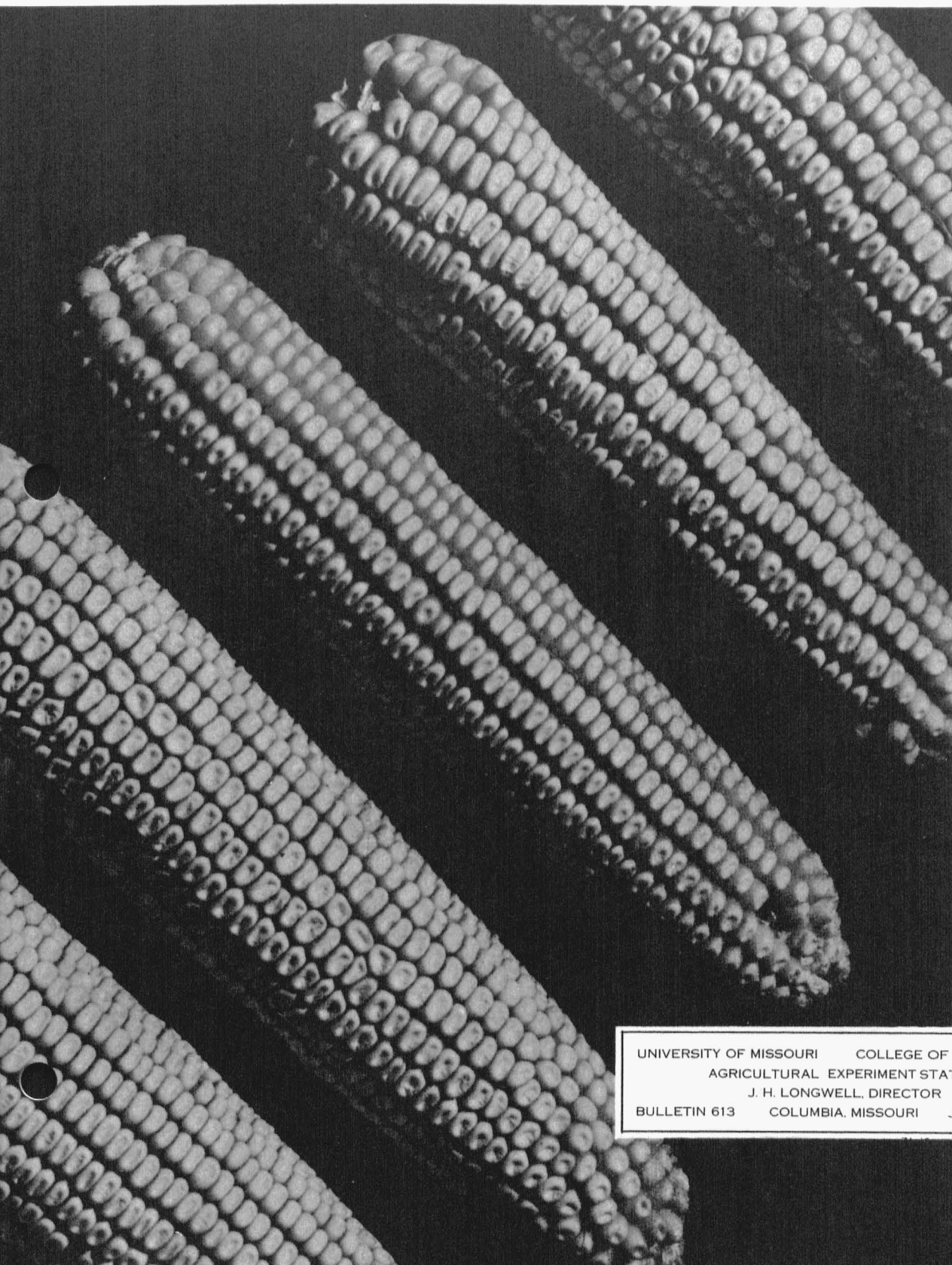


MISSOURI

Hybrid Corn Yield Tests

for
1953



UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
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Missouri Corn Hybrid Yield Trials 1953¹

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INTRODUCTION

The 1953 Missouri Corn Yield Trials, conducted as in previous years, are reported in Section I. Four mechanical picker tests, one in each of the Northern and Southern Regions and two in the Central Region of the state, were conducted to determine the picking performance of commercial and promising experimental hybrids. These data are reported in Section II.

Thirteen replicated yield trials were planted in the State (see Figure 1). Forty-nine hybrids from commercial and experimental sources were planted at each location in a lattice square design but the analysis of variance of the yields was calculated as for a randomized block design.

SECTION I EXPERIMENTAL METHODS

1. **Seed Sources.** In most cases seed for the different certified hybrids was a blend from the various producers in Missouri. Seed for the experiment station hybrids was secured from the respective state experiment stations. Seed for the commercial closed pedigreed hybrids was secured from seed dealers in Columbia or in a few instances from the main plant of the various companies. Names and addresses of seed producers are given in Table 26.

The pedigrees for most experimental and certified hybrids are given in Table 25.

2. **Type of Field Design.** Forty-nine commercial and experimental hybrids were tested at each lo-

cation. Each hybrid was planted in a plot consisting of two rows five hills long. Four plots of each hybrid were grown in different parts of the field to minimize soil and cultural differences.

3. **Yield Determinations.** Corn from each plot was harvested by hand and weighed. A moisture sample was taken as described in the following sub-section and acre yields were computed on the basis of shelled corn with 15.5 percent moisture. The moisture content of No. 2 corn must not exceed 15.5 percent and the yield of any hybrid was adjusted upward or downward to equalize moisture difference. Yields also were adjusted for missing hills but not for missing plants within hills. The reported yields are an average of the four plots after all adjustments have been made.

4. **Moisture at Harvest.** The percentage of moisture in the grain at harvest was determined by taking 10 ears at random from one replication and removing two rows of kernels from each ear. The shelled corn was mixed and moisture percentage determined with a Steinlite Moisture Tester. The moisture determinations for the test at Carrollton were made by sampling all plots and the percent moisture in the grain for this test is the average of four replications.

5. **Stand Percentage.** The stand percentage was determined by counting the plants present and computing the percent based on a perfect stand. Each plot was 2 x 5 hills or a total of ten hills. Five seeds were planted in each hill and later thinned to three plants per hill, except the test in Franklin County which was thinned to four plants per hill. Thus, 30 plants made

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chaelson for assisting with the planting and taking notes of the various yield tests. They wish to express their appreciation to William J. Murphy and J. Ross Fleetwood, Extension Professors of Field Crops, for their assistance with the Mechanical Picker Tests. In addition the following individuals helped make the 1953 Yield Trials possible; Professor R. T. Wright, C. L. Van Buren, Reo Elliot and Son, John Douglas, Ed Rutter, Nichols Hilt, Wm. C. Hansel, Wm. H. Odom, Ben F. and Ben A. Geisert, Col. Paul Renz, Karl Koehler, Clayton Morris, J. D. McBride, Norman Brown, Carl Luper, and A. L. Kidwell.

TABLE 1 -- COOPERATOR, DATE PLANTED AND HARVESTED, AVERAGE NUMBER OF PLANTS PER ACRE AND THE AVERAGE ACRE YIELD FOR EACH TESTING LOCATION.

Location	Cooperator	Date Planted	Date Harvested	Average no Plants per Acre*	Average Yield*
<u>Northern Region</u>					
Maryville	Northwest Missouri State College	May 20	October 20-21	10,812	62.3
Lathrop	Northwest Missouri Agricultural Experiment Station	May 25	October 12-14	11,472	61.9
Shelbina	J. Ed Rutter & Son	June 2	October 6	11,268	60.8
New London	Nichols Hilt	May 18	-----Abandoned-----		
<u>Central Region</u>					
Carrollton	Pfister Associated Growers	May 26	October 29	11,544	74.7
Marshall	M. F. A. (Seed Division)	May 15	October 2	11,484	75.8
Columbia	Missouri Agricultural Experiment Station	May 14	October 19	11,100	68.2
Jefferson City	Missouri State Prison	May 4	-----Abandoned-----		
Washington	Ben Geisert Farms	May 12	October 8	14,784	127.0
<u>Southern Region</u>					
Pierce City	Southwest Missouri Agricultural Experiment Station	April 29	September 25	9,384	49.2
Stark City	J. D. McBride	April 29	-----Abandoned-----		
Sikeston	Southeast Missouri Agricultural Experiment Station	April 21	September 22-24	11,544	56.9
Caruthersville	A. L. Kidwell	April 23	-----Abandoned-----		

*Average of all hybrids in each test.

TABLE 2 -- LOCATION OF THE TESTING FIELDS, FERTILIZER APPLIED, SOIL ANALYSIS, AND SOIL TYPE.

Location	Fertilizer Applied	Soil Analysis**							Lime Requirement	Soil Type*
		Organic Matter	P	K	Mg	Ca	pH			
<u>Northern Region</u>										
Maryville	4000 lb lime, 5 ton manure 200 lb 16-20-0	2.9	350	350	360	5000	5.7	4000	Marshall	
Lathrop	200 lb 8-8-8	2.7	374	374	360	5300	5.9	3500	Sharpsburg	
Shelbina	300 lb 4-24-12, 100 lb 8-8-8 80# N as anhydrous ammonia	2.7	350	350	240	4000	5.8	3500	Putnam	
New London	Unknown	2.1	29	29	110	4000	6.3	2200	Weldon	
<u>Central Region</u>										
Carrollton	100 lb N as anhydrous ammonia	3.6	195	280	320	4480	5.9	4000	Wabash Loam	
Marshall	100 lb N, 300 lb 4-24-12	2.1	115	115	450	4300	5.7	3500	Sharpsburg	
Columbia	250 lb 0-20-10, 310 lb 33-0-0	1.5	276	276	140	2900	5.6	3500	Mexico	
Jefferson City	None	1.8	430	430	420	7800	7.6	----	Sarpy Fine Sandy Loam	
Washington	100 lb N as anhydrous ammonia, 200 lb 6-12-18, 200 lb Sulphur Magnesium	0.7	304	304	350	12000	7.4	----	Sarpy Sandy Loam	
<u>Southern Region</u>										
Pierce City	600 lb 8-8-8, 75 lb of N	1.7	118	118	220	1900	5.2	5000	Baxter Cherty Silt Loam	
Stark City	None	2.3	149	149	220	2600	5.9	3100	Gerald	
Sikeston	300 lb 0-20-20, 200 lb 33-0-0	1.3	99	99	160	1700	5.9	2100	Dexter Fine Sandy Loam	
Caruthersville	Unknown	1.4	274	274	465	4600	6.5	1500	Bottomland	

*Soil types suggested by Professor H. H. Krusekopf from location of test fields.

**Soil Analyses made by the Department of Soils, Missouri Agricultural Experiment Station.

a perfect stand for each plot with the exception of Franklin County where 40 plants made a perfect stand.

6. **Percent Lodging.** A plant was classified as "root lodged" when it leaned more than 30 degrees from the vertical and "stalk lodged" if the stalk was broken below the ear. If a plant was both root and stalk lodged it was counted in both categories.

7. **Dropped Ears.** The number of dropped ears per plot was counted before harvest. This number was divided by the total number of plants to obtain the percentage of dropped ears.

8. **Ear Height Grade.** The ear height grade for each hybrid is the approximate number of feet from

the ground to the point of attachment of the upper ear.

SOIL ANALYSIS AND CULTURAL PRACTICES

Soil samples were taken from each field at planting time and analyzed by the Department of Soils of the University of Missouri. Results of these analyses, the fertilizer applied, and the soil type are shown in Table 2.

Preparation of the seed bed and climatic conditions determined the planting dates. Seed was planted by hand. The timing and number of cultivations were determined by the cooperator. The plots usually were

tilled in the same manner as the other corn on the farm. The corn was harvested when it was dry enough to crib.

Twelve thousand plants per acre comprised a perfect stand in all tests except the test in Franklin County where 16,000 would have been perfect. The average stand and yield for each location are shown in Table 1.

INTERPRETATION OF RESULTS

The performance record for a period of years is more reliable in selecting a hybrid than a single year's record. Due to environmental conditions a hybrid may be outstanding one year and mediocre or poor in other years. Results over a long period tend to average these fluctuations. A hybrid which performs well under a wide range of environmental conditions is probably more desirable than one doing exceptionally well in the good years but exceptionally poor in the adverse seasons. An example of a hybrid that has performed

well over a period of years, as well as over a wide area, is US 13.

Two hybrids with the same yield potential may actually perform quite differently due to variations in soil and cultural conditions. Calculations can be made to determine how much this difference is in any one field and are shown at the bottom of each table as the difference required for any two hybrids to be significantly different in yielding ability. Over a period of years these differences should be smaller than for a single year.

NORTHERN REGION

Only three of the four tests planted in this region were harvested. The test near New London was abandoned due to extreme drought injury. Yields would not have shown the true yielding ability of the hybrids tested. Throughout this region temperatures were above normal and rainfall was below normal as shown in Tables 3 and 4. The average acre yields for

TABLE 3 -- TOTAL RAINFALL, NUMBER OF DAYS WITH RAIN, AND DRY PERIODS FROM MAY 1st TO SEPTEMBER 15th AT THE VARIOUS TESTING LOCATIONS IN 1953.

Testing Location	Nearest Weather Station	Total Rain-fall	No. of Days with Rain					Total Number Days	Dry Periods*
			May	June	July	Aug.	Sept 15th		
Northern Region									
Maryville	Maryville	9.40	10	11	9	4	1	35	6/10-6/27 6/29-8/5 8/12-9/2
Lathrop	Amity	11.05	8	8	3	5	1	25	6/11-6/25 7/7-9/3
Shelbina	Shelbina	11.27	9	6	7	6	2	30	5/17-6/5 8/13-9/3
New London	Hannibal	7.57	8	8	8	6	4	34	5/17-6/5 6/14-7/4 7/22-8/11 8/13-9/2

Central Region									
Carrollton	Carrollton	10.84	11	7	5	5	2	30	5/23-6/26 7/7-8/2 8/17-9/2
Marshall	Marshall	10.44	7	6	6	5	2	26	6/2-6/25 8/13-9/2
Columbia	Columbia	12.48	9	6	9	4	3	31	5/18-6/5 6/7-6/25 7/5-7/19 8/5-9/2
Jefferson City	Jefferson City	10.56	10	5	7	4	2	28	6/7-6/25 7/9-8/3 8/9-9/3
Washington	Union	10.15	12	6	6	7	3	34	5/17-6/11 7/6-7/20

Southern Region									
Pierce City	Pierce City	8.28	9	2	8	5	1	25	5/28-7/2 7/10-8/11 8/13-9/3
Stark City	Granby	8.02	4	1	6	2	1	14	5/17-7/2 7/26-8/11 8/18-9/3
Sikeston	Sikeston	8.27	12	5	8	4	1	30	5/19-6/6 6/8-6/25 7/16-8/3
Caruthersville	Caruthersville	8.95	12	4	8	3	0	27	5/20-6/7 6/9-7/19 7/21-8/7 8/9-9/15

*Dry Period must have at least 10 days with less than .25 inch of precipitation.

