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Missouri

DUPLICATE

HYBRID CORN

Yield Trials

1959



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Missouri HYBRID CORN

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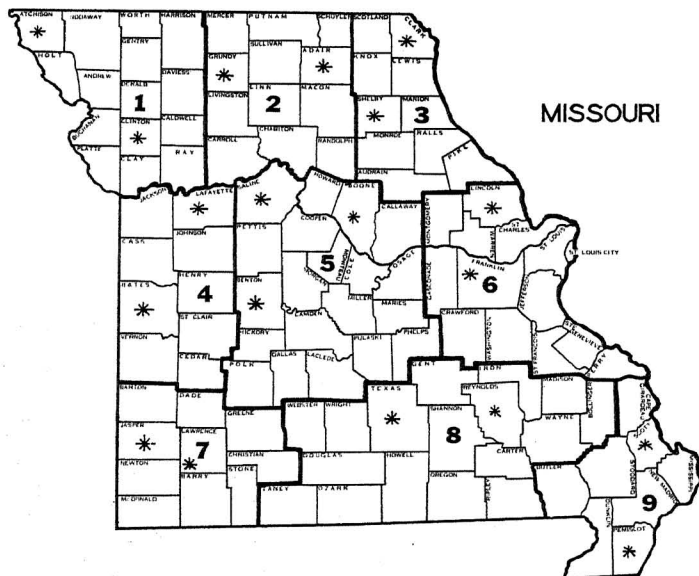


Fig. 1—Map showing the 9 districts and the testing locations in 1959.
(*) Location of tests.

The average acre yield for the 1959 Missouri Corn Crop is estimated at 55 bushels per acre. The average yield of all hybrids tested at the 19 yield trial locations was 97 bushels per acre. The highest yielding hybrid (AES 904W), was 140 bushels per acre at the Washington location. The total rainfall from May 1, to September 15, ranged from less than 11 inches to over 22 inches while the number of days with temperatures above 90° varied from 24 to 76 at the different locations.

Acre yields were materially reduced because of these factors at several locations. This was quite apparent at

Higginsville, Caruthersville, Ellington, Summersville, Lathrop and Columbia. Heavy rains in May, at some locations, delayed planting until June and resulted in later maturity with high grain moisture at harvest. In general, stalk lodging was higher than usual throughout the state. Several of the open pedigree hybrids had very poor stands where the source of seed was the Missouri Agricultural Experiment Corn Breeding Project. This was attributed to a fumigant used to control Angoumois grain moth.

TESTING PROCEDURES

Testing Areas

The state was divided into nine districts with two tests located in each district, with the exception of District 5 in which there were three tests. Figure 1 shows the location of these districts and the location of the testing field. The nine districts match the districts currently used for reporting the Missouri Farm Census.

Seed Source

In 1959 all producers and distributors of hybrid seed corn were eligible to enter these tests. No limit was placed on the number of hybrids any one company could enter and any hybrid could be entered in as many districts as desired. Fifteen pounds of seed of each entry for each district were sent in by the firm making the entry. Seed for the open pedigree hybrids was furnished by the state and federal agricultural experiment stations and by Certified Seed Producers.

Type of Field Design

The number of hybrids tested in each district varied from 40 in Districts 6, 7 and 8, to 64 in District 1. These were planted in a Modified Latin Square with each hybrid planted in four plots at each testing location with individual plots consisting of two rows of five hills. Plots were located at random over the testing area to minimize cultural and soil differences.

Stand

All tests were planted at the rate of five seeds per hill and the resulting plants were thinned to three or four per hill, depending on the possible environmental conditions at each location. The percent stand given in the experimental results was computed on the basis of the total plants present divided by a perfect stand for a particular location.

Lodging

A plant was classified as "root lodged" if it leaned

from the base more than 30 degrees from the vertical and "stalk lodged" if it was broken below the ear. If a plant was both root and stalk lodged, it was counted in both categories. The percent was based on the total plants present.

Dropped Ears

The total number of ears dropped by each hybrid was recorded at harvest. This number was divided by the total plants present and multiplied by 100 to give the percent of dropped ears. It was assumed that each plant produced one ear.

Ear Height

The ear height grade was determined from an average of four replications of the approximate number of feet from the base of the plant to the point of attachment of the upper ear.

Moisture

The grain moisture of each entry was determined at harvest by removing two rows of kernels from each of 10 randomly selected ears from the first and fourth replications. The grain from each replication was thoroughly mixed and the moisture content of a 100-gram sample for each replication was determined with a Steinlite moisture meter. The moisture percentage reported is the average of the two replications.

Yield

The corn from each plot was harvested and weighed, and the yield of hybrids was determined on the basis of shelled corn with a moisture content of 15.5 percent. The hybrids which varied from 15.5 percent were adjusted in yield accordingly. Adjustments also were made for missing hills but not for other variations in stand. Therefore, the yields at each location reported in this bulletin constitute an average yield of the four plots after all adjustments were made.

1959 RESULTS

DISTRICT 1

Results reported for each district are for tests conducted in 1959 and summaries for 1957, 1958 and 1959. It is hoped that more closed pedigree hybrids will be reentered in the same districts for a period of at least three years in order to compute a longer period-of-years' results for each district.

It has been the policy of many to select hybrids on a single year's results or from a single location. This is risky as environmental conditions fluctuate from year to year. The best hybrids are those which perform well over a period of years.

Data for this district for 1959 and the three year (1957-1959) summary are reported in tables 1A to 1F. The highest rainfall in any of the locations was reported at Tarkio, while Lathrop received slightly below the state average for the period recorded. Temperatures in this district were above normal. Wire worm and cut worm damage at Tarkio reduced stands, which in turn reduced yields. The below average rainfall reduced the yields at Lathrop.

Table 1A--Percent of Total Farmland Area Planted to Corn, Total Corn Acreage, Average Acre Yield and the Average Acre Yield for Hybrids Tested in the Missouri Corn Yield Trials for the 10-year Period (1948-1957), 1957, 1958, and 1959 in District 1.

	Percent Farmland Planted to Corn	Total Corn Acreage	Average Acre Yield	Missouri Corn Yield Tests
10 year average 1948-1957	20.7	908,000	42.3	
1957	17.1	758,000	46.2	61.8
1958	14.1	618,000	58.5	88.7
1959	25.9*	1,140,000*	58.0*	95.2

*Estimated as of October 1, 1959.

Table 1B--Location of Yield Trials, Date Planted and Harvested, and the Average Yield for Each Testing Location in District 1.

Testing Location	Cooperator	Date Planted	Date Harvested	Avg. Acre Yield Bu.	LSD Bu.
Tarkio	Ray Schmidt	June 6	Nov. 19	98.6	14.0
Lathrop	Northwest Missouri Agric. Exp. Sta.	May 19	Oct. 28	91.8	10.1

Table 1C--Total Rainfall, Number of Days with Rain, and Dry Periods From May 1 to September 15 at Each of the Testing Locations in District 1.

Testing Location	Nearest Weather Station	Total Rain- fall	No. of Days with Rain					Sept. 15	Total	Dry Periods*
			May	June	July	Aug.				
Tarkio	Tarkio	22.14	14	7	7	9	2	39	7/5-7/30 8/1-8/20	
Lathrop	Lathrop	14.00	10	4	7	6	0	27	6/12-6/29 9/1-9/15	

*A dry period must have at least 15 consecutive days with less than 0.25 in. precipitation.

Table 1D--Average Temperature, Departure from Normal, and the Number of Days with Temperatures of 90° or more, and 100° or more from May 1 to September 15 at each of the Testing Locations in District 1.

Testing Location	Nearest Weather Station	Average Temp.	Departure from Normal	No. Days with Temperatures 90° or more		No. Days with Temperatures 100° or more	
				1959	Avg.	1959	1959
Tarkio	Tarkio	72.0	+2.0	36	45	0	0
Lathrop	Lathrop	74.2	+2.7	36	41	0	0

Table 1E 1959 Summary of Performance Records for Hybrids Tested at Tarkio and Lathrop, Missouri in District 1. (Exp. 1 and 2).

Hybrid	Acre Yield Bu.	Moist- ure in Grain %	Stand %	Lodged Plant		Drop- ped Ears %	Ear Height Grade
				Root %	Stalk %		
DeKalb 805	107.7	19.4	86	0.5	0.4	1.7	3.7
Alps Super Corn 30	107.6	17.8	84	6.6	2.1	0.0	3.7
DeKalb 3x1	105.6	18.7	83	2.3	3.9	0.5	3.8
Mo. 995	104.2	19.8	88	0.4	1.7	0.0	3.8
Pioneer 4128	104.1	22.5	89	1.6	3.8	0.4	3.8
Pioneer 318A	103.9	20.1	90	0.0	0.5	1.2	3.7
Alps 98	103.8	19.7	84	0.5	0.9	0.0	4.0
DeKalb 661	102.8	19.2	89	0.4	6.7	0.5	3.7
Kan 2822	102.6	18.3	86	1.3	3.0	0.4	4.1
Pioneer 5757	101.8	19.7	94	0.0	0.8	1.1	3.7
Maygold 59A	100.4	18.6	90	1.2	4.5	0.4	3.8
Alps 74	100.0	20.2	88	0.0	2.2	0.8	4.0
MFA K6	100.0	20.7	82	0.0	0.9	0.0	3.8
Pioneer 302B	99.3	22.6	90	0.0	5.8	0.0	3.8
U. H. WW50	99.2	23.8	88	0.0	8.1	1.6	3.5
DeKalb 662	98.9	20.6	90	2.3	8.0	0.0	3.8
U. H. WW60	98.9	22.1	82	1.5	6.9	1.0	3.8
MFA 3210	98.6	17.9	84	0.5	5.7	0.0	3.8
Funks G144	98.4	22.9	88	0.0	1.4	1.3	3.7
Maygold 37	98.2	21.2	80	0.0	4.5	0.0	3.8
DeKalb 640	98.0	19.2	91	1.7	0.9	0.8	3.8
DeKalb 854	97.9	21.3	82	0.9	4.5	2.2	3.8
Maygold 48	97.9	18.1	87	0.0	2.7	0.4	3.8
Kan 1639(Cert.)	97.8	19.3	88	2.5	2.1	0.4	3.7
DeKalb 3x4	97.7	19.2	86	0.0	6.5	1.3	3.9
Mo. 880(Cert.)	97.6	20.8	90	1.2	0.4	0.4	3.7
U. H. X154	97.6	19.4	87	0.0	1.3	0.4	3.3
US 523W*	97.4	22.1	80	1.4	1.8	0.9	4.1
Maygold 47	97.0	19.1	80	0.0	10.5	1.8	3.9
Maygold 97	97.0	17.1	86	0.0	1.8	0.5	3.7
Cargill 5035	96.6	20.4	87	1.7	5.1	1.3	3.6
Rists R71	96.4	18.8	86	0.0	2.6	0.4	3.8
Funks G95A	96.2	19.2	84	1.9	2.3	0.0	3.8
Pfister PAG Exp. 9028	96.2	22.1	90	0.0	5.0	0.4	3.8
Steckleys GG15	96.2	21.2	84	0.0	7.0	0.9	3.8
MFA 118	96.1	19.4	77	0.0	2.7	0.0	3.8
AES 801	96.0	20.8	87	0.0	0.8	0.4	3.7
Maygold 29X	96.0	21.4	87	0.9	3.0	0.0	3.8
Steckleys GG Exp. 2015B	95.7	21.0	90	0.0	0.4	1.2	3.7
U. H. 52B	94.9	24.5	88	0.8	10.3	3.8	3.7
US 13	94.8	18.9	85	4.2	7.4	1.3	3.8
MFA 2120	94.7	20.5	86	0.8	1.7	0.0	3.8
Cargill 335	94.3	21.7	84	0.4	6.6	2.6	3.5
Pioneer 312A	94.1	23.0	88	0.0	2.1	0.8	3.8
MFA 2123	93.7	18.0	90	1.6	8.3	1.1	3.7
Steckleys GG12	93.6	20.0	87	0.5	2.2	0.4	3.7
Pfister PAG 323	92.1	19.1	90	0.0	2.5	2.0	3.5
Iowa 4376	90.9	17.5	82	0.0	3.4	0.5	3.3
U. H. 55	90.8	21.7	87	0.4	8.3	1.3	3.5
DeKalb 803A	90.5	22.5	89	0.0	3.4	0.0	3.8
Kan 1639	89.9	19.5	91	0.0	2.6	1.2	3.8
Steckleys GG20	89.9	21.3	86	0.8	4.4	0.4	3.8
Kan 1859	89.8	21.1	87	3.4	2.9	0.4	3.6
Mo. 880	89.2	20.4	73	2.6	1.0	0.0	3.5
Cargill 5752	87.2	22.0	88	2.8	2.9	0.8	3.8
Cargill 5406	86.9	18.0	74	0.0	4.4	0.5	3.6
Mo. 843 (Cert.)	86.4	21.0	82	3.4	3.1	1.3	3.8
Pfister PAG 347	85.4	19.3	85	0.0	2.6	0.5	3.3
Mo. 843	84.5	21.9	82	1.7	7.3	0.9	3.8
U. H. X3H57	83.4	22.8	90	0.0	0.5	0.4	3.4
Ohio C92	81.8	19.2	60	2.9	2.0	1.3	3.8
AES 811W*	81.2	19.8	71	4.5	0.5	0.0	3.8
Pfister PAG 485	80.5	21.9	87	4.7	8.0	0.0	4.3
Mo. 447W*	76.5	22.3	45	0.0	0.0	0.0	4.0
Mean	95.2	20.4	85	1.0	3.6	0.7	3.7

