83	32	98	43	0
28	R166×R168	88	17	85	14	96	42	0
29	R129×R169	84	18	85	17	94	46	1
30	R159×R169	89	18	85	32	98	49	1
31	R161×R169	93	16	89	9	98	46	1
32	R162×R169	66	18	87	13	97	50	0
33	R163×R169	97	17	84	25	93	54	1
34	R165×R169	86	17	85	7	95	48	0
35	R166×R169	74	17	82	4	98	46	0
36	R168×R169	96	18	83	26	98	46	0
37	R129×R170	48	17	81	1	94	45	1
38	R159×R170	67	16	83	12	96	45	0
39	R161×R170	56	16	82	3	96	46	1
40	R162×R170	28	19	77	1	91	46	1
41	R163×R170	55	18	80	11	95	51	2
42	R165×R170	18	17	83	2	90	42	0
43	R166×R170	69	17	82	2	94	41	0
44	R168×R170	94	17	84	30	96	45	0
45	R169×R170	50	18	82	5	95	47	0
	Average	75	17	84	19	96	45	1
	B — Double crosses							
46	Ill. 1332	100	16	84	52	96	48	1
47	Ill. 1570	90	16	82	44	96	47	5
48	Ill. 1813	88	18	82	69	98	47	5
49	U.S. 13	86	17	83	38	98	49	1
	Average	91	17	83	51	97	48	3

Table 8. — THREE-WAY AND DOUBLE CROSSES OF U. S. 13 MATURITY

Tested in Central Illinois, 1955

(Data in **boldface** were not statistically different from the best performance for that characteristic)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
	A — Inbred lines crossed with (WF9 × Hy)							
1	B38	**108**	20	80	72	**98**	51	8
2	K720	94	19	82	**82**	**98**	46	12
3	K721	95	18	81	70	**97**	48	**7**
4	K722	89	17	81	**87**	**97**	**42**	**7**
5	N15	84	21	81	42	**98**	48	15
6	N25	97	18	81	62	**93**	47	**7**
7	N35	98	19	79	63	**98**	54	14
8	R109B	99	19	82	69	**98**	49	**7**
9	R127	**116**	19	84	**80**	**99**	47	**3**
10	R129	84	17	82	72	**98**	45	8
11	R154	100	18	82	37	**98**	51	**2**
12	L317	104	19	79	53	**96**	57	12
13	38-11	104	19	82	58	**98**	46	**5**
	Average	98	19	81	65	97	49	8
	B — Inbred lines crossed with (WF9 × 38-11)							
14	B38	86	19	81	**85**	89	47	**6**
15	K720	81	19	82	**84**	**98**	**39**	18
16	K721	85	17	82	**78**	**97**	**43**	**3**
17	K722	85	18	82	**94**	**99**	**39**	**5**
18	N15	81	21	81	55	83	48	22
19	N25	75	18	82	73	81	46	**5**
20	N35	89	18	81	**80**	**95**	49	**7**
21	R109B	86	18	84	75	**96**	46	**8**
22	R127	95	19	82	71	**99**	45	**0**
23	R129	85	18	83	**84**	**94**	**42**	**3**
24	R154	91	18	81	73	**93**	50	**2**
25	L317	90	19	79	57	92	58	15
26	Hy	77	18	82	64	90	52	**6**
	Average	85	18	82	75	93	46	8
	C — Double crosses							
35	Ill. 1927	105	19	80	**83**	**97**	51	11
29	Ill. 1921	105	20	80	**78**	**99**	48	**4**
30	Ill. 1922	102	21	81	**84**	**94**	52	**8**
34	Ill. 1926	100	19	81	**79**	**98**	49	9
36	Ill. 1928	99	19	81	80	**95**	51	**5**
28	Ill. 1920	97	18	83	76	**94**	46	10
33	Ill. 1925	96	19	81	74	**99**	48	**6**
32	Ill. 1924	94	18	83	75	**98**	46	**6**
40	Ill. 1933	93	20	81	76	**94**	51	**7**
37	Ill. 1929	93	20	80	**79**	**98**	55	**2**
39	Ill. 1932	91	20	80	70	**97**	52	**6**
31	Ill. 1923	90	18	81	**78**	**99**	46	12
27	U.S. 13	89	19	78	64	**94**	57	11
38	Ill. 1931	88	18	80	66	**95**	51	**4**
	Average	96	19	81	76	96	50	7

