1960 Performance of EXPERIMENTAL CORN HYBRIDS IN ILLINOIS

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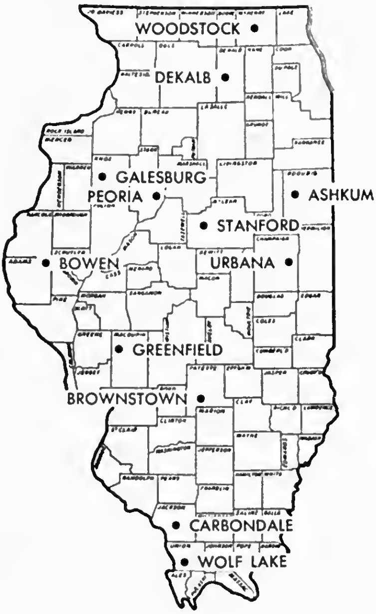
Location of test fields



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PERFORMANCE OF EXPERIMENTAL CORN HYBRIDS IN ILLINOIS, 1960

By Earl R. Leng, R. J. Lambert, M. L. Peasley, G. L. Ross, and K. E. Williams[1]

One of the objectives of corn breeders at the Illinois Agricultural Experiment Station is to develop improved corn inbreds and hybrids for use by seedsmen and farmers of the state. Such development requires considerable breeding work and adequate testing of performance at a number of locations and for a period of years. This bulletin summarizes results of experimental corn hybrid performance trials conducted in 1960. The experimental corn hybrids tested were selected on the basis of their performance in preliminary tests or in advanced tests of previous years.

In 1960 experimental corn hybrids were tested at twelve different locations in the state: Ashkum, Bowen, Brownstown, Carbondale, DeKalb, Galesburg, Greenfield, Peoria, Stanford, Urbana, Wolf Lake, and Woodstock. The maturity series tested at each location, the soil types, the distribution of rainfall during the growing season, dates of planting and harvesting, and planting rates per acre are given in Table 1.

MATERIAL TESTED

A total of 205 corn hybrids, consisting of 109 double crosses, 93 three-way crosses, and 3 single crosses, were tested in advanced corn performance trials in 1960. Most of the hybrids tested were developed by corn breeders at the University of Illinois.

Double crosses tested. Double crosses tested were divided into maturity groups, each consisting of a different set of 25 hybrids. The groups used were based on the AES (Agricultural Experiment Station) maturity series; the groups adapted to Illinois range in maturity from "600" in extreme northern Illinois to the "900" group in southern areas of the state. For testing purposes, hybrids comparable in maturity to those of the AES "800" series were divided into "800" and "850" series. The "800 series" hybrids were grown in north-central Illinois and the "850 series" in central Illinois. Illinois Station hybrids of comparable maturity rating are as follows: 600 series = Illinois 1555A; 700 series = Illinois 3152; 800 series = Illinois 1421; 850 series = Illinois 1570; and 900 series = Illinois 1851.

[1] Earl R. Leng, Professor of Agronomy; R. J. Lambert, and M. L. Peasley, Research Assistants; G. L. Ross, and K. E. Williams, Crops Testing Technicians.

Three-way crosses tested. Three-way crosses are useful for evaluating the combining ability of an inbred line. Thirty-one inbreds crossed with three single-cross testers, (WF9 × Oh43), (WF9 × B37), and (B41 × Oh7A), were tested at Brownstown, DeKalb, and Urbana in 1959 and 1960. The test at Brownstown, however, was abandoned in 1960 because of poor stand, so 1959 and 1960 summaries are available only for DeKalb and Urbana.

Table 1. — GENERAL INFORMATION: Illinois Experimental Corn Hybrids, 1960

(All planting rates 16,000 plants per acre, except at Galesburg where it was 18,000, and at Brownstown, where it was 14,000)

Location	Maturity series tested	Soil type	Monthly rainfall (in.)				Date of planting	Date of harvest
			May	June	July	Aug.		
			Northern Illinois					
Woodstock	600	Proctor silt loam	5.6	3.9	3.0	2.3	May 15	Oct. 29
DeKalb	600, 700	Flanagan silt loam	6.2	4.1	4.8	3.0	May 24	Nov. 5
			North-Central Illinois					
Galesburg	800	Sable silty clay loam	6.1	5.8	2.2	5.4	June 1	Oct. 28
Peoria	700	Muscatine silt loam	6.3	5.4	3.5	5.3	June 8	Nov. 17
Ashkum	700	Milford clay loam	3.1	5.0	1.1	5.1	May 31	Nov. 15
Stanford	800	Muscatine silt loam	3.6	8.3	4.8	2.2	May 12	Oct. 6
			Central Illinois					
Bowen	850	Virden silty clay loam	6.7	8.6	3.7	5.0	June 1	Oct. 25
Urbana	850, 900	Brenton silt loam	4.1	6.2	2.8	1.3	May 4	Oct. 6
			Southern Illinois					
Greenfield	850, 900	Herrick silt loam	5.8	4.2	3.1	2.1	June 2	Oct. 22
Brownstown	900	Cisne silt loam	5.9	7.2	1.8	2.2	June 9	Nov. 17
Carbondale	900	Weir silt loam	5.5	4.1	1.2	3.8	June 2	Oct. 7
Wolf Lake	900	Riley fine sandy loam	3.9	3.5	2.8	4.6	May 10	Oct. 4

COOPERATORS: EARL HUGHES, *McHenry county*; RALPH ANDERSON, *Knox county*; MELVIN KRAFT, *Iroquois county*; W. T. SCHWENK AND SONS, *Peoria county*; ELDON GOLDEN, *Hancock county*; ROBERT BUTH, *McLean county*; CHARLES ROSS, *Macoupin county*; Shawnee High School, *Union county*. Trials in DeKalb and Champaign counties were located on University of Illinois farms managed by R. E. BELL and C. H. FARNHAM. P. E. JOHNSON, Assistant Professor of Soil Fertility, supervised field operations on the test in Fayette county, and D. R. BROWNING of Southern Illinois University supervised field operations on the Union county and Jackson county test fields.

Performance trials of this type are necessary to properly evaluate improved corn inbreds. The performance of an inbred in a combination with three different single-cross testers is a measure of the combining ability of the inbred line being tested. Tests at a number of locations and for several years more accurately measure combining ability than tests for only one year or at one location.

Availability of material tested. A number of the Illinois Station corn hybrids listed in this report are not yet in commercial production. The Experiment Station release policy is to make available to the public seed of inbred lines that have demonstrated superior performance for desirable agronomic characters. Small amounts of seed (up to 100 kernels) of *released* Illinois inbred lines are available for a nominal fee. Requests for seed of released Illinois inbred lines should be addressed to the Department of Agronomy, University of Illinois, Urbana, Illinois. Station Bulletin 657 lists the Illinois inbred lines released up to and including 1960, and also presents data on some of their important agronomic characteristics. Seed of single crosses that are used as parents for some Illinois Station hybrids reported in this bulletin may be obtained from the Illinois Seed Producers Association, Champaign, Illinois.

FIELD PROCEDURES AND ANALYSIS OF DATA

Method of planting. All test locations except Carbondale were planted with a mounted four-row John Deere tractor planter, slightly modified for planting experimental plots. The Carbondale location was planted by hand. All locations were planted on land prepared in the normal manner for corn. Individual plots were one row 11 hills in length. Planting simulated "power check," with a variable number of kernels being dropped approximately each 20 inches, depending on the planting rate used. All plots were band-treated for weed control with Atrazine at a rate of 12 pounds per acre. The plots were not thinned.

Method of harvest. All plots were harvested with a one-row Ford picker-sheller modified to harvest experimental plots. The shelled corn from each plot was bagged, weighed, and sampled for moisture using a Radson moisture meter. No adjustment was made for dropped ears or for ears on broken stalks that were not harvested.

Field-plot design and analysis of data. The experimental designs used for all trials were lattice designs with 3 replications. All field data were recorded on mark-sense cards and processed with digital computers at the University of Illinois.

MEASURING PERFORMANCE

All hybrids tested were compared for grain yield, kernel moisture, erect plants at harvest, and stand. Data on other agronomic characters such as dropped ears, leaf blight reaction, stalk rot, and smutted plants were recorded when natural conditions permitted measuring true varietal differences.

Yield of grain. Acre yields are reported as shelled corn containing 15.5 percent moisture, the upper limit for No. 2 corn.

Erect plants. A count of erect plants in each plot of an entry was taken at harvest time for each location. Only plants leaning at an angle of 45° or more or broken below the ear were considered lodged; all others were counted as erect.

Stand. A count was made in late summer at all locations of the total number of plants in each plot of a hybrid. The percent stand was computed by comparing the actual number of plants in each plot with the number of kernels planted. Stand differences may have been caused by failure of seed to germinate or by disease, insect damage, cultivation injury, or other factors.

TEST RESULTS

Results from the tests are summarized in Tables 2 to 13. The following facts should be considered when comparing the performance of hybrids in a test.

1. Results covering two and three years at a location are more reliable than results for only one year. The performance of hybrids tested only in 1960 should not be used as a measure of their true ability since further testing will be necessary before valid conclusions can be drawn. This is true of all hybrids tested at Ashkum, Bowen, Carbondale, Galesburg, Greenfield, Stanford, Wolf Lake, and Woodstock. Results from these tests are not ranked by yield but are listed according to hybrid designation. Two- and three-year summaries are available for Brownstown, DeKalb, Peoria, and Urbana, and entries are ranked according to yield in these summaries.

2. Small differences between hybrids do not necessarily indicate that one hybrid is truly superior to another. Interpretation of the data and comparisons between hybrids are made more meaningful by use of certain statistical procedures. One procedure used to compare the difference between hybrids is the "Multiple Range Test."[1] Using this

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

statistical test, the difference necessary for significance between two or more hybrids can be calculated. Whenever the observed difference between two or more hybrids exceeds the amount calculated for that range, the two hybrids are significantly different. To find the difference necessary for significance the hybrids are first ranked according to performance for a particular character. Then the "number in range" can be computed by counting the hybrids to be compared and the number of hybrids falling between them in performance. For example, if hybrids A and E are to be compared and the rank in performance is A, B, C, D, E, the "number in range" would be 5. When the "number in range" has been determined, the corresponding "difference necessary for significance" can be read from the figures at the bottom of each table. If the observed difference exceeds the "difference necessary for significance," the performances of the hybrids are considered different.

Table 2.— DOUBLE CROSSES OF 600 MATURITY
Tested at Woodstock, 1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
	1960 results				
		bu.	*perct.*	*perct.*	*perct.*
Ill. 1277	(WF9×M14)(I.205×187-2)	92.0	21.7	90.5	95.4
Ill. 1555A (check)	(WF9×Oh51A)(I.224×Oh28)	76.5	20.1	98.3	87.8
Ill. 1559B[a]	(WF9×Oh51A)(M14×Oh28)	87.2	22.5	98.3	87.8
Ill. 1861	(WF9×M14)(I.224×Oh28)	68.4	22.5	92.1	87.1
Ill. 1863	(WF9×M14)(I.205×Oh43)	87.2	24.8	92.3	98.4
Ill. 1936	(WF9×Hy2)(M14×B14)	78.0	22.4	93.8	87.8
Ill. 1952	(W64A×A545)(M14×B14)	93.6	22.2	93.4	93.1
Ill. 1955	(W64A×B14)(M14×A297)	83.9	20.9	97.4	83.3
Ill. 1957	(W64A×B14)(M14×A545)	79.9	20.4	98.1	89.3
Ill. 1958	(Oh26A×M14)(B14×A545)	81.5	22.8	94.1	91.6
Ill. 1959	(W64A×M14)(B14×A297)	94.1	23.4	92.8	95.4
Ill. 1960	(W64A×M14)(B14×A545)	86.1	22.7	95.9	96.9
Ill. 1961	(W64A×A239)(B14×A545)	87.5	22.9	100.0	86.3
Ill. 1962	(W64A×A297)(B14×A545)	84.6	21.5	94.5	92.4
Ill. 1969A	(WF9×R165)(R168×B14)	80.1	24.4	96.2	81.0
Ill. 3009	(W64A×A297)(B14×B21)	86.0	21.9	95.4	96.2
Ill. 3152	(WF9×M14)(B14×Oh43)	86.8	23.5	97.5	94.6
Ill. 3173	(A545×N24)(B14×Oh43)	84.0	22.8	96.1	90.1
Ill. 3174	(A297×Oh43)(B37×Oh28)	76.3	22.8	92.7	93.9
Ill. 3301	(M14×Oh43)(R168×B14)	85.2	22.8	97.5	96.2
Ill. 3302A-1[b]	(W64A×M14)(R172×B14)	82.5	22.6	94.0	90.1
Ill. 3303	(M14×Oh43)(R172×B14)	81.3	23.0	95.7	90.1
Ill. 3313	(W64A×Oh43)(L12×B14)	69.5	23.8	98.9	78.7
Ill. 6201	(WF9×B14)(R53×Oh7)	77.2	21.2	83.5	96.9
Ill. 6202	(W64A×Oh43)(Oh51×R53)	84.8	20.4	90.6	96.2
Average		**83.0**	**22.5**	**94.8**	**91.0**
Number in range		Difference necessary for significance			
2		3.9	0.7	1.9	3.0
3-5		4.4	0.8	2.1	3.4
6-10		4.6	0.8	2.3	3.6
11-15		4.7	0.8	2.3	3.7
16-25		4.8	0.9	2.4	3.7

[a] Illinois Station hybrids with A or B endings in the numerical designation are permutations of a basic arrangement.
[b] (-1) indicates that W64A has replaced WF9 in Ill. 3302A (WF9×M14)(R172×B14).