* White Hybrids

Table 1F Summary of Acre Yield and Lodging for Hybrids Tested in District 1 for the Three Year Period of 1957, 1958 and 1959.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
DeKalb 3x1	91.6	17.4	14.6	Cargill 335	83.0	4.9	24.0
Funks G95A	87.9	3.5	11.8	Mo. 880	82.8	9.1	6.8
Funks G144	87.8	8.2	7.4	Pioneer 312A	81.9	3.4	12.8
Kan 1639	87.6	6.4	14.2	Maygold 97	81.7	2.6	7.8
U. H. WW60	87.1	8.7	16.2	US 13	81.2	4.8	20.4
US 523W	85.9	5.7	11.7	Mo. 447W	80.9	12.4	15.1
DeKalb 661	85.6	5.2	18.2	AES 811W	79.7	14.1	9.7
U. H. 55	84.9	5.3	19.2	Pfister PAG 347	79.6	5.6	14.8
MFA 118	84.8	4.5	10.9	Ohio C92	78.1	2.6	27.0
MFA 2120	84.6	4.6	8.8	Iowa 4376	78.0	1.8	10.0
AES 801	84.1	4.2	6.9	Mo. 843	71.4	7.4	9.4
Maygold 47	83.5	1.7	23.9				
Kan 1859	83.2	17.2	11.9	Mean	83.2	6.7	13.9

DISTRICT 2

Tables 2A through 2F give the 1959 results and three year summary for District 2. Climatic conditions were quite favorable for this district, resulting in above average yields. Even though Spickard received the sec-

ond highest rainfall, it did have three dry periods during the growing season, which no doubt caused some reduction in yield. In spite of these dry periods, this district recorded the highest yield among the nine districts.

Table 2A--Percent of Total Farmland Area Planted to Corn, Total Corn Acreage, Average Acre Yield and the Average Acre Yield for Hybrids Tested in the Missouri Corn Yield Trials for the 10-year Period (1948-1957), 1957, 1958, and 1959 in District 2.

	Percent Farmland Planted to Corn	Total Corn Acreage	Average Acre Yield	Missouri Corn Yield Tests
10 year average 1948-1957	13.3	522,000	42.2	
1957	12.1	475,000	50.2	85.5
1958	10.4	408,000	56.4	109.4
1959	16.4*	645,000*	59.0*	111.7

*Estimated as of October 1, 1959.

Table 2B--Location of Yield Trials, Date Planted and Harvested, and the Average Yield for Each Testing Location in District 2.

Testing Location	Cooperator	Date Planted	Date Harvested	Avg. Acre Yield Bu.	LSD Bu.
Spickard	N.W. Missouri Agricultural Research Center	May 16	Oct. 27	107.4	10.4
Kirksville	Earl Shockey	May 19	Oct. 26	115.8	12.0

Table 2C--Total Rainfall, Number of Days with Rain, and Dry Periods May 1 to September 15 at Each of the Testing Locations in District 2.

Testing Location	Nearest Weather Station	Total Rain-fall	No. of Days with Rain					Total	Dry Periods*
			May	June	July	Aug.	Sept. 15		
Spickard	Spickard	20.05	14	5	10	5	3	37	6/1-6/28 7/9-8/4 9/1-9/15
Kirksville	Kirksville	16.10	15	4	8	7	2	36	6/1-6/29

*A dry period must have at least 15 consecutive days with less than 0.25 in. precipitation.

Table 2D--Average Temperature, Departure from Normal, and the Number of Days with Temperatures of 90° or more, and 100° or more from May 1 to September 15 at each of the Testing Locations in District 2.

Testing Location	Nearest Weather Station	Average Temp.	Departure from Normal	No. Days with Temperatures 90° or More		No. Days with Temperatures 100° or More
				1959	Avg.	
Spickard	Spickard	75.6	+3.2	30	44	0
Kirksville	Kirksville	71.3	-0.7	24	44	0

Table 2E 1959 Summary of Performance Records for Hybrids Tested at Spickard and Kirksville, Missouri, in District 2. (Exp. 3 and 4).

Hybrid	Acre Yield Bu.	Moist- ure in Grain %	Stand %	Lodged Plant		Drop ped Ears %	Ear Height Grade
				Root %	Stalk %		
Dekalb 805	133.7	21.1	97	3.2	10.2	2.3	3.7
Cargill 5741	130.0	20.0	96	0.0	9.4	2.9	3.8
Maygold 37	122.5	21.8	97	14.7	17.2	1.1	3.9
Funks G91	121.0	20.7	97	5.1	10.0	2.4	4.0
Pioneer 5757	120.8	22.0	96	0.0	3.1	1.1	3.6
Maygold 48	119.6	20.0	99	12.1	11.1	1.1	3.9
Maygold 47	119.5	20.9	99	7.4	15.2	3.7	3.9
DeKalb 3x1	118.4	21.1	95	10.2	11.8	0.8	3.7
Pioneer 4128	118.1	23.3	97	12.7	13.1	0.8	3.9
DeKalb 3x4	117.9	19.6	96	3.9	17.9	1.4	3.8
Pioneer 318A	117.8	20.7	96	2.6	8.1	0.8	3.7
Mo. 995	117.0	21.4	98	18.8	4.2	0.0	3.6
Kan 2822	116.8	19.1	98	5.9	13.1	1.6	4.1
U. H. WW50	116.2	23.8	99	6.3	19.9	2.0	3.6
MFA 2120	115.8	21.9	95	2.7	5.4	0.4	3.8
MFA 118	115.7	20.7	97	2.1	11.4	0.4	3.8
Cargill 5035	115.5	22.0	97	8.0	9.4	2.3	3.7
Steckleys GG15	115.2	22.9	96	6.0	18.6	0.7	3.8
Steckleys GG12	114.6	20.3	97	3.5	10.4	0.0	3.7
DeKalb 633	114.5	21.8	96	8.5	8.9	0.4	3.8
MFA 3210	114.5	19.4	97	3.8	7.9	0.0	3.9
Mo. 880 (Cert.)	114.4	23.0	97	6.6	4.8	0.0	3.7
Maygold 29X	113.9	23.6	97	14.1	2.1	0.0	3.8
Pioneer 302B	113.4	24.0	98	15.1	10.8	0.0	3.9
Kan 1639	113.3	20.7	98	13.1	5.7	1.4	3.6
Pfister PAG 323	113.2	20.5	98	2.5	14.3	0.4	3.5
DeKalb 3x2	113.0	21.7	96	16.0	9.6	0.4	3.5
Mo. 843 (Cert.)	112.8	22.6	98	10.6	15.5	0.7	3.8
Maygold 59A	112.5	20.1	99	10.8	8.9	1.7	4.0
Funks G134	112.4	22.1	95	11.2	12.0	0.4	3.8
DeKalb 661	112.3	20.8	98	15.7	7.8	0.9	3.8
Maygold 97	112.2	19.9	99	3.5	8.3	0.7	3.7
Steckleys GG Exp. 2015B	112.2	21.9	95	2.8	7.2	0.0	3.7
Steckleys GG20	111.9	23.1	99	7.6	20.5	0.3	3.8
DeKalb 640	111.6	21.9	94	1.3	1.8	0.5	3.9
DeKalb 854	111.2	21.7	97	12.9	10.0	1.2	3.8
DeKalb 812	111.1	22.3	98	7.3	5.3	0.4	3.6
U. H. 3H52	110.8	23.8	96	9.0	25.3	1.8	4.0
Cargill 5752	110.5	22.4	99	14.2	10.7	0.7	3.8
DeKalb 806	110.2	20.4	94	2.7	6.7	2.7	3.8
DeKalb 869	110.1	22.2	95	13.7	7.9	0.0	3.9
U. H. 66	109.5	23.4	97	13.1	16.8	1.5	3.5
U. H. WW60	109.1	24.8	98	12.7	18.5	1.5	3.7
Cargill 335	108.9	23.3	95	5.2	12.0	5.0	3.7
US 13	108.1	21.1	92	11.3	17.6	0.9	4.0
Pfister PAG Exp. 9028	108.0	22.8	98	6.3	10.0	1.1	3.8
AES 801	107.3	23.1	96	11.6	14.1	0.0	3.7
Pfister PAG 485	106.6	25.0	97	5.1	7.0	0.0	4.2
Pioneer 312A	106.1	25.5	99	7.5	3.4	0.0	3.8
US 523W*	105.2	23.6	95	9.6	7.2	1.2	4.2
DeKalb 662	104.0	21.7	99	24.2	22.9	1.5	3.7
Mo. 843	103.2	23.2	93	10.6	22.2	0.0	3.8
Iowa 4376	103.1	20.4	97	5.1	6.5	0.4	3.3
Kan 1859	99.6	23.5	90	25.1	11.0	0.0	3.5
U. H. X154	99.5	23.2	95	12.5	4.7	0.0	3.2
MFA 2123	99.0	21.4	97	10.0	11.5	0.9	3.7
Mo. 880	98.6	23.5	83	11.7	0.4	0.5	3.6
AES 811W*	98.5	22.1	81	12.7	4.1	0.0	3.8
Mo. 447W*	93.4	24.0	54	9.5	3.4	0.0	3.8
Ohio C92	93.3	20.4	64	7.1	3.6	0.6	3.7
Mean	111.7	22.0	95	9.0	10.3	0.9	3.8

* White Hybrids

Table 2F Summary of Acre Yield and Lodging for Hybrids Tested in District 2 for the Three Year Period of 1957, 1958 and 1959.

Hybrid	Acre Yield		Lodged Plant		Hybrid	Acre Yield		Lodged Plant	
	Bu.	%	Root %	Stalk %		Bu.	%	Root %	Stalk %
US 523W	107.2	11.0	14.7		DeKalb 806	102.2	6.1	12.3	
DeKalb 3x1	107.1	11.4	15.7		Mo. 447W	101.8	9.9	12.8	
DeKalb 3x2	106.1	11.4	15.5		Pioneer 312A	101.7	7.0	13.3	
Funk G134	105.7	12.7	11.9		U. H. 66	101.6	14.4	14.8	
Funk G91	105.7	7.4	17.6		US 13	101.0	6.9	18.6	
U. H. WW50	105.4	7.3	21.1		Kan 1859	99.9	21.3	11.5	
MFA 2120	105.4	4.7	6.3		U. H. WW60	99.4	16.1	17.1	
Mo. 880	105.1	7.9	5.9		Mo. 843	97.7	8.0	13.5	
Cargill 335	104.5	8.7	17.7		AES 811W	96.7	17.3	9.1	
Maygold 47	104.5	7.9	24.0		AES 801	96.5	8.4	9.3	
Kan 1639	104.1	11.6	12.5		Ohio C92	95.1	6.4	12.1	
DeKalb 661	103.6	8.7	14.9		Iowa 4376	93.5	7.2	11.9	
Maygold 59A	103.6	9.0	16.8						
Pfister PAG 485	103.4	7.1	18.2		Mean	102.3	9.8	14.2	

DISTRICT 3

Results for District 3 are given in tables 3A through 3F. Weather conditions and rainfall were very favorable in this district. Excessive root and stalk lodging at the

Kahoka location accounted for a considerable number of ears sprouting at harvest. Some of the excessive lodging was caused by the European corn borer.

Table 3A--Percent of Total Farmland Area Planted to Corn, Total Corn Acreage, Average Acre Yield and the Average Acre Yield for Hybrids Tested in the Missouri Corn Yield Trials for the 10-year Period (1948-1957), 1957, 1958, and 1959 in District 3.

