

ILLINOIS SINGLE CROSS CORN TESTS

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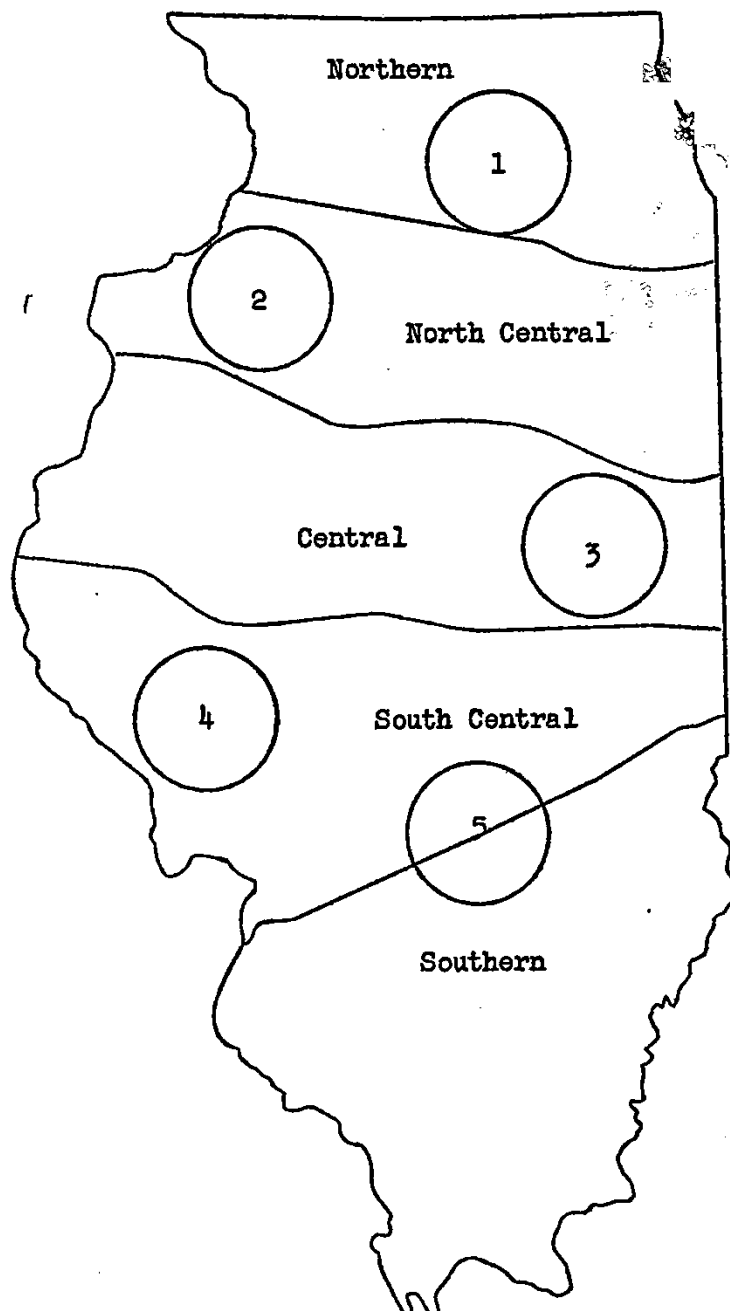
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This report summarizes the performance of five sets of single crosses of corn tested in 1948 by the Illinois Agricultural Experiment Station. Data are presented from trials conducted in northern Illinois (DeKalb County), north central Illinois (Henry County), central Illinois (Champaign County), south central Illinois (Scott County) and southern Illinois (Fayette County). The locations of these tests are shown in Figure 1.

Figure 1.

LOCATIONS OF SINGLE CROSS CORN TESTS IN ILLINOIS



The authors and the Experiment Station acknowledge the cooperation of C. D. Ford, Geneseo; Royal Oakes, Bluffs; C. H. Farnham, Urbana; and P. E. Johnston, Newton, for providing land for some of these tests. The valuable assistance of Professor J. B. Andrews, E. R. Leng, W. E. Robbins, Herbert Hayes and Kenneth Williams in conducting these trials is also appreciated.

All entries were replicated four times. All plots were planted and thinned by hand. None of the seed was treated with a fungicide. Two plants per hill were left at Brownstown and three per hill at the other locations. With the exception of the plots at Urbana, the material was compared in 2 x 5-hill plots arranged in a randomized block design. Plots at Urbana were 2 x 8-hills in size. Yields were corrected for missing hills and are reported as bushels of shelled grain per acre on the basis of 15.5 percent moisture, the maximum allowable for No. 2 shelled corn.

The number of bushels necessary for significance has been calculated for each test. Readers are cautioned to note these values in making comparisons between any two hybrids.

The performance of 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, quality, etc. definitely affect the practical production of hybrid seed corn. Some farmers are interested in growing single-cross hybrids commercially because of their attractive appearance and extreme uniformity. The use of single-cross data for the prediction of desirable double crosses creates additional interest in the performance of single crosses.

By arranging single-cross data in summary tables, the average contribution of each inbred may be calculated. For example, from the "Acre Yield" section of Table 2, single crosses involving inbred "WF9" averaged 103 bushels per acre while single crosses involving "Oh51A" averaged only 95 bushels an acre. Comparisons of this type enable the breeder or seed producer to select inbreds which contribute the most desirable characteristics to their hybrids.

The making and testing of all possible hybrid combinations among available lines is a tremendous task. For example, 1,225 single crosses and 690,900 double crosses are possible with the 50 inbred lines included in these tests. The use of single-cross performance data permits the corn breeder to predict which of the many possible double-cross combinations are most desirable. The usual procedure in making predictions is method "B" proposed by Dr. M. T. Jenkins.^{1/} The following six single crosses can be made with four inbred lines: A x B, A x C, A x D, B x C, B x D, and C x D. In method B, 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 x C, A x D, B x C, and B x D, give the predicted yield of double cross, (A x B) (C x D).

The procedure in predicting "acre yields" and "moisture in grain at harvest" of two hybrids is shown below. Single-cross data are taken from Table 2.

<u>(R2 x R61)(WF9 x M14)</u>			<u>(W22 x Oh51A)(W24 x R51)</u>		
	<u>Acre yield</u>	<u>Moisture</u>		<u>Acre yield</u>	<u>Moisture</u>
	bu.	pct.		bu.	pct.
R2 x WF9	102	23	W22 x W24	91	20
R2 x M14	101	21	W22 x R51	80	19
R61 x WF9	105	24	Oh51A x W24	100	21
R61 x M14	99	26	Oh51A x R51	90	18
	4)407	4)94		4)361	4)78
Prediction	101.75	23.5	Prediction	90.25	19.5

^{1/} Jenkins, M. T. Methods of estimating the performance of double crosses of corn. Jour. Amer. Soc. Agron. 26:199-204, 1934.

Similar predictions can be made for other characteristics.

Prediction studies are an extremely valuable part of a research program. By this method, corn breeders are able to obtain the very best combinations without making and testing thousands of undesirable crosses. Predicted hybrid combinations, however, should always be thoroughly tested under field conditions before being put in commercial production.

Five systematic sets of single crosses were tested in 1948. The data permit predicting the performance of 3,150 double-cross combinations. The conditions and results of each test will be discussed briefly in the following paragraphs.

Very Early Yellow Single Crosses (Ohio M15 Maturity)

Ten very early-maturing yellow inbred lines were compared in 45 all-possible single crosses on the Northern Illinois Experiment Field in DeKalb County. Data from this test are summarized in Table 1. These data permit predicting the performance of 630 double crosses. The inbred lines are arranged below in their order of performance in single crosses.

