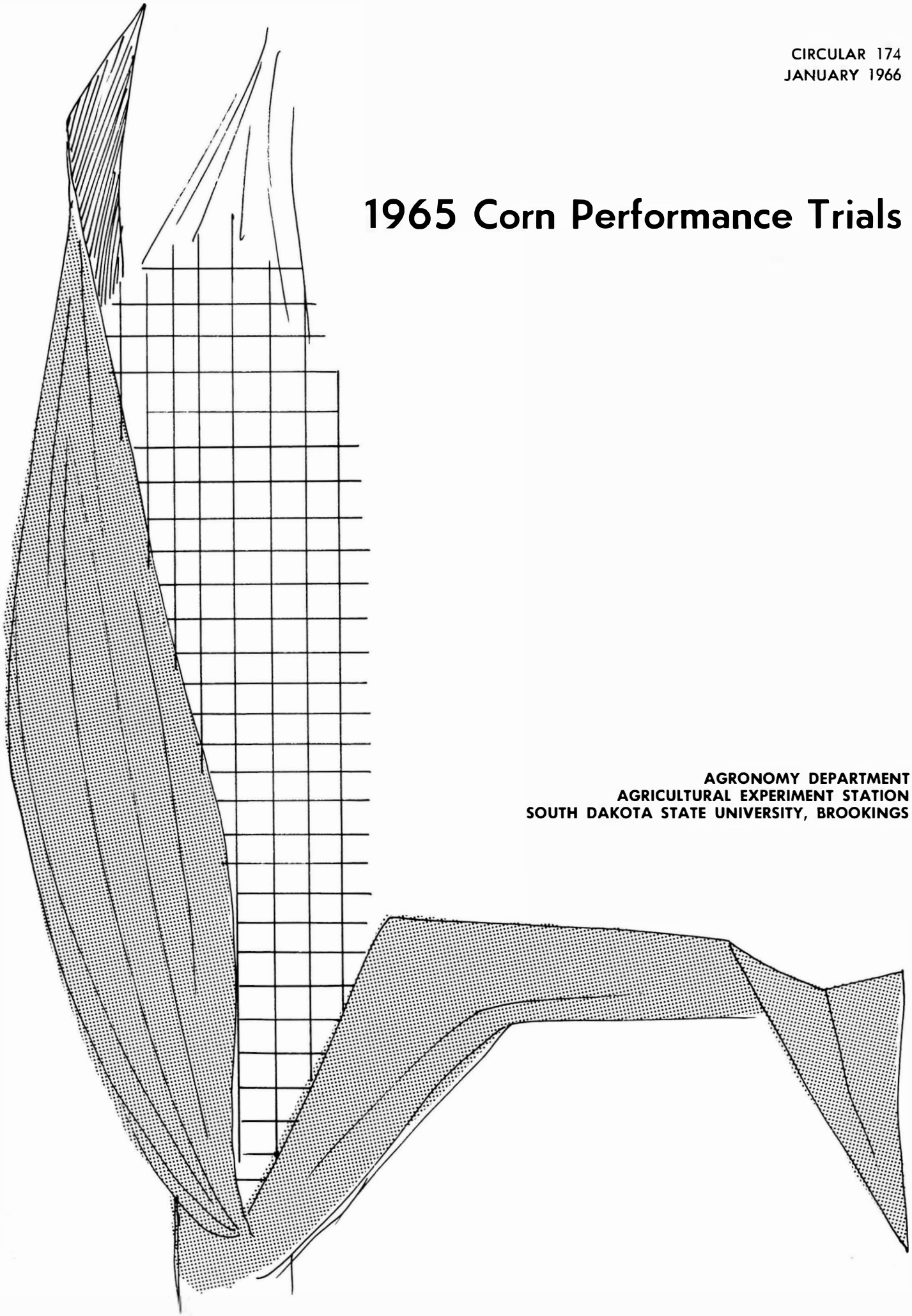
1-1966

1965 Corn Performance Trials

J. J. Bonnemann
South Dakota State University

CIRCULAR 174
JANUARY 1966

1965 Corn Performance Trials



AGRONOMY DEPARTMENT
AGRICULTURAL EXPERIMENT STATION
SOUTH DAKOTA STATE UNIVERSITY, BROOKINGS

1965 South Dakota Corn Performance Trials

J. J. Bonnemann, Assistant Agronomist

Agricultural Experiment Station
South Dakota State University
Brookings, South Dakota

The trials reported in this circular have been conducted under the supervision of the Crop Performance Testing Activity, Agricultural Experiment Station since 1961. Records of performance of the corn hybrids harvested in 1965 are presented as well as two-, three-, four- and five-year averages of yield and moisture percentages, where available.

The primary purpose of the tests is to supply interested individuals with information on the relative performance of the hybrids entered, when grown under similar environmental conditions. Information in the following tables includes acre grain yield in bushels, moisture percentage of either ear or shelled corn at harvest, performance score and other related information.

When choosing hybrids for use in this state one should refer to the trials conducted nearest to the area in which the hybrid is to be planted.

Location of the 1965 Trials

The trials were planted in the crop adaptation areas marked on the South Dakota map, page 7. The exact location of each trial, its soil type and date of seeding and harvesting are given in Table 1. Soil samples were taken at seeding time and the laboratory results are presented in Table 2.

Weather and Climatic Conditions

Table 3 shows the climatic data for the 1965 growing season at each test site based upon reports of Monthly Climatological Data, U. S. Department of Commerce and the supervisor of the Northeast Research Farm at Watertown. The D4 trial was within 1½ miles of the recording location east of Parkston.

Every reporting station had recorded temperatures below freezing by September 24. Adapted varieties would not usually be expected to suffer from below freezing temperatures by this date. However, very wet conditions delayed planting and below normal temperatures in May and early June prevented rapid spring growth. This, coupled with a dry August and a wet September, found even adapted varieties far from being physiologically mature. Following the freeze, even the corn that was near maturity failed to dry as rapidly as might normally be expected. Much of the corn in the state was harvested at high levels of moisture and mechanically dried before being stored.

The assistance of D. B. Shank, D. W. Beatty and Station Supervisors Albert Dittman, Lloyd Dye, Quentin Kingsley, Herb Lund, Jake Frederikson and Lenis Nelson is gratefully acknowledged. The help of Willard Konrad and Floyd Dimick, Off-station cooperators, is also appreciated.

TABLE 1. LOCATION AND SOIL TYPES OF THE 1965 CORN PERFORMANCE TRIALS

District Area	County	Location	Post office	Planted	Harvested
B2	McPherson	North Central Substation	Eureka	May 20	Oct. 14
C1	Spink	Redfield Devel. Farm, 6E	Redfield	May 20	Oct. 15
C2	Charles Mix	Floyd Dimick, 3E	Acadamy	May 18	*
D2	Codington	NE Research Farm, 15N	Watertown	May 21	Oct. 28
D3	Brookings	Agronomy Farm	Brookings	May 18	Oct. 26
D4	Hutchinson	Willard Konrad, 4E, 1S	Parkston	May 17	Oct. 11-2
E	Clay	SE Research Farm, 6W, 3S	Beresford	May 14	Oct. 21

	Soil type
B2	Williams loam
C1	Boetia-Harmony silty clay loam
D2	Kranzburg silt loam
D3	Vienna loam
D4	Houdek loam
E	Kranzburg silty clay loam

* hailed out on June 28

The trial planted in Charles Mix county received severe hail damage on June 28 and was not harvested. Moisture stress and several days of extremely high (110°) temperature caused severe setbacks to some entries in other trials, this being dependent upon the entries' stage of growth when these conditions were most severe.

