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1949 South Dakota Corn Performance Tests

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1949
South Dakota
CORN
File Copy
PERFORMANCE
TESTS

AGRONOMY
DEPARTMENT

SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION
SOUTH DAKOTA STATE COLLEGE
BROOKINGS

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SOUTH DAKOTA

Corn Performance Tests, 1949

By D. B. SHANK¹

Each year several hundred different corn hybrids are offered for sale to South Dakota farmers. It is a real problem for the purchaser to know which hybrid corn to buy because the various hybrids sold differ in yielding ability, maturity, lodging resistance and other agronomic characteristics. Therefore, the Agronomy department of the South Dakota Agricultural Experiment Station conducts yield trials each year on commercial hybrids and open-pollinated varieties in order to provide impartial, comparable performance records.

Entries in each test are those hybrids which, according to surveys, are being sold to the greatest extent to farmers in that area of the state represented by the test. The information presented should be of value to both the purchaser and the producer of hybrid seed.

Location of the 1949 Test Plots

South Dakota has been divided into eight agricultural areas in which tests are conducted (Fig. 1). These areas have been designated after careful consideration of the effects which the various soil types, rainfall, temperature, and elevation conditions have on crop production. At least one test was located in each area in 1949, while two were planted in areas three and eight. The exact location of each test may be determined by consulting Table 1. Results from the nearest test should be used in evaluating and selecting a hybrid or variety.

Table 1. Location of the 1949 Plots

District	County	Cooperator	Post office	Soil type	Date planted	Date harvested
1.	Lawrence	Walter Tetrault	Spearfish	Vale silt loam	May 12	Oct. 5
2.	Jackson	Range Field Station†	Cottonwood	Pierre Clay loam	May 13	*
3.	McPherson	North Central Station†	Eureka	Williams loam	May 23	Oct. 4
3.	Hyde	Central Station†	Highmore	Williams loam	May 18	*
4.	Brown	Ellis Barnes	Claremont	Bearden Silt loam	May 24	Oct. 3
5.	Brookings	Agr. Exp. Station	Brookings	Barnes loam	May 20	Sept. 29
6.	Tripp	C. E. Bailey	Winner	Boyd clay loam	May 26	*
7.	Hanson	Alvin Tilberg	Ethan	Barnes silt loam	May 25	Oct. 12
8.	Minnchaha	Paul Sorenson	Garretson	Moody silt loam	May 16	Oct. 7
8.	Clay	Leo Trudeau	Vermillion	Kranzburg silt loam	May 27	Oct. 13

*Climatic conditions caused a complete loss of the test.

†Substations of the South Dakota Agricultural Experiment Station.

Temperature and Rainfall Data

Temperature and rainfall data are presented in Table 2. Where information was not available for the immediate vicinity of each test, reports for the closest station were used.

The information in Table 2 indicates that temperatures for all locations, or tests, were above normal for all months except September. During the latter month they were below normal. This meant a warm seedbed in May and good germination. In

¹Associate Agronomist.