Acre yield - Oh43, I289, Oh5, M14, W22, A206, Oh51A, B8, A73, A334
Moisture in grain - B8, A334, A206, Oh51A, I289, W22, A73, Oh43, Oh5, M14
Shelling percentage - B8, I289, A73, Oh43, Oh51A, A334, M14, A206, Oh5,
W22
Erect plants - Oh43, W22, Oh51A, Oh5, A206, A73, B8, M14, I289, A334
Percent stand - A73, Oh5, B8, M14, W22, A334, Oh51A, A206, I289, Oh43
Plant height - A73, A334, Oh43, B8, W22, Oh51A, M14, A206, I289, Oh5
Ear height - Oh43, A73, M14, W22, A334, Oh51A, Oh5, B8, A206, I289
Ears per hundredweight - Oh43, Oh5, A206, M14, A73, I289, W22, Oh51A, A334,
B8
Ears per plant - A73, Oh5, B8, A206, A334, W22, M14, Oh51A, Oh43, I289

Early Yellow Single Crosses (Illinois 1240 Maturity)

An early group of yellow single crosses involving 10 lines was grown at DeKalb and Geneseo. Data obtained were averaged and are given in Table 2. The inbred lines are arranged below in their order of performance in single crosses.

Acre yield - R61, 187-2, WF9, R2, M14, W24, I.205, W22, R51, Oh51A
Moisture in grain - R51, W22, Oh51A, R2, 187-2, WF9, W24, M14, R61, I.205
Shelling percentage - R51, W24, Oh51A, 187-2, I.205, M14, WF9, R2, W22, R61
Erect plants - Oh51A, I.205, R61, R51, WF9, R2, W22, 187-2, M14, W24
Percent stand - R2, WF9, M14, R51, Oh51A, W22, W24, R61, 187-2, I.205
Plant height - M14, Oh51A, W22, W24, R51, I.205, R61, 187-2, WF9, R2
Ear height - M14, Oh51A, WF9, W22, I.205, R2, R51, R61, 187-2, W24
Ears per hundredweight - R61, WF9, 187-2, I.205, M14, W24, R2, W22 Oh51A,
R51
Ears per plant - WF9, I.205, M14, W22, R51, Oh51A, R61, W24, 187-2, R2

Midseason Yellow Single Crosses (U. S. 13 Maturity)

Ten midseason yellow inbred lines were compared in all-possible single crosses at Geneseo and Urbana. Table 3 gives the average performance of these crosses. The lines are shown below in their order of performance in single crosses.

Acre yield - B10, I317, Oh41, R61, 07, 187-2, WF9, Hy2, 38-11, R2
Moisture in grain - R2, 07, R61, WF9, 38-11, 187-2, Hy2, I317, B10, Oh41
Days to half silk - Hy2, 187-2, R61, Oh41, WF9, R2, 07, B10, 38-11, I317
Shelling percentage - 07, 187-2, R61, Hy2, WF9, R2, 38-11, I317, Oh41, B10
Erect plants - 07, WF9, R2, Hy2, R61, B10, 38-11, 187-2, Oh41, I317

Percent stand - Oh41, 07, B10, Hy2, L317, 187-2, 38-11, R61, WF9, R2
Plant height - WF9, Oh41, R61, 187-2, Hy2, R2, B10, 07, 38-11, L317
Ear height - WF9, R2, R61, 07, B10, Oh41, 187-2, Hy2, 38-11, L317
Ears per hundredweight - B10, WF9, 38-11, Oh41, R61, Hy2, L317, 187-2, 07,
R2
Ears per plant - WF9, 38-11, Hy2, R61, B10, Oh41, L317, 187-2, R2, 07
Husk left on ears - 38-11, R2, WF9, 187-2, 07, L317, Hy2, R61, Oh41, B10
Ears left by harvester - 07, Oh41, Hy2, WF9, R2, B10, R61, 187-2, 38-11,
L317

Late Yellow Single Crosses (Illinois 448 Maturity)

The uniform comparisons of late yellow single crosses were made at Bluffs and Brownstown. The results from each location were averaged and are shown in Table 4. Lines are shown below in their order of performance in single crosses.

Acre yield - K4, CI.21E, 07, 38-11, CI.7, Ok12, K155, T8, K201C, Kys
Moisture in grain - 38-11, 07, K155, CI.7, T8, Kys, K4, K201C, Ok12,
CI.21E
Shelling percentage - 07, K4, CI.7, T8, Ok12, 38-11, K155, CI.21E, K201C,
Kys
Erect plants - K155, CI.7, CI.21E, K201C, Ok12, 38-11, Kys, 07, T8, K4
Percent stand - K4, T8, CI.21E, Ok12, K155, Kys, 07, CI.7, 38-11, K201C
Plant height - K201C, CI.7, 07, T8, 38-11, K155, Kys, Ok12, K4, CI.21E
Ear height - 07, Ok12, CI.7, CI.21E, K155, T8, 38-11, K201C, Kys, K4
Ears per hundredweight - 38-11, CI.21E, CI.7, K201C, K155, T8, Kys, K4,
Ok12, 07
Ears per plant - CI.7, 38-11, CI.21E, T8, Kys, K155, K201C, 07, Ok12, K4

Late White Single Crosses (Illinois 448 Maturity)

The uniform comparisons of late white single crosses were grown at Bluffs and Brownstown. Table 5 gives the results averaged for the two locations. The inbred lines are shown below in order of their performance in single crosses.

Acre yield - H21, K64, R30, Ky27, Mo22, Ky39, 33-16, Mo2RF, CI.61, Ky122
Moisture in grain - 33-16, Ky27, Ky49, CI.61, Mo2RF, K64, Ky122, H21, R30,
Mo22
Shelling percentage - Ky27, H21, K64, 33-16, R30, Mo2RF, Mo22, Ky49,
Ky122, CI.61
Erect plants - 33-16, CI.61, K64, H21, Mo22, Mo2RF, Ky27, R30, Ky49, Ky122
Percent stand - K64, Ky122, Mo2RF, Ky27, 33-16, R30, Mo22, Ky49, H21, CI.61
Plant height - Ky122, Ky49, K64, CI.61, H21, Mo22, Mo2RF, Ky27, 33-16, R30
Ear height - 33-16, R30, H21, Ky27, Mo2RF, Ky49, K64, Mo22, CI.61, Ky122
Ears per hundredweight - H21, R30, Ky49, 33-16, CI.61, Ky122, Mo2RF, Ky27,
K64, Mo22
Ears per plant - Ky122, 33-16, Ky49, R30, Ky27, H21, Mo2RF, CI.61, K64,
Mo22

Five or six promising experimental hybrids and commercially-available hybrids were included with each systematic set of single crosses. Data obtained are reported in Table 6. These double crosses may be compared with the single crosses in Tables 1 to 5 inclusive.

Table 1.--VERY EARLY YELLOW SINGLE CROSSES (Ohio M15 Maturity)
DeKalb County, Northern Illinois, 1948
(Means of four replications)

Parent lines	Ill. M14	Iowa B8	Iowa L289	Minn. A73	Minn. A206	Minn. A334	Ohio Oh5	Ohio Oh43	Ohio Oh51A	Wisc. W22
Acre Yield, Bushels										
M14	--	88	93	70	88	85	88	82	83	81
B8	88	--	90	75	75	69	75	94	79	83
L289	93	90	--	89	74	74	87	93	85	78
A73	70	75	89	--	75	81	84	93	87	74
A206	88	75	74	75	--	80	83	93	83	85
A334	85	69	74	81	80	--	88	92	81	78
Oh5	88	75	87	84	83	88	--	--	82	88
Oh43	82	94	93	93	93	92	--	--	70	89
Oh51A	83	79	85	87	83	81	82	70	--	86
W22	81	83	78	74	85	78	88	89	86	--
Mean	84	81	85	81	82	81	84	88	82	82

A difference of less than 13.5 bushels between any two single cross yields is not significant.