Table 9. — BLIGHT-RESISTANT THREE-WAY CROSSES AND STANDARDS OF U. S. 13 MATURITY

Tested in Central Illinois, 1955

(Data in **boldface** were not statistically different from the best performance for that characteristic)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
	A — Inbred lines crossed with (38-11×K201)							
12	Hy	67	19	83	79	97	49	7
13	CI.42A	93	21	83	63	94	51	8
14	CI.42B	83	20	84	57	96	55	7
15	CI.42C	92	19	84	62	96	55	3
16	(Hy×L97)-B-#3-S1-1	83	22	80	59	98	54	2
17	(Hy×L97)-B-#3-S1-2	81	20	80	77	96	55	9
18	(Hy×L97)-B-#3-S1-3	89	19	81	64	94	54	5
19	(Hy×L97)-B-#3-S1-4	66	20	78	81	97	58	6
20	(Hy×L97)-B-#3-S4-1	80	18	80	79	94	55	21
21	(Hy×L97)-B-#3-S4-2	95	18	82	68	98	50	12
22	(Hy×L97)-B-#3-S5-1	87	20	81	74	96	57	7
23	Oh07	111	18	84	53	89	54	4
24	(Oh07×L97)-B-#3-S2-1	111	19	82	71	97	54	8
25	(Oh07×L97)-B-#3-S4-1	111	19	82	63	95	62	5
26	(Oh07×L97)-B-#3-S6-1	101	19	81	77	92	53	7
27	(Oh07×L97)-B-#3-S6-2	112	21	81	72	97	60	7
28	(Oh07×L97)-B-#3-S7-1	99	20	81	65	94	61	10
29	(Oh07×L97)-B-#3-S8-1	101	20	85	76	95	62	13
30	(Oh07×L97)-B-#3-S9-1	88	21	82	78	94	62	11
31	(Oh07×L97)-B-#3-S10-1	98	20	83	78	95	59	8
32	(Oh07×L97)-B-#3-S10-2	94	20	81	68	97	50	7
33	(Oh07×L97)-B-#3-S10-3	99	19	83	69	96	60	9
	Average	93	22	82	70	95	56	8
	B — Single crosses							
34	38-11×K201	85	19	83	67	82	55	17
35	Hy2×Oh07	113	17	83	49	99	50	2
	Average	99	18	83	58	90	52	10

Table 10. — SINGLE AND DOUBLE CROSSES OF U. S. 13 MATURITY

Tested in Central Illinois, 1955

(Data in boldface were not statistically different from the best performance for that characteristic)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
	A — Single crosses							
1	R71×R74	85	19	84	**77**	**96**	**41**	6
2	R71×R101	**100**	17	84	**73**	**97**	**43**	1
3	R71×R105	**98**	19	82	**89**	**98**	47	**4**
4	R74×R101	82	17	80	**80**	**95**	**43**	1
5	R74×R105	79	17	83	**72**	**96**	46	10
6	R101×R105	70	16	82	**80**	**94**	47	1
7	R71×R129	84	18	82	**80**	**94**	**43**	**4**
8	R74×R129	**98**	17	82	21	**97**	**43**	**2**
9	R101×R129	**93**	17	82	**72**	88	45	1
10	R105×R129	**92**	17	84	**71**	88	48	6
11	R71×R163	**103**	18	82	**78**	**94**	48	**5**
12	R74×R163	**94**	17	81	**65**	**97**	48	1
13	R101×R163	**101**	16	82	51	**93**	51	1
14	R105×R163	**100**	18	84	54	**93**	51	**5**
15	R129×R163	84	17	84	12	**93**	47	**2**
16	R71×R168	**96**	17	85	**88**	**98**	**44**	**0**
17	R74×R168	85	18	81	43	**97**	**42**	**0**
18	R101×R168	85	18	83	**65**	**96**	**43**	**0**
19	R105×R168	**90**	17	84	**67**	**96**	45	1
20	R129×R168	**101**	17	84	50	**97**	**43**	**4**
21	R163×R168	**94**	17	78	62	**98**	45	1
	Average	92	17	83	65	95	45	3
	B — Double crosses							
22	Ill. 1332	**98**	16	86	54	**96**	50	9
24	Ill. 1935	**97**	17	83	**69**	**99**	48	11
23	Ill. 1934	**89**	17	83	56	**97**	52	13
	Average	95	17	84	60	97	50	11

Table 11. — DOUBLE CROSSES OF ILLINOIS 448 MATURITY Tested in South-Central Illinois, 1951-1955