	Percent Farmland Planted to Corn	Total Corn Acreage	Average Acre Yield	Missouri Corn Yield Tests
10 year average 1948-1957	12.9	414,000	42.9	
1957	12.7	405,000	47.2	93.3
1958	13.2	424,000	60.2	104.4
1959	16.0*	510,000*	54.0*	108.4

*Estimated as of October 1, 1959

Table 3B--Location of Yield Trials, Date Planted and Harvested, and the Average Yield for Each Testing Location in District 3.

Testing Location	Cooperator	Date Planted	Date Harvested	Avg. Acre Yield Bu.	LSD Bu.
Clarence	Anderson Meadows	June 5	Nov. 9	105.6	9.3
Kahoka	D. L. Shrauner	May 18	Oct. 23	111.0	12.7

Table 3C--Total Rainfall, Number of Days with Rain, and Dry Periods from May 1 to September 15 at Each of the Testing Locations in District 3.

Testing Location	Nearest Weather Station	Total Rain-fall	No. of Days with Rain					Total	Dry Periods*
			May	June	July	Aug.	Sept. 15		
Clarence	Macon	17.61	15	3	14	8	3	43	6/2-6/30
Kahoka	Kahoka	15.26	10	3	6	5	2	26	6/1-6/21 7/2-7/22 8/17-9/15

*A dry period must have at least 15 consecutive days with less than 0.25 in. precipitation.

Table 3D--Average Temperature, Departure from Normal, and the Number of Days with Temperatures of 90° or more, and 100° or more from May 1 to September 15 at each of the Testing Locations in District 3.

Testing Location	Nearest Weather Station	Average Temp.	Departure from Normal	No. Days with Temperatures 90° or More		No. Days with Temperatures 100° or More
				1959	Avg.	
Clarence	Macon	73.0	+2.2	40	41	0
Kahoka	Canton	73.6	+4.0	40	42	0

Table 3E 1959 Summary of Performance Records for Hybrids Tested at Clarence and Kahoka, Missouri in District 3. (Exp. 5 and 6).

Hybrid	Acre Yield Bu.	Moisture in Grain %	Stand %	Lodged Plant		Dropped Ears %	Ear Height Grade
				Root %	Stalk %		
Bear OK 96	126.3	22.6	98	2.9	8.9	0.0	4.0
Mortons M-6X	123.5	20.1	98	3.2	11.0	0.7	3.6
Bear Unicorn X606	122.7	22.9	97	4.2	15.1	0.3	3.9
Bear OK 878	122.4	21.6	96	8.4	6.7	0.4	3.9
Forster 44	122.3	21.4	97	3.2	12.6	0.0	4.0
McAllister 13A	119.4	18.7	99	3.8	17.9	0.0	3.7
Forster 56	118.7	21.3	99	1.3	15.6	0.0	3.9
DeKalb 805	118.5	20.3	99	9.5	13.1	0.9	3.7
Forster 55	118.4	18.6	100	2.5	15.0	0.3	3.7
DeKalb 633	118.2	22.4	98	1.3	16.8	0.7	3.8
Forster 33	118.0	19.7	98	3.9	8.2	0.3	3.7
US 523W*	117.6	23.0	98	16.5	15.3	0.0	4.2
DeKalb 869	116.1	20.9	98	7.0	12.8	0.3	4.0
Pioneer 4128	116.0	22.2	98	12.6	17.4	0.3	3.9
McAllister 23A	115.5	21.2	98	0.3	10.1	0.7	3.7
MFA K6	115.4	21.1	97	5.4	11.5	1.1	3.5
Kan 1639 (Cert.)	114.1	20.8	99	10.4	23.4	0.4	3.7
Finks G144	113.7	22.1	96	12.3	11.6	0.0	3.5
US 523W* (Cert.)	113.5	24.6	99	16.1	15.5	0.5	4.1
MFA 118	112.9	19.3	98	6.5	24.1	0.5	3.7
Cargill 310	112.5	18.9	98	3.8	17.2	0.0	3.7
Pioneer 312A	112.5	23.6	97	0.9	20.1	0.5	3.9
Bear OK 69	112.0	20.3	98	4.3	11.8	0.0	3.9
DeKalb 806	108.5	20.4	98	8.1	21.1	0.9	3.7
Mo. 995	108.3	21.3	98	11.4	19.4	0.0	3.5
Pioneer 318A	108.0	19.3	94	5.0	13.7	0.4	3.6
DeKalb 803A	107.8	23.5	97	18.0	25.7	0.5	3.6
Schenks S70	107.8	20.5	96	7.4	20.4	0.3	3.7
Pioneer 5757	107.7	21.3	97	0.4	7.8	0.0	3.4
AES 801	107.6	21.0	99	6.9	15.9	0.0	3.6
Kan 1639	107.5	20.0	96	9.5	22.8	0.4	3.6
Funks G95A	107.5	20.5	97	6.4	28.3	0.9	3.8
Cargill 330	107.4	20.4	98	3.1	14.7	0.8	3.5
Kan 2822	106.7	20.2	97	10.1	21.8	0.4	4.0
Steckleys GGEExp. 2015B	106.5	22.2	96	3.1	13.5	0.8	3.4
MFA 2120	105.9	21.4	97	12.3	11.3	0.5	3.7
Steckleys GG12	105.6	20.0	94	2.7	18.4	0.4	3.8
DeKalb 812	105.3	23.0	98	3.4	15.2	1.5	3.4
Pioneer 302B	105.2	22.7	96	13.1	17.6	0.4	3.6
DeKalb 3x1	105.1	20.8	94	19.4	13.8	0.0	3.6
Kan 1859	105.0	23.3	98	29.9	24.2	0.0	3.5
Cargill 335	104.8	22.9	99	9.7	33.6	1.0	3.6
Steckleys GG20	104.8	22.5	97	10.7	22.2	0.5	3.6
Mo. 880 (Cert.)	104.3	22.5	97	13.4	16.5	0.4	3.7
Mo. 843 (Cert.)	103.9	21.6	97	20.4	19.5	0.0	3.7
DeKalb 3x4	103.4	20.4	98	12.0	25.8	0.0	3.8
US 13	103.2	20.4	96	14.2	26.7	1.3	4.0
Steckleys GG15	102.9	22.1	97	11.3	24.5	0.0	3.6
McAllister 33B	102.6	21.1	98	0.0	10.3	1.0	3.5
Pfister PAG 383	102.1	20.0	100	15.6	13.9	1.3	3.5
Cargill 5035	99.8	23.5	94	11.3	27.2	0.8	3.6
Pfister PAG 403	99.5	20.6	98	16.3	22.9	0.0	3.4
Pfister PAG 415	98.2	20.5	97	8.9	15.0	0.0	3.3
Mo. 880	97.9	21.5	86	13.5	6.5	0.0	3.5
Mo. 843	97.6	22.7	96	15.9	12.2	1.1	3.6
Iowa 4376	96.7	19.1	99	13.2	23.0	0.3	3.3
MFA 2123	95.6	20.0	96	12.0	28.4	0.0	3.5
AES 811W*	94.2	21.2	82	36.5	16.1	0.0	3.5
Ohio C92	84.2	19.0	61	16.7	20.3	0.0	3.7
Mo. 447W*	82.7	22.4	51	19.6	10.0	0.0	3.5
Mean	108.4	21.2	96	9.7	17.2	0.4	3.7

*White Hybrids

Table 3F Summary of Acre Yield and Lodging for Hybrids Tested in District 3 for the Three Year Period of 1957, 1958 and 1959.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
US 523W	111.6	12.9	10.5	Mo. 447W	101.3	10.9	5.7
Pioneer 312A	110.4	2.4	11.9	Pfister PAG 403	100.8	8.4	10.7
Funk G144	106.6	6.8	9.3	AES 801	100.6	2.9	7.6
DeKalb 806	105.1	5.3	11.9	US 13	99.5	7.8	15.1
Kan 1639	105.0	8.8	12.1	Kan 1859	99.4	21.1	11.3
Mortons M-6	104.7	6.3	5.9	AES 811W	99.1	21.5	7.6
MFA 2120	104.6	6.7	6.9	Mo. 843	99.0	11.7	10.0
Funk G95A	103.6	3.5	13.0	Mo. 880	95.1	7.2	7.3
Cargill 335	102.4	7.9	17.1	Iowa 4376	93.0	9.8	10.9
MFA 118	102.3	2.7	10.3	Ohio C92	91.1	8.9	10.4
Pfister PAG 383	102.2	8.8	6.6	Mean	101.8	8.7	10.1

DISTRICT 4

The results for District 4 are given in tables 4A through 4F. Abnormal climatic conditions reduced yields in this district. The Higginsville location received the second lowest amount of rainfall during the growing season with less than 12 inches. That, with 56 days (nine above average) of temperatures above 90° and a 33-day

dry period in June and July and one of 19 days duration in August and September, gave the second lowest average yield recorded in the state trials. Butler received slightly above average rainfall, but three dry periods in June, August and September, plus 57 days of temperatures above 90° reduced yields in to some extent.

Table 4A--Percent of Total Farmland Area Planted to Corn, Total Corn Acreage, Average Acre Yield and the Average Acre Yield for Hybrids Tested in the Missouri Corn Yield Trials for the 10-year Period (1948-1957), 1957, 1958, and 1959 in District 4.

	Percent Farmland Planted to Corn	Total Corn Acreage	Average Acre Yield	Missouri Corn Yield Tests
10 year average 1948-1957	13.9	503,000	32.9	
1957	10.6	380,000	37.1	63.5
1958	10.4	376,000	53.0	90.9
1959	14.0*	505,000*	55.0*	79.3

*Estimate as of October 1, 1959

Table 4B--Location of Yield Trials, Date Planted and Harvested, and the Average Yield for Each Testing Location in District 4.

Testing Location	Cooperator	Date Planted	Date Harvested	Avg. Acre Yield Bu.	LSD Bu.
Butler	Claude Lemon	April 30	Oct. 20	100.5	15.0
Higginsville	R. F. Kessler & Son	May 27	Oct. 29	58.8	12.0

Table 4C--Total Rainfall, Number of Days with Rain, and Dry Periods from May 1 to September 15 at Each of the Testing Locations in District 4.

Testing Location	Nearest Weather Station	Total Rain-fall	No. of Days with Rain					Sept. 15	Total	Dry Periods*
			May	June	July	Aug.	Aug.			
Butler	Appleton City	16.15	11	4	13	4	0	32	6/12-6/26 8/1-8/15 8/31-9/15	
Higginsville	Sweet Springs	11.78	12	6	12	8	3	41	6/1-7/3 8/17-9/5	

*A dry period must have at least 15 consecutive days with less than 0.25 in. precipitation.

Table 4D--Average Temperature, Departure from Normal, and the Number of Days with Temperatures of 90° or more, and 100° or more from May 1 to September 15 at each of the Testing Locations in District 4.

Testing Location	Nearest Weather Station	Average Temp.	Departure from Normal	No. Days with Temperatures 90° or More		No. Days with Temperatures 100° or More 1959
				1959	Avg.	
Butler	Appleton City	74.4	+1.3	57	42	0
Higginsville	Sweet Springs	73.5	+0.4	56	47	0

Table 4E 1959 Summary of Performance Records for Hybrids Tested at Butler and Higginsville, Missouri in District 4. (Exp. 7 and 8).