Moisture in Grain at Harvest, Percent										
M14	--	20	21	25	23	22	24	24	22	22
B8	20	--	19	19	17	18	19	19	18	20
L289	21	19	--	20	22	20	25	23	21	19
A73	25	19	20	--	20	22	22	22	20	24
A206	23	17	22	20	--	19	22	23	20	20
A334	22	18	20	22	19	--	21	22	20	21
Oh5	24	19	25	22	22	21	--	--	21	25
Oh43	24	19	23	22	23	22	--	--	24	20
Oh51A	22	18	21	20	20	20	21	24	--	22
W22	22	20	19	24	20	21	25	20	22	--
Mean	22	19	21	22	21	20	22	22	21	21

Shelling Percentage										
M14	--	82	80	80	78	78	78	78	77	79
B8	82	--	83	81	81	81	79	82	81	80
L289	80	83	--	81	80	80	79	80	82	80
A73	80	81	81	--	78	80	78	80	81	79
A206	78	81	80	78	--	79	78	78	79	77
A334	78	81	80	80	79	--	78	80	79	77
Oh5	78	79	79	78	78	78	--	80	78	78
Oh43	78	82	80	80	78	80	80	--	80	78
Oh51A	77	81	82	81	79	79	78	80	--	78
W22	79	80	80	79	77	77	78	78	78	--
Mean	79	81	81	80	79	79	79	80	80	78

Table 1 (cont.)

Parent lines	Ill. M14	Iowa B8	Iowa L289	Minn. A73	Minn. A206	Minn. A334	Ohio Oh5	Ohio Oh43	Ohio Oh51A	Wisc. W22
Erect Plants at Harvest, Percent										
M14	--	100	92	100	100	96	99	99	100	100
B8	100	--	99	99	100	98	100	100	100	99
L289	92	99	--	96	99	91	98	100	96	100
A73	100	99	96	--	98	99	100	100	100	97
A206	100	100	99	98	--	99	99	100	100	99
A334	96	98	91	99	99	--	98	99	99	96
Oh5	99	100	98	100	99	98	--	100	100	100
Oh43	99	100	100	100	100	99	100	--	99	100
Oh51A	100	100	96	100	100	99	100	99	--	100
W22	100	99	100	97	99	96	100	100	100	--
Mean	98	99	97	99	99	97	99	100	99	99
Percent Perfect Stand										
M14	--	98	95	97	99	94	96	82	97	82
B8	98	--	96	100	87	92	91	91	98	98
L289	95	96	--	102	76	78	99	97	87	82
A73	97	100	102	--	97	93	100	91	97	94
A206	99	87	76	97	--	96	95	94	94	93
A334	94	92	78	93	96	--	97	88	97	89
Oh5	96	91	99	100	95	97	--	77	97	101
Oh43	82	91	97	91	94	88	77	--	64	101
Oh51A	97	98	87	97	94	97	97	64	--	94
W22	82	98	82	94	93	89	101	101	94	--
Mean	93	95	90	97	92	92	95	87	92	93
Plant Height, Feet										
M14	--	8.1	9.5	7.5	8.9	8.0	9.0	7.7	8.4	8.0
B8	8.1	--	9.0	7.5	8.0	7.5	8.6	7.9	7.9	8.1
L289	9.5	9.0	--	8.5	9.4	8.1	9.0	8.6	8.9	8.1
A73	7.5	7.5	8.5	--	8.1	7.1	8.4	7.2	7.7	7.1
A206	8.9	8.0	9.4	8.1	--	8.5	9.1	8.1	8.5	8.5
A334	8.0	7.5	8.1	7.1	8.5	--	8.4	7.4	7.9	8.1
Oh5	9.0	8.6	9.0	8.4	9.1	8.4	--	8.5	8.7	9.1
Oh43	7.7	7.9	8.6	7.2	8.1	7.4	8.5	--	7.6	8.0
Oh51A	8.4	7.9	8.9	7.7	8.5	7.9	8.7	7.6	--	8.0
W22	8.0	8.1	8.1	7.1	8.5	8.1	9.1	8.0	8.0	--
Mean	8.3	8.1	8.8	7.7	8.6	7.9	8.8	7.9	8.2	8.1

Table 1 (cont.)

Parent lines	Ill. M14	Iowa B8	Iowa L289	Minn. A73	Minn. A206	Minn. A334	Ohio Oh5	Ohio Oh43	Ohio Oh51A	Wisc. W22
Ear Height, Inches										
M14	--	38	44	32	42	36	39	26	36	34
B8	38	--	50	36	42	37	41	35	38	38
L289	44	50	--	42	48	42	46	39	45	39
A73	32	36	42	--	40	33	38	29	36	33
A206	42	42	48	40	--	45	40	34	40	38
A334	36	37	42	33	45	--	38	29	35	38
Oh5	39	41	46	38	40	38	--	33	37	39
Oh43	26	35	39	29	34	29	33	--	30	29
Oh51A	36	38	45	36	40	35	37	30	--	36
W22	34	38	39	33	38	38	39	29	36	--
Mean	36	39	44	35	41	37	39	32	37	36
Ears per Hundredweight, Number										
M14	--	208	181	186	173	197	167	171	172	168
B8	208	--	182	212	200	222	197	183	197	199
L289	181	182	--	180	186	204	178	174	176	200
A73	186	212	180	--	156	160	168	173	207	211
A206	173	200	186	156	--	196	194	158	173	174
A334	197	222	204	160	196	--	177	176	240	200
Oh5	167	197	178	168	194	177	--	--	179	161
Oh43	171	183	174	173	158	176	--	--	174	197
Oh51A	172	197	176	207	173	240	179	174	--	164
W22	168	199	200	211	174	200	161	197	164	--
Mean	180	200	185	184	179	197	178	176	187	186
Ears per Plant, Number										
M14	--	1.00	1.16	.97	.90	1.00	.93	1.03	1.00	1.00
B8	1.00	--	1.00	.96	1.00	.90	.96	.96	.90	1.00
L289	1.16	1.00	--	1.00	1.00	1.00	1.00	1.03	1.07	1.08
A73	.97	.96	1.00	--	.85	.93	.83	1.03	1.00	.93
A206	.90	1.00	1.00	.85	--	.96	1.00	1.00	1.00	.97
A334	1.00	.90	1.00	.93	.96	--	1.00	1.03	1.03	.97
Oh5	.93	.96	1.00	.83	1.00	1.00	--	--	.89	1.00
Oh43	1.03	.96	1.03	1.03	1.00	1.03	--	--	1.09	1.00
Oh51A	1.00	.90	1.07	1.00	1.00	1.03	.89	1.09	--	1.00
W22	1.00	1.00	1.08	.93	.97	.97	1.00	1.00	1.00	--
Mean	1.00	.96	1.04	.94	.96	.98	.95	1.02	1.00	.99

Table 2.--EARLY YELLOW SINGLE CROSSES (Ill. 1240 Maturity)
DeKalb and Henry Counties, North Central Illinois, 1948
(Means of four replications)

Parent lines	Ill. R2	Ind. WF9	Ill. M14	Wisc. W22	Wisc. W24	Ill. R51	Ohio Oh51A	Ill. R61	U.S. 187-2	Iowa I.205
Acre Yield, Bushels										
R2	--	102	101	98	100	99	99	110	101	105
WF9	102	--	107	107	93	--	101	105	114	93
M14	101	107	--	85	94	98	97	99	105	96
W22	98	107	85	--	91	80	91	105	97	100
W24	100	93	94	91	--	107	100	109	89	93
R51	99	--	98	80	107	--	90	--	100	91
Oh51A	99	101	97	91	100	90	--	--	--	86
R61	110	105	99	105	109	--	--	--	113	104
187-2	101	114	105	97	89	100	--	113	--	103
I.205	105	93	96	100	93	91	86	104	108	--
Mean	102	103	98	95	97	95	95	106	103	97

A difference of less than 10.9 bushels between any two single cross yields is not significant.

