Experimental
CORN HYBRIDS
1954 TESTS

By R. W. Jugenheimer

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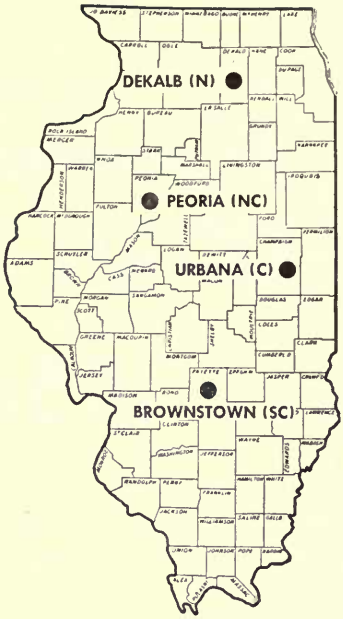
Location of regular experimental-hybrid test fields



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Acknowledgment is due W. T. Schwenk and Sons, Edwards, for providing land for one of the tests, and to Dr. W. C. Jacob, Professor of Agronomy, for valuable computational and statistical assistance.

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EXPERIMENTAL CORN HYBRIDS: 1954 TESTS

By R. W. Jugenheimer, Professor of Plant Genetics and
Corn Research Coordinator

THIS REPORT summarizes the results of tests of experimental corn hybrids conducted in 1954 by this Station. 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 1954 performance of hybrids available in commercial quantities to farmers is reported in Bulletin 585 of this Station.

MATERIAL TESTED

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

Two sets of single crosses and four sets of three-way crosses differing in maturity were tested in 1954. One set of single crosses (Table 3) and all sets of three-way crosses (Tables 5, 8, 9, and 11) are a part of the "uniform" tests conducted cooperatively by corn-belt states, including Illinois, and 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 Table 7 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: E. C. Rossman (Michigan), N. P. Neal (Wisconsin), and G. H. Stringfield (Ohio) — Table 3; 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), A. M. Brunson (Indiana), and A. J. Ullstrup (Indiana) — Table 9; L. A. Tatum (Kansas), W. R. Findley (U. S. Department of Agriculture), and M. S. Zuber (Missouri) — Table 11.

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 12 (see pages 29 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 in the production of a hybrid.

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 hybrids in the 900 series to Illinois 448.

The letter *A* or *B* following an Illinois hybrid number indi-

cates 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 performance 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 of two hybrids is shown on page 78 of Illinois Agricultural Experiment Station Bulletin 543.

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 5. One hybrid is much more promising than the other hybrid.

(Oh28xOh43)(B38xWF9)

	Bushels per acre	*Percent of erect plants*
(Oh28×Oh43)×B38	119	93
(Oh28×Oh43)×WF9	106	92
2	225	185
Prediction	112.5	92.5

(Oh28xOh43)(N9206xOh5)

	Bushels per acre	*Percent of erect plants*
(Oh28×Oh43)×N9206	99	58
(Oh28×Oh43)×Oh5	96	77
2	195	135
Prediction	97.5	67.5

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 x 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.

General information including dates of planting and harvesting is given in Table 1. Lattice-square designs were used to ob-

Table 1. — GENERAL INFORMATION: Tests of Illinois Experimental Corn Hybrids, 1954

County[a]	Section of state	Number of replications	Number of hills per plot	Plants per hill	Date of— Planting	Date of— Harvesting
DeKalb.....	Northern	4	10	4	May 13	Oct. 19
Peoria.....	North-Central	4	10	4	May 17	Oct. 14
Champaign....	Central	4	10	4	May 11	Nov. 4
Fayette.....	South-Central	4	10	3	May 18	Nov. 9

[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.

tain the data reported in Tables 2, 3, 4, 6, 7, and 10. The data in Tables 5, 8, 9, and 11 were obtained in randomized blocks. Four replications were grown of each entry.

RESULTS OF THE TESTS

Data obtained from the tests are summarized in Tables 2 to 11. 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 one replication 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 a figure may be obtained that represents the number of bushels by which two entries must differ in yielding ability before they can be considered

significantly different. Note, for example, in Table 2E that unless any two entries differ by at least 10 bushels per acre there is no statistical difference between them in yielding ability.

The season was favorable for corn at DeKalb and Peoria. The growing season at Urbana was hot and dry, with resulting low yields. Yields were unusually low at Brownstown because of the extremely hot and dry growing season.

The following double crosses were average or better in yield and standability, and average or earlier in maturity as measured by the percent of moisture in the grain. The hybrids are arranged in order of yield.

Northern Illinois

Five-year average (Table 2A) — Ill. 1289, Ill. 1555A, Ill. 1559B, Ill. 1557, Ill. 1560A.

Four-year average (Table 2B) — Ill. 1289, AES 702, Ill. 1555A, Ill. 1557, Ill. 1558, Ill. 1559B, Ill. 1279.

Three-year average (Table 2C) — Ill. 1277, Ill. 1279, Ill. 1555A.

Two-year average (Table 2D) — Ill. 1289, Ill. 1555A, Ill. 1279.

1954 results (Table 2E) — Ill. 21, Ill. 1555A, AES 702, Ill. 1289, Ill. 2247W, Ill. 1279, Ill. 101, Ill. 1864, Ill. 1560A.

North–Central Illinois

Five-year average (Table 4A) — Ill. 1555A, Ill. 1560A.

Four-year average (Table 4B) — Ill. 274-1, Ill. 1575, Ill. 1555A.

Three-year average (Table 4C) — Ill. 274-1, Ill. 1575, Ill. 1555A, Ill. 1277.

Two-year average (Table 4D) — Ill. 1332, Ill. 274-1, Ill. 1511, Ill. 1555A, Ill. 1575.

1954 results (Table 4E) — Ill. 1511, Ill. 1332, Ill. 1919, Ill. 1617, Ill. 1905, Ill. 274-1, Ill. 1875, Ill. 1914, Ill. 1555A, Ill. 1896A.

Central Illinois

Five-year average (Table 6A) — Ill. 1332, Ill. 972A-1.

Four-year average (Table 6B) — Ill. 1511, Ill. 1421, Ill. 1332, Ill. 972A-1, Ill. 1777.

Three-year average (Table 6C) — Ill. 1332, AES 801, Ill. 972A-1, AES 802.

Two-year average (Table 6D) — Ill. 1332, AES 802, AES 801, Ill. 21, Ohio 4808.

1954 results (Table 6E) — Ill. 1896, Ill. 1913, Ill. 1919, Ill. 1911, Ill. 1777, Ill. 1332, Ill. 1908, Ill. 1915, Ill. 1909, AES 801, Ill. 21.

South–Central Illinois

Five-year average (Table 10A) — Ill. 1539A, Ill. 1349, Ill. 1332.

Four-year average (Table 10B) — Ill. 1332, Ill. 1656, Ill. 1349, Ill. 1539A.

Three-year average (Table 10C) — Ill. 1656, Ill. 1332, Ill. 1349.

Two-year average (Table 10D) — Ill. 1859, Ill. 2246W, Ill. 1332, Ill. 1656, Ill. 6076, AES 803, Ill. 1349, Ill. 1893.

1954 results (Table 10E) — Ill. 1656, Ill. 1332, Ill. 1859, Ill. 1539A, Ill. 1856, Ill. 1852, Ill. 2246W, Ill. 1349, Ill. 1893, Mo. 804, Ill. 1771, AES 805, Ill. 1914, Ill. 1896.

Table 2. — DOUBLE CROSSES OF ILLINOIS 1277 MATURITY
Tested in Northern Illinois, 1950-1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	A — Five-year averages, 1950-1954						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	**Ill. 1289**	101	24	78	96	98	36
2	Ill. 1277	99	24	78	94	98	39
3	Ill. 1575	99	26	78	97	99	39
4	**Ill. 1555A**	98	21	80	96	97	38
5	**Ill. 1559B**	98	23	78	98	98	33
6	**Ill. 1557**	98	24	76	98	96	35
7	**Ill. 1560A**	97	23	79	100	98	36
8	Ill. 1279	97	24	78	95	98	39
9	Ill. 1280	97	24	78	95	97	37
10	Ill. 1290	97	25	78	95	95	39
11	Ill. 1091A	96	26	77	96	98	40
12	Ill. 1558	95	26	76	98	97	34
13	Ill. 101	94	24	77	97	97	37
14	Ill. 21	94	27	76	94	98	46
15	Ill. 1375	92	23	78	96	98	35
16	Ill. 1595	92	24	77	97	98	41
	Average	96	24	78	96	98	38
	B — Four-year averages, 1951-1954						
1	Ill. 1493	109	26	79	98	97	40
2	**Ill. 1289**	108	24	78	96	97	36
3	Ill. 1575	108	27	77	97	98	40
4	Ill. 1277	107	24	78	95	97	40
5	**AES 702**	107	24	75	96	99	42
6	**Ill. 1555A**	106	22	80	96	98	41
7	Ill. 1280	106	24	78	95	97	38
8	**Ill. 1557**	106	24	76	98	96	36
9	Ill. 21	106	26	76	94	97	48
10	**Ill. 1558**	105	25	77	98	97	36
11	**Ill. 1559B**	104	24	78	98	98	35
12	**Ill. 1279**	104	25	78	96	98	39
13	Ill. 1290	104	25	78	94	96	39
14	Ill. 101	104	26	78	97	98	38
15	Ill. 1560A	103	24	78	100	98	37
16	Ill. 1091A	103	27	77	95	97	40
17	Ill. 1281	102	26	78	96	97	36
18	Ill. 1585	101	24	77	94	94	37
19	Ohio K24	100	22	80	95	95	37
20	Ill. 1579	100	24	79	97	98	34
21	Ill. 1595	99	25	77	97	97	42
22	Ill. 1375	98	24	78	96	98	34
	Average	104	25	78	96	97	38