Hybrid Entry Procedure

Hybrids entered are chosen by the participating commercial concerns and they designate the locations where their entries are to be tested. Only hybrids that had been registered with the South Dakota Department of Agriculture prior to February 1, 1965, were eligible for entry. A nominal fee was charged for each entry in each area except for entries included by Experiment Station personnel. Either closed or open-pedigree hybrids were eligible and each was allowed to be entered only once in each area.

A listing of the entries and the areas in which they were planted is included in Table 16.

TABLE 2. LABORATORY RESULTS OF SOIL SAMPLES TAKEN AT TIME OF SEEDING 1965 CORN TRIALS

Area	County	Texture	% O. M.	P	K	pH
				lbs/A		
B2	McPherson	loam	3.0	95	533	7.0
C1	Spink	silt loam	2.0	27	430	7.8
D2	Codington	silt loam	3.1	34	181	7.0
D4	Hutchinson	loam	2.1	11	389	7.1
E	Clay	silt loam	3.1	46	533	6.4

TABLE 3. PRECIPITATION AND TEMPERATURE FOR THE 1965 CORN GROWING SEASON OF SOUTH DAKOTA

Location and district	Month	Precipitation, inches: Month total	Precipitation, inches: Departure from normal	Precipitation, inches: Total departure	Temperature in degrees F.: Month mean temp.	Temperature in degrees F.: Departure from normal	Temperature in degrees F.: Average departure
Eureka	May	4.74	2.15		55.5	- 0.6	
	June	1.25	-2.38		63.7	- 1.3	
	July	1.19	-1.26		71.2	- 1.2	
Area	Aug.	2.10	-0.31		69.1	- 1.6	
B2	Sept.	2.23	0.91		47.3	-12.8	
	Oct.	0.66	-0.31		50.2	0.6	
		12.17		-1.20			-2.8
	Last freeze 30° - May 28				First frost 29° - Sept. 5		
Redfield	May	4.63			58.9		
6E	June	4.33			66.5		
	July	0.68			73.7		
Area	Aug.	1.12			71.6		
C1	Sept.	3.59			51.7		
	Oct.	0.40			52.2		
		14.75					
	Last freeze 27° - May 28				First frost 23° - Sept. 24		
NE Farm	May	6.08			54.9		
15N	June	3.66			62.6		
	July	2.34			69.3		
Area	Aug.	2.63			67.0		
D2	Sept.	4.33			47.0		
	Oct.	1.23			46.8		
		20.27					
	Last freeze 27° - May 29				First frost 29° - Sept. 24		
Brookings	May	5.06	2.27		56.9	- 0.7	
1E	June	4.04	0.09		65.1	- 2.0	
	July	0.89	-1.26		69.7	- 3.5	
Area	Aug.	1.20	-1.77		67.2	- 4.0	
D3	Sept.	5.01	2.98		50.2	-11.1	
	Oct.	0.27	-0.95		46.9	- 2.6	
		16.47		-1.36			-3.9
	Last freeze 30° - May 28				First frost 29° - Sept. 24		
Parkston	May	4.77	1.97		62.2		
5E	June	5.97	2.16		69.2		
	July	5.77	3.37		73.9		
Area	Aug.	1.49	-1.37		72.3		
D4	Sept.	4.79	2.57		54.4		
	Oct.	0.20	-0.96	7.74	53.7		
		22.99					
	Last freeze 31° - May 28				First frost 26° - Sept. 24		
SE Farm	May	6.02			63.8		
	June	6.87			69.8		
	July	2.99			72.9		
Area	Aug.	3.06			71.3		
E	Sept.	6.75			54.8		
	Oct.	0.94			53.8		
		26.63					
	Last freeze 32° - May 28				First frost 28° - Sept. 24		

Experimental Procedure

The entries included in each test were planted in five or six replications. One replication was planted for public observation and no data were taken from this area. Plots of individual hybrid entries were located at random within each replication. Available space, soil type and other related factors determined the plot size. All plots were two rows wide. The Area C1, C2 and D4 trials were planted as drilled corn to conform with farm practices. The remaining trial sites were hill planted. Drilled plots were eighter 22 or 27 feet long depending upon the total number of replications. The B2 trials were 6 hills deep in 42-inch rows. The D2 and D3 trials were 10 hills deep in 40-inch rows. The E trial was 8 hills deep in 40-inch rows.

The seeding rates were approximately equivalent to the following kernels per acre: B2, 7,100; C1, 10,750; C2, 10,200; D2 and D3, 11,750; D4, 13,060 and E, 15,700.

Corn rootworm infestations were not as heavy in 1965 as in 1964 but at the three trials where damage was serious in 1964, one of several currently recommended insecticides was applied. The choice was that of the operator and the availability of the product in his area. Atrazine was applied to the D3 and E trials for grassy weed control.

The test plots were hand picked separately and the ear corn weighed. Samples for moisture determination were taken from three replications of the plots. Moisture percentages were determined on ear corn at all locations except Areas D3 and E where moisture percentages were determined on shelled corn. The ear corn moisture samples were weighed, oven dried for 72 hours at 102° C. in the laboratory, reweighed and the moisture percentages determined. A minimum of 12 randomly selected ears from each plot were shelled in the field at the D3 and E sites, returned to the Main Station in sealed polyethylene bags and the moisture percentages determined with an electronic moisture tester.

Measurements of Performance

Yield. In each test the yield reported for each hybrid is the average obtained from field weights of all replications, expressed as bushels per acre of No. 2 corn at 15.5 percent moisture. Varieties of equal potential may yield differently because of variations in slope, soil fertility and stand. Mathematical determinations have been made to ascertain whether yield differences obtained were caused by variations in the environment or were true varietal differences.

If the trials were found to have statistically significant differences between mean yields at the five-percent level, Duncan's Multiple Range Test was run on the means. In the interpretation of Duncan's Test, those mean yields accompanied by the same lower case letter under the Statistical Significance column in the table are not considered to be statistically different in yield.

As an example of Duncan's Test, note in Table 4 that the varieties SD Exp. 39, SD 220 and down through SD 210 and DeKalb XL-302 are accompanied by the same lower case letter "a". These ten varieties in descending order are not statistically different in yield. All other varieties below DeKalb XL-302 are significantly lower in yield than SD Exp. 39. These statements are true only for this trial under conditions that prevailed during the 1965 cropping season. Average results from three or more years at the same location present the best picture of true yield differences.

Moisture Content. The moisture content of each entry at harvest time is expressed as the percent moisture in either the ear corn or the shelled corn. It was intended that the moisture percentages be determined on shelled corn in 1965 but excessive moisture in some trials prevented use of the moisture meter and it was necessary to revert to the former procedure of sectioning ear corn. Moisture content is inversely related to maturity and, because maturity is of prime consideration in South Dakota, these figures are very important when evaluating entries.

Performance Rating. For efficient and economic operation of a farm avoidable delays should be held to a minimum. Delaying the harvest and additional drying costs can be reduced if an operator can produce sound, dry corn. Grain yield and moisture percentages are of prime importance. Because of the importance of these two factors, the two primary results obtained in these trials are used to determine this rating.