Moisture in Grain at Harvest, Percent										
R2	--	23	21	21	21	18	19	22	20	22
WF9	23	--	23	20	23	--	20	24	21	24
M14	21	23	--	21	23	20	22	26	23	25
W22	21	20	21	--	20	19	20	23	20	22
W24	21	23	23	20	--	20	21	24	23	25
R51	18	--	20	19	20	--	18	--	20	25
Oh51A	19	20	22	20	21	18	--	23	21	23
R61	22	24	26	23	24	--	23	--	22	21
187-2	20	21	23	20	23	20	21	22	--	21
I.205	22	24	25	22	25	25	23	21	21	--
Mean	21	22	23	21	22	20	21	23	21	23

Shelling Percentage										
R2	--	78	78	77	79	82	81	77	79	78
WF9	78	--	79	78	79	--	81	77	80	80
M14	78	79	--	79	79	83	79	79	80	79
W22	77	78	79	--	81	81	79	77	79	77
W24	79	79	79	81	--	82	82	78	79	79
R51	82	--	83	81	82	--	85	--	83	81
Oh51A	81	81	79	79	82	85	--	78	79	78
R61	77	77	79	77	78	--	78	--	79	77
187-2	79	80	80	79	79	83	79	79	--	79
I.205	78	80	79	77	79	81	78	77	79	--
Mean	79	79	79	79	80	82	80	78	80	79

Table 2 (cont.)

Parent lines	Ill. R2	Ind. WF9	Ill. M14	Wisc. W22	Wisc. W24	Ill. R51	Ohio Oh51A	Ill. R61	U.S. 187-2	Iowa I.205
Erect Plants at Harvest, Percent										
R2	--	98	92	98	91	98	92	91	100	100
WF9	98	--	98	92	92	--	98	97	97	100
M14	92	98	--	92	94	98	98	98	92	95
W22	98	92	92	--	91	98	97	97	98	100
W24	91	92	94	91	--	97	98	96	95	96
R51	98	--	98	98	97	--	98	--	97	92
Oh51A	92	98	98	97	98	98	--	99	100	100
R61	91	97	98	97	96	--	99	--	97	98
187-2	100	97	92	98	95	97	100	97	--	92
I.205	100	100	95	100	96	92	100	98	92	--
Mean	96	96	95	96	94	97	98	97	96	97
Percent Perfect Stand										
R2	--	98	99	101	94	100	100	96	89	97
WF9	98	--	99	97	97	--	100	97	98	92
M14	99	99	--	97	92	100	99	99	100	89
W22	101	97	97	--	90	94	97	94	98	100
W24	94	97	92	90	--	99	97	95	92	95
R51	100	--	100	94	99	--	97	--	90	97
Oh51A	100	100	99	97	97	97	--	--	--	92
R61	96	97	99	94	95	--	--	--	93	93
187-2	89	98	100	98	92	90	--	93	--	99
I.205	97	92	89	100	95	97	92	93	99	--
Mean	97	97	97	96	95	97	97	95	95	95
Plant Height, Feet										
R2	--	9.5	8.5	9.2	9.4	9.2	9.1	9.6	9.2	9.2
WF9	9.5	--	8.6	8.7	9.1	--	8.9	9.1	9.4	8.4
M14	8.5	8.6	--	8.2	8.4	8.2	8.2	8.4	8.6	8.0
W22	9.2	8.7	8.2	--	8.7	8.7	8.7	9.0	9.0	8.6
W24	9.4	9.1	8.4	8.7	--	8.6	8.6	8.7	9.0	9.0
R51	9.2	--	8.2	8.7	8.6	--	8.9	--	9.2	9.0
Oh51A	9.1	8.9	8.2	8.7	8.6	8.9	--	8.7	8.6	8.7
R61	9.6	9.1	8.4	9.0	8.7	--	8.7	--	8.7	8.9
187-2	9.2	9.4	8.6	9.0	9.0	9.2	8.6	8.7	--	9.0
I.205	9.2	8.4	8.0	8.6	9.0	9.0	8.7	8.9	9.0	--
Mean	9.2	9.0	8.3	8.8	8.8	8.8	8.7	8.9	9.0	8.8

Table 2 (cont.)

Parent lines	Ill. R2	Ind. WF9	Ill. M14	Wisc. W22	Wisc. W24	Ill. R51	Ohio Oh51A	Ill. R61	U.S. 187-2	Iowa I.205
Ear Height, Inches										
R2	--	41	37	41	42	43	38	45	43	40
WF9	41	--	37	39	45	--	36	44	46	38
M14	37	37	--	37	39	36	36	40	40	34
W22	41	39	37	--	45	41	38	42	43	39
W24	42	45	39	45	--	45	42	47	49	45
R51	43	--	36	41	45	--	41	--	46	42
Oh51A	38	36	36	38	42	41	--	40	38	38
R61	45	44	40	42	47	--	40	--	45	43
187-2	43	46	40	43	49	46	38	45	--	48
I.205	40	38	34	39	45	42	38	43	48	--
Mean	41	41	37	41	44	42	39	43	44	41
Ears per Hundredweight, Number										
R2	--	139	154	151	160	164	161	128	161	149
WF9	139	--	133	140	146	--	161	136	134	137
M14	154	133	--	149	150	163	157	136	143	142
W22	151	140	149	--	162	176	169	131	150	141
W24	160	146	150	162	--	146	148	128	151	162
R51	164	--	163	176	146	--	186	--	158	166
Oh51A	161	161	157	169	148	186	--	142	141	139
R61	128	136	136	131	128	--	142	--	123	131
187-2	161	134	143	150	151	158	141	123	--	143
I.205	149	137	142	141	162	166	139	131	143	--
Mean	152	141	147	152	150	166	156	132	145	146
Ears per Plant, Number										
R2	--	.96	.93	1.00	1.09	.97	1.00	1.05	1.13	1.00
WF9	.96	--	.95	.97	.88	--	.93	.97	1.00	.93
M14	.93	.95	--	.93	.95	1.00	1.00	.92	.98	1.00
W22	1.00	.97	.93	--	1.01	.91	.98	.96	.98	.93
W24	1.09	.88	.95	1.01	--	.98	1.00	1.00	.96	.98
R51	.97	--	1.00	.91	.98	--	.96	--	1.03	.95
Oh51A	1.00	.93	1.00	.98	1.00	.96	--	.97	1.00	.89
R61	1.05	.97	.92	.96	1.00	--	.97	--	.98	.93
187-2	1.13	1.00	.98	.98	.96	1.03	1.00	.98	--	.98
I.205	1.00	.93	1.00	.93	.98	.95	.89	.93	.98	--
Mean	1.01	.95	.96	.96	.98	.97	.97	.97	1.00	.95

Table 3.--MIDSEASON YELLOW SINGLE CROSSES (U.S. 13 Maturity)
Henry and Champaign Counties, Central Illinois, 1948
(Means of four replications)

Parent lines	Ill. R2	Ohio 07	Ind. WF9	Iowa B10	Ind. 38-11	Ohio Oh41	Ill. R61	U.S. 187-2	Iowa L317	Ill. Hy2
Acre Yield, Bushels										
R2	--	96	113	108	104	119	130	101	114	114
07	96	--	113	136	118	119	112	119	123	113
WF9	113	113	--	116	98	124	120	121	120	111
B10	108	136	116	--	115	128	131	114	130	118
38-11	104	118	98	115	--	124	116	118	121	109
Oh41	119	119	124	128	124	--	<u>91*/</u>	116	<u>64*/</u>	111
R61	130	112	120	131	116	<u>91*/</u>	--	111	<u>78*/</u>	111
187-2	101	119	121	114	118	<u>116</u>	111	--	<u>120</u>	120
L317	114	123	120	130	121	<u>64*/</u>	<u>78*/</u>	120	--	122
Hy2	114	113	111	118	109	<u>111</u>	<u>111</u>	120	122	--
Mean	111	116.6	115.1	121.8	113.7	120.1	118.7	115.6	121.4	114.3

*Related; not included in mean.