(Table is continued on next page)

Table 2. — Continued

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	C — Three-year averages, 1952-1954						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	Ill. 21	120	22	79	95	97	47
2	Ill. 1575	120	23	79	99	98	40
3	**Ill. 1277**	119	21	79	96	97	39
4	AES 702	119	23	77	97	98	41
5	Ill. 1493	118	23	77	98	97	38
6	Ill. 1289	118	25	78	96	97	37
7	**Ill. 1279**	117	20	79	96	98	38
8	Ill. 1280	117	21	80	95	95	38
9	Ill. 101	117	22	80	97	99	37
10	I.S.P. 2	117	24	76	99	99	37
11	Ill. 1557	116	23	78	98	96	37
12	Ill. 1559B	115	22	80	98	98	36
13	Ill. 1558	115	22	78	98	96	36
14	Ill. 1091A	115	23	78	95	96	41
15	**Ill. 1555A**	114	20	81	97	97	41
16	Ill. 1290	114	22	79	95	95	38
17	Ill. 1281	113	22	78	97	97	37
18	Ill. 1560A	112	21	78	99	97	37
19	Ill. 1585	111	21	78	93	94	37
20	Ind. 0421	109	19	81	97	99	37
21	Ill. 1579	109	20	79	96	96	34
22	Ill. 1595	109	21	77	98	98	41
23	Ohio K24	108	20	80	97	95	36
24	Ill. 1800	108	21	79	97	97	36
25	Ill. 1799	107	19	81	98	100	38
26	Ill. 1802	107	20	80	98	96	38
27	Ill. 1375	107	20	80	96	97	35
28	AES 610	105	20	80	93	96	31
29	Ohio M15	101	19	82	91	96	42
	Average	113	21	79	96	97	38
	D — Two-year averages, 1953-1954						
1	Ill. 1902	132	22	79	92	100	40
2	Ill. 1575	126	23	80	98	98	40
3	Ill. 21	124	21	79	94	96	46
4	Ill. 1277	124	22	80	95	96	39
5	Ill. 1493	124	23	79	98	96	38
6	Ill. 1861	123	20	82	94	98	37
7	Ill. 1559B	123	22	81	97	99	36
8	**Ill. 1289**	122	21	79	96	97	36
9	Ill. 101	122	22	81	96	98	36
10	Ill. 1863	122	23	80	96	98	34
11	Ill. 1557	122	23	79	96	96	36
12	**Ill. 1555A**	120	20	82	96	96	40
13	**Ill. 1279**	120	20	80	95	98	37
14	Ill. 1281	120	22	80	96	96	36
15	Ill. 1091A	120	22	78	93	96	40
16	AES 702	120	22	77	96	98	40
17	Ill. 1865	118	22	80	96	96	34
18	Ill. 1866	118	22	80	94	97	36
19	Ill. 1280	118	22	80	93	96	37
20	Ill. 1585	117	21	80	90	97	36
21	I.S.P. 2	117	24	77	98	99	36
22	Ind. 0421	116	20	82	96	98	37
23	Ill. 1560A	116	20	79	99	96	36
24	Ill. 1290	116	22	80	94	94	38
25	Ill. 1558	116	22	78	97	96	34
26	Ill. 1864	115	20	82	96	98	32
27	Ill. 1375	114	20	81	95	98	35
28	Ill. 1595	114	22	79	97	96	40
29	Ill. 6074	114	24	80	90	96	42
30	Ill. 1862	113	21	80	96	94	31

(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, 1953-1954 (concluded)							
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
31	Ill. 1579	111	21	80	94	96	34	...
32	Ill. 1799	110	19	82	96	99	38	...
33	Ohio K24	110	20	82	96	94	36	...
34	Ill. 1802	110	20	80	98	98	36	...
35	Ill. 1800	108	21	80	95	97	34	...
36	AES 610	106	20	82	90	95	32	...
37	Ohio M15	104	20	82	88	96	41	...
	Average	117	21	80	95	97	37	
	E — 1954 results (4 replications)							
1	Ill. 1902	149	27	78	90	100	41	0
2	M14×WF9	140	25	78	90	98	36	0
3	Ill. 1861	140	23	80	89	99	36	3.2
4	Ill. 1281	139	27	79	95	99	41	1.2
5	Ill. 1559B	138	27	77	96	99	39	.7
6	Ill. 1575	137	28	77	96	97	43	2.0
7	**Ill. 21**	137	25	77	93	96	46	3.4
8	**Ill. 1555A**	137	26	79	96	94	40	3.3
9	Ill. 1493	137	28	78	97	92	41	0
10	**AES 702**	136	26	77	95	99	39	3.8
11	Ill. 1557	136	28	77	94	98	38	.6
12	**Ill. 1289**	135	26	77	92	98	39	4.9
13	**Ill. 2247W**	134	25	78	93	94	42	3.1
14	Ill. 1279	133	25	78	92	97	38	3.3
15	Iowa 4630	133	24	79	88	96	36	2.6
16	Ill. 1277	133	26	79	91	94	42	5.3
17	**Ill. 101**	131	26	79	95	97	39	4.2
18	Ill. 1866	129	27	78	90	94	38	.7
19	**Ill. 1864**	128	24	78	95	96	32	5.8
20	Ill. 1091A	128	27	77	90	97	42	2.9
21	I.S.P. 2	127	28	76	97	100	35	1.4
22	**Ill. 1560A**	127	24	77	98	96	38	1.2
23	Ill. 1290	127	27	78	88	94	39	2.8
24	Ill. 1595	127	28	79	95	97	43	.7
25	Ill. 1903	126	24	77	97	96	40	2.7
26	Ill. 1585	126	26	78	88	95	38	3.8
27	Ill. 1375	126	25	79	91	96	38	2.6
28	Ind. 0421	126	25	80	93	98	38	3.5
29	Ill. 1280	125	26	79	87	94	37	3.3
30	Ill. 1863	125	28	79	94	97	33	1.5
31	AES 510	124	23	80	93	93	39	2.1
32	Ill. 6015	123	32	75	83	95	62	.6
33	Ill. 1865	122	27	78	93	98	34	3.1
34	Ill. 1579	122	25	78	90	96	35	1.9
35	Ill. 6074	121	29	78	88	94	42	2.0
36	Ill. 1799	121	22	79	93	99	39	3.1
37	Ill. 6052	120	32	76	87	94	51	.6
38	Ill. 1558	120	26	76	95	93	36	2.2
39	Ill. 1802	120	24	78	97	96	38	2.6
40	Ill. 1862	119	25	79	92	88	30	1.9
41	Ohio K24	119	23	80	94	93	37	3.9
42	Minn. 40	119	23	78	92	94	38	0
43	Iowa 4558	117	22	80	89	92	35	4.3
44	Minn. 4	117	23	80	92	92	40	3.3
45	Ill. 1800	117	26	78	90	96	35	2.6
46	AES 610	116	23	80	84	95	34	1.4
47	Ohio M15	112	24	82	84	95	43	3.9
48	Ill. 6062	103	33	75	86	96	55	1.7
49	Ohio 5305	97	22	78	96	91	38	.8
	Average	127	26	78	92	96	39	2.4
	Significant difference	10	..	..	7	8	4	...