TABLE 4 -- AVERAGE TEMPERATURE, DEPARTURE FROM NORMAL, AND THE NUMBER OF DAYS WITH TEMPERATURE OF 90° OR MORE AND 100° OR MORE AT THE VARIOUS TESTING LOCATIONS IN 1953.

Testing Location	Nearest Weather Station	Av. Temp.	Departure from Normal	No. days with Temperature	
				90° or more	100° or more
Northern Region					
Maryville	Maryville	72.4	+2.4	49	45
Lathrop	Amity	73.8	+3.0	71	41
Shelbina	Shelbina	73.2	+0.9	65	44
New London	Hannibal	73.7	+1.8	56	44
Central Region					
Carrollton	Carrollton	75.0	+2.8	78	40
Marshall	Marshall	77.6	+4.9	75	39
Columbia	Columbia	75.1	+2.5	64	39
Jefferson City	Jefferson City	75.3	+2.0	76	38
Washington	Union	74.4	+0.8	76	37
Southern Region					
Pierce City	Monett	77.8	+4.4	82	25
Stark City	Neosho	75.4	+2.7	87	25
Sikeston	Sikeston	77.1	+2.4	80	33
Caruthersville	Caruthersville	79.3	+2.1	77	32

Wayne L. Decker, Assistant Professor of Climatology of the Missouri Agricultural Experiment Station, assembled the weather data.

TABLE 5 -- SUMMARY OF AVERAGE PERFORMANCE RECORDS OF HYBRIDS TESTED IN THE NORTHERN REGION 1949-1953.

Hybrid	Acre Yield Bu.	Moist-ure in Grain %	Lodged Plants Root %	Drop-ped Ears Stalk %	Ear Height Grade
US 523W*	88.1	21.4	5.6	7.7	4.4
Kan 1639	87.7	17.4	3.8	8.7	3.5
Ohio C92	85.7	15.7	3.3	7.6	3.8
US 13	83.5	17.2	3.3	12.4	4.0
Mo 148	80.7	17.9	6.0	13.7	4.4
4-Year Average (Results of 13 Tests)					
Mo 843	92.8	18.4	3.1	8.1	3.6
Kan 1639	89.6	17.8	4.4	7.6	3.5
US 523W*	86.8	22.3	6.6	7.9	4.4
Ohio C92	86.0	16.0	4.0	7.7	3.9
Iowa 4476	85.4	18.7	1.8	9.8	3.8
Mo 4022W*	84.9	21.9	2.5	6.8	3.5
US 13	83.5	17.7	3.3	12.1	4.1
Iowa 4531	82.2	17.2	2.2	8.3	3.6
Mo 148	79.7	18.4	7.3	13.0	4.5
3-Year Average (Results of 9 Tests)					
Mo 843	89.8	18.6	4.1	9.3	0.9
Kan 1639	88.7	17.1	5.9	7.9	0.9
US 523W*	86.4	23.2	8.6	8.9	1.0
Mo 4022W*	85.6	22.6	3.2	8.4	0.3
Iowa 4476	84.6	18.7	2.4	11.4	0.6
Ohio C92	84.2	15.6	5.4	8.7	0.9
CB 8805	84.2	18.2	6.9	7.4	1.1
AES 801 (Iowa 4527)	84.1	17.5	1.8	5.7	1.0
Mo 4029W*	83.4	20.0	3.8	2.0	0.5
Iowa 4531	82.1	17.0	2.9	10.0	0.9
US 13	82.0	17.4	3.3	13.2	2.3
Mo 148	80.0	18.1	9.5	12.7	2.8
2-Year Average (Results of 7 Tests)					
Mo 4046W*	88.6	16.3	8.0	7.3	0.2
Kan 1639	84.0	14.5	3.6	4.6	0.5
US 523W*	83.4	18.1	6.2	5.9	1.2
Mo 897	82.9	16.9	0.7	3.7	0.2
Mo 894	82.8	15.3	2.7	4.3	0.2
Mo 4022W*	82.3	18.9	1.7	2.8	0.2
Mo 843	81.7	16.2	3.2	3.1	0.4
Mo 900	81.6	18.1	2.1	2.6	0.5
Mo 901	81.4	16.9	1.2	3.9	0.8
Mo 4041W*	81.4	18.1	6.5	4.8	0.6
Mo 902	81.3	18.1	1.8	3.1	0.9
MFA 120A	81.0	15.5	4.5	7.1	1.7
US 13	79.9	14.8	5.0	5.3	2.5
Keystone 45	79.9	15.9	1.0	7.1	1.8
Iowa 4476	79.8	16.4	2.2	3.3	0.8
Ohio C92	79.4	13.5	3.8	3.4	0.8
AES 801 (Iowa 4527)	79.0	15.8	0.7	1.8	0.7
CB 8805	78.8	16.0	4.1	2.7	0.8
PAG 383	77.7	14.2	5.4	1.7	1.1
Mo 148	77.3	16.3	8.0	8.1	2.4
Mo 4029W*	74.9	17.8	0.9	1.0	0.5
Iowa 4531	74.7	14.6	1.1	2.3	0.8
Embro 36	73.0	14.9	1.0	4.2	0.7

*White Hybrids

the three harvested tests were approximately 60 bushels. This can be compared with an average yield of approximately 100 bushels per acre in 1952 and 1951.

The average performance records of different hybrids grown in the Northern Region are shown in Table 5 and suggest that Kansas 1639 and Ohio C92

TABLE 6 -- SUMMARY OF AVERAGE PERFORMANCE RECORD FOR HYBRIDS TESTED IN THE CENTRAL REGION 1949-1953.

Hybrid	Acre Yield Bu.	Moist-ure in Grain %	Lodged Plants Root %	Drop-ped Ears Stalk %	Ear Height Grade
US 523W*	100.1	17.4	5.8	5.0	4.2
Mo 804	94.1	16.8	4.6	7.4	4.4
Kan 1639	87.8	15.9	3.1	5.2	3.2
US 13	86.3	14.7	2.5	8.3	3.8
Mo 148	83.6	16.2	4.6	10.9	4.1
Mo 8	83.4	17.8	9.8	10.4	4.2
Ohio C92	82.7	14.7	2.1	4.5	3.5
4-Year Average (Results of 16 Tests)					
US 523W*	102.9	17.5	4.7	4.8	4.3
Mo 862	101.1	19.6	3.5	4.1	4.4
CB 7610	98.5	17.7	2.7	5.5	4.3
Mo 804	97.8	16.7	3.3	6.8	4.5
Mo 4022W*	91.9	18.4	3.9	2.6	3.4
Kan 1639	89.9	15.8	2.6	5.0	3.2
Iowa 4476	89.5	16.2	0.6	5.5	3.5
US 13	89.4	14.4	2.3	7.4	3.9
Ohio C92	85.6	14.7	1.4	4.4	3.6
Mo 8	85.6	17.7	9.8	9.1	4.3
Mo 148	85.2	15.7	4.0	10.9	4.2
3-Year Average (Results of 12 Tests)					
US 523W*	100.0	16.9	1.8	3.6	4.3
Mo 862	94.2	19.4	1.2	2.6	4.4
Mo 804	93.6	16.1	0.9	4.4	4.6
CB 7610	91.7	17.2	1.4	4.4	4.2
CB 7632	91.0	18.6	0.3	2.7	4.4
Mo 843	90.4	16.4	0.2	2.7	3.4
Mo 876	90.3	16.8	0.5	4.1	4.3
CB 9909	90.2	17.8	1.1	2.7	4.2
CB 9953	89.8	15.5	1.5	3.9	4.3
Mo 4022W*	89.5	18.4	0.5	2.0	3.3
Mo 860	88.0	16.2	0.5	4.9	4.3
US 13	85.8	13.7	0.6	6.2	3.9
Iowa 4476	85.6	15.6	0.1	5.2	3.5
Kan 1639	85.5	15.2	0.5	4.0	3.3
Mo 148	82.9	15.4	1.8	9.7	4.3
Mo 8	81.9	17.3	6.6	7.6	4.3
Ohio C92	81.6	14.2	0.2	3.4	3.6
2-Year Average (Results of 9 Tests)					
US 523W*	104.6	15.3	2.8	4.7	0.8
Mo 862	102.3	17.0	1.2	3.7	0.8
Mo 883	99.0	17.4	1.7	2.3	0.7
CB 7632	98.6	15.1	0.4	3.5	0.6
Mo 804	97.7	14.9	1.3	6.3	0.5
Mo 4021W*	96.5	16.2	0.3	2.5	0.5
CB 7610	96.4	14.6	1.1	6.0	0.7
Mo 4022W*	95.5	16.5	0.8	2.1	0.5
Mo 843	95.5	14.2	0.3	3.2	0.5
Mo 876	95.3	14.8	0.2	4.3	1.7
CB 9953	95.1	13.5	0.4	4.9	3.2
Mo 860	94.9	14.4	0.8	4.8	1.7
CB 9909	94.8	15.8	1.0	1.8	0.4
Mo 892	94.2	13.8	0.2	5.0	0.5
US 13	92.1	12.0	0.9	5.5	2.3
Kan 1639	91.6	12.5	0.8	4.8	1.8
Mo 148	91.0	13.8	2.7	9.9	2.1
MFA 120A	90.2	13.6	0.6	6.6	1.4
Iowa 4476	90.1	13.6	0.2	5.8	0.7
PAG 403	89.0	12.7	0.7	0.8	1.0
Ohio C92	88.1	12.8	0.4	4.8	1.0
Mo 8	87.4	16.4	7.2	9.0	0.3
Keystone 111W*	84.4	17.3	2.9	1.4	0.1
Embro 36	84.4	13.3	0.3	5.1	2.1

*White Hybrids

are superior in yielding and standing ability to other yellow hybrids tested. Seed of these two hybrids is

TABLE 7 -- SUMMARY OF AVERAGE PERFORMANCE RECORDS FOR HYBRIDS TESTED IN THE SOUTHERN REGION 1949-1953.

Hybrid	Acre Yield Bu.	Moist-ure in Grain %		Lodged Plants Root Stalk %		Drop-ped Ears %	Ear Height Grade
		Grain %	Root %	Stalk %	Ears %		
5 Year Average (Results of 12 Tests)							
US 523W*	81.8	13.5	8.3	10.6			3.7
Mo 804	76.0	14.0	4.6	13.3			3.7
US 13	72.6	13.0	4.1	10.4			3:2
Kan 1639	71.5	13.3	4.3	6.6			2.7
Mo 8	70.0	14.9	10.5	15.0			3.7
Mo 148	69.6	13.3	5.9	13.6			3.6
Ohio C92	69.2	12.7	4.3	6.5			3.1
4-Year Average (Results of 10 Tests)							
Mo 5365W*	86.2	15.6	7.8	14.8			4.3
Dixie 33*	83.2	16.9	9.7	6.5			4.7
US 523W*	79.9	13.2	8.5	9.6			3.6
Dixie 22	79.5	16.4	6.2	17.1			4.5
CB 7610	76.2	14.1	5.1	8.1			3.7
Mo 862	75.8	16.9	8.5	9.2			3.8
Mo 804	74.3	13.7	4.3	9.3			3.7
US 13	71.5	12.6	3.0	6.0			3.1
Kan 1639	69.7	13.0	4.2	5.0			2.7
Iowa 4476	69.2	13.4	0.8	8.0			2.9
Mo 8	69.0	14.7	9.9	10.6			3.7
Ohio C92	68.5	12.3	4.5	4.8			3.1
Mo 148	68.1	12.9	6.3	9.1			3.6
3-Year Average (Results of 6 Tests)							
Mo 5365W*	79.3	13.7	0.8	18.4			4.4
Dixie 33*	77.7	15.2	2.6	7.4			4.6
US 523W*	76.8	11.2	1.4	11.7			3.4
Dixie 22	73.3	14.2	1.1	20.9			4.4
CB 7610	72.8	12.0	0.3	8.3			3.6
Mo 862	71.7	15.2	1.8	11.2			3.7
US 13	71.3	10.8	0	7.0			3.1
Mo 843	70.6	11.7	1.8	5.4			2.9
CB 7632	70.5	13.5	0.4	10.6			4.0
Mo 804	70.1	12.1	0.1	11.1			3.6
Mo 860	69.7	11.5	0	9.1			3.4
Kan 1639	67.6	10.8	0.1	5.4			2.6
Ohio C92	66.1	10.8	0.2	5.5			3.0
Mo 148	65.4	11.4	0.7	10.6			3.5
Mo 8	65.3	13.0	2.0	12.5			3.6
CB 8805	64.3	11.7	0.3	6.5			2.8
2-Year Average (Results of 3 Tests)							
TRF 3*	62.3	11.9	11.7	10.5	0.2		3.6
US 13	61.4	9.0	0	5.0	2.0		3.1
US 523W*	60.4	9.6	2.1	12.1	0.4		3.3
Mo 860	60.0	10.0	0	5.8	0.4		3.4
Dixie 33*	59.9	14.2	2.9	7.0	0.4		4.4
PAG 484	59.3	13.3	0.4	12.4	0.9		3.6
Mo 883	59.3	13.5	1.4	2.3	0.4		3.5
Mo 843	58.9	10.0	2.8	2.9	0.2		2.9
Mo 862	58.6	14.1	2.3	10.4	0.9		3.5
Mo 5365W*	58.6	12.6	0.6	20.0	0		4.2
MFA 120A	58.7	8.8	0.2	5.1	1.4		2.9
CB 7610	58.2	10.4	0.4	4.3	0.6		3.3
Kan 1639	56.4	8.9	0.2	3.5	0.8		2.5
Dixie 22	56.3	12.9	1.3	19.3	0.4		4.1
Mo 804	55.7	10.8	0.2	10.2	0.6		3.4
Mo 148	55.1	9.6	1.1	8.4	0.6		3.4
CB 7632	55.0	12.0	0.6	8.8	0.6		3.7
Ohio C92	54.8	9.2	0	3.2	0.7		2.9
Mo 8	53.9	11.8	2.8	11.1	1.1		3.5
CB 8805	53.3	9.2	0	4.1	0.6		2.7
Iowa 4476	53.2	9.7	0	7.3	0.8		2.6
T 0009	53.2	13.7	0.6	13.2	2.3		4.1
Keystone 222A	52.6	13.2	1.4	16.4	0		3.9

*White Hybrids

available in sizable quantities this year.