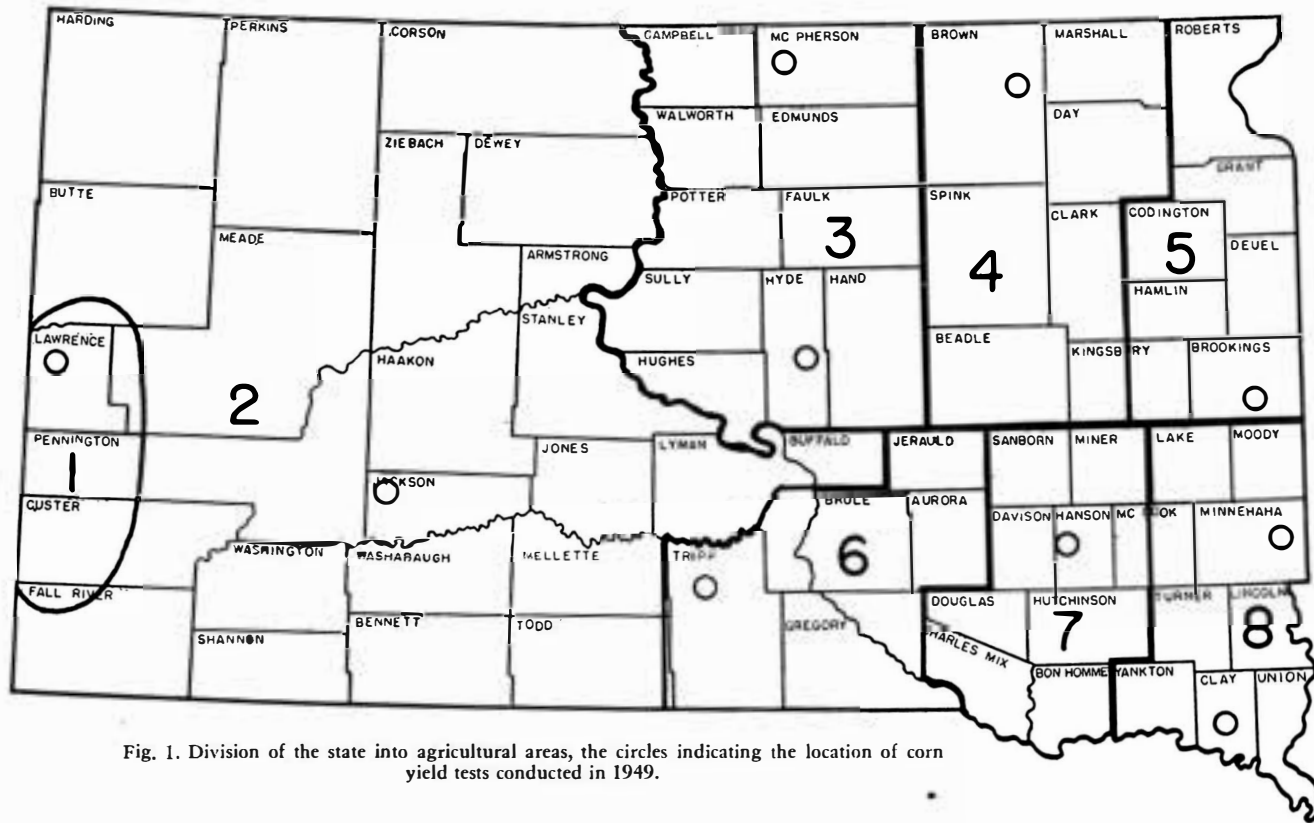


Fig. 1. Division of the state into agricultural areas, the circles indicating the location of corn yield tests conducted in 1949.

June growth was good because of the warm temperatures. Rainfall was below normal for most locations in June, but it was not low enough to hurt corn. However, precipitation continued to be below normal in July for all tests except Eureka, Claremont, (Aberdeen in Table 2), and Vermillion.

Table 2. Temperature and Precipitation Data for the 1949 Corn Growing Season*

Station and district	Month	Temperature in degrees F.			Precipitation in Inches				Frost free days [§]
		Average	Departure from normal	Average departure	Month total	Season total	Departure from normal	Total departure	
(1) Spearfish	May	†	†		†		†		
	June	†	†		†		†		
	July	73.6	+2.5		0.62		-1.56		
	Aug.	72.0	+2.3		0.64		-0.98		
	Sept.	58.1	-2.2		1.39		-0.23		†
(2) Cottonwood	May	59.9	+3.3		1.74		-0.91		
	June	67.6	+0.4		2.18		-0.48		
	July	77.1	+1.2		0.35		-1.65		
	Aug.	75.3	+2.8		2.05		+0.45		
	Sept.	60.5	-1.7	+1.2	0.39	6.71	-0.62	-3.21	129
(3) Eureka	May	59.2	+3.9		3.71		+1.41		
	June	66.1	+1.2		2.65		-0.71		
	July	72.0	0.0		5.67		+3.39		
	Aug.	73.6	+4.2		2.98		+0.81		
	Sept.	56.7	-2.9	+1.3	0.58	15.59	-0.89	+4.00	112
(3) Highmore	May	59.1	+2.6		2.52		-0.08		
	June	68.3	+2.7		3.43		+0.12		
	July	74.1	+0.4		0.33		-2.02		
	Aug.	73.9	+2.1		2.35		+0.29		
	Sept.	57.2	-5.2	+0.5	2.29	10.92	+0.90	-0.79	112
(4) Aberdeen	May	58.8	+1.5		6.36		+3.29		
	June	67.2	+0.7		0.93		-3.17		
	July	73.0	+0.2		4.08		+1.12		
	Aug.	73.7	+3.4		1.25		-1.56		
	Sept.	†	†		†		†		112
(5) Brookings	May	61.5	+4.7		2.28		-0.63		
	June	69.3	+3.2		2.82		-1.03		
	July	75.1	+3.2		2.04		-0.39		
	Aug.	73.4	+3.5		1.07		-1.61		
	Sept.	57.9	-3.0	+2.3	2.90	11.11	+0.88	-2.78	100
(6) Winner	May	62.2	+2.6		3.08		+0.38		
	June	69.8	+1.1		2.08		-1.26		
	July	77.9	+1.0		1.52		-0.81		
	Aug.	78.0	+3.7		1.21		-0.19		
	Sept.	60.4	-4.0	+0.9	1.00	8.89	-0.14	-2.74	137
(7) Mitchell	May	63.1	+4.1		2.90		-0.31		
	June	70.0	+1.7		1.55		-2.48		
	July	76.8	+2.3		0.89		-2.17		
	Aug.	73.5	+1.5		2.97		+0.37		
	Sept.	58.8	-4.4	+1.0	3.21	11.52	+1.09	-3.50	157
(8) Sioux Falls	May	61.9	+2.7		2.42		-1.41		
	June	70.4	+2.3		1.88		-2.46		
	July	75.7	+2.1		3.37		+0.22		
	Aug.	73.7	+2.6		2.69		-0.56		
	Sept.	57.7	-4.8	+1.0	3.90	14.26	+1.33	-2.88	157
(8) Vermillion	May	66.0	+4.8		4.04		+0.48		
	June	73.6	+3.3		2.28		-1.77		
	July	77.6	+1.2		3.54		+0.38		
	Aug.	75.3	+1.4		4.31		+1.33		
	Sept.	61.9	-3.4	+1.5	7.38	21.55	+4.22	+4.64	185