Table 3. — DOUBLE CROSSES OF 600 MATURITY AND 700 MATURITY AND THREE-WAY CROSSES AND STANDARDS
Tested at DeKalb, 1958-1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
DOUBLE CROSSES OF 600 MATURITY					
		bu.	*perct.*	*perct.*	*perct.*
Summary: 1958-1960					
Ill. 3173	(A545×N24)(B14×Oh43)	124.3	28.9	91.0	96.2
Ill. 3152	(WF9×M14)(B14×Oh43)	122.5	28.2	87.6	96.2
Ill. 3174	(A297×Oh43)(B37×Oh28)	118.7	27.4	86.9	95.4
Ill. 1962	(W64A×A297)(B14×A545)	118.3	24.7	86.0	96.3
Ill. 1936	(WF9×Hy2)(M14×B14)	118.1	28.0	81.9	96.4
Ill. 1559B	(WF9×Oh51A)(M14×Oh28)	117.9	25.9	78.7	96.6
Ill. 1952	(W64A×A545)(M14×B14)	116.6	26.7	84.4	96.4
Ill. 3009	(W64A×A297)(B14×B21)	116.1	25.8	88.3	94.6
Ill. 1959	(W64A×M14)(B14×A297)	116.1	26.0	90.6	97.1
Ill. 1961	(W64A×A239)(B14×A545)	114.2	25.1	85.7	97.0
Ill. 1960	(W64A×M14)(B14×A545)	114.0	26.4	82.7	96.7
Ill. 1958	(Oh26A×M14)(B14×A545)	113.4	25.0	80.2	97.4
Ill. 1955	(W64A×B14)(M14×A297)	111.3	24.4	88.1	96.4
Ill. 1957	(W64A×B14)(M14×A545)	110.6	26.6	80.0	95.1
Ill. 1555A	(WF9×Oh51A)(I.224×Oh28)	107.5	24.0	77.8	95.5
Ill. 1277	(WF9×M14)(I.205×187-2)	105.1	26.3	65.7	97.2
Average		**115.3**	**26.2**	**83.5**	**96.3**
Number in range		Difference necessary for significance			
2		N.S.	2.2	N.S.	N.S.
3-5		N.S.	2.4	N.S.	N.S.
6-10		N.S.	2.5	N.S.	N.S.
11-16		N.S.	2.6	N.S.	N.S.
Summary: 1959-1960					
Ill. 3303	(M14×Oh43)(R172×B14)	122.7	26.8	92.6	98.1
Ill. 3301	(M14×Oh43)(R168×B14)	121.7	26.2	97.4	96.9
Ill. 3173	(A545×N24)(B14×Oh43)	118.1	27.0	92.4	94.3
Ill. 1962	(W64A×A297)(B14×A545)	117.6	23.5	86.4	96.6
Ill. 3302A-1	(W64A×M14)(R172×B14)	115.6	25.5	92.6	98.8
Ill. 3174	(A297×Oh43)(B37×Oh28)	113.3	26.9	87.9	93.5
Ill. 1960	(W64A×M14)(B14×A545)	113.0	24.7	91.0	95.1
Ill. 1959	(W64A×M14)(B14×A297)	112.6	24.1	91.7	97.3
Ill. 3152	(WF9×M14)(B14×Oh43)	112.6	26.5	94.6	94.4
Ill. 3313	(W64A×Oh43)(L12×B14)	112.5	25.1	95.3	94.8
Ill. 3009	(W64A×A297)(B14×B21)	112.3	24.7	89.9	93.2
Ill. 1559B	(WF9×Oh51A)(M14×Oh28)	111.3	25.0	90.2	94.9
Ill. 1952	(W64A×A545)(M14×B14)	110.3	25.4	90.4	95.9
Ill. 1936	(WF9×Hy2)(M14×B14)	107.9	25.9	86.8	94.6
Ill. 1961	(W64A×A239)(B14×A545)	107.4	24.9	87.7	95.5
Ill. 1969A	(WF9×R165)(R168×B14)	106.9	27.8	95.2	95.1
Ill. 1958	(Oh26A×M14)(B14×A545)	106.7	23.6	87.3	96.6
Ill. 1955	(W64A×B14)(M14×A297)	105.8	23.1	86.0	95.0
Ill. 1957	(W64A×B14)(M14×A545)	105.7	24.4	87.0	93.1
Ill. 1555A	(WF9×Oh51A)(I.224×Oh28)	100.1	23.3	85.3	94.5
Ill. 1277	(WF9×M14)(I.205×187-2)	94.7	24.2	83.7	95.9
Average		**110.9**	**25.2**	**90.1**	**95.4**
Number in range		Difference necessary for significance			
2		N.S.	2.0	N.S.	N.S.
3-5		N.S.	2.2	N.S.	N.S.
6-10		N.S.	2.3	N.S.	N.S.
11-21		N.S.	2.4	N.S.	N.S.

(Table is continued on next page)

Table 3. — DeKalb — continued

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
DOUBLE CROSSES OF 600 MATURITY — concluded					
		bu.	*perct.*	*perct.*	*perct.*
1960 results					
Ill. 1277	(WF9×M14)(I.205×187-2)	106.5	25.4	87.0	93.1
Ill. 1555A (check)	(WF9×Oh51A)(I.224×Oh28)	104.8	25.5	93.3	92.4
Ill. 1559B	(WF9×Oh51A)(M14×Oh28)	106.3	26.9	87.2	93.1
Ill. 1861	(WF9×M14)(I.224×Oh28)	95.5	23.5	77.1	86.3
Ill. 1863	(WF9×M14)(I.205×Oh43)	108.0	30.0	94.4	93.1
Ill. 1936	(WF9×Hy2)(M14×B14)	98.9	30.3	89.6	89.3
Ill. 1952	(W64A×A545)(M14×B14)	98.9	28.5	95.1	93.9
Ill. 1955	(W64A×B14)(M14×A297)	94.9	25.6	93.4	90.1
Ill. 1957	(W64A×B14)(M14×A545)	100.1	26.2	92.1	86.3
Ill. 1958	(Oh26A×M14)(B14×A545)	104.2	24.9	92.7	93.9
Ill. 1959	(W64A×M14)(B14×A297)	104.8	26.3	96.8	94.6
Ill. 1960	(W64A×M14)(B14×A545)	110.8	26.8	94.1	90.9
Ill. 1961	(W64A×A239)(B14×A545)	97.3	27.2	94.2	91.6
Ill. 1962	(W64A×A297)(B14×A545)	113.4	25.5	95.1	93.9
Ill. 1969A	(WF9×R165)(R168×B14)	103.1	29.9	96.5	90.9
Ill. 3009	(W64A×A297)(B14×B21)	103.1	27.2	94.8	87.8
Ill. 3152	(WF9×M14)(B14×Oh43)	110.0	28.5	96.7	90.1
Ill. 3173	(A545×N24)(B14×Oh43)	106.9	29.8	95.0	89.3
Ill. 3174	(A297×Oh43)(B37×Oh28)	107.3	28.5	93.8	87.1
Ill. 3301	(M14×Oh43)(R168×B14)	110.4	28.2	98.2	93.9
Ill. 3302A-1	(W64A×M14)(R172×B14)	114.1	26.8	94.6	97.7
Ill. 3303	(M14×Oh43)(R172×B14)	116.6	28.5	96.0	96.2
Ill. 3313	(W64A×Oh43)(L12×B14)	106.6	27.2	97.5	91.6
Ill. 6201	(WF9×B14)(R53×Oh7)	92.6	25.1	82.9	85.6
Ill. 6202	(W64A×Oh43)(Oh51×R53)	83.7	23.7	86.4	84.0
Average		**103.9**	**27.0**	**92.5**	**91.0**
Number in range		Difference necessary for significance			
2		4.7	1.0	2.5	N.S.
3-5		5.3	1.1	2.8	N.S.
6-10		5.6	1.1	3.0	N.S.
11-15		5.7	1.2	3.1	N.S.
16-25		5.8	1.2	3.1	N.S.

(Table is continued on next page)

Table 3. — DeKalb — continued

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
DOUBLE CROSSES OF 700 MATURITY					
		bu.	*perct.*	*perct.*	*perct.*
Summary: 1958-1960					
Ill. 3152	(WF9×M14)(B14×Oh43)	120.5	28.7	86.4	92.9
Ill. 1936	(WF9×Hy2)(M14×B14)	119.6	27.0	83.8	93.9
AES 702	(WF9×Hy2)(M14×C103)	105.1	28.3	78.6	97.4
Ill. 21	(WF9×38-11)(Hy2×187-2)	104.3	27.2	71.9	97.1
Ill. 1277	(WF9×M14)(I.205×187-2)	102.1	26.8	67.8	97.0
Average		**110.3**	**27.6**	**77.7**	**95.7**
Number in range		Difference necessary for significance			
2-5		N.S.	N.S.	N.S.	N.S.
Summary: 1959-1960					
Ill. 3382	(WF9×R109B)(B14×Oh43)	119.1	28.5	93.8	94.3
Ill. 3381	(WF9×R71)(B14×Oh43)	116.8	28.0	93.5	93.5
Ill. 3270	(WF9×Oh43)(R74×R168)	115.5	28.1	95.8	97.0
Ill. 3303	(M14×Oh43)(R172×B14)	114.5	27.2	92.0	92.4
Ill. 3275	(WF9×Oh43)(R114×R168)	110.6	27.1	95.1	96.3
Ill. 1936	(WF9×Hy2)(M14×B14)	110.1	24.4	89.7	90.9
Ill. 3266	(WF9×Oh43)(R74×R109B)	109.8	28.2	89.1	88.1
Ill. 3152	(WF9×M14)(B14×Oh43)	109.5	27.2	92.8	89.4
Ill. 3383	(WF9×M14)(R172×Oh43)	109.4	27.2	87.3	94.3
Ill. 3265	(WF9×Oh43)(R71×R109B)	107.5	28.4	94.8	94.7
Ill. 21	(WF9×38-11)(Hy2×187-2)	98.7	25.0	83.1	97.0
AES 702	(WF9×Hy2)(M14×C103)	92.0	25.9	89.2	96.2
Ill. 1277	(WF9×M14)(I.205×187-2)	90.2	24.9	86.8	95.5
Average		**108.0**	**26.9**	**91.0**	**93.8**
Number in range		Difference necessary for significance			
2-13		N.S.	N.S.	N.S.	N.S.
1960 results					
AES 702	(WF9×Hy2)(M14×C103)	92.1	26.4	85.8	92.4
AES 703	(WF9×Oh43)(B14×B38)	112.0	33.1	97.4	89.3
AES 704	(WF9×Oh43)(B14×B37)	111.4	32.7	98.4	93.9
AES 705	(WF9×B14)(C103×Oh43)	97.2	32.1	97.5	90.9
Ill. 21	(WF9×38-11)(Hy2×187-2)	112.4	24.9	89.6	94.6
Ill. 1277	(WF9×M14)(I.205×187-2)	97.5	26.9	93.4	92.4
Ill. 1922	(WF9×Hy2)(R71×R105)	89.0	33.4	97.2	81.8
Ill. 1936	(WF9×Hy2)(M14×B14)	103.3	27.3	95.4	81.8
Ill. 1968	(WF9×B14)(R163×R169)	118.6	27.3	92.9	90.1
Ill. 1969	(WF9×B14)(R165×R168)	93.0	28.1	93.3	90.9
Ill. 3022	(WF9×B14)(N22A×Oh43)	99.1	32.4	97.7	96.9
Ill. 3029	(WF9×B14)(Oh43×Oh45)	95.5	32.8	99.1	93.1
Ill. 3042	(WF9×B14)(B40×Oh45)	106.6	31.9	95.3	96.2
Ill. 3152 (check)	(WF9×M14)(B14×Oh43)	103.8	30.0	93.2	80.3
Ill. 3182A	(WF9×R105)(R151×R154)	100.6	27.7	94.9	89.3
Ill. 3265	(WF9×Oh43)(R71×R109B)	110.4	28.4	95.8	90.9
Ill. 3266	(WF9×Oh43)(R74×R109B)	96.7	30.1	92.2	80.3
Ill. 3270	(WF9×Oh43)(R74×R168)	106.0	31.1	97.6	94.6
Ill. 3275	(WF9×Oh43)(R114×R168)	103.2	28.5	98.4	93.9
Ill. 3303	(M14×Oh43)(R172×B14)	100.1	29.2	94.7	84.8
Ill. 3315A	(WF9×Hy2)(R109B×B14)	85.9	32.6	94.9	93.1
Ill. 3347	(H49×H55)(R74×R101)	112.9	31.3	92.5	94.6
Ill. 3381	(WF9×R71)(B14×Oh43)	110.5	31.5	96.3	87.1
Ill. 3382	(WF9×R109B)(B14×Oh43)	116.8	31.5	94.9	89.3
Ill. 3383	(WF9×M14)(R172×Oh43)	96.8	29.6	90.7	88.6
Average		**102.9**	**30.0**	**94.8**	**90.0**
Number in range		Difference necessary for significance			
2		16.4	3.0	6.5	N.S.
3-5		18.2	3.3	7.2	N.S.
6-10		19.3	3.5	7.6	N.S.
11-15		19.7	3.6	7.8	N.S.
16-20		20.0	3.7	7.9	N.S.
21-25		20.1	3.7	7.9	N.S.

(Table is continued on next page)

Table 3. — DeKalb — continued

Entry	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS, SUMMARY: 1959-1960				
	bu.	*perct.*	*perct.*	*perct.*
Inbred lines crossed with (WF9 × Oh43)				
R71	99.7	30.1	94.3	88.2
R74	98.7	29.1	95.5	81.0
R76	101.2	28.8	81.4	83.4
R78	99.4	29.4	91.4	88.4
R84	92.9	25.8	83.8	83.3
R101	96.0	26.4	90.5	88.3
R104	99.2	28.0	91.0	81.4
R109B	99.9	28.5	96.8	83.0
R112	101.8	28.9	96.5	85.2
R113	99.3	26.7	90.3	89.5
R114	99.4	27.3	95.8	84.3
R134	110.9	28.7	93.9	83.1
R135	91.7	29.8	87.5	85.6
R151	107.6	28.8	90.9	89.1
R154	104.1	27.4	90.6	91.3
R158	96.7	26.2	92.4	89.5
R159	100.2	30.5	93.1	83.3
R166	89.7	25.6	88.4	87.6
R168	96.0	25.5	96.2	99.5
R172	98.5	28.1	92.4	96.8
R180	93.6	29.9	88.2	84.2
R181	106.2	24.6	86.0	82.0
R182	98.8	26.6	97.6	84.5
R183	89.2	28.7	89.9	85.5
R192	94.7	29.1	93.6	88.6
R193	101.0	29.4	94.1	87.3
R194	97.9	30.1	88.1	83.6
R195	96.0	27.7	91.3	88.2
R196	98.4	26.5	97.3	85.4
R197	99.7	33.6	91.4	90.0
R198	100.2	30.6	92.4	84.1
Average	**98.7**	**28.3**	**91.7**	**86.6**
Inbred lines crossed with (WF9 × B37)				
R71	92.3	30.0	96.0	89.2
R74	89.5	30.2	97.4	80.7
R76	92.3	29.5	89.5	86.1
R78	90.9	30.3	85.8	92.5
R84	83.6	26.4	81.7	87.0
R101	88.1	25.3	87.7	88.2
R104	91.1	27.9	81.4	92.3
R109B	96.8	29.5	98.4	86.0
R112	97.4	29.7	97.5	89.9
R113	97.3	28.6	95.4	87.7
R114	98.1	30.3	96.4	87.3
R134	100.2	30.5	95.6	82.9
R135	90.1	30.2	85.5	82.0
R151	106.0	30.2	92.4	89.1
R154	99.6	27.4	87.9	92.8
R158	93.8	28.0	93.9	80.1
R159	89.0	30.9	96.6	94.9
R166	90.8	28.4	92.1	91.5
R168	101.3	26.5	99.6	92.8
R172	94.3	28.2	96.9	93.1
R180	94.7	30.3	97.5	81.2
R181	100.1	26.4	90.5	93.6
R182	86.6	26.7	94.7	76.7
R183	75.7	29.6	98.1	90.0
R192	97.1	28.8	91.0	85.6
R193	94.0	29.7	95.8	86.8
R194	97.0	31.9	95.7	88.3
R195	98.2	27.1	90.9	84.6
R196	102.0	29.0	94.2	87.7
R197	105.9	32.9	84.6	86.0
R198	91.9	32.4	89.5	90.4
Average	**94.4**	**29.1**	**92.6**	**87.6**