(Data in boldface were not statistically different from the best performance for that characteristic)

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	A — Five-year averages, 1951-1955						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	Ill. 1657	70	21	80	62	99	45
2	Ill. 1570	69	16	80	68	99	40
3	Ill. 1332	68	16	82	77	99	40
4	Ill. 1349	68	18	82	75	99	46
5	Ill. 1656	68	17	82	73	100	40
6	U.S. 13	68	16	82	64	99	43
7	Ill. 1539A	67	19	79	72	100	46
8	Ill. 1771	66	19	78	79	97	44
9	Ill. 1788	66	17	79	68	99	41
10	Ill. 2235W	66	20	78	75	99	46
11	Ill. 2214W	64	18	78	65	99	45
12	Ill. 200	62	18	79	62	100	45
13	Mo. 804	60	18	76	67	99	49
	Average	66	18	79	70	99	44
	B — Four-year averages, 1952-1955						
1	Ill. 1851	64	18	79	67	99	45
2	Ill. 1570	63	16	79	64	99	41
3	Ill. 1859	63	16	80	68	99	44
4	Ill. 1656	62	17	82	70	100	41
5	Ill. 1856	62	19	80	64	99	44
6	Ill. 1857	62	19	78	70	99	46
7	U.S. 13	62	15	82	63	99	44
8	Ill. 1511	61	16	83	63	97	42
9	Ill. 1332	60	16	81	72	99	41
10	Ill. 1349	60	17	81	72	99	46
11	AES 805	59	16	80	75	99	41
12	Ill. 1657	59	21	79	55	98	44
13	Ill. 1788	59	17	79	63	98	43
14	Ill. 1849	58	20	76	78	98	43
15	Ill. 1852	58	18	76	68	99	45
16	Ill. 1539A	57	19	78	69	100	45
17	Ill. 1771	56	19	77	75	97	44
18	Ill. 1850	56	20	76	74	98	44
19	Ill. 2235W	56	20	77	71	99	46
20	Ill. 200	55	18	78	58	99	47
21	Ill. 2214W	50	18	76	58	99	44
22	Mo. 804	50	18	76	64	99	49
	Average	59	18	79	67	99	44
	C — Three-year averages, 1953-1955						
1	Ill. 1897	57	15	79	54	99	41
2	Ill. 1570	56	15	79	55	99	41
3	Ill. 1859	56	16	80	63	99	44
4	Ill. 1851	55	17	79	60	99	45
5	Ill. 1896	55	15	83	58	98	40
6	Ill. 2246W	55	15	80	60	99	42
7	Ill. 1332	54	16	80	68	98	40
8	Ill. 1511	54	16	83	59	96	42
9	Ill. 1656	54	17	80	63	100	42
10	Ill. 1788	53	17	78	57	98	43
11	Ill. 1856	53	18	79	59	99	43
12	Ill. 1857	53	19	78	63	98	45
13	Ill. 6076	53	15	80	43	99	41
14	U.S. 13	53	15	81	54	99	44
15	AES 805	52	15	80	69	99	40

(Table is continued on next page)