In each test yields were converted to percentages by comparing them with the average yield of that test. Similar calculations were made for moisture at harvest time after first subtracting moisture content from 100 so that the varieties would be ranked according to their ability to produce sound, rather than soft corn.

The performance rankings that appear in the tables were calculated as follows:

$$\frac{(\text{Yield percentage} \times 6) \text{ plus } (\text{moisture percentage} \times 4)}{10}$$

Stand. At least two possibilities may be indicated when missing hills occur: seed of an entry was unable to produce a good stand under the environmental conditions prevailing for the trial, or something destroyed the young plants. Because this work is designed primarily to test the yield potential of the varieties, corrections in yield were made for missing hills according to the formula:

$$CW = \frac{FW\ (\ H - 0.3M\ )}{(\ H - M\ )}$$

where; CW - corrected weight, FW - field weight, H - number of hills planted per plot, and M - number of hills missing. No corrections were attempted for drilled plantings or for minor stand variations, that is fewer than three stalks per hill.

Lodging. Root lodging and stalk breakage were variable during 1965. Where lodging or breakage was serious and a probable deterrent to higher yields and ease of harvesting, the percentages are shown in the tables. Root lodging was minor at most locations. Stalk lodging and ear droppage were increased by high velocity winds in early October. All percentages reported are calculated as the average of ears dropped or of plants lodged or broken per plot. R.L. or S.B. in the tables indicates the plants Root Lodged or Stalks Broken. E.D. denotes the percentage of Ears Dropped.

Use of the Tables. South Dakota conditions are generally quite different than in the mid-western corn belt. Many of the crop-adaptation areas have conditions common to the northern plains; limited frost-free growing periods, limited precipitation and high temperatures. Corn hybrids that yield satisfactorily and produce corn that can be stored without additional costly handling are desirable. The performance score provides information on both these factors in a weighted fashion.

In choosing a hybrid, first check those yielding best. Then look for the entries with below average moisture. Having done this, compare those that are above average in yield and below average in moisture. The results will generally be similar to that calculated by the performance score.

Maturity, yield, quality and standability all merit consideration when buying seed corn. It is sound practice to plant more than one hybrid. When planting a new hybrid the acreage should be limited until its adaptability to the environment on the particular farm is known.