(Table is continued on next page)

Table 3. — DeKalb — continued

Entry	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS, SUMMARY: 1959-1960 — continued				
	bu.	*perct.*	*perct.*	*perct.*
Inbred lines crossed with (B41 × Oh7A)				
R71	85.8	32.7	83.3	89.1
R74	105.0	31.4	92.1	84.1
R76	95.6	31.3	73.1	90.4
R78	79.9	31.6	72.2	88.1
R84	66.5	27.8	79.2	94.1
R101	82.9	25.9	83.6	92.7
R104	89.6	29.5	83.3	89.5
R109B	94.3	33.2	86.9	91.8
R112	86.7	32.4	96.0	91.4
R113	85.6	28.7	95.8	88.6
R114	88.7	30.5	92.0	95.0
R134	98.3	33.4	91.2	81.8
R135	71.6	34.1	86.3	93.1
R151	102.2	28.6	80.4	90.4
R154	100.2	29.3	88.9	84.5
R158	89.0	28.1	90.7	89.8
R159	82.3	33.9	95.7	89.5
R166	79.0	30.4	71.5	92.2
R168	97.4	27.5	97.1	89.5
R172	93.0	29.5	89.5	87.7
R180	82.6	31.4	76.8	89.9
R181	99.7	25.6	80.4	90.8
R182	91.2	29.5	91.6	89.1
R183	82.3	30.3	94.3	87.4
R192	81.9	30.0	84.6	88.3
R193	86.7	30.4	89.6	92.2
R194	70.8	33.9	87.5	92.2
R195	80.1	27.3	93.7	95.0
R196	84.0	30.9	85.4	90.5
R197	92.0	31.7	82.1	95.8
R198	84.1	33.9	74.5	94.1
Average	**87.4**	**30.5**	**86.1**	**90.3**
Single-cross testers				
WF9×Oh43	100.5	29.6	94.8	85.4
WF9×B37	87.3	31.1	97.6	90.4
B41×Oh7A	65.2	34.1	55.7	92.8
Average	**84.3**	**31.6**	**82.7**	**89.5**
Number in range	Difference necessary for significance			
2	N.S.	7.5	8.0	N.S.
3-5	N.S.	8.4	8.9	N.S.
6-10	N.S.	9.0	9.5	N.S.
11-20	N.S.	9.5	10.0	N.S.
21-31	N.S.	10.0	10.6	N.S.

(Table is continued on next page)

Table 3. — DeKalb — continued

Entry	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS, SUMMARY: 1959-1960 — continued				
	bu.	*perct.*	*perct.*	*perct.*
Mean of inbred lines crossed with three testers				
R71	92.6	30.9	91.2	88.9
R74	97.8	30.3	95.1	82.0
R76	96.4	29.9	81.4	86.6
R78	90.1	30.5	83.2	89.7
R84	81.0	26.7	81.7	88.2
R101	89.0	25.9	87.3	89.8
R104	93.3	28.5	85.3	87.8
R109B	97.1	30.4	94.1	87.0
R112	95.3	30.4	96.7	88.9
R113	94.1	28.1	93.9	88.6
R114	95.5	29.4	94.8	88.9
R134	103.2	30.9	93.6	82.6
R135	84.5	31.4	86.5	86.9
R151	105.3	29.3	88.0	89.5
R154	101.4	28.1	89.2	89.6
R158	93.2	27.5	92.4	86.5
R159	90.6	31.8	95.2	89.3
R166	86.6	28.2	84.0	90.5
R168	98.2	26.5	97.7	94.0
R172	95.3	28.6	93.0	92.6
R180	90.4	30.6	87.6	85.2
R181	102.0	25.5	85.7	88.8
R182	92.2	27.7	94.7	83.5
R183	82.4	29.5	94.1	87.7
R192	91.3	29.3	89.8	87.6
R193	93.9	29.9	93.2	88.8
R194	88.6	32.0	90.5	88.1
R195	91.5	27.4	92.0	89.3
R196	94.8	28.8	92.3	87.9
R197	99.3	32.8	86.1	90.7
R198	92.1	32.3	85.5	89.6
Average	**93.5**	**29.3**	**90.2**	**88.2**
THREE-WAY CROSSES AND STANDARDS: 1960 RESULTS				
Inbred lines crossed with (WF9 × Oh43)				
R71	90.5	31.7	92.6	81.7
R74	98.5	31.0	97.9	70.4
R76	94.7	30.5	89.4	75.7
R78	88.3	31.2	92.8	84.8
R84	91.5	26.2	84.9	80.2
R101	89.9	27.1	89.1	82.5
R104	98.5	29.7	98.0	70.4
R109B	94.2	30.0	97.0	76.4
R112	93.1	31.5	97.0	78.0
R113	89.9	28.5	95.9	82.5
R114	93.7	29.8	98.8	77.2
R134	93.7	30.1	94.1	77.2
R135	88.9	33.3	95.5	84.0
R151	89.9	30.4	96.3	82.5
R154	84.1	29.5	93.6	90.8
R158	89.9	27.5	92.6	82.5
R159	95.8	31.8	96.9	74.2
R166	88.3	25.4	89.2	84.8
R168	77.7	27.3	99.2	99.9
R172	80.9	30.0	91.4	95.4
R180	94.2	32.2	89.3	76.4
R181	96.9	27.5	94.8	72.7
R182	92.1	27.6	99.0	79.5
R183	93.7	30.5	99.1	77.2
R192	90.5	30.8	96.1	81.7
R193	91.5	31.5	95.0	80.2
R194	96.3	31.4	95.7	73.4
R195	91.0	30.0	93.0	81.0
R196	94.7	27.3	98.1	75.7
R197	88.3	36.5	95.8	84.8
R198	95.3	32.8	96.9	74.9
Average	**91.5**	**30.0**	**94.7**	**80.3**

(Table is continued on next page)

Table 3. — DeKalb — continued

Entry	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS: 1960 RESULTS — continued				
	bu.	*perct.*	*perct.*	*perct.*
Inbred lines crossed with (WF9 × B37)				
R71	85.1	30.4	94.1	89.3
R74	85.7	31.4	95.7	88.6
R76	92.1	31.4	89.4	79.5
R78	84.1	31.6	86.9	90.8
R84	91.0	27.3	77.1	81.0
R101	90.5	25.2	87.0	81.7
R104	86.2	28.9	83.0	87.8
R109B	92.6	31.1	98.0	78.7
R112	89.4	32.4	97.2	83.3
R113	92.1	31.7	97.0	79.5
R114	92.1	32.1	94.7	79.5
R134	95.3	32.3	97.0	74.9
R135	88.9	33.5	87.0	84.0
R151	89.9	31.0	93.4	82.5
R154	84.6	28.6	94.2	90.1
R158	95.8	29.8	96.7	74.2
R159	83.5	33.2	98.4	91.6
R166	86.2	29.8	93.8	87.8
R168	85.1	27.5	100.0	89.3
R172	85.7	29.3	98.2	88.6
R180	96.9	32.3	98.1	72.7
R181	85.1	28.7	91.5	89.3
R182	89.9	28.5	93.2	82.5
R183	88.3	30.1	98.2	84.8
R192	92.6	29.8	93.4	78.7
R193	93.1	31.0	99.0	78.0
R194	89.4	33.2	95.7	83.3
R195	94.7	29.0	91.0	75.7
R196	91.5	30.8	94.4	80.2
R197	93.1	34.1	89.1	78.0
R198	88.9	33.4	94.5	84.0
Average	**89.7**	**30.6**	**93.4**	**82.9**
Inbred lines crossed with (B41 × Oh7A)				
R71	89.5	33.8	79.7	83.3
R74	95.9	33.4	92.3	74.2
R76	88.9	32.3	71.2	84.0
R78	91.6	32.1	81.0	80.2
R84	83.6	27.0	77.6	91.6
R101	85.7	25.9	86.1	88.6
R104	90.0	30.9	91.5	82.5
R109B	87.3	35.2	82.9	86.3
R112	84.1	35.0	96.8	86.3
R113	90.5	31.2	97.2	81.7
R114	82.5	32.5	93.6	93.1
R134	99.1	35.6	95.3	69.6
R135	85.7	37.6	82.5	88.6
R151	88.9	29.1	84.0	84.0
R154	95.9	31.2	94.9	74.2
R158	86.8	29.0	89.5	87.0
R159	90.0	34.8	96.2	82.5
R166	86.8	31.6	79.2	87.0
R168	90.0	28.5	97.2	82.5
R172	91.6	31.8	92.0	80.2
R180	89.5	33.6	81.4	83.3
R181	88.4	27.5	85.3	84.8
R182	89.5	30.9	90.1	83.3
R183	90.5	31.6	93.9	81.7
R192	90.0	30.6	84.6	82.5
R193	86.8	32.6	92.0	87.0
R194	86.8	33.8	84.6	87.0
R195	83.1	27.2	91.0	92.3
R196	87.9	33.0	86.6	85.5
R197	82.5	32.6	80.9	93.1
R198	84.1	36.0	84.5	90.8
Average	**88.5**	**31.9**	**87.6**	**84.5**

(Table is concluded on next page)

Table 3. — DeKalb — concluded

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS: 1960 RESULTS — concluded					
		bu.	*perct.*	*perct.*	*perct.*
Single-cross testers					
WF9×Oh43		97.0	31.3	94.7	72.7
WF9×B37		90.6	34.2	98.2	81.8
B41×Oh7A		85.3	34.2	64.4	88.6
Average		**91.0**	**33.2**	**85.8**	**81.1**
Standards					
Ill. 1851	(C103×38-11)(Oh7×CI.21E)	85.8	32.6	94.0	88.6
Ill. 3049	(Hy2×WF9)(R71×R109B)	80.5	32.3	90.5	95.4
Ill. 3152A	(M14×B14)(WF9×Oh43)	90.6	30.0	98.2	81.8
Ill. 3347	(R74×R101)(H49×H55)	83.1	34.8	91.6	93.2
Average		**85.0**	**32.4**	**93.6**	**89.8**
Number in range		Difference necessary for significance			
2		**N.S.**	**10.9**	**9.9**	**N.S.**
3-5		**N.S.**	**12.2**	**11.1**	**N.S.**
6-10		**N.S.**	**13.0**	**11.8**	**N.S.**
11-20		**N.S.**	**13.7**	**12.4**	**N.S.**
21-31		**N.S.**	**13.9**	**12.6**	**N.S.**
Mean of inbred lines crossed with three testers					
R71		88.4	32.0	88.8	84.8
R74		93.4	32.0	95.4	77.7
R76		92.0	31.5	83.4	79.8
R78		88.0	31.6	87.0	85.3
R84		88.8	26.8	79.9	84.3
R101		88.7	26.1	87.5	84.3
R104		91.6	29.9	90.9	80.3
R109B		91.4	32.1	92.6	80.5
R112		88.9	33.0	97.0	82.5
R113		90.9	30.5	96.8	81.3
R114		89.4	31.5	95.8	83.3
R134		96.0	32.8	95.5	74.0
R135		87.8	34.9	88.4	85.6
R151		89.6	30.2	91.3	83.0
R154		88.2	29.8	94.3	85.1
R158		90.9	28.8	93.0	81.3
R159		89.8	33.3	97.2	82.8
R166		87.2	29.0	87.4	86.6
R168		84.3	27.8	98.8	90.6
R172		86.1	30.4	93.9	88.1
R180		93.6	32.7	89.6	77.5
R181		90.2	27.9	90.6	82.3
R182		90.5	29.0	94.2	81.8
R183		90.9	30.8	97.1	81.3
R192		91.1	30.4	91.5	81.0
R193		90.5	31.7	95.4	81.8
R194		90.9	32.8	92.1	81.3
R195		89.7	28.8	91.7	83.0
R196		91.4	30.4	93.1	80.5
R197		88.0	34.4	88.7	85.3
R198		89.4	34.1	92.0	83.3
Average		**89.9**	**30.9**	**92.0**	**82.6**

Table 4. — DOUBLE CROSSES OF 800 MATURITY
Tested at Galesburg, 1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
1960 results					
		bu.	*perct.*	*perct.*	*perct.*
AES 705	(WF9×B14)(C103×Oh43)	94.8	24.6	97.8	92.0
AES 809	(WF9×P8)(C103×Oh43)	95.6	27.4	85.7	84.0
AES 810	(WF9×H50)(Oh7B×Oh45)	106.8	27.2	95.7	86.0
Ill. 1421 (check)	(WF9×Hy2)(P8×Oh7)	111.9	27.3	87.0	89.3
Ill. 1983	(WF9×38-11)(Hy2×B14)	105.2	24.0	90.0	86.6
Ill. 1996	(Hy2×Oh7)(B14×C103)	107.2	26.0	92.7	90.6
Ill. 3042	(WF9×B14)(B40×Oh45)	108.8	26.2	89.7	96.6
Ill. 3049	(WF9×Hy2)(R71×R109B)	91.5	26.7	90.5	85.3
Ill. 3080	(WF9×Hy2)(R101×Oh451)	94.1	25.2	74.8	90.0
Ill. 3160	(WF9×Oh7)(B14×Oh43)	115.6	26.3	96.8	84.6
Ill. 3183	(WF9×R154)(R105×R153)	100.3	28.1	87.5	88.6
Ill. 3237	(WF9×R101)(R151×R154)	115.0	24.7	92.9	81.3
Ill. 3244	(WF9×R151)(R105×R153)	104.1	26.6	87.9	93.3
Ill. 3291	(WF9×P8)(B14×Oh43)	108.1	25.3	96.5	92.6
Ill. 3294	(WF9×P8)(Hy2×C103)	104.1	28.0	89.6	96.6
Ill. 3343	(H49×H55)(R71×R74)	118.4	28.9	90.4	98.0
Ill. 3346	(H49×H55)(R71×R168)	130.2	27.9	97.1	80.0
Ill. 3348	(H49×H55)(R74×R109B)	125.4	26.7	89.6	89.3
Ill. 3351	(H49×H55)(R109B×R168)	108.6	26.6	91.4	93.3
Ill. 3384	(WF9×Oh41)(Hy2×Oh7)	93.4	24.3	78.0	91.3
Ill. 8001	(Hy2×R138)(Oh7×Oh7B)	114.1	28.0	84.6	88.0
Ill. 8002[a]	[(Hy2×B14)Hy2][(Oh7×C103)Oh7]	119.6	26.1	89.4	94.0
Ill. 8003	(WF9×Oh7)(H55×C103)	120.6	26.2	93.4	90.0
Ill. 8004	(WF9×Hy2)(R74×B14)	93.0	27.1	93.0	86.0
U.S. 13	(WF9×38-11)(Hy2×L317)	119.9	27.6	89.8	88.0
Average		**108.3**	**26.5**	**90.1**	**89.4**
Number in range		Difference necessary for significance			
2		16.1	N.S.	8.5	N.S.
3-5		17.8	N.S.	9.5	N.S.
6-10		18.9	N.S.	10.0	N.S.
11-15		19.4	N.S.	10.3	N.S.
16-20		19.6	N.S.	10.4	N.S.
21-25		19.7	N.S.	10.5	N.S.

