

Experimental
**CORN HYBRIDS
TESTED IN 1955**

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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. TROYER¹

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 $(1 \times 2) (3 \times 4)$, the letter *A* following the number means that the hybrid was put together $(1 \times 3) (2 \times 4)$, the letter *B*, $(1 \times 4) (2 \times 3)$. 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: $A \times B$, $A \times C$, $A \times D$, $B \times C$, $B \times D$, and $C \times D$. 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 $A \times C$, $A \times D$, $B \times C$, and $B \times D$ give the predicted yield of double cross $(A \times B) (C \times D)$. 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.

(R161×R168)(R170×R169)			(R129×R162)(R165×R166)		
	<i>Bushels per acre</i>	<i>Percent of erect plants</i>		<i>Bushels per acre</i>	<i>Percent of erect plants</i>
R161×R169	112	82	R129×R165	79	80
R168×R170	103	61	R129×R166	91	84
R161×R170	68	63	R162×R165	88	37
R168×R169	108	71	R162×R166	90	66
	4 391	4 277		4 348	4 267
Prediction	98	69	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.

(WF9×Hy)(R127×B38)			(WF9×Hy)(N15×N25)		
	<i>Bushels per acre</i>	<i>Percent of erect plants</i>		<i>Bushels per acre</i>	<i>Percent of erect plants</i>
(WF9×Hy)R127	116	80	(WF9×Hy)N15	84	42
(WF9×Hy)B38	108	72	(WF9×Hy)N25	97	62
	2 224	2 152		2 181	2 104
Prediction	112	76	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:

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

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), Cl.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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
A — Five-year averages, 1951-1955							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
C—Three-year averages, 1953-1955								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
D—Two-year averages, 1954-1955 (concluded)								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
A — Single crosses								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
A — Five-year averages, 1951-1955							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
C — Three-year averages, 1953-1955								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
D — Two-year averages, 1954-1955 (concluded)								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
36	III. 1277.....	73	22	81	89	97	36	1
37	III. 1560A.....	73	20	79	94	97	35	1
38	III. 1813.....	73	26	76	93	98	38	3
39	III. 1863.....	73	24	79	94	95	33	3
40	III. 1290.....	72	21	80	88	97	34	3
41	III. 1911.....	72	26	77	89	94	41	4
42	AES 702.....	71	23	77	92	96	37	3
43	III. 1864.....	70	21	79	90	100	30	3
44	III. 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	III. 1332.....	71	25	78	92	99	33	1
2	III. 1916.....	71	24	78	95	94	32	1
3	III. 1917.....	71	24	77	92	90	33	0
4	III. 274-1.....	70	24	78	95	99	35	0
5	III. 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	III. 1280.....	67	22	79	97	95	29	1
9	III. 1555A.....	67	21	80	95	99	29	2
10	III. 1913.....	67	24	78	95	95	34	1
11	III. 1919.....	67	24	78	94	98	33	1
12	III. 972A-1.....	66	27	76	90	96	33	1
13	III. 1912.....	66	24	78	97	95	33	1
14	III. 1863.....	64	25	78	98	92	28	2
15	III. 1875.....	64	26	76	95	92	34	3
16	III. 1760.....	63	27	75	97	99	31	2
17	III. 1831.....	63	26	77	96	97	28	1
18	III. 1910.....	63	23	80	94	96	33	0
19	III. 2247W.....	63	24	76	91	97	32	4
20	III. 1617.....	62	30	74	87	90	32	3
21	III. 1814.....	62	26	74	99	94	31	1
22	III. 1826.....	62	28	78	95	96	26	3
23	III. 1903.....	62	22	77	99	91	28	2
24	III. 1868.....	61	26	76	95	92	32	5
25	Ohio 3247.....	61	21	77	96	97	27	5
26	III. 1511.....	60	25	77	96	95	33	1
27	III. 1908.....	60	23	77	96	96	32	0
28	III. 1914.....	60	26	75	98	99	32	3
29	III. 1915.....	60	23	77	90	97	33	3
30	III. 1918.....	59	25	76	94	95	34	3
31	III. 1570.....	59	26	74	93	98	34	1
32	III. 1819.....	59	22	77	98	96	29	3
33	III. 1813.....	58	27	75	96	98	33	3
34	III. 1905.....	58	24	73	92	97	32	2
35	AES 702.....	57	24	76	97	95	34	5
36	III. 1560A.....	57	21	78	98	95	30	0
37	III. 1575.....	57	27	76	92	98	30	5
38	III. 1873.....	57	24	74	98	96	27	2
39	III. 1864.....	56	23	76	92	100	25	3
40	III. 21.....	54	26	76	96	100	32	4
41	III. 1906.....	54	26	76	96	97	33	3
42	III. 1907.....	54	25	77	93	96	31	0
43	Iowa 4297.....	54	24	72	93	96	31	3
44	III. 1277.....	53	24	80	93	96	32	2
45	III. 1904.....	53	22	75	90	96	33	4
46	III. 1290.....	52	23	79	96	96	29	5
47	III. 6021.....	52	27	74	85	95	40	3
48	AES 805.....	51	26	72	97	95	30	3
49	III. 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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
A — Inbred lines crossed with (B14×WF9)								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
A — Five-year averages, 1951-1955							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
C — Three-year averages, 1953-1955 (concluded)								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
E — 1955 results (4 replications)								
Double crosses								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
A—Single crosses								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
A — Inbred lines crossed with (WF9 × Hy)								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
A — Inbred lines crossed with (38-11×K201)								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
12	Hy.....	67	19	83	79	97	49	7
13	Cl.42A.....	93	21	83	63	94	51	8
14	Cl.42B.....	83	20	84	57	96	55	7
15	Cl.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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped cars
A — Single crosses								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
A — Five-year averages, 1951-1955							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
C — Three-year averages, 1953-1955 (concluded)								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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. 1637.....	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. 1637.....	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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
E — 1955 results (4 replications)								
Double crosses		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
A — Inbred lines crossed with (38-11×K201)								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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	Cl.64.....	71	20	81	0	97	48	0
25	Ky49.....	67	22	73	9	99	48	1
26	Cl.49A.....	78	20	78	17	100	52	2
27	Cl.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***

(Comparisons can be made only within each section)

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Ear height	Dropped ears
A — Ill. 1277 maturity (summarized from Table 3)							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
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

* 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.....	(CI03×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.....	(CI03×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×Cl.21E)(K4×Cl.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×Cl.64)(Ky27×Ky49)	12C
U.S. 620W	(H21×33-16)(K61×Cl.64)	12C
	(WF9×B14)(Oh28×Oh43)	5C

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