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

Tested in Northern Illinois, 1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

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	M14×B14	149	25	81	97	94	38	0
2	M14×B21	131	25	80	88	97	37	2.0
3	M14×A223	114	23	79	85	97	34	1.2
4	B14×B21	121	30	79	83	97	45	1.3
5	**B14×A223**	138	22	80	99	94	36	.7
6	B21×A223	126	23	79	97	90	37	1.2
7	**A239×M14**	134	24	81	98	97	39	0
8	**A239×B14**	129	24	83	100	99	40	0
9	A239×B21	108	22	82	97	89	37	.8
11	A295×M14	119	25	77	93	98	36	.6
12	**A295×B14**	142	24	79	97	93	42	0
13	A295×B21	124	23	78	92	86	40	.6
14	A295×A223	107	21	77	94	98	38	8.1
15	A295×A239	124	21	79	88	98	41	0
16	A297×M14	122	22	80	96	97	40	0
17	**A297×B14**	139	24	81	100	95	42	0
18	A297×B21	143	22	81	92	100	43	5.1
19	A297×A223	112	22	81	96	98	38	.6
20	A297×A239	115	22	82	98	98	39	.7
21	A297×A295	115	22	79	93	96	41	3.8
22	**A545×M14**	136	24	81	95	96	38	0
23	A545×B14	135	27	82	99	96	45	0
24	A545×B21	134	25	82	95	88	40	0
25	A545×A223	118	23	78	94	100	35	.6
26	A545×A239	139	24	81	93	96	42	.6
27	A545×A295	125	23	74	92	99	40	.6
28	**A545×A297**	131	24	80	96	100	43	0
29	Oh26A×M14	126	24	79	85	96	41	0
30	Oh26A×B14	138	25	78	99	95	42	0
31	Oh26A×B21	121	23	80	96	86	40	1.3
32	Oh26A×A223	118	20	81	99	83	37	0
33	Oh26A×A239	122	22	80	94	87	38	0
34	Oh26A×A295	115	22	75	99	96	39	0
35	Oh26A×A297	123	22	80	96	98	38	1.9
36	Oh26A×A545	138	26	79	98	99	44	2.1
37	**W64A×M14**	135	23	78	96	98	33	.6
38	W64A×B14	144	26	79	99	97	37	.7
39	W64A×B21	115	22	78	90	83	35	1.5
40	W64A×A223	126	23	78	98	96	35	3.2
41	W64A×A239	120	22	78	97	98	36	.7
42	W64A×A295	123	25	76	95	96	37	1.9
43	**W64A×A297**	135	23	78	98	97	40	1.2
44	W64A×A545	136	27	78	97	93	37	1.3
45	W64A×Oh26A	110	24	77	97	89	36	0
	Average	127	24	79	95	95	39	1.0
	Significant difference	12	..	..	6	12	3	...
	B — Double crosses							
	Ill. 1863	143	27	79	96	99	35	2.0
	AES 702	139	27	76	94	98	44	3.2
	Ill. 1289	134	28	78	99	98	38	1.3
	Ohio K24	123	24	80	93	95	36	3.5
	Ill. 1800	118	25	77	92	91	37	.6
	Average	131	26	78	95	96	38	2.1
	Significant difference	12	..	..	6	12	3	...

Table 4. — DOUBLE CROSSES OF ILLINOIS 21 MATURITY
Tested in North-Central Illinois, 1950-1954

(Entries in **boldface** were average or better in yield and standability and average or earlier in maturity)

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	A — Five-year averages, 1950-1954						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	**Ill. 1555A**	91	17	84	94	97	38
2	**Ill. 1560A**	90	18	81	97	98	37
3	Ill. 1290	90	19	82	93	96	39
4	Ill. 1277	90	20	82	93	98	39
5	Ill. 1575	90	21	80	96	99	40
6	Ill. 1280	89	19	82	91	97	37
	Average	90	19	82	94	98	38
	B — Four-year averages, 1951-1954						
1	Ill. 1511	104	20	83	92	89	48
2	Ill. 972A-1	104	20	82	91	95	45
3	Ill. 1617	103	20	79	91	96	44
4	Ill. 1332	101	19	82	91	97	46
5	Ill. 1570	101	21	79	88	99	48
6	**Ill. 274-1**	100	19	81	94	97	46
7	**Ill. 1575**	99	20	80	95	99	41
8	**Ill. 1555A**	97	17	84	93	98	40
9	Ill. 1277	96	20	83	93	97	40
10	AES 805	96	21	78	96	93	43
11	Ill. 1760	96	22	78	94	95	44
12	Ill. 1280	95	18	83	90	97	38
13	Ill. 1290	94	18	82	92	94	39
14	Ill. 1560A	94	18	81	96	98	38
15	AES 702	92	20	78	91	97	42
16	Iowa 4297	87	19	82	94	91	40
	Average	97	20	81	93	96	43
	C — Three-year averages, 1952-1954						
1	Ill. 1819	106	18	81	89	98	45
2	AES 806	105	22	80	89	97	44
3	Ill. 1511	104	19	83	91	86	50
4	Ill. 972A-1	104	21	81	90	95	49
5	Ill. 1332	102	19	82	90	96	48
6	Ill. 1570	102	20	79	86	98	50
7	**Ill. 274-1**	101	19	82	93	97	47
8	Ill. 1617	101	19	79	89	92	45
9	Ill. 1814	100	21	81	94	96	40
10	**Ill. 1575**	99	19	80	94	98	42
11	Ill. 1831	99	20	81	94	96	41
12	**Ill. 1555A**	98	16	85	93	97	42
13	**Ill. 1277**	97	19	83	92	97	42
14	Ill. 1560A	95	17	82	96	97	40
15	Ill. 1826	95	20	81	92	98	39
16	Ill. 1760	95	21	78	92	94	44
17	Ill. 1813	94	23	79	95	94	45
18	Ill. 1280	93	18	82	87	96	39
19	AES 805	93	21	78	95	91	44
20	Ill. 1290	92	18	83	89	94	41
21	Ind. 1405	91	19	80	95	92	38
22	AES 702	89	20	78	89	97	43
23	Iowa 4297	85	18	82	92	90	41
	Average	97	19	81	92	95	43

(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
	D — Two-year averages, 1953-1954							
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
1	AES 806	100	21	80	86	96	42	...
2	Ill. 1819	98	18	82	84	96	41	...
3	Ill. 1570	95	19	80	81	97	46	...
4	**Ill. 1332**	94	18	83	89	94	45	...
5	Ill. 1875	94	19	80	92	92	47	...
6	Ill. 972A-1	94	20	81	86	92	46	...
7	**Ill. 274-1**	93	18	82	91	96	43	...
8	**Ill. 1511**	92	18	84	89	78	46	...
9	Ill. 1617	92	18	80	88	96	44	...
10	Ill. 1831	92	20	82	94	94	38	...
11	Ill. 1896A	91	18	80	88	98	40	...
12	**Ill. 1555A**	90	16	84	90	96	40	...
13	**Ill. 1575**	90	18	81	91	98	39	...
14	Ill. 1814	90	19	82	92	97	38	...
15	Ill. 1868	90	19	81	94	94	40	...
16	Ill. 1277	89	18	84	88	96	38	...
17	Ill. 2247W	88	18	81	80	95	42	...
18	Ill. 1560A	87	16	82	94	96	36	...
19	Ill. 1813	87	22	79	92	96	42	...
20	Ill. 1826	86	19	82	90	98	36	...
21	Ill. 1760	86	20	78	89	91	42	...
22	Ill. 1280	84	16	82	82	95	35	...
23	Ill. 1290	84	17	82	88	91	38	...
24	Ind. 1405	84	18	82	93	93	35	...
25	Ill. 1864	83	16	82	93	94	36	...
26	Ill. 1863	82	18	82	94	95	36	...
27	Ill. 1873	82	18	80	94	94	36	...
28	AES 702	82	18	80	86	96	40	...
29	AES 805	82	20	78	93	87	42	...
30	Iowa 4297	74	18	82	92	86	38	...
	Average	88	18	81	89	94	40	...
	E — 1954 results (4 replications)							
1	AES 806	107	23	80	88	100	40	1.5
2	Ill. 972A-1	107	22	80	85	99	46	3.3
3	Ill. 1912	107	21	81	79	97	42	3.6
4	Ill. 1819	107	22	80	79	99	43	7.2
5	**Ill. 1511**	106	21	82	85	98	47	15.5
6	**Ill. 1332**	105	20	82	86	100	43	3.9
7	Ill. 1570	105	22	80	77	98	45	1.3
8	**Ill. 1919**	104	20	80	86	99	44	3.7
9	**Ill. 1617**	104	20	79	84	100	43	.6
10	**Ill. 1905**	104	21	77	83	99	46	3.8
11	**Ill. 274-1**	103	20	82	86	99	44	.7
12	Ill. 1918	103	22	81	81	98	44	3.8
13	**Ill. 1875**	103	21	80	92	100	47	9.2
14	Ill. 1906	102	21	79	77	100	45	4.4
15	Ill. 1913	101	20	83	74	98	44	3.3
16	Ill. 1908	100	20	82	75	99	44	2.7
17	Ill. 1915	99	22	80	85	99	42	5.6
18	Ill. 1910	98	20	83	73	99	44	2.8
19	Ill. 1904	98	21	79	60	98	46	2.7
20	**Ill. 1914**	98	21	79	85	99	45	4.0