A promising new yellow hybrid for this region is Mo 843 which was released for seed production in 1953 but due to unfavorable conditions only a small quantity of seed is available this year. US 523W, a white hybrid, has given consistently high yields in this region but it is a full season hybrid and the moisture content of the grain is usually high.

The summary of the tests harvested in 1953 in the Northern Region is given in Table 8. Results from individual tests are given in Tables 9, 10, and 11.

TABLE 8 -- NORTHERN REGION, 1953 AVERAGE PERFORMANCE RECORDS FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED IN NODAWAY, CLINTON, AND SHELBY COUNTIES.

Hybrid	Acre Yield Bu.	Moist-ure in Grain %		Lodged Plants Root Stalk %		Drop-ped Ears %	Ear Height Grade
		Grain %	Stand %	Root %	Stalk %		
Mo 880 (Exp)	71.8	14.0	92.4	0.9	1.8	0.3	3.6
Mo 4046W* (Exp)	68.6	14.0	91.0	1.2	8.3	0.2	3.9
Funk G95A	68.2	11.6	94.4	0	5.2	0.5	3.5
Kan 1639	67.2	12.4	93.8	0	4.7	0.2	3.3
MFA 120A	67.1	13.8	92.7	0.9	7.8	2.1	3.9
Keystone 48	66.7	12.9	92.7	0.6	7.9	0.3	3.4
Mo 4047W* (Exp)	66.2	16.1	93.5	3.3	8.0	0	4.1
Mo 894 (Exp)	65.9	13.5	89.9	0	3.7	0.2	3.7
Mo 4042W* (Exp)	64.2	16.0	96.3	1.1	4.5	0.5	3.7
MFA 115	64.0	12.9	91.6	0.3	3.3	0.6	3.9
Nebr 505W*	64.0	10.9	92.7	1.2	7.6	2.4	3.8
US 13 (Hand Pollinated)	64.0	12.7	95.5	0	5.2	0.2	3.9
Mo 897 (Exp)	63.7	14.9	96.3	0	4.8	0.2	3.7
Mo 4021WB* (Exp)	63.4	14.9	94.1	0.2	7.0	0.3	3.6
PAG 383	63.0	12.8	93.3	0	1.7	1.4	3.5
US 523W*	62.9	14.4	94.7	0	8.5	1.4	4.2
PAG 403	62.9	12.8	94.4	0.8	2.0	0.3	3.5
DeKalb 800A	62.9	12.1	88.5	0.8	6.0	0.9	3.9
Mo 6022WB* (Exp)	62.8	16.1	94.1	0	4.1	0	3.6
Funk G91	62.4	13.8	94.9	0	3.2	1.4	3.7
Ohio C92	62.2	11.9	92.4	0	3.8	0.6	3.8
Mo 4041W*	61.9	16.2	94.1	1.4	5.2	0.8	4.0
Pioneer 301C	61.5	13.0	94.1	0.2	3.5	0.5	3.4
AES 801 (Iowa 4527)	61.3	12.2	94.1	0	1.4	0.2	3.3
PAG 347	61.2	11.5	92.1	0	2.6	0.3	3.3
Mo 901 (Exp)	61.1	15.3	94.1	0	6.0	1.1	3.4
Mo 148	61.0	12.6	92.1	1.1	7.3	1.5	4.3
Iowa 4565	60.9	12.5	91.6	0	3.3	1.5	3.4
Mo 860 (Exp)	60.8	14.2	95.8	0	2.7	0.8	4.2
Pioneer 302	60.7	13.6	96.6	0	4.8	0.5	4.1
CB 8805 (Exp)	60.5	14.4	94.1	0.3	2.6	0.5	3.9
Nebr 1369B (Exp)	60.5	13.2	92.7	0	8.6	0.6	3.6
Mo 900 (Exp)	60.3	17.0	94.1	1.4	3.5	0.8	3.8
Embro 36	59.8	11.9	88.8	0	5.5	0.3	3.9
US 13 (Certified)	59.6	13.4	89.1	0	3.3	2.2	3.8
Mo 4022W* (Exp)	59.2	17.5	96.9	0	3.5	0.2	3.5
DeKalb 847	49.0	12.7	93.0	0.2	3.7	0.8	3.8
Pioneer 325	58.8	11.7	92.7	0	1.4	0.2	3.1
Ainsworth X-14-A	58.2	13.8	90.2	0.3	9.0	2.2	4.2
Iowa 4476 (Exp)	57.9	14.9	94.7	0	4.1	0.8	3.8
Embro 49	57.8	13.5	90.2	0	3.3	1.2	4.1
Mo 843 (Exp)	57.7	14.0	92.2	0	3.6	0.3	3.4
DeKalb 875	57.0	12.8	93.0	0	7.3	0.6	3.7
Keystone 45	56.3	14.6	93.3	0	9.0	2.1	4.2
Funk G99	56.1	14.2	90.8	0	4.1	0.8	4.0
Mo 902 (Exp)	55.7	16.9	95.5	0	4.1	0.5	3.9
Mo 4021W* (Exp)	54.6	16.3	92.4	0.3	2.9	0.2	3.5
Mo 4029W* (Exp)	54.3	15.4	94.7	0	1.4	0.5	4.0
Iowa 4531	54.3	12.3	94.4	0	3.5	0.5	3.6
Means	61.5	13.8	93.2	0.3	4.7	0.8	3.8

*White Hybrids

TABLE 9 -- 1953 PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED ON THE NORTHWEST MISSOURI STATE COLLEGE FARM, R. T. WRIGHT, SUPERINTENDENT, MARYVILLE, NODAWAY COUNTY, MISSOURI

Hybrid	Acre Yield Bu.	Moist-ure in		Lodged Plants		Drop-ped Ears %	Ear Height Grade
		Grain %	Stand %	Root %	Stalk %		
Mo 880 (Exp)	81.4	12.7	95.8	0	1.7	0	3.2
Funk G95A	75.4	10.7	91.6	0	2.7	0	3.0
Mo 4046W* (Exp)	72.8	12.3	89.1	0	2.8	0	3.7
MFA 120A	72.3	10.5	90.0	0	1.8	0.9	3.7
Keystone 48	71.3	11.6	92.5	1.8	6.3	0	3.5
Nebr. 1369 B (Exp)	68.5	10.4	90.0	0	3.7	0.9	3.2
Kan. 1639	68.2	10.7	93.3	0	2.6	0.8	3.2
US 13 (Hand Poll.)	66.9	10.7	95.0	0	4.3	0	3.7
PAG 403	66.7	11.7	94.1	0	0.8	0	3.2
Mo 4022WB* (Exp)	66.7	12.9	85.0	0	4.9	0	3.5
Funk G91	66.4	11.5	94.1	0	0.8	1.7	3.2
Mo 897 (Exp)	66.3	14.0	94.1	0	0	0	3.5
Mo 4022W* (Exp)	66.0	14.8	93.3	0	2.6	0	3.0
Mo 4041W* (Exp)	65.7	12.9	95.0	0	4.3	1.7	3.7
Mo 894 (Exp)	65.3	11.5	76.6	0	0	0	3.5
MFA 115	65.2	11.3	90.8	0	1.8	0.9	3.7
Pioneer 302	65.1	12.5	95.8	0	2.6	0.8	4.0
Mo 4047W* (Exp)	64.5	12.9	91.6	6.3	1.8	0	4.0
Mo 4021WB* (Exp)	63.7	13.0	91.6	0	1.8	0.9	3.0
Mo 4042W* (Exp)	63.1	14.2	93.3	3.5	0	0	3.7
DeKalb 800A	63.0	10.9	78.3	0	2.1	2.1	3.7
AES 801 (Iowa 4527)	62.8	9.5	90.0	0	0	0	3.0
Ohio C92	62.8	11.5	85.0	0	0.9	1.9	3.2
Nebr 505W*	62.6	9.3	95.0	0	3.5	3.5	3.5
Iowa 4476 (Exp)	62.5	13.5	90.8	0	2.7	0.9	3.7
Embryo 49	62.3	11.5	87.5	0	4.7	2.8	4.0
US 523W*	62.0	13.4	95.0	0	2.6	0.8	4.0
DeKalb 847	61.8	10.9	88.3	0	0	0	3.5
Mo 902 (Exp)	61.3	12.0	93.3	0	0.8	0.8	3.7
Iowa 4565 (Exp)	60.9	10.5	88.3	0	1.8	3.7	3.0
Pioneer 301 C	60.9	10.7	90.0	0	1.8	0	3.0
Mo 860 (Exp)	60.4	10.9	88.3	0	0	1.8	4.0
PAG 383	59.9	11.5	95.0	0	0	3.5	3.0
Ainsworth X-14-A	59.7	11.1	84.1	0.9	2.9	4.9	4.0
Mo 148	59.6	11.3	88.3	1.8	4.7	3.7	4.0
Keystone 45	59.3	12.9	87.5	0	3.8	5.7	3.7
Mo 900 (Exp)	58.8	12.5	92.5	2.7	4.5	0	3.5
Mo 901 (Exp)	58.4	12.6	92.5	0	4.5	0.9	3.0
US 13 (Certified)	58.1	10.2	78.3	0	1.0	3.1	3.7
C B 8805 (Exp)	58.1	11.7	91.6	0.9	0.9	0.9	3.2
Mo 843	57.5	11.8	92.5	0	1.8	0.9	3.2
Iowa 4531	55.5	10.4	93.3	0	2.6	0	3.2
Pioneer 325	55.4	10.1	84.1	0	0.9	0	2.7
Embryo 36	54.1	10.5	85.0	0	1.9	0	3.5
Mo 4029W* (Exp)	53.0	12.7	92.5	0	0.9	0	3.7
DeKalb 875	51.4	11.3	90.8	0	4.5	1.8	3.2
PAG 347	50.8	10.7	85.8	0	1.9	0.9	3.0
Mo 4021W* (Exp)	50.3	14.8	95.0	0	0.8	0.8	3.0
Funk G99	47.3	12.5	85.0	0	0.9	0.9	4.0
Means	62.3	11.8	90.1	0.3	2.1	1.1	3.4

Differences in yield between any two hybrids of less than 16.2 bushels are not considered significant.

*White Hybrids

CENTRAL REGION

Four of the five tests planted in this region were harvested in 1953. The test near Jefferson City was abandoned because drought caused the same hybrid to have a range in yield from 0 to 50 bushels per acre in different parts of the field. This condition increases

TABLE 10 -- 1953 PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED ON THE NORTHWEST MISSOURI AGRICULTURAL EXPERIMENT FIELD, C. L. VAN BUREN, COOPERATOR, NEAR LATHROP, IN CLINTON COUNTY, MISSOURI

Hybrid	Acre Yield Bu.	Moist-ure in		Lodged Plants		Drop-ped Ears %	Ear Height Grade
		Grain %	Stand %	Root %	Stalk %		
Mo 4047W* (Exp)	70.9	13.5	96.6	0	2.5	0	4.5
Mo 894 (Exp)	69.6	11.4	96.6	0	0.8	0	4.0
Mo 4046W* (Exp)	68.2	10.7	95.0	0	1.7	0.8	4.2
Pioneer 301C	67.6	9.8	97.5	0.8	0	0	3.7
PAG 383	67.4	9.6	87.5	0	0.9	0.9	4.0
US 13 (Hand Poll.)	67.2	9.4	96.6	0	0	0	4.0
Mo 880 (Exp)	67.1	10.4	91.6	0	0	0	4.0
Mo 4042W* (Exp)	66.7	11.5	99.1	0	1.6	0.8	4.0
US 523W*	66.4	10.4	95.8	0	1.7	0	4.5
Mo 897 (Exp)	66.2	10.8	97.5	0	0.8	0	4.0
Mo 901 (Exp)	66.0	12.0	92.5	0	0.9	0	3.7
Kan 1639	66.0	9.1	95.0	0	0.8	0	3.7
AES 801 (Iowa 4527)	65.1	9.1	99.1	0	0	0	3.7
PAG 347	64.5	8.4	96.6	0	2.5	0	3.2
Mo 860 (Exp)	64.5	12.1	99.1	0	0.8	0	4.5
Funk G95A	64.4	9.1	95.0	0	4.3	0	3.7
DeKalb 800A	64.4	9.3	94.1	0	4.4	0	4.5
Keystone 48	64.2	9.5	95.0	0	0	0	3.2
C B 8805 (Exp)	63.8	10.9	94.1	0	5.3	0	4.5
Mo 4041W* (Exp)	63.6	11.8	92.5	0	0.9	0.9	4.5
Nebr 505W*	63.5	8.8	93.3	0	0.8	0	4.0
Mo 900 (Exp)	62.7	14.3	96.6	0	2.5	0.8	4.2
Ohio C92	62.2	8.9	98.3	0	0	0	4.2
Funk G91	61.9	10.3	98.3	0	0	0	4.0
MFA 120A	61.8	9.3	100.0	0	6.6	0	4.0
US 13 (Certified)	61.2	9.7	95.8	0	0	0	4.2
Funk G99	61.2	9.9	91.6	0	3.6	0.9	4.2
PAG 403	60.9	8.9	92.5	0	0.9	0.9	4.0
Pioneer 302	60.8	10.4	96.6	0	2.5	0	4.5
Mo 148	60.8	8.3	89.1	0	5.6	0	4.7
Mo 4021WB* (Exp)	60.6	12.2	97.5	0	4.2	0	4.0
Mo 4022WB* (Exp)	60.3	11.8	98.3	0	0.8	0	4.0
DeKalb 875	60.3	9.5	91.6	0	7.2	0	4.0
DeKalb 847	60.2	9.3	96.6	0	5.1	0	4.0
MFA 115	60.0	10.0	94.1	0	1.7	0	4.5
Iowa 4565 (Exp)	59.5	9.5	95.8	0	0	0	4.2
Ainsworth X-14-A	59.4	9.7	95.0	0	7.8	0	4.5
Mo 4029W* (Exp)	58.8	10.4	96.6	0	0.8	0	4.5
Embryo 36	58.7	9.3	92.5	0	1.8	0	4.2
Nebr. 1369B (Exp)	58.2	10.6	96.6	0	6.0	0	4.0
Mo 843	58.0	10.7	94.1	0	0	0	3.7
Mo 4022W* (Exp)	57.8	14.8	100.0	0	0.8	0.8	4.0
Pioneer 325	57.4	8.2	100.0	0	0	0	3.7
Iowa 4476 (Exp)	57.2	10.0	100.0	0	0.8	0.8	4.0
Keystone 45	54.0	10.7	96.6	0	1.7	0	5.0
Mo 4021W* (Exp)	53.8	12.7	93.3	0	3.5	0	4.0
Mo 902 (Exp)	53.4	14.1	94.1	0	1.7	0	4.2
Iowa 4531	53.1	8.9	96.6	0	0	1.7	4.0
Embryo 49	52.8	10.7	93.3	0	1.7	0	4.5
Means	61.91	10.42	95.6	0	2.0	0.1	4.1

Differences in yield between any two hybrids of less than 9.6 bushels are not considered significant.