*Information presented was taken from monthly climatological data, U. S. Dept. of Commerce, Weather Bureau, Huron, South Dakota.

†No figures available.

‡Information obtained from other sources.

§Number of days between 32°, or below, in spring and 32°, or below, in fall.

By the end of the month, corn was suffering severely from the hot dry weather. In many areas August weather was a repetition of that in July, being hot and dry, and corn was hurt still more. Exceptions were the tests at Eureka, Claremont, and Vermillion. September brought cooler weather and rains the first part of the month at several locations. However, the rains were too late to be of value at most locations as the corn had fired badly because of the drouth of the previous months and was too far gone to be helped much by the September rains.

The summer heat and drouth period was so severe that no corn was produced on the plots located at Cottonwood, Winner and Highmore.

The number of frost free days at Brookings is given as 100. These are the days between the last recording of 32° F or below in the spring and the first similar recording in the fall. A temperature of 32 was recorded at the Brookings weather station on September 1, giving 100 days between frosts. However, frost injury to corn on that date was noted only in the low areas. The next frost was September 14 when the temperature dropped to 31° F.

Selection of Entries

In order to select entries for the tests, a survey was conducted to ascertain those hybrids which were purchased most by farmers in the agricultural area represented by each test. Information was obtained on the hybrids of those companies which registered their corns with the South Dakota State Department of Agriculture. In general, if a hybrid was sold to the extent of one percent, or more, of the total hybrid seed corn sales in a given area, it was entered in the test for that area. Hybrid corn is not as generally grown in some western districts as it is in the eastern part of the state and a number of early hybrids were entered in the tests in those areas even though the sales record did not justify their being included on the basis of use.

Method of Planting and Harvesting

Planting. Each entry was planted in five plots, each plot being located, at random, within one complete grouping of all entries. This means that all varieties were planted in five groups or replications. Each plot consisted of two rows, 10 hills long, or the equivalent if the corn was drilled rather than checked. Planting was done at the rate of five kernels per hill for the checked plots, two per hill for the drilled plots. Later the stand was thinned to either three plants or one plant per hill, depending on the method of planting used. Tests were located in the general field of the cooperator and received the same cultural treatments as his corn. Planting dates are given in Table 1.

Harvesting. The tests were picked at the time general harvesting was going on in the area where each was located. Each plot was picked separately and weighed. After weighing, samples for moisture determination were taken on the first, third and fifth replications of the plots. This was accomplished by selecting 12 ears at random, taking a one-inch cross section from the middle of each by means of a machine built for this purpose, and placing the 12 cross sections in a paper bag. The samples were weighed when taken in the field, then they were transported to the laboratory where they were oven-dried at 105 degrees C., reweighed and moisture percentages determined. Harvesting dates are given in Table 1.

Measuring Performance

Yield. The yield reported for each hybrid or variety in each test is the average obtained for the five plots, expressed in bushels per acre on a basis of 15 percent moisture. All yields were computed from the field weights which had been corrected according to the moisture content of the individual entries. At the bottom of each table of results (Tables 3-9, inclusive) is given the minimum amount by which two entries must differ in yield in order for that difference to be considered statistically significant.