A difference of less than 11.6 bushels between any two single cross yields is not significant.

Moisture in Grain at Harvest, Percent										
R2	--	22	22	19	22	24	21	19	23	20
07	22	--	21	20	21	24	22	20	23	21
WF9	22	21	--	24	22	24	23	21	21	24
B10	19	20	24	--	21	26	24	22	26	24
38-11	22	21	22	21	--	23	23	20	21	21
Oh41	24	24	24	26	23	--	<u>26*/</u>	25	<u>28*/</u>	24
R61	21	22	23	24	23	<u>26*/</u>	--	21	<u>26*/</u>	23
187-2	19	20	21	22	20	<u>25</u>	21	--	<u>22</u>	24
L317	23	23	21	26	21	<u>28*/</u>	<u>26*/</u>	22	--	24
Hy2	20	21	24	24	21	<u>24</u>	<u>23</u>	24	24	--
Mean	21	22	22	23	22	24	22	22	23	23

*Related; not included in mean.

Days to Half-Silk, Number										
R2	--	71	67	67	70	69	67	67	72	65
07	71	--	67	69	70	69	68	67	73	66
WF9	67	67	--	68	70	68	68	67	68	67
B10	67	69	68	--	72	71	70	70	73	69
38-11	70	70	70	72	--	68	70	69	71	71
Oh41	69	69	68	71	68	--	<u>74*/</u>	68	<u>77*/</u>	66
R61	67	68	68	70	70	<u>74*/</u>	--	67	<u>75*/</u>	66
187-2	67	67	67	70	69	<u>68</u>	67	--	<u>70</u>	67
L317	72	73	68	73	71	<u>77*/</u>	<u>75*/</u>	70	--	66
Hy2	65	66	67	69	71	<u>66</u>	<u>66</u>	67	66	--
Mean	68	69	68	70	70	68	68	68	70	67

*Related; not included in mean.

Table 3 (cont.)

Parent lines	Ill. R2	Ohio 07	Ind. WF9	Iowa B10	Ind. 38-11	Ohio Oh41	Ill. R61	U.S. 187-2	Iowa L317	Ill. Hy2
Shelling Percentage										
R2	--	79	83	77	77	78	79	81	74	80
07	79	--	80	80	80	79	82	83	81	82
WF9	83	80	--	76	77	78	79	80	80	78
B10	77	80	76	--	76	76	78	78	76	77
38-11	77	80	77	76	--	78	79	80	79	78
Oh41	78	79	78	76	78	--	76	79	75	78
R61	79	82	79	78	79	76	--	82	78	80
187-2	81	83	80	78	80	79	82	--	81	80
L317	74	81	80	76	79	75	78	81	--	79
Hy2	80	82	78	77	78	78	80	80	79	--
Mean	79	81	79	77	78	77	79	80	78	79
Erect Plants at Harvest, Percent										
R2	--	99	99	96	96	95	97	99	93	96
07	99	--	99	96	99	99	99	98	95	99
WF9	99	99	--	99	97	99	97	95	95	100
B10	96	96	99	--	94	93	98	94	94	95
38-11	96	99	97	94	--	94	96	99	83	93
Oh41	95	99	99	93	94	--	94	93	85	96
R61	97	99	97	98	96	94	--	91	93	97
187-2	99	98	95	94	99	93	91	--	83	97
L317	93	95	95	94	83	85	93	83	--	93
Hy2	96	99	100	95	93	96	97	97	93	--
Mean	97	98	98	95	95	94	96	94	90	96
Percent Perfect Stand										
R2	--	90	97	86	92	99	99	95	89	97
07	90	--	99	99	99	100	99	99	97	97
WF9	97	99	--	96	83	97	97	97	98	94
B10	86	99	96	--	100	98	96	98	100	97
38-11	92	99	83	100	--	99	99	96	96	97
Oh41	99	100	97	98	99	--	95	98	95	101
R61	99	99	97	96	99	95	--	87	95	92
187-2	95	99	97	98	96	98	87	--	99	97
L317	89	97	98	100	96	95	95	99	--	98
Hy2	97	97	94	97	97	101	92	97	98	--
Mean	94	98	95	97	96	98	95	96	96	97

Table 3 (cont.)

Parent lines	Ill. R2	Ohio 07	Ind. WF9	Iowa B10	Ind. 38-11	Ohio Oh41	Ill. R61	U.S. 187-2	Iowa L317	Ill. Hy2
Plant Height, Feet										
R2	--	9.5	9.2	9.5	10.0	10.0	9.7	9.7	8.6	9.2
07	9.5	--	9.5	9.5	10.0	10.0	9.7	9.7	10.5	9.2
WF9	9.2	9.5	--	9.0	9.5	2.0	9.2	9.7	10.2	9.0
B10	9.5	9.5	9.0	--	10.0	10.0	10.0	9.5	10.5	9.5
38-11	10.0	10.0	9.5	10.0	--	9.7	9.5	9.0	11.0	9.5
Oh41	10.0	10.0	2.0	10.0	9.7	--	8.7	9.5	8.5	9.2
R61	9.7	9.7	9.2	10.0	9.5	8.7	--	8.5	9.0	9.2
187-2	9.7	9.7	9.7	9.5	9.0	9.5	8.5	--	9.7	10.0
L317	8.6	10.5	10.2	10.5	11.0	8.5	9.0	9.7	--	10.5
Hy2	9.2	9.2	9.0	9.5	9.5	9.2	9.2	10.0	10.5	--
Mean	9.5	9.7	8.6	9.7	9.8	8.6	9.3	9.5	9.8	9.5
Ear Height, Inches										
R2	--	40	40	42	48	46	47	43	49	44
07	40	--	41	44	51	47	44	48	53	51
WF9	40	41	--	42	43	43	45	48	52	45
B10	42	44	42	--	48	48	47	48	54	49
38-11	48	51	43	48	--	50	48	48	57	54
Oh41	46	47	43	48	50	--	46	49	44	50
R61	47	44	45	47	48	46	--	44	47	49
187-2	43	48	48	48	48	49	44	--	56	49
L317	49	53	52	54	57	44	47	56	--	57
Hy2	44	51	45	49	54	50	49	49	57	--
Mean	44	47	44	47	50	47	46	48	52	50
Ears per Hundredweight, Number										
R2	--	171	145	132	125	126	132	188	137	133
07	171	--	136	120	133	139	139	143	156	141
WF9	145	136	--	111	123	120	117	125	127	126
B10	132	120	111	--	131	110	110	135	109	116
38-11	125	133	123	131	--	123	125	129	124	125
Oh41	126	139	120	110	123	--	150*/	131	182*/	137
R61	132	139	117	110	125	150*/	--	141	164*/	125
187-2	188	143	125	135	129	131	141	--	145	118
L317	137	156	127	109	124	182*/	164*/	145	--	121
Hy2	133	141	126	116	125	137	125	118	121	--
Mean	143	142	126	119	126	127	127	139	131	127

*Related; not included in mean.

