

# IOWA CORN YIELD TEST

RESULTS FOR 1934

By Joe L. Robinson and A. A. Bryan



**IOWA CORN AND SMALL GRAIN GROWERS ASSOCIATION**

**AMES, IOWA**

The Iowa Corn Yield Test is conducted by the Iowa Corn and Small Grain Growers' Association in co-operation with the Farm Crops Subsection, Iowa Agricultural Experiment Station, and the Division of Cereal Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

**SUMMARY**

1. A total of 477 entries were in the eight districts of the 1934 Iowa Corn Yield Test. These were divided into four groups; regular open-pollinated, experimental open-pollinated, regular hybrids, and experimental hybrids. Seed of the experimental groups is not available on the market.
2. The state was divided into nine districts for the 1934 Iowa Corn Yield Test. The severe drouth in Southwestern Iowa made it necessary to abandon the field in District 7, leaving only eight fields which were harvested.
3. The ripening season was such that all samples completely matured. The data indicate that in 15 of the 24 groups those samples which yielded above the average had a slightly higher moisture content than the remainder.
4. Both hybrid groups were generally higher yielding than the regular open-pollinated strains. Little difference in yielding ability existed between the average of the regular and experimental hybrids. The range of yield was greater among the experimental than among the regular hybrids.
5. With the exception of District 2, the mean lodging grade of the open-pollinated strains was greater than for either of the hybrid groups. No difference existed in the mean lodging resistance of the two hybrid groups.
6. Samples made up of corn as planted by a number of farmers were included in five of the districts. In each district these composite samples yielded less than the mean of the regular open-pollinated strains, indicating that the open-pollinated varieties in the test were better yielding than the average corn planted on Iowa farms. Similar results were reported in 1932 and 1933.
7. The seed of five replications, of all entries in the regular division were treated with a commercial dust. A statistical analysis of the field weights of the section entries indicated that the treatment was beneficial in two of the six groups. Seed treatment was not highly beneficial in the 1933 test.
8. The Banner Trophy was awarded to the Farm Crops Subsection of the Iowa Agricultural Experiment Station and the Bureau of Plant Industry of the United States Department of Agriculture on their entry of Iowa Hybrid 13 in the Southern Section. This entry yielded 19 per cent more than the average of all entries in its group and 30 per cent more than the best open-pollinated strain in Southern Iowa.
9. In general those strains yielding above the average have been relatively high yielding in previous years.
10. As a group the experimental hybrids were little better than the regular hybrids. Any selection made from the experimental group to be placed into commercial production should be made only after very carefully comparing its performance record for a period of years.



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RESULTS FOR 1934<sup>1</sup>

BY JOE L. ROBINSON<sup>2</sup>  
AND A. A. BRYAN<sup>3</sup>

## PURPOSE

The purpose of the Iowa Corn Yield Test is to find for each district of the state those strains of corn which will produce the largest yields of sound grain. Significant differences in yield between strains grown in test fields under nearly as possible the same conditions may be attributed to differences inherent in the strain.

This publication is a progress report showing the comparative yields obtained in 1934, and the percentage yields for a period of years.

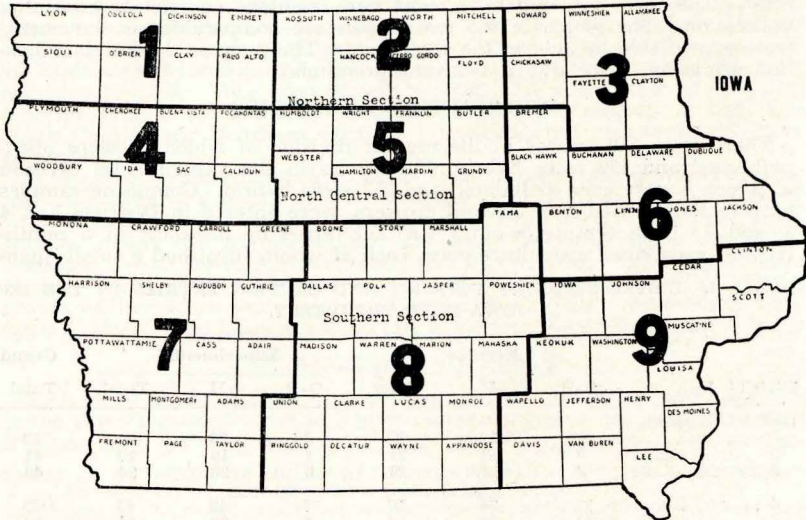


Fig. 1. The division of the state into sections and districts for the Iowa Corn Yield Test.

<sup>1</sup> Journal Paper No. J216 of the Iowa Agricultural Experiment Station, Ames, Iowa. Project No. 161.

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## PLAN

The test was conducted in a manner similar to that of 1933. The tests in both 1933 and 1934 differed from those of the previous years in that the number of fields was reduced from 12 to 9, and the ear size, and shelling percentage was not determined.

## CLASSES OF ENTRIES

The entries were classified as regular or experimental. Any variety, strain or hybrid of which at least five acres were planted in the current season was classified in the regular division. The requirement, that at least 25 bushels must be available on December 1st, was set aside for this year by the Corn Yield Test Committee. A number of the growers in the drouth area were not in position to meet this qualification, through no fault of their own. The acreage was planted in good faith, but the dry weather prevented the seed production. First generation crosses between varieties, strains, or inbred lines were not included in the regular division unless at least five acres of corn of the same kind were produced in 1934 in the same manner as the seed entered.

Each division was further divided into an open-pollinated and a hybrid class. The open-pollinated class included those strains produced without inbreeding and the hybrid class those strains involving one or more inbred lines. The term inbreeding as used here assumes completely controlled pollination. The yields in the two classes are comparable, as the entries were grown side by side in the same field. The purpose of the classification primarily, is for use in awarding premiums.

## DISTRIBUTION OF ENTRIES

There were 219 entries in the regular division of which 80 were open-pollinated and 139 were hybrid; 258 entries in the experimental division, of which 6 were open-pollinated and 252 were hybrid. Composite samples, each including seed from several growers, were entered in Districts 1, 2, 4, 5, and 9. Each composite entry was submitted by members of a Smith-Hughes vocational agriculture class, each of whom furnished a small quan-

TABLE I. DISTRIBUTION OF DISTRICT AND SECTION ENTRIES IN THE 1934 IOWA CORN YIELD TEST.

District No.	Regular			Experimental			Grand
	O-P	H	Total	O-P	H	Total	Total
<b>District Entries</b>							
1 .....	10	12	22	1	30	31	53
2 .....	8	13	21	1	19	20	41
3 .....	8	12	20	0	20	20	40
4 .....	12	24	36	1	42	43	79
5 .....	11	22	33	1	30	31	64
6 .....	7	23	30	0	29	29	59
8 .....	13	16	29	1	41	42	71
9 .....	11	17	28	1	41	42	70
Total .....	80	139	219	6	252	258	477
<b>Section Entries</b>							
Northern .....	6	12	18	0	19	19	37
North Central ..	6	23	29	0	29	29	59
Southern .....	10	16	26	0	39	39	65
Total .....	22	51	73	0	87	87	160



tity of seed representative of that planted on their home farms. These samples were thought to be more or less representative of the average corn planted in the community, and were included for comparison.