Hybrid	Acre Yield Bu.	Moist-ure in Grain %	Stand %	Lodged Plant		Drop-ped Ears %	Ear Height Grade
				Root %	Stalk %		
US 619W*	94.8	18.5	93	1.4	9.3	0.0	3.7
Pioneer 5757	94.6	16.3	95	0.0	4.0	0.0	3.0
DeKalb 3x1	88.7	16.4	95	2.6	4.8	0.0	3.0
Funks G144	88.1	17.0	96	3.9	2.2	0.5	3.2
Pioneer 4128	88.1	18.2	98	2.6	4.2	0.5	2.9
Pioneer 318A	87.2	16.0	88	0.9	4.3	0.0	3.0
Alps 81	87.0	17.7	91	1.0	6.9	0.5	3.2
Kan 1639	86.8	15.9	94	0.5	2.7	0.5	3.1
Mo. 995	86.1	18.4	95	0.5	2.7	0.0	3.3
Mo. 960	85.4	18.7	93	0.0	10.4	0.5	3.6
DeKalb 869	84.9	17.4	94	4.5	2.6	0.0	3.5
Maygold 37	84.6	16.2	94	1.4	7.1	0.0	3.2
Pioneer 312A	83.2	18.3	92	1.3	4.4	0.0	3.1
Kan 4003	82.0	18.9	97	0.5	5.5	0.0	3.7
DeKalb 898A	81.7	17.3	90	3.3	3.7	0.0	3.5
Funks G91	81.3	15.8	94	3.7	9.3	0.0	3.3
Maygold 29X	80.9	17.2	95	2.3	1.3	0.5	3.0
Pioneer 302B	80.8	18.5	96	2.7	2.6	0.0	3.1
DeKalb 854	80.6	16.2	96	0.0	7.0	0.9	3.2
Steckleys GG12	80.6	16.1	93	0.0	5.9	0.5	2.8
Steckleys Exp. 2015B	80.4	16.7	89	1.5	1.9	0.5	2.9
US 13	80.2	16.2	81	2.2	6.4	0.5	3.4
Alps 88	80.1	16.4	96	0.5	2.6	0.0	3.2
AES 904W*	79.5	20.1	98	0.0	3.8	0.0	3.8
DeKalb 805	79.5	16.3	88	7.2	3.5	0.0	3.0
US 523W*	79.4	17.8	98	2.6	9.0	0.0	3.5
DeKalb 3x4	79.2	16.0	96	1.8	7.9	0.5	3.2
Maygold 47	78.8	15.5	92	1.4	7.7	0.9	3.2
Maygold 48	78.5	15.5	88	5.3	3.1	0.0	3.3
Iowa 4376	78.2	15.5	94	0.0	4.9	0.0	2.8
MFA 118	78.0	15.9	87	0.5	4.9	0.0	3.1
Maygold 97	77.1	15.1	95	1.8	2.2	0.0	2.9
MFA K6	76.7	16.8	83	6.8	2.5	0.0	3.0
Mo. Pipe 4*	76.6	19.4	90	4.3	2.4	0.0	3.3
Maygold 59A	76.2	15.7	91	1.0	2.3	0.0	3.0
MFA 2120	76.0	16.1	88	0.5	2.4	0.0	3.0
Mo. 843	75.4	16.4	84	5.9	9.2	0.0	3.1
MFA 3210	75.1	14.7	91	0.0	4.7	0.5	3.0
Steckleys GG20	73.4	16.8	85	1.1	5.5	0.0	2.9
Mo. 916	72.9	17.4	67	3.8	0.6	0.0	3.5
Mo. 804 (Cert.)	72.5	18.8	95	1.3	8.8	0.0	3.9
Steckleys GG15	72.0	16.2	83	0.6	10.3	0.0	2.8
Mo. 881	71.1	19.1	91	3.7	5.1	0.0	3.4
AES 811W*	71.0	16.9	63	3.2	0.8	0.8	3.1
Ohio C92	66.8	16.0	60	2.1	3.4	0.0	3.3
Mo. 947	66.7	16.4	84	2.1	3.8	0.5	3.3
Mo. 880	66.5	17.1	88	3.8	0.0	0.0	2.6
Mo. 447 W*	61.4	17.9	45	0.0	1.9	0.0	3.4
Mean	79.3	17.0	89	2.0	4.6	0.2	3.2

* White Hybrids

Table 4F Summary of Acre Yield and Lodging for Hybrids Tested in District 4 for the Three Year Period of 1957, 1958 and 1959.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
US 619W	88.5	3.1	11.2	Funk G91	77.0	7.0	8.8
Kan 1639	85.4	2.5	4.7	Maygold 59A	76.9	7.7	6.5
DeKalb 3x1	83.7	4.1	5.0	Pioneer 312A	76.0	1.2	7.5
Maygold 47	83.1	1.8	10.1	Mo. Pipe 4	75.8	10.6	3.9
Mo. 960	82.1	1.1	9.2	AES 904W	75.3	0.7	3.4
US 523W	81.9	2.6	7.0	Ohio C92	75.1	5.4	8.0
MFA 118	79.5	1.6	4.7	Mo. 843	74.6	4.6	7.5
MFA 2120	78.5	1.3	4.6	Iowa 4376	72.5	4.0	7.0
Mo. 447W	78.1	4.3	3.7	Mo. 947	72.0	6.1	2.9
US 13	77.4	2.1	11.7	Mean	78.6	3.8	6.7

DISTRICT 5

Results of District 5 are in tables 5A through 5F. Even though rainfall in this district was below the state average, the yields were about normal. The lowest rainfall occurred at Columbia and there were three dry peri-

ods at Cole Camp, which tended to reduce yields for this district. There was excessive stalk lodging at the Columbia location caused by stalk rots and a wind storm in late September.

Table 5A--Percent of Total Farmland Area Planted to Corn, Total Corn Acreage, Average Acre Yield and the Average Acre Yield for Hybrids Tested in the Missouri Corn Yield Trials for the 10-year Period (1948-1957), 1957, 1958, and 1959 in District 5.

	Percent Farmland Planted to Corn	Total Corn Acreage	Average Acre Yield	Missouri Corn Yield Tests
10 year average 1948-1957	8.8	562,000	38.3	
1957	8.1	516,000	45.2	72.6
1958	7.8	496,000	55.0	115.3
1959	9.4*	600,000*	51.0*	96.2

*Estimated as of October 1, 1959.

Table 5B--Location of Yield Trials, Date Planted and Harvested, and the Average Yield for Each Testing Location in District 5.

Testing Location	Cooperator	Date Planted	Date Harvested	Avg. Acre Yield Bu.	LSD Bu.
Marshall	M.F.A. Seed Division	May 8	Oct. 16	114.8	8.6
Columbia	Missouri Agric. Exp. Sta.	April 29	Oct. 14	81.6	8.0
Cole Camp	Hugo Schnakenberg	May 14	Oct. 19	92.9	7.4

Table 5C--Total Rainfall, Number of Days with Rain, and Dry Periods from May 1 to September 15 at Each of the Testing Locations in District 5.

Testing Locations	Nearest Weather Station	Total Rain-fall	No. of Days with Rain					Total	Dry Periods*
			May	June	July	Aug.	Sept. 15		
Marshall	Marshall	12.27	9	2	10	7	2	30	6/1-6/26
Columbia	Columbia	10.60	15	2	12	7	2	38	4/28-5/10 5/30-7/3 7/27-8/15 8/22-9/15
Cole Camp	Stover	13.34	11 ^a	5	11	6	5	38	5/28-6/11 6/24-7/14 7/28-8/16

*A dry period must have at least 15 consecutive days with less than 0.25 in. precipitation.

Table 5D--Average Temperature, Departure from Normal, and the Number of Days with Temperatures of 90° or more, and 100° or more from May 1 to September 15 at each of the Testing Locations in District 5.

Testing Location	Nearest Weather Station	Average Temp.	Departure from Normal	No. Days with Temperatures 90° or more		No. Days with Temperatures 100° or more
				1959	Avg.	1959
Marshall	Marshall	73.6	+0.9	43	39	0
Columbia	Columbia	74.4	+1.8	49	39	0
Cole Camp	Versailles	74.5	+2.0	46	40	0

Table 5E 1959 Summary of Performance Records for Hybrids Tested at Marshall, Columbia and Cole Camp, Missouri in District 5. (Exp. 9, 10, and 10A).

Hybrid	Acre Yield Bu.	Moisture in Grain %	Stand %	Lodged Plant		Drop-ped Ears %	Ear Height Grade
				Root %	Stalk %		
DeKalb 805	109.5	17.1	96	0.0	7.6	1.1	3.2
US523W*	108.2	19.3	95	0.9	23.1	0.3	3.5
Kan 4003	107.2	19.8	97	0.6	16.0	0.0	3.8
Pfister PAG 485	105.9	20.2	96	1.7	18.6	0.3	3.9
Mo. Pipe 4*	105.6	22.3	94	4.7	10.9	0.3	3.7
Mo. 804	103.8	18.9	98	1.1	21.7	0.0	3.4
AES 904W*	103.7	22.7	95	1.4	13.7	0.3	3.8
US 619W*	103.5	20.4	99	3.4	24.8	0.0	3.5
Pioneer 4128	102.5	19.8	98	2.6	12.7	0.0	3.4
Mo. 881	101.9	19.4	94	5.9	12.6	0.0	3.6
Pioneer 312A	101.4	20.2	97	0.0	15.5	0.3	3.4
Maygold 37	100.9	17.8	97	1.5	28.0	0.3	3.3
Pioneer 302B	100.9	19.6	97	2.0	10.6	0.6	3.2
Mo. 843	99.7	18.0	94	2.0	19.5	0.9	3.3
Maygold 29X	98.5	18.3	96	2.6	5.2	0.3	3.2
DeKalb 3x1	98.1	17.1	98	4.0	19.6	1.1	3.2
Mo. 804 (Cert.)	97.5	19.5	96	0.9	21.5	0.6	3.9
Mo. 955	97.2	20.8	94	3.8	12.8	0.3	3.4
Maygold 48	97.2	16.0	93	0.3	14.8	0.9	3.2
Mo. 843 (Cert.)	96.9	18.3	96	0.0	26.0	0.3	3.2
DeKalb 662	96.7	17.2	97	5.1	24.0	0.0	3.2
Funks G134	96.2	17.5	96	0.0	18.8	0.0	3.2
MFA 2120	96.2	17.1	93	0.0	15.8	0.3	3.2
Mo. 947	96.1	18.4	92	0.9	16.4	0.3	3.7
DeKalb 898A	95.5	17.7	95	3.5	18.6	0.3	3.6
DeKalb 869	95.3	17.7	96	0.0	11.3	0.0	3.4
MFA 118	95.1	17.1	96	0.0	11.3	0.0	3.2
Funks G144	94.9	18.3	95	0.9	7.3	0.0	3.2
Pioneer 5757	94.7	18.3	99	0.0	7.0	0.0	3.1
Maygold 59A	94.4	16.6	96	0.6	15.3	0.0	3.4
DeKalb 854	94.1	17.1	97	2.0	19.3	0.3	3.2
Pioneer 318A	94.1	17.1	97	0.0	11.5	0.6	3.1
DeKalb 3x4	93.8	17.9	95	2.0	26.0	0.0	3.2
Mo. 960	93.5	19.5	97	0.0	29.3	0.0	3.5
Maygold 47	93.2	17.1	97	0.0	15.8	1.1	3.3
US 13	92.4	17.2	91	1.0	15.2	0.3	3.4
Pfister PAG Exp. 9028	92.4	17.0	97	0.3	8.9	0.0	3.1
Mo. 447W*	92.1	21.3	52	4.0	4.5	0.0	3.6
Mo. 916	92.1	20.1	73	1.0	10.6	0.4	3.6
Ohio C92	91.7	16.4	87	1.5	10.4	0.6	3.2
Funks G95	91.4	16.9	94	0.3	13.6	1.2	3.2
DeKalb 661	89.5	17.0	98	2.5	12.8	0.3	3.2
Mo. 880 (Cert.)	87.3	19.8	71	1.9	3.2	1.0	3.1
MFA 3210	86.5	16.1	95	0.0	8.5	0.3	3.3
Iowa 4376	86.4	16.1	96	0.0	7.5	0.0	3.0
Maygold 97	86.2	15.9	96	0.3	8.3	0.3	3.1
Kan 1639	84.1	16.9	71	0.5	1.6	0.5	3.2
AES 811W*	84.1	17.7	84	3.0	5.6	0.0	3.2
Mean	96.2	18.3	93	1.5	14.5	0.3	3.4

* White Hybrids

Table 5F Summary of Acre Yield and Lodging for Hybrids Tested in District 5 for the Three Year Period of 1957, 1958 and 1959.

Hybrid	Acre Yield		Lodged Plant		Hybrid	Acre Yield		Lodged Plant	
	Bu.	%	Root %	Stalk %		Bu.	%	Root %	Stalk %
US 523W	106.9	1.1	12.8		Funk G144	94.7	1.2	6.4	
US 619W	103.0	1.6	16.3		DeKalb 661	93.5	1.3	7.1	
Pfister PAG 485	102.3	2.8	10.4		MFA 118	92.8	1.0	5.7	
AES 904W	101.9	2.1	6.7		Ohio C92	92.8	1.2	9.1	
Mo. Pipe 4	99.4	7.1	6.0		Mo. 843	92.4	1.0	10.2	
Mo. 447W	98.7	2.4	4.9		Funk G95A	92.1	0.3	7.0	
Mo. 947	98.2	0.6	8.3		US 13	90.8	0.7	10.9	
DeKalb 3x1	97.8	1.3	9.8		Kan 1639	89.9	0.3	4.1	
Mo. 955	96.7	3.2	6.9		Iowa 4376	83.1	0.5	7.5	
MFA 2120	96.5	0.1	6.9						
Pioneer 312A	95.6	0.5	9.2		Mean	96.0	1.5	8.3	

DISTRICT 6

Tables 6A through 6F give results for District 6. This district had the second highest yield in the state trials. Washington had below average rainfall, with two

dry periods in June and July. Rainfall at Moscow Mills was slightly below average.