Table 3 (cont.)

Parent lines	Ill. R2	Ohio 07	Ind. WF9	Iowa B10	Ind. 38-11	Ohio Oh41	Ill. R61	U.S. 187-2	Iowa L317	Ill. Hy2
Ears per Plant, Number										
R2	--	1.15	.95	1.07	.97	1.05	1.11	1.28	1.15	.98
07	1.15	--	.98	1.09	1.01	1.15	.98	1.10	1.32	1.06
WF9	.95	.98	--	.99	.98	1.04	.96	.95	1.01	.98
B10	1.07	1.09	.99	--	.95	1.04	1.03	1.01	1.01	1.00
38-11	.97	1.01	.98	.95	--	1.03	.98	.99	1.03	.94
Oh41	1.05	1.15	1.04	1.04	1.03	--	1.03	1.05	.93	1.03
R61	1.11	.98	.96	1.03	.98	1.03	--	1.09	.95	1.00
187-2	1.28	1.10	.95	1.01	.99	1.05	1.09	--	1.13	.99
L317	1.15	1.32	1.01	1.01	1.03	.93	.95	1.13	--	1.00
Hy2	.98	1.06	.98	1.00	.94	1.03	1.00	.99	1.00	--
Mean	1.08	1.09	.98	1.02	.99	1.04	1.01	1.07	1.06	1.00

Husk Left on Each Harvested Ear, Grams										
R2	--	1.0	2.5	6.5	2.5	5.5	3.5	1.5	3.0	2.0
07	1.0	--	4.0	6.0	0.5	7.0	5.0	2.5	4.5	2.0
WF9	2.5	4.0	--	7.5	1.0	5.5	4.0	3.0	3.0	1.0
B10	6.5	6.0	7.5	--	4.0	12.5	11.5	7.0	12.5	4.0
38-11	2.5	0.5	1.0	4.0	--	3.5	2.0	2.0	2.0	1.5
Oh41	5.5	7.0	5.5	12.5	3.5	--	<u>16.5*/</u>	2.5	<u>6.5*/</u>	18.0
R61	3.5	5.0	4.0	11.5	2.0	<u>16.5*/</u>	--	5.0	<u>9.5*/</u>	11.5
187-2	1.5	2.5	3.0	7.0	2.0	2.5	5.0	--	5.5	3.0
L317	3.0	4.5	3.0	12.5	2.0	<u>6.5*/</u>	<u>9.5*/</u>	5.5	--	5.0
Hy2	2.0	2.0	1.0	4.0	1.5	<u>18.0</u>	<u>11.5</u>	3.0	5.0	--
Mean	3.1	3.6	3.5	7.9	2.1	7.8	6.1	3.6	5.1	5.3

*Related; not included in mean.

A difference of less than 4.1 grams between any two single crosses is not significant.

Ears Left by Harvester, Percent										
R2	--	0	2	4	1	0	0	0	2	0
07	0	--	0	0	0	0	0	0	0	0
WF9	2	0	--	1	4	0	0	1	1	0
B10	4	0	1	--	2	0	3	1	5	3
38-11	1	0	4	2	--	0	3	1	2	0
Oh41	0	0	0	0	0	--	2	0	3	0
R61	0	0	0	3	3	2	--	1	7	2
187-2	0	0	1	1	1	0	1	--	--	1
L317	2	0	1	1	5	2	3	7	--	--
Hy2	0	0	0	0	3	0	0	2	1	--
Mean	1.0	0	1.0	1.3	2.1	0.4	1.3	1.4	2.4	0.7

Table 4.--LATE YELLOW SINGLE CROSSES (Ill. 448 Maturity)
 Scott and Fayette Counties, South Central Illinois, 1948
 (Means of four replications)

Parent lines	Kans. K4	U.S. CI.7	Ohio 07	Tenn. T8	Okla. Ok12	U.S. CI.21E	Ind. 38-11	Kans. K155	Kans. K201C	Kans. Kys
Acre Yield, Bushels										
K4	--	104	117	119	119	117	114	101	116	96
CI.7	104	--	96	106	98	106	100	100	99	97
07	117	96	--	104	--	111	105	104	112	100
T8	119	106	104	--	87	106	94	99	88	88
Ok12	119	98	--	87	--	113	103	100	92	100
CI.21E	117	106	111	106	113	--	107	105	108	107
38-11	114	100	105	94	103	107	--	105	97	98
K155	101	100	104	99	100	105	105	--	87	104
K201C	116	99	112	88	92	108	97	87	--	85
Kys	96	97	100	88	100	107	98	104	85	--
Mean	111	101	106	99	101	109	102	101	98	97
A difference of less than 9.9 bushels between any two single cross yields is not significant.										
Moisture in Grain at Harvest, Percent										
K4	--	24	19	22	23	24	18	22	22	23
CI.7	24	--	19	21	21	24	19	19	23	22
07	19	19	--	19	23	21	17	19	21	18
T8	22	21	19	--	23	23	19	20	22	23
Ok12	23	21	23	23	--	26	20	22	24	23
CI.21E	24	24	21	23	26	--	21	20	23	23
38-11	18	19	17	19	20	21	--	19	20	19
K155	22	19	19	20	22	20	19	--	22	20
K201C	22	23	21	22	24	23	20	22	--	25
Kys	23	22	18	23	23	23	19	20	25	--
Mean	22	21	20	21	23	23	19	20	22	22
Shelling Percentage										
K4	--	80	84	81	80	80	82	79	81	77
CI.7	80	--	83	80	81	80	79	81	80	78
07	84	83	--	85	81	81	82	82	81	83
T8	81	80	85	--	80	78	79	79	78	78
Ok12	80	81	81	80	--	80	80	80	77	80
CI.21E	80	80	81	78	80	--	76	77	78	77
38-11	82	79	82	79	80	76	--	80	78	78
K155	79	81	82	79	80	77	80	--	78	78
K201C	81	80	81	78	77	78	78	78	--	76
Kys	77	78	83	78	80	77	78	78	76	--
Mean	80	80	82	80	80	78	79	79	78	78

Table 4 (cont.)

Parent lines	Kans. K4	U.S. CI.7	Ohio 07	Tenn. T8	Okla. Ok12	U.S. CI.21E	Ind. 38-11	Kans. K155	Kans. K201C	Kans. Kys
Erect Plants at Harvest, Percent										
K4	--	98	86	93	99	96	94	98	95	95
CI.7	98	--	100	100	100	99	99	98	98	98
07	86	100	--	99	98	99	99	100	96	99
T8	93	100	99	--	87	100	100	99	99	98
Ok12	99	100	98	87	--	99	99	99	100	99
CI.21E	96	99	99	100	99	--	96	97	99	99
38-11	94	99	99	100	99	96	--	99	98	94
K155	98	98	100	99	99	97	99	--	99	99
K201C	95	98	96	99	100	99	98	99	--	99
Kys	95	98	99	98	99	99	94	99	99	--
Mean	95	99	97	97	98	98	98	99	98	98
Percent Perfect Stand										
K4	--	93	97	96	93	97	94	94	91	97
CI.7	93	--	93	100	98	91	82	93	85	90
07	97	93	--	94	93	92	86	89	94	88
T8	96	100	94	--	90	96	91	99	90	95
Ok12	93	98	93	90	--	96	94	95	92	93
CI.21E	97	91	92	96	96	--	95	96	95	100
38-11	94	82	86	91	94	95	--	94	87	87
K155	94	93	89	99	95	96	94	--	84	95
K201C	91	85	94	90	92	95	87	84	--	91
Kys	97	90	88	95	93	100	87	95	91	--
Mean	95	92	92	95	94	95	90	93	90	93
Plant Height, Feet										
K4	--	10.3	9.9	10.3	9.8	11.1	10.4	10.0	9.9	10.0
CI.7	10.3	--	9.4	10.0	9.6	10.4	9.6	10.0	9.6	10.0
07	9.9	9.4	--	9.6	11.9	9.9	10.0	9.4	9.4	9.6
T8	10.3	10.0	9.6	--	10.0	10.0	9.9	10.0	9.4	10.1
Ok12	9.8	9.6	11.9	10.0	--	10.0	9.7	9.5	9.6	10.0
CI.21E	11.1	10.4	9.9	10.0	10.0	--	10.6	10.4	9.7	10.2
38-11	10.4	9.6	10.0	9.9	9.7	10.6	--	9.9	9.2	10.1
K155	10.0	10.0	9.4	10.0	9.5	10.4	9.9	--	9.9	9.8
K201C	9.9	9.6	9.4	9.4	9.6	9.7	9.2	9.9	--	9.2
Kys	10.0	10.0	9.6	10.1	10.0	10.2	10.1	9.8	9.2	--
Mean	10.0	9.9	9.9	9.9	10.0	10.0	9.9	9.9	9.5	9.9

Table 4 (cont.)