The total number of entries was 477, comprising 50 open-pollinated strains and 150 hybrids. Three regular entries were made from outside the state. Of the 477 entries 415 comprised 160 section entries. A strain of corn entered by one individual in each of the districts of a section was designated as a section entry. A strain entered in one district was known as a district entry. The distribution of entries by divisions and classes in districts and sections is shown in table I.

### IDENTIFICATION OF ENTRIES

Each entry was given a number by which it was known throughout the season. The records of these numbers with the corresponding names and addresses of their owners were sealed and placed in the College Savings Bank at Ames after planting time and were not opened until after the computation of results had been completed.

### LOCATION OF TEST FIELDS

In the tests previous to 1933 the state was divided into 12 districts with a field rather centrally located in each. In order to reduce the cost of conducting the test, the number of fields was reduced to 9 in 1933. This number was used in 1934. In making the reduction in number of fields some of the counties in the eastern area of the state were shifted into the district north of where they previously had been. The Southern half of the state was divided into 3 districts rather than into 6 as was the case previous to 1933. This arrangement seemed logical in view of the fact that for several years when the same strains were entered in both the South Central and Southern Sections little difference was found in their adaptability.

In the new arrangement each section was divided into a western, central and eastern district. These divisions permitted the comparison of strains under local conditions. A strain may have been entered for comparison in any district or section. The small, early maturing strains of Northern Iowa, therefore, competed with one another under the conditions to which they were best suited and larger, later maturing strains grown farther south were compared under the conditions to which they were adapted. The location of the test fields for 1934 is shown in table II.

### ARRANGEMENT OF PLATS

Each entry in the regular division was planted in 10 plats and each one in the experimental division in 5 plats except composite samples, which had 10 plats each. A plat consisted of two rows 12 hills long. The experi-

TABLE II. LOCATION OF FIELDS AND DATES OF PLANTING AND HARVESTING THE 1934 IOWA CORN YIELD TEST.

District	Cooperator	Post Office	County	Date planted	Date harvested
1	Paul Carstensen	Royal	Clay	May 8	Oct. 18-19
2	Geo. Hitzhusen	Cartersville	Cerro Gordo	" 9	" 15
3	W. F. A. Rabe	New Hampton	Chickasaw	" 9	" 17
4	J. N. Horlacher	Storm Lake	Buena Vista	" 8	" 15-16
5	Mrs. Miller S. Nelson	Goldfield	Wright	" 7	" 20-22
6	C. A. Swindell	Masonville	Delaware	" 10	" 18-19
8	Clyde Finch	Ames	Story	" 11	" 23-24
9	H. H. McAllister	Mt. Union	Henry	" 11	" 22-23

mental field was divided into 5 blocks extending east and west and again into 5 blocks extending north and south. Entries were then distributed over the field at random except that in each block a regular entry occurred two times, and an experimental entry once. While distribution was primarily random, division into blocks as described insured the widest possible distribution for all entries. This arrangement also permitted direct comparison of the yields of entries in the two divisions.

### PLANTING AND HARVESTING

Planting was begun May 7 and completed May 11. Four kernels to the hill were planted in all fields of the Northern Section and three kernels in all other fields. The seed was planted by hand to insure a uniform rate and was not thinned.

The fields were harvested between October 15 and October 24. The dates of planting and of harvesting each field are given in table II.

### COMPUTATION OF YIELDS

The yield of each district entry in the regular division was computed from the product of ten 24-hill plats and in the experimental division from the product of five 24-hill plats. The yield of a section entry was computed from the product of 30 (regular division) or 15 (experimental division) 24-hill plats distributed over the three fields of a section, except in Southern Iowa. In the Southern Section, District 7 was not harvested, consequently the section results there were computed from 20 plats for the regular division and 10 for the experimental.

Yields represent ear corn reduced to a basis of 15 per cent moisture in the grain. Moisture samples were obtained by removing about two rows of kernels from each of 60 ears taken equally from three replications. Moisture determinations were made on the Tag-Heppenstall Moisture Meter.

### PUBLICATION OF NAMES

The names of those whose entries yielded above the average of the class in 1934 are included in this report. The number and all information on each entry not ranking above the average, however, is made known to the individual making that entry so that he may be able to make comparison with other entries.

### THE SEASON OF 1934

Data supplied by the Iowa Weather and Crop Bureau indicate that during the months of June, July, and August, the rainfall in the areas of the fields of the North and North Central Sections approximated 100 per cent of normal. The field of District 7 was located in Mills County which received less than half the normal rainfall during those months, while the fields in Story and Henry counties both received from 60 to 80 per cent of the normal precipitation for the three months indicated. The field of District 7 was in an area having 35 days with temperatures reaching 100 degrees or more. The fields in the Northern half of Iowa had from 7 to 15 days of temperatures reaching 100 or more, while again Story and Henry counties were equal with 21 and 22 days respectively. The unfavorable season in District 7 left the field in such condition that it was considered not to be of sufficient value to harvest, and was therefore abandoned.

### RESULTS

The fall of 1934 was rather long, and favorable for those strains which required a longer growing season. In 13 of the 24 district groups the sample with the highest percentage of moisture yielded above the



average. Likewise in 15 of the district groups those samples yielding above the mean had a higher percentage of moisture than the entire group. May we repeat the warning, of the past four years, against changing to those strains and combinations which have an excessively high moisture content. The possibility exists that in a normal season it would not properly mature, resulting in a lowered yield and poor quality corn.

The yields varied widely, ranging from less than 30 bushels to the acre in District 8 to more than 70 in Districts 2, 3, and 6. It is believed that this variation was largely because of the climatic conditions during the season, and that the yields represent the general conditions in those areas where grown.

The difference in bushels to the acre between the highest and lowest yielding samples of a district group varied from 4.41 in the open-pollinated group of District 6 to 42.28 in the group of experimental hybrids of the same field. With the exception of District 8, the greatest difference between the highest and lowest yielding sample was in the group of experimental hybrids. In six of the eight districts the smallest variations between the highest and lowest yielding sample was in the group of open-pollinated entries. These data indicate the open-pollinated group to be the least variable. While on the whole the experimental group seemed to be little better than the regular hybrids, they did spread over a greater range. In every district the lowest yielding experimental hybrid was lower yielding than the lowest regular hybrid. Further evidence of the desirability of knowing the history and performance record of hybrids when making a purchase may be obtained by examining table IV in which the yields of section entries are given. The spread between high and low yielding entries was not as great on a section basis as on that of a district, yet in the group of experimental entries in the North Central Section the best hybrid produced over 34 bushels more than the one yielding lowest.