(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
	E — 1954 results (4 replications)							
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*
21	Ill. 6021	98	23	78	63	100	51	5.0
22	Ill. 1916	97	20	82	68	99	46	3.9
23	Ill. 1555A	97	19	82	89	98	42	3.8
24	Ill. 1917	97	19	82	77	96	43	.7
25	Ill. 1896A	96	20	80	84	97	39	4.6
26	Ill. 1814	96	22	80	85	100	39	3.2
27	Ill. 1575	95	22	79	92	99	42	3.8
28	Ill. 1277	94	20	83	85	97	41	.7
29	Ill. 2247W	93	20	80	77	99	42	3.4
30	Ill. 1868	93	22	80	93	99	42	4.7
31	Ill. 1911	93	20	80	80	98	46	7.1
32	Ohio 3247	92	20	83	79	100	35	3.8
33	Ill. 1290	92	20	81	79	98	40	1.9
34	Ill. 1831	92	24	81	91	99	38	4.3
35	Ind. 1405	92	20	81	88	97	37	4.6
36	Ill. 1760	91	23	77	87	99	41	5.1
37	Ill. 1560A	89	19	79	91	100	39	1.2
38	Ill. 1909	88	20	80	76	95	43	5.2
39	Ill. 1280	88	19	80	78	99	34	6.0
40	Ill. 1826	88	21	80	89	99	36	2.0
41	Ill. 1813	87	24	77	90	99	42	2.0
42	Ind. 2401	86	21	80	89	99	37	4.2
43	Ill. 1903	86	20	80	91	97	39	2.7
44	Ill. 1864	85	19	81	88	100	35	2.6
45	AES 702	84	21	79	88	98	40	2.0
46	Ill. 1863	81	22	80	91	99	37	3.8
47	AES 805	79	22	75	92	96	41	3.6
48	Ill. 1873	77	22	77	93	100	36	4.9
49	Iowa 4297	73	21	80	86	97	38	7.1
	Average	95	21	80	83	99	42	3.9
	Significant difference	8	..	..	12	3	4	...

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

Tested in North-Central Illinois, 1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

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	**B38**	96	19	76	98	97	41	3.5
2	C103	76	22	73	97	99	42	9.3
3	Oh26A	78	19	81	97	98	39	2.8
4	M14	99	21	81	92	94	37	3.4
5	Oh422	97	21	77	96	92	40	4.6
6	**Oh28**	106	19	79	96	99	38	.7
7	Nebr. 9206	102	19	82	80	99	40	4.5
8	Oh5	82	19	75	97	100	40	6.2
9	W70	86	19	82	97	99	41	3.8
10	Oh43	113	20	82	93	99	38	2.4
11	**Nebr. 4535**	118	20	83	94	99	39	3.9
12	K1603	110	18	81	90	96	41	1.2
13	A73	73	18	82	97	99	35	0
14	**B37**	102	19	78	97	99	41	3.2
15	N18	100	20	81	82	97	38	3.2
	Average	96	20	80	94	98	39	3.5
	B — Inbred lines crossed with (Oh28 × Oh43)							
16	**B38**	119	19	79	93	92	42	2.6
17	C103	72	23	71	95	99	39	2.1
18	Oh26A	95	19	82	91	98	39	2.7
19	**WF9**	106	20	81	92	96	34	1.2
20	M14	98	18	82	83	99	34	.6
21	Nebr. 9206	99	20	83	58	96	38	1.4
22	Oh5	96	19	82	77	97	40	4.7
23	W70	108	21	82	81	99	40	1.3
24	Nebr. 4535	112	21	85	75	99	38	3.4
25	K1603	109	18	83	75	99	39	2.9
26	A73	80	19	80	91	99	36	4.6
27	B37	129	23	82	98	100	39	.6
28	N18	91	22	79	68	98	36	2.6
29	Nebr. 4056	97	19	82	95	97	36	.7
	Average	101	20	81	84	98	38	2.2
	C — Double crosses							
	(Oh28×Oh43)(B14×WF9)	108	21	80	94	99	39	3.8
	AES 702	90	20	77	96	98	40	5.9
	Iowa 4297	87	21	80	92	98	40	1.9
	Average	95	21	79	94	98	40	3.9
	Significant difference	11	..	..	9	4	3	...

Table 6. — DOUBLE CROSSES OF U. S. 13 MATURITY
Tested in Central Illinois, 1950-1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	A — Five-year averages, 1950-1954						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	Ill. 1511	98	18	82	86	96	48
2	**Ill. 1332**	94	17	81	89	98	46
3	**Ill. 972A-1**	94	17	80	83	97	47
4	U.S. 13	93	18	80	78	98	52
5	Ill. 1570	93	18	80	78	97	47
6	Ill. 21	91	17	82	83	97	47
7	Ill. 274-1	90	16	82	87	98	45
	Average	93	17	81	83	97	47
	B — Four-year averages, 1951-1954						
1	**Ill. 1511**	95	17	82	85	99	47
2	**Ill. 1421**	94	17	82	85	99	44
3	**Ill. 1332**	92	16	82	88	98	46
4	**Ill. 972A-1**	91	16	80	82	99	47
5	**Ill. 1777**	91	17	80	83	98	46
6	U.S. 13	90	17	80	77	98	51
7	Ill. 1759	90	18	80	81	98	46
8	Ill. 1788	90	18	79	80	100	47
9	Ill. 1764	88	17	79	82	99	47
10	Ill. 1570	88	18	80	77	99	47
11	Ill. 274-1	86	16	82	84	100	45
12	AES 805	86	17	80	90	97	43
13	Ill. 1767	84	18	81	77	100	45
	Average	90	17	80	82	99	46
	C — Three-year averages, 1952-1954						
1	Ill. 1511	94	17	83	87	99	47
2	Ill. 1421	94	17	82	85	99	43
3	**Ill. 1332**	91	15	82	91	98	45
4	Ill. 1777	91	17	80	89	99	45
5	**AES 801**	90	16	79	94	96	39
6	Ill. 1570	90	17	80	84	99	47
7	**Ill. 972A-1**	89	16	79	83	98	47
8	U.S. 13	88	16	81	83	98	50
9	Ill. 1788	88	17	78	80	99	48
10	Mo. 4041W	88	18	77	80	99	49
11	**AES 802**	87	16	80	90	88	43
12	Ill. 1759	87	17	78	83	98	45
13	Ill. 274-1	86	15	82	90	99	44
14	Ill. 21	86	16	82	89	98	46
15	Ohio 4808	86	17	80	92	98	40
16	Ill. 1764	83	16	79	87	98	46
17	Ill. 1767	82	17	80	86	99	45
18	AES 803	81	16	79	90	97	40
19	AES 805	79	17	80	92	95	42
	Average	87	16	80	87	98	45

(Table is continued on next page)

Table 6. — Continued

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	D — Two-year averages, 1953-1954						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	Ill. 1896	92	16	82	82	98	42
2	Ill. 1511	90	17	83	84	98	47
3	Ill. 1421	88	17	82	78	98	42
4	**Ill. 1332**	87	15	82	88	98	46
5	Ill. 1777	87	17	81	85	100	45
6	Ill. 1570	86	17	81	77	98	47
7	U.S. 13	83	16	82	80	98	48
8	Ill. 972A-1	82	16	79	76	98	46
9	Mo. 4041W	82	17	79	76	98	48
10	**AES 802**	80	16	80	88	88	42
11	**AES 801**	80	16	78	91	95	39
12	Ill. 1788	80	17	80	72	98	46
13	**Ill. 21**	78	16	82	86	98	46
14	**Ohio 4808**	78	16	80	89	98	38
15	Ill. 1813	78	17	81	90	96	40
16	Ill. 1890	76	16	79	90	100	42
17	Ill. 1759	76	16	78	76	98	44
18	Ill. 274-1	75	16	82	85	100	44
19	Ill. 1767	75	16	82	80	99	45
20	Ill. 1764	72	16	78	84	97	46
21	AES 803	71	16	80	88	96	38
22	Ill. 1880	70	15	82	85	95	42
23	Ill. 6075	68	16	82	67	96	39
24	AES 805	68	17	80	90	94	40
25	Ill. 1884	67	16	76	90	96	43
26	Ill. 1877	66	16	78	96	98	38
27	Ill. 1876	63	16	77	88	96	44
28	Ill. 1889	62	18	76	96	98	44
	Average	77	16	80	84	97	43