Table 11. — Continued

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
	C — Three-year averages, 1953-1955 (concluded)							
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
16	Ill. 1893	52	17	78	71	99	44	..
17	Ill. 1349	51	17	80	65	99	46	..
18	Ill. 1852	50	18	75	61	100	45	..
19	Ill. 1657	49	21	79	48	98	44	..
20	Ill. 1539A	48	18	78	60	100	45	..
21	Ill. 1849	48	20	76	74	98	43	..
22	Ill. 200	47	18	76	52	99	46	..
23	Ill. 1771	46	19	76	69	96	43	..
24	Ill. 2235W	46	19	77	65	99	45	..
25	Ill. 1850	45	20	76	68	98	44	..
26	Ill. 2214W	40	17	75	48	100	44	..
27	Mo. 804	40	18	75	57	99	48	..
	Average	51	17	78	60	99	43	..
	D — Two-year averages, 1954-1955							
1	Ill. 1851	60	18	79	41	99	40	0
2	Ill. 1856	59	18	81	43	99	40	1
3	Ill. 1657	58	21	81	26	98	41	0
4	Ill. 1857	58	19	79	48	98	41	3
5	Ill. 1349	57	18	80	52	99	42	2
6	Ill. 1570	57	17	79	35	98	37	2
7	Ill. 1656	57	18	80	45	100	38	1
8	Ill. 1852	57	19	77	45	99	41	0
9	Ill. 1859	57	16	79	46	98	40	1
10	Ill. 1893	57	16	78	57	100	42	2
11	Ill. 1896	56	16	81	41	98	37	2
12	Ill. 1897	56	16	78	32	98	37	0
13	Ill. 1909	56	16	81	45	99	38	2
14	Ill. 2246W	56	16	79	41	99	39	3
15	AES 805	55	16	79	55	99	37	1
16	Ill. 1332	55	16	80	53	98	37	0
17	Ill. 1788	55	17	79	41	98	38	0
18	Ill. 1912	55	16	80	43	99	35	0
19	Ill. 1916	55	15	80	45	98	38	1
20	Ill. 1918	55	17	79	52	100	39	2
21	Mo. 8010W	55	20	79	38	100	44	0
22	Ill. 1511	54	17	82	41	96	38	2
23	Ill. 1539A	54	18	79	43	100	41	1
24	Ill. 1849	54	19	80	61	98	40	4
25	Ill. 1910	54	16	82	35	98	38	0
26	Ill. 1913	54	15	79	33	100	36	1
27	U.S. 13	54	16	79	35	98	40	1
28	Ill. 1771	53	19	79	54	95	39	0
29	Ill. 1850	53	20	79	54	99	41	1
30	Ill. 1914	53	17	79	45	99	38	0
31	Ill. 1919	53	15	78	53	98	37	0
32	Ill. 2235W	53	19	77	48	99	42	2
33	Ill. 6076	53	16	79	22	98	37	1
34	AES 903W	52	18	73	38	100	36	1
35	Ill. 1905	52	16	76	36	100	38	2
36	Ill. 1906	52	16	78	27	100	36	2
37	Ill. 1915	52	15	79	42	100	37	1
38	Ill. 200	51	19	78	30	99	43	1
39	Ill. 1908	51	16	77	33	100	37	1
40	Ill. 1911	51	18	79	42	100	40	0
41	Ill. 1917	50	17	78	39	98	37	3
42	Ill. 1904	49	16	77	39	99	38	0
43	Mo. 804	48	18	76	39	100	44	1
44	Ill. 2214W	44	17	74	23	100	41	1
	Average	54	17	79	42	99	39	1

(Table is concluded on next page)

Table 11. — Concluded

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
	E — 1955 results (4 replications)							
Double crosses		*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
1	Ill. 1856	70	19	80	27	100	49	0
2	Ill. 1851	68	21	78	29	98	48	0
3	Ill. 1349	67	19	82	23	99	51	3
4	Ill. 1852	67	21	77	29	99	50	0
5	Ill. 1893	67	18	80	43	100	53	3
6	Ill. 1896	67	17	81	23	97	47	2
7	Ill. 1897	67	18	79	14	97	48	0
8	Ill. 1912	67	17	81	28	99	46	0
9	Ill. 1511	66	19	83	32	93	48	1
10	Ill. 1657	66	24	80	16	98	49	0
11	Ill. 1916	66	16	80	32	96	48	1
12	AES 805	65	18	80	37	100	47	1
13	Ill. 1849	65	22	81	41	96	50	3
14	Ill. 1859	65	18	80	35	97	49	1
15	Ill. 1909	65	16	81	40	98	48	1
16	Ill. 1910	65	16	81	20	97	49	0
17	Ill. 1913	65	16	78	23	100	47	0
18	Ill. 1915	65	15	80	28	100	48	1
19	Ill. 2246W	65	17	79	17	99	50	2
20	Ill. 1570	64	19	78	23	97	48	3
21	Ill. 1656	64	19	80	31	100	47	0
22	Ill. 1857	64	21	78	28	98	51	2
23	Ill. 1918	64	19	79	52	100	49	2
24	Mo. 8010W	63	22	80	21	100	56	0
25	AES 903W	62	19	73	10	100	46	0
26	Ill. 1788	62	19	78	27	97	48	0
27	Ill. 1905	62	17	76	18	100	48	2
28	Ill. 1919	62	16	79	43	96	48	0
29	Ill. 6076	62	17	78	9	99	46	0
30	U.S. 13	62	17	80	22	97	50	0
31	Ill. 1332	61	18	78	43	97	46	0
32	Ill. 1539A	61	20	80	19	100	53	2
33	Ill. 1850	61	23	80	34	99	52	2
34	Ill. 1906	61	17	77	9	100	46	0
35	Ill. 1908	61	16	76	13	100	48	0
36	Ill. 1917	61	18	78	28	97	46	1
37	Ill. 2235W	61	18	78	21	98	54	0
38	U.S. 523W	61	19	76	10	100	50	0
39	Ill. 1771	59	21	79	32	97	48	0
40	Ill. 1914	59	18	77	24	99	47	0
41	Ill. 200	57	21	78	17	99	56	1
42	Ill. 1911	57	19	80	26	100	50	0
43	Ill. 2214W	57	19	75	11	100	53	0
44	Tenn. 3742W	57	23	76	23	96	49	0
45	Ill. 1907	55	18	74	18	100	49	3
46	Ill. 1904	52	18	77	30	98	50	0
47	Ill. 6021	52	17	75	22	100	56	0
48	Mo. 804	50	20	76	19	100	52	0
	Average	62	19	79	25	98	49	1
Single cross								
	Hy2×Oh7	70	18	80	23	98	48	0