The Banner Trophy was awarded to the Farm Crops Subsection and United States Department of Agriculture on their entry of Iowa Hybrid 13 in the Southern Section. This sample yielded 19 per cent more than the average of all the regular hybrid section entries. In District 8 it produced 45.5 per cent more than the average of those in its class. This entry was the second highest yielding in District 9. This sample was a winner largely because of its ability to produce more than 42 bushels of corn to the acre in District 8 where the open-pollinated varieties yielded from 14 to 25 bushels. The second highest section entry in Southern Iowa was Iowearth CA entered by the Sioux City Seed Co. This sample was second in District 8 and first in District 9.

Iowa Hybrid 3111 entered in the experimental division of the Southern Section by the Farm Crops Subsection and United States Department of Agriculture affords particular interest. It was more consistent in its performance and more outstanding in its class than Iowa Hybrid 13. Not being entered in the regular division it was of course not eligible for the Banner Trophy.

Reid Yellow Dent entered by T. Bonar McKee of Carlisle was the highest yielding open-pollinated entry in Southern Iowa. This sample stood close to the top in both Districts 8 and 9. It was followed in turn by Meyer Yellow Dent, Harkrader Yellow Dent,, and Thompson Krug, all of which have been high yielding strains heretofore.

In North Central Iowa the highest yielding open-pollinated sample was Triple Dent entered by Fred N. Rupp of Cherokee, followed in turn by Early Krug entered by Ronald M. Wilson of Sac City. Triple Dent was close to the top in all three districts of the North Central Section.

Iowearth BC<sub>2</sub> entered by the Sioux City Seed Co. was one of the outstanding samples in the entire yield test. It was the highest yielding regular hybrid in District 4 and 5, and stood above the average in District 6.

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TABLE III. DATA FOR DISTRICT ENTRIES YIELDING ABOVE THE AVERAGE OF THE CLASS TOGETHER WITH THE AVERAGE OF THE CLASS GIVEN FOR COMPARISON

Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>District Number One</b>											
<b>REGULAR DIVISION—Open-Pollinated Class</b>											
1	165	59.70	115.1	81.3	22.7	2.6	3.2	Ronald M. Wilson, Sac City, Sac.....			Iodent
	DD150	59.10	114.0	81.1	21.7	3.0	3.3	Fred N. Rupp, Cherokee, Cherokee.....			Rupp Early Yellow
3	N130	55.67	107.3	81.9	21.8	2.3	3.2	Albert M. Schmitz, Remsen, Plymouth.....			Golden Krug
4	173	53.98	104.1	78.0	20.1	2.6	3.1	Paul Carstensen, Royal, Clay.....			
5	162	52.15	100.6	78.8	20.1	2.9	3.0	Fred Kruse, Sheldon, Sioux.....			Kruse Prolific
		51.86		79.4	20.2	2.5	2.8	Average of all entries			
	175	53.27		74.9	19.9	2.6	3.0	Smith-Hughes Class, West Bend, Palo Alto.....			Composite
<b>Hybrid Class</b>											
1	A101	64.16	109.4	80.6	21.0	1.4	3.1	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AJ
2	B103	63.96	109.0	81.7	19.3	1.7	2.9	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AF
3	C105	62.61	106.7	82.8	20.3	2.3	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 931
4	F111	62.59	106.7	75.7	22.8	1.7	3.0	Sioux City Seed Co., Sioux City, Woodbury.....			North Central Iowearth-BC
		58.66		80.0	20.6	2.0	2.9	Average of all entries			
<b>EXPERIMENTAL DIVISION—Hybrid Class</b>											
1	116	67.95	117.9	77.5	20.0	1.8	2.6	Geo. M. Allee, Newell, Buena Vista.....			Allee Hybrid 64
2	V141	65.66	113.9	81.0	20.0	2.4	3.0	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 424
3	O132	64.21	111.4	89.2	22.2	1.8	2.8	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 374
4	P133	62.64	108.7	79.8	20.6	2.6	3.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2230
5	160	62.46	108.4	86.3	21.7	1.8	2.8	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AL
6	AA147	62.33	108.2	87.3	22.2	2.0	2.8	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 172
7	118	62.17	107.9	83.8	21.3	1.6	2.8	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AH
8	122	62.03	107.6	83.5	23.2	1.8	3.3	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AB
9	I115	61.13	106.1	82.7	22.9	2.0	3.0	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AG
10	120	60.75	105.4	74.2	22.9	2.2	3.3	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AI
11	BB148	60.37	104.8	80.8	22.7	2.2	2.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 51
12	119	60.13	104.3	80.8	19.5	1.6	2.0	Geo. M. Allee, Newell, Buena Vista.....			Allee Hybrid 70
13	G113	60.08	104.3	80.6	21.7	1.4	3.0	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AD
14	164	59.39	103.1	73.5	22.6	2.0	2.8	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AM
15	Y145	59.32	102.9	78.1	21.1	1.8	2.4	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2222
16	123	58.72	101.9	81.9	20.0	2.0	3.0	Geo. M. Allee, Newell, Buena Vista.....			Allee Hybrid 65
		57.63		77.7	21.3	2.0	2.8	Average of all entries			