[a] Back-cross hybrid.

Table 5. — DOUBLE CROSSES OF 700 MATURITY
Tested at Peoria, 1958-1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
Summary: 1958-1960					
		bu.	*perct.*	*perct.*	*perct.*
Ill. 3022	(WF9×B14)(N22A×Oh43)	107.3	22.0	93.5	93.1
Ill. 3029	(WF9×B14)(Oh43×Oh45)	103.8	22.7	93.4	91.7
Ill. 3042	(WF9×B14)(B40×Oh45)	102.0	24.0	90.2	93.1
Ill. 1968	(WF9×B14)(R163×R169)	100.1	20.9	87.9	93.7
AES 703	(WF9×Oh43)(B14×B38)	99.2	21.7	94.9	92.3
Ill. 1969	(WF9×B14)(R165×R168)	98.6	20.7	90.8	95.3
AES 705	(WF9×B14)(C103×Oh43)	96.8	23.0	90.3	94.6
Ill. 21	(WF9×38-11)(Hy2×187-2)	95.7	20.4	76.7	93.3
AES 704	(WF9×Oh43)(B14×B37)	93.1	21.9	97.8	90.4
AES 702	(WF9×Hy2)(M14×C103)	92.3	21.4	87.5	90.6
Average		**98.9**	**21.9**	**90.3**	**92.8**
Number in range		Difference necessary for significance			
2-10		**N.S.**	**N.S.**	**N.S.**	**N.S.**
Summary: 1959-1960					
Ill. 3347	(H49×H55)(R74×R101)	98.3	25.2	86.4	89.6
Ill. 3022	(WF9×B14)(N22A×Oh43)	95.3	23.9	95.6	91.3
Ill. 3182A	(WF9×R105)(R151×R154)	90.5	24.3	75.0	93.7
Ill. 3029	(WF9×B14)(Oh43×Oh45)	87.8	24.2	97.0	87.6
AES 703	(WF9×Oh43)(B14×B38)	87.1	23.9	94.8	90.5
Ill. 1968	(WF9×B14)(R163×R169)	86.8	22.9	87.2	90.6
Ill. 3042	(WF9×B14)(B40×Oh45)	86.7	25.7	91.5	90.0
Ill. 1969	(WF9×B14)(R165×R168)	85.4	22.3	90.3	93.0
Ill. 21	(WF9×38-11)(Hy2×187-2)	83.0	21.6	85.2	92.1
AES 702	(WF9×Hy2)(M14×C103)	81.2	22.5	92.6	86.7
Ill. 3315A	(WF9×Hy2)(R109B×B14)	79.9	22.5	94.1	89.0
AES 705	(WF9×B14)(C103×Oh43)	79.7	25.6	93.0	91.9
AES 704	(WF9×Oh43)(B14×B37)	75.4	23.5	97.6	86.4
Average		**85.9**	**23.7**	**90.8**	**90.2**
Number in range		Difference necessary for significance			
2		**N.S.**	**2.4**	**9.8**	**N.S.**
3-5		**N.S.**	**2.6**	**10.7**	**N.S.**
6-13		**N.S.**	**2.7**	**11.0**	**N.S.**
1960 results					
AES 702	(WF9×Hy2)(M14×C103)	64.6	23.5	92.4	79.5
AES 703	(WF9×Oh43)(B14×B38)	72.8	26.0	95.8	87.1
AES 704	(WF9×Oh43)(B14×B37)	65.5	24.8	97.3	80.3
AES 705	(WF9×B14)(C103×Oh43)	66.9	28.9	88.0	88.6
Ill. 21	(WF9×38-11)(Hy2×187-2)	77.7	22.4	82.2	90.9
Ill. 1277	(WF9×M14)(I.205×187-2)	63.5	23.2	89.7	81.0
Ill. 1922	(WF9×Hy2)(R71×R105)	78.8	26.6	95.6	87.8
Ill. 1936	(WF9×Hy2)(M14×B14)	47.4	23.8	86.8	97.7
Ill. 1968	(WF9×B14)(R163×R169)	64.4	25.5	82.8	87.8
Ill. 1969	(WF9×B14)(R165×R168)	66.6	23.9	87.4	90.1
Ill. 3022	(WF9×B14)(N22A×Oh43)	74.4	26.2	95.6	89.3
Ill. 3029	(WF9×B14)(Oh43×Oh45)	67.8	26.1	96.3	83.3
Ill. 3042	(WF9×B14)(B40×Oh45)	59.1	27.6	86.6	84.8
Ill. 3152	(check) (WF9×M14)(B14×Oh43)	67.5	23.5	94.4	83.3
Ill. 3182A	(WF9×R105)(R151×R154)	63.2	25.1	81.7	90.9
Ill. 3265	(WF9×Oh43)(R71×R109B)	70.1	26.6	94.6	87.8
Ill. 3266	(WF9×Oh43)(R74×R109B)	68.3	28.0	92.9	86.3
Ill. 3270	(WF9×Oh43)(R74×R168)	69.2	24.1	95.7	84.8
Ill. 3275	(WF9×Oh43)(R114×R168)	75.3	23.3	97.5	83.3
Ill. 3303	(M14×Oh43)(R172×B14)	84.1	24.1	94.9	88.6
Ill. 3315A	(WF9×Hy2)(R109B×B14)	65.7	23.2	94.6	83.3
Ill. 3347	(H49×H55)(R74×R101)	84.2	26.8	83.2	83.3
Ill. 3381	(WF9×R71)(B14×Oh43)	61.4	25.4	89.7	84.0
Ill. 3382	(WF9×R109B)(B14×Oh43)	73.4	27.1	94.4	79.5
Ill. 3383	(WF9×M14)(R172×Oh43)	74.5	24.4	98.2	90.9
Average		**69.1**	**25.2**	**91.5**	**86.2**
Number in range		Difference necessary for significance			
2		15.9	3.2	11.3	N.S.
3-5		17.6	3.6	12.5	N.S.
6-10		18.7	3.8	13.2	N.S.
11-15		19.1	3.9	13.6	N.S.
16-20		19.4	3.9	13.7	N.S.
21-25		19.5	3.9	13.8	N.S.

Table 6. — DOUBLE CROSSES OF 700 MATURITY
Tested at Ashkum, 1960

Entry Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
1960 results				
	bu.	*perct.*	*perct.*	*perct.*
AES 702 (WF9×Hy2)(M14×C103)	62.6	21.4	88.0	95.4
AES 703 (WF9×Oh43)(B14×B38)	76.1	25.6	95.5	90.1
AES 704 (WF9×Oh43)(B14×B37)	83.9	24.3	95.0	91.6
AES 705 (WF9×B14)(C103×Oh43)	80.1	24.1	96.0	94.6
Ill. 21 (WF9×38-11)(Hy2×187-2)	77.7	21.9	92.9	97.7
Ill. 1277 (WF9×M14)(I.205×187-2)	81.4	22.0	90.6	88.6
Ill. 1922 (WF9×Hy2)(R71×R105)	71.7	26.5	95.2	90.9
Ill. 1936 (WF9×Hy2)(M14×B14)	81.5	24.0	96.1	97.7
Ill. 1968 (WF9×B14)(R163×R169)	85.2	19.1	89.5	93.1
Ill. 1969 (WF9×B14)(R165×R168)	87.8	20.3	89.2	96.2
Ill. 3022 (WF9×B14)(N22A×Oh43)	80.7	23.6	97.7	95.4
Ill. 3029 (WF9×B14)(Oh43×Oh45)	84.4	21.1	96.4	86.3
Ill. 3042 (WF9×B14)(B40×Oh45)	83.6	24.2	91.2	97.7
Ill. 3152 (check) (WF9×M14)(B14×Oh43)	84.0	21.5	91.7	93.1
Ill. 3182A (WF9×R105)(R151×R154)	80.8	23.3	89.4	92.4
Ill. 3265 (WF9×Oh43)(R71×R109B)	85.9	25.8	97.7	96.9
Ill. 3266 (WF9×Oh43)(R74×R109B)	89.2	23.7	96.0	99.2
Ill. 3270 (WF9×Oh43)(R74×R168)	89.7	24.0	92.6	96.2
Ill. 3275 (WF9×Oh43)(R114×R168)	77.8	22.7	91.5	98.4
Ill. 3303 (M14×Oh43)(R172×B14)	81.9	22.2	94.5	97.7
Ill. 3315A (WF9×Hy2)(R109B×B14)	74.3	24.4	94.3	92.4
Ill. 3347 (H49×H55)(R74×R101)	89.1	25.0	91.2	95.4
Ill. 3381 (WF9×R71)(B14×Oh43)	82.3	24.3	93.1	99.2
Ill. 3382 (WF9×R109B)(B14×Oh43)	88.7	22.1	94.6	98.4
Ill. 3383 (WF9×M14)(R172×Oh43)	87.3	22.4	93.6	95.4
Average	**81.9**	**23.2**	**93.3**	**94.8**
Number in range	Difference necessary for significance			
2	N.S.	3.4	N.S.	N.S.
3-5	N.S.	3.8	N.S.	N.S.
6-10	N.S.	4.0	N.S.	N.S.
11-15	N.S.	4.1	N.S.	N.S.
16-25	N.S.	4.2	N.S.	N.S.

Table 7. — DOUBLE CROSSES OF 800 MATURITY
Tested at Stanford, 1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
1960 results					
		bu.	*perct.*	*perct.*	*perct.*
AES 705	(WF9×B14)(C103×Oh43)	105.7	21.8	96.8	90.1
AES 809	(WF9×P8)(C103×Oh43)	97.5	21.2	97.4	93.1
AES 810	(WF9×H50)(Oh7B×Oh45)	105.2	19.5	98.4	87.8
Ill. 1421	(check) (WF9×Hy2)(P8×Oh7)	94.7	19.0	98.3	93.9
Ill. 1983	(WF9×38-11)(Hy2×B14)	116.2	17.6	96.9	100.0
Ill. 1996	(Hy2×Oh7)(B14×C103)	105.8	20.4	96.7	90.9
Ill. 3042	(WF9×B14)(B40×Oh45)	108.0	20.7	97.6	93.9
Ill. 3049	(WF9×Hy2)(R71×R109B)	90.4	20.1	98.2	90.1
Ill. 3080	(WF9×Hy2)(R101×Oh451)	104.8	21.3	93.8	96.9
Ill. 3160	(WF9×Oh7)(B14×Oh43)	113.9	18.0	99.1	88.6
Ill. 3183	(WF9×R154)(R105×R153)	92.0	20.8	100.0	83.3
Ill. 3237	(WF9×R101)(R151×R154)	102.0	16.4	96.6	90.9
Ill. 3244	(WF9×R151)(R105×R153)	86.4	20.7	100.0	92.4
Ill. 3291	(WF9×P8)(B14×Oh43)	119.0	21.3	96.2	100.0
Ill. 3294	(WF9×P8)(Hy2×C103)	99.0	20.0	92.8	96.2
Ill. 3343	(H49×H55)(R71×R74)	110.2	21.5	98.2	90.1
Ill. 3346	(H49×H55)(R71×R168)	121.6	20.8	99.1	92.4
Ill. 3348	(H49×H55)(R74×R109B)	117.2	22.3	99.2	96.2
Ill. 3351	(H49×H55)(R109B×R168)	108.3	22.2	96.8	95.4
Ill. 3384	(WF9×Oh41)(Hy2×Oh7)	99.9	19.1	96.6	89.3
Ill. 8001	(Hy2×R138)(Oh7×Oh7B)	110.8	20.3	96.0	93.1
Ill. 8002	[(Hy2×B14)Hy2][(Oh7×C103)Oh7]	108.6	19.2	98.3	95.4
Ill. 8003	(WF9×Oh7)(H55×C103)	113.2	19.0	97.5	92.4
Ill. 8004	(WF9×Hy2)(R74×B14)	96.7	20.4	99.1	92.4
U.S. 13	(WF9×38-11)(Hy2×L317)	97.0	18.5	95.3	99.2
Average		**105.0**	**20.1**	**97.4**	**93.0**
Number in range		Difference necessary for significance			
2		**N.S.**	**2.0**	**N.S.**	**N.S.**
3-5		**N.S.**	**2.3**	**N.S.**	**N.S.**
6-10		**N.S.**	**2.4**	**N.S.**	**N.S.**
11-25		**N.S.**	**2.5**	**N.S.**	**N.S.**