*White Hybrids

the experimental error and it is more difficult, if not impossible to determine the relative yielding ability of the hybrids.

The tests at Carrollton, Marshall, and Columbia averaged approximately 70 bushels per acre in 1953 compared with 90 bushels in 1952. Columbia averaged

TABLE 11 -- 1953 PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED ON THE ED RUTTER FARM NEAR SHELBY IN SHELBY COUNTY, MISSOURI.

Hybrid	Moist-			Lodged			Ear Height Grade
	Yield Bu.	Grain %	Stand %	Root %	Stalk %	Drop-ped Ears %	
PAG 347	68.3	15.5	94.1	0	3.5	0	3.7
MFA 120A	67.4	21.7	88.3	2.8	15.0	5.6	4.0
Kan 1639	67.3	17.3	93.3	0	10.7	0	3.2
Mo 880 (Exp)	67.1	18.9	90.0	2.7	3.7	0.9	3.7
MFA 115	66.8	17.5	90.0	0.9	6.4	0.9	3.7
Embro 36	66.6	16.0	89.1	0	13.0	0.9	4.0
Mo 4021WB* (Exp)	66.1	19.4	93.3	0.8	15.1	0	4.0
Nebr 505W*	65.9	14.6	90.0	3.7	18.5	3.7	4.0
Keystone 48	64.9	17.5	90.0	0	17.4	0.9	3.7
Mo 4046W* (Exp)	64.7	19.1	89.1	3.7	20.5	0	4.0
Funk G95A	64.7	14.9	96.6	0	8.6	1.7	4.0
Pioneer 325	63.7	16.8	94.1	0	3.5	0.8	3.0
Mo 4047W* (Exp)	63.1	21.9	92.5	3.6	19.8	0	4.0
Mo 4042W* (Exp)	62.8	22.3	96.6	0	12.0	0.8	3.5
Mo 894 (Exp)	62.7	17.6	96.6	0	10.3	0.8	3.7
Mo 148	62.5	18.1	99.1	1.6	11.7	0.8	4.2
Iowa 4565 (Exp)	62.3	17.6	90.8	0	8.2	0.9	3.2
PAG 383	61.9	17.3	97.5	0	4.2	0	3.5
Mo 4022WB* (Exp)	61.5	23.7	99.1	0	6.7	0	3.5
Ohio C92	61.5	15.4	94.1	0	10.6	0	4.0
DeKalb 800A	61.1	16.1	93.3	2.6	11.6	0.8	3.7
PAG 403	61.0	17.8	96.6	2.5	4.3	0	3.5
US 523W*	60.3	19.4	93.3	0	21.4	3.5	4.2
Mo 4021W* (Exp)	59.8	21.3	89.1	0.9	4.6	0	3.5
Funk G99	59.7	20.2	95.8	0	7.8	0.8	4.0
C B 8805 (Exp)	59.6	20.7	96.6	0	1.7	0.8	4.0
US 13 (Certified)	59.4	20.3	93.3	0	8.9	3.5	3.7
Mo 900 (Exp)	59.4	24.2	93.3	1.7	3.5	1.7	3.7
DeKalb 875	59.2	17.5	96.6	0	10.3	0	4.0
Funk G91	59.0	19.7	92.5	0	9.0	2.7	4.0
Mo 901 (Exp)	58.9	21.4	97.5	0	12.8	2.5	3.7
Mo 897 (Exp)	58.7	20.0	97.5	0	13.6	0.8	3.7
Embro 49	58.4	18.4	90.0	0	3.7	0.9	4.0
US 13 (Hand Poll.)	57.8	18.1	95.0	0	11.4	0.8	4.2
Mo 843	57.5	19.5	90.0	0	9.2	0	3.5
Mo 860 (Exp)	57.4	19.7	100.0	0	7.5	0.8	4.2
Mo 4041W* (Exp)	56.4	24.0	95.0	4.3	10.5	0	4.0
Pioneer 301 C	56.1	18.4	95.0	0	8.7	1.7	3.7
Pioneer 302	56.1	18.0	97.5	0	9.4	0.8	4.0
AES 801 (Iowa 4527)	56.0	18.1	93.3	0	4.4	0.8	3.2
Keystone 45	55.5	20.3	95.8	0	21.7	0.8	4.0
Ainsworth X-14-A	55.5	20.7	91.6	0	16.3	1.8	4.2
DeKalb 847	54.9	17.8	94.1	0.8	6.1	2.6	4.0
Nebr. 1369B (Exp)	54.7	18.6	91.6	0	16.3	0.9	3.7
Iowa 4531	54.2	17.7	93.3	0	8.0	0	3.7
Iowa 4476	54.0	21.2	93.3	0	8.9	0.8	3.7
Mo 4022W* (Exp)	53.9	22.8	93.3	0	7.1	0	3.7
Mo 902 (Exp)	52.4	24.6	99.1	0	10.0	0.8	4.0
Mo 4029W* (Exp)	51.0	23.2	95.0	0	2.6	1.7	4.0
Means	60.8	19.2	93.9	0.6	10.0	1.0	3.7

Differences in yield between any two hybrids of less than 8.5 bushels are not considered significant.

*White Hybrids

TABLE 12 -- CENTRAL REGION, 1953 AVERAGE PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED IN CARROLL, SALINE, BOONE, AND FRANKLIN COUNTIES.

Hybrid	Moist-			Lodged			Shell-ing	Ear Height Grade
	Yield Bu.	Grain %	Stand %	Root %	Stalk %	Drop-ped Ears %		
Mo 8010W* (Exp)	99.2	15.3	96.9	0.1	3.3	0.8	80.3	4.2
US 523W*	98.7	14.1	96.8	2.0	2.3	1.5	81.0	4.2
Mo 4047W* (Exp)	94.7	15.6	95.6	6.7	2.9	0.2	77.7	3.4
Mo 862 (Exp)	94.3	15.9	94.5	1.6	2.7	1.5	78.8	4.4
Mo 4048W* (Exp)	93.4	15.5	94.1	1.0	1.8	0.4	79.9	4.1
Pioneer 302	92.5	14.4	94.9	1.7	0.7	1.7	82.5	3.9
C B 7632 (Exp)	91.9	14.5	95.7	0.4	0.9	1.1	79.3	4.2
C B 9953 (Exp)	91.4	12.8	93.4	0.2	2.0	4.0	80.5	4.4
Mo 904 (Exp)	91.1	15.9	90.6	3.9	3.9	0.6	75.0	4.5
Mo 843	90.7	13.3	94.4	0.2	1.3	0.6	79.8	3.7
C B 7610 (Exp)	90.5	13.9	95.0	2.1	2.9	1.2	81.4	4.0
Mo 804	90.4	14.4	95.8	1.7	5.7	0.5	79.1	4.6
Mo 876 (Exp)	89.9	13.7	94.1	0	1.3	3.1	80.0	4.4
US 13 (Certified)	89.8	12.0	93.5	0.1	3.1	4.0	81.7	3.9
Pioneer 301C	89.5	11.9	89.2	0.5	2.8	1.0	83.3	3.4
Mo 4041W* (Exp)	89.4	14.7	93.7	2.6	1.6	0.6	79.9	4.1
Mo 883 (Exp)	89.0	16.8	92.1	3.1	0.7	0.9	77.6	4.3
Mo 884 (Exp)	88.4	14.3	93.6	2.0	1.1	0.2	79.7	4.3
Mo-4022WB* (Exp)	88.3	14.7	97.9	1.2	1.0	1.1	76.5	3.4
Mo 860 (Exp)	88.0	13.3	95.2	0.9	2.8	2.7	82.0	4.3
US 13 (Hand Poll)	87.6	11.6	94.3	0.8	3.8	3.4	81.6	4.1
Keystone 45	87.6	12.7	95.7	0.6	2.4	1.9	82.2	3.9
Pioneer 301	87.4	11.3	93.7	0.2	2.6	2.6	83.8	3.4
Mo 901 (Exp)	87.0	13.2	95.9	0	1.5	1.0	82.8	3.5
Mo 4021WB* (Exp)	86.6	14.8	95.5	0	0.9	0.7	79.4	3.4
Kan 1639	86.5	11.8	95.3	0.7	2.1	2.5	79.5	3.3
MFA 120A	86.1	12.8	95.7	0.8	3.5	2.5	81.7	3.9
Funk G79	86.0	12.9	90.4	0	2.8	1.7	82.9	4.0
C B 9909 (Exp)	85.9	15.3	95.8	1.7	1.6	0.5	78.9	4.2
Mo 4022W* (Exp)	85.8	15.3	97.2	0	1.8	0	74.6	3.3
Mo 4021W* (Exp)	85.6	15.2	97.0	0	1.6	0.4	76.3	3.5
Mo 892 (Exp)	85.1	12.5	91.5	0.2	3.2	0.5	81.1	3.6
Mo 148	85.1	13.1	94.7	3.3	5.7	2.0	79.3	4.3
Funk G91	85.1	12.1	94.0	0.1	2.5	2.9	81.8	3.6
Ohio C92	84.2	11.9	93.5	0.1	3.3	1.4	83.0	3.6
PAG 383	82.7	11.7	94.8	0.4	2.1	1.4	81.1	3.3
PAG 403	82.5	11.8	93.2	0.8	0.1	1.7	82.2	3.3
DeKalb 875	82.4	12.2	92.9	1.5	3.6	2.7	82.6	3.9
Funk G95A	82.1	12.4	94.2	0.5	1.5	1.5	81.9	3.4
Iowa 4476 (Exp)	82.0	12.1	94.2	0.1	4.1	1.0	79.1	3.7
DeKalb 847	81.3	12.3	93.0	1.1	1.8	2.4	82.0	3.4
Embro 36	81.0	12.8	95.2	0.1	3.1	3.0	80.9	3.7
PAG 484	80.9	16.2	93.0	2.6	2.5	0.8	80.1	4.5
MFA 115	79.3	11.7	89.8	0.6	1.2	2.8	79.6	3.8
Embro 49	77.9	12.9	90.7	0.6	3.4	2.4	80.3	4.0
Mo 922 (Exp)	77.0	14.7	97.3	1.2	2.3	2.3	75.3	3.8
Mo 8	75.9	16.8	93.8	11.5	7.3	0.6	76.5	4.4
DeKalb 825	74.5	11.7	93.9	0.8	1.8	3.0	82.7	3.6
Keystone 111W	72.8	17.4	93.9	2.4	1.7	0.2	75.8	3.9
Means	86.4	13.7	94.3	1.4	2.5	1.3	80.1	3.9

*White Hybrids

77 bushels in 1951 when the other locations were flooded out.

The average yield at Washington was 127 bushels per acre in 1953 and 124 bushels in 1952.

Though the yield in the Washington test is much higher than the other three tests of this region, a com-

parison of Table 13, 14, 15, and 16 shows the ranking of most hybrids in the Washington test to be similar to the ranking of these hybrids in the other three tests where the yields were about the same.

Due to an error in the test at Marshall a complete set of moisture determinations was not made. There-

TABLE 13 -- 1953 PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED ON THE PFISTER ASSOCIATED GROWERS RESEARCH FARM LOCATED NEAR CARROLLTON, IN CARROLL COUNTY, MISSOURI.

Hybrid	Acre Yield Bu.	Moist-ure in		Lodged Plants		Drop-ped Ears %	Shell-ing %	Ear Height Grade
		Grain %	Stand %	Root %	Stalk %			
Mo 876 (Exp)	94.3	16.8	99.1	0	2.5	5.0	81.5	4.2
Mo 904 (Exp)	89.5	17.2	100.0	2.5	5.8	1.6	76.4	4.5
Mo 8010W* (Exp)	87.9	18.9	99.1	0	5.0	0	80.5	4.0
Pioneer 302	86.2	17.6	93.3	5.3	1.7	1.7	82.1	4.0
CB 9953 (Exp)	85.5	15.3	87.5	0.9	0.9	3.8	80.4	4.2
Pioneer 301C	85.4	14.1	99.1	0	5.8	0.8	83.2	3.7
US 523W*	84.8	17.5	99.1	3.3	0.8	0.8	80.9	4.0
US 13 (Certified)	82.9	14.5	98.3	0	5.0	5.0	81.7	4.2
MFA 120A	82.8	14.0	99.1	2.5	5.8	1.6	82.1	4.2
Mo 862 (Exp)	82.8	18.9	93.3	2.6	2.6	0.8	78.7	3.7
Mo 4047W* (Exp)	82.5	17.7	99.1	5.0	3.3	0	75.7	3.5
Mo 4048W* (Exp)	82.4	16.6	99.1	0	0	0	79.5	4.0
Mo 804	82.3	17.5	96.6	2.5	7.7	0.8	78.7	5.0
Pioneer 301	82.2	13.5	96.6	0	2.5	3.4	83.3	3.5
CB 7610 (Exp)	81.8	16.5	96.6	0.8	4.3	0.8	81.2	3.7
CB 7632 (Exp)	80.0	18.5	98.3	0.8	0.8	1.6	78.8	4.2
PAG 484	79.7	18.1	92.5	2.7	0	0	80.1	4.7
Mo 884 (Exp)	79.2	17.9	96.6	5.1	3.4	0	80.5	4.0
Ohio C92	78.9	14.0	100.0	0	3.3	0.8	82.9	3.5
Keystone 45	78.5	15.3	100.0	0	3.3	4.1	80.9	4.5
Mo 860 (Exp)	78.4	15.1	97.5	0	3.4	1.7	81.7	3.7
DeKalb 875	77.7	14.6	97.5	0	3.4	3.4	82.7	4.0
PAG 403	75.9	14.3	99.1	0.8	0	2.5	81.9	3.5
Mo 883 (Exp)	75.4	18.6	90.0	2.7	0.9	0	77.2	4.2
Mo 901 (Exp)	75.2	15.5	95.8	0	1.7	1.7	82.0	4.0
Mo 148	75.1	15.9	96.6	8.6	4.3	0.8	78.7	4.2
Mo 843	74.4	15.5	99.1	0	0.8	0.8	79.2	3.7
Mo 892 (Exp)	74.0	14.7	87.5	0	1.9	0	79.9	3.7
Mo 4041W* (Exp)	73.3	17.0	85.0	0	0.9	0.9	79.6	3.7
Funk G79	73.2	15.1	87.5	0	0.9	3.8	81.5	4.0
US 13 (Hand Poll.)	72.1	14.1	98.3	0.8	5.0	5.0	81.3	4.0
Kan 1639	71.7	14.3	97.5	2.5	0.8	2.5	78.4	3.5
DeKalb 847	71.3	14.0	96.6	0	1.7	6.0	81.5	3.7
CB 9909 (Exp)	70.5	18.3	99.1	0	1.6	0.8	78.2	4.2
Mo 8	69.1	19.9	96.6	18.1	4.3	0	75.4	4.5
Iowa 4476 (Exp)	68.8	14.8	95.0	0	5.2	0	78.9	3.5
PAG 383	68.4	14.3	96.6	0	0.8	1.7	79.8	3.7
Embro 49	67.0	15.7	87.5	0	1.9	3.8	78.2	4.0
DeKalb 825	66.7	13.5	100.0	0	2.5	3.3	82.3	3.5
Mo 4022WB* (Exp)	66.1	17.5	99.1	2.5	1.6	0.8	74.3	3.2
Mo 4021WB* (Exp)	65.8	17.3	100.0	0	0	0	77.6	3.2
Funk G95A	65.5	14.0	95.0	0	0.8	1.7	81.6	3.2
Mo 4022W* (Exp)	63.8	18.4	98.3	0	1.6	0	72.1	3.2
Mo 4021W* (Exp)	61.1	17.9	96.6	0	0	0	73.3	3.7
Mo 922 (Exp)	60.5	15.7	98.3	0.8	3.3	0.8	74.8	4.0
MFA 115	60.5	14.6	94.1	0	0	3.5	78.1	3.5
Embro 36	60.2	14.9	98.3	0	2.5	5.0	79.4	4.0
Funk G91	56.2	14.4	95.0	0	5.2	5.2	80.8	3.7
Keystone 111W*	55.3	20.8	95.8	0.8	0.8	0	75.5	4.0
Means	74.7	16.1	96.2	1.4	2.4	1.8	79.5	3.8