Rank	Entry No.	Acre Yield		Stand %	Moist %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>District Number Two</b>											
<b>REGULAR DIVISION—Open-Pollinated Class</b>											
1	260	76.41	107.0	89.1	23.1	2.3	3.5	Arthur L. Look, LuVerne, Kossuth.....		Kossuth	Reliance
2	FF247	76.12	106.6	90.3	25.0	2.5	3.4	Frank Parcaut, Sutherland, O'Brien.....		Early Golden King	
3	J216	72.86	102.1	92.8	18.8	2.6	3.0	Wm. McArthur, Mason City, Cerro Gordo.....		Golden King	
4	GG249	72.68	101.8	90.0	23.8	2.3	3.3	Frank Parcaut, Sutherland, O'Brien.....		Parcaut Yel. Dent	
		71.39		90.0	22.6	2.5	3.1	Average of all entries			
	262	74.91		91.6	22.9	2.0	2.9	Smith-Hughes Class, Charles City, Floyd.....Composite			
<b>Hybrid Class</b>											
1	D207	76.62	105.8	90.8	22.9	2.5	3.6	Northrup, King Co., Minneapolis, Minn.....		Kingscrot	Reid 13
2	L221	76.37	105.5	88.4	22.7	2.8	3.0	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 351—Hill	Drop
3	T232	75.00	103.6	90.1	24.3	2.1	2.9	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 351—Edge	Drop
4	E209	74.30	102.6	90.3	21.5	2.5	3.0	Sioux City Seed Co., Sioux City, Woodbury.....		Northern Iowhealth—AE	
5	X237	73.75	101.8	90.1	22.8	2.6	3.0	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 355—Edge	Drop
6	S230	73.74	101.8	86.0	21.9	2.1	3.2	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 355—Hill	Drop
7	A201	73.15	101.0	91.6	22.7	2.5	3.2	Sioux City Seed Co., Sioux City, Woodbury.....		Northern Iowhealth—AJ	
8	258	72.65	100.3	92.4	21.1	2.4	3.0	Hi-Bred Corn (by Hitzhusen), Grimes, Polk.....		Hi-Bred 355	
		72.42		90.0	22.8	2.5	3.1	Average of all entries			
<b>EXPERIMENTAL DIVISION—Hybrid Class</b>											
1	EE246	77.98	111.1	89.6	21.5	2.6	3.0	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 365	
2	BB242	74.81	106.6	89.4	23.6	3.2	3.0	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 51	
3	G213	73.54	104.8	88.8	21.8	1.6	3.0	Sioux City Seed Co., Sioux City, Woodbury.....		Northern Iowhealth—AD	
4	R229	73.14	104.2	88.3	22.3	2.6	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa Hybrid	3040
5	P227	72.93	103.9	89.2	21.9	2.4	3.2	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 2230	
6	CC243	72.60	103.4	91.5	22.8	3.4	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa Hybrid	3092
7	H214	72.24	102.9	87.7	22.6	2.4	3.2	Sioux City Seed Co., Sioux City, Woodbury.....		Northern Iowhealth—AA	
8	Q228	71.98	102.6	90.6	22.4	1.6	3.2	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 383	
9	M223	71.73	102.2	94.6	22.4	3.0	2.8	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 104	
10	O226	71.47	101.8	86.9	23.3	1.8	3.0	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 374	
11	Y239	71.10	101.3	91.0	21.9	2.6	3.4	Hi-Bred Corn Co., Grimes, Polk.....		Hi-Bred 2222	
		70.18		90.0	22.4	2.6	3.0	Average of all entries			

Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>District Number Three</b>											
<b>REGULAR DIVISION—Open-Pollinated Class</b>											
1	N322	72.86	116.6	94.9	26.0	2.7	3.8	Albert M. Schmitz, Remsen, Plymouth.....			Golden Krug
2	DD342	69.63	111.5	93.2	25.0	2.9	4.1	Fred N. Rupp, Cherokee, Cherokee.....			Rupp Early Yellow
3	GG347	63.03	100.9	94.1	23.2	2.3	3.0	Frank Parcaut, Sutherland, O'Brien.....			Parcaut Yel. Dent
		62.47		92.8	24.4	2.6	3.3	Average of all entries			
<b>Hybrid Class</b>											
1	F311	83.39	111.4	90.9	27.2	1.7	4.1	Sioux City Seed Co., Sioux City, Woodbury....			North Central Iowearth-BC
2	B303	82.25	109.9	93.9	25.5	1.8	3.4	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AF
3	A301	79.24	105.9	91.9	25.6	1.2	3.5	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AJ
4	T330	78.22	104.5	90.1	27.0	2.0	3.5	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 351—Edge Drop
5	L319	78.02	104.3	89.3	26.2	1.6	3.7	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 351—Hill Drop
		74.83		91.6	25.5	2.0	3.6	Average of all entries			
<b>EXPERIMENTAL DIVISION—Hybrid Class</b>											
1	G313	87.24	112.0	88.3	25.7	1.6	3.2	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AD
2	CC341	87.24	112.0	90.6	24.6	2.8	3.4	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3092
3	K318	86.84	111.5	88.3	24.5	2.6	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3100
4	W334	86.29	110.8	88.3	24.7	2.2	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3080
5	Y337	85.24	109.4	95.4	26.2	1.2	3.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2222
6	I315	84.01	107.8	89.8	26.0	2.0	3.6	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AG
7	P325	82.18	105.5	94.4	26.2	2.6	3.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2230
8	BB340	79.67	102.3	90.2	27.0	1.2	2.6	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 51
9	V333	78.68	101.0	91.3	26.9	2.0	4.0	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 424
10	H314	78.22	100.4	78.8	26.5	2.0	3.8	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AA
		77.91		90.0	26.1	1.9	3.2	Average of all entries			



Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>District Number Four</b>											
<b>REGULAR DIVISION—Open-Pollinated Class</b>											
1	492	58.01	112.4	93.9	21.3	2.7	2.9	J. J. Feldman, Breda, Carroll.....			Feldman Yel. Dent
2	4113	55.30	107.1	93.2	22.1	3.1	3.1	J. N. Horlacher, Storm Lake, Buena Vista.....			Fifty-Eight
3	AC486	53.89	104.4	91.3	19.7	2.7	3.0	Fred N. Rupp, Cherokee, Cherokee.....			Triple Dent
4	PP470	53.83	104.3	93.1	21.8	2.8	3.4	Ronald M. Wilson, Sac City, Sac.....			Early Krug
5	AD488	52.79	102.3	93.2	23.1	2.7	3.4	Louis Quirin, Alta, Sac.....			Quirin Yel. Dent
		51.62		91.4	21.5	2.9	3.1	Average of all entries			
	4107	48.93		87.5	19.6	3.1	3.0	Smith-Hughes Class, Lytton, Sac.....			Composite
<b>Hybrid Class</b>											
1	K425	72.74	127.8	95.3	23.3	2.2	3.5	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BC <sub>2</sub>		
2	S440	65.88	115.8	94.3	22.6	2.6	3.4	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BF		
3	I421	63.37	111.4	93.6	22.4	2.2	3.3	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BC <sub>1</sub>		
4	O433	63.23	111.1	88.1	21.1	1.8	3.0	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BJ		
5	AF4111	62.18	109.3	94.9	19.0	2.3	3.3	H. H. Turner, Grand Junction, Greene.....	Iowa Hybrid 939		
6	A401	61.60	108.2	91.8	22.2	2.1	3.3	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 932		
7	J423	60.75	106.7	95.0	21.9	2.1	4.1	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 13		
8	B403	60.26	105.9	94.4	20.0	2.4	3.6	O. W. Johnson, LeGrand, Marshall.....	Iowa Hybrid 942		
9	P436	59.96	105.4	89.6	24.3	1.5	3.7	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BI		
10	M429	58.76	103.3	89.0	21.7	1.7	3.5	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BA		
11	C405	58.00	101.9	93.3	19.6	2.1	3.7	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 942		
12	L427	57.82	101.6	82.1	18.8	1.8	2.9	A. Wilson, Harlan, Shelby.....			210
		56.91		91.7	21.3	2.2	3.3	Average of all entries			
<b>EXPERIMENTAL DIVISION—Hybrid Class</b>											
1	WW478	70.44	124.9	93.6	21.7	2.0	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3088		
2	4102	67.36	119.5	89.4	24.2	2.6	3.4	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BH		
3	UU476	65.47	116.1	88.6	22.2	1.4	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3007		
4	NN468	64.22	113.9	92.2	18.8	2.2	3.2	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2119		
5	QQ472	63.98	113.5	88.6	21.8	2.0	3.4	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 47		
6	F417	63.86	113.2	92.5	23.1	3.2	3.0	Genetics Section, Ames, Story.....	K x L4186		
7	KK464	62.53	110.9	87.5	22.3	1.8	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3105		
8	Q438	62.12	110.2	93.3	20.3	1.6	2.4	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2123		
9	SS474	62.02	110.0	91.9	19.9	2.0	3.4	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3104		
10	DD455	61.22	108.6	92.8	19.9	2.6	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3299		
11	4104	60.12	106.6	89.4	21.9	1.4	3.2	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BM		
12	RR473	60.03	106.5	92.5	22.7	1.8	3.0	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 381		
13	4103	59.75	106.0	90.6	22.1	1.8	4.0	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BK		
14	AA452	59.23	105.0	95.8	21.3	2.0	4.6	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3167		
15	GG458	58.61	103.9	94.4	22.2	2.4	2.6	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BL		
16	4105	58.32	103.4	90.0	25.2	2.8	3.6	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BD		
17	MM467	57.93	102.7	91.7	18.2	2.4	4.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3019		
18	X448	57.88	102.6	91.7	22.9	2.2	2.8	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowealth-BO		
19	FF457	57.66	102.3	94.2	21.8	2.8	3.6	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 78		
20	BB453	57.33	101.7	90.0	20.7	1.8	2.8	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 149		
		56.39		90.8	21.0	2.2	3.1	Average of all entries			

Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								

### District Number Five

#### REGULAR DIVISION—Open-Pollinated Class

1	AC582	60.68	109.9	93.5	19.5	3.2	3.1	Fred N. Rupp, Cherokee, Cherokee.....			Triple Dent
2	AD584	60.32	109.3	93.9	19.0	3.6	3.2	Louis Quirin, Alta, Sac.....			Quirin Yel. Dent
3	PP566	60.21	109.1	94.2	18.6	3.2	3.2	Ronald M. Wilson, Sac City, Sac.....			Early Krug
4	N528	59.89	108.5	91.1	19.2	3.5	3.2	A. S. Beary, Albion, Marshall.....			Beary Yel. Dent
5	588	58.80	106.5	94.9	17.0	3.8	2.9	T. A. Chantland, Badger, Webster.....			Smooth Iodent
6	ZZ578	56.53	102.4	93.2	18.3	3.3	3.2	J. J. Feldman, Breda, Carroll.....			Feldent Yellow
		55.21		92.2	17.9	3.4	3.0	Average of all entries			
	598	52.57		88.5	17.5	3.2	3.3	Smith-Hughes Class, Humboldt, Humboldt.....			Composite

#### Hybrid Class

1	K522	72.96	115.9	97.4	20.0	2.2	3.5	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowearth-BC,		
2	S536	72.03	114.4	93.9	18.6	2.7	3.8	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowearth-BF		
3	I518	71.42	113.4	95.3	20.6	2.1	3.1	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowearth-BC		
4	J520	70.82	112.5	96.1	18.2	2.5	4.5	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 13		
5	Y545	68.88	109.4	93.6	17.9	3.3	3.2	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 311A		
6	M526	68.48	108.8	87.2	19.6	2.3	3.6	Sioux City Seed Co., Sioux City, Woodbury....	North Central Iowearth-BA		
7	A501	65.63	104.2	94.4	18.1	2.2	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 939		
8	AF592	65.20	103.6	96.4	16.3	2.2	3.3	H. H. Turner, Grand Junction, Greene.....	Iowa Hybrid 942		
9	B503	64.82	103.0	94.6	18.1	2.4	3.3	O. W. Johnson, LeGrand, Marshall.....	Iowa Hybrid 942		
		62.96		93.1	18.5	2.4	3.3	Average of all entries			

#### EXPERIMENTAL DIVISION—Hybrid Class

1	WW574	72.54	114.9	93.9	18.2	1.8	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3088		
2	F514	71.71	113.6	94.2	20.9	3.6	2.8	Genetics Section, Ames, Story.....	K x L4186		
3	NN564	69.60	110.2	92.8	18.5	2.4	3.4	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2119		
4	AA548	67.93	107.6	95.0	18.5	2.0	4.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3167		
5	Q534	67.42	106.8	93.1	18.2	2.0	2.4	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2123		
6	QQ568	66.64	105.5	85.3	18.8	2.2	2.4	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 47		
7	TT571	66.45	105.2	98.3	19.0	2.0	2.6	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 147		
8	E513	66.31	105.0	92.5	19.2	1.6	3.4	Genetics Section, Ames, Story.....	K x 1dt		
9	OO565	65.97	104.5	91.1	17.0	2.8	3.0	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2118		
10	R535	65.19	103.2	93.3	19.0	2.2	3.2	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2030		
11	VV573	64.23	101.7	95.8	18.3	2.8	3.2	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 63		
12	W543	64.05	101.4	95.8	16.8	2.2	3.2	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2182		
13	FF553	63.91	101.2	93.1	18.1	3.4	3.8	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 78		
14	Z547	63.47	100.5	77.2	17.8	2.0	2.8	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3298		
		63.15		89.4	18.5	2.2	3.0	Average of all entries			



Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								

### District Number Six

#### REGULAR DIVISION—Open-Pollinated Class

1	AD680	72.49	102.0	92.5	24.8	3.1	3.1	Louis Quirin, Alta, Sac.....			Quirin Yel. Dent
2	688	72.36	101.8	90.4	22.3	3.1	3.2	Chas. A. Swindell, Masonville, Delaware.....			
3	N624	72.25	101.7	89.7	24.6	3.2	2.9	A. S. Beary, Albion, Marshall.....			Beary Yel. Dent
4	AC678	72.11	101.5	93.6	23.1	2.7	2.9	Fred N. Rupp, Cherokee, Cherokee.....			Triple Dent
5	PP662	71.82	101.1	92.2	23.3	3.3	3.7	Ronald M. Wilson, Sac City, Sac.....			Early Krug
		71.07		92.1	23.2	3.0	3.0	Average of all entries			

#### Hybrid Class

1	J616	87.82	115.4	96.3	23.8	1.4	4.5	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 13
2	Y641	81.50	107.1	91.9	22.4	2.3	3.0	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 311-A
3	C605	81.33	106.9	93.6	21.4	2.1	2.8	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 942
4	B603	79.90	105.0	89.3	20.6	1.8	3.0	O. W. Johnson, LeGrand, Marshall.....			Iowa Hybrid 942
5	AF684	79.62	104.7	92.6	19.9	2.1	3.0	H. H. Turner, Grand Junction, Greene.....			Iowa Hybrid 942
6	A601	79.42	104.4	87.9	21.3	1.6	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 939
7	LL657	78.58	103.3	88.6	22.2	1.8	3.3	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 311—Edge Drop
8	I614	78.52	103.2	91.7	22.4	1.8	2.9	Sioux City Seed Co., Sioux City, Woodbury.....			North Central Iowalth-BC
9	S632	78.13	102.7	91.5	24.6	2.0	3.7	Sioux City Seed Co., Sioux City, Woodbury.....			North Central Iowalth-BF
10	K618	77.21	101.5	92.1	24.5	1.7	3.0	Sioux City Seed Co., Sioux City, Woodbury.....			North Central Iowalth-BC
11	M622	76.42	100.4	83.2	22.8	1.7	3.3	Sioux City Seed Co., Sioux City, Woodbury.....			North Central Iowalth-BA
12	AE682	76.09	100.0	92.2	23.5	2.1	2.8	H. H. Turner, Grand Junction, Greene.....			666
		76.08		90.6	22.1	1.9	3.0	Average of all entries			