Table 8. — DOUBLE CROSSES OF 850 MATURITY
Tested at Bowen, 1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
	1960 results				
		bu.	*perct.*	*perct.*	*perct.*
AES 805	(WF9×38-11)(C103×Oh45)	80.3	21.5	79.9	90.9
Ill. 1332	(WF9×38-11)(Hy2×Oh7)	104.2	20.8	87.8	91.6
Ill. 1570	(check) (WF9×38-11)(Hy2×Oh41)	94.0	20.9	84.5	93.9
Ill. 1660	(Oh7×CI.21E)(K4×K201)	115.4	27.8	78.5	87.8
Ill. 1976	(Oh7×CI.21E)(38-11×Oh41)	94.5	23.3	88.0	88.6
Ill. 1978	(WF9×Oh7A)(C103×38-11)	87.6	21.7	89.0	75.0
Ill. 1996	(Hy2×Oh7)(C103×B14)	104.2	21.6	88.9	88.6
Ill. 3154	(K201×CI.21E)(R132×R134)	94.1	27.8	86.9	75.7
Ill. 3190	(K201×C103)(Ky126×Oh7B)	109.4	24.1	81.8	90.9
Ill. 3344	(H49×H55)(R71×R105)	106.2	25.2	93.9	86.3
Ill. 3347	(H49×H55)(R74×R101)	104.5	22.1	89.3	86.3
Ill. 3348	(H49×H55)(R74×R109B)	102.5	24.8	96.7	93.9
Ill. 3350	(H49×H55)(R101×Oh41)	91.6	23.3	95.2	94.6
Ill. 3351	(H49×H55)(R109B×R168)	102.4	22.7	84.8	88.6
Ill. 3354	(H49×H51)(R71×R105)	91.5	24.1	84.1	94.6
Ill. 3357	(H49×H51)(R74×R101)	94.7	22.9	94.7	90.1
Ill. 3367	(WF9×R74)(Oh7×CI.21E)	109.1	22.9	92.1	87.1
Ill. 3373	(WF9×C103)(R101×Oh41)	83.9	21.7	88.5	86.3
Ill. 6021	(R75×R76)(R84×K4)	91.7	20.6	86.8	92.4
Ill. 6052	(R78×38-11)(R84×K4)	89.1	21.9	74.5	87.8
Ill. 8005	(H49×H55)(B14×C103)	93.8	22.9	91.4	87.1
Ind. 851	(H49×H55)(H59×B14)	103.3	24.9	86.5	86.3
Ind. 873	(H49×H52)(H59×B14)	98.3	24.0	93.7	87.8
Ind. 874	(H49×H52)(H59×H60)	88.9	22.3	90.3	95.4
U.S. 13	(WF9×38-11)(Hy2×L317)	67.0	21.1	78.3	90.9
Average		96.1	23.1	87.4	88.7
Number in range		Difference necessary for significance			
2		N.S.	1.7	10.5	9.2
3-5		N.S.	1.9	11.6	10.2
6-10		N.S.	2.0	12.3	10.8
11-15		N.S.	2.0	12.6	11.1
16-20		N.S.	2.1	12.7	11.2
21-25		N.S.	2.1	12.8	11.3

Table 9. — DOUBLE CROSSES OF 850 MATURITY AND 900 MATURITY AND THREE-WAY CROSSES AND STANDARDS

Tested at Urbana, 1958-1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
DOUBLE CROSSES OF 850 MATURITY					
		bu.	*perct.*	*perct.*	*perct.*
Summary: 1958-1960					
U.S. 13	(WF9×38-11)(Hy2×L317)	97.4	21.4	89.0	95.6
Ill. 6052	(R78×38-11)(R84×K4)	95.9	21.9	85.7	94.2
Ill. 1570	(WF9×38-11)(Hy2×Oh41)	95.1	21.2	93.4	93.7
Ill. 6021	(R75×R76)(R84×K4)	92.9	20.9	91.0	96.2
Ill. 1976	(Oh7×CI.21E)(38-11×Oh41)	92.4	20.9	93.3	94.1
Ill. 1978	(WF9×Oh7A)(C103×38-11)	90.9	22.0	90.7	92.5
Ill. 1332	(WF9×38-11)(Hy2×Oh7)	90.7	20.3	97.7	95.8
Ill. 1996	(Hy2×Oh7)(C103×B14)	88.6	20.2	96.3	90.3
AES 805	(WF9×38-11)(C103×Oh45)	81.1	21.7	94.7	93.1
Average		**91.7**	**21.2**	**92.4**	**93.9**
Number in range		Difference necessary for significance			
2-9		**N.S.**	**N.S.**	**N.S.**	**N.S.**
Summary: 1959-1960					
Ill. 3350	(H49×H55)(R101×Oh41)	102.9	23.8	92.9	96.2
Ill. 3347	(H49×H55)(R74×R101)	97.9	22.4	96.1	88.6
Ill. 3357	(H49×H51)(R74×R101)	92.1	23.4	95.8	91.5
Ill. 3354	(H49×H51)(R71×R105)	91.8	25.1	87.6	92.1
Ill. 3344	(H49×H55)(R71×R105)	90.8	24.6	95.9	92.9
Ill. 3367	(WF9×R74)(Oh7×CI.21E)	89.2	21.8	95.3	90.5
Ill. 3351	(H49×H55)(R109B×R168)	87.0	23.3	94.0	95.8
Ill. 6052	(R78×38-11)(R84×K4)	85.7	23.7	91.3	96.3
U.S. 13	(WF9×38-11)(Hy2×L317)	84.4	22.7	94.2	95.1
Ill. 6021	(R75×R76)(R84×K4)	83.2	22.2	95.5	95.2
Ill. 1976	(Oh7×CI.21E)(38-11×Oh41)	82.5	21.4	96.2	92.9
Ill. 1570	(WF9×38-11)(Hy2×Oh41)	82.1	22.2	95.8	93.6
Ill. 3373	(WF9×C103)(R101×Oh41)	80.7	21.3	95.2	93.2
Ill. 3348	(H49×H55)(R74×R109B)	80.7	24.7	93.2	90.5
Ill. 1332	(WF9×38-11)(Hy2×Oh7)	76.6	21.1	99.1	95.0
Ill. 1978	(WF9×Oh7A)(C103×38-11)	74.1	23.6	98.9	89.1
Ill. 1996	(Hy2×Oh7)(C103×B14)	73.5	21.0	95.9	87.9
AES 805	(WF9×38-11)(C103×Oh45)	63.6	22.8	97.3	91.7
Average		**84.4**	**22.8**	**95.0**	**92.7**
Number in range		Difference necessary for significance			
2-18		**N.S.**	**N.S.**	**N.S.**	**N.S.**
1960 results					
AES 805	(WF9×38-11)(C103×Oh45)	77.6	27.4	98.1	84.8
Ill. 1332	(WF9×38-11)(Hy2×Oh7)	93.9	24.7	99.0	90.1
Ill. 1570	(check) (WF9×38-11)(Hy2×Oh41)	89.9	26.2	97.1	87.8
Ill. 1660	(Oh7×CI.21E)(K4×K201)	76.5	22.8	100.0	83.3
Ill. 1976	(Oh7×CI.21E)(38-11×Oh41)	79.0	23.7	100.0	87.8
Ill. 1978	(WF9×Oh7A)(C103×38-11)	95.6	27.1	100.0	81.0
Ill. 1996	(Hy2×Oh7)(C103×B14)	72.6	24.0	100.0	77.2
Ill. 3154	(K201×CI.21E)(R132×R134)	106.3	27.7	98.3	87.8
Ill. 3190	(K201×C103)(Ky126×Oh7B)	82.1	28.1	100.0	79.5
Ill. 3344	(H49×H55)(R71×R105)	92.7	25.4	96.7	88.6
Ill. 3347	(H49×H55)(R74×R101)	94.0	26.4	100.0	82.5
Ill. 3348	(H49×H55)(R74×R109B)	71.8	28.3	94.5	81.8
Ill. 3350	(H49×H55)(R101×Oh41)	103.8	25.3	99.2	93.1
Ill. 3351	(H49×H55)(R109B×R168)	93.1	26.4	100.0	91.6
Ill. 3354	(H49×H51)(R71×R105)	92.5	26.8	99.0	85.6
Ill. 3357	(H49×H51)(R74×R101)	85.8	26.2	100.0	86.3
Ill. 3367	(WF9×R74)(Oh7×CI.21E)	92.6	24.1	100.0	81.8
Ill. 3373	(WF9×C103)(R101×Oh41)	79.4	24.5	100.0	87.8
Ill. 6021	(R75×R76)(R84×K4)	106.4	25.0	100.0	92.4
Ill. 6052	(R78×38-11)(R84×K4)	108.1	27.0	100.0	100.0
Ill. 8005	(H49×H55)(B14×C103)	86.7	28.0	100.0	89.3
Ind. 851	(H49×H55)(H59×B14)	95.2	23.8	99.1	93.1
Ind. 873	(H49×H52)(H59×B14)	101.0	24.1	100.0	94.6
Ind. 874	(H49×H52)(H59×H60)	84.5	24.8	98.2	89.3
U.S. 13	(WF9×38-11)(Hy2×L317)	99.7	26.7	100.0	90.9
Average		**90.4**	**25.8**	**99.2**	**87.5**
Number in range		Difference necessary for significance			
2-25		**N.S.**	**N.S.**	**N.S.**	**N.S.**

(Table is continued on next page)

Table 9. — Urbana — continued

Entry Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
DOUBLE CROSSES OF 900 MATURITY				
	bu.	*perct.*	*perct.*	*perct.*
Summary: 1959-1960				
Ill. 3364 (CI.21E×K201)(R74×R101)	93.0	22.2	83.2	93.9
Ill. 3355 (H49×H51)(R71×R109B)	92.1	20.5	90.3	97.6
Ill. 3360 (H49×H51)(R101×Oh41)	92.0	21.0	83.4	97.0
Ill. 1856 (CI.21E×K201)(Oh7×38-11)	86.8	22.4	88.1	98.3
Ill. 1851 (Oh7×CI.21E)(38-11×C103)	78.8	20.5	93.2	98.1
Average	**88.5**	**21.3**	**87.6**	**97.0**
Number in range	Difference necessary for significance			
2-5	N.S.	N.S.	N.S.	N.S.
1960 results				
AES 904 (white) (K64×Mo22)(T111×T115)	88.7	26.8	90.6	97.7
Ill. 1349 (K155×K201)(38-11×Mo940)	94.4	22.4	78.3	89.3
Ill. 1539A (K201×CI.21E)(38-11×CI.7)	97.4	23.1	77.2	97.7
Ill. 1657 (K201×CI.21E)(K4×Oh7)	106.5	24.1	76.5	100.0
Ill. 1660 (Oh7×CI.21E)(K4×K201)	99.3	24.2	79.2	96.2
Ill. 1851 (check) (Oh7×CI.21E)(38-11×C103)	95.2	21.3	89.8	96.9
Ill. 1856 (CI.21E×K201)(Oh7×38-11)	104.6	23.2	81.8	100.0
Ill. 3129 (K201×38-11)(R101×Mo01930)	106.4	20.4	80.6	96.2
Ill. 3133 (K201×38-11)(R127×Mo0221)	98.4	21.9	81.2	93.9
Ill. 3135 (K201×38-11)(R71A×Mo0221)	107.2	20.6	76.8	94.6
Ill. 3140 (K201×38-11)(CI.21E×Ky126)	82.4	22.6	76.9	89.3
Ill. 3154 (K201×CI.21E)(R132×R134)	95.1	23.6	76.8	93.9
Ill. 3190 (K201×C103)(Ky126×Oh7B)	95.6	22.5	81.5	87.8
Ill. 3193 (38-11×K12)(K201×Oh7B)	113.8	22.7	87.8	98.4
Ill. 3198A (K201×Ky126)(N82481×Oh7B)	84.7	22.8	73.7	97.7
Ill. 3204A (K201×Ky126)(C103×K12)	95.6	24.5	82.2	91.6
Ill. 3210 (CI.21E×Ky126)(C103×K12)	83.7	24.7	85.2	95.4
Ill. 3214 (K201×Ky126)(K12×Oh7B)	97.6	23.1	77.5	87.8
Ill. 3251 (K201×38-11)(K11×Ky126)	106.9	23.1	85.9	97.7
Ill. 3355 (H49×H51)(R71×R109B)	111.8	21.4	84.8	99.2
Ill. 3360 (H49×H51)(R101×Oh41)	104.7	22.2	80.4	95.4
Ill. 3364 (CI.21E×K201)(R74×R101)	114.7	22.2	76.3	93.1
Ill. 9001 (Oh7×CI.21E)(CI.7×C103)	89.8	21.5	75.8	88.6
Ind. 851 (H49×H55)(H59×B14)	102.0	22.0	73.8	93.9
Ind. 874 (H49×H52)(H59×H60)	113.3	20.7	83.9	99.2
Average	**99.6**	**22.7**	**80.6**	**94.9**
Number in range	Difference necessary for significance			
2	N.S.	1.7	N.S.	N.S.
3-5	N.S.	1.9	N.S.	N.S.
6-10	N.S.	2.0	N.S.	N.S.
11-25	N.S.	2.1	N.S.	N.S.