Parent lines	Kans. K4	U.S. CI.7	Ohio 07	Tenn. T8	Okla. Ok12	U.S. CI.21E	Ind. 38-11	Kans. K155	Kans. K201C	Kans. Kys
Ear Height, Inches										
K4	--	52	44	52	48	53	52	51	55	52
CI.7	52	--	39	51	47	49	48	49	52	50
07	44	39	--	44	43	44	48	44	47	44
T8	52	51	44	--	48	47	51	53	51	52
Ok12	48	47	43	48	--	48	48	47	48	50
CI.21E	53	49	44	47	48	--	52	48	49	45
38-11	52	48	48	51	48	52	--	48	49	53
K155	51	49	44	53	47	48	48	--	51	53
K201C	55	52	47	51	48	49	49	51	--	52
Kys	52	50	44	52	50	45	53	53	52	--
Mean	51	48	44	50	47	48	50	49	50	50
Ears per Hundredweight, Number										
K4	--	120	183	161	176	132	144	153	159	165
CI.7	120	--	141	133	152	112	123	141	107	120
07	183	141	--	172	183	141	129	173	152	161
T8	161	133	172	--	152	127	134	147	133	148
Ok12	176	152	183	152	--	131	132	170	160	157
CI.21E	132	112	141	127	131	--	102	121	113	166
38-11	144	123	129	134	132	102	--	115	126	138
K155	153	141	173	147	170	121	115	--	130	143
K201C	159	107	152	133	160	113	126	130	--	129
Kys	165	120	161	148	157	166	138	143	129	--
Mean	155	128	159	145	157	127	127	144	134	147
Ears per Plant, Number										
K4	--	1.09	1.56	1.56	1.75	1.29	1.26	1.33	1.62	1.33
CI.7	1.09	--	1.04	1.05	1.18	1.02	1.02	1.06	1.00	1.05
07	1.56	1.04	--	1.35	1.84	1.35	1.10	1.43	1.39	1.29
T8	1.56	1.05	1.35	--	1.05	1.20	1.04	1.10	1.00	1.06
Ok12	1.75	1.18	1.84	1.05	--	1.30	1.09	1.42	1.36	1.34
CI.21E	1.29	1.02	1.35	1.20	1.30	--	.96	1.09	1.05	1.06
38-11	1.26	1.02	1.10	1.04	1.09	.96	--	.96	1.07	1.09
K155	1.33	1.06	1.43	1.10	1.42	1.09	.96	--	1.24	1.16
K201C	1.62	1.00	1.39	1.00	1.36	1.05	1.07	1.24	--	1.04
Kys	1.33	1.05	1.29	1.06	1.34	1.06	1.09	1.16	1.04	--
Mean	1.42	1.06	1.37	1.16	1.37	1.14	1.07	1.20	1.20	1.16

Table 5.--LATE WHITE SINGLE CROSSES (111. 448 Maturity)
 Scott and Fayette Counties, South Central Illinois, 1948
 (Means of four replications)

Parent lines	Mo. Mo2RF	Ind. H21	Mo. Mo22	Ky. Ky27	Ill. R30	Ind. 33-16	Ky. Ky49	U.S. CI.61	Kans. K64	Ky. Ky122
Acre Yield, Bushels										
Mo2RF	--	114	115	114	110	69*/	109	106	112	106
H21	114	--	125	117	127	102	121	120	120	--
Mo22	115	125	--	114	107	116	--	105	125	106
Ky27	114	117	114	--	118	119	110	115	114	105
R30	110	127	107	118	--	112	120	118	115	109
33-16	69*/	102	116	119	112	--	102	113	116	111
Ky49	109	121	--	110	120	102	--	107	120	112
CI.61	106	120	105	115	118	113	107	--	114	101
K64	112	120	125	114	115	116	120	114	--	111
Ky122	106	--	106	105	109	111	112	101	111	--
Mean	111	118	114	114	115	111	113	111	116	108

A difference of less than 11.4 bushels between any two single cross yields is not significant.

*Not included in mean.

Moisture in Grain at Harvest, Percent

Mo2RF	--	22	26	20	24	20	21	20	22	22
H21	22	--	26	21	22	21	21	20	24	22
Mo22	26	26	--	23	28	24	--	27	26	25
Ky27	20	21	23	--	20	19	20	20	19	21
R30	24	22	28	20	--	21	23	22	22	22
33-16	20	21	24	19	21	--	19	18	20	19
Ky49	21	21	--	20	23	19	--	23	21	22
CI.61	20	20	27	20	22	18	23	--	21	22
K64	22	24	26	19	22	20	21	21	--	22
Ky122	22	22	25	21	22	19	22	22	22	--
Mean	22	22	25	20	23	20	21	21	22	22

Shelling Percentage

Mo2RF	--	82	79	85	80	80	77	77	82	78
H21	82	--	80	84	83	82	82	80	83	80
Mo22	79	80	--	83	78	80	82	74	79	79
Ky27	85	84	83	--	84	84	83	82	84	82
R30	80	83	78	84	--	82	78	78	83	80
33-16	80	82	80	84	82	--	79	80	82	80
Ky49	77	82	82	83	78	79	--	77	79	76
CI.61	77	80	74	82	78	80	77	--	78	76
K64	82	83	79	84	83	82	79	78	--	80
Ky122	78	80	79	82	80	80	76	76	80	--
Mean	80	82	79	83	80	81	79	78	81	79

Table 5 (cont.)