#### EXPERIMENTAL DIVISION—Hybrid Class

1	AA644	87.04	118.5	91.7	20.9	1.6	4.8	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3167
2	F610	85.65	116.6	95.8	23.5	2.6	3.0	Genetics Section, Ames, Story.....			K x L4186
3	FF649	82.65	112.5	89.4	19.9	2.0	3.6	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 78
4	WW670	81.15	110.5	93.1	22.1	1.8	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3088
5	TT667	80.32	109.3	92.2	22.1	1.4	2.4	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 147
6	MM659	78.40	106.7	93.9	21.9	1.8	3.6	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3019
7	XX671	77.87	106.0	94.2	22.2	1.4	2.4	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 116
8	W639	77.39	105.3	87.2	22.2	1.6	3.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2182
9	X640	76.94	104.7	90.6	23.2	1.4	2.8	Sioux City Seed Co., Sioux City, Woodbury.....			North Central Iowalth-BO
10	CC646	76.67	104.4	86.7	21.1	1.6	3.6	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 414
11	SS666	76.06	103.5	87.8	21.9	2.2	2.8	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3104
12	QQ664	75.66	103.0	83.3	21.7	2.2	2.4	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 47
13	OO661	73.85	100.5	95.6	21.9	2.4	2.8	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2118
14	G611	73.75	100.4	75.6	23.5	1.8	3.0	Genetics Section, Ames, Story.....			K x Osf
		73.47		89.2	22.2	1.9	2.9	Average of all entries			

Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								

### District Number Eight

#### REGULAR DIVISION—Open-Pollinated Class

1	881	24.82	124.0	84.4	16.6	2.4	2.3	J. J. Feldman, Breda, Carroll.....			Feldent Yellow
2	AJ887	22.39	111.9	87.1	20.4	2.2	3.3	T. Bonar McKee, Carlisle, Warren.....			Reid Yel. Dent
3	AL893	22.10	110.4	85.8	18.8	1.9	2.9	G. V. Harkrader, Adel, Dallas.....			Harkrader Yel. Dent
4	879	21.94	109.6	85.8	18.3	2.2	2.9	Marion Coppock, Ankeny, Polk.....			Coppock Utility
5	Z837	21.87	109.3	85.3	20.0	2.1	2.9	Clarence Meyer, Van Meter, Madison.....			Meyer Yel. Dent
		20.01			18.2	2.1	2.9	Average of all entries.			

#### Hybrid Class

1	I815	42.22	145.5	86.4	15.6	2.2	3.3	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 13
2	J817	37.10	127.9	88.8	19.3	1.7	2.9	Sioux City Seed Co., Sioux City, Woodbury.....			South Central Iowaleath-CA
3	TT861	33.22	114.5	89.2	17.0	2.0	2.4	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 311A
4	C805	31.24	107.7	84.7	17.0	2.2	2.8	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 942
5	AI885	29.32	101.1	87.4	16.6	2.0	2.6	H. H. Turner, Grand Junction, Greene.....			Iowa Hybrid 942
		29.01			17.8	1.9	2.7	Average of all entries			

#### EXPERIMENTAL DIVISION—Hybrid Class

1	PP857	38.94	128.8	86.1	17.5	2.4	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3111
2	YY868	38.94	128.8	84.4	17.5	1.8	2.6	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2218
3	HH847	36.97	122.3	83.9	17.4	2.2	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3160
4	WW866	36.43	120.5	87.8	18.5	2.2	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3147
5	E809	36.12	119.5	80.6	16.7	2.4	2.8	Cereal Crops & Diseases, Washington, D. C.; Arlington, Va.....			I.Y.T. No. 13
6	P823	35.95	118.9	85.8	19.0	2.8	2.4	Genetics Section, Ames, Story.....			K x La
7	ZZ869	35.68	118.0	76.1	20.3	2.0	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3047
8	S826	35.46	117.3	83.9	17.4	2.6	2.6	Genetics Section, Ames, Story.....			K x L4182
9	AB870	35.31	116.8	81.4	18.8	2.0	2.8	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3045
10	GG846	34.27	113.4	81.7	17.0	2.2	2.4	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2111
11	AE874	34.13	112.9	80.8	17.4	1.8	3.4	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3154
12	RR859	34.02	112.5	87.2	21.3	2.2	3.0	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 195
13	UU863	33.87	112.0	86.1	17.1	1.8	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3112
14	FF845	33.26	110.0	84.7	16.0	1.8	2.0	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2236
15	AC871	32.94	109.0	82.8	16.4	2.2	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3065
16	895	32.23	106.6	86.1	20.6	2.2	3.0	Genetics Section, Ames, Story.....			K x L4198
17	QQ858	31.47	104.1	83.1	18.6	1.6	2.8	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3122
18	SS860	31.31	103.6	83.9	18.1	1.8	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3144
19	W834	31.25	103.4	84.7	15.5	1.8	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3019
20	896	30.36	100.4	76.7	17.0	1.4	2.4	Genetics Section, Ames, Story.....			Ex Ldg x Idt
21	M821	30.30	100.2	72.8	21.1	1.6	2.6	Sioux City Seed Co., Sioux City, Woodbury.....			South Central Iowaleath-CD
		30.23			18.5	1.9	2.7	Average of all entries			



Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								

### District Number Nine

#### REGULAR DIVISION—Open-Pollinated Class

1	AJ987	59.20	110.9	92.6	16.0	3.7	3.8	T. Bonar McKee, Carlisle, Warren.....	Reid Yel. Dent
2	Z937	56.09	105.1	93.8	17.1	3.4	2.9	Clarence Meyer, Van Meter, Madison.....	Meyer Yel. Dent
3	AL993	55.85	104.7	91.4	15.7	3.4	3.1	G. V. Harkrader, Adel, Dallas.....	Harkrader Yel. Dent
4	981	55.48	104.0	92.9	17.1	3.8	3.2	Ray Redfern, Yarmouth, Des Moines.....	Reid Yel. Dent J. P.
5	995	54.71	102.5	94.0	16.8	3.4	3.1	H. H. McAllister, Mt. Union, Henry.....	.....
6	U931	53.94	101.1	90.3	16.6	3.6	2.9	Thos. Thompson, Villisca, Montgomery.....	Krug
		53.36			16.3	3.4	3.2	Average of all entries	
	989	49.13		90.2	16.1	3.4	3.0	Smith-Hughes Class, Muscatine, Muscatine.....	Composite