Differences in yield between any two hybrids of less than 12.0 bushels are not considered significant.

*White Hybrids.

TABLE 14 -- 1953 PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED ON THE M. F. A. SEED DIVISION CORN TEST PLOTS LOCATED NEAR MARSHALL, IN SALINE COUNTY, MISSOURI.

Hybrid	Acre Yield Bu.	Stand %	Lodged Plants		Drop-ped Ears %	Ear Height Grade
			Root %	Stalk %		
US 523W*	87.6	100.0	2.5	1.6	0	4.0
Mo 843	86.8	99.1	0	1.6	0	3.5
Mo 8010W* (Exp)	86.0	97.5	0	5.1	2.5	4.2
Mo 4048W* (Exp)	84.8	91.6	3.6	2.7	0.9	3.7
Mo 4021WB* (Exp)	84.7	97.5	0	0.8	0.8	3.5
US 13 (Hand Poll.)	82.8	93.3	2.6	3.5	2.6	3.7
Pioneer 301C	82.7	73.3	2.2	0	1.1	2.7
Mo 4041W* (Exp)	82.3	98.3	5.0	2.5	0	4.0
Mo 883 (Exp)	82.1	90.8	5.5	0.9	0.9	4.0
Mo 862 (Exp)	81.5	99.1	0	5.0	0.8	4.0
Pioneer 302	80.0	98.3	0	0	2.5	3.0
Mo 901 (Exp)	79.5	98.3	0	0.8	0	3.0
Mo 4021W* (Exp)	79.5	99.1	0	1.6	0	3.0
Mo 4022WB* (Exp)	79.1	99.1	2.5	0.8	0	2.7
Keystone 45	78.9	98.3	0	3.3	1.6	3.2
Mo 860 (Exp)	78.7	98.3	0	3.3	0.8	4.0
Pioneer 301	78.5	94.1	0.8	2.6	0	3.0
Mo 884 (Exp)	78.2	98.3	0.8	0	0.8	4.5
US 13 (Certified)	77.8	95.8	0	1.7	6.9	3.2
Mo 4047W* (Exp)	77.8	96.6	13.7	4.3	0	3.2
CB 9953 (Exp)	77.6	95.8	0	0.8	0.8	4.0
Funk G91	77.5	94.1	0	1.7	1.7	3.2
Funk G79	77.0	90.8	0	2.7	0.9	3.2
Mo 892 (Exp)	76.7	94.1	0.8	0.8	0	3.0
CB 7632 (Exp)	76.7	93.3	0	0.8	0.8	4.0
Mo 804 (Exp)	76.5	100.0	2.5	6.6	0.8	4.0
CB 7610 (Exp)	76.1	98.3	0	2.5	0	3.2
Funk G95A	75.9	97.5	0	0.8	0.8	3.0
Mo 904 (Exp)	75.7	99.1	7.5	3.3	0	4.2
Kan 1639	75.5	97.5	0	0.8	0	2.7
DeKalb 847	75.5	93.3	4.4	1.7	0.8	2.7
Mo 4022WB* (Exp)	75.1	98.3	0	1.6	0	2.7
Embro 36	74.8	97.5	0	3.4	0	3.2
MFA 115	74.0	91.6	0	1.8	3.6	3.5
Mo 148	73.5	98.3	2.5	5.0	0.8	3.7
MFA 120A	72.4	97.5	0	2.5	0.8	3.2
Ohio C92	72.0	97.5	0	5.9	3.4	3.2
Mo 8	71.1	100.0	6.6	6.6	0	4.2
PAG 383	70.8	91.6	0.9	0	0.9	3.0
DeKalb 875	70.1	91.6	2.7	2.7	1.8	3.2
Iowa 4476 (Exp)	69.8	97.5	0	3.4	3.4	3.2
PAG 403	69.7	92.5	2.7	0	0	3.2
CB 9909 (Exp)	69.1	95.8	2.6	2.6	0.8	3.7
Mo 876 (Exp)	67.8	93.3	0	1.7	2.6	3.7
Embro 49	66.6	96.6	2.5	2.5	1.7	3.5
PAG 484	63.8	97.5	5.1	5.1	0	3.7
Mo 922 (Exp)	62.8	96.6	3.4	0	1.7	3.0
Keystone 111W*	61.6	95.8	2.6	2.6	0.8	3.5
DeKalb 825	59.4	94.1	2.6	0	0.8	3.0
Means	75.8	95.7	1.8	2.2	1.0	3.4

*White Hybrids

fore moisture determinations are not reported in Table 14. The acre yield computations were made with the moisture percentages from the Carrollton test.

In this region Kan 1639, Mo 862, and US 523W have given consistently high yields. Kan 1639 is a high yielding yellow hybrid of about US 13 maturity which

is well adapted to this region. It is satisfactory in standing ability and has a desirable ear height. Seed is available in sizeable quantities this year. Mo 804 is a high yielding yellow hybrid of about Mo 8 maturity. It has an undesirable feature in that its ears are borne high on the stalk when grown on soils of high fertility

TABLE 15 -- 1953 PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED ON THE SOUTH FARM, UNIVERSITY OF MISSOURI NEAR COLUMBIA, IN BOONE COUNTY, MISSOURI.

Hybrid	Acre Yield Bu.	Moist-ure in		Lodged Plants		Drop-ped Ears %	Shell-ing %	Ear Height Grade
		Grain %	Stand %	Root %	Stalk %			
Mo 4022WB* (Exp)	81.2	12.5	96.6	0	0	1.7	78.7	3.0
Mo 4047W* (Exp)	78.3	16.3	92.5	8.1	0.9	0.9	79.6	3.5
US 523W*	77.6	12.8	91.6	1.8	3.6	3.6	81.1	3.5
US 13 (Certified)	77.5	10.2	93.3	0	0.8	3.5	81.7	3.5
Mo 4048W* (Exp)	77.2	13.7	94.1	0	0	0.8	80.3	4.0
Funk G91	76.2	10.7	93.3	0	0	1.7	82.7	3.5
Mo 4041W* (Exp)	75.5	13.0	97.5	5.1	0	1.7	80.3	3.5
Mo 8010W* (Exp)	73.8	13.7	95.0	0	0	0.8	80.0	3.5
MFA 120A	73.4	10.6	98.3	0	1.6	1.6	81.4	3.5
CB 7632 (Exp)	73.3	11.1	95.8	0.8	0.8	1.7	79.8	3.7
Mo 862 (Exp)	73.2	12.7	93.3	2.6	0	4.4	78.9	4.0
Kan 1639	73.0	10.2	93.3	0	1.7	4.4	80.6	3.0
Mo 848	72.6	12.7	90.8	0.9	0	1.8	80.5	3.2
Mo 4021W* (Exp)	72.6	13.9	95.8	0	0	0	79.3	3.2
US 13 (Hand Poll)	72.5	10.2	93.3	0	0.8	3.5	81.8	3.7
Mo 901 (Exp)	72.0	12.3	95.8	0	1.7	2.6	83.4	3.0
Pioneer 302	71.7	11.5	95.8	1.7	0.8	2.6	82.9	3.2
Funk G79	71.6	11.3	95.8	0	0.8	0.8	84.4	4.0
PAG 383	70.8	9.8	97.5	0.8	1.7	1.7	82.4	2.7
CB 9953 (Exp)	70.7	11.8	95.0	0	0	7.0	80.6	4.0
Mo 4021WB* (Exp)	70.1	13.8	90.8	0	1.8	0.9	81.3	3.0
Mo 860 (Exp)	70.1	12.1	94.1	2.6	0	7.0	82.4	4.0
Mo 4022 W* (Exp)	69.7	13.7	96.6	0	1.7	0	77.0	3.0
Ohio C92	69.1	10.6	89.1	0	0	0.9	83.1	3.2
Mo 804	68.8	12.8	91.6	0	0.9	0	79.6	4.0
Keystone 45	68.7	10.7	93.3	0	1.7	0.8	83.4	3.5
CB 7610 (Exp)	68.6	11.8	91.6	6.3	0.9	2.7	81.5	3.7
Iowa 4476 (Exp)	67.9	10.4	92.5	0	2.7	0	79.2	3.2
Mo 884 (Exp)	67.5	13.0	88.3	1.8	0	0	78.9	4.0
MFA 115	67.2	10.7	92.5	0.9	0	3.6	81.1	3.2
Mo 883 (Exp)	67.0	15.0	94.1	4.4	0	1.7	78.1	4.0
CB 9909 (Exp)	66.9	13.9	94.1	4.4	1.7	0	79.6	3.7
Embro 36	66.5	11.1	90.8	0	0	4.5	82.5	3.0
Mo 876 (Exp)	66.2	10.6	92.5	0	0	3.6	78.6	4.0
Mo 148	65.9	12.3	91.6	0.9	3.6	4.5	79.9	4.0
PAG 403	65.9	9.8	98.3	0	0	3.7	82.5	3.0
Pioneer 301C	65.5	10.0	90.8	0	0.9	1.8	83.4	3.0
Mo 892 (Exp)	64.8	11.8	91.6	0	3.6	0	82.3	3.0
DeKalb 875	64.5	10.4	91.6	2.7	1.8	1.8	82.5	3.5
DeKalb 847	64.1	10.7	91.6	0	0	1.8	82.5	3.5
Funk G95A	63.5	11.5	93.3	0	1.7	3.5	82.3	3.2
Pioneer 301	62.4	10.2	89.1	0	0.9	6.5	84.3	3.0
DeKalb 825	62.1	10.6	91.6	0.9	0	4.5	83.0	3.2
Embro 49	61.6	10.6	90.0	0	0.9	2.7	82.3	4.0
Mo 922 (Exp)	57.3	13.2	95.8	0	3.4	2.6	75.8	3.2
PAG 484	55.6	14.8	89.1	2.8	0.9	2.8	80.0	4.0
Mo 904 (Exp)	53.0	14.8	70.8	5.8	3.5	1.1	73.6	4.0
Keystone 111W	49.1	14.6	92.5	4.5	0.9	0	76.0	3.5
Mo 8	48.4	13.6	90.8	19.2	6.4	1.8	77.6	4.0
Means	68.2	12.0	92.5	1.6	1.1	2.2	80.7	3.4

Differences in yield between any two hybrids of less than 9.5 bushels are not considered significant.

*White Hybrids

with adequate rainfall. Seed for this hybrid generally is available. Mo 862 is a promising experimental yellow hybrid, apparently superior to Mo 804, and may be considered for release in the near future. US 523W is a white hybrid that has given high yields in this region. Although moisture is somewhat high at har-

TABLE 16 -- 1953 PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED ON THE BEN GEISERT FARM NEAR LABADIE, IN FRANKLIN COUNTY, MISSOURI.