Parent Lines	Mo. Mo2RF	Ind. H21	Mo. Mo22	Ky. Ky27	ILL. R30	Ind. 33-16	Ky. Ky49	U.S. CI.61	Kans. K64	Ky. Ky122
Erect Plants at Harvest, Percent										
Mo2RF	--	97	100	96	96	100	99	100	99	94
H21	97	--	100	99	97	100	96	100	100	99
Mo22	100	100	--	99	99	100	--	100	100	96
Ky27	96	99	99	--	99	97	97	99	98	97
R30	96	97	99	99	--	100	93	99	99	98
33-16	100	100	100	97	100	--	100	99	100	95
Ky49	99	96	--	97	93	100	--	100	98	97
CI.61	100	100	100	99	99	99	100	--	98	95
K64	99	100	100	98	99	100	98	98	--	97
Ky122	94	99	96	97	98	95	97	95	97	--
Mean	98	99	99	98	98	99	98	99	99	96
Percent Perfect Stand										
Mo2RF	--	96	100	98	99	93	97	94	98	98
H21	96	--	97	94	91	90	94	93	96	92
Mo22	100	97	--	98	89	99	--	90	98	98
Ky27	98	94	98	--	95	99	96	93	99	96
R30	99	91	89	95	--	100	98	96	99	99
33-16	93	90	99	99	100	--	96	92	99	100
Ky49	97	94	--	96	98	96	--	90	99	99
CI.61	94	93	90	93	96	92	90	--	97	94
K64	98	96	98	99	99	99	99	97	--	99
Ky122	98	92	98	96	99	100	99	94	99	--
Mean	97	94	96	96	96	96	96	93	98	97
Plant Height, Feet										
Mo2RF	--	9.8	10.3	9.8	9.1	8.6	10.4	10.2	10.4	10.4
H21	9.8	--	10.6	10.0	9.1	9.4	10.3	9.9	10.1	10.5
Mo22	10.3	10.6	--	10.1	9.5	9.5	--	10.2	9.7	10.5
Ky27	9.8	10.0	10.1	--	8.9	9.4	9.9	9.7	9.6	9.9
R30	9.1	9.1	9.5	8.9	--	8.5	9.5	9.6	9.1	9.7
33-16	8.6	9.4	9.5	9.4	8.5	--	10.0	9.7	9.9	9.9
Ky49	10.4	10.3	--	9.9	9.5	10.0	--	10.4	10.6	10.6
CI.61	10.2	9.9	10.2	9.7	9.6	9.7	10.4	--	10.1	10.2
K64	10.4	10.1	9.7	9.6	9.1	9.9	10.6	10.1	--	10.7
Ky122	10.4	10.5	10.5	9.9	9.7	9.9	10.6	10.2	10.7	--
Mean	9.9	10.0	10.0	9.7	9.2	9.4	10.2	10.0	10.0	10.3

Table 5 (cont.)

Parent lines	Mo. Mo2RF	Ind. H21	Mo. Mo22	Ky. Ky27	Ill. R30	Ind. 33-16	Ky. Ky49	U.S. CI.61	Kans. K64	Ky. Ky122
Ear Height, Inches										
Mo2RF	--	48	50	50	46	42	50	54	47	58
H21	48	--	53	48	43	43	48	49	46	54
Mo22	50	53	--	51	47	48	--	55	49	56
Ky27	50	48	51	--	41	46	46	49	46	52
R30	46	43	47	41	--	42	50	52	45	50
33-16	42	43	48	46	42	--	45	49	48	51
Ky49	50	48	--	46	50	45	--	51	51	52
CI.61	54	49	55	49	52	49	51	--	53	60
K64	47	46	49	46	45	48	51	53	--	58
Ky122	58	54	56	52	50	51	52	60	58	--
Mean	49	48	51	48	46	46	49	52	49	54
Ears per Hundredweight, Number										
Mo2RF	--	120	113	136	112	--	118	124	109	122
H21	120	--	118	106	94	109	111	110	107	106
Mo22	113	118	--	129	124	105	--	126	143	130
Ky27	136	106	129	--	110	124	109	115	135	118
R30	112	94	124	110	--	114	98	103	124	118
33-16	--	109	105	124	114	--	116	115	115	118
Ky49	118	111	--	109	98	116	--	112	119	107
CI.61	124	110	126	115	103	115	112	--	121	113
K64	109	107	143	135	124	115	119	121	--	113
Ky122	122	106	130	118	118	118	107	113	113	--
Mean	119	109	123	120	111	114	111	115	121	116
Ears per Plant, Number										
Mo2RF	--	1.09	1.13	1.13	1.00	.98	.98	1.11	1.00	1.02
H21	1.09	--	1.30	.98	.95	.95	1.02	1.08	1.02	1.01
Mo22	1.13	1.30	--	1.18	1.21	1.02	--	1.24	1.52	1.13
Ky27	1.13	.98	1.18	--	.97	1.07	.91	1.09	1.05	.94
R30	1.00	.95	1.21	.97	--	.97	.93	1.13	1.06	1.00
33-16	.98	.95	1.02	1.07	.97	--	.96	1.01	1.02	1.00
Ky49	.98	1.02	--	.91	.93	.96	--	1.10	1.16	.92
CI.61	1.11	1.08	1.24	1.09	1.13	1.01	1.10	--	1.12	.94
K64	1.00	1.02	1.52	1.05	1.06	1.02	1.16	1.12	--	1.01
Ky122	1.02	1.01	1.13	.94	1.00	1.00	.92	.94	1.01	--
Mean	1.05	1.04	1.22	1.03	1.02	1.00	1.00	1.09	1.11	1.00

Table 6.--DOUBLE CROSS HYBRIDS GROWN FOR COMPARISON WITH THE SINGLE CROSSES REPORTED IN TABLES 1 TO 5, INCLUSIVE

Hybrid	Acre yield of shelled corn (15.5%)	Moisture at harvest	Days to half-silk	Shelling	Erect plants	Stand	Height		Ears per cwt.	Ears per plant	Husk left on each ear	Ears left by harvester
							Plant	Ear				
Northern Illinois - May be compared with single crosses in Table 1.												
	bu.	%	no.	%	%	%	ft.	in.	no.	no.	gms.	%
Ill.1508	108	23		76	98	97	8.7	42	145	1.03		
Ill.101	90	24		80	99	88	8.5	36	181	.97		
Ill.751	89	24		77	99	93	8.5	42	162	1.00		
Ill.1481	80	22		78	99	99	8.7	44	197	1.00		
OhM15	73	20		82	95	97	8.4	41	206	.96		
North Central Illinois - May be compared with single crosses in Table 2.												
	bu.	%	no.	%	%	%	ft.	in.	no.	no.	gms.	%
U.S.13	104	25		77	95	99	9.9	50	132	.95		
Ill.1240	103	21		79	97	98	8.9	38	150	1.03		
Ill.1494	102	20		80	100	96	9.1	37	150	1.03		
Ill.21	100	23		79	98	100	9.5	44	139	.92		
Ill.1289	97	23		78	98	99	9.1	40	154	.96		
Iowa 939	85	20		81	93	93	8.9	42	158	.94		
Central Illinois - May be compared with single crosses in Table 3.												
	bu.	%	no.	%	%	%	ft.	in.	no.	no.	gms.	%
Ill.972A ¹	119	21	67	81	95	97	10.0	54	145	1.14	2.5	2.0
Ill.1416	118	22	66	80	99	100	9.0	43	132	1.03	4.0	1.0
Ill.273-1	116	19	67	81	97	99	9.7	47	141	1.07	1.0	1.0
U.S.13	113	22	67	80	96	97	10.0	54	133	.98	1.5	2.0
Ill.21	106	21	66	80	99	97	9.2	51	132	.92	2.5	2.5
South Central Illinois - May be compared with single crosses in Table 4.												
	bu.	%	no.	%	%	%	ft.	in.	no.	no.	gms.	%
Ill.1535B	113	24		79	87	92	10.4	55	125	1.22		
Ill.448	100	20		80	82	96	10.5	52	157	1.29		
U.S.13	98	18		80	98	97	9.4	42	138	1.01		
Ill.21	97	17		82	97	93	9.4	39	140	1.04		
Ill.1459	93	26		79	74	92	9.8	55	169	1.42		
South Central Illinois - May be compared with single crosses in Table 5.												
	bu.	%	no.	%	%	%	ft.	in.	no.	no.	gms.	%
Ill.200	113	18		82	96	97	9.7	46	131	1.10		
Ill.2216W	111	21		81	99	95	9.9	45	113	1.04		
Ill.448	110	20		81	98	98	10.5	52	131	1.15		
U.S.13	103	18		82	99	99	9.6	45	139	1.00		
U.S.537W	101	23		81	96	79	9.5	44	123	1.08		
K2275W	95	20		82	98	87	9.5	43	157	1.28		