Table 12. — THREE-WAY AND DOUBLE CROSSES OF ILLINOIS 448 MATURITY

Tested in South-Central Illinois, 1955

(Data in boldface were not statistically different from the best performance for that characteristic)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
	A — Inbred lines crossed with (38-11×K201)							
1	R71A	60	17	77	24	100	52	0
2	R74	74	20	78	11	99	51	0
3	R75	71	17	80	14	100	49	3
4	R83	66	17	82	8	99	51	0
5	R84	63	18	80	10	100	61	3
6	R89	76	20	81	8	100	58	1
7	R101	73	17	79	7	99	52	0
8	R105	66	23	80	9	100	58	1
9	R109B	65	17	82	4	97	48	0
11	R118	71	20	78	10	99	64	2
12	R127	73	19	82	4	100	53	1
13	R128	72	16	83	7	100	53	0
14	R129	76	20	80	12	100	46	0
15	R154	72	18	82	5	98	53	0
16	Mo9150	75	22	80	17	100	54	0
17	Mo0221	76	20	78	4	99	62	0
19	Mo01930	66	18	78	11	99	55	1
20	Mo01260	66	21	81	11	100	54	3
21	Mo01268	67	21	82	7	97	56	1
22	Mo1918	62	16	80	20	97	49	0
	Average	70	19	80	10	99	54	1
	B — Inbred lines crossed with (K55×H28)							
23	K64	55	21	77	3	99	50	0
24	CI.64	71	20	81	0	97	48	0
25	Ky49	67	22	73	9	99	48	1
26	CI.49A	78	20	78	17	100	52	2
27	CI.49B	62	23	76	19	100	54	0
28	Mo21A	61	24	81	7	80	60	0
29	Mo9187W	73	19	79	12	99	46	0
30	K723	75	20	78	2	99	51	0
31	K731	67	25	78	0	92	51	0
32	K734	57	20	81	6	87	47	0
33	K735	75	22	76	8	98	49	1
34	K738	70	20	77	3	99	51	0
35	K739	75	19	80	2	95	54	0
36	K745	78	25	81	0	100	56	0
37	K693	53	20	76	10	100	43	1
38	K694	56	17	78	7	97	42	0
39	K697	76	23	75	5	97	41	1
40	K755	64	18	76	14	98	44	0
	Average	67	21	78	7	96	49	0
	C — Double crosses							
41	AES 805	76	17	79	18	100	44	1
42	Ill. 1850	74	21	79	11	96	54	0
45	Ill. 1919	74	17	81	19	98	44	0
46	Ind. 909A	71	19	80	4	99	52	0
49	U.S. 620W	68	18	79	5	95	50	0
44	Ill. 1913	68	16	79	13	99	48	0
48	U.S. 619W	67	18	79	13	95	50	2
47	U.S. 523W	66	19	77	6	100	49	0
18	Ill. 1332	66	17	80	13	100	49	0
10	Ill. 1570	64	18	80	6	98	49	0
43	Ill. 1852	64	20	79	22	100	51	2
	Average	70	18	79	12	98	49	0

Table 13. — AVERAGE PERFORMANCE OF INBRED LINES AS MEASURED IN SINGLE CROSSES[a]

(Comparisons can be made only within each section)