A slight amount of variation can occur between entries of equal performance potential because of field conditions such as variations in soil type, stand, and slope. Therefore, mathematical determinations have been made to establish what difference it is necessary to have between two entries before it can be said that there is a true difference between them rather than a chance variation. For example, in Brookings county (Table 6), a difference of 4.5 bushels per acre in the yield of two entries is required before it can be said that one has a superior yielding ability over the other. This difference, required for significance, varies from test to test, depending upon amount of chance variation within each. Also, at the bottom of the yield column in each table appears the average yield of all entries.

Moisture Content. The moisture content at harvest is given for each entry in the tables. This is the amount of moisture in the ear corn expressed in percentage. At the bottom of the moisture percentage column in each table appears the average moisture content of all entries. Moisture content is directly related to maturity, and because maturity is of primary consideration in South Dakota, these figures are very important when an evaluation of the various entries is made.

Performance Score. Each entry in the various tables is ranked on the basis of a performance score. This score was computed for each entry from its performance record, expressed as a percentage of the average of all entries. In such calculations yield was weighed 60 percent and dry matter (100 minus percent moisture) 40 percent.

Stand. An excess of kernels was always planted and any extra plants were later thinned to three stalks per hill. Therefore, a reduction in number of hills below 100 percent is taken to mean that either the seed of an entry is unable to produce a good stand under the environmental conditions prevailing for the test, or that something destroyed either the kernels before germination or the young plants. Most tests in 1949 had an almost perfect stand.

Thin stands reduce yields and since these tests are designed primarily to test yielding potential of the various entries, rather than germination, corrections in yield were made for missing hills according to the formula:

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

where CW = corrected weight, FW = field weight, H = number of hills per plots and M = number of missing hills. No yield corrections were made for minor variations in stand, that is, less than three stalks per hill.

Lodging. In 1949, lodging was so slight that only minor differences existed among the entries. Therefore, such data are not given.

Period of Year's Results. Many of the entries included in the 1949 trials were also tested in previous years. This makes possible the calculation of two, three and four year averages in some cases, and such data are included in many of the tables which follow. These averages are more useful than the results obtained in a single year for determining the value of any hybrid or variety, for in any one year the entry may fluctuate in its relative value because of the specific environmental conditions under which the test was conducted. Averages for a period of several years will iron out these environmental variations. A hybrid or variety was included in the averages only when it was the same variety each year and was secured from the same source.

Black Hills Area

LAWRENCE COUNTY. Test work was done on the farm of Walter Tetrault which lies on the northwest edge of Spearfish. Planting was done May 12 and harvesting October 5. This plot was watered twice during the growing season.

Table 3. Area 1 (Lawrence County) 1949 Corn Performance Tests

Hybrid or variety	Performance score	Acre yield bu.*	Moisture percent	2-year average		3-year average		4-year average	
				Yield bu.	Moisture percent	Yield bu.	Moisture percent	Yield bu.	Moisture percent
DeKalb 46	109.45	100.3	24.7	102.3	22.6				
S. Dak. Experimental 6	107.44	98.2	25.8						
DeKalb 240	105.93	103.6	34.1	114.6	30.9	115.1	26.6		
Funk G-6	105.27	99.1	30.4						
DeKalb 65	105.26	100.3	31.7	106.0	30.9	104.0	27.0		
Sokota 224	105.02	96.0	27.5	104.3	26.0	96.6	22.7		
DeKalb 56	103.72	93.6	27.1	102.9	23.1	102.3	20.7		
Minihybrid 706 (white)	103.54	92.2	25.9	99.8	23.7	96.5	21.2	82.5	24.9
S. Dak. Experimental 5	102.49	94.3	29.9	112.2	25.7				
S. Dak. Experimental 8	102.10	100.9	37.6						
Sokota 400	99.92	93.0	32.8	114.2	28.8				
Wisconsin 641AA	99.83	96.8	37.0						
Funk G-1A	99.54	89.6	29.8	105.4	29.7	103.4	25.8	91.6	29.8
Iowa 4316	98.59	94.3	36.4	107.3	34.1				
Pioneer 343	98.13	97.5	40.6	107.8	38.7				
Sokota 212	94.50	81.0	29.0	90.5	26.9	90.8	23.9	80.5	27.4
Iowa 4442	93.18	88.2	38.9	110.5	34.7				
Iowa 4298	92.87	90.8	42.2						
Pioneer 353A	92.83	85.6	36.7						
Funk G-114	91.98	89.5	42.3						
DeKalb 404A	87.63	80.1	39.5						
Average of all entries		93.6	33.3	106.0	28.9	101.2	24.0	84.9	27.4

*Differences in yield of less than 7.8 bushels per acre are not statistically significant.