(Table is continued on next page)

Table 9. — Urbana — continued

Entry	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS, SUMMARY: 1959-1960				
	bu.	*perct.*	*perct.*	*perct.*
Inbred lines crossed with (WF9 × Oh43)				
R71	88.9	20.4	94.2	86.8
R74	55.5	22.9	96.8	60.5
R76	88.5	21.8	91.1	84.2
R78	76.9	22.9	87.4	77.5
R84	81.5	22.4	94.6	88.3
R101	92.1	20.2	89.0	94.6
R104	78.1	20.1	95.2	79.1
R109B	75.9	22.6	96.9	72.9
R112	88.9	21.1	90.3	86.2
R113	73.2	20.4	93.8	77.9
R114	72.7	20.2	97.9	82.5
R132	91.9	21.6	86.8	95.4
R134	91.5	22.0	97.0	88.5
R151	83.4	22.0	96.0	75.5
R154	78.2	23.0	84.9	71.9
R158	87.1	20.5	96.3	91.3
R159	65.6	22.5	99.2	75.1
R166	79.6	21.9	81.8	81.1
R168	91.5	19.4	93.3	90.5
R172	83.8	20.5	95.6	79.5
R180	79.2	22.4	90.9	84.7
R181	92.1	18.1	91.4	87.4
R182	66.5	19.9	97.5	73.3
R183	70.7	23.3	98.4	86.8
R192	92.9	23.4	93.9	93.2
R193	83.1	21.7	89.8	86.0
R194	90.0	21.7	90.7	93.7
R195	80.2	18.2	96.8	86.5
R196	87.8	20.7	96.7	91.9
R197	91.3	24.2	90.5	84.5
R198	95.6	23.5	90.7	91.5
Average	**82.4**	**21.4**	**93.1**	**83.8**
Inbred lines crossed with (WF9 × B37)				
R71	95.9	23.0	96.2	90.7
R74	87.2	23.6	96.0	85.5
R76	82.1	21.6	96.4	85.8
R78	81.1	21.8	88.7	87.7
R84	68.6	21.3	96.7	85.9
R101	91.3	21.4	98.0	89.2
R104	89.3	21.0	87.3	93.8
R109B	75.0	23.6	94.9	82.7
R112	85.2	21.8	93.9	86.7
R113	76.0	21.1	97.2	85.1
R114	74.6	22.8	95.5	83.7
R132	85.9	21.7	81.2	82.4
R134	85.6	23.3	99.6	84.9
R151	93.8	24.8	94.7	88.7
R154	97.9	21.9	90.0	95.2
R158	61.7	21.5	96.8	67.0
R159	80.0	22.6	98.8	93.8
R166	88.8	21.5	94.6	87.4
R168	88.0	19.2	99.2	89.3
R172	84.1	22.1	99.2	87.8
R180	77.2	22.0	97.2	83.2
R181	92.4	21.2	98.7	88.8
R182	79.2	20.2	98.4	92.3
R183	64.4	24.6	99.2	80.3
R192	88.5	24.4	98.0	90.0
R193	78.3	24.2	93.0	86.5
R194	88.4	24.4	96.7	92.8
R195	80.6	21.1	96.4	85.3
R196	80.0	21.5	93.6	86.4
R197	92.7	24.1	89.0	90.8
R198	81.4	25.4	94.9	86.7
Average	**83.1**	**22.4**	**95.1**	**87.0**

(Table is continued on next page)

Table 9. — Urbana — continued

Entry	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS, SUMMARY: 1959-1960 — continued				
	bu.	*perct.*	*perct.*	*perct.*
Inbred lines crossed with (B41 × Oh7A)				
R71	101.6	26.3	93.7	95.0
R74	91.2	26.8	95.2	90.0
R76	85.5	26.3	92.0	90.4
R78	69.9	22.9	74.8	75.6
R84	63.6	23.7	97.9	85.1
R101	81.1	23.4	98.3	95.4
R104	86.9	23.7	94.4	82.4
R109B	60.2	27.1	96.7	72.0
R112	74.7	24.4	92.6	81.4
R113	70.1	23.7	97.8	88.2
R114	71.8	21.9	94.4	82.5
R132	72.9	24.9	84.4	80.6
R134	79.4	26.0	95.2	84.6
R151	85.4	24.9	93.2	81.5
R154	83.3	23.8	78.4	79.5
R158	65.1	24.5	99.2	75.6
R159	65.7	26.4	98.1	83.6
R166	93.9	25.1	79.0	97.3
R168	71.7	21.3	98.4	66.3
R172	71.8	23.7	96.6	73.4
R180	78.6	24.4	95.2	86.0
R181	76.3	22.3	88.5	73.3
R182	62.4	23.0	99.6	71.0
R183	63.1	26.7	96.3	81.5
R192	71.2	26.3	88.1	76.8
R193	76.1	24.1	94.4	82.8
R194	74.6	26.2	94.4	88.7
R195	64.4	22.9	96.4	73.3
R196	77.2	23.8	95.1	81.5
R197	77.1	28.0	94.1	83.2
R198	78.8	27.4	94.1	90.9
Average	**75.8**	**24.7**	**93.1**	**82.2**
Single-cross testers				
WF9×Oh43	91.5	21.7	93.5	90.7
WF9×B37	83.4	23.6	94.5	92.8
B41×Oh7A	71.2	28.0	82.8	90.4
Average	**82.0**	**24.4**	**90.3**	**91.3**
Number in range	Difference necessary for significance			
2	N.S.	7.7	N.S.	11.0
3-5	N.S.	8.6	N.S.	12.2
6-10	N.S.	9.2	N.S.	13.0
11-20	N.S.	9.7	N.S.	13.7
21-31	N.S.	9.8	N.S.	13.9

(Table is continued on next page)

Table 9. — Urbana — continued

Entry	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS, SUMMARY: 1959-1960 — continued				
	bu.	*perct.*	*perct.*	*perct.*
Mean of inbred lines crossed with three testers				
R71	95.5	23.2	94.7	90.8
R74	78.0	24.4	96.0	78.7
R76	85.4	23.2	93.2	86.8
R78	76.0	22.5	83.6	80.3
R84	72.9	22.5	96.4	86.4
R101	88.2	21.7	95.0	93.1
R104	84.8	21.6	92.3	85.1
R109B	70.4	24.5	96.2	75.9
R112	82.9	22.4	92.3	84.8
R113	73.1	21.7	96.3	83.7
R114	73.0	21.6	95.9	82.9
R132	83.6	22.7	84.1	86.1
R134	85.5	23.8	97.3	86.0
R151	87.5	23.9	94.6	81.9
R154	86.5	22.9	84.4	82.2
R158	71.3	22.2	97.4	78.0
R159	70.4	23.9	98.7	84.2
R166	87.4	22.8	85.1	88.6
R168	83.7	20.0	97.0	82.0
R172	79.9	22.1	97.1	80.2
R180	78.3	22.9	94.4	84.6
R181	86.9	20.5	92.9	83.2
R182	69.4	21.1	98.5	78.9
R183	66.1	24.9	98.0	82.9
R192	84.2	24.7	93.3	86.7
R193	79.2	23.3	92.5	85.1
R194	84.3	24.1	93.9	91.7
R195	75.1	20.7	96.5	81.7
R196	81.7	22.0	95.1	86.6
R197	87.0	25.4	91.2	86.1
R198	85.3	25.4	93.2	89.7
Average	**80.4**	**22.9**	**93.8**	**84.4**

(Table is continued on next page)

Table 9. — Urbana — continued

Entry	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS: 1960 RESULTS				
	bu.	*perct.*	*perct.*	*perct.*
Inbred lines crossed with (WF9 × Oh43)				
R71	87.4	20.8	97.1	78.0
R74	49.4	23.2	100.0	34.8
R76	90.1	22.0	98.8	81.0
R78	76.8	23.0	100.0	65.9
R84	90.8	23.1	98.3	81.8
R101	99.4	19.8	94.4	91.6
R104	76.1	19.6	100.0	65.1
R109B	74.1	22.2	98.7	62.9
R112	89.4	21.8	100.0	80.3
R113	76.1	20.2	100.0	65.1
R114	84.1	20.6	100.0	74.2
R132	100.1	22.2	100.0	92.4
R134	93.4	22.4	100.0	84.8
R151	71.4	21.6	100.0	59.8
R154	66.8	24.1	100.0	54.5
R158	94.1	21.2	99.1	85.6
R159	71.4	22.9	100.0	59.8
R166	80.8	21.6	100.0	70.4
R168	93.4	19.5	99.0	84.8
R172	76.8	20.3	100.0	65.9
R180	86.1	22.7	97.9	76.5
R181	89.4	17.6	100.0	80.3
R182	69.4	19.7	100.0	57.6
R183	87.4	24.5	100.0	78.0
R192	97.4	23.4	100.0	89.4
R193	87.4	22.5	100.0	78.0
R194	98.1	21.1	100.0	90.1
R195	88.1	20.8	100.0	78.8
R196	96.1	20.7	100.0	87.9
R197	88.1	25.2	94.3	78.8
R198	96.1	23.3	98.3	87.9
Average	**81.8**	**21.7**	**99.2**	**74.9**
Inbred lines crossed with (WF9 × B37)				
R71	96.1	22.3	100.0	87.8
R74	86.8	23.5	97.5	77.2
R76	90.1	21.1	99.0	81.0
R78	88.8	21.3	99.2	79.6
R84	86.1	21.1	99.1	76.5
R101	92.8	20.6	100.0	84.1
R104	99.4	20.2	95.2	91.6
R109B	86.1	22.9	98.1	76.5
R112	91.4	21.8	99.0	82.5
R113	86.1	21.1	100.0	76.5
R114	84.1	24.0	100.0	74.2
R132	82.1	21.1	96.5	71.9
R134	88.8	23.5	100.0	79.5
R151	91.4	26.1	100.0	82.5
R154	102.1	21.8	100.0	94.7
R158	60.1	22.2	96.8	47.0
R159	99.4	21.9	100.0	91.6
R166	90.1	20.6	100.0	81.0
R168	93.4	18.2	100.0	84.8
R172	89.4	21.8	100.0	80.3
R180	82.8	23.0	100.0	72.7
R181	92.1	21.8	100.0	83.3
R182	96.1	20.1	100.0	87.9
R183	80.8	25.0	100.0	70.4
R192	92.8	25.1	100.0	84.1
R193	88.8	26.0	100.0	79.5
R194	96.8	23.5	100.0	88.6
R195	88.8	21.8	100.0	79.5
R196	87.4	20.7	100.0	78.0
R197	96.8	24.2	96.5	88.6
R198	91.4	26.1	100.0	82.5
Average	89.7	21.8	99.3	80.5

(Table is continued on next page)

Table 9. — Urbana — continued

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS: 1960 RESULTS — continued					
		bu.	*perct.*	*perct.*	*perct.*
Inbred lines crossed with (B41 × Oh7A)					
R71		100.1	26.1	96.2	92.4
R74		92.1	28.1	100.0	83.3
R76		92.8	27.1	100.0	84.1
R78		72.1	21.7	84.5	60.6
R84		86.1	24.7	100.0	76.5
R101		100.1	23.0	99.1	92.4
R104		87.4	24.7	100.0	78.0
R109B		67.4	27.5	100.0	55.3
R112		80.1	25.1	95.8	69.7
R113		89.4	22.9	98.3	80.3
R114		83.4	21.9	100.0	73.5
R132		80.1	25.4	100.0	69.7
R134		85.4	26.1	98.1	75.7
R151		80.8	24.6	95.5	70.4
R154		76.8	24.3	100.0	65.9
R158		72.1	25.4	100.0	60.6
R159		82.8	27.3	98.9	72.7
R166		103.4	25.5	99.2	96.2
R168		66.8	21.5	100.0	54.5
R172		70.8	24.3	100.0	59.1
R180		87.4	24.6	100.0	78.0
R181		69.4	22.5	100.0	57.6
R182		64.8	23.2	100.0	52.3
R183		81.4	28.0	97.9	71.2
R192		72.8	26.5	98.8	61.3
R193		82.1	24.6	100.0	71.9
R194		91.4	26.5	98.0	82.5
R195		68.8	23.8	100.0	56.8
R196		81.4	23.6	100.0	71.2
R197		87.4	29.2	97.3	78.0
R198		94.1	29.1	99.0	85.6
Average		**82.3**	**25.1**	**98.6**	**72.2**
Single-cross testers					
WF9×Oh43		94.0	23.4	100.0	86.4
WF9×B37		96.8	25.3	100.0	88.6
B41×Oh7A		91.4	28.9	93.6	81.8
Average		**94.1**	**25.9**	**97.9**	**85.6**
Standards					
Ill. 1851	(C103×38-11)(Oh7×CI.21E)	102.7	28.0	100.0	95.4
Ill. 3049	(Hy2×WF9)(R71×R109B)	99.3	25.4	99.2	90.9
Ill. 3152A	(M14×B14)(WF9×Oh43)	100.0	20.4	99.2	93.2
Ill. 3347	(R74×R101)(H49×H55)	100.7	25.2	100.0	93.2
Average		**100.7**	**24.8**	**99.6**	**93.2**
Number in range		Difference necessary for significance			
2		14.8	11.4	4.5	16.7
3-5		16.5	12.7	5.0	18.7
6-10		17.5	13.6	5.3	19.9
11-20		18.5	14.4	5.6	21.0
21-31		19.5	15.1	6.0	22.2

(Table is concluded on next page)

Table 9. — Urbana — concluded

Entry	Acre yield	Moisture in grain	Erect plants	Stand
THREE-WAY CROSSES AND STANDARDS: 1960 RESULTS — concluded				
	bu.	*perct.*	*perct.*	*perct.*
Mean of inbred lines crossed with three testers				
R71	94.5	23.1	97.8	86.1
R74	76.1	24.9	99.2	65.1
R76	91.0	23.4	99.3	82.0
R78	79.2	22.0	94.6	68.7
R84	87.6	23.0	99.1	78.2
R101	97.4	21.1	97.9	89.4
R104	87.6	21.5	98.4	78.2
R109B	75.9	24.2	98.9	64.9
R112	87.0	22.9	98.3	77.5
R113	83.9	21.4	99.5	74.0
R114	83.9	22.2	100.0	74.0
R132	87.4	22.9	98.8	78.0
R134	89.2	24.0	99.4	80.0
R151	81.2	24.1	98.5	70.9
R154	81.9	23.4	100.0	71.7
R158	75.4	22.9	98.6	64.4
R159	84.5	24.0	99.6	74.7
R166	91.4	22.6	99.7	82.5
R168	84.5	19.7	99.7	74.7
R172	79.0	22.1	100.0	68.4
R180	85.4	23.4	99.3	75.7
R181	83.6	20.6	100.0	73.7
R182	76.8	21.0	100.0	65.9
R183	83.2	25.8	99.3	73.2
R192	87.7	25.0	99.6	78.3
R193	86.1	24.4	100.0	76.5
R194	95.4	23.7	99.4	87.1
R195	81.9	22.1	100.0	71.7
R196	88.3	21.7	100.0	79.0
R197	90.8	26.2	96.0	81.8
R198	93.9	26.2	99.1	85.3
Average	**85.5**	**23.1**	**99.0**	**75.9**