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Ear height	Dropped ears
		bu.	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
A — Ill. 1277 maturity (summarized from Table 3)							
1	R169	101	27	80	64	51	2
2	R168	100	27	79	81	49	2
3	R163	93	26	78	67	51	3
4	R166	91	27	80	72	47	2
5	R162	90	26	79	56	48	2
6	R165	89	28	79	65	47	1
7	R161	87	26	79	69	51	4
8	R129	85	25	78	70	48	2
9	R159	83	27	78	76	47	3
10	R170	78	24	78	47	51	4
	Average	90	26	79	67	49	2
B — U. S. 13 maturity (summarized from Table 7)							
1	R168	93	17	84	35	43	0
2	R163	85	17	83	25	48	1
3	R169	82	17	85	15	48	0
4	R159	82	16	84	32	45	1
5	R161	78	16	85	11	46	1
6	R129	76	17	83	20	43	0
7	R166	75	17	84	8	43	0
8	R165	71	17	84	18	43	0
9	R162	59	18	83	16	46	0
10	R170	54	17	82	7	45	1
	Average	76	17	84	19	45	0
C — U. S. 13 maturity (summarized from Table 10)							
1	R163	96	17	82	54	48	2
2	R71	94	18	83	81	44	3
3	R129	92	17	83	51	45	3
4	R168	92	17	82	62	44	1
5	R105	88	17	83	72	47	4
6	R101	88	17	82	70	45	1
7	R74	87	18	82	60	44	3
	Average	91	17	82	64	45	2

[a] Calculated for each inbred by averaging the performance of single crosses in which it was one of the parents.

Table 14. — DOUBLE-CROSS HYBRID NUMBERS, PEDIGREES, AND INDEX TO TABLES

Hybrid	Pedigree	Table No.
Illinois hybrids		
21	(Hy2×187-2)(WF9×38-11)	2ABCDE, 4E, 6ABCDE
101	(M14×WF9)(187-2×W26)	2ABCDE
200	(WF9×38-11)(L317×K4)	11ABCDE
274-1	(Hy2×WF9)(Oh7×187-2)	4ABCDE, 6ABCDE
972A-1	(Hy2×L317)(WF9×Oh7)	4ABCDE, 6ABCDE
1091A	(Hy2×187-2)(M14×WF9)	2ABCDE
1277	(M14×WF9)(I.205×187-2)	2ABCDE, 3B, 4ABCDE
1279	(M14×WF9)(A375×187-2)	2ABCDE
1280	(M14×WF9)(Os420×187-2)	2ABCDE, 4ABCDE
1281	(M14×WF9)(A374×A375)	2ABCDE
1289	(M14×W22)(WF9×I.205)	2ABCDE
1290	(M14×187-2)(WF9×I.205)	2ABCDE, 4ABCDE
1332	(Hy2×Oh7)(WF9×38-11)	4ABCDE, 6ABCDE, 7B, 10B, 11ABCDE, 12C
1349	(38-11×Mo940)(K155×K201)	11ABCDE
1375	(M14×WF9)(N6×Oh51A)	2ABCDE
1421	(Hy2×WF9)(P8×Oh7)	6ABCDE
1493	(WF9×I.205)(Oh28×W22)	2ABCDE
1511	(Hy2×WF9)(38-11×L304A)	4ABCDE, 6ABCDE, 11BCDE
1539A	(38-11×CI.7)(K201×CI.21E)	11ABCDE
1555A	(WF9×Oh51A)(I.224×Oh28)	2ABCDE, 4ABCDE
1557	(M14×Oh28)(I.205×Oh51A)	2ABCDE
1558	(M14×WF9)(I.205×Oh28)	2ABCDE
1559B	(M14×Oh28)(WF9×Oh51A)	2ABCDE
1560A	(WF9×Oh51A)(I.205×Oh28)	2ABCDE, 4ABCDE
1570	(Hy2×Oh41)(WF9×38-11)	4ABCDE, 6ABCDE, 7B, 11ABCDE, 12C
1575	(M14×WF9)(L12×Oh28)	2ABCDE, 3B, 4ABCDE
1579	(M14×Oh43)(A73×Oh5)	2ABCDE
1585	(M14×L289)(Oh5×Oh43)	2ABCDE
1595	(WF9×I.205)(187-2×W22)	2ABCDE
1617	(WF9×B10)(Oh7×Oh41)	4ABCDE
1656	(C103×Hy2)(WF9×38-11)	11ABCDE
1657	(K4×Oh7)(K201×CI.21E)	11ABCDE
1759	(WF9×38-11)(Oh4C×Oh45)	6ABCDE
1760	(WF9×38-11)(Oh29×Oh45)	4ABCDE
1764	(Hy2×WF9)(38-11×J47)	6ABCDE
1767	(Hy2×Oh45)(WF9×38-11)	6ABCDE
1771	(Oh7B×CI.7)(T8×CI.21E)	11ABCDE
1777	(Hy2×WF9)(R114×R116)	6ABCDE
1788	(WF9×38-11)(Oh41×CI.21E)	6ABCDE, 11ABCDE
1799	(M14×WF9)(B8×Oh51A)	2BCDE
1800	(M14×WF9)(A73×A295)	2BCDE
1802	(M14×WF9)(A295×Oh51A)	2BCDE
1813	(C103×Oh45)(Hy2×WF9)	4BCDE, 6CDE, 7B
1814	(Hy2×WF9)(M14×Oh45)	4BCDE
1819	(R2×WF9)(R61×Oh43)	4BCDE
1826	(WF9×B35)(K237×Oh45)	4BCDE
1831	(WF9×W146)(K237×Oh45)	4BCDE