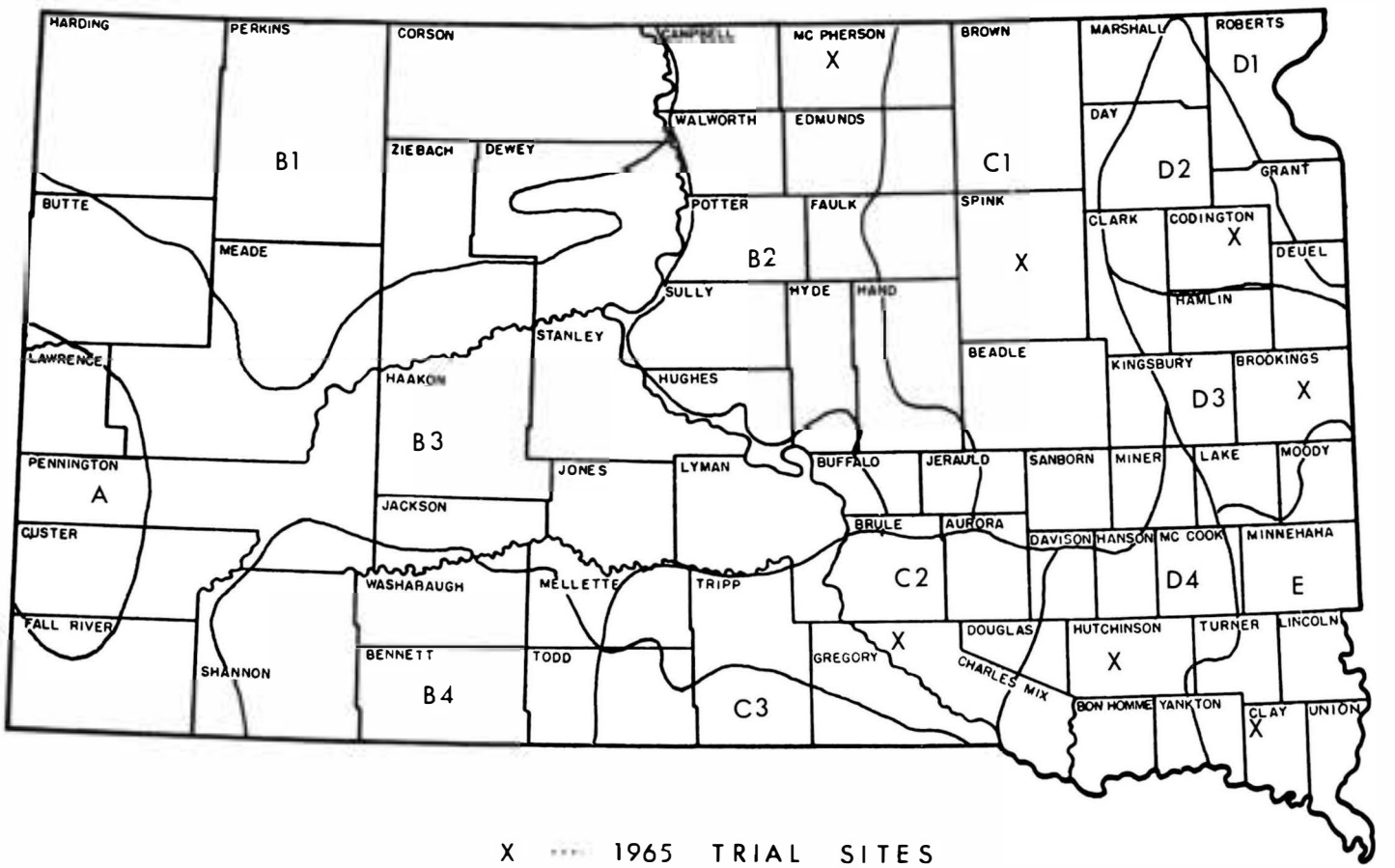


TABLE 4. CORN PERFORMANCE TRAIL, AREA B2, NORTH CENTRAL SUBSTATION, EUREKA, 1965

Variety	Performance rating	Percent R.L.	Percent S.B.	Yield, bu/ac	Percent moisture ear corn	Statistical Significance
SD Exp 39 (4x)	1	0	33	36.4	32.1	a
SD 220 (4x)	2	0	20	33.9	28.9	ab
Master F-15 (4x)	3	0	13	33.8	28.7	abc
Sokota 225 (4x)	4	0	24	33.4	29.0	abc
DeKalb XL-304 (3x)	8	0	2	33.1	39.8	abc
DeKalb XL-307 (3x)	6	0	5	32.2	33.8	abcd
SD 248 (3x)	13	0	12	31.9	43.0	abcd
DeKalb XL-315 (3x)	14	0	17	31.4	43.6	abcde
SD 210 (4x)	5	0	31	31.0	29.3	abcdef
DeKalb XL-302 (3x)	7	0	21	31.0	32.9	abcdef
Sokota TS-50 (2x)	9	0	6	30.2	33.4	bcdefg
SD Exp 44 (4x)	10	0	21	30.0	33.3	bcdefgh
Pioneer 391 (4x)	12	0	13	29.5	33.4	bcdefgh
Pioneer 3862 (4x)	16	2	19	29.4	38.7	bcdefgh
Master F-19 (4x)	11	0	15	28.6	28.8	bcdefgh
Pioneer 388 (4x)	18	2	23	28.6	38.8	bcdefgh
SD Exp 43 (4x)	15	0	44	28.0	34.0	bcdefgh
Pioneer 3854 (4x)	17	0	26	27.8	33.9	bcdefghi
SD 240 (4x)	22	2	36	27.5	41.1	cdefghi
Pioneer 3812 (4x)	21	0	19	27.4	40.1	cdefghi
Master F-31A (4x)	19	0	12	27.3	36.7	cdefghi
Northrup-King KE 435 (4x)	20	0	37	25.4	33.3	defghij
DeKalb 45 (4x)	23	0	10	24.8	33.6	efghij
Master F-30 (4x)	24	0	9	24.5	37.6	efghij
Pioneer 385 (4x)	27	16	12	23.9	51.6	fghij
Pioneer 384 (4x)	26	5	10	23.1	43.9	ghij
SD 250 (4x)	25	0	37	22.8	40.3	hij
DeKalb 59 (4x)	28	3	23	20.5	51.0	ij
Master FX-350 (3x)	29	0	24	19.0	48.8	j
			Mean	28.4	37.1	

CV-16.9%

TABLE 5. TWO-, THREE-, AND FOUR-YEAR YIELD AND MOISTURE PERCENTAGE AVERAGES OF HYBRIDS ENTERED IN THE AREA B2 TRIAL, 1962-1965

Variety	Yield, bushels per acre			Percent moisture		
	1962-65	1963-65	1964-65	1962-65	1963-65	1964-65
DeKalb 45			28.4			26.4
Master F-15			31.5			26.6
Master F-30		26.8	27.2		26.8	32.4
Master F-31A		28.4	30.0		25.6	31.2
N-K KE 435			27.8			27.9
Pioneer 3812		28.5	30.4		29.4	35.3
Pioneer 384	36.0	26.8	27.3	32.1	30.2	37.5
Pioneer 385	39.1	27.9	28.1	34.7	34.7	41.3
Pioneer 3854			27.8			28.4
Pioneer 3862	35.0	28.5	29.4	27.2	25.8	31.9
Pioneer 388	34.9	27.2	29.5	27.4	27.1	33.3
Pioneer 391	33.9	31.2	32.4	25.8	24.7	28.4
Sokota 225		30.3	32.0		20.2	25.4
SD 210	33.3	28.4	31.6	22.6	21.8	25.9
SD 220	35.1	28.8	31.9	24.0	21.6	25.3
SD 240	38.9	31.0	30.9	30.0	28.3	34.8
SD 250	35.6	26.9	26.5	30.5	29.0	34.4
SD Exp 43			31.5			27.3
SD Exp 44			30.3			29.3

TABLE 6. AREA D2 CORN PERFORMANCE TRIAL, NORTHEAST RESEARCH FARM, WATERTOWN, 1965

Variety	Performance rating	Percent R.L.	Percent S.B.	Yield, bu/ac	Percent moisture ear corn	Statistical significance
SD Exp 48 (4x)	4	0	5	48.8	35.4	a
Pioneer 3862 (4x)	1	0	2	48.6	32.8	ab
SD Exp 39 (4x)	3	0	12	48.4	34.1	abc
Sokota 225 (4x)	2	0	6	46.4	28.5	abcd
DeKalb XL-315 (3x)	18	0	9	46.4	42.5	abcd
Sokota TS-50 (2x)	10	0	2	46.2	35.8	abcde
Master F-30 (4x)	7	0	1	46.0	33.8	abcde
SD Exp 55 (4x)	5	0	12	45.9	31.3	abcde
Pioneer 388 (4x)	12	0	0	45.9	36.4	abcde
Pioneer 3812 (4x)	17	0	1	45.6	40.0	abcde
SD 248 (3x)	23	0	4	45.6	46.3	abcde
DeKalb XL-307 (3x)	13	0	0	45.5	36.4	abcde
DeKalb XL-304 (3x)	8	0	1	45.4	33.3	abcde
Pioneer 3854 (4x)	14	0	1	45.1	35.8	bcdef
Pioneer 3681 (4x)	21	0	2	45.0	42.4	bcdef
Northrup-King PX 487 (3x)	20	0	4	44.7	41.1	cdefg
SD 210 (4x)	6	0	4	44.4	28.6	defgh
SD 220 (4x)	9	0	11	44.2	31.3	defgh
DeKalb XL-302 (3x)	11	0	1	44.2	31.9	defgh
DeKalb 59 (4x)	25	0	3	44.2	46.7	defgh
Master F-66 (4x)	22	0	12	43.7	40.2	defghi
Northrup-King PX 481 (3x)	19	0	4	43.4	38.3	defghi
Master F-34 (4x)	24	0	2	43.3	44.0	defghi
Sokota 255 (4x)	15	0	1	43.1	33.8	defghi
Pioneer 384 (4x)	26	0	1	43.1	44.5	defghi
Master F-70 (4x)	31	0	3	42.9	51.2	defghi
Master F-31A (4x)	16	0	1	42.3	32.1	efghi
Northrup-King KE 449 (4x)	27	0	5	41.0	40.3	fghij
Northrup-King KE 497 (4x)	32	0	4	40.8	49.0	fghij
SD 240 (4x)	28	0	20	40.5	39.8	ghijk
Pioneer 385 (4x)	34	0	2	40.2	52.5	hijk
Master FX-450 (3x)	30	0	1	39.4	42.2	ijk
DeKalb 45 (4x)	29	0	2	36.7	35.6	jkl
United-Hagie X126 (2x)	33	0	1	36.7	41.8	jkl
Master FX-350 (3x)	35	0	2	36.3	46.5	kl
United-Hagie X138B (2x)	38	0	1	34.0	66.0	l
United-Hagie X130 (2x)	37	0	2	33.2	57.2	l
Pioneer 3670 (4x)	36	0	2	32.7	51.7	l
			Mean	42.9	40.3	

CV-5.9%

TABLE 7. TWO-, THREE-, FOUR-, AND FIVE-YEAR AVERAGE YIELD AND MOISTURE PERCENTAGE AVERAGES OF HYBRIDS ENTERED IN THE AREA D2 TRIAL, 1961-1965

Variety	Yields, bushels per acre				Percent moisture			
	1961-65	1962-65	1963-65	1964-65	1961-65	1962-65	1963-65	1964-65
DeKalb 59			55.9	40.7			36.9	39.0
Master F-30			53.7	40.9			28.6	28.6
Master F-31A			50.2	37.8			26.8	27.9
Master F-34			55.4	40.2			34.7	36.5
Master F-70			54.8	38.9			39.8	41.0
Northrup-King KE 449				39.6				33.1
Northrup-King KE 497				33.8				39.1
Northrup-King PX 481				37.7				33.4
Northrup-King PX 487				41.6				33.5
Pioneer 3681				39.4				34.1
Pioneer 3812			57.5	42.0			31.9	32.4
Pioneer 384	54.6	51.8	53.3	40.8	38.0	37.1	34.4	34.6
Pioneer 385		55.9	56.9	44.2		42.3	38.2	41.5
Pioneer 3854				44.0				26.9
Pioneer 3862		53.3	55.1	44.1		31.0	26.7	26.9
Pioneer 388	52.2	50.6	51.4	39.2	34.3	28.5	30.1	31.2
Sokota 225			55.0	46.0			25.3	24.1
Sokota 255		53.6	56.4	40.7		32.4	30.9	28.3
Sokota TS-50				43.7				30.5
SD 210	52.3	49.6	51.0	41.7	30.5	28.9	25.7	25.1
SD 220	53.4	51.2	52.5	43.3	30.8	29.1	26.6	26.1
SD 240	55.0	54.2	56.8	42.0	37.1	36.0	33.4	33.3
SD 248				41.7				36.1
SD Exp 39		59.2	60.9	46.2		32.6	30.1	29.7