Table 10. — DOUBLE CROSSES OF 850 AND 900 MATURITY
Tested at Greenfield, 1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
1960 results, 850 maturity series					
		bu.	*perct.*	*perct.*	*perct.*
AES 805	(WF9×38-11)(C103×Oh45)	89.7	20.7	97.0	75.0
Ill. 1332	(WF9×38-11)(Hy2×Oh7)	79.1	20.1	97.5	73.4
Ill. 1570	(check) (WF9×38-11)(Hy2×Oh41)	67.1	21.2	95.8	88.6
Ill. 1660	(Oh7×CI.21E)(K4×K201)	103.0	25.3	95.4	62.8
Ill. 1976	(Oh7×CI.21E)(38-11×Oh41)	80.3	22.9	90.6	79.5
Ill. 1978	(WF9×Oh7A)(C103×38-11)	77.6	20.8	100.0	65.9
Ill. 1996	(Hy2×Oh7)(C103×B14)	84.4	20.4	94.2	84.0
Ill. 3154	(K201×CI.21E)(R132×R134)	88.6	27.2	88.9	61.3
Ill. 3190	(K201×C103)(Ky126×Oh7B)	102.9	26.6	96.9	74.2
Ill. 3344	(H49×H55)(R71×R105)	107.4	24.5	98.3	90.9
Ill. 3347	(H49×H55)(R74×R101)	100.9	22.3	100.0	70.4
Ill. 3348	(H49×H55)(R74×R109B)	96.6	23.8	100.0	78.7
Ill. 3350	(H49×H55)(R101×Oh41)	86.2	22.2	95.4	75.0
Ill. 3351	(H49×H55)(R109B×R168)	84.3	22.1	94.4	78.7
Ill. 3354	(H49×H51)(R71×R105)	76.4	22.3	100.0	81.0
Ill. 3357	(H49×H51)(R74×R101)	90.9	21.3	95.6	88.6
Ill 3367	(WF9×R74)(Oh7×CI 21E)	125.0	25.3	98.0	78.7
Ill. 3373	(WF9×C103)(R101×Oh41)	76.8	21.4	98.0	75.7
Ill. 6021	(R75×R76)(R84×K4)	71.7	21.1	98.1	71.2
Ill. 6052	(R78×38-11)(R84×K4)	79.2	21.2	90.1	76.5
Ill. 8005	(H49×H55)(B14×C103)	91.0	23.8	96.5	69.6
Ind. 851	(H49×H55)(H59×B14)	83.3	21.9	97.3	86.3
Ind. 873	(H49×H52)(H59×B14)	96.4	22.8	96.8	68.9
Ind. 874	(H49×H52)(H59×H60)	86.1	21.7	98.3	83.3
U.S. 13	(WF9×38-11)(Hy2×L317)	78.8	19.9	92.5	74.2
Average		**88.1**	**22.5**	**96.2**	**76.5**
Number in range		Difference necessary for significance			
2		**20.8**	**2.0**	**6.1**	**N.S.**
3-5		**23.1**	**2.2**	**6.8**	**N.S.**
6-10		**24.5**	**2.4**	**7.2**	**N.S.**
11-15		**25.1**	**2.4**	**7.4**	**N.S.**
16-20		**25.4**	**2.4**	**7.5**	**N.S.**
21-25		**25.5**	**2.5**	**7.5**	**N.S.**
1960 results, 900 maturity series					
AES 904	(white) (K64×Mo22)(T111×T115)	94.0	27.3	94.5	98.4
Ill. 1349	(K155×K201)(38-11×Mo940)	90.6	21.3	93.6	96.2
Ill. 1539A	(K201×CI.21E)(38-11×CI.7)	75.9	24.8	87.5	84.8
Ill. 1657	(K201×CI.21E)(K4×Oh7)	95.2	24.5	93.1	98.4
Ill. 1660	(Oh7×CI.21E)(K4×K201)	74.9	24.6	94.4	90.1
Ill. 1851	(check) (Oh7×CI.21E)(38-11×C103)	94.1	23.2	94.5	96.2
Ill. 1856	(CI.21E×K201)(Oh7×38-11)	93.9	23.7	88.1	90.1
Ill. 3129	(K201×38-11)(R101×Mo01930)	88.8	22.2	90.5	96.2
Ill. 3133	(K201×38-11)(R127×Mo0221)	81.0	22.7	88.3	85.6
Ill. 3135	(K201×38-11)(R71A×Mo0221)	65.1	22.3	93.9	87.8
Ill. 3140	(K201×38-11)(CI.21E×Ky126)	79.4	26.7	91.3	93.9
Ill. 3154	(K201×CI.21E)(R132×R134)	90.0	24.6	91.5	97.7
Ill. 3190	(K201×C103)(Ky126×Oh7B)	82.1	24.6	91.1	93.1
Ill. 3193	(38-11×K12)(K201×Oh7B)	77.0	24.9	91.4	90.1
Ill. 3198A	(K201×Ky126)(N82481×Oh7B)	82.6	24.4	89.5	93.9
Ill. 3204A	(K201×Ky126)(C103×K12)	83.0	26.2	91.4	96.9
Ill. 3210	(CI.21E×Ky126)(C103×K12)	79.0	25.9	91.5	91.6
Ill. 3214	(K201×Ky126)(K12×Oh7B)	78.1	23.4	92.1	87.1
Ill. 3251	(K201×38-11)(K11×Ky126)	84.5	24.1	94.5	95.4
Ill. 3355	(H49×H51)(R71×R109B)	86.4	21.2	96.1	96.2
Ill. 3360	(H49×H51)(R101×Oh41)	93.7	21.8	98.3	92.4
Ill. 3364	(CI.21E×K201)(R74×R101)	98.5	25.6	98.3	90.1
Ill. 9001	(Oh7×CI.21E)(CI.7×C103)	81.0	22.9	94.2	90.9
Ind. 851	(H49×H55)(H59×B14)	91.6	24.0	94.5	96.9
Ind. 874	(H49×H52)(H59×H60)	82.4	22.1	92.8	93.1
Average		**84.9**	**24.0**	**92.7**	**92.9**
Number in range		Difference necessary for significance			
2-25		**N.S.**	**N.S.**	**N.S.**	**N.S.**

Table 11. — DOUBLE CROSSES OF 900 MATURITY
Tested at Brownstown, 1958-1960

Entry Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
Summary: 1958-1960				
	bu.	*perct.*	*perct.*	*perct.*
Ill. 3198A (K201×Ky126)(N82481×Oh7B)	96.6	19.3	76.6	94.0
Ill. 3190 (K201×C103)(Ky126×Oh7B)	94.7	19.7	82.4	91.8
Ill. 1660 (Oh7×CI.21E)(K4×K201)	93.1	21.1	80.3	96.1
Ill. 3193 (38-11×K12)(K201×Oh7B)	88.6	18.5	80.6	94.5
Ill. 1856 (K201×CI.21E)(Oh7×38-11)	88.6	19.8	80.5	97.9
Ill. 3214 (K201×Ky126)(K12×Oh7B)	87.4	20.2	67.9	90.7
Ill. 1851 (Oh7×CI.21E)(38-11)×C103)	86.9	18.7	77.6	99.5
Ill. 1539A (K201×CI.21E)(38-11×CI.7)	86.4	19.3	88.9	95.7
Ill. 3204A (K201×Ky126)(C103×K12)	86.3	20.6	84.1	94.7
Ill. 3210 (CI.21E×Ky126)(C103×K12)	86.3	20.7	85.6	94.9
Ill. 3135 (K201×38-11)(R71A×Mo0221)	85.9	18.3	82.8	91.8
Ill. 3129 (K201×38-11)(R101×Mo01930)	82.8	18.7	84.8	97.0
Ill. 3133 (K201×38-11)(R127×Mo0221)	82.0	19.4	83.0	93.5
Ill. 3140 (K201×38-11)(CI.21E×Ky126)	80.7	20.3	86.2	89.4
Average	**87.6**	**19.6**	**81.5**	**94.4**
Number in range	Difference necessary for significance			
2	7.7	.8	N.S.	N.S.
3-5	8.5	.9	N.S.	N.S.
6-14	9.0	.9	N.S.	N.S.
Summary: 1959-1960				
AES 904 (white) (K64×Mo22)(T111×T115)	83.2	23.2	45.4	95.8
Ill. 3198A (K201×Ky126)(N82481×Oh7B)	78.1	20.8	68.1	91.7
Ill. 3154 (K201×CI.21E)(R132×R134)	75.9	22.8	63.1	92.3
Ill. 1660 (Oh7×CI.21E)(K4×K201)	74.1	22.2	72.2	95.9
Ill. 3190 (K201×C103)(Ky126×Oh7B)	73.9	20.8	73.7	88.2
Ill. 3135 (K201×38-11)(R71A×Mo0221)	69.7	19.3	73.4	87.6
Ill. 3214 (K201×Ky126)(K12×Oh7B)	69.7	21.8	52.3	85.1
Ill. 1851 (Oh7×CI.21E)(38-11×C103)	68.5	19.9	67.8	100.0
Ill. 3193 (38-11×K12)(K201×Oh7B)	68.5	20.0	71.3	93.3
Ill. 1856 (K201×CI.21E)(Oh7×38-11)	68.4	21.2	71.8	97.4
Ill. 3251 (K201×38-11)(K11×Ky126)	68.0	20.7	75.5	92.8
Ill. 1539A (K201×CI.21E)(38-11×CI.7)	67.8	21.0	83.0	93.8
Ill. 3133 (K201×38-11)(R127×Mo0221)	66.4	20.9	77.0	89.7
Ill. 3360 (H49×H51)(R101×Oh41)	65.3	19.2	71.8	91.7
Ill. 3204A (K201×Ky126)(C103×K12)	65.3	22.0	76.4	92.3
Ill. 3129 (K201×38-11)(R101×Mo01930)	64.9	20.2	79.7	95.8
Ill. 3210 (CI.21E×Ky126)(C103×K12)	63.5	22.2	79.4	91.8
Ill. 3355 (H49×H51)(R71×R109B)	63.1	19.9	74.4	95.3
Average	**69.3**	**21.0**	**71.3**	**92.3**
Number in range	Difference necessary for significance			
2	13.2	1.3	17.5	N.S.
3-5	14.5	1.4	19.3	N.S.
6-10	15.1	1.5	20.1	N.S.
11-19	15.4	1.5	20.4	N.S.

(Table is concluded on next page)

Table 11. — Brownstown — concluded

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
1960 results					
		bu.	*perct.*	*perct.*	*perct.*
AES 904 (white)	(K64×Mo22)(T111×T115)	44.9	22.8	19.9	93.1
Ill. 1349	(K155×K201)(38-11×Mo940)	34.3	20.0	57.1	94.8
Ill. 1539A	(K201×CI.21E)(38-11×CI.7)	43.3	19.8	76.7	90.5
Ill. 1657	(K201×CI.21E)(K4×Oh7)	36.8	20.6	34.1	89.7
Ill. 1660	(Oh7×CI.21E)(K4×K201)	48.1	21.9	58.8	94.0
Ill. 1851 (check)	(Oh7×CI.21E)(38-11×C103)	40.1	18.7	55.5	100.0
Ill. 1856	(CI.21E×K201)(Oh7×38-11)	44.6	20.3	56.4	95.7
Ill. 3129	(K201×38-11)(R101×Mo01930)	43.3	19.3	74.5	93.1
Ill. 3133	(K201×38-11)(R127×Mo0221)	36.4	20.1	71.0	83.7
Ill. 3135	(K201×38-11)(R71A×Mo0221)	43.8	18.6	64.1	79.4
Ill. 3140	(K201×38-11)(CI.21E×Ky126)	30.0	21.2	67.4	71.7
Ill. 3154	(K201×CI.21E)(R132×R134)	49.5	22.1	50.2	87.1
Ill. 3190	(K201×C103)(Ky126×Oh7B)	42.9	19.7	61.4	82.0
Ill. 3193	(38-11×K12)(K201×Oh7B)	41.2	19.0	62.2	88.8
Ill. 3198A	(K201×Ky126)(N82481×Oh7B)	51.4	19.7	62.6	86.3
Ill. 3204A	(K201×Ky126)(C103×K12)	36.8	21.3	64.0	87.1
Ill. 3210	(CI.21E×Ky126)(C103×K12)	38.3	21.0	67.5	90.5
Ill. 3214	(K201×Ky126)(K12×Oh7B)	41.4	21.2	36.4	75.2
Ill. 3251	(K201×38-11)(K11×Ky126)	38.8	19.4	69.1	88.0
Ill. 3355	(H49×H51)(R71×R109B)	37.7	18.2	62.3	92.3
Ill. 3360	(H49×H51)(R101×Oh41)	37.7	17.9	63.0	86.3
Ill. 3364	(CI.21E×K201)(R74×R101)	46.7	19.3	63.7	89.7
Ill. 9001	(Oh7×CI.21E)(CI.7×C103)	43.2	19.0	57.9	90.5
Ind. 851	(H49×H55)(H59×B14)	46.3	19.4	34.5	94.8
Ind. 874	(H49×H52)(H59×H60)	40.2	20.6	63.1	90.5
Average		**41.5**	**20.0**	**58.1**	**88.6**
Number in range		Difference necessary for significance			
2		N.S.	1.8	24.9	N.S.
3-5		N.S.	2.0	27.7	N.S.
6-10		N.S.	2.1	29.3	N.S.
11-15		N.S.	2.2	30.0	N.S.
16-20		N.S.	2.2	30.5	N.S.
21-25		N.S.	2.2	30.6	N.S.

Table 12. — DOUBLE CROSSES OF 900 MATURITY
Tested at Carbondale, 1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
1960 results					
		bu.	*perct.*	*perct.*	*perct.*
AES 904 (white)	(K64×Mo22)(T111×T115)	103.0	28.7	100.0	72.5
Ill. 1349	(K155×K201)(38-11×Mo940)	96.9	25.6	99.1	86.6
Ill. 1539A	(K201×CI.21E)(38-11×CI.7)	106.0	27.1	98.1	89.1
Ill. 1657	(K201×CI.21E)(K4×Oh7)	100.6	26.9	100.0	78.3
Ill. 1660	(Oh7×CI.21E)(K4×K201)	95.9	28.8	100.0	70.8
Ill. 1851 (check)	(Oh7×CI.21E)(38-11×C103)	104.6	26.2	100.0	80.8
Ill. 1856	(CI.21E×K201)(Oh7×38-11)	96.3	27.4	98.3	87.5
Ill. 3129	(K201×38-11)(R101×Mo01930)	91.8	24.6	100.0	73.3
Ill. 3133	(K201×38-11)(R127×Mo0221)	105.5	25.7	100.0	80.0
Ill. 3135	(K201×38-11)(R71A×Mo0221)	87.2	25.6	97.2	70.0
Ill. 3140	(K201×38-11)(CI.21E×Ky126)	98.6	30.2	100.0	78.3
Ill. 3154	(K201×CI.21E)(R132×R134)	111.1	27.2	98.1	90.0
Ill. 3190	(K201×C103)(Ky126×Oh7B)	106.9	25.0	100.0	84.1
Ill. 3193	(38-11×K12)(K201×Oh7B)	103.7	24.1	100.0	81.6
Ill. 3198A	(K201×Ky126)(N82481×Oh7B)	106.8	28.7	99.0	82.5
Ill. 3204A	(K201×Ky126)(C103×K12)	91.2	30.3	99.0	67.5
Ill. 3210	(CI.21E×Ky126)(C103×K12)	95.1	33.1	100.0	73.3
Ill. 3214	(K201×Ky126)(K12×Oh7B)	95.6	28.4	100.0	75.8
Ill. 3251	(K201×38-11)(K11×Ky126)	103.2	25.5	97.2	84.1
Ill. 3355	(H49×H51)(R71×R109B)	95.5	22.2	98.1	87.5
Ill. 3360	(H49×H51)(R101×Oh41)	114.8	24.9	100.0	85.0
Ill. 3364	(CI.21E×K201)(R74×R101)	98.3	26.2	100.0	80.8
Ill. 9001	(Oh7×CI.21E)(CI.7×C103)	99.2	23.3	100.0	71.6
Ind. 851	(H49×H55)(H59×B14)	100.6	27.3	99.1	80.0
Ind. 874	(H49×H52)(H59×H60)	111.5	22.8	99.0	90.8
Average		**100.8**	**26.6**	**99.3**	**80.0**
Number in range		Difference necessary for significance			
2		**N.S.**	**5.1**	**N.S.**	**N.S.**
3-5		**N.S.**	**5.6**	**N.S.**	**N.S.**
6-10		**N.S.**	**5.9**	**N.S.**	**N.S.**
11-15		**N.S.**	**6.1**	**N.S.**	**N.S.**
16-25		**N.S.**	**6.2**	**N.S.**	**N.S.**