Table 6A--Percent of Total Farmland Area Planted to Corn, Total Corn Acreage, Average Acre Yield and the Average Acre Yield for Hybrids Tested in the Missouri Corn Yield Trials for the 10-year Period (1948-1957), 1957, 1958, and 1959 in District 6.

	Percent Farmland Planted to Corn	Total Corn Acreage	Average Acre Yield	Missouri Corn Yield Tests
10 year average 1948-1957	10.6	350,000	41.9	
1957	9.4	310,000	49.2	115.2
1958	9.9	326,000	57.1	123.5
1959	11.5*	380,000*	51.0*	110.9

*Estimated as of October 1, 1959

Table 6B--Location of Yield Trials, Date Planted and Harvested, and the Average Yield for Each Testing Location in District 6.

Testing Location	Cooperator	Date Planted	Date Harvested	Avg. Acre Yield Bu.	LSD Bu.
Washington	Ben F. Geisert & Sone	May 4	Oct. 8	108.4	11.6
Moscow Mills	A. H. Sievert	May 7	Oct. 9	113.5	13.6

Table 6C--Total Rainfall, Number of Days with Rain, and Dry Periods from May 1 to September 15 at Each of the Testing Locations in District 6.

Testing Location	Nearest Weather Station	Total Rain-fall	No. of Days with Rain					Sept. 15	Total	Dry Periods*
			May	June	July	Aug.				
Washington	Union	13.73	13	5	8	11	2	39	5/28-6/22 7/6-7/22	
Moscow Mills	Warrenton	14.53	11	6	9	8	3	37	9/3-9/25	

*A dry period must have at least 15 consecutive days with less than 0.25 in. precipitation.

Table 6D--Average Temperature, Departure from Normal, and the Number of Days with Temperatures of 90° or more, and 100° or more from May 1 to September 15 at each of the Testing Locations in District 6.

Testing Location	Nearest Weather Station	Average Temp.	Departure from Normal	No. Days with Temperatures 90° or more		No. Days with Temperatures 100° or more
				1959	Avg.	1959
Washington	Union	74.0	+0.4	60	37	0
Moscow Mills	Warrenton	73.5	+0.6	37	37	0

Table 6E 1959 Summary of Performance Records for Hybrids Tested at Washington and Moscow Mills, Missouri in District 6. (Exp. 11 and 12).

Hybrid	Acre Yield Bu.	Moisture in Grain %	Stand %	Lodged Plant		Drop-ped Ears %	Ear Height %
				Root %	Stalk %		
AES 904W*	135.2	24.3	98	4.6	9.9	0.3	4.2
US 523W*	129.5	23.2	96	5.3	18.1	0.7	4.0
Dixie 29*	128.6	24.6	91	2.0	11.5	0.0	4.3
Mo. 804 (Cert.)	126.6	22.8	94	1.3	12.9	1.4	4.3
Mo. Pipe 4*	125.9	25.1	87	3.6	14.8	0.4	4.2
Dixie 33*	124.8	25.5	86	5.3	21.1	0.0	4.9
Pfister PAG 434	123.3	20.7	94	0.7	13.7	0.0	3.8
US 523W* (Cert.)	120.6	23.5	95	4.8	20.7	0.3	4.0
US 619W*	120.3	24.4	99	6.7	34.1	0.6	3.9
Mo. 881	119.7	23.7	97	7.1	19.1	0.3	3.9
Tenn 501*	119.3	22.2	97	9.1	17.5	1.0	3.9
Mo. W6	117.4	26.2	90	1.0	9.4	0.0	4.6
Kan 4003	116.8	25.3	92	4.8	22.3	0.4	4.3
DeKalb 805	116.4	18.5	96	0.0	34.5	0.3	3.2
Funks G144	116.1	22.0	99	0.0	12.1	0.3	3.5
MFA 124	116.0	25.2	94	1.0	22.1	0.0	4.2
Pfister PAG 485	115.4	25.2	95	2.7	14.5	0.4	4.3
Mo. 843	113.3	20.1	91	1.4	38.5	2.1	3.5
MFA White*	113.1	24.9	97	3.6	15.9	1.0	3.9
DeKalb 925*	111.9	23.4	97	2.3	18.9	0.3	3.8
DeKalb 1023	111.7	25.3	94	6.3	20.4	0.7	4.4
DeKalb 1028	110.5	25.9	87	18.6	14.7	1.1	4.2
Funks G91	110.1	20.0	96	0.0	23.4	1.3	3.9
Mo. 960	110.0	22.0	95	0.0	30.9	0.3	3.9
DeKalb 869	107.8	20.6	94	1.1	20.1	0.7	4.0
Mo. 955	107.3	24.8	98	6.1	9.9	0.3	3.9
Funks G134	106.3	19.9	96	1.3	27.1	1.0	3.6
US 13	104.0	19.6	85	5.4	22.4	0.7	4.0
DeKalb 898A	103.8	21.3	88	6.9	17.5	0.8	3.8
Ohio C92	102.3	17.8	75	3.7	6.5	0.9	3.5
Mo. 947	102.1	21.9	85	3.0	21.0	0.7	4.0
Pfister PAG 415	100.6	19.2	94	0.0	12.4	0.7	3.4
Mo. 958	98.4	23.6	84	1.6	19.3	1.9	4.2
Mo. 916	94.2	23.1	63	0.5	5.1	0.5	3.7
Iowa 4376	94.0	19.1	96	3.6	25.0	0.7	3.2
AES 811W*	92.1	21.6	71	4.8	7.2	1.8	3.5
Mo. 800A	89.3	25.6	53	5.8	3.8	0.0	4.2
Mo. 447W*	86.4	22.6	42	10.1	2.2	0.0	3.5
Kan 1639	85.0	18.6	60	3.5	8.1	1.6	3.4
Mean	110.9	22.6	88	3.8	17.4	0.7	3.9

* White Hybrids

Table 6F Summary of Acre Yield and Lodging for Hybrids Tested in District 6 for the Three Year Period of 1957, 1958 and 1959.

Hybrid	Acre Yield		Lodged Plant		Hybrid	Acre Yield		Lodged Plant	
	Bu.	%	Root %	Stalk %		Bu.	%	Root %	Stalk %
US 523W	137.9	2.0	8.5		Mo. 960	116.5	0.1	13.8	
Dixie 29	137.7	0.8	8.9		Mo. 843	113.7	1.5	15.8	
AES 904W	136.5	1.7	4.7		Mo. 800A	113.5	1.9	4.4	
Dixie 33	130.8	3.3	14.4		Mo. 447W	112.5	4.8	2.7	
Mo. Pipe 4	130.4	2.5	9.4		Funk G144	112.1	0.3	6.0	
US 619W	129.1	3.0	17.8		Funk G91	110.2	0.2	11.4	
Pfister PAG 485	125.6	1.6	8.5		US 13	109.8	2.1	13.8	
Mo. 881	122.8	3.0	9.5		Ohio C92	109.7	1.8	6.0	
Mo. 947	120.6	1.2	11.2		Kan 1639	104.8	1.4	5.9	
Tenn 501	120.3	4.4	11.0		Iowa 4376	94.1	1.2	12.2	
Mo. 958	118.0	1.4	11.3		Mean	119.4	1.9	9.9	

DISTRICT 7

The results for District 7 may be found in tables 7A through 7F. The rainfall records show Pierce City with slightly above the state average and Carthage slightly be-

low. However, yields at these locations were quite high, in spite of the two dry periods at each place and above average number of days with temperatures exceeding 90°.

Table 7A--Percent of Total Farmland Area Planted to Corn, Total Corn Acreage, Average Acre Yield and the Average Acre Yield for Hybrids Tested in the Missouri Corn Yield Trials for the 10-year Period (1948-1957), 1957, 1958, and 1959 in District 7.

	Percent Farmland Planted to Corn	Total Corn Acreage	Average Acre Yield	Missouri Corn Yield Tests
10 year average 1948-1957	5.9	188,000	26.2	
1957	4.2	133,000	25.1	74.4
1958	5.4	170,000	50.3	114.4
1959	5.7*	180,000*	49.0*	108.3

*Estimated as of October 1, 1959.

Table 7B--Location of Yield Trials, Date Planted and Harvested, and the Average Yield for Each Testing Location in District 7.

Testing Location	Cooperator	Date Planted	Date Harvested	Avg. Acre Yield Bu.	LSD Bu.
Carthage	Joy Ortloff	May 1	Oct. 21	109.9	17.4
Pierce City	Southwest Missouri Agri. Exp. Sta.	April 30	Oct. 12	106.6	15.3

Table 7C--Total Rainfall, Number of Days with Rain, and Dry Periods from May 1 to September 15 at Each of the Testing Locations in District 7.

Testing Location	Nearest Weather Station	Total Rain-fall	No. of Days with Rain					Total	Dry Periods*
			May	June	July	Aug.	Sept.		
Carthage	Carthage	13.57	10	9	13	6	2	40	6/13-6/30 8/8-9/15
Pierce City	Pierce City	16.13	12	9	15	7	1	44	8/2-8/22 8/29-9/15

*A dry period must have at least 15 consecutive days with less than 0.25 in. precipitation.

Table 7D--Average Temperature, Departure from Normal, and the Number of Days with temperatures of 90° or more, and 100° or more from May 1 to September 15 at each of the Testing Locations in District 7.

Testing Location	Nearest Weather Station	Average Temp.	Departure from Normal	No. Days with Temperatures 90° or more		No. Days with Temperatures 100° or more
				1959	Avg.	1959
Carthage	Carthage	73.6	+0.2	41	25	0
Pierce City	Pierce City	75.5	+0.9	37	25	0

Table 7E 1959 Summary of Performance Records for Hybrids Tested at Carthage and Pierce City, Missouri in District 7. (Exp. 13 and 14).

Hybrid	Acre Yield Bu.	Moisture in Grain %	Stand %	Lodged Plant		Drop-ped Ears %	Ear Height Grade
				Root %	Stalk %		
Funks G711AA	129.4	19.7	93	3.3	31.9	0.0	4.3
Mo. W6*	126.1	17.2	98	1.6	25.9	0.0	4.3
Mo. 881	124.8	16.2	89	0.0	28.5	0.0	4.1
US 523W*	124.5	16.4	88	0.8	27.6	0.4	3.9
AES 904W*	123.2	18.1	98	2.5	34.9	0.0	3.8
Dixie 33*	120.4	17.5	89	8.2	38.8	0.0	4.3
Dixie 29*	119.8	17.3	88	2.6	34.6	0.0	4.2
DeKalb 1023	119.4	17.9	92	7.9	45.4	0.0	4.2
Pfister PAG 485	118.8	17.5	93	0.0	37.7	0.0	4.1
Mo. Pipe 4*	117.8	19.2	94	3.6	22.5	0.0	3.9
US 523W* (Cert.)	117.1	17.5	98	1.3	39.5	0.3	3.8
US 619W*	116.6	16.3	100	1.3	47.5	0.4	3.7
Mo. 804 (Cert.)	115.2	17.1	95	0.0	44.4	0.4	4.2
DeKalb 925*	114.7	17.3	96	1.3	34.2	0.4	3.7
Mo. 843 (Cert.)	112.8	16.0	92	1.3	35.5	0.0	3.5
Tenn 501*	109.5	16.8	97	4.3	24.9	0.0	3.7
Mo. 843	109.3	16.5	89	0.4	34.4	0.0	3.8
Mo. 947	108.9	16.1	91	0.4	19.8	0.0	3.9
Funks G144	108.3	16.7	96	1.3	23.6	0.0	3.4
Mo. 958	108.0	16.3	88	0.0	30.3	0.0	4.0
DeKalb 1028	108.0	18.7	92	5.9	48.9	0.0	4.3
DeKalb 854	107.7	15.9	94	0.0	48.3	0.0	3.5
Mo. 916	106.6	17.0	97	1.3	33.2	0.0	3.9
MFA 2120	105.3	15.8	93	1.4	27.0	0.0	3.7
Mo. 960	105.1	16.9	70	0.0	20.6	0.0	3.6
Mo. 880 (Cert.)	105.1	16.6	98	0.0	10.4	0.0	3.5
DeKalb 869	104.5	15.6	93	0.0	26.0	0.0	3.6
Kan 1639 (Cert.)	104.3	16.2	96	1.0	21.6	0.0	3.7
Funks G91	104.2	16.6	91	0.5	30.7	0.4	3.6
Mo. 804	102.0	16.9	77	0.0	32.6	0.0	3.9
DeKalb 3x4	98.6	16.1	87	0.0	41.7	0.0	3.7
US 13	97.4	15.8	89	0.0	35.5	1.1	3.6
MFA 118	96.4	15.1	86	0.0	24.0	0.4	3.5
Ohio C92	96.2	15.7	86	0.0	14.2	0.9	3.6
MFA 3210	95.0	15.0	87	0.0	20.3	0.0	3.5
Mo. 447W*	93.4	17.5	63	0.0	23.2	0.0	3.6
Iowa 4376	84.9	15.4	84	0.0	30.2	0.0	3.2
Kan 1639	82.2	15.7	65	0.0	19.0	0.6	3.4
Mo. 800A	81.5	18.3	59	2.2	26.0	0.0	3.9
Mean	108.3	16.8	89	1.4	30.6	0.1	3.8