North Central Area

MCPHERSON COUNTY. This plot was located on the North Central substation just east of Eureka, South Dakota. The test received above average rainfall during July and August and yields were good. Planting was done May 23 and harvesting, October 4.

Table 4. Area 3 (McPherson County) 1949 Corn Performance Tests

Hybrid or variety	Performance score	Acre yield bu.*	Moisture percent	2-year average		3-year average		4-year average	
				Yield bu.	Moisture percent	Yield bu.	Moisture percent	Yield bu.	Moisture percent
Hansmann	117.19	33.7	25.1	37.5	24.6	—	—	—	—
Nodakhybrid 201	115.84	31.9	21.7	33.6	23.8	32.1	24.2	33.9	24.0
Kingscrost KE3	115.63	32.1	22.8	31.6	22.5	—	—	—	—
Wisconsin 240	115.21	32.2	23.9	33.4	21.9	31.9	24.2	33.0	25.7
Nodakhybrid 304	114.05	32.5	27.0	32.0	24.8	—	—	—	—
Kingscrost KF 1	112.09	31.5	26.6	—	—	—	—	—	—
Master F21	110.26	30.1	24.5	29.8	24.7	27.5	26.2	29.7	26.2
Kingscrost KE 1	105.36	29.1	29.1	31.1	27.8	27.0	30.4	26.8	31.9
Minhybrid									
706 (white)	99.91	26.9	30.2	30.0	28.2	28.5	30.7	29.6	32.7
United U22	98.44	26.5	31.2	—	—	—	—	—	—
Sokota 212	97.55	29.1	42.4	29.9	38.2	27.8	39.2	30.6	39.2
Silver King	97.22	26.8	34.4	29.5	32.3	25.7	35.7	27.3	36.2
United U26	95.84	25.9	33.4	—	—	—	—	—	—
Sokota 204	94.41	27.1	40.3	27.9	37.0	25.8	39.4	—	—
Wisconsin 255	93.99	23.5	27.6	25.9	26.2	25.5	27.3	28.3	26.9
Funk G-188	91.96	23.3	30.3	25.3	29.0	24.0	31.8	—	—
S. Dak.									
Experimental 9	85.87	24.3	44.4	—	—	—	—	—	—
Minhybrid 800	82.31	18.6	29.2	21.4	30.0	23.0	30.9	26.0	30.2
Jacques 902	80.25	21.6	43.9	—	—	—	—	—	—
Funk G-1A	73.53	20.3	50.5	23.7	43.0	21.2	46.4	25.0	45.6
Average of all entries		27.4	31.9	29.5	28.9	26.7	32.2	29.0	31.9

*Differences in yield of less than 5.2 bushels per acre are not statistically significant.

North James River Areas

BROWN COUNTY. The plot in Brown County has been on the same farm for several years. Ellis Barnes, whose farm is three or four miles west of Claremont has been the cooperator. Rainfall in this area was above normal in July and good yields resulted. The plot was planted May 24 and harvested October 3.