(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	Smutted plants
				E — 1954 results (4 replications)					
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*	*perct.*
1	Ill. 1511	99	18	84	86	98	42	5.4	9.4
2	Tenn. 3473	98	21	83	79	98	40	0	7.0
3	**Ill. 1896**	97	17	83	90	97	38	11.8	3.8
4	**Ill. 1913**	96	18	84	93	95	38	4.0	4.0
5	**Ill. 1919**	94	16	83	90	97	38	1.3	7.7
6	**Ill. 1911**	94	17	82	89	99	40	6.9	2.5
7	**Ill. 1777**	92	18	81	91	100	40	3.8	5.7
8	U.S. 13	91	16	82	86	97	42	5.3	5.2
9	AES 806	91	19	83	86	99	35	7.6	6.3
10	Ill. 1570	91	19	81	85	99	40	10.5	9.4
11	**Ill. 1332**	90	17	83	90	97	40	1.9	5.8
12	Ill. 1918	88	17	79	87	100	39	4.7	2.5
13	Mo. 4041W	87	19	80	92	100	40	5.6	5.7
14	Ind. 2609	87	16	81	83	99	37	4.3	6.3
15	**Ill. 1908**	86	17	84	96	93	39	3.7	.7
16	**Ill. 1915**	86	17	79	89	97	39	2.1	0
17	Ill. 1906	85	17	80	78	96	37	8.8	5.8
18	Ill. 1914	85	18	80	88	99	40	2.6	2.5
19	Ill. 1421	85	18	81	87	99	38	2.0	7.6
20	Ind. 9502	85	19	80	96	99	34	.7	3.8
21	**Ill. 1909**	84	17	82	90	97	41	3.3	7.1
22	Ill. 972A-1	84	17	76	80	98	40	0	1.3
23	Ill. 1788	83	18	79	87	98	38	4.2	5.1
24	Ill. 1916	83	17	82	88	96	39	3.5	13.1
25	**AES 801**	83	17	76	94	97	34	1.9	4.5
26	Ill. 6021	82	18	80	75	94	45	4.4	4.0
27	**Ill. 21**	81	18	82	96	99	41	9.9	13.3
28	Ill. 1904	79	16	78	88	94	39	4.2	8.7
29	Ill. 1917	79	17	81	76	97	37	2.6	7.0
30	Ill. 1910	77	17	84	90	99	37	4.7	13.3
31	Ill. 1912	76	17	80	94	97	37	3.6	9.6
32	AES 802	76	17	77	97	80	38	5.3	16.4
33	Ill. 274-1	76	17	81	95	100	37	.7	5.0
34	Ill. 1905	75	17	76	91	99	38	3.7	6.3
35	Ill. 1759	74	18	78	83	97	38	2.9	3.8
36	Ill. 1813	73	18	80	91	100	36	4.2	10.6
37	Ill. 1890	71	18	78	94	100	38	.6	21.7
38	Ill. 1767	71	18	81	87	99	40	4.5	18.9
39	Ill. 6075	71	18	82	70	100	35	7.4	5.7
40	Ohio 4808	69	18	79	91	98	35	0	10.1
41	Iowa 4615	69	17	79	96	97	40	.7	10.8
42	AES 803	68	17	78	93	99	36	5.0	20.8
43	Ill. 1764	66	16	76	90	95	40	1.5	14.4
44	Ill. 1880	63	16	81	86	98	37	5.1	5.7
45	AES 805	58	18	79	97	90	35	.6	17.7
46	Ill. 1884	54	18	71	93	97	38	7.4	19.2
47	Ill. 1876	51	19	73	92	94	37	4.8	28.9
48	Ill. 1877	50	19	74	99	98	35	9.7	25.3
49	Ill. 1889	46	20	73	99	97	36	2.7	24.0
	Average	79	18	80	89	97	38	4.1	9.3
	Significant difference	16	..	..	8	6	3	...	...

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

Tested in Central Illinois, 1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears	Smutted plants
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*	*perct.*
	A — Single crosses								
1	R71×R98	87	18	84	97	100	38	1.4	0
2	R71×R105	81	21	80	97	100	37	0	0
3	R71×R113	61	17	78	97	100	34	0	0
4	R98×R105	98	19	81	97	100	44	0	10.0
5	R98×R113	73	17	81	95	94	41	0	6.2
6	R105×R113	75	18	77	96	88	40	0	0
7	R71×R130	95	16	84	91	100	45	4.7	1.7
8	R98×R130	111	17	83	83	99	50	0	4.2
9	R105×R130	83	21	79	90	97	46	1.8	.8
10	R113×R130	85	16	79	81	100	44	2.6	0
11	R71×R151	80	18	82	94	100	39	1.8	0
12	R98×R151	86	17	84	92	98	43	0	11.9
13	R105×R151	92	22	80	94	100	43	5.6	2.5
14	R113×R151	77	16	82	92	99	43	5.0	0
15	R130×R151	92	17	85	86	99	46	0	.8
16	R71×R153	91	17	83	99	100	37	.5	0
17	R98×R153	94	20	82	90	99	43	0	2.5
18	R105×R153	99	20	80	100	99	39	.8	0
19	R113×R153	81	17	80	96	100	37	0	0
20	R130×R153	101	18	82	80	100	45	.8	1.7
21	R151×R153	97	18	81	79	99	43	1.5	.8
22	R71×R154	81	17	84	94	100	37	1.6	0
23	R98×R154	95	16	86	72	96	46	0	1.7
24	R105×R154	101	18	85	93	99	42	.9	0
25	R113×R154	84	15	84	76	98	38	0	0
26	R130×R154	111	15	86	77	100	49	1.7	0
27	R151×R154	99	16	87	91	99	43	2.8	1.7
28	R153×R154	96	17	88	78	98	42	0	.8
29	R71×R155	85	17	83	95	100	40	0	0
30	R98×R155	90	16	83	73	100	45	0	.8
31	R105×R155	92	20	82	93	99	42	0	0
32	R113×R155	72	16	81	97	98	40	0	.8
33	R130×R155	105	16	84	88	100	46	2.5	0
34	R151×R155	88	18	83	91	100	45	2.5	0
35	R153×R155	87	19	81	79	100	44	0	0
36	R154×R155	80	16	85	75	99	43	.9	0
37	R71×R156	90	19	85	98	99	37	.8	.8
38	R98×R156	81	17	78	90	100	43	0	14.2
39	R105×R156	75	22	78	100	100	38	0	3.3
40	R113×R156	73	17	77	93	97	35	0	5.1
41	R130×R156	91	18	81	98	99	45	1.0	.8
42	R151×R156	90	18	85	89	100	39	0	6.7
43	R153×R156	75	20	79	97	99	36	.8	3.4
44	R154×R156	92	17	83	83	100	42	1.7	.8
45	R155×R156	80	17	84	76	100	40	1.7	2.5
	Average	88	18	82	89	99	42	1.0	1.9
	B — Double crosses								
	Ill. 6021	90	16	81	87	99	48	8.9	8.4
	U.S. 13	87	17	82	91	99	42	4.0	12.6
	Ill. 6016	84	16	84	74	99	44	3.6	17.6
	AES 805	74	16	77	94	100	38	5.6	20.0
	Average	84	16	81	86	99	43	5.5	14.6
	Significant difference	9	..	..	10	2	3	...	...

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

Tested in Central Illinois, 1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears	Smutted plants
	Inbred lines crossed with (WF9 × Hy)								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*	*perct.*
1	R95	108	17	82	71	96	40	2.0	2.6
2	R96	99	15	80	84	98	43	9.5	8.9
3	R98	77	17	82	82	98	39	2.1	24.8
4	R101	82	17	80	99	99	39	2.0	5.1
5	N5	85	18	77	76	98	40	3.5	7.0
6	N12	76	18	80	95	94	38	.7	12.0
7	**N13**	99	18	83	89	99	41	4.5	19.6
8	K1605	89	18	79	80	98	38	0	17.2
9	B36	74	18	76	92	99	41	16.9	27.0
10	Oh451	110	19	82	83	99	41	2.6	5.7
11	**38-11**	98	18	82	90	97	41	11.5	14.2
12	L317	98	18	82	76	99	45	5.5	2.5
	Average	91	18	80	85	98	40	5.1	12.2
	Inbred lines crossed with (WF9 × 38-11)								
13	**R95**	96	17	82	91	94	40	6.4	10.7
14	R96	92	17	82	86	95	41	9.9	11.8
15	R98	79	18	81	92	94	41	2.6	39.3
16	R101	77	17	82	98	96	36	1.3	12.4
17	N5	88	18	78	76	98	39	.7	9.0
18	N12	78	17	81	95	98	40	.7	28.2
19	N13	73	18	80	94	98	40	4.9	49.7
20	K1605	91	18	82	88	96	38	.7	29.4
21	L317	101	17	82	89	94	46	10.9	15.2
22	Hy	79	18	83	87	79	40	7.9	10.2
	Average	85	18	81	90	94	40	4.6	21.6
	Double crosses								
	AES 805	98	17	81	90	98	46	7.0	4.5
	U.S. 13	60	18	76	95	97	38	3.7	31.6
	Average	79	18	78	92	98	42	5.4	18.0
	Significant difference	19	..	..	10	6	4	...	...