* White Hybrids

Table 7F Summary of Acre Yield and Lodging for Hybrids Tested in District 7 for the Three Year Period of 1957, 1958 and 1959.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
AES 904W	112.9	3.4	16.4	Mo. 958	97.3	0.5	21.2
Mo. Pipe 4	110.7	5.1	20.2	Mo. 960	96.2	0.4	21.7
US 523W	110.5	1.1	22.5	Kan 1639	95.4	0.6	17.1
Dixie 29	110.2	1.5	16.5	Ohio C92	94.9	1.0	17.7
Dixie 33	107.6	4.5	22.6	Funk G91	94.4	0.3	20.9
Pfister PAG 485	107.5	2.7	22.0	Mo. 843	93.7	0.6	25.1
DeKalb 1023	105.3	5.0	33.4	Mo. 880	92.4	0.4	6.5
US 619W	102.7	1.2	34.5	US 13	91.7	0.0	20.7
Mo. 947	102.0	0.4	15.3	Mo. 800A	89.6	1.7	20.0
Tenn 501	100.2	2.4	18.8	Iowa 4376	78.5	0.1	19.2
Mo. 447W	99.9	1.1	20.7				
Mo. 881	99.1	2.5	15.8	Mean	99.7	1.7	20.4

DISTRICT 8

Tables 8A through 8F give results for District 8. Several factors reduced yields in this district, and these were: (1) excessive rains delayed planting until late May and early June, (2) a severe leaf blight epiphytotic due to *Helminthosporium maydis*, occurred at Ellington, and

(3) temperatures were above normal. Summersville had a temperature of 90° or above for 45 days and Ellington had 65 days of these high temperatures as compared with the normal, at each location, of 32 days. Stalk lodging was extremely high at both locations.

Table 8A--Percent of Total Farmland Area Planted to Corn, Total Corn Acreage, Average Acre Yield and the Average Acre Yield for Hybrids Tested in the Missouri Corn Yield Trials for the 10-year Period (1948-1957), 1957, 1958, and 1959 in District 8.

	Percent Farmland Planted to Corn	Total Corn Acreage	Average Acre Yield	Missouri Corn Yield Tests
10 year average 1948-1957	3.1	143,000	29.4	
1957	2.1	100,000	35.1	100.6
1958	2.3	105,000	43.4	112.7
1959	2.6*	123,000*	42.0*	69.4

*Estimated as of October 1, 1959.

Table 8B--Location of Yield Trials, Date Planted and Harvested, and the Average Yield for Each Testing Location in District 8.

Testing Location	Cooperator	Date Planted	Date Harvested	Avg. Acre Yield Bu.	LSD Bu.
Summersville	Riley Bros.	May 29	Nov. 5	84.4	20.2
Ellington	John X. George	June 5	Nov. 4	54.4	12.0

Table 8C--Total Rainfall, Number of Days with Rain, and Dry Periods from May 1 to September 15 at Each of the Testing Locations in District 8.

Testing Location	Nearest Weather Station	Total Rain-fall	No. of Days with Rain					Total	Dry Periods*
			May	June	July	Aug.	Sept. 15		
Summersville	Birch Tree	15.93	9	5	9	8	4	35	None
Ellington	Ellington	16.23	9	8	7	7	4	35	7/27-8/20

*A dry period must have at least 15 consecutive days with less than 0.25 in. precipitation.

Table 8D--Average Temperature, Departure from Normal, and the Number of Days with Temperatures of 90° or more, and 100° or more from May 1 to September 15 Each of the Testing Locations in District 8.

Testing Location	Nearest Weather Station	Average Temp.	Departure from Normal	No. Days with Temperatures 90° or more		No. Days with Temperatures 100° or more
				1959	Avg.	1959
Summersville	Birch Tree	76.0	+3.7	45	32	0
Ellington	Clear Water Dam	74.1	+2.6	65	32	1

Table 8E 1959 Summary of Performance Records for Hybrids Tested at Summersville and Ellington, Missouri in District 8. (Exp. 15 and 16).

Hybrid	Acre Yield Bu.	Moist-ure in Grain %	Stand %	Lodged Plant		Drop-ped Ears %	Ear Height Grade
				Root %	Stalk %		
AES 904W*	86.2	23.5	98	7.3	19.1	0.0	4.3
Stulls 400W*	81.9	20.4	99	4.7	53.7	0.0	4.5
Tenn 501*	80.3	22.8	99	6.8	38.1	0.4	4.1
Stulls 100Y	78.2	19.5	99	0.0	26.2	0.0	4.4
Mo. W6*	77.7	24.9	98	13.5	21.5	0.0	4.7
Stulls 108Y	76.7	21.1	98	3.0	30.0	0.0	4.5
Dixie 33*	76.4	24.6	97	11.1	22.0	0.0	5.0
Mo. 843	75.6	19.8	93	5.7	22.8	0.0	3.7
Broadbent 402B	74.5	20.7	99	6.7	34.6	0.0	4.6
US 619W*	73.8	22.6	98	3.9	51.7	0.0	4.3
Mo. 881	73.6	20.4	95	8.7	12.4	0.0	4.3
US 523W* (Cert.)	73.6	20.4	98	17.8	52.1	0.0	4.5
Ga 102	71.6	21.9	99	5.9	39.6	0.0	4.5
DeKalb 1023	71.6	24.7	99	24.3	54.7	0.0	4.7
US 13	71.3	18.8	96	3.0	40.9	0.5	4.1
Ohio C92	71.2	19.5	90	2.7	29.8	0.0	3.9
DeKalb 1028	71.1	25.5	97	31.1	41.7	0.4	4.8
Mo. 804	71.0	21.5	98	8.8	41.5	0.0	4.4
Mo. 916	70.8	20.7	68	8.4	2.0	0.0	3.9
Dixie 29*	69.6	26.5	97	6.4	23.9	0.0	4.7
Funks G711AA	69.4	24.8	98	14.8	34.3	0.0	4.7
US 523W*	68.9	21.2	99	7.2	50.0	0.0	4.3
Pfister PAG 485	68.7	19.8	97	7.6	44.2	0.0	4.6
Pfister PAG 434	66.6	18.9	94	2.3	13.5	0.0	4.1
Mo. 947	66.5	19.4	93	3.6	36.1	0.0	4.2
DeKalb 869	65.9	17.9	98	9.2	22.2	0.0	4.1
Mo. 800A	65.5	22.7	61	9.2	28.7	0.0	4.7
Mo. 960	64.8	20.8	95	0.9	60.0	0.0	4.3
Mo. 958	64.7	21.7	85	2.9	27.2	0.0	4.6
MFA 2120	64.7	18.7	99	0.4	15.8	0.5	3.7
Stulls 400WR*	64.4	21.9	99	11.0	46.2	0.4	4.3
DeKalb 898A	64.2	19.7	97	8.9	38.1	0.0	4.0
MFA 118	63.5	17.4	97	0.0	26.9	0.0	3.8
Mo. Pipe 4*	63.0	24.5	98	9.4	30.6	0.0	4.6
DeKalb 925*	62.4	19.0	97	7.6	55.4	0.0	4.2
Mo. 447W*	59.9	21.3	56	27.2	22.5	0.0	3.9
Iowa 4376	59.7	17.8	98	2.5	31.2	0.0	3.3
MFA 3210	55.0	16.8	93	0.0	34.6	0.0	4.0
Kan 1639	53.3	19.1	53	6.5	40.9	0.0	3.7
Mean	69.4	21.1	93	7.9	33.8	0.1	4.3

*White Hybrids

Table 8F Summary of Acre Yield and Lodging for Hybrids Tested in District 8 for the Three Year Period of 1957, 1958 and 1959.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
AES 904W	111.7	2.8	6.4	Mo. 958	95.6	1.7	10.4
Dixie 33	108.9	7.3	10.7	Mo. 447W	93.5	11.9	9.0
Mo. W6	108.1	5.8	7.5	Mo. 960	93.0	1.6	21.3
US 523W	103.0	8.3	18.4	Mo. 800A	90.4	3.3	11.0
Dixie 29	102.7	2.7	8.8	Ohio C92	89.6	1.6	11.3
Tenn 501	102.0	3.3	14.2	US 13	86.4	3.1	15.6
US 619W	100.7	5.7	18.6	Mo. 843	86.3	2.4	9.5
DeKalb 1023	99.5	15.1	23.6	Kan 1639	84.9	4.6	14.8
Mo. 881	98.1	3.8	5.4	Iowa 4376	74.2	1.2	12.1
Mo. Pipe 4	98.0	13.4	11.3				
Mo. 947	95.8	2.6	13.2	Mean	96.1	5.1	12.7

DISTRICT 9

District 9 results will be found in Tables 9A through 9F. The rainfall in this district was second lowest in the state. One dry period in July and another in August plus

76 days with temperatures above 90° were contributing factors accounting for the relatively low yields at Caruthersville.

Table 9A--Percent of Total Farmland Area Planted to Corn, Total Corn Acreage, Average Acre Yield, and The Average Acre Yield for Hybrids Tested in the Missouri Corn Yield Trials for the 10-year Period (1948-1957), 1957, 1958, and 1959 in District 9.

	Percent Farmland Planted to Corn	Total Corn Acreage	Average Area Yield	Missouri Corn Yield Tests
10 year average 1948-1957	15.3	377,000	36.5	
1957	14.5	356,000	38.1	95.2
1958	12.4	304,000	56.1	91.4
1959	15.1*	370,000*	60.0*	93.0

*Estimated as of October 1, 1959.

Table 9B--Location of Yield Trials, Date Planted and Harvested, and the Average Yield for Each Testing Location in District 9.

Testing Location	Cooperator	Date Planted	Date Harvested	Avg. Acre Yield Bu.	LSD Bu.
Sikeston	S.E. Missouri Agric. Res. Center	April 15	Sept. 29	108.5	9.9
Caruthersville	Jack Hutchinson	April 2	Sept. 30	77.3	18.1

Table 9C--Total Rainfall, Number of Days with Rain, and Dry Periods from May 1 to September 15 at Each of the Testing Locations in District 9.

Testing Location	Nearest Weather Station	Total Rain-fall	No. of Days with Rain					Total	Dry Periods*
			May	June	July	Aug.	Sept. 15		
Sikeston	Sikeston	14.99	12	7	8	9	3	39	None
Caruthersville	Kennett	12.71	9	7	8	8	1	33	7/5-7/21 8/2-8/18

*A dry period must have at least 15 consecutive days with less than 0.25 in. precipitation.

Table 9D--Average Temperature, Departure from Normal, and the Number of Days with Temperatures of 90° or more, and 100° or more from May 1 to September 15 at each of the Testing Locations in District 9.

Testing Location	Nearest Weather Station	Average Temp.	Departure from Normal	No. Days with Temperatures 90° or more		No. Days with Temperatures 100° or more	
				1959	Avg.	1959	1959
Sikeston	Sikeston	75.0	+0.3	41	37	0	
Caruthersville	Kennett	76.6	+0.6	76	51	0	

Table 9E 1959 Summary of Performance Records for Hybrids Tested at Sikeston and Caruthersville, Missouri, in District 9. (Exp. 17 and 18).