Table 5. Area 4 (Brown County) 1949 Corn Performance Tests

Hybrid or variety	Performance score	Acre yield bu.*	Moisture percent	2-year average		3-year average		4-year average	
				Yield bu.	Moisture percent	Yield bu.	Moisture percent	Yield bu.	Moisture percent
S. Dak.									
Experimental 9	108.62	66.2	20.8	—	—	—	—	—	—
DeKalb 56	103.71	62.5	23.0	54.6	23.2	51.2	26.3	52.1	26.5
Pfister 50A	102.71	63.1	26.1	53.0	29.0	—	—	—	—
United U28	102.20	62.8	26.5	—	—	—	—	—	—
S. Dak.									
Experimental 5	102.5	60.3	21.9	53.6	24.3	—	—	—	—
Disco 95W	101.88	60.8	23.2	51.1	25.9	48.1	29.2	—	—
DeKalb 65	101.59	60.0	22.2	54.9	21.8	54.3	25.7	55.6	26.5
Minhybrid									
706 (white)	101.20	59.1	21.2	52.1	21.7	51.2	24.6	51.5	24.7
Sokota 224	100.38	60.2	24.9	50.7	24.2	50.4	26.8	50.7	27.5
Funk G-1A	99.89	61.2	27.8	53.8	29.2	52.6	31.6	54.3	31.3
United U30	99.86	62.4	30.2	—	—	—	—	—	—
Wisconsin 416	99.43	58.7	23.8	52.0	24.4	53.0	28.1	52.5	28.4
Master F41	98.45	56.4	21.2	—	—	—	—	—	—
Silver King	98.36	56.0	20.6	48.7	23.8	46.7	25.5	—	—
Jacques 902	96.78	52.4	16.6	46.3	19.0	—	—	—	—
Sokota 212	96.74	56.1	23.9	46.9	24.0	46.4	28.0	47.1	28.6
Jacques 852	95.96	55.9	25.0	—	—	—	—	—	—
Sokota 204	95.92	55.5	24.3	47.2	25.5	48.2	28.0	47.3	28.7
Kingscrot KE1	93.33	50.8	20.1	45.0	21.8	44.0	23.2	43.2	24.7
Average of all entries		59.0	23.3	50.7	24.1	49.6	27.0	50.5	27.4

*Differences in yield of less than 7.5 bushels per acre are not statistically significant.

Northeast Area

BROOKINGS COUNTY. The location of this plot each year is on the Agronomy Experimental farm which is located one mile east of the college campus at Brookings. Drouth conditions reduced yields considerably. Test was planted May 20 and harvested September 29.

Table 6. Area 5 (Brookings County) 1949 Corn Performance Tests

Hybrid or variety	Performance score	Acre yield bu.*	Moisture percent	2-year average		3-year average		4-year average	
				Yield bu.	Moisture percent	Yield bu.	Moisture percent	Yield bu.	Moisture percent
S. Dak.									
Experimental 9	129.78	35.0	27.3	—	—	—	—	—	—
Minhybrid 607	120.23	31.3	28.1	58.2	28.5	54.4	29.8	—	—
Minhybrid									
706 (white)	117.02	29.2	24.9	49.1	22.0	48.5	25.4	—	—
Sokota 224	115.52	29.7	29.4	54.2	26.6	53.2	28.8	54.2	29.3
Pioneer 359	112.90	29.0	30.9	56.6	27.4	55.3	29.3	56.1	30.1
S. Dak.									
Experimental 6	110.83	28.5	32.3	—	—	—	—	—	—
Sokota 212	109.52	27.5	30.4	49.2	28.8	49.6	31.3	51.1	31.2
Sokota 204	108.12	26.9	30.3	47.1	27.9	47.1	31.0	49.3	29.0
Master F 60A	107.36	27.9	35.6	—	—	—	—	—	—
DeKalb 58	106.23	26.5	31.8	—	—	—	—	—	—
DeKalb 65	102.42	24.5	30.0	52.3	28.0	53.2	30.9	54.1	30.4
Kingscrot KS2	102.09	25.7	35.4	40.5	26.5	44.6	29.7	48.1	30.0
Pfister 35	100.66	24.4	32.5	43.8	26.9	44.1	30.3	—	—
DeKalb 56	99.98	23.8	31.2	49.7	27.6	49.7	29.5	49.7	29.5
Jacques 957	99.25	23.6	31.6	46.4	28.3	—	—	—	—
Funk G-1A	98.48	24.4	36.1	55.1	32.6	54.6	33.7	55.4	33.3
Sokota 400	96.47	23.9	37.4	57.0	33.5	55.8	34.7	56.5	34.1
DeKalb 63	96.45	23.2	34.6	—	—	—	—	—	—
Minhybrid 504	94.79	24.4	42.2	55.9	36.5	52.6	38.1	—	—
Kingscrot KS6	92.59	21.4	33.7	55.6	31.2	55.1	33.6	54.9	34.0
Funk G-6	91.09	22.0	38.6	57.0	33.2	55.4	35.2	56.7	33.9
Tomahawk 14	89.20	21.7	40.5	—	—	—	—	—	—
Pioneer 379A	89.17	20.5	35.7	—	—	—	—	—	—
Wisconsin 464	87.40	19.7	35.4	47.4	29.4	48.1	32.6	47.4	32.7
United U30	84.94	18.5	34.6	—	—	—	—	—	—
DeKalb 240	84.78	19.3	38.1	53.8	35.0	54.3	37.3	55.5	37.7
Pfister 56	77.76	17.0	40.4	—	—	—	—	—	—
Pioneer 373	76.36	17.1	43.1	—	—	—	—	—	—
Average all entries	—	24.5	34.0	51.6	29.4	51.5	31.8	53.0	31.9

*Differences in yield of less than 4.5 bushels per acre are not statistically significant.