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

Tested in Central Illinois, 1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears	Smutted plants
	A — Inbred lines crossed on (WF9 × 38-11)								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*perct.*	*perct.*
1	Hy	87	16	83	92	95	42	11.7	13.0
2	**CI.42A**	103	17	85	88	96	45	9.8	7.3
3	CI.42B	104	16	85	71	90	47	8.6	4.3
4	CI.42C	92	16	82	83	94	42	5.8	22.5
5	**Hy(Mo.21A)B × 1-S6 AJU 13700**	102	17	84	98	96	45	7.5	4.1
6	Hy(Mo.21A)B × 2-S4 AJU 13706	111	16	84	87	97	46	6.7	5.6
7	Hy(Mo.21A)B × 2-S4 AJU 13711	97	17	85	91	86	44	6.9	10.0
8	L317	103	16	83	83	96	48	15.7	8.1
9	CI.317A	102	18	78	90	88	49	7.3	14.3
10	CI.317B	110	18	80	94	98	50	.8	12.6
11	(L317 × L97)-B-#3-S4	96	18	82	92	92	48	3.6	6.7
12	(L317 × L97)-B-#3-S6	98	19	80	96	96	47	6.4	6.4
13	(L317 × L97)-B-#3-S9	101	18	80	82	97	49	5.5	11.9
14	(L317 × L97)-B-#3-S10	105	18	80	89	94	47	10.5	5.0
15	L317(Mo.21A)B × 1-S6 AJU 13676	98	17	82	84	92	48	5.0	6.8
16	L317(Mo.21A)B × 1-S6 AJU 13683	103	17	81	86	99	45	15.8	8.6
17	L317(Mo.21A)B × 2-S4 AJU 13688-8	96	17	82	76	93	45	7.5	1.7
18	L317(Mo.21A)B × 2-S4 AJU 13688-13	94	18	82	89	87	45	9.5	4.5
19	Os 420	80	16	81	88	95	35	8.0	12.2
20	(Os420 × NC34)-B-#4-S2-1	88	16	82	92	100	46	10.8	36.2
21	(Os420 × NC34)-B-#4-S9-(x)	97	17	82	94	98	43	22.3	11.8
22	(Os420 × NC34)-B-#4-S12-(x)	82	17	83	98	96	39	17.9	12.8
	Average	98	17	82	88	94	45	9.3	10.3
	B — Inbred lines crossed on (Hy × L317)								
23	**WF9**	110	17	85	84	99	46	8.3	4.6
24	CI.29A	103	17	84	71	97	45	8.9	7.9
25	**CI.29B**	113	16	82	84	100	50	5.8	0
26	**CI.29C**	109	16	82	86	98	49	14.2	3.1
27	(WF9 × NC34)-B-#3-S8-3-1	101	18	80	75	99	46	3.0	3.1
28	(WF9 × NC34)-B-#3-S10-1-1	105	18	81	79	92	48	1.7	0
29	38-11	97	17	82	88	98	48	9.5	9.4
30	CI.38A	103	18	82	83	99	49	21.0	8.5
31	CI.38B	111	18	81	87	99	53	11.7	9.4
32	(38-11 × NC34)-B-#3-S2-1-2-(x)	99	19	79	78	97	52	8.3	14.4

(Table is concluded on next page)

Table 9. — Concluded

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears	Smutted plants
	B — Inbred lines crossed on (Hy × L317) (concluded)								
33	(38-11×NC34)-B-#3-S4-2-1	102	18	83	83	98	50	6.7	3.1
34	(38-11×NC34)-B-#3-S7-1-1	101	18	79	75	99	50	10.8	4.6
35	38-11(Mo.21A)B×1-S6 AJU 13734	103	17	83	89	99	48	8.3	10.1
36	**38-11(Mo.21A)B×1-S2-#3-S1 AJU 13755**	118	17	84	91	96	49	7.0	3.2
	Average	105	17	82	82	98	49	8.9	5.8
	C — Standards								
	Hy×L317	119	18	83	72	94	51	3.3	.8
	WF9×38-11	99	17	84	97	98	38	25.0	43.8
	U.S. 13	90	17	82	92	95	44	10.0	10.6
	AES 805	79	17	81	99	99	38	4.3	24.0
	Average	97	17	82	90	96	43	10.6	19.8
	Significant difference	12	..	..	11	9	4	...	...

Table 10. — DOUBLE CROSSES OF ILLINOIS 448 MATURITY
Tested in South-Central Illinois, 1950-1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height
	A — Five-year averages, 1950-1954						
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*
1	Ill. 1657	80	21	80	74	99	46
2	**Ill. 1539A**	77	19	79	85	99	45
3	U.S. 13	76	17	81	73	99	44
4	**Ill. 1349**	76	18	81	83	98	46
5	**Ill. 1332**	75	17	82	85	98	40
6	Ill. 2214W	75	20	79	78	98	45
7	Ill. 2235W	75	21	79	89	99	45
8	Ill. 1570	74	17	80	80	99	39
9	Ill. 200	71	18	80	73	99	45
10	Mo. 804	70	19	77	78	93	49
	Average	75	19	80	80	98	44
	B — Four-year averages, 1951-1954						
1	Ill. 1657	72	20	80	74	99	45
2	Mo. 862	72	22	76	80	100	45
3	**Ill. 1332**	70	16	83	86	99	38
4	Ill. 1570	70	16	80	80	100	38
5	U.S. 13	69	16	82	75	99	41
6	**Ill. 1656**	69	17	82	83	99	38
7	**Ill. 1349**	69	18	81	88	99	44
8	**Ill. 1539A**	69	18	79	85	100	44
9	Ill. 1771	68	19	78	91	98	44
10	Ill. 2235W	68	21	78	88	99	44
11	Ill. 1788	67	16	79	78	99	40
12	Ill. 2214W	67	18	78	79	99	43
13	Ill. 200	63	18	79	73	99	42
14	Mo. 804	62	18	76	79	98	48
	Average	68	18	79	81	99	42
	C — Three-year averages, 1952-1954						
1	U.S. 13	62	14	82	77	99	42
2	Ill. 1570	62	15	80	78	100	38
3	**Ill. 1656**	62	16	82	83	100	39
4	Ill. 1859	62	16	80	79	100	42
5	Ill. 1851	62	17	79	80	100	45
6	Ill. 1857	61	19	77	84	99	44
7	Ill. 1511	60	14	83	74	98	40
8	**Ill. 1332**	60	16	82	82	99	39
9	Ill. 1856	60	19	79	77	100	42
10	Mo. 862	59	20	75	79	99	45
11	Ill. 1788	58	16	78	75	99	41
12	**Ill. 1349**	58	17	81	88	99	45
13	AES 805	57	16	80	88	99	38
14	Ill. 1657	57	20	79	69	98	43
15	Ill. 1852	56	17	75	80	100	43
16	Ill. 1539A	56	18	78	86	100	43
17	Ill. 1849	56	19	75	90	99	41
18	Ill. 1771	55	19	76	89	97	42
19	Ill. 2235W	55	21	77	88	99	44
20	Ill. 200	54	16	77	71	99	44
21	Ill. 1850	54	19	75	87	99	42
22	Mo. 804	50	17	75	79	99	48
23	Ill. 2214W	48	17	76	75	99	41
	Average	58	17	78	81	99	42

(Table is continued on next page)

Table 10. — Continued

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Leaf firing[a]	Dropped ears
	D — Two-year averages, 1953-1954								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*grade*	*perct.*
1	Ill. 1897	52	14	80	74	100	38	...	...
2	Ill. 1570	52	14	79	71	100	38	...	...
3	**Ill. 1859**	51	14	80	76	100	41	...	...
4	Ill. 1896	50	14	84	75	98	37	...	...
5	**Ill. 2246W**	50	14	80	82	100	38	...	...
6	**Ill. 1332**	50	16	82	80	99	37	...	...
7	U.S. 13	49	14	81	70	100	41	...	...
8	**Ill. 1656**	49	16	80	79	100	39	...	...
9	Ill. 1511	48	14	83	73	97	38	...	...
10	**Ill. 6076**	48	14	82	60	99	38	...	...
11	Ill. 1851	48	16	80	75	100	43	...	...
12	Ill. 1788	48	16	78	72	98	40	...	...
13	Ill. 1857	48	18	78	80	98	42	...	...
14	**AES 805**	46	14	80	86	99	36	...	...
15	**Ill. 1349**	44	16	78	86	100	43	...	...
16	**Ill. 1893**	44	16	76	86	98	40	...	...
17	Ill. 1856	44	18	79	76	99	40	...	...
18	Mo. 862	44	18	74	76	100	42	...	...
19	Ill. 6075	43	14	80	62	100	36	...	...
20	Ill. 200	42	16	76	70	99	42	...	...
21	Ill. 1852	42	17	74	78	100	42	...	...
22	Ill. 1539A	41	16	78	80	100	40	...	...
23	Ill. 1657	41	19	78	64	98	41	...	...
24	Ill. 6102	40	16	73	60	100	38	...	...
25	Ill. 1849	40	18	74	90	98	40	...	...
26	Ill. 1771	40	18	74	87	96	40	...	...
27	Ill. 2235W	38	20	76	88	99	41	...	...
28	Ill. 1850	36	18	74	86	98	40	...	...
29	Mo. 804	35	17	74	76	98	46	...	...
30	Ill. 6079	34	16	78	58	98	38	...	...
31	Ill. 2214W	31	16	74	67	100	39	...	...
	Average	44	16	78	76	99	40	...	...
	E — 1954 results (4 replications)								
1	Ill. 1851	53	15	80	52	100	32	1.5	0
2	Ill. 1857	51	17	80	69	99	32	1.2	4.2
3	Ill. 1788	49	15	79	54	100	29	2.2	.8
4	**Ill. 1656**	49	16	80	60	100	28	1.0	1.7
5	**Ill. 1332**	49	15	82	63	100	28	1.5	.8
6	**Ill. 1859**	49	15	79	56	100	31	2.2	0
7	Ill. 1570	49	14	79	46	100	27	1.5	1.8
8	Ill. 1657	49	18	82	36	99	32	1.2	0
9	Mo. 862	48	17	76	63	100	34	1.0	0
10	**Ill. 1539A**	47	16	79	67	100	29	1.5	.9
11	**Ill. 1856**	47	16	82	59	98	31	1.8	2.5
12	Mo. 8010W	47	18	77	54	100	32	1.0	.7
13	**Ill. 1852**	47	16	77	61	100	32	1.8	0
14	Ill. 1909	47	15	81	50	100	29	2.0	2.6
15	**Ill. 2246W**	47	15	79	65	99	29	3.0	4.2
16	**Ill. 1349**	47	16	78	81	99	34	1.0	1.0
17	**Ill. 1893**	47	15	75	72	100	31	1.5	.9
18	**Mo. 804**	46	16	77	58	100	35	1.0	1.7
19	**Ill. 1771**	46	16	80	76	92	30	1.5	0
20	**AES 805**	46	15	79	73	98	27	2.0	0

[a] Grade 1 is most resistant; grade 4 is most susceptible to high temperature.