Hybrid	Acre Yield Bu.	Moist- ure in Grain %	Stand %	Lodged Plant		Drop- ped Ears %	Ear Height Grade
				Root %	Stalk %		
MFA K6	110.0	14.9	97	0.0	10.2	0.0	3.4
Mo. 881	109.5	15.3	99	0.9	4.2	0.4	4.7
US 619W*	106.6	15.9	98	0.0	15.9	0.0	4.7
US 523W*	104.6	15.5	95	1.3	11.9	0.0	4.5
Mo. 843	103.6	15.2	90	1.3	20.1	0.0	4.0
DeKalb 925*	101.9	15.7	97	0.0	11.9	0.0	4.6
DeKalb 898A	101.2	15.1	98	2.6	8.5	0.5	4.6
MFA 2120	101.1	15.3	96	0.0	5.7	0.0	3.9
Dixie 33*	101.0	15.9	87	4.8	2.4	0.5	5.1
Funks G134	100.2	15.4	97	0.0	8.1	0.0	3.9
Pfister PAG 633W*	100.2	15.4	99	0.0	6.7	0.0	4.5
Tenn 501*	99.8	15.5	99	0.0	10.2	0.0	4.1
Schenks S90W*	99.7	15.7	99	1.3	12.7	0.0	4.4
DeKalb 1028	99.3	16.0	89	3.2	16.9	0.9	5.3
Pfister PAG 631W*	99.3	15.8	99	0.0	17.7	0.0	4.4
US 13	99.0	15.2	94	0.4	10.5	0.0	4.0
Funks G144	97.4	15.1	99	0.0	8.4	0.0	3.5
Pioneer 319	97.4	15.0	99	0.0	5.9	0.9	4.4
McMullin Cross Rite 55	97.2	15.2	96	0.0	6.2	0.0	3.6
Pfister PAG 434	96.8	15.3	97	0.5	8.9	0.0	4.2
Coker 616	95.9	16.3	94	0.0	5.3	0.0	4.6
Mo. W6*	94.7	16.0	98	0.9	3.9	1.3	5.0
Mo. Pipe 4*	94.4	15.4	95	4.1	5.9	0.0	4.9
Broadbent 402B	93.6	15.5	96	0.0	7.8	0.0	4.7
McMullin Cross Rite 313	92.9	15.2	92	1.0	13.7	0.0	3.7
Mo. 804 (Cert.)	92.8	15.5	99	0.0	22.4	0.0	4.9
McMullin Cross Rite 1	92.6	15.1	96	0.0	8.1	0.0	3.9
Schenks S80	92.1	15.1	97	0.0	5.7	0.5	3.9
Mo. 947	91.7	15.3	88	1.5	6.0	0.5	4.6
Funks G711AA	91.5	16.1	99	0.0	6.4	0.0	5.2
MFA 118	91.5	14.9	92	0.0	10.9	0.0	3.6
AES 904W*	89.3	15.8	98	0.0	7.3	0.0	4.5
Dixie 29*	88.6	16.1	96	0.0	5.7	0.5	4.7
Pioneer 312A	88.2	15.4	98	0.0	10.2	0.0	3.9
Pfister PAG 485	88.0	15.9	99	0.0	8.9	0.0	4.6
Ga 102	87.4	16.4	99	1.3	7.1	0.0	5.1
DeKalb 1023	87.4	15.8	98	1.3	18.0	0.0	4.9
Pfister PAG 415	87.3	15.0	94	1.4	4.5	0.0	3.3
MFA 3210	87.2	14.8	98	0.0	6.4	0.0	3.7
Pioneer 309B	86.9	15.8	93	0.0	5.4	0.0	4.4
Iowa 4376	85.6	15.3	95	1.8	10.0	0.0	3.2
Mo. 916	84.7	15.3	87	0.5	2.5	0.0	4.1
Mo. 960	84.7	15.7	98	3.4	11.6	0.9	4.0
US 523W* (Cert.)	84.3	15.8	99	0.4	11.4	0.0	4.2
Ohio C92	83.5	15.1	90	1.4	10.3	0.0	3.9
DeKalb 869	82.6	15.5	94	6.2	13.0	0.5	3.9
Mo. 958	78.1	15.7	88	1.9	3.7	0.0	4.8
Kan 1639	75.7	15.5	70	0.0	13.3	0.0	3.5
Mo. 447W*	75.3	15.7	55	1.6	2.3	0.0	4.0
Mo. 800A	73.7	15.9	56	0.0	5.3	0.0	4.8
Mean	93.0	15.5	94	0.9	9.1	0.1	4.3

* White Hybrids

Table 9F Summary of Acre Yield and Lodging for Hybrids Tested in District 9 for the Three Year Period of 1957, 1958 and 1959.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
US 523W	106.5	2.8	7.0	Mo. 447W	92.5	3.1	1.4
Pfister PAG 631W	103.3	3.8	10.7	DeKalb 1023	91.9	4.5	15.3
US 619W	103.1	1.7	9.9	US 13	91.9	0.6	8.0
Mo. Pipe 4	101.4	1.8	4.3	Dixie 29	90.8	0.9	5.4
Mo. 881	100.2	1.4	3.5	MFA 118	90.7	0.0	11.0
Dixie 33	98.1	2.5	2.9	Mo. 800A	89.7	1.0	3.5
Mo. 947	97.3	3.9	5.7	Ohio C92	89.5	2.0	7.9
Mo. 843	95.2	1.8	15.0	Mo. 958	88.2	4.2	5.3
Funk G134	95.0	0.9	6.0	Mo. 960	87.7	1.6	9.1
Tenn 501	95.0	1.3	5.7	Kan 1639	83.4	1.3	9.5
AES 904W	94.8	0.0	4.2	Iowa 4376	81.5	2.9	6.9
MFA 2120	94.3	0.6	7.2	Mean	94.0	1.9	7.2

THREE YEAR PERFORMANCE RECORDS

Since the reorganization of the Missouri yield trials on a district basis in 1957, a number of hybrids have been tested for the three year period of 1957, 1958 and 1959, either in a single district or in groups of districts. These results are reported in tables in the respective districts.

It should be emphasized that the results of tests for a period of more than one year are of greater value in selecting hybrids than any single year's results. However, if one must rely on results from any one year, it is best to use the average performance from as many testing locations as possible from the area where the hybrid is to be grown.

A 1957-1958-1959 summary of hybrids grown in each of the nine districts is in Tables 10 to 13.

Pedigrees of all open pedigree hybrids tested in 1959

are listed in Table 14.

Numerous new closed pedigree hybrids were tested in 1957 to 1959 for the first time. The Missouri Agricultural Experiment Station does not make specific recommendations for these hybrids, but we do suggest that farmers who are growing a new hybrid for the first time try a small acreage to determine whether they like the hybrid before they plant a large acreage of it. This recommendation should be practiced for all new hybrids, whether of closed or open pedigree.

Table 15 gives the districts in which different hybrids were entered by commercial companies in 1959. Table 16 gives the districts in which different open pedigreed hybrids were entered.

Table 10 1957, 1958 and 1959 Summary of Performance Records for Hybrids Tested in All Districts. Averages of 53 Tests.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
US 523W	105.5	5.3	13.8	Mo. 843	91.4	4.2	10.5
Mo. 447W	95.4	6.8	7.4	Ohio C92	90.6	3.4	10.1
Kan 1639	92.7	4.2	9.0	Iowa 4376	83.1	3.3	8.2
US 13	92.2	3.1	13.0	Mean	93.0	4.3	10.3

Table 11 1957, 1958 and 1959 Summary of Performance Records for Hybrids Tested in Districts 1, 2 and 3. Averages of 17 Tests.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
US 523W	101.6	9.9	12.3	US 13	93.9	6.5	18.1
Kan 1639	98.9	9.0	12.9	AES 801	93.7	5.2	8.0
MFA 2120	98.2	5.4	7.3	AES 811W	91.8	14.2	8.8
Pioneer 312A	98.0	4.3	12.6	Mo. 843	89.3	9.0	11.0
Cargill 335	96.7	7.2	20.3	Ohio C92	88.2	6.0	16.5
Mo. 447W	94.7	11.1	11.2	Iowa 4376	88.2	6.6	10.6
Mo. 880	94.3	8.0	6.5				
Kan 1859	94.2	19.8	11.6	Mean	94.4	8.7	12.0

Table 12 1957, 1958 and 1959 Summary of Performance Records for Hybrids Tested in Districts 4, 5 and 6. Average of 20 Tests.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
US 523W	108.9	1.9	9.4	Mo. 843	93.4	2.4	11.2
US 619W	106.7	2.5	15.1	Kan 1639	93.4	1.4	4.9
AES 904W	104.6	1.5	5.0	US 13	92.7	1.6	11.0
Mo. Pipe 4	101.9	6.7	6.5	Ohio C92	92.5	2.8	7.7
Mo. 947	97.0	2.7	7.4	Iowa 4376	83.1	1.9	8.9
Mo. 447W	96.5	3.9	3.8	Mean	97.3	2.7	8.3

Table 13 1957, 1958 and 1959 Summary of Performance Records for Hybrids Tested in Districts 7, 8 and 9. Averages of 16 Tests.

Hybrid	Acre Yield Bu.	Lodged Plant		Hybrid	Acre Yield Bu.	Lodged Plant	
		Root %	Stalk %			Root %	Stalk %
US 523W	106.7	4.1	16.0	Mo. 447W	95.3	5.4	10.3
AES 904W	106.5	2.0	8.9	Mo. 958	93.7	2.1	12.3
Dixie 33	104.8	4.7	12.0	Mo. 960	92.3	1.2	17.4
Mo. Pipe 4	103.3	6.8	12.0	Mo. 843	91.7	1.6	9.2
US 619W	102.1	2.9	21.0	Ohio C92	91.3	1.5	12.3
Dixie 29	101.2	1.7	10.3	US 13	90.0	1.2	14.8
Tenn 501	99.1	2.3	12.9	Mo. 800A	89.9	2.0	11.5
Mo. 881	99.1	2.5	8.2	Kan 1639	87.9	2.2	13.8
DeKalb 1023	98.9	8.2	24.1	Iowa 4376	78.0	1.4	12.7
Mo. 947	98.3	2.3	11.4	Mean	96.3	3.0	13.2

Table 14 Pedigrees of Open Pedigree Hybrids Tested in 1959.

Hybrid	Pedigree	Endosperm Color
	<u>Early (90 Day)</u>	
Iowa 4376	(WF9 x B6) (187-2 x M14)	Yellow
	<u>Medium (115-120 Day)</u>	
AES 801	(WF9 x B7) (B10 x B14)	Yellow
Kan 1639	(WF9 x 38-11) (K148 x K150)	"
Kan 1859	(WF9 x N6) (K148 x K150)	"
Kan 2822	(WF9 x Hy) (38-11 x H10)	"
Mo. 843	(WF9 x Oh7A) (B10 x C103)	"
Mo. 880	(WF9 x 38-11) (K148 x Mo. 5)	"
Mo. 947	(WF9 x Oh7A) (Mo. 3 x CI 21E)	"
Mo. 955	(Mo. 6 x CI 21E) (WF9 x Oh7A)	"
Mo. 958	(Mo. 3 x CI 21E) (B41 x Oh7A)	"
Mo. 960	(Oh41 x CI 21E) (B41 x Mo. 3)	"
Mo. 995	(dw WF9 x dw 38-11) (K148 x Mo. 5)	"
Ohio C92	(WF9 x 38-11) (Hy x Oh07)	"
US 13	(WF9 x 38-11) (L317 x Hy)	"
Mo. 447W	(K55 x K6) (H28 x K41)	White
AES 811W	(N72 x Mo. 1W) (K41 x H30)	"
Tenn 501	(T111 x T115) (K41 x K44)	"
	<u>Late (125-135 Day)</u>	
Kan 4003	(K713 x K711) (K712 x Oh7B)	Yellow
Mo. 800A	(K201r x T202) (Mo. 3 x CI 21E)	"
Mo. 804	(CI 7 x K4) (38-11 x CI 21E)	"
Mo. 881	(CI 21E x Mo. 7) (Oh7B x Oh29)	"
Mo. 916	(Mo. 6 x CI 21E) (Oh7B x Oh29)	"
AES 904W	(K64 x Mo. 22) (T111 x T115)	White
Mo. Pipe 4	(1518-2 x 1560-2) (K10 x Ky49)	"
Mo. W6	(K64 x Mo. 22) (Dixie 29)	"
US 523W	(K55 x K64) (Ky27 x Ky49)	"
US 619W	(K55 x CI 64) (Ky27 x Ky49)	"
	<u>Very Late (135-145 Day)</u>	
Ga 102	(GE54 x T204) (NC88 x GE62)	Yellow
Dixie 29	(T101 x T105) (T111 x T115)	White
Dixie 33	(T101 x T105) (T13 x T61)	"

Table 15 Location by Districts of Hybrids Entered by Commercial Companies in the 1959 Yield Tests.