Hybrid	Acre Yield Bu.	Moist-ure in		Lodged Plants		Drop-ped Ears %	Ear Height Grade
		Grain %	Stand %	Root %	Stalk %		
Mo 8010W* (Exp)	149.1	13.4	96.2	0.6	3.2	0	5.2
Mo 904 (Exp)	146.1	15.8	92.5	0	3.3	0	5.5
US 523W*	144.7	12.0	96.8	0.6	3.2	1.9	5.5
Mo 862 (Exp)	139.9	16.1	92.5	1.3	3.3	0	6.0
Mo 4047W* (Exp)	139.9	12.9	94.3	0	3.3	0	3.5
CB 7632 (Exp)	137.7	13.8	95.6	0	1.3	0.6	5.2
CB 9909 (Exp)	137.2	13.6	94.3	0	0.6	0.6	5.2
CB 7610 (Exp)	135.5	13.5	93.7	1.3	4.0	1.3	5.7
Mo 4022W* (Exp)	134.5	13.8	95.6	0	2.6	0	4.5
Mo 804	134.1	12.9	95.0	1.9	7.8	0.6	5.7
CB 9953 (Exp)	132.0	11.3	95.6	0	6.5	4.5	5.7
Pioneer 302	132.0	14.1	92.5	0	0.6	0	5.7
Mo 883 (Exp)	131.5	16.7	93.7	0	1.3	1.3	5.2
Mo 876 (Exp)	131.3	13.8	91.8	0	1.3	1.3	5.7
Funk G91	130.5	11.3	93.7	0.6	3.3	3.3	4.2
Mo 4021W* (Exp)	129.4	13.9	96.8	0	5.1	1.9	4.2
Mo 4048W* (Exp)	129.3	16.2	91.8	0.6	4.7	0	5.0
Mo 843	129.1	11.8	88.7	0	2.8	0	4.7
Mo 884 (Exp)	128.6	12.0	91.2	0.6	1.3	0	5.0
Mo 922 (Exp)	127.2	15.1	98.7	0.6	2.5	4.4	5.0
Pioneer 301	126.6	10.1	95.0	0	4.6	0.6	4.2
Mo 4022WB* (Exp)	126.6	14.1	96.8	0	1.9	1.9	5.0
Mo 4041W* (Exp)	126.3	14.0	94.3	0.6	3.3	0	5.2
Mo 148	126.0	11.1	92.5	1.3	10.1	2.0	5.5
Mo 4021WB* (Exp)	125.9	13.3	93.7	0	1.3	1.3	4.2
Kan 1639	125.9	10.8	93.1	0.6	5.3	3.3	4.2
Keystone 111W*	125.4	16.8	91.8	2.0	2.7	0	4.7
Mo 892 (Exp)	125.2	11.1	93.1	0	6.7	2.0	5.0
Mo 860 (Exp)	124.8	12.7	91.2	1.3	4.7	1.3	5.5
PAG 484	124.5	15.6	93.1	0	4.0	0.6	5.7
Keystone 45	124.3	12.2	91.2	2.7	1.3	1.3	4.7
Pioneer 301C	124.3	11.5	93.7	0	4.6	0.6	4.5
Funk G95A	123.7	11.7	91.2	2.0	2.7	0	4.5
US 13 (Hand Poll.)	123.0	10.6	92.5	0	6.0	2.7	5.0
Embro 36	122.5	12.4	94.3	0.6	6.6	2.6	4.7
Funk G79	122.4	12.2	87.5	0	7.1	1.4	5.0
Iowa 4476 (Exp)	121.3	11.1	91.8	0.6	5.4	0.6	5.2
US 13 (Certified)	121.2	11.3	86.8	0.7	5.0	0.7	5.0
Mo 901 (Exp)	121.2	11.7	93.7	0	2.0	0	4.2
PAG 383	120.7	11.0	93.7	0	6.0	1.3	4.0
PAG 403	118.6	11.3	93.1	0	0.6	0.6	3.7
DeKalb 875	117.3	11.7	91.2	0.6	6.8	4.1	5.2
Ohio C92	117.0	11.0	87.5	0.7	4.2	0.7	4.7
Embro 49	116.6	12.4	88.7	0	8.4	1.4	4.7
MFA 120A	115.9	13.9	88.1	0.7	4.2	6.3	5.0
MFA 115	115.6	9.9	81.2	1.5	3.0	0.7	5.0
Mo 8	115.2	16.9	88.1	2.1	12.0	0.7	5.2
DeKalb 847	114.3	12.2	90.6	0	4.1	1.3	4.0
DeKalb 825	110.0	11.1	90.0	0	4.8	3.4	5.0
Means	127.0	12.9	92.4	0.5	4.1	1.3	4.9

Differences in yield between any two hybrids of less than 9.5 bushels are not considered significant.

*White Hybrids

vest time it should not be a production hazard in this region.

The summary of all tests harvested in the Central Region is given in Table 12. Results from individual tests are given in Tables 13, 14, 15, and 16.

SOUTHERN REGION

Only two of the four tests planted in this region were harvested in 1953. Yield tests near Caruthersville and Stark City were abandoned because of drought. Seasonal temperatures were higher than normal and rainfall was deficient throughout the region.

The average yield at Pierce City was 49 bushels per acre in 1953 and 84 bushels in 1951, the test was abandoned in 1952 due to drought.

The average yield at Sikeston was 57 bushels in 1953, 59 bushels in 1952, and 111 bushels in 1951.

TABLE 17 -- SOUTHERN REGION, 1953 AVERAGE PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED IN LAWRENCE AND NEW MADRID COUNTIES.

Hybrid	Acre Yield Bu.	Moist-ure in		Lodged Plant		Drop-ped Ears %	Ear Height Grade
		Grain %	Stand %	Root %	Stalk %		
Mo 8010W* (Exp)	62.5	9.7	88.7	0.4	8.9	0	3.1
Mo 4048W* (Exp)	62.1	7.6	84.9	0.4	2.6	0	2.8
Mo 843	60.8	9.0	91.6	1.2	0.8	0.4	2.8
US 13 (Hand Poll.)	59.5	8.0	84.5	0	3.7	1.9	3.1
US 523W*	59.4	8.4	77.4	1.3	3.0	0.8	3.0
TRF 3*	59.3	10.3	89.5	4.3	5.7	0.4	3.0
Mo 4042W* (Exp)	58.8	8.4	84.5	0	3.5	1.2	2.6
Mo 4047W* (Exp)	58.6	9.3	84.5	1.6	2.1	0.4	2.7
Mo 860 (Exp)	58.0	8.6	87.0	0	3.9	0.8	3.2
Pioneer 302	57.4	8.8	91.2	0.8	3.2	1.4	2.9
Mo 8009W* (Exp)	57.4	13.6	89.9	0.8	2.1	0	3.7
Mo 862 (Exp)	56.8	11.2	86.2	0.4	3.3	0.4	3.1
MFA 120A	56.2	7.6	80.8	0.4	0.8	1.4	2.8
Mo 884 (Exp)	56.1	9.6	89.1	1.3	0.4	0	3.1
Mo 5365 W* (Exp)	56.0	10.8	90.8	1.2	16.1	0	3.5
Dixie 33*	55.8	11.7	82.4	4.3	4.2	0.8	3.7
Mo 883 (Exp)	55.4	10.9	87.9	0	0.5	0	3.5
DeKalb 847	55.2	7.4	82.0	0	0	0	2.6
Pioneer 301	54.6	7.3	83.7	0	0.8	0.6	2.5
Mo 4041W* (Exp)	54.2	10.1	88.7	0.4	3.4	0	2.8
CB 7610 (Exp)	54.1	9.3	89.9	0.8	1.2	0.4	3.0
Kan 1639	53.8	7.6	87.9	0.4	2.0	0.9	2.3
PAG 484	53.7	11.1	84.1	0.8	5.4	0.4	3.2
PAG 631W*	53.4	10.1	85.3	1.3	0.8	0	2.8
Mo 4022WB* (Exp)	53.4	10.6	91.2	1.7	0.8	0.4	2.2
Mo 4021WB* (Exp)	53.2	10.1	88.7	0.4	2.2	0.5	2.6
CB 7632 (Exp)	52.2	8.8	92.0	1.2	6.1	0.4	3.3
Funk G134	51.8	8.2	95.3	0.4	1.2	0.4	2.6
Ohio C92	51.2	7.9	80.4	0	2.7	1.4	3.0
Mo 148	51.1	7.8	89.1	2.2	5.6	0.4	3.0
PAG 403	50.6	8.3	82.4	0.8	0	0.4	2.3
DeKalb 817A	50.5	7.1	87.8	0.4	2.2	0.8	2.4
Mo 804	50.4	10.2	91.2	0.4	4.8	0.4	2.9
US 13 (Certified)	50.3	7.6	89.5	0	2.6	1.8	2.8
Ainsworth X-14-A	50.2	8.5	87.0	1.3	2.3	1.3	2.7
Iowa 4476 (Exp)	50.1	8.5	80.0	0	1.3	0.9	2.6
CB 8805 (Exp)	49.7	8.0	92.8	0	2.6	1.2	2.6
Dixie 22	49.4	11.2	90.4	0.4	5.7	0.8	3.3
Funk G704	49.4	8.1	88.3	0.4	0.8	0	2.8
Mo 922 (Exp)	49.0	8.1	90.4	0	1.4	0.5	2.8
Embro 155W*	48.9	8.7	82.9	0.4	2.6	0.5	3.2
Tenn 0009 (Exp)	48.8	11.8	92.8	1.2	8.4	1.6	3.4
Mo 8	48.7	10.1	94.5	1.3	6.0	0.8	3.2
Funk G711	48.3	11.5	83.7	0.9	11.9	0.4	3.3
Mo 876 (Exp)	46.7	9.9	85.4	1.3	3.9	0	3.1
DeKalb 876	45.6	7.9	81.6	0	4.0	1.2	2.6
Keystone 222A	44.4	11.3	83.3	1.3	8.5	0	3.1
Keystone 111W*	43.4	9.9	93.7	0.4	2.1	1.2	3.1
Embro 49	42.6	8.0	87.9	0	1.8	0.4	2.8
Means	53.0	9.3	87.3	0.8	3.5	0.6	3.0

*White Hybrids

Although the yields are roughly similar at the two locations, a comparison of the rank of the different hybrids as shown on Tables 18 and 19 shows many discrepancies. It might be questionable if these tests should be combined. However, making the same comparison in 1952 and 1951 showed the same relative ranking of hybrids at the two locations so the data were combined again this year.

Selecting hybrids for which seed is available from the period-of-years performance record (Table 7)

TABLE 18 -- 1953 PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED ON THE SOUTHWEST MISSOURI AGRICULTURAL EXPERIMENT STATION NEAR PIERCE CITY, IN LAWRENCE COUNTY, MISSOURI

Hybrid	Acre Yield Bu.	Moist-ure in		Lodged Plants		Drop-ped Ears %	Ear Height Grade
		Grain %	Stand %	Root %	Stalk %		
Mo 4048W* (Exp)	62.3	8.1	76.6	0	0	0	2.7
Mo 883 (Exp)	59.7	13.1	78.3	0	1.0	0	3.5
US 523W*	56.6	9.8	60.8	0	0	0	3.0
US 13 (Hand Poll.)	54.3	9.2	75.8	0	2.1	2.1	3.0
Mo 860 (Exp)	54.3	9.4	78.3	0	1.0	0	3.2
Pioneer 302	54.2	9.6	85.0	0	3.9	2.9	2.7
Mo 8010W* (Exp)	53.9	11.8	80.0	0	0	0	3.0
PAG 484	53.3	13.1	70.8	0	2.3	0	3.0
PAG 631W*	52.9	11.8	76.6	1.0	0	0	2.7
Pioneer 301	52.9	7.9	68.3	0	0	1.2	2.0
Mo 4021WB* (Exp)	52.7	11.8	81.6	0	1.0	1.0	2.2
MFA 120A	52.4	8.8	63.3	0	0	1.3	2.7
DeKalb 847	52.1	8.1	69.1	0	0	0	2.2
Mo 148	51.7	7.9	81.6	1.0	0	0	3.0
Mo 4041W* (Exp)	51.6	12.5	80.0	0	0	0	3.0
US 13 (Certified)	51.4	8.1	83.3	0	0	2.0	2.7
Kan 1639	51.0	7.9	75.8	0	0	1.0	1.7
Mo 4047W* (Exp)	51.0	9.8	70.8	0	0	0	2.3
C B 7632 (Exp)	50.4	8.8	87.5	0	1.9	0	3.2
Funk G134	50.4	9.4	91.6	0	0	0	2.5
Mo 8	50.4	11.1	93.3	0	2.6	0.8	3.0
Ohio C92	50.2	8.1	65.8	0	1.2	1.2	3.0
Mo 843	49.9	9.8	85.0	0	0.9	0	2.7
Ainsworth X-14-A	49.6	9.2	75.8	1.0	2.1	1.0	2.5
Mo 862 (Exp)	49.6	12.6	80.8	0	3.0	0	3.0
C B 7610 (Exp)	49.6	9.8	81.6	0	0	0	3.0
Mo 884 (Exp)	49.5	10.6	81.6	1.0	0	0	3.0
Mo 8009W* (Exp)	49.2	15.6	81.6	0	0	0	3.7
Mo 804	48.9	10.6	85.8	0	1.9	0	2.7
T R F 3*	48.6	12.0	83.3	0	1.0	0	3.0
Mo 4042W* (Exp)	47.9	9.2	72.5	0	1.1	0	2.5
Dixie 22	47.7	12.9	85.0	0	1.9	0.9	3.5
Funk G711	47.5	14.4	75.0	0	7.7	0	3.5
Mo 4022WB* (Exp)	46.8	13.1	85.8	0	0	0	1.7
Mo 922 (Exp)	46.3	8.4	82.5	0	2.0	1.0	2.7
Mo 5365W* (Exp)	46.2	12.3	82.5	0	2.0	0	3.5
C B 8805 (Exp)	46.0	8.6	89.1	0	1.8	0	2.2
Dixie 33*	45.4	11.1	68.3	0	2.4	0	3.5
DeKalb 817A	44.9	7.2	81.6	0	1.0	0	2.2
Funk G704	44.5	9.0	83.3	0	0	0	2.7
DeKalb 876	44.4	8.6	66.6	0	1.2	0	2.2
Iowa 4476 (Exp)	43.8	9.2	67.5	0	0	0	2.2
Mo 876 (Exp)	42.7	10.6	75.8	0	0	0	3.0
Keystone 111W	42.6	10.6	90.0	0	0	0	2.7
PAG 403	42.6	9.0	68.3	0	0	0	1.7
Embro 49	42.5	9.0	83.3	0	1.0	0	2.7
Embro 155W*	42.2	9.6	70.8	0	0	1.1	3.0
Keystone 222A	40.4	13.2	70.8	0	2.3	0	3.2
Tenn 0009 (Exp)	39.7	13.8	86.6	0	0.9	0	3.2
Means	49.2	10.3	78.2	0.1	1.0	0.3	2.7

Differences in yield between any two hybrids of less than 10.3 bushels are not considered significant.

*White Hybrid

shows Mo 804, Dixie 33, Dixie 22, and US 523 W to be superior hybrids in this region. Mo 804 is a yellow hybrid of Mo 8 maturity that gives good yields. In this region ear height and standing ability are entirely satisfactory. Dixie 33 is a white hybrid, later than US 523 W in maturity, giving good yields. The ear height of this hybrid is rather high and better standing ability would be desirable. Seed of this hybrid is available this year. Dixie 22 is a yellow hybrid which is later than Mo 8 in maturity. It gives good yields, but again ear height and lodging must be considered. Seed of

this hybrid is available. US 523 W is a white hybrid of about Mo 8 maturity that gives good yields. It has satisfactory ear height and is fair in standing ability. Seed generally is available.

The summary of both tests harvested in the Southern Region is given in Table 17. Results from individual tests are given in Tables 18 and 19.