(Table is concluded on next page)

Table 10. — Concluded

Rank in yield	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Leaf firing[a]	Dropped ears
	E — 1954 results (concluded)								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*grade.*	*perct.*
21	Ill. 1918	46	15	80	52	100	29	2.8	1.6
22	**Ill. 1914**	46	16	80	66	100	28	2.8	.8
23	U.S. 13	46	15	79	47	100	30	2.0	1.6
24	Tenn. 3744	45	16	74	28	100	26	1.5	2.5
25	**Ill. 1896**	45	16	81	59	98	27	3.2	1.9
26	Ill. 1904	45	15	77	47	100	27	2.2	0
27	Ill. 1897	45	15	77	50	100	27	3.0	.8
28	Ill. 2235W	45	19	76	75	100	31	2.5	3.6
29	Ill. 200	45	16	78	44	100	31	2.0	0
30	Ill. 1919	44	14	77	63	100	27	2.8	.8
31	Ill. 1849	44	17	80	82	99	31	2.0	5.6
32	Ill. 1850	44	16	79	74	100	31	2.0	.9
33	Ill. 6076	44	14	79	35	98	28	2.2	2.5
34	Ill. 1916	44	14	80	57	99	28	2.5	1.8
35	Ill. 1911	44	17	78	57	100	31	1.8	0
36	Ill. 1912	43	14	80	58	99	25	3.8	.9
37	Ill. 1511	43	14	81	51	100	29	2.2	2.6
38	Ill. 1910	43	16	83	50	99	26	4.0	0
39	Ill. 1905	43	14	76	54	100	28	2.5	1.6
40	Ill. 1906	42	15	78	44	100	26	2.2	3.2
41	AES 903W	42	16	74	66	100	27	2.2	2.5
42	Ill. 1913	42	14	81	42	100	25	4.0	2.5
43	Ill. 1908	40	15	79	53	100	27	4.0	1.7
44	Ill. 1917	39	16	78	50	99	28	4.0	4.0
45	Ill. 1915	39	15	78	56	100	27	3.8	.8
46	Ill. 6102	39	15	75	29	100	29	2.5	4.5
47	Ill. 6075	39	15	78	29	100	26	3.5	1.7
48	Ill. 6079	33	16	78	38	99	27	2.0	.8
49	Ill. 2214W	30	14	73	36	100	28	3.0	1.7
	Average	45	16	79	55	99	29	2.3	1.6
	Significant difference	6	..	..	18	2	3	1.1	...

[a] Grade 1 is most resistant; grade 4 is most susceptible to high temperature.

Table 11. — THREE-WAY AND DOUBLE CROSSES OF ILLINOIS 448 MATURITY

Tested in South-Central Illinois, 1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Leaf firing[a]	Dropped ears
	A — Three-way crosses								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*grade*	*perct.*
1	(K201×38-11)×B1A	38	18	81	57	100	32	2.0	1.7
10	**(K201×38-11)×B18**	43	17	82	65	100	33	1.2	1.8
11	(K201×38-11)×Kys	39	19	77	42	100	37	1.0	.8
14	(K201×38-11)×K4	46	18	80	47	98	35	1.0	0
18	(K201×38-11)×Ky36-11	48	19	81	72	100	35	2.2	1.7
56	**(K201×38-11)×Ky106**	47	16	80	65	100	35	1.0	0
20	(K201×38-11)×Ky118	46	19	78	67	99	34	1.0	.9
21	(K201×38-11)×Ky120	42	19	79	78	100	33	1.2	2.6
19	(K201×38-11)×Ky126	53	19	84	80	99	36	2.0	.8
28	(K201×38-11)×N5	36	18	82	39	100	34	1.0	0

[a] Grade 1 is most resistant; grade 4 is most susceptible to high temperature.

(Table is concluded on next page)

Table 11. — Concluded

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Leaf firing[a]	Dropped ears
	A — Three-way crosses (concluded)								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*	*in.*	*grade*	*perct.*
29	(K201×38-11)×N9	48	16	80	62	100	33	1.5	0
30	(K201×38-11)×N10	37	16	82	83	100	28	2.0	0
31	(K201×38-11)×N15	47	22	83	49	99	29	1.2	1.7
55	**(K201×38-11)×Oh7B**	42	17	84	89	100	33	2.0	0
12	(K201×38-11)×Oh401	37	14	80	65	99	30	2.5	.9
13	(K201×38-11)×Oh443	38	16	80	57	100	36	1.8	0
5	**(K201×38-11)×Ok11**	48	18	82	76	100	30	1.5	1.7
9	(K201×38-11)×Ok12	36	17	78	40	100	34	2.8	.8
6	(K201×38-11)×Ok15	46	18	80	34	99	34	2.5	10.8
7	(K201×38-11)×Ok19	40	18	79	80	99	33	2.2	.9
8	(K201×38-11)×Ok22	39	17	79	70	99	32	2.2	.9
2	(K201×38-11)×CI.7	44	20	83	72	100	36	1.0	1.9
3	(K201×38-11)×CI.7A	38	18	79	56	99	32	1.5	0
15	**(K201×38-11)×CI.21E**	49	17	80	81	100	33	1.0	0
4	(K201×38-11)×CI.31	46	17	84	39	100	34	1.2	0
34	(K201×38-11)×Kans. 52:1326	49	16	82	64	100	32	2.8	2.5
35	(K201×38-11)×Kans. 52:1349	44	17	84	58	100	29	1.8	0
36	(K201×38-11)×Kans. 52:1351	41	17	82	62	100	30	2.0	.9
37	(K201×38-11)×Kans. 52:1357	49	17	85	42	100	28	3.5	2.5
38	(K201×38-11)×Kans. 52:1363	46	19	81	72	99	26	3.8	1.7
39	**(K201×38-11)×Kans. 52:1367**	43	16	82	68	100	32	2.2	0
40	(K201×38-11)×Kans. 52:1385	37	18	75	72	100	33	1.0	0
41	(K201×38-11)×Kans. 52:1391	41	16	80	60	99	32	2.2	0
42	**(K201×38-11)×Kans. 52:1394**	43	16	78	66	99	32	2.8	1.7
43	(K201×38-11)×Kans. 52:1409	44	20	82	60	100	35	1.0	0
44	**(K201×38-11)×Kans. 52:1411**	43	18	79	82	100	31	1.5	.8
45	(K201×38-11)×Kans. 52:1412	49	18	82	36	100	36	1.8	0
46	(K201×38-11)×Kans. 52:1421	45	23	80	25	98	36	1.0	.9
47	(K201×38-11)×Kans. 52:1430	44	17	82	62	100	32	3.5	.9
48	**(K201×38-11)×Kans. 52:1493**	45	16	80	85	99	31	1.5	2.8
49	**(K201×38-11)×Kans. 50:1109**	45	18	82	96	97	32	2.5	.8
22	**(K201×38-11)×Ky52:130**	44	15	83	97	100	30	4.0	5.0
23	(K201×38-11)×Ky52:132	36	17	82	62	98	36	1.0	0
24	(K201×38-11)×Ky52:134	32	18	74	84	99	34	2.2	0
25	(K201×38-11)×Ky52:136	41	18	80	74	99	31	1.5	.9
26	(K201×38-11)×Ky52:138	40	18	84	54	100	30	3.0	1.7
27	(K201×38-11)×Ky52:140	40	19	80	93	98	26	2.0	1.8
17	(K201×38-11)×N47556	31	18	76	92	99	35	2.5	2.5
32	(K201×38-11)×N47587-9	30	16	77	70	98	34	3.5	2.9
16	(K201×38-11)×N47904	36	18	81	63	98	31	2.0	3.3
33	(K201×38-11)×N82481	40	18	79	98	100	34	1.0	3.6
54	(K201R×38-11)×Kys	31	17	80	22	99	32	1.0	0
50	(K201R×38-11)×K4	44	19	82	46	98	37	1.0	0
53	(K201R×38-11)×Ky36-11	36	21	79	55	99	36	1.0	4.3
52	(K201R×38-11)×CI.7	40	18	81	78	100	35	1.0	2.7
51	(K201R×38-11)×CI.21E	49	18	82	58	100	32	1.0	0
	Average	42	18	81	65	99	33	1.8	1.3
	B — Double crosses								
	Ill. 1852	50	18	82	75	100	34	1.5	.9
	AES 805	48	15	80	57	100	31	1.5	1.7
	K1830	45	16	80	52	100	34	1.2	1.7
	Ill. 1850	41	18	80	85	99	33	2.2	.8
	Average	46	17	80	67	100	33	1.6	1.3
	Significant difference	9	..	..	20	2	3	.9	...