TABLE 8. AREA D3 CORN PERFORMANCE TRIAL, AGRONOMY FARM, BROOKINGS, 1965

Variety	Performance rating	Percent R.L.	Percent S.B.	Percent E.D.	Yield, bu/ac	Percent moisture	Statistical significance
United-Hagie X138B (2x)	4	0	1	0	91.1	31.4	a
SD Exp 53 (3x)	3	0	9	0	90.5	27.2	a
Pioneer 3681 (4x)	2	0	3	1	89.5	24.6	ab
Sokota TS-50 (2x)	1	0	0	0	88.4	20.8	abc
Pioneer 385 (4x)	5	0	5	2	87.4	26.8	abcd
Pioneer 3775 (2x)	7	0	0	1	86.8	28.8	abcde
DeKalb XL-45 (2x)	8	0	0	0	86.1	29.7	abcdef
SD 248 (3x)	6	0	2	0	84.6	25.3	abcdefg
SD Exp 54 (4x)	10	0	2	0	83.6	28.2	abcdefgh
DeKalb XL-315 (3x)	9	0	7	1	81.3	24.9	bcdefghi
Pioneer 376 (4x)	22	0	1	1	81.3	32.7	bcdefghi
Pioneer 3622 (4x)	18	0	4	3	81.0	30.1	bcdefghij
DeKalb 59 (4x)	13	0	2	0	80.6	28.5	cdefghij
Master FX-500 (3x)	21	0	1	1	80.0	30.1	cdefghijk
Northrup-King KE 497 (4x)	20	0	2	0	79.6	29.5	defghijk
Pioneer 3658 (4x)	17	0	1	4	79.5	28.0	defghijk
Northrup-King PX 487 (3x)	12	0	5	0	79.2	25.5	defghijk
Pioneer 368-A (4x)	26	0	1	0	79.2	32.1	defghijk
DeKalb 224 (4x)	27	0	4	1	79.2	32.3	defghijk
United-Hagie X130 (2x)	31	0	1	0	78.5	33.9	efghijk
United-Hagie X126 (2x)	11	0	7	1	78.3	23.6	efghijk
Minn. 515 (4x)	14	0	1	0	78.1	25.1	efghijk
Master FX-450 (3x)	15	0	0	1	77.4	24.3	fghijkl
Master F-34 (4x)	16	0	2	0	77.3	25.0	fghijkl
Northrup-King KM 567 (4x)	41	0	0	0	76.3	36.2	ghijkl
Disco 1020 (4x)	30	0	0	1	76.1	30.6	ghijkl
Sokota SK-65 (3x)	19	0	7	3	75.6	23.3	ghijkl
Minn. 313 (3x)	25	0	1	1	75.5	25.8	ghijkl
DeKalb XL-325 (3x)	36	0	0	0	75.3	32.9	hijkl
Disco 1030 (4x)	34	0	0	0	75.0	32.2	hijkl
Master F-70 (4x)	42	0	0	0	74.7	34.3	hijkl
Master F-80 (4x)	33	0	1	1	74.6	31.5	hijkl
DeKalb 222 (4x)	39	0	0	0	74.4	32.4	hijkl
Disco 101-A (4x)	32	0	1	1	74.0	28.1	ijkl
United-Hagie X129A (2x)	38	0	0	0	74.0	31.8	ijkl
Northrup-King KM 555 (4x)	40	0	1	0	73.8	31.8	ijkl
SD 250 (4x)	23	0	3	0	73.5	22.7	ijkl
Pioneer 3670 (4x)	28	0	1	1	73.1	25.8	ijkl
Northrup-King PX 481 (3x)	29	0	6	1	73.1	26.3	ijkl
Sokota 255 (4x)	24	0	5	1	72.8	22.0	ijkl
Minn. 519 (4x)	37	0	1	0	72.8	30.0	ijkl
SD Exp 56 (3x)	35	0	3	1	71.6	27.6	jkl
United-Hagie 3H30 (3x)	43	0	1	0	71.0	34.2	kl
Sokota 407 (4x)	44	0	1	1	67.7	35.1	l
				Mean	78.5	28.7	

CV-7.0%

TABLE 9. TWO-, THREE-, FOUR-, AND FIVE-YEAR YIELD AND MOISTURE PERCENTAGE AVERAGES OF HYBRIDS ENTERED IN THE AREA D3 TRIAL FROM 1961-1965

Variety	Yield, bushels per acre				Percent moisture			
	1961-65	1962-65	1963-65	1964-65	1961-65	1962-65	1963-65	1964-65
DeKalb 59		88.9	90.1	83.6		30.0	28.8	31.0
DeKalb 222		90.7	91.6	80.0		32.4	32.1	34.1
DeKalb 224				84.2				32.5
DeKalb XL-45				84.7				32.8
DeKalb XL-325				78.2				35.5
Disco 101A	86.4	83.9	84.6	77.8	30.8	31.3	27.2	31.4
Disco 1030			88.7	77.1			34.4	35.8
Master F-34				74.1				29.6
Master F-70			86.5	78.3			32.9	34.9
Master F-80			85.5	77.8			32.1	33.0
Minn. 313				82.2				28.2
Minn. 515				78.2				29.4
Minn. 519				74.1				32.0
Northrup-King KE 497				80.5				31.7
Northrup-King KM 555				80.3				33.7
Northrup-King KM 567				74.9				36.6
Northrup-King PX 481				73.6				29.2
Northrup-King PX 487				80.5				28.7
Pioneer 3622				87.4				32.9
Pioneer 3658			99.3	83.6			29.3	31.2
Pioneer 3681				86.4				27.0
Pioneer 368-A			92.9	82.9			32.0	33.5
Pioneer 376	95.5	94.4	95.2	85.5	33.3	33.5	33.6	35.6
Pioneer 3775		90.6	93.4	86.3		31.8	30.8	30.9
Pioneer 385			93.0	88.7			27.4	28.5
Sokota 255		82.9	84.1	77.7		25.7	24.1	24.6
Sokota 407		86.3	87.2	73.7		33.3	33.4	36.1
Sokota TS-50				86.4				25.1
United-Hagie X126				82.1				25.1
United-Hagie X130				82.5				36.3
United-Hagie X138B				87.2				38.3
SD 248			92.7	88.1			24.9	26.3
SD 250	82.7	81.3	88.8	77.9	26.4	25.9	25.2	26.4