SECTION II

MECHANICAL PICKER TESTS

Introduction

Four Mechanical Picker Tests were conducted at various locations in the state as shown in Figure 1. The picker test measures the relative picking performance of the hybrids tested. Although some hybrids are more difficult to husk than others, they usually can be shucked satisfactorily by adjusting the picker. The mechanical picker usually leaves less corn in the field early in the season. Moisture content of the corn, the amount of lodging, and number of dropped ears are probably the most important factors associated with field losses. Usually, when the percentage of moisture is high (20-30 percent) fewer shucks are left on, less corn is shelled, and fewer ears drop off the stalk during picking. In a mechanical picker test all of these factors and probably others may account for some of the differences between picking performance of different hybrids. If the test had been harvested at another time slightly different results might have been obtained. For this reason, although the acre yields are given in Tables 20, 21, 22, and 23, more accurate estimates of yields are given for the different hybrids in Tables of the replicated yield trials, Section I.

EXPERIMENTAL METHODS

The mechanical picker tests conducted at Lathrop, Washington, and Sikeston were planted by hand, five kernels to a hill, and later thinned to three plants at Lathrop and Sikeston. The Washington test was thinned to four plants per hill. Each hybrid was planted in a plot two rows wide and 40 hills long at two locations in the field. Consequently if a hybrid had a perfect stand at Lathrop and Sikeston there were 240 plants per plot. This is approximately 12,000 plants per acre. At Washington there should have been 320 plants per plot or about 16,000 plants per acre.

The test at Elsberry was planted with a horse drawn planter and stands varied according to the size of the kernels. Each plot was two rows wide by 210 feet long. Each hybrid was planted in only one location in the field. The average number of plants per plot was 354, which is approximately 11,000 plants per acre.

TABLE 19 -- 1953 PERFORMANCE RECORD FOR COMMERCIAL AND EXPERIMENTAL HYBRIDS TESTED ON THE SOUTHEAST MISSOURI AGRICULTURAL EXPERIMENT STATION NEAR SIKESTON, IN NEW MADRID COUNTY, MISSOURI

Hybrid	Acre Yield Bu.	Moisture in Grain		Lodged Plants		Dropped Ears %	Ear Height Grade
		%	Stand %	Root %	Stalk %		
Mo 843	71.6	8.2	98.3	2.5	0.8	0.8	3.0
Mo 8010W* (Exp)	71.1	7.5	97.5	0.8	17.9	0	3.2
T R F 3*	69.9	8.6	95.8	8.6	10.4	0.8	3.0
Mo 4042W* (Exp)	69.7	7.5	96.6	0	6.0	2.5	2.7
Mo 4047W* (Exp)	66.2	8.9	98.3	3.3	4.2	0.8	3.0
Dixie 33*	66.2	12.3	96.6	8.6	6.0	1.7	4.0
Mo 5365W* (Exp)	65.8	9.3	99.1	2.5	30.2	0	3.5
Mo 8009W* (Exp)	65.6	11.6	98.3	1.6	4.2	0	3.7
US 13 (Hand Poll)	64.6	6.8	93.3	0	5.3	1.7	3.2
Mo 862 (Exp)	63.9	9.7	91.6	0.9	3.6	0.9	3.2
Mo 884 (Exp)	62.6	8.6	96.6	1.7	0.8	0	3.2
US 523W*	62.3	7.0	94.1	2.6	6.1	1.7	3.0
Mo 4048W* (Exp)	61.8	7.0	93.3	0.8	5.3	0	3.0
Mo 860 (Exp)	61.7	7.8	95.8	0	6.9	1.7	3.2
Pioneer 302	60.7	8.0	97.5	1.7	2.5	0	3.2
MFA 120A	60.0	6.5	98.3	0.8	1.6	1.6	3.0
Mo 4022WB* (Exp)	60.0	8.2	96.6	3.4	1.7	0.8	2.7
C B 7610 (Exp)	58.6	8.9	98.3	1.6	2.5	0.8	3.0
PAG 403	58.5	7.5	96.6	1.7	0	0.8	3.0
DeKalb 847	58.4	6.8	95.0	0	0	0	3.0
Tenn 0009 (Exp)	58.0	9.9	99.1	2.5	15.9	3.3	3.7
Mo 4041W* (Exp)	56.8	7.8	97.5	0.8	6.8	0	2.7
Kan 1639	56.6	7.3	100.0	0.8	4.1	0.8	3.0
Iowa 4476 (Exp)	56.3	7.8	92.5	0	2.7	1.8	3.0
Pioneer 301	56.3	6.8	99.1	0	1.6	0	3.0
DeKalb 817A	56.1	7.0	94.1	0.8	3.5	1.7	2.7
Embro 155W*	55.5	7.8	95.0	0.8	5.2	0	3.5
PAG 484	54.2	9.0	97.5	1.7	8.5	0.8	3.5
Funk G704	54.2	7.3	93.3	0.8	1.7	0	3.0
C B 7632 (Exp)	54.1	8.9	96.6	2.5	10.3	0.8	3.5
PAG 631W*	54.0	8.4	94.1	1.7	1.7	0	3.0
Mo 4021WB* (Exp)	53.7	8.4	95.8	0.8	3.4	0	3.0
C B 8805 (Exp)	53.4	7.5	96.6	0	3.4	2.5	3.0
Funk G134	53.2	7.0	99.1	0.8	2.5	0.8	2.7
Ohio C92	52.3	7.8	95.0	0	4.3	1.7	3.0
Mo 804	52.0	9.9	96.6	0.8	7.7	0.8	3.2
Mo 922 (Exp)	51.7	7.8	98.3	0	0.8	0	3.0
Mo 883 (Exp)	51.2	8.6	97.5	0	0	0	3.5
Dixie 22	51.1	9.5	95.8	0.8	9.5	0.8	3.2
Ainsworth X-14-A	50.8	7.8	98.3	1.6	2.5	1.6	3.0
Mo 876 (Exp)	50.6	9.3	95.0	2.6	7.8	0	3.2
Mo 148	50.4	7.8	96.6	3.4	11.2	0.8	3.0
US 13 (Certified)	49.1	7.0	95.8	0	5.2	1.7	3.0
Funk G711	49.1	8.6	92.5	1.8	16.2	0.9	3.2
Keystone 222A	48.4	9.3	95.8	2.6	14.7	0	3.0
Mo 8	47.0	9.1	95.8	2.6	9.5	0.8	3.5
DeKalb 876	46.7	7.3	96.6	0	6.8	2.5	3.0
Keystone 111W*	44.2	9.3	97.5	0.8	4.2	2.5	3.5
Embro 49	42.7	7.0	92.5	0	2.7	0.9	3.0
Means	56.9	8.2	96.2	1.5	5.9	0.9	3.1

Differences in yield between any two hybrids of less than 12.9 bushels are not considered significant.

*White Hybrids

Stands, root, and stalk lodging and percent moisture were determined as previously described in Section I. Each plot was husked and the ear corn separated as clean corn and picked corn with shucks. The amount of shelled corn left in the wagon was also determined for each hybrid. Each plot was gleaned for dropped ears. Shelled corn left on the ground was not measured but generally the amount appeared to be proportional to the shelled corn reported in the Tables.

The following makes and types of mechanical pickers were used:

Lathrop—two-row mounted Allis Chalmers
 Washington—two-row mounted New Idea
 Elsberry—two-row tandem New Idea
 Sikeston—two-row tandem Wood Bros.

The pickers were adjusted prior to picking the test and the adjustment was not changed thereafter. One cannot expect a mechanical picker to pick a number of different hybrids satisfactorily without making adjustments for each hybrid. Therefore variations between some hybrids may be greater than under farm conditions.

RESULTS

Results from the Mechanical Picker Tests are shown in Tables 20, 21, 22, and 23. The picking performance of different hybrids varied considerably but seemed to follow a similar pattern in the different tests.

The amount of picked corn with shucks, and bushels per acre left in the field are probably the most

TABLE 20 -- DATA SECURED FROM THE MECHANICAL PICKER TEST CONDUCTED ON THE NORTHWEST MISSOURI AGRICULTURAL EXPERIMENT STATION, C. L. VAN BUREN, COOPERATOR, LOCATED NEAR LATHROP, IN CLINTON COUNTY, MISSOURI.

Hybrid	Acre Yield Bu.	Moist-ure in		Stalk Lodged Plants %	Cleanly Picked Corn %	Picked Corn With Shucks %	Bu. Per Acre Left in Field	Shelled Corn Bu. Per Acre
		Grain %	Stand %					
Mo 901 (Exp)	68.2	10.9	95.4	1.0	43.3	56.7	4.2	1.0
Mo 4042W* (Exp)	67.9	15.0	93.1	0.4	27.9	72.1	2.0	0.2
Kan 1639	67.3	10.9	97.5	0.4	62.8	37.2	1.8	2.1
Mo 880 (Exp)	67.1	11.1	95.6	0.8	50.3	49.7	2.8	1.0
US 13	64.5	11.3	96.6	1.0	70.4	29.6	6.5	2.4
Mo 4022WB* (Exp)	63.4	14.5	94.7	0.4	28.0	72.0	1.5	0.3
Mo 4041W* (Exp)	63.2	12.5	92.9	2.2	36.9	63.1	5.2	0.5
Mo 4054W* (Exp)	59.9	11.8	93.7	0.4	34.0	56.0	2.9	1.0
AES 801	59.4	12.2	93.7	0.8	63.1	36.9	1.7	0.7
Ohio C92	59.1	10.4	92.7	0.4	72.6	27.4	3.9	1.4
Mo 4021WB* (Exp)	58.3	16.5	95.8	1.5	42.1	57.9	1.9	0.2
Mo 925 (Exp)	57.7	10.7	95.4	0.6	74.9	25.1	4.4	1.7
Iowa 4531	54.9	9.1	88.3	0	46.5	53.5	5.0	0.4
Mo 4053W* (Exp)	54.3	13.7	97.5	0.4	42.2	57.8	3.2	1.0
Mo 843	54.2	14.3	94.7	0.2	52.4	47.6	2.4	0.3
Mo 923 (Exp)	53.8	13.6	94.7	0.2	62.7	37.3	3.8	1.3
Mo 148	52.6	14.1	95.2	2.4	73.9	26.1	6.3	1.0
Mo 920 (Exp)	51.6	14.4	89.5	0.2	67.7	32.3	4.2	1.1
Mo 922 (Exp)	45.5	15.6	97.7	0.4	74.1	25.9	3.1	0.5
Mo 919 (Exp)	42.1	17.5	94.7	1.0	65.9	34.1	2.3	0.5
Means	58.2	13.0	94.5	0.7	53.5	46.5	3.4	0.9

Differences in total yield between any two hybrids of less than 7.7 bushels per acre are not considered significant.

*White Hybrids

TABLE 21 -- DATA SECURED FROM THE MECHANICAL PICKER TEST CONDUCTED ON THE BEN GEISERT FARM NEAR LABADIE, IN FRANKLIN COUNTY, MISSOURI.

Hybrid	Acre Yield Bu.	Moist-ure in		Stalk Lodged Plants %	Cleanly Picked Corn %	Picked Corn With Shucks %	Bu. Per Acre Left in Field	Shelled Corn Bu. Per Acre
		Grain %	Stand %					
Mo 804	134.3	14.3	97.3	8.3	92.2	7.8	4.6	3.9
US 13	126.9	11.8	96.0	5.2	92.4	7.6	4.9	9.9
Mo 4022WB* (Exp)	126.8	12.9	94.5	0.9	79.2	20.8	1.2	2.2
Mo 4021WB* (Exp)	125.2	15.4	96.2	1.9	86.0	14.0	0.5	2.7
US 523W*	124.9	12.9	96.8	8.3	76.3	23.7	2.6	3.1
Mo 4042W* (Exp)	123.3	14.1	94.8	1.1	84.3	15.7	0	2.4
Mo 843	121.7	13.8	95.6	3.5	89.0	11.0	1.9	4.5
Mo 883 (Exp)	118.4	16.9	95.0	3.1	80.5	19.5	0	2.2
Kan 1639	117.6	10.8	95.0	3.7	86.1	13.9	2.7	7.0
Ohio C92	114.9	12.2	89.8	1.3	93.0	7.0	3.7	7.8
Mo 901 (Exp)	108.6	13.3	96.8	1.7	89.5	10.5	0.6	6.3
Mo 4041W* (Exp)	105.2	11.5	95.1	1.6	78.2	21.8	0.9	2.2
Means	120.7	13.3	95.2	3.4	85.5	14.5	2.0	4.5

Differences in total yield between any two hybrids of less than 12.0 bushels per acre are not considered significant.

*White Hybrids

important factors determining picking performance. US 523W always has a higher than average amount of picked corn with shucks but ranks high in other respects.

outstanding commercial hybrids in Section I. it can be seen that each of the recommended certified hybrids has a satisfactory picking performance. As is to be expected, the amount of corn left in the field seems to be closely associated with the percent lodging.

Comparing results of the picker tests with the

TABLE 22 -- DATA SECURED FROM THE MECHANICAL PICKER TEST CONDUCTED ON THE SOUTHEAST MISSOURI AGRICULTURAL EXPERIMENT STATION NEAR SIKESTON, IN NEW MADRID COUNTY, MISSOURI

Hybrid	Acre Yield Bu.	Moisture in Grain		Stalk Lodged Plants %	Cleanly Picked Corn %	Picked Corn With Shucks %	Bu. Per Acre Left in Field	Shelled Corn Bu. Per Acre
		%	Stand %					
US 523W*	55.7	7.2	99.7	20.8	72.9	27.1	4.6	1.7
Mo 8010W* (Exp)	54.3	7.5	99.7	13.1	59.4	40.6	6.7	0.8
Mo 4021WB* (Exp)	54.1	7.8	99.5	3.7	73.8	26.2	0.7	1.5
Mo 4041W* (Exp)	52.2	9.1	99.7	9.3	69.9	30.1	2.7	1.8
Ohio C92	51.5	6.7	98.9	15.5	91.6	8.4	1.0	3.1
US 13	50.9	8.0	98.9	14.7	89.4	10.6	1.8	3.7
Kan 1639	48.9	7.7	99.3	10.2	92.6	7.4	0.9	4.5
Mo 843	48.1	8.2	100.0	9.1	89.4	10.6	2.1	1.7
Dixie 33*	47.1	13.0	100.0	15.0	77.3	22.7	1.0	1.0
Mo 804	46.8	7.5	99.3	27.6	82.1	16.9	3.4	1.4
Mo 4022WB* (Exp)	44.5	10.4	99.7	4.3	60.7	39.3	0.8	1.0
Mo 883 (Exp)	44.2	10.5	99.7	14.8	78.6	21.4	4.5	1.1
Mo 8009W* (Exp)	43.2	11.4	99.5	21.9	71.7	28.3	2.4	0.9
Dixie 22	42.3	12.0	99.3	29.7	76.2	23.8	3.0	1.1
Means	48.9	9.1	99.5	15.0	77.5	22.5	2.5	1.8

Differences in total yield between any two hybrids of less than 6.8 bushels per acre are not considered significant.