(Table is continued on next page)

Table 14 — Continued

Hybrid	Pedigree	Table No.
Illinois hybrids (continued)		
1849	(C103×38-11)(K201×CI.21E)	11BCDE
1850	(C103×CI.21E)(38-11×K201)	11BCDE, 12C
1851	(C103×38-11)(Oh7×CI.21E)	11BCDE
1852	(C103×CI.21E)(38-11×Oh7)	11BCDE, 12C
1856	(38-11×Oh7)(K201×CI.21E)	11BCDE
1857	(38-11×Oh41)(K201×CI.21E)	11BCDE
1859	(38-11×Oh7)(Oh41×CI.21E)	11BCDE
1861	(M14×WF9)(I.224×Oh28)	2CDE
1862	(M14×WF9)(Oh43×Oh51A)	2CDE
1863	(M14×WF9)(I.205×Oh43)	2CDE, 4CDE
1864	(M14×WF9)(Oh43×W22)	2CDE, 4CDE
1865	(M14×WF9)(Oh5×Oh43)	2CDE
1866	(M14×WF9)(Oh26A×Oh45)	2CDE
1868	(C103×Oh43)(Hy2×WF9)	4CDE
1873	(C103×M14)(R75×Oh43)	4CDE
1875	(C103×38-11)(Hy2×WF9)	4CDE
1876	(R97×R98)(WF9×38-11)	6CDE
1877	(R99×R100)(WF9×38-11)	6CDE
1880	(R103×R104)(WF9×38-11)	6CDE
1884	(C103×R100)(WF9×38-11)	6CDE
1889	(C103×Oh45)(38-11×Oh29)	6CDE
1890	(C103×Oh45)(R75×38-11)	6CDE
1893	(C103×38-11)(Oh7B×Oh29)	11CDE
1896	(R138×R139)(R140×R141)	6CDE, 11CDE
1896A	(R139×R141)(R138×R140)	5C
1897	(R138×R141)(R139×R143)	11CDE
1902A	(R138×R142)(R139×WF9)	2E, 5C, 6E
1903	(M14×WF9)(R119×R120)	2DE, 4DE
1904	(R81×R85)(WF9×38-11)	4DE, 6DE, 11DE
1905	(R81×R120)(WF9×38-11)	4DE, 6DE, 11DE
1906	(Hy2×WF9)(R81×R119)	4DE, 6DE, 11DE
1907	(R155×R156)(WF9×38-11)	4E, 6E, 11E
1908	(R154×R155)(WF9×38-11)	4DE, 6DE, 11DE
1909	(R130×R151)(WF9×38-11)	4DE, 6DE, 11DE
1910	(R154×R156)(WF9×38-11)	4DE, 6DE, 11DE
1911	(R130×R153)(WF9×38-11)	4DE, 6DE, 11DE
1912	(R151×R156)(WF9×38-11)	4DE, 6DE, 11DE
1913	(R151×R154)(WF9×38-11)	4DE, 6DE, 11DE, 12C
1914	(R153×R155)(WF9×38-11)	4DE, 6DE, 11DE
1915	(R151×R155)(WF9×38-11)	4DE, 6DE, 11DE
1916	(R130×R154)(WF9×38-11)	4DE, 6DE, 11DE
1917	(R153×R154)(WF9×38-11)	4DE, 6DE, 11DE
1918	(R151×R153)(WF9×38-11)	4DE, 6DE, 11DE
1919	(R130×R156)(WF9×38-11)	4DE, 6DE, 11DE, 12C
1920	(R71×R105)(R75×38-11)	5C, 8C
1921	(R71×R105)(WF9×38-11)	5C, 8C
1922	(Hy2×WF9)(R71×R105)	5C, 8C
1923	(R71×R113)(R75×38-11)	5C, 8C
1924	(R71×R113)(WF9×38-11)	5C, 8C
1925	(Hy2×WF9)(R71×R113)	5C, 8C