Hybrid	Districts								
	1	2	3	4	5	6	7	8	9
Alps Supercorn 30	X								
Alps 74	X								
Alps 98	X								
Alps 81				X					
Alps 88				X					
Broadbent 402B								X	X
Bear OK 878			X						
Bear OK 69			X						
Bear OK 96			X						
Bear Unicorn X606			X						
Cargill 335	X	X	X						
Cargill 330			X						
Cargill 310			X						
Cargill 5035	X	X	X						
Cargill 5406	X								
Cargill 5741		X							
Cargill 5752	X	X							
Coker 616									X
DeKalb 3x1	X	X	X	X	X				
DeKalb 3x2		X							
DeKalb 3x4	X	X	X	X	X		X		
DeKalb 633		X	X						
DeKalb 640	X	X							
DeKalb 661	X	X			X				
DeKalb 662	X	X			X				
DeKalb 803A	X		X						
DeKalb 805	X	X	X	X	X	X			
DeKalb 806		X	X						
DeKalb 812		X	X						
DeKalb 854	X	X		X	X		X		
DeKalb 869		X	X	X	X	X	X	X	X
DeKalb 898A				X	X	X		X	X
DeKalb 925						X	X	X	X
DeKalb 1023						X	X	X	X
DeKalb 1028						X	X	X	X
Funks G91		X		X		X	X		
Funks G95A	X		X		X				
Funks G134		X			X	X			X
Funks G144	X		X	X	X	X	X		X
Funks G711AA							X	X	X
Forster 33			X						
Forster 44			X						
Forster 55			X						
Forster 56			X						
Maygold 29X	X	X		X	X				
Maygold 37	X	X		X	X				
Maygold 47	X	X		X	X				
Maygold 48	X	X		X	X				
Maygold 59A	X	X		X	X				
Maygold 97	X	X		X	X				
McAllister 13A			X						
McAllister 23A			X						
McAllister 33B			X						
McMullin-Cross-Rite 1									X
McMullin-Cross-Rite 55									X
McMullin-Cross-Rite 313									X

Table 15 Continued.

Hybrid	Districts								
	1	2	3	4	5	6	7	8	9
MFA K6	X		X	X					X
MFA 118	X	X	X	X	X		X	X	X
MFA 124						X			
MFA 2120	X	X	X	X	X		X	X	X
MFA 2123	X	X	X						
MFA 3210	X	X		X	X		X	X	X
MFA White						X			
Mortons M-6X			X						
Pfister PAG 323	X	X							
Pfister PAG 347	X								
Pfister PAG 383			X						
Pfister PAG 403			X						
Pfister PAG 415			X			X			X
Pfister PAG 434						X		X	X
Pfister PAG 485	X	X			X	X	X	X	X
Pfister PAG 631W									X
Pfister PAG 633W									X
Pfister PAG (Exp. 9028)	X	X			X				
Pioneer 312A	X	X	X	X	X				X
Pioneer 319									X
Pioneer 309B									X
Pioneer 302B	X	X	X	X	X				
Pioneer 318A	X	X	X	X	X				
Pioneer 4128	X	X	X	X	X				
Pioneer 5757	X	X	X	X	X				
Rists R71	X								
Schenk S70			X						
Schenk S80									X
Schenk S90 W									X
Steckleys GG12	X	X	X	X					
Steckleys GG15	X	X	X	X					
Steckleys GG20	X	X	X	X					
Steckleys GG Exp. 2015B	X	X	X	X					
Stulls 400W								X	
Stulls 400WR								X	
Stulls 100Y								X	
Stulls 108Y								X	
U. H. WW50	X	X							
U. H. 52B	X								
U. H. 55	X								
U. H. WW60	X	X							
U. H. 66		X							
U. H. X154	X	X							
U. H. X3H57	X								
U. H. X3H52		X							
Total	48	45	43	29	27	14	13	16	27

Table 16 Location by Districts of Open Pedigreed Hybrids in the 1959 Yield Tests.

Hybrid	Districts								
	1	2	3	4	5	6	7	8	9
US 13	X	X	X	X	X	X	X	X	X
Mo. 843	X	X	X	X	X	X	X	X	X
US 523W	X	X	X	X	X	X	X	X	X
Iowa 4376	X	X	X	X	X	X	X	X	X
Mo. 447W	X	X	X	X	X	X	X	X	X
Kansas 1639	X	X	X	X	X	X	X	X	X
Ohio C92	X	X	X	X	X	X	X	X	X
AES 811W	X	X	X	X	X	X			
Mo. 880 (cert.)	X	X	X				X		
Mo. 880	X	X	X						
Mo. 995	X	X	X						
AES 801	X	X	X						
Kansas 2822	X	X	X						
Kansas 1859	X	X	X						
Mo. 843 (cert.)	X	X	X		X		X		
Kansas 1639 (cert.)	X		X				X		
US 523W (cert.)			X			X	X	X	X
Mo. 916				X	X	X	X	X	X
Mo. 947				X	X	X	X	X	X
Mo. 960				X	X	X	X	X	X
Mo. Pipe 4				X	X	X	X	X	X
US 619W				X	X	X	X	X	X
Mo. 804 (cert.)				X	X	X	X		X
AES 904W				X	X	X	X	X	X
Mo. 881				X	X	X	X	X	X
Kansas 4003				X	X	X			
Mo. 955				X	X	X			
Mo. W6						X	X	X	X
Mo. 800A						X	X	X	X
Mo. 958						X	X	X	X
Tenn 501						X	X	X	X
Dixie 29						X	X	X	X
Dixie 33						X	X	X	X
Ga 102								X	X
Mo. 804					X		X	X	
Total	16	15	17	18	20	25	26	23	23

Sources of Seed For Commercial Hybrids

Hybrids	Firm	Address
Alps	Albert L. Pocklington	So. Standard, Ill.
Broadbent	S. D. Broadbent, Jr.	Cobb, Texas
Bear OK	Bear Hybrid Corn Co., Inc.	Decatur, Ill.
Cargill	Cargill, Inc.	Minneapolis, Minn.
Coker	Cokers Pedigreed Seed Co.	Hartsville, S. C.
DeKalb	DeKalb Agri. Assoc., Inc.	DeKalb, Ill.
Funk	Funk Bros.	Bloomington, Ill.
Forster	Parks Forster Farm Seeds	Donnellson, Ia.
Maygold	Earl May Seed Co.	Shenandoah, Ia.
McAllister	McAllister Seed Farms	Mt. Pleasant, Ia.
McMullin	McMullin Corn Sales	Sikeston, Mo.
M. F. A.	M. F. A. Seed Division	Marshall, Mo.
Morton	Roy A. Morton & Sons	Bowen, Ill.
Pfister PAC	Pfister Associated Growers	Aurora, Ill.
Pioneer	Pioneer Seed Corn Co., and Garst & Thomas Hybrid Corn Co.	Tipton, Ind. Coon Rapids, Ia.
Rists	Plainview Hay, Feed & Seed Farm	Humbolt, Nebr.
Schenk	Chas. H. Schenk & Sons	Vincennes, Ind.
Steckleys	Steckley Hybrid Corn Co.	Lincoln, Nebr.
Stulls	Stull Bros.	Sebree, Ky.
United-Hagie	United-Hagie Hybrids, Inc.	Des Moines, Ia.

COMPARISON OF HYBRIDS OF DIFFERENT MATURITIES

Hybrids of three maturities were tested at all 19 locations in 1959. These were an early hybrid, Iowa 4376; a medium hybrid, US 13; and a late hybrid, US 523W. The yield results for 1959 follow the same pattern as 1958 and 1957. See Figure 2 for summary of comparative yields for three years (1957-1959).

Where conditions were more favorable for high yields during the three-year period, the spread in yield between maturities was greater with the full season hy-

brids having a large yield advantage, of about 30 bushels. When yields are reduced due to less favorable growing conditions, there is less difference in yield between the three maturity groups, with differences of less than 15 bushels as indicated in districts 1 and 4.

It is apparently logical to plant hybrids that take full advantage of the growing season. However, the choice would be regulated if the objective in planting early maturing hybrids were something other than yield.

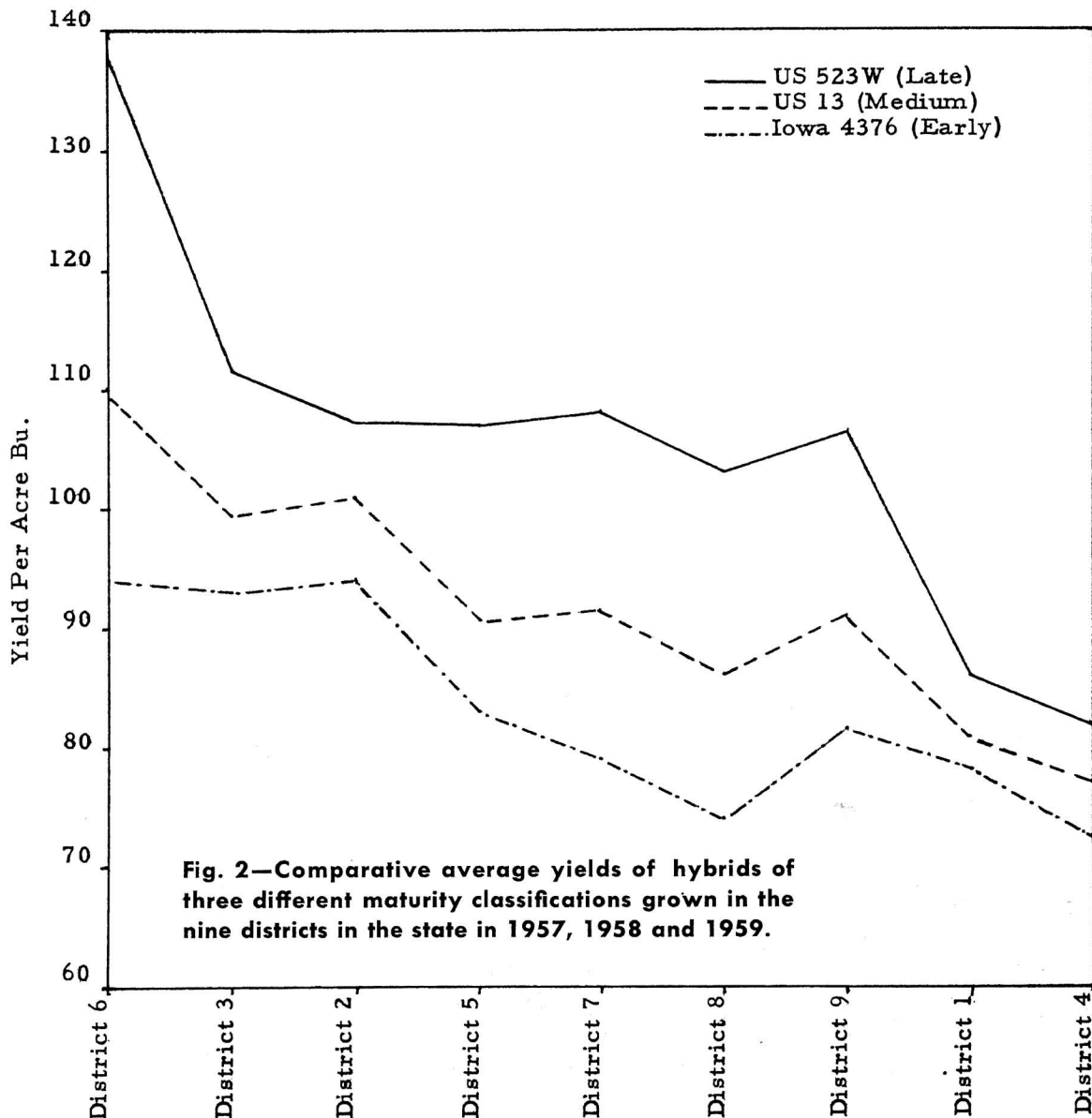


Fig. 2—Comparative average yields of hybrids of three different maturity classifications grown in the nine districts in the state in 1957, 1958 and 1959.