Table 13. — DOUBLE CROSSES OF 900 MATURITY
Tested at Wolf Lake, 1960

Entry	Pedigree	Acre yield	Moisture in grain	Erect plants	Stand
	1960 results				
		bu.	*perct.*	*perct.*	*perct.*
AES 904	(white) (K64×Mo22)(T111×T115)	69.3	20.6	91.8	80.3
Ill. 1349	(K155×K201)(38-11×Mo940)	61.3	17.8	88.0	89.3
Ill. 1539A	(K201×CI.21E)(38-11×CI.7)	61.4	17.1	72.1	82.5
Ill. 1657	(K201×CI.21E)(K4×Oh7)	64.1	18.8	84.3	87.8
Ill. 1660	(Oh7×CI.21E)(K4×K201)	67.2	18.6	74.8	90.9
Ill. 1851	(check) (Oh7×CI.21E)(38-11×C103)	59.7	17.3	90.6	90.9
Ill. 1856	(CI.21E×K201)(Oh7×38-11)	55.9	18.0	66.7	87.1
Ill. 3129	(K201×38-11)(R101×Mo01930)	78.2	17.9	87.1	91.6
Ill. 3133	(K201×38-11)(R127×Mo0221)	86.8	18.4	84.1	85.6
Ill. 3135	(K201×38-11)(R71A×Mo0221)	67.2	17.5	88.9	76.5
Ill. 3140	(K201×38-11)(CI.21E×Ky126)	74.7	18.5	76.9	87.8
Ill. 3154	(K201×CI.21E)(R132×R134)	82.3	20.3	78.4	90.9
Ill. 3190	(K201×C103)(Ky126×Oh7B)	66.8	17.5	83.3	88.6
Ill. 3193	(38-11×K12)(K201×Oh7B)	66.4	18.6	82.6	92.4
Ill. 3198A	(K201×Ky126)(N82481×Oh7B)	66.1	18.0	70.4	83.3
Ill. 3204A	(K201×Ky126)(C103×K12)	59.6	19.0	92.9	84.8
Ill. 3210	(CI.21E×Ky126)(C103×K12)	70.2	18.5	86.5	89.3
Ill. 3214	(K201×Ky126)(K12×Oh7B)	50.0	18.2	84.4	80.3
Ill. 3251	(K201×38-11)(K11×Ky126)	64.3	19.9	84.6	94.6
Ill. 3355	(H49×H51)(R71×R109B)	82.2	18.9	87.7	87.8
Ill. 3360	(H49×H51)(R101×Oh41)	73.3	18.6	76.2	93.1
Ill. 3364	(CI.21E×K201)(R74×R101)	81.4	19.7	83.0	85.6
Ill. 9001	(Oh7×CI.21E)(CI.7×C103)	61.1	17.4	76.9	91.6
Ind. 851	(H49×H55)(H59×B14)	76.9	18.6	82.7	78.0
Ind. 874	(H49×H52)(H59×H60)	70.6	17.9	70.9	99.2
Average		**68.7**	**18.5**	**81.8**	**87.6**
Number in range		Difference necessary for significance			
2		**N.S.**	**1.8**	**N.S.**	**9.5**
3-5		**N.S.**	**2.0**	**N.S.**	**10.5**
6-10		**N.S.**	**2.1**	**N.S.**	**11.1**
11-15		**N.S.**	**2.2**	**N.S.**	**11.4**
16-20		**N.S.**	**2.2**	**N.S.**	**11.5**
21-25		**N.S.**	**2.2**	**N.S.**	**11.6**

DOUBLE-CROSS HYBRID NUMBERS, PEDIGREES, AND INDEX TO TABLES

(The order of the single crosses does not indicate which should be used as seed or pollen parent.)

Hybrid	Pedigree	Table No.
AES 702 (Ill. 1790)	(C103 × M14) (Hy2 × WF9)	3, 5, 6
AES 703 (Ill. 3019A)	(WF9 × Oh43) (B14 × B38)	3, 5, 6
AES 704 (Ill. 3016A)	(WF9 × Oh43) (B14 × B37)	3, 5, 6
AES 705 (Ill. 3011)	(C103 × Oh43) (WF9 × B14)	3, 4, 5, 6, 7
AES 805 (Ill. 1770)	(C103 × Oh45) (WF9 × 38-11)	8, 9, 10
AES 809	(C103 × Oh43) (P8 × WF9)	4, 7
AES 810	(WF9 × H50) (Oh7B × Oh45)	4, 7
AES 904W	(K64 × Mo22) (T111 × T115)	9, 10, 11, 12, 13
Ill. 21	(Hy2 × 187-2) (WF9 × 38-11)	3, 5, 6
Ill. 1277	(M14 × WF9) (I.205 × 187-2)	2, 3, 5, 6
Ill. 1332	(Hy2 × Oh7) (WF9 × 38-11)	8, 9, 10
Ill. 1349	(K155 × K201) (38-11 × Mo940)	9, 10, 11, 12, 13
Ill. 1421	(WF9 × Hy2) (P8 × Oh7)	4, 7
Ill. 1539A	(38-11 × Cl.7) (K201 × Cl.21E)	9, 10, 11, 12, 13
Ill. 1555A	(WF9 × Oh51A) (I.224 × Oh28)	2, 3
Ill. 1559B	(M14 × Oh28) (WF9 × Oh51A)	2, 3
Ill. 1570	(Hy2 × Oh41) (WF9 × 38-11)	8, 9, 10
Ill. 1657	(K201 × Cl.21E) (K4 × Oh7)	9, 10, 11, 12, 13
Ill. 1660	(K4 × K201) (Oh7 × Cl.21E)	8, 9, 10, 11, 12, 13
Ill. 1851	(C103 × 38-11) (Oh7 × Cl.21E)	9, 10, 11, 12, 13
Ill. 1856	(38-11 × Oh7) (K201 × Cl.21E)	9, 10, 11, 12, 13
Ill. 1861	(WF9 × M14) (I.224 × Oh28)	2, 3
Ill. 1863	(WF9 × M14) (I.205 × Oh43)	2, 3
Ill. 1922	(Hy2 × WF9) (R71 × R105)	3, 5, 6
Ill. 1936	(Hy2 × WF9) (M14 × B14)	2, 3, 5, 6
Ill. 1952	(M14 × B14) (A545 × W64A)	2, 3
Ill. 1955	(M14 × A297) (B14 × W64A)	2, 3
Ill. 1957	(M14 × A545) (B14 × W64A)	2, 3
Ill. 1958	(M14 × Oh26A) (B14 × A545)	2, 3
Ill. 1959	(M14 × W64A) (B14 × A297)	2, 3
Ill. 1960	(M14 × W64A) (B14 × A545)	2, 3
Ill. 1961	(B14 × A545) (A239 × W64A)	2, 3
Ill. 1962	(B14 × A545) (A297 × W64A)	2, 3
Ill. 1968	(R163 × R169) (WF9 × B14)	3, 5, 6
Ill. 1969	(R165 × R168) (WF9 × B14)	3, 5, 6
Ill. 1969A	(R165 × WF9) (R168 × B14)	2, 3
Ill. 1976	(38-11 × Oh41) (Oh7 × Cl.21E)	8, 9, 10
Ill. 1978	(C103 × 38-11) (WF9 × Oh7A)	8, 9, 10
Ill. 1983	(Hy2 × B14) (WF9 × 38-11)	4, 7
Ill. 1996	(C103 × B14) (Hy2 × Oh7)	4, 7, 8, 9, 10
Ill. 3009	(B14 × B21) (A297 × W64A)	2, 3
Ill. 3022	(WF9 × B14) (N22A × Oh43)	3, 5, 6
Ill. 3029	(WF9 × B14) (Oh43 × Oh45)	3, 5, 6
Ill. 3042	(WF9 × B14) (B40 × Oh45)	3, 4, 5, 6, 7
Ill. 3049	(Hy2 × WF9) (R71 × R109B)	4, 7
Ill. 3080	(Hy2 × WF9) (R101 × Oh451)	4, 7
Ill. 3129	(R101 × Mo01930) (38-11 × K201)	9, 10, 11, 12, 13
Ill. 3133	(R127 × Mo0221) (38-11 × K201)	9, 10, 11, 12, 13
Ill. 3135	(R71A × Mo0221) (38-11 × K201)	9, 10, 11, 12, 13
Ill. 3140	(38-11 × K201) (Ky126 × Cl.21E)	9, 10, 11, 12, 13

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Hybrid	Pedigree	Table No.
Ill. 3152	(M14 × WF9) (B14 × Oh43)	2, 3, 5, 6
Ill. 3154	(R132 × R134) (K201C × Cl.21E)	8, 9, 10, 11, 12, 13
Ill. 3160	(WF9 × Oh7) (B14 × Oh43)	4, 7
Ill. 3173	(B14 × Oh43) (A545 × N24)	2, 3
Ill. 3174	(B37 × Oh28) (A297 × Oh43)	2, 3
Ill. 3182A	(R105 × WF9) (R151 × R154)	3, 5, 6
Ill. 3183	(R105 × R153) (R154 × WF9)	4, 7
Ill. 3190	(C103 × K201) (Ky126 × Oh7B)	8, 9, 10, 11, 12, 13
Ill. 3193	(38-11 × K12) (K201 × Oh7B)	9, 10, 11, 12, 13
Ill. 3198A	(NB2481 × Oh7B) (K201 × Ky126)	9, 10, 11, 12, 13
Ill. 3204A	(C103 × K12) (K201 × Ky126)	9, 10, 11, 12, 13
Ill. 3210	(C103 × K12) (Ky126 × Cl.21E)	9, 10, 11, 12, 13
Ill. 3214	(K201 × Ky126) (K12 × Oh7B)	9, 10, 11, 12, 13
Ill. 3237	(R101 × WF9) (R151 × R154)	4, 7
Ill. 3244	(R105 × R153) (R151 × WF9)	4, 7
Ill. 3251	(38-11 × K201) (K11 × Ky126)	9, 10, 11, 12, 13
Ill. 3265	(R71 × R109B) (WF9 × Oh43)	3, 5, 6
Ill. 3266	(R74 × R109B) (WF9 × Oh43)	3, 5, 6
Ill. 3270	(R74 × R168) (WF9 × Oh43)	3, 5, 6
Ill. 3275	(R114 × R168) (WF9 × Oh43)	3, 5, 6
Ill. 3291	(P8 × WF9) (B14 × Oh43)	4, 7
Ill. 3294	(C103 × Hy2) (P8 × WF9)	4, 7
Ill. 3301	(M14 × Oh43) (R168 × B14)	2, 3
Ill. 3302A1	(M14 × W64A) (R172 × B14)	2, 3
Ill. 3303	(M14 × Oh43) (R172 × B14)	3, 5, 6
Ill. 3313	(L12 × B14) (Oh43 × W64A)	2, 3
Ill. 3315A	(Hy2 × WF9) (R109B × B14)	3, 5, 6
Ill. 3343	(R71 × R74) (H49 × H55)	4, 7
Ill. 3344	(R71 × R105) (H49 × H55)	8, 9, 10
Ill. 3346	(R71 × R168) (H49 × H55)	4, 7
Ill. 3347	(R74 × R101) (H49 × H55)	3, 5, 6, 8, 9, 10
Ill. 3348	(R74 × R109B) (H49 × H55)	4, 7, 8, 9, 10
Ill. 3350	(R101 × Oh41) (H49 × H55)	8, 9, 10
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Ill. 3354	(R71 × R105) (H49 × H51)	8, 9, 10
Ill. 3355	(R71 × R109B) (H49 × H51)	9, 10, 11, 12, 13
Ill. 3357	(R74 × R101) (H49 × H51)	8, 9, 10
Ill. 3360	(R101 × Oh41) (H49 × H51)	9, 10, 11, 12, 13
Ill. 3364	(R74 × R101) (K201 × Cl.21E)	9, 10, 11, 12, 13
Ill. 3367	(R74 × WF9) (Oh7 × Cl.21E)	8, 9, 10
Ill. 3373	(C103 × WF9) (R101 × Oh41)	8, 9, 10
Ill. 3381	(R71 × WF9) (B14 × Oh43)	3, 5, 6
Ill. 3382	(R109B × WF9) (B14 × Oh43)	3, 5, 6
Ill. 3383	(M14 × WF9) (R172 × Oh43)	3, 5, 6
Ill. 3384	(Hy2 × Oh7) (WF9 × Oh41)	4, 7
Ill. 6021	(R75 × R76) (R84 × K4)	8, 9, 10
Ill. 6052	(R78 × 38-11) (R84 × K4)	8, 9, 10
Ill. 6201	(R53 × Oh7) (WF9 × B14)	2, 3
Ill. 6202	(R53 × Oh51) (Oh43 × W64A)	2, 3
Ill. 8001	(Hy2 × R138) (Oh7 × Oh7B)	4, 7
Ill. 8002	[(Hy2 × B14) Hy2] [(Oh7 × C103) Oh7]	4, 7
Ill. 8003	(WF9 × Oh7) (H55 × C103)	4, 7
Ill. 8004	(WF9 × Hy2) (R74 × B14)	4, 7
Ill. 8005	(H49 × H55) (B14 × C103)	8, 9, 10
Ill. 9001	(Oh7 × Cl.21E) (Cl.7 × C103)	9, 10, 11, 12, 13
Ind. 851	(H49 × H55) (H59 × B14)	8, 9, 10, 11, 12, 13
Ind. 873	(H49 × H52) (H59 × B14)	8, 9, 10
Ind. 874	(H49 × H52) (H59 × H60)	8, 9, 10, 11, 12, 13
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