TABLE 10. AREA D4 CORN PERFORMANCE TRIAL, WILLARD KONRAD FARM, PARKSTON, 1962-1965

Variety	Performance rating	Percent		Yield, bu/ac	Percent moisture ear corn	Statistical significance
		R.L.	S.B.			
DeKalb XL-341 (3x)	2	0	0	86.5	36.2	a
Pioneer 3291 (4x)	5	0	0	86.2	38.6	a
Pioneer 362 (4x)	1	0	0	85.6	32.1	ab
Pioneer 3465 (4x)	3	0	0	82.7	31.3	abc
Pioneer 3414 (4x)	7	0	0	82.2	35.3	abcd
Sokota 623 (4x)	6	0	0	81.2	33.4	abcde
SD Exp 45 (4x)	8	0	0	80.9	35.3	abcdef
DeKalb XL-325 (3x)	4	0	0	80.8	29.8	abcdef
DeKalb XL-45 (2x)	12	0	0	79.4	34.1	abcdef
Master F-110 (4x)	9	0	0	77.6	30.9	abcdefg
Northrup-King PX 66 (2x)	13	0	0	76.9	36.9	abcdefgh
Pioneer 3558 (2x)	11	0	1	76.8	30.0	abcdefgh
Nebr. 202 (4x)	10	0	0	76.2	29.0	abcdefgh
Green Acres X1001 (4x)	19	0	0	74.9	40.0	abcdefgh
Disco 1050 (4x)	15	0	0	74.5	34.6	abcdefghi
Green Acres X1003 (4x)	18	0	0	72.9	36.3	abcdefghij
Pioneer 3510 (2x)	21	0	0	71.8	37.0	abcdefghij
DeKalb XL-346 (3x)	20	0	0	70.9	34.6	abcdefghij
SD 622 (4x)	22	0	1	70.4	35.2	abcdefghij
Master F-80 (4x)	14	0	0	70.3	27.7	abcdefghij
Master FX-500 (3x)	16	0	0	70.2	28.8	abcdefghij
Minn. 313	17	0	0	67.2	24.5	bcdefghijk
Northrup-King KT 623 (4x)	26	0	0	67.2	35.9	bcdefghijk
Iowa 5063 (4x)	25	0	0	66.6	31.7	bcdefghijk
Sokota MS 75 (2x)	23	0	0	65.8	30.0	cdefghijk
Nebr. 501D (4x)	31	0	0	64.6	37.6	cdefghijk
Pioneer 328 (4x)	35	0	0	63.8	38.8	cdefghijk
Sokota 625 (4x)	30	0	0	63.6	35.1	cdefghijk
DeKalb 415A (4x)	29	0	0	63.2	33.0	cdefghijk
Disco 1090 (4x)	34	0	0	62.6	37.0	defghijk
Sokota 463 (4x)	28	0	0	62.4	30.8	defghijk
Pioneer 3418 (4x)	32	0	0	62.3	34.9	defghijk
Master F-70 (4x)	27	0	0	61.9	29.0	defghijk
Northrup-King KT 623A (4x)	36	0	0	61.1	35.8	efghijk
Master FX-450 (3x)	24	0	0	60.3	22.5	fghijk
Disco 112-A (4x)	38	0	0	58.0	34.9	ghijk
Master F-109 (4x)	33	0	0	57.6	28.7	ghijk
DeKalb 441 (4x)	40	0	0	57.0	37.1	ghijk
Northrup-King KM 589 (4x)	41	0	0	56.1	36.8	hijk
Minn. 515 (4x)	37	0	0	53.1	25.8	ijk
Minn. 519 (4x)	39	0	0	52.6	29.5	jk
SD Exp 46 (4x)	42	0	0	45.3	28.7	k
			Mean	69.1	33.0	

CV-20%

TABLE 11. TWO-, THREE-, AND FOUR-YEAR YIELD AND MOISTURE PERCENTAGE AVERAGES OF HYBRIDS ENTERED IN THE AREA D4 TRIAL FROM 1962-1965

Variety	Yield, bushels per acre			Percent moisture		
	1962-65	1963-65	1964-65	1962-65	1963-65	1964-65
DeKalb 415A			60.6			28.0
DeKalb 441		73.4	56.3		28.7	31.4
DeKalb XL-45			71.5			28.4
Disco 112-A			48.0			31.8
Disco 1090		67.9	48.6		28.0	30.2
Iowa 5063	70.7	70.2	51.8	26.4	26.5	29.1
Master F-80		67.4	54.0		22.8	24.4
Minn. 313			51.3			22.9
Minn. 515			50.7			24.6
Minn. 519			47.3			25.3
Nebr. 202	66.2	66.5	58.3	24.7	25.2	27.1
Northrup-King KM 589			60.1			29.7
Northrup-King KT 623			49.7			35.4
Northrup-King KT 623A			60.1			34.1
Northrup-King PX 66			69.2			31.3
Pioneer 328	73.6	72.7	49.0	32.0	32.5	36.2
Pioneer 3291			74.8			34.1
Pioneer 3414			69.3			31.4
Pioneer 3418			59.8			31.1
Pioneer 3510			67.7			33.6
Pioneer 3558		78.4	52.1		27.4	30.7
Pioneer 362	76.6	80.3	65.3	24.9	24.9	28.0
Sokota 463			53.6			26.8
Sokota 625	68.8	85.6	55.9	28.0	28.7	30.3
Sokota MS-75			52.5			27.0
SD Exp 45			68.5			31.7
SD Exp 46			48.6			24.7

TABLE 12. AREA E CORN PERFORMANCE TRIAL, SOUTHEAST RESEARCH FARM, BERESFORD, 1965

Variety	Performance rating	Percent R.L.	Percent S.B.	Percent E.D.	Yield, bu/ac	Percent moisture	Statistical significance
Pioneer 3414 (4x)	1	1	9	3	132.5	23.8	a
United-Hagie UH X147 (2x)	2	0	1	2	132.1	25.6	ab
Pioneer 3510 (2x)	3	0	6	1	131.0	27.0	abc
DeKalb XL-362 (3x)	4	0	4	1	126.0	27.2	abcd
Northrup-King PX 66 (2x)	6	1	9	2	123.0	25.6	bcde
SD Exp 45 (4x)	7	0	10	1	122.1	25.1	cdef
Pioneer 3206 (4x)	8	0	3	2	122.0	28.0	cdef
Pioneer 3558 (2x)	5	0	8	0	121.4	23.2	defg
Pioneer 3291 (4x)	9	0	3	1	121.1	27.8	defgh
Pfister PAG SX 29 (2x)	10	0	4	4	118.5	28.8	defghi
DeKalb 441A (4x)	14	0	4	1	117.1	25.6	defghij
United-Hagie UH X142 (2x)	23	0	2	2	117.0	28.1	defghij
DeKalb XL-65 (2x)	12	0	1	1	116.8	25.2	defghij
Northrup-King KT 623 (4x)	17	0	9	4	116.1	25.4	efghijk
United-Hagie UH X152A (2x)	37	1	6	2	116.1	31.0	efghijk
Pioneer 328 (4x)	28	0	4	2	115.6	28.5	efghijkl
DeKalb XL-45 (2x)	11	0	1	1	115.5	23.8	efghijklm
United-Hagie UH 1580 (2x)	43	0	8	3	115.5	32.1	efghijklm
Sokota MS 75 (2x)	16	0	4	1	114.6	23.9	efghijklm
Pioneer 3418 (4x)	22	0	2	1	114.5	25.4	efghijklm
DeKalb 441 (4x)	25	1	2	2	114.5	26.1	efghijklm
Sokota 623 (4x)	21	1	5	3	114.3	24.8	efghijklm
Pfister PAG SX 66 (2x)	10	0	15	0	114.2	22.5	efghijklmn
SD Exp 46 (4x)	13	1	10	1	114.2	22.7	efghijklmn
United-Hagie UH 1500 (2x)	30	1	3	2	114.2	27.4	efghijklmn
Disco 111-AA (4x)	19	0	8	4	114.1	24.4	efghijklmn
Disco 112-A (4x)	18	1	6	1	113.9	24.1	efghijklmn
Nebr. 202 (4x)	15	0	27	1	113.7	22.7	efghijklmn
DeKalb XL-361 (3x)	27	0	8	1	113.6	25.6	efghijklmn
Nebr. 501D (4x)	36	0	22	2	113.6	27.7	efghijklmn
Pioneer 3306 (2x)	46	0	1	0	113.3	32.0	efghijklmn
Sokota 625 (4x)	26	0	5	1	112.7	24.5	fghijklmn
Green Acres 462 (4x)	35	0	11	3	112.4	26.2	fghijklmn
Northrup-King KM 589 (4x)	29	1	5	1	111.5	24.6	ghijklmn
Minn. 417 (4x)	24	0	9	0	111.4	22.7	ghijklmn
SD 604 (4x)	34	0	40	3	111.1	24.9	hijklmn
Northrup-King KT 623A (4x)	38	0	18	3	110.8	26.5	hijklmn
Disco 115-A (4x)	39	0	2	2	110.1	25.8	ijklmn
Green Acres X1000 (4x)	50	0	5	2	110.0	30.5	ijklmn
Master F-109 (4x)	32	0	4	0	109.7	23.4	ijklmn
United-Hagie UH 158 (2x)	41	0	5	4	109.7	26.3	ijklmn
Pfister PAG 272 (3x)	33	0	8	0	109.6	23.4	ijklmn