(Table is concluded on next page)

Table 14 — Concluded

Hybrid	Pedigree	Table No.
Illinois hybrids (continued)		
1926	(R71A×R74)(R75×38-11)	5C, 8C
1927	(Hy2×WF9)(R71A×R74)	5C, 8C
1928	(R75×38-11)(R98×R105)	5C, 8C
1929	(R98×R105)(WF9×38-11)	5C, 8C
1931	(R75×38-11)(R98×R113)	5C, 8C
1932	(Hy2×WF9)(R98×R113)	5C, 8C
1933	(C103×R101)(Hy2×WF9)	5C, 8C
1934	(Hy2×R66)(R75×38-11)	5C, 10B
1935	(C103×R101)(R75×38-11)	5C, 10B
1936	(Hy2×WF9)(M14×B14)	2E
1937	(WF9×Oh45)(Oh28×W22)	2E
2214W	(R30×Ky27)(H21×K64)	11ABCDE
2235W	(H21×K64)(33-16×Mo2RF)	11ABCDE
2246W	(R144×R145)(R148×R149)	11CDE
2247W	(R144×R145)(R146×R148)	2DE, 4CDE
6021	(R75×R76)(R84×K4)	4DE, 6DE, 11E
6075	(R75×R83)(R78×R87)	6CDE
6076	(R76×R78)(R87×R117)	11CDE
Miscellaneous hybrids		
AES 510	(WF9×W22)(H19×B9)	2DE
AES 512	(M14×WF9)(B9×W22)	2BCDE
AES 610	(M14×A73)(Oh43×Oh51A)	2BCDE
AES 702 (Ill. 1790)	(C103×M14)(Hy2×WF9)	2ABCDE, 3B, 4ABCDE
AES 801	(WF9×B7)(B10×B14)	6BCDE
AES 802	(Hy×WF9)(38-11×N6)	6BCDE
AES 803	(WF9×187-2)(N6×K148)	6BCDE
AES 805 (Ill. 1770)	(C103×Oh45)(WF9×38-11)	4ABCDE, 6ABCDE, 11BCDE, 12C
AES 806	(Hy×WF9)(N6×N15)	4DE, 6DE
AES 807W	(H26×H27)(H28×H29)	6DE
AES 903W	(H28×K55)(H30×K41)	11DE
Ind. 909A	(H21×33-16)(K61×K64)	12C
Ind. 2609	(WF9×38-11)(H14×Oh43)	6DE
Ind. 4656	(WF9×P8)(H14×Oh43)	4E
Iowa 4297	(M14×187-2)(WF9×I.205)	4ABCDE
I.S.P. 2	(C103×Oh45)(M14×WF9)	2BCDE
Minn. 511	(A73×A401)(A286×Oh51A)	2E
Minn. CB 8504	(M14×W22)(Oh5×Oh43)	2E
Mo. 804	(38-11×CI.21E)(K4×CI.7)	11ABCDE
Mo. 8010W	(K64×Mo22)(T111×T115)	11DE
Ohio M15	(A×W23)(Oh26×Oh51)	2BCDE
Ohio K24	(WF9×Oh51A)(Oh33×Oh40B)	2ABCDE
Ohio 3247	(Oh43×Oh45)(Oh51A×W22)	4DE
Ohio 4808	(Oh4C×Oh51A)(Oh28×Oh45)	6BCDE
Ohio 5305	(A73×Oh5)(Oh26A×Oh51A)	2DE
Tenn. 3742W		11E
U.S. 13	(Hy×L317)(WF9×38-11)	6ABCDE, 7B, 8C, 11ABCDE
U.S. 523W	(K55×K64)(Ky27×Ky49)	11E, 12C
U.S. 619W	(K55×CI.64)(Ky27×Ky49)	12C
U.S. 620W	(H21×33-16)(K61×CI.64)	12C
	(WF9×B14)(Oh28×Oh43)	5C

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