*White Hybrids.

TABLE 23 -- DATA SECURED FROM THE MECHANICAL PICKER TEST CONDUCTED NEAR ELSBERRY, MISSOURI, IN PIKE COUNTY, NOVEMBER 10, 1953.

Hybrid	Acre Yield Bu.	Moisture in Grain %	Stand % of Av.	Lodged Plants		Cleanly Picked Corn %	Picked Corn with Shucks %	Bu. Per Acre Left in Field	Shelled Corn Bu. per Acre	Shelling %
				Root %	Stalk %					
US 13	53.7	24.8	90.0	25.5	14.2	78.8	21.2	3.4	0.7	75.5
Ohio C92	56.3	26.2	92.8	25.9	8.8	79.1	20.9	2.7	0.6	77.6
Kansas 1639	56.9	26.8	92.5	25.4	7.6	75.8	24.2	3.0	0.4	72.7
Mo 843	60.6	23.9	92.5	25.4	8.9	62.4	27.6	1.8	0.6	75.6
Mo 4041W*	57.7	35.1	148.2	16.4	1.1	44.8	55.2	0.7	0.4	73.1
Mo 4042W*	50.8	29.0	89.7	11.4	11.0	52.4	47.6	2.8	0.3	72.1
US 523W*	53.9	35.0	118.8	39.3	6.0	36.2	63.8	1.3	0.5	72.5
Mo 148	53.8	28.5	111.2	35.1	11.2	71.9	28.1	2.0	0.5	74.7
TRF 3*	53.4	31.6	98.4	50.9	9.5	20.4	79.6	2.5	0.4	71.4
Mo 4054W*	54.0	21.7	89.4	18.0	7.9	40.4	59.6	2.9	0.4	77.8
MFA 120A	59.8	23.7	93.9	22.3	8.7	67.1	32.9	2.8	0.6	76.0
Funk G91	57.8	24.4	95.3	20.8	7.1	74.3	25.7	1.6	0.5	73.5
Funk G79	50.1	21.9	80.3	34.5	11.6	70.7	29.3	2.9	0.6	71.3
Funk G95A	54.6	24.5	104.1	13.9	6.8	60.1	39.9	1.9	0.5	77.3
DeKalb 875	47.7	25.1	89.1	23.5	8.3	78.5	21.5	3.4	0	76.1
DeKalb 847	49.6	24.1	90.5	26.9	9.1	74.1	25.9	2.0	0.5	74.9
DeKalb 825	52.7	25.1	107.2	28.5	4.7	72.0	28.0	1.5	0.5	76.6
Pioneer 302	55.8	33.8	120.8	23.2	4.9	61.4	38.6	1.0	0.4	80.0
Pioneer 301	55.4	27.4	112.6	23.1	5.0	70.2	29.8	1.5	0.6	74.9
Pioneer 301C	59.8	25.8	101.8	23.1	8.3	65.2	34.8	1.2	0.7	76.0
PAG 403	66.2	23.1	106.4	18.6	3.2	65.3	34.7	1.4	0.6	76.6
PAG 383	60.2	23.1	101.8	15.8	8.6	49.1	50.9	1.9	0.4	74.2
PAG 484	58.1	35.0	101.3	37.2	8.7	49.1	50.9	4.9	0.3	76.4
Embryo 36	53.5	34.2	99.3	24.2	10.8	80.0	20.0	2.1	0.4	73.1
Embryo 49	47.5	28.5	98.2	28.0	4.9	77.9	22.1	1.3	0.4	75.5
Keystone 45	60.4	21.5	99.3	10.0	5.7	74.5	25.5	1.8	0.6	75.9
Keystone 111W*	42.0	32.0	76.1	50.6	5.9	61.9	38.1	1.7	0.3	74.5
MFA 115	45.6	23.7	83.2	12.9	9.2	81.6	18.4	0.5	0.5	74.1
Ainsworth X-14-A	49.4	28.9	91.1	18.9	7.1	80.7	19.3	1.4	0.4	75.1
Mo 8	34.0	30.5	124.2	33.7	4.8	54.0	46.0	0.9	0.3	74.9
Means	53.7	27.3		25.4	7.7	64.3	35.7	2.0	0.5	75.0

Av. Stand: Per Plot 354
Per Acre 11,000

*White Hybrids

SECTION III

SHELLING PERCENTAGE OF TWO
COMMERCIAL HYBRIDS

Is there an association between yield and shelling percentage for the same hybrid when yields vary from 60 to 120 bushels per acre? Is the shelling percentage the same when the hybrids are planted in thick stands? Is there any effect on shelling percentage from length of photo period, temperature, rainfall or the use of fertilizer?

Answers to these questions are not known, but are important with present production practices. A preliminary study of the shelling percentage of US 13 and US 523W is shown in Table 24. US 13 has a high shelling percentage while US 523W, a white hybrid was thought to have a somewhat lower shelling per-

centage. There also was a question of how these two hybrids compared when grown in different locations with different climatic and soil fertility levels. From these results, US 523W is only one percent lower in shelling percentage than US 13 and this difference is probably within the limits of experimental error.

From this preliminary study it can be concluded that shelling percentage is associated significantly with yield under the conditions of these tests. The range of plant populations between different tests was small and therefore no conclusion could be made regarding the association of low and high plant populations with shelling percentage.

TABLE 24 -- ACRE YIELD, MOISTURE IN THE GRAIN,
AND SHELLING PERCENTAGE FOR US 13 AND
US 523W GROWN AT EIGHT LOCATIONS
IN MISSOURI IN 1953.

Location	Acre Yield Bu.	Moisture in Grain %	Shelling %
U S 13*			
Maryville	62.5	10.5	82.1
Lathrop	64.2	9.6	82.9
Shelbina	58.6	19.2	76.3
Carrollton	77.5	14.3	81.5
Marshall	80.3	----	81.2
Columbia	75.0	10.2	81.8
Washington	122.1	11.0	84.3
Sikeston	56.9	6.9	78.6
Means	74.6	11.7	81.1
U S 523W			
Maryville	62.0	13.4	79.5
Lathrop	66.4	10.4	80.0
Shelbina	60.3	19.4	78.4
Carrollton	84.8	17.5	80.9
Marshall	87.6	----	80.0
Columbia	77.6	12.8	81.1
Washington	144.7	12.0	84.0
Sikeston	62.3	7.0	76.5
Means	80.7	13.2	80.1

*The acre yield for U S 13 is the average of the entry planted with hand pollinated seed and the entry planted with certified seed at each of the eight locations.

SUMMARY

The Missouri Agricultural Experiment Station confines its recommendations to open pedigreed hybrids grown under certification. Performance records for these hybrids are reported herein. In addition, a limited number of closed pedigreed (commercial) hybrids which are widely planted in Missouri were tested.

Their performance records are reported in various tables throughout this bulletin.

As the result of average performance records over a period of three or more years, the following hybrids are recommended for general planting in Missouri.

Northern Region	Central Region	Southern Region
Mo 843**	Mo 843**	Mo 843**
Kan 1639	Kan 1639	US 13
Ohio C92	US 13	Mo 804
US 13	Mo 804	Dixie 22
	US 523W*	US 523W
		Dixie 33*

*White Hybrids

**Seed not available in 1953.

TABLE 25 -- PEDIGREE OF EXPERIMENT STATION AND U. S. DEPARTMENT OF AGRICULTURE HYBRIDS TESTED IN 1953.

Hybrid	Pedigree	Endosperm Color
US 13	(WF9 x 38-11) (Hy x L317)	Yellow
Mo 8	(K4 x B2) (L3 x G)	Yellow
Mo 148	(WF9 x 38-11) (L3 x K4)	Yellow
Mo 843	(WF9 x Oh 7A) (B10 x C103)	Yellow
Mo 860	(WF9 Y Kr x 38-11) (Hy x L317)	Yellow
Mo 862	(K201 x T202) (C121E x Mo 567)	Yellow
Mo 876	(Oh 29 x B18) (38-11 x K201)	Yellow
Mo 880	(WF9 x 38-11) (K148 x Y 55)	Yellow
Mo 883	(C121E x Mo 999) (Oh 29 x Ok12)	Yellow
Mo 884	(C121E x Mo 999) (Oh 7B x CI7)	Yellow
Mo 892	(WF9 Y Kr x 38-11) (C103 x H15)	Yellow
Mo 894	(WF9 Y Kr x 38-11) (H15 x N3)	Yellow
Mo 897	(WF9 Y Kr x 38-11) (C103 x Oh 45)	Yellow
Mo 900	(WF9 Y Kr x 38-11) (Oh 45 x K148)	Yellow
Mo 901	(WF9 Y Kr x 38-11) (Oh 45 x N3)	Yellow
Mo 902	(WF9 Y Kr x 38-11) (Oh 45 x Oh 29)	Yellow
Mo 904	(Mo 9284 x Mo 999) (Mo 9150 x Oh 29)	Yellow
Mo 922	(T202 x Mo 9170) (C103 x B10)	Yellow
Iowa 4476	(WF9 x 38-11) (10 x B13)	Yellow
A E S 801	(WF9 x B7) (B10 x B14)	Yellow
Iowa 4531	(Hy x WF9) (B14 x B10)	Yellow
Iowa 4565	(WF9 x Oh 41) (B10 x B14)	Yellow
C B 7610	(Ky 36-11 x 38-11) (B18 x K155)	Yellow
C B 7632	(Ky 36-11 x K201) (B18 x 38-11)	Yellow
C B 8805	(WF9 x 38-11) (Hy x K148)	Yellow
C B 9909	(Mo 567 x Oh 29) (T8 x C121E)	Yellow
C B 9953	(Oh 29 x Mo 567) (38-11 x K201)	Yellow
Nebr. 1369B	(Oh 07 x B10) (WF9 x 38-11)	Yellow
Kan 1639	(WF9 x 38-11) (K148 x K150)	Yellow
Ohio C92	(WF9 x 38-11) (Hy x Oh 007)	Yellow
US 523W	(K55 x K64) (Ky 27 x Ky 49)	White
Mo 4021W	(Wh WF9 x Wh 38-11) (K55 x R30)	White
Mo 4021 WB	(Mo 9187W x Wh 38-11) (K55 x R30)	White
Mo 4022 W	(Wh WF9 x K41) (K55 x R30)	White
Mo 4022WB	(Mo 9187W x K41) (K55 x R30)	White
Mo 4029W	(Wh WF9 x C161) (Wh 38-11 x K41)	White
Mo 4041W	(Wh 38-11 x 33-16) (K55 x Wh Hy)	White
Mo 4042W	(Wh 38-11 x K41) (K55 x Wh Hy)	White
Mo 4046W	(K55 x Wh Hy) (33-16 x K6)	White
Mo 4047W	(K55 x Wh Hy) (K41 x K6)	White
Mo 4048W	(K55 x Wh Hy) (Ky 27 x C161)	White
Nebr. 505W	(K41 x 4C082) (K64 x N72)	White

APPENDIX

SEED SOURCES FOR THE COMMERCIAL HYBRIDS TESTED IN 1953.

Closed-Pedigreed Hybrids

Hybrid	Seed Source	
Ainsworth	Swinger and Alley,	Marshall, Missouri
DeKalb	DeKalb Agricultural Ass'n Inc.,	Marshall, Missouri
Embro	Ed F. Mangelsdorf & Bro. Inc.,	St. Louis, Missouri
Funk's G	Columbiana Seed Co.	Eldred, Illinois
Keystone	Corneli Seed Co.	St. Louis, Missouri
M F A	M F A Seed Division	Marshall, Missouri
P A G	Pfister Associated Growers	Carrollton, Missouri
Pioneer	Garst and Thomas Hybrid Corn Co.	Coon Rapids, Iowa

Certified Open-Pedigreed Hybrids

Mo. 804

Grower---Address---County	Grower---Address---County
Clark Boston, Rosebud, Gasconade	Elston King, Osceola, St. Clair
Joseph L. Frerer, Jr., Jasper, Jasper	F. H. Krueger, Redford, Reynolds
Held Brothers, Morrison, Gasconade	C. F. McMullin Estate, Sikeston, Scott
E. H. Hess, Greenfield, Dade	Jake J. Schmitt, Morrison, Gasconade
Bert Kleeman, Golden City, Lawrence	D. A. Turner, Stark City, Newton

US 13

Ray Balomey, Frankford, Pike	M.F.A. Seed Division, Marshall, Saline
Derl Bernard, Osceola, St. Clair	Muckey Seed Co., Lee's Summit, Jackson
H. L. Bernard, Quincy, Hickory	H. C. Decker, Sikeston, New Madrid
P. B. Eubank, Huntsville, Randolph	Otis Thomas, Hughesville, Pettis
Sterling Kyd, Columbia, Boone	Earl Woolston, Rushville, Platte

Kan 1639

Gene Cunningham, Columbia, Boone	Stella Ruhl and Sons, Hannibal, Ralls
M. L. Happel and Son, Palmyra, Marion	Morton Tuttle and Sons, Prairie Home, Cooper
David A. Hart, Hawk Point, Lincoln	Preston Walker and Sons, Clarence, Macon
Jasper I. Hunter, Enon, Moniteau	C..H. E. Walther, Booneville, Cooper
Sterling Kyd, Columbia, Boone	Frank M. Weber, Edina, Adair
M.F.A. Seed Division, Marshall, Saline	Earl Woolston, Rushville, Platte
E. P. Needham, Macon, Macon	Roland C. Wriedt, Stephens, Boone
Fred C. Paulsmeyer, Corso, Lincoln	John H. Youngkamp, Beaman, Cooper
Ross Roger, Harris, Sullivan	

Mo. 313

Joseph L. Frerer, Jasper, Jasper	C. F. McMullin Estate, Sikeston, Scott
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Mo 148

C. H. E. Walther, Booneville, Cooper	C. F. McMullin Estate, Sikeston, Scott
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Ohio C92

M. F. A. Seed Division, Marshall, Saline

Mo 8

D. A. Turner, Stark City, Newton	C. F. McMullin Estate, Sikeston, Scott
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Mo 843

Roy Balomey, Frankford, Pike

US 523W

H. C. Decker, Canalou, New Madrid
Joseph L. Frerer, Jasper, Jasper
George Kimmons, Ozark, Christian

C. F. McMullin Estate, Sikeston, Scott
C. E. Neuenschwander, Deepwater, St. Clair
M.F.A. Seed Division, Marshall, Saline

Dixie Hybrids

Tennessee Seed Producers, Inc., 412 Murfreesboro D, Nashville, Tennessee