Continued next page

TABLE 12 (Continued)

Variety	Performance rating	Percent R.L.	Percent S.B.	Percent E.D.	Yield, bu/ac	Percent moisture	Statistical significance
Pfister PAG 70 (4x)	31	0	8	0	109.1	22.8	ijklmn
Disco 1090 (4x)	42	0	6	1	108.9	25.6	ijklmn
Pfister PAG 393 (3x)	45	0	5	3	108.7	26.2	ijklmn
Green Acres X1001 (4x)	49	1	5	2	107.8	28.1	jklmn
Sokota 675 (4x)	53	0	6	2	107.5	29.2	jklmn
Pfister PAG 348 (4x)	47	0	4	5	107.1	26.0	jklmn
Master FX-500 (3x)	40	1	6	1	105.8	22.0	klmn
Minn. 301 (3x)	44	0	6	1	105.0	21.9	lmn
Master F-110 (4x)	52	2	12	2	105.0	26.3	lmn
SD 622 (4x)	48	0	7	1	104.8	25.1	mn
Iowa 5063 (4x)	51	0	15	0	103.3	24.0	n
				Mean	114.2	25.8	

CV-5.5%

TABLE 13. TWO-, THREE-, FOUR-, AND FIVE-YEAR YIELD AND MOISTURE PERCENTAGE AVERAGES OF HYBRIDS ENTERED IN THE AREA E TRIAL, 1961-1965

Variety	Yield, bushels per acre				Percent moisture			
	1961-65	1962-65	1963-65	1964-65	1961-65	1962-65	1963-65	1964-65
DeKalb 441			105.6	105.3			21.5	23.1
DeKalb 441A				103.8				22.9
DeKalb XL-65				102.3				23.8
DeKalb XL-361				106.4				25.5
DeKalb XL-362				109.0				25.8
Disco 1090			98.4	96.6			21.3	21.8
Disco 112-A	101.4	105.6	100.8	97.3	21.9	21.9	20.8	22.3
Iowa 5063		99.9	99.2	96.0		22.8	20.5	20.9
Minn. 301				96.8				17.3
Minn. 417				102.3				20.4
Nebr. 202		100.3	96.3	100.1		21.9	19.9	19.6
Northrup-King KM 589				95.0				21.2
Northrup-King KT 623				103.4				22.4
Northrup-King PX 66				112.6				22.2
Pioneer 328	103.2	102.8	104.4	101.9	25.9	25.0	24.8	25.3
Pioneer 3291				114.5				25.3
Pioneer 3306				111.6				28.1
Pioneer 3414				113.1				20.1
Pioneer 3418				108.2				22.6
Pioneer 3558			116.0	112.4			18.7	19.0
Sokota MS-75				100.8				20.3
United-Hagie X147				113.1				27.4
United-Hagie X152A				103.8				27.4
United-Hagie UH158			107.2	100.4			24.7	24.6
United-Hagie UH1500				108.5				24.5
United-Hagie UH1580				106.9				26.8
SD 604	94.0	96.0	92.5	96.1	22.4	22.2	20.1	20.3
SD 622	99.9	103.1	101.1	102.4	24.1	23.7	22.2	22.7
SD Exp 45				109.1				22.9

TABLE 14. AREA C1 CORN PERFORMANCE TRIAL, REDFIELD DEVELOPMENT FARM, REDFIELD, 1965

Variety	Performance rating	Percent R.L.	Percent S.L.	Yield, bu/ac	Percent moisture ear corn	Statistical significance
Pioneer 3854 (4x)	1	0	0	34.0	27.3	a
Pioneer 385 (4x)	4	0	0	31.7	38.7	ab
Pioneer 3812 (4x)	2	0	0	30.4	32.4	abc
DeKalb XL-304 (3x)	3	0	2	30.2	32.3	abcd
Sokota TS-50 (2x)	5	0	0	29.3	31.0	abcde
SD Exp 47 (4x)	9	0	0	28.1	38.8	abcdef
SD 248 (3x)	8	0	0	27.7	36.3	abcdef
SD Exp 39 (4x)	7	0	1	27.5	34.1	abcdef
Master F-70 (4x)	19	1	0	27.4	47.9	bcdef
Pioneer 368-A (4x)	15	0	1	27.2	44.9	bcdefg
Sokota SK-65 (3x)	11	0	0	27.0	37.3	bcdefg
Pioneer 3775 (2x)	17	0	0	27.0	45.4	bcdefg
SD 220 (4x)	6	0	3	26.4	28.8	bcdefgh
SD Exp 48 (4x)	10	0	0	26.4	34.1	bcdefgh
DeKalb XL-315 (3x)	16	0	0	26.0	41.4	bcdefgh
SD 240 (4x)	14	0	0	25.7	36.3	bcdefgh
DeKalb XL-308 (3x)	20	0	0	25.3	40.6	bcdefgh
Northrup-King PX 487 (3x)	18	0	2	25.1	38.9	bcdefgh
Pioneer 3681 (4x)	23	0	0	25.0	42.3	bcdefgh
Pioneer 3622 (4x)	29	0	0	24.8	46.0	cdefgh
SD 250 (4x)	13	0	1	24.3	31.3	cdefgh
DeKalb XL-302 (3x)	12	0	2	23.8	27.5	cdefgh
Master F-66 (4x)	21	0	0	23.8	35.8	cdefgh
DeKalb 59 (4x)	31	0	0	23.8	44.7	cdefgh
Northrup-King KE 449 (4x)	22	0	2	23.6	36.4	cdefgh
Master FX-350 (3x)	28	0	0	23.5	41.0	cdefgh
Pioneer 3670 (4x)	26	0	0	23.2	39.5	defgh
SD 270 (4x)	30	0	0	23.0	39.9	defgh
Master F-30 (4x)	24	0	2	22.0	33.5	efgh
DeKalb XL-307 (3x)	27	0	0	21.6	34.0	fgh
Master F-31A (4x)	25	0	0	21.2	32.1	fgh
Sokota 407-A (4x)	32	0	0	19.7	44.4	gh
Sokota 407 (4x)	33	0	0	19.1	46.0	h
Sokota 463 (4x)	34	0	0	18.9	52.3	h
			Mean	25.4	38.0	