South James River Area

HANSON COUNTY. The Hanson County plot has been on the farm of Alvin Tilberg for the past three years. It is about eight miles southeast of Mitchell. Dry weather reduced yields in this test. Planting was done on May 25 and harvesting, October 12.

Table 7. Area 7 (Hanson County) 1949 Corn Performance Tests

Hybrid or variety	Performance score	Acre yield bu.*	Moisture percent	2-year average		3-year average		4-year average	
				Yield bu.	Moisture percent	Yield bu.	Moisture percent	Yield bu.	Moisture percent
Funk G-1A	121.89	42.4	24.1	65.3	24.4	54.6	24.6		
S. Dak.									
Experimental 9	116.40	39.4	23.9						
Disco 102 (white)	114.70	37.5	20.6	63.2	19.2	53.7	20.5	56.2	20.6
S. Dak.									
Experimental 6	114.11	38.3	24.3						
S. Dak.									
Experimental 5	111.43	36.5	23.1	61.0	22.8				
Tomahawk 35	107.54	34.6	23.7	65.7	26.0	54.9	27.8		
Funk G-114	106.53	37.4	34.8	62.8	35.7	52.9	35.9	58.8	34.7
United U28	106.43	34.7	26.0						
Master F82	104.81	34.4	27.9						
Iowa 4417	102.15	32.8	27.3						
Pfister 274	102.03	34.6	33.5	67.8	30.8	55.9	31.4	56.0	30.2
Sokota 224	101.93	31.0	21.7	54.1	20.8	46.6	21.2	47.5	21.6
Sokota 400	99.31	31.1	26.7	60.7	27.4	51.5	28.3	56.5	27.4
DeKalb 240	96.99	30.4	28.5	66.0	26.8	54.7	27.6	56.5	27.3
Pioneer 353A	95.85	29.4	27.2	62.2	27.4	50.9	28.1	56.6	27.7
Iowa 4316	94.93	30.5	32.5	68.1	32.2				
Tomahawk 45	93.75	29.9	32.6	64.8	28.5				
Pioneer 343	93.57	30.1	33.6	62.6	32.8	51.0	33.7		
Pfister 299	93.45	30.1	33.8	69.4	31.3				
Funk G-29	91.49	28.9	33.3	68.4	32.5	56.5	33.7	61.6	32.6
Farmers 322	90.44	28.7	34.5	64.4	33.6				
Farmers 427A	87.29	26.2	31.8	61.8	32.8				
DeKalb 404A	87.04	25.2	28.9	62.0	28.5	47.3	30.1	52.8	29.7
Kingscrot KR2	86.18	26.0	33.1	61.0	31.4				
Disco 111A	81.10	23.4	33.5	63.4	33.2	54.2	33.2	58.8	32.3
Average of all entries ..		32.1	28.8	63.7	28.9	52.7	28.9	56.1	28.4

*Differences in yield of less than 9.1 bushels per acre are not statistically significant.

Southeast Area

MINNEHAHA COUNTY. Yield testing work was done on the Paul Sorenson farm which is about four miles south and one west of Garretson. The plot was located on upland soil. Below average rainfall in August lowered yields in general. Planting was done May 16 and harvesting, October 7.