[a] Grade 1 is most resistant; grade 4 is most susceptible to high temperature.

Table 12. — DOUBLE-CROSS HYBRID NUMBERS, PEDIGREES, AND INDEX TO TABLES

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

(Table is continued on next page)

Table 12 — Continued

Hybrid	Pedigree	Performance given in Table No.
Illinois hybrids (continued)		
1802	(M14 × WF9) (A295 × Oh51A)	2CDE
1813	(C103 × Oh45) (Hy2 × WF9)	4CDE, 6DE
1814	(Hy2 × WF9) (M14 × Oh45)	4CDE
1819	(R2 × WF9) (R61 × Oh43)	4CDE
1826	(WF9 × B35) (K237 × Oh45)	4CDE
1831	(WF9 × W146) (K237 × Oh45)	4CDE
1849	(C103 × 38-11) (K201 × CI.21E)	10CDE
1850	(C103 × CI.21E) (38-11 × K201)	10CDE, 11B
1851	(C103 × 38-11) (Oh7 × CI.21E)	10CDE
1852	(C103 × CI.21E) (38-11 × Oh7)	10CDE, 11B
1856	(38-11 × Oh7) (K201 × CI.21E)	10CDE
1857	(38-11 × Oh41) (K201 × CI.21E)	10CDE
1859	(38-11 × Oh7) (Oh41 × CI.21E)	10CDE
1861	(M14 × WF9) (I.224 × Oh28)	2DE
1862	(M14 × WF9) (Oh43 × Oh51A)	2DE
1863	(M14 × WF9) (I.205 × Oh43)	2DE, 3B, 4DE
1864	(M14 × WF9) (Oh43 × W22)	2DE, 4DE
1865	(M14 × WF9) (Oh5 × Oh43)	2DE
1866	(M14 × WF9) (Oh26A × Oh45)	2DE
1868	(C103 × Oh43) (Hy2 × WF9)	4DE
1873	(C103 × M14) (R75 × Oh43)	4DE
1875	(C103 × 38-11) (Hy2 × WF9)	4DE
1876	(R97 × R98) (WF9 × 38-11)	6DE
1877	(R99 × R100) (WF9 × 38-11)	6DE
1880	(R103 × R104) (WF9 × 38-11)	6DE
1884	(C103 × R100) (WF9 × 38-11)	6DE
1889	(C103 × Oh45) (38-11 × Oh29)	6DE
1890	(C103 × Oh45) (R75 × 38-11)	6DE
1893	(C103 × 38-11) (Oh7B × Oh29)	10DE
1896	(R138 × R139) (R140 × R141)	6DE, 10DE
1896A	(R139 × R141) (R138 × R140)	4DE
1897	(R138 × R141) (R139 × R143)	10DE
1902	(R138 × R142) (R139 × R141)	2DE
1903	(M14 × WF9) (R119 × R120)	2E, 4E
1904	(R81 × R85) (WF9 × 38-11)	4E, 6E, 10E
1905	(R81 × R120) (WF9 × 38-11)	4E, 6E, 10E
1906	(Hy2 × WF9) (R81 × R119)	4E, 6E, 10E
1908	(R154 × R155) (WF9 × 38-11)	4E, 6E, 10E
1909	(R130 × R151) (WF9 × 38-11)	4E, 6E, 10E
1910	(R154 × R156) (WF9 × 38-11)	4E, 6E, 10E

(Table is continued on next page)

Table 12 — Continued

Hybrid	Pedigree	Performance given in Table No.
Illinois hybrids (continued)		
1911	(R130 × R153) (WF9 × 38-11)	4E, 6E, 10E
1912	(R151 × R156) (WF9 × 38-11)	4E, 6E, 10E
1913	(R151 × R154) (WF9 × 38-11)	4E, 6E, 10E
1914	(R153 × R155) (WF9 × 38-11)	4E, 6E, 10E
1915	(R151 × R155) (WF9 × 38-11)	4E, 6E, 10E
1916	(R130 × R154) (WF9 × 38-11)	4E, 6E, 10E
1917	(R153 × R154) (WF9 × 38-11)	4E, 6E, 10E
1918	(R151 × R153) (WF9 × 38-11)	4E, 6E, 10E
1919	(R130 × R156) (WF9 × 38-11)	4E, 6E, 10E
2214W	(R30 × Ky27) (H21 × K64)	10ABCDE
2235W	(H21 × K64) (33-16 × Mo2RF)	10ABCDE
2246W	(R144 × R145) (R148 × R149)	10DE
2247W	(R144 × R145) (R146 × R148)	2E, 4DE
6015	(R84 × 38-11) (R118 × K4)	2E
6016	(R78 × K4) (R84 × 38-11)	7B
6021	(R75 × R76) (R84 × K4)	4E, 6E, 7B
6052	(R78 × 38-11) (R84 × K4)	2E
6062	(R76 × K4) (R78 × R84)	2E
6074	(R75 × R87) (R78 × R83)	2DE
6075	(R75 × R83) (R78 × R87)	6DE, 10DE
6076	(R76 × R78) (R87 × R117)	10DE
6079	(R78 × R84) (R87 × R119)	10DE
6102	(R75 × R85) (R84 × R87)	10DE
Miscellaneous hybrids		
AES 510	(WF9 × W22) (H19 × B9)	2E
AES 610	(M14 × A73) (Oh43 × Oh51A)	2CDE
AES 702 (Ill. 1790)	(C103 × M14) (Hy2 × WF9)	2BCDE, 3B, 4BCDE, 5C
AES 801	(WF9 × B7) (B10 × B14)	6CDE
AES 802	(Hy × WF9) (38-11 × N6)	6CDE
AES 803	(WF9 × 187-2) (N6 × K148)	6CDE
AES 805 (Ill. 1770)	(C103 × Oh45) (WF9 × 38-11)	4BCDE, 6BCDE, 7B, 8C, 9C, 10CDE, 11B
AES 806	(Hy × WF9) (N6 × N15)	4CDE, 6E
AES 903W	(H28 × K55) (H30 × K41)	10E
Ind. 0421	(M14 × WF9) (B9 × W22)	2CDE
Ind. 1405	(H41 × H42) (H45 × H46)	4CDE
Ind. 2401	(M14 × WF9) (K237 × Oh45)	4E
Ind. 2609	(WF9 × 38-11) (H14 × Oh43)	6E
Ind. 9502	(H26 × H27) (H28 × H29)	6E
Iowa 4297	(M14 × 187-2) (WF9 × I.205)	4BCDE, 5C
Iowa 4558	(M14 × WF9) (B8 × B21)	2E

(Table is concluded on next page)

Table 12. — Concluded

Hybrid	Pedigree	Performance given in Table No.
Miscellaneous hybrids (concluded)		
Iowa 4615	(Hy × WF9) (B14 × B36)	6E
Iowa 4630	(M14 × B21) (WF9 × Oh51A)	2E
I.S.P. 2	(C103 × Oh45) (M14 × WF9)	2CDE
K1830	(K201 × 38-11) (K4 × CI.7)	11B
Minn. 4	(A286 × A295) (A375 × Oh51A)	2E
Minn. 40	(A73 × A401) (A286 × Oh51A)	2E
Mo. 804	(CI.7 × K4) (38-11 × CI.21E)	10ABCDE
Mo. 862	(K201 × T202) (CI.21E × Mo567)	10BCDE
Mo. 4041W	(WhHy × K55) (Wh38-11 × 33-16)	6CDE
Mo. 8010W	(K64 × Mo22) (T111 × T115)	10E
Ohio M15	(Oh26 × Oh51) (A × W23)	2CDE
Ohio K24	(WF9 × Oh51A) (Oh33 × Oh40B)	2BCDE, 3B
Ohio 3247	(Oh43 × Oh45) (Oh51A × W22)	4E
Ohio 4808	(Oh4C × Oh51A) (Oh28 × Oh45)	6CDE
Ohio 5305	(A73 × Oh5) (Oh26A × Oh51A)	2E
Tenn. 3473	(M14 × 751) (T206 × 61.984-8)	6E
Tenn. 3744	(H21 × K6) (T111 × T115)	10E
U.S. 13	(Hy × L317) (WF9 × 38-11)	6ABCDE, 7B, 8C, 9C, 10ABCDE

4500—1-55—56701