CV-18.1%

TABLE 15. TWO-YEAR YIELD AND MOISTURE PERCENTAGE AVERAGES OF THE HYBRIDS ENTERED IN THE AREA C1 TRIAL, 1964-1965

Variety	Yield, bu/ac 1964-1965	Percent moisture 1964-1965
DeKalb XL-304	35.3	28.4
DeKalb XL-308	28.9	35.7
Master F-30	30.5	28.8
Master F-31A	31.6	26.4
Master F-70	30.5	39.9
Northrup-King KE 449	31.8	30.6
Pioneer 3622	35.3	39.3
Pioneer 3681	33.7	34.3
Pioneer 368-A	32.3	40.8
Pioneer 3775	28.4	41.5
Pioneer 3812	41.2	27.9
Pioneer 385	35.2	35.0
Pioneer 3854	35.1	25.7
Sokota 407	27.8	39.7
Sokota 407A	29.0	38.9
Sokota 463	35.6	45.0
Sokota TS-50	38.3	28.0
SD 220	30.2	24.3
SD 240	32.5	31.4
SD 248	41.8	30.2
SD 250	34.3	27.9
SD 270	35.0	32.9
SD Exp 47	37.1	33.8

TABLE 16. THE CORN HYBRIDS ENTERED FOR TEST IN THE 1965 CORN PERFORMANCE TRIALS AND THE TABLES IN WHICH THE RESULTS APPEAR

VARIETY	TABLE	VARIETY	TABLE	VARIETY	TABLE	VARIETY	TABLE
DEKALB 45	4,5,6	MASTER F-15	4	PFISTER PAG 70	12	SOKOTA 625	10,11,12
DEKALB 59	4,6,7,8,9	MASTER F-19	4	PFISTER PAG 272	12	SOKOTA 675	12
DEKALB 222	8,9	MASTER F-30	4,5,6,7,14	PFISTER PAG 348	12	SOKOTA TS-50	4,6,7,8,9,14
DEKALB 224	8,9	MASTER F-31A	4,5,6,7,14	PFISTER PAG 393	12	SOKOTA SK-65	8,14
DEKALB 415A	10,11			PFISTER PAG SX 29	12	SOKOTA MS-75	10,11,12,13
		MASTER F-34	8,9,10,11	PFISTER PAG SX 66	12		
DEKALB 441	10,11,12,13	MASTER F-66	6,14			UNITED-HAGIE 3H30	8
DEKALB 441A	12,13	MASTER F-70	6,7,8,9,10,14	PIONEER 3206	12	UNITED-HAGIE 158	12,13
DEKALB XL-45	8,9,10,11,12	MASTER F-80	8,9,10,11	PIONEER 328	10,11,12,13	UNITED-HAGIE 1500	12,13
DEKALB XL-65	12,13			PIONEER 3291	10,11,12,13	UNITED-HAGIE 1580	12,13
DEKALB XL-302	4,6,14	MASTER F-109	10,12	PIONEER 3306	12,13	UNITED-HAGIE X126	6,8,9
		MASTER F-110	10,12	PIONEER 3414	10,11,12,13	UNITED-HAGIE X129A	8
DEKALB XL-304	4,6	MASTER FX-350	4,6,8	PIONEER 3418	10,11,12,13		
DEKALB XL-307	4,6,14	MASTER FX-450	6,8,10			UNITED-HAGIE X130	6,8,9
DEKALB XL-308	14	MASTER FX-500	8,10,12	PIONEER 3465	10	UNITED-HAGIE X138B	6,8,9
DEKALB XL-315	4,6,8,14			PIONEER 3510	10,11,12	UNITED-HAGIE X142	12
DEKALB XL-325	8,9,10	MINN. 301	12,13	PIONEER 3558	10,11,12,13	UNITED-HAGIE X147	12,13
		MINN. 313	8,9,10,11	PIONEER 362	10,11	UNITED-HAGIE X152A	12,13
DEKALB XL-341	10	MINN. 417	12,13	PIONEER 3622	8,9,14		
DEKALB XL-346	10	MINN. 515	8,9,10,11	PIONEER 3658	8,9	SD 210	4,5,6,7
DEKALB XL-361	12,13	MINN. 519	8,9,10,11			SD 220	4,5,6,7,14,15
DEKALB XL-362	12,13			PIONEER 3670	6,8,14	SD 240	4,5,6,7,14,15
		NEBR. 202	10,11,12,13	PIONEER 3681	6,7,8,9	SD 248	4,6,7,8,9,14,15
DISCO 101-A	8,9	NEBR. 501D	10,12	PIONEER 368-A	8,9,14		
DISCO 111-AA	8,9			PIONEER 376	8,9	SD 250	4,5,8,9,14,15
DISCO 112-A	10,11,12,13	NORTHRUP-KING KE 435	4,5	PIONEER 3775	8,9,14	SD 270	14,15
DISCO 115-A	12	NORTHRUP-KING KE 449	6,7,14,15	PIONEER 3812	4,5,6,7,14	SD 604	12,13
		NORTHRUP-KING KE 497	6,7,8,9			SD 622	10,12,13
DISCO 1020	8	NORTHRUP-KING KM 555	8,9	PIONEER 384	4,5,6,7		
DISCO 1030	8,9			PIONEER 385	4,5,6,7,8,9,14	SD EXP 39	4,6,7,14
DISCO 1050	10	NORTHRUP-KING KM 567	8,9	PIONEER 3854	4,5,6,7,14	SD EXP 43	4,5
DISCO 1090	10,11,12,13	NORTHRUP-KING KM 589	10,11,12,13	PIONEER 3862	4,5,6,7	SD EXP 44	4,5
		NORTHRUP-KING KT 623	10,11,12,13	PIONEER 388	4,5,6,7	SD EXP 45	10,11,12,13
GREEN ACRES 462	12	NORTHRUP-KING KT 623A	10,11,12	PIONEER 391	4,5	SD EXP 46	10,11,12,13
GREEN ACRES X1000	12					SD EXP 47	14,15
GREEN ACRES X1001	10,12	NORTHRUP-KING PX 66	10,11,12,13	SOKOTA 225	4,5,6,7		
GREEN ACRES X1003	10	NORTHRUP-KING PX 481	6,7,8,9	SOKOTA 255	6,7,8,9	SD EXP 48	6,14
		NORTHRUP-KING PX 487	6,7,8,9,14	SOKOTA 407	8,9,14	SD EXP 52	8
IOWA 5063	10,11,12,13			SOKOTA 407-A	14	SD EXP 53	8
				SOKOTA 463	10,11,14	SD EXP 54	8
				SOKOTA 623	10,12	SD EXP 55	6