Table 8. Area 8 (Minnehaha County) 1949 Corn Performance Tests

Hybrid or variety	Performance score	Acre yield bu.*	Moisture percent	2-year average		3-year average		4-year average	
				Yield bu.	Moisture percent	Yield bu.	Moisture percent	Yield bu.	Moisture percent
Tomahawk 30	108.86	50.1	21.0						
S. Dak.									
Experimental 9	108.23	48.6	18.4						
Sokota 224	106.82	47.5	18.3	62.1	21.7	58.6	20.4	56.1	21.7
Pioneer 373	105.67	48.9	24.0	71.6	27.4	65.0	25.8	62.1	27.7
S. Dak.									
Experimental 6	104.89	45.5	16.9						
Funk G-1A	104.53	46.7	20.6	64.9	25.3	61.4	23.3	59.9	24.0
Iowa 4417	103.21	47.3	24.6	70.8	26.8				
Sokota 400	103.09	46.3	22.3	71.0	23.2	67.0	23.5	63.0	26.0
Farmers 322	101.29	48.8	32.0	73.7	34.8				
Mellowdent 85	100.48	45.1	24.2						
DeKalb 240	100.43	45.1	24.3	72.7	26.4	67.6	24.3	65.5	25.1
Minhybrid 503	99.95	45.1	25.2	65.1	28.1	60.5	25.7	57.2	27.8
DeKalb 404A	99.34	45.4	27.1	74.8	29.3	65.6	27.5	60.2	29.4
Pfister 56	97.80	42.7	23.2						
Pfister 299	97.47	44.2	27.6	73.1	31.4				
Iowa 4316	97.37	44.0	27.3	72.7	29.9	68.0	27.1		
Pioneer 353A	95.63	42.3	26.3	68.2	27.8	63.2	25.2	57.2	27.4
Iowa 4442	95.19	40.9	23.6	64.8	27.0	59.1	24.6		
United U36	95.15	42.3	27.2						
DeKalb 410	93.59	40.5	25.6	74.5	27.7	68.7	25.3		
Funk G-12	90.91	38.5	25.6	62.6	29.5	58.5	27.1	56.1	29.2
Pioneer 343	88.88	39.4	31.7	68.7	33.1	64.1	29.4		
Funk G-114	87.78	37.7	29.5	65.3	32.8	61.6	30.3	55.0	33.0
Kingscrot KR2	87.08	36.5	27.8	64.4	29.7	60.8	27.6	58.8	30.1
Average of all entries		44.9	24.6	68.9	28.4	63.3	25.8	59.2	27.4

*Differences in yield of less than 11.2 bushels per acre are not statistically significant.

Southeast Area

CLAY COUNTY. Leo Trudeau, who lives about six miles north of Vermillion on State Highway 19 was the cooperator. Rainfall was above normal in August and about average in July. As a result, yields were fairly good. Plot was planted May 27 and harvested October 13.

Table 9. Area 8 (Clay County) 1949 Corn Performance Tests

Hybrid or variety	Performance score	Acre yield		2-year Average		3-year Average	
		bu.*	Moisture percent	Yield bu.	Moisture percent	Yield bu.	Moisture percent
Sokota 400	109.46	58.9	21.7	59.9	20.5	55.9	21.0
Kingscrot KR2	108.68	60.3	26.0	59.3	24.7	52.0	26.5
Iowa 4442	104.74	55.6	23.5	56.4	24.7	51.7	23.3
Pfister 299	104.50	58.2	29.3	—	—	—	—
Iowa 4249	104.39	58.3	29.7	—	—	—	—
DeKalb 410	103.89	56.2	26.3	63.4	23.0	57.4	23.8
Turner T12A	103.14	55.3	25.8	—	—	—	—
Farmers 427A	102.80	56.5	28.9	61.8	26.7	55.2	28.1
Jacobsen J20	102.70	55.1	26.2	60.9	24.8	—	—
Iowa 4417	102.57	52.9	21.9	54.9	21.7	52.1	21.8
S. Dak.							
Experimental 8	102.29	54.4	25.5	—	—	—	—
Disco 111A	102.23	55.9	28.7	59.4	26.9	53.3	28.2
Wisconsin 641AA	100.93	54.7	28.6	—	—	—	—
Pfister 1897	99.03	53.5	29.6	61.3	29.7	55.6	29.7
Mellowdent 94	98.64	53.3	29.9	—	—	—	—
Iowa 306	98.18	52.7	29.5	57.1	27.9	52.7	28.1
Funk G-29	97.84	52.4	29.5	59.8	29.4	53.7	30.5
United U41	97.77	52.0	28.8	—	—	—	—
Pioneer 343	97.27	51.8	29.3	55.1	28.1	51.5	28.5
Turner T46	97.19	51.1	28.0	58.6	26.0	—	—
DeKalb 458	96.40	50.3	27.8	55.6	27.6	50.0	28.5
DeKalb 404A	95.18	48.3	25.9	53.9	24.7	48.2	25.7
Funk G-12	94.36	48.4	27.6	51.7	25.1	48.1	26.0
Iowa 4316	94.15	48.5	28.2	56.0	26.7	51.7	28.0
United U47	93.04	48.0	29.2	—	—	—	—
Iowa 4297	90.69	45.0	27.3	—	—	—	—
Funk G-114	87.53	42.7	28.3	51.9	28.7	47.4	28.7
Indiana 608C	86.50	43.0	30.8	56.8	31.4	50.1	31.7
Average of all entries		53.1	27.0	57.6	26.2	53.7	26.9

*Differences in yield of less than 9.9 bushels per acre are not statistically significant.