#### Hybrid Class

1	J917	65.55	109.0	93.1	16.0	2.4	3.5	Sioux City Seed Co., Sioux City, Woodbury...South Central Iowearth-CA	
2	I915	63.92	106.3	95.4	14.7	2.9	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 13
3	AD972	63.35	105.3	91.7	15.3	3.1	3.5	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 306—Edge Drop
4	A901	62.79	104.4	92.1	14.4	2.8	2.9	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 939
5	AH983	62.40	103.7	92.1	16.8	2.8	3.0	H. H. Turner, Grand Junction, Greene.....	.....666
6	TT961	61.17	101.7	93.2	14.7	3.3	2.8	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 311A
7	AI985	61.04	101.5	91.7	14.9	2.8	2.9	H. H. Turner, Grand Junction, Greene.....	Iowa Hybrid 942
		60.15			15.4	2.9	3.1	Average of all entries	

#### EXPERIMENTAL DIVISION—Hybrid Class

1	RR959	72.10	116.6	91.9	17.0	2.8	3.2	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 195
2	PP957	70.91	114.7	82.2	14.9	2.0	3.6	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3111
3	SS960	69.06	111.7	91.7	14.9	3.0	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3144
4	P923	68.00	110.0	91.9	16.0	2.8	3.0	Genetics Section, Ames, Story.....	K x La
5	KK951	67.88	109.8	89.4	15.9	2.8	3.2	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2215
6	BB940	67.75	109.6	90.8	16.3	3.0	3.4	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 224
7	ZZ969	67.16	108.7	91.7	17.1	2.8	3.6	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3047
8	AB970	66.05	106.9	85.6	14.8	2.8	3.4	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3045
9	L920	65.95	106.7	85.8	16.7	2.6	2.8	Sioux City Seed Co., Sioux City, Woodbury.....	Southern Iowearth-DA
10	LL952	65.57	106.1	91.7	17.3	2.2	4.2	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 215
11	Y936	65.46	105.9	90.0	15.6	3.0	3.8	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 4
12	QQ958	65.38	105.8	89.2	15.1	3.0	3.8	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3122
13	XX967	64.20	103.9	89.2	16.0	2.6	3.6	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 107
14	GG946	63.72	103.1	91.4	15.5	2.6	3.4	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2111
15	R925	63.62	102.9	87.2	15.5	2.2	3.0	Genetics Section, Ames, Story.....	K x Idt
16	997	63.56	102.8	85.6	17.6	2.4	4.0	Genetics Section, Ames, Story.....	K x PR.
17	Q924	63.42	102.6	81.7	16.7	2.6	4.0	Genetics Section, Ames, Story.....	K x PR
18	II948	63.40	102.6	92.5	15.3	3.2	2.6	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 2256
19	AE974	62.65	101.4	82.5	15.2	2.6	3.6	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3154
20	00956	62.53	101.2	93.1	17.1	3.0	3.4	Hi-Bred Corn Co., Grimes, Polk.....	Hi-Bred 55
21	09100	62.18	100.6	92.2	15.2	2.4	3.4	Farm Crops Subsec. & U. S. D. A., Ames, Story.....	Iowa Hybrid 3110
		61.81			15.8	2.8	3.2	Average of all entries	

TABLE IV. AVERAGE PERFORMANCE OF STRAINS WHICH WERE ENTERED IN ALL THREE DISTRICTS OF A SECTION IN 1934.

Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>Northern Section</b>											
<b>REGULAR DIVISION—Open-Pollinated Class</b>											
1	DD	66.17	106.6	89.03	23.0	2.9	3.5	Fred N. Rupp, Cherokee, Cherokee.....			Rupp Early Yellow
2	N	65.62	105.7	89.37	23.1	2.5	3.3	Albert M. Schmitz, Remsen, Plymouth.....			Golden Krug
3	FF	62.48	100.6	88.47	23.4	2.6	2.9	Frank Parcaut, Sutherland, O'Brien.....			Early Golden King
4	GG	61.89	99.7	88.33	21.9	2.2	3.0				
5	II	58.40	94.0	85.83	22.1	2.4	2.7				
6	J	58.03	93.4	85.43	20.2	2.5	2.6				
		62.10		87.7	22.3	2.5	3.0	Average of section entries			
<b>Hybrid Class</b>											
1	B	72.41	105.5	89.47	22.5	2.1	3.2	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AF
2	A	72.18	105.2	88.03	23.1	1.7	3.3	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AJ
3	F	71.66	104.4	84.93	24.9	2.0	3.5	Sioux City Seed Co., Sioux City, Woodbury.....			North Central Iowearth-BC
4	L	70.51	102.7	85.40	23.9	2.2	3.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 351—Hill Drop
5	T	70.31	102.4	87.83	24.7	2.1	3.0	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 351—Edge Drop
6	C	69.02	100.6	89.43	23.1	2.4	3.4	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 931
7	E	68.78	100.2	85.67	23.3	2.4	3.6	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AE
8	JJ	67.21	97.9	90.47	21.6	2.4	3.1				
9	S	66.69	97.2	82.97	21.7	2.0	2.9				
10	D	65.74	95.8	87.07	23.1	2.5	3.2				
11	X	64.99	94.7	85.30	22.1	2.1	2.9				
12	KK	64.06	93.3	88.60	22.3	2.2	2.9				
		68.63		87.10	23.0	2.2	3.2	Average of section entries			



Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>Northern Section—(Continued)</b>											
<b>EXPERIMENTAL DIVISION—Hybrid Class</b>											
1	G	73.62	107.9	85.90	23.1	1.5	3.1	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AD
2	P	72.58	106.3	87.80	22.9	2.5	3.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2230
3	CC	72.34	106.0	82.50	22.8	2.7	3.1	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3092
4	Y	71.89	105.3	88.16	23.1	1.9	3.0	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2222
5	BB	71.62	104.9	86.80	24.4	2.2	2.6	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 51
6	I	69.90	102.4	87.50	23.8	2.1	3.2	Sioux City Seed Co., Sioux City, Woodbury.....			Northern Iowearth-AG
7	V	69.74	102.2	87.37	23.3	2.4	3.3	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 424
8	O	69.62	102.0	88.97	24.0	1.8	3.0	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 374
9	R	68.78	100.8	87.00	23.2	2.4	3.3	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3040
10	H	68.00	99.6	76.83	24.7	2.2	3.3				
11	K	67.59	99.0	75.83	22.6	2.3	3.1				
12	AA	67.38	98.7	91.53	23.7	2.2	2.8				
13	W	67.35	98.7	80.00	22.5	2.2	3.1				
14	EE	66.42	97.3	85.03	24.2	2.3	2.8				
15	U	65.89	96.5	87.93	20.4	2.8	2.7				
16	Z	65.86	96.5	85.43	22.4	2.1	2.5				
17	HH	62.96	92.2	85.70	24.8	2.2	2.6				
18	Q	62.61	91.7	84.70	23.2	1.6	2.7				
19	M	62.54	91.6	89.87	21.3	2.0	1.9				
		68.25		85.52	23.2	2.2	2.9	Average of section entries			

Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>North Central Section</b>											
<b>REGULAR DIVISION—Open-Pollinated Class</b>											
1	AC	62.23	103.4	92.8	20.77	2.9	3.0	Fred N. Rupp, Cherokee, Cherokee.....			Triple Dent
2	PP	61.95	103.0	93.2	21.23	3.1	3.4	Ronald M. Wilson, Sac City, Sac.....			Early Krug
3	AD	61.87	102.8	93.2	22.30	3.1	3.2	Louis Quirin, Alta, Sac.....			Quirin Yel. Dent
4	N	60.94	101.3	90.3	22.37	3.2	3.0	A. S. Beary, Albion, Marshall.....			Beary Yel. Dent
5	ZZ	57.59	95.7	91.8	19.89	3.0	3.0				
6	U	56.42	93.8	93.0	20.9	3.0	2.8				
		60.17		92.4	21.2	3.1	3.1	Average of section entries			
<b>Hybrid Class</b>											
1	K	74.30	113.6	94.9	22.6	2.0	3.3	Sioux City Seed Co., Sioux City, Woodbury....			North Central Iowealth-BC,
2	J	73.13	111.8	95.8	21.3	2.0	4.4	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 13
3	S	72.01	110.1	93.2	21.9	2.4	3.6	Sioux City Seed Co., Sioux City, Woodbury....			North Central Iowealth-BF
4	I	71.10	108.7	93.5	21.8	2.0	3.1	Sioux City Seed Co., Sioux City, Woodbury....			North Central Iowealth-BC,
5	AF	69.00	105.5	94.6	18.4	2.2	3.2	H. H. Turner, Grand Junction, Greene.....			666
6	A	68.88	105.3	91.4	20.5	2.0	3.1	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 939
7	B	68.33	104.5	92.8	19.6	2.2	3.3	O. W. Johnson, LeGrand, Marshall.....			Iowa Hybrid 942
8	Y	68.06	104.1	93.0	21.1	2.3	3.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 311A
9	M	67.89	103.8	86.5	21.4	1.9	3.5	Sioux City Seed Co., Sioux City, Woodbury....			North Central Iowealth-BA
10	C	66.64	101.9	93.7	19.2	2.3	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 942
11	P	64.96	99.3	89.0	24.5	1.9	3.6				
12	O	64.72	99.0	89.0	20.1	1.7	2.9				
13	AE	63.54	97.2	93.1	20.9	2.4	2.9				
14	AB	62.99	96.3	94.5	21.3	2.2	2.8				
15	L	61.53	94.1	88.0	18.9	1.9	2.8				
16	D	61.23	93.6	94.5	18.1	2.4	2.9				
17	HH	61.13	93.5	88.7	21.1	2.3	3.4				
18	AG	61.09	93.4	87.9	22.9	2.5	3.7				
19	JJ	60.79	93.0	92.9	18.8	2.7	2.8				
20	LL	60.78	92.9	88.0	20.9	2.1	3.4				
21	YY	60.77	92.9	92.8	18.9	2.6	2.9				
22	T	60.58	92.6	91.1	20.7	1.8	2.8				
23	H	60.55	92.6	92.7	19.0	1.8	3.0				
		65.39		91.8	20.6	2.2	3.2	Average of section entries			



Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>North Central Section—(Continued)</b>											
<b>EXPERIMENTAL DIVISION—Hybrid Class</b>											
1	WW	74.71	115.9	93.5	20.7	1.9	3.1	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3088
2	F	73.74	114.4	94.2	22.5	3.1	2.9	Genetics Section, Ames, Story.....			K x L4186
3	AA	71.40	110.7	94.2	20.2	1.9	4.5	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3167
4	QQ	68.76	106.7	85.7	20.8	2.1	2.7	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 47
5	NN	68.70	106.6	92.7	19.3	2.2	3.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2119
6	FF	68.07	105.6	92.2	19.9	2.7	3.7	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 78
7	SS	66.68	103.4	87.6	20.1	2.1	3.1	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3104
8	TT	66.51	103.2	95.4	21.6	1.7	2.7	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 147
9	UU	66.48	103.1	87.0	21.5	1.7	2.9	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3007
10	MM	66.44	103.1	87.6	19.8	2.1	3.8	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3019
11	Q	66.34	102.9	92.8	20.0	1.8	2.3	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2123
12	X	65.64	101.8	92.3	21.8	1.8	2.9	Sioux City Seed Co., Sioux City, Woodbury.....			North Central Iowearth-BO
13	W	65.08	100.9	92.3	20.0	2.2	3.1	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2182
14	GG	64.64	100.3	92.4	21.0	2.1	2.5	Sioux City Seed Co., Sioux City, Woodbury.....			North Central Iowearth-BL
15	DD	64.63	100.2	85.5	20.2	2.3	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 3299
16	CC	64.35	99.8	89.9	19.6	2.1	3.7				
17	OO	64.22	99.6	94.5	19.5	2.7	2.8				
18	R	63.56	98.6	91.6	21.6	2.1	3.3				
19	VV	63.55	98.6	93.4	19.7	2.3	2.7				
20	XX	63.27	98.1	94.8	21.2	1.9	2.5				
21	KK	63.22	98.1	84.6	20.4	2.1	2.9				
22	E	62.99	97.7	89.9	21.6	1.8	3.1				
23	RR	62.21	96.5	92.5	22.1	1.8	2.6				
24	EE	61.88	96.0	90.8	19.5	1.9	2.8				
25	BB	61.10	94.8	90.4	20.2	1.8	2.6				
26	Z	60.52	93.9	83.4	19.8	2.5	2.8				
27	V	60.47	93.8	91.5	19.2	2.5	3.1				
28	G	59.80	92.8	72.6	22.0	1.8	2.9				
29	II	40.79	63.3	78.9	20.7	1.5	2.7				
		64.47		89.8	20.6	2.1	3.0	Average of section entries			

Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>Southern Section</b>											
<b>REGULAR DIVISION—Open-Pollinated Class</b>											
1	AJ	40.80	111.8	89.9	18.2	3.0	3.6	T. Bonar McKee, Carlisle, Warren.....			Reid Yel. Dent
2	Z	38.98	106.9	89.6	18.6	2.8	2.9	Clarence Meyer, Van Meter, Madison.....			Meyer Yel. Dent
3	AL	38.98	106.9	88.6	17.3	2.7	3.0	G. V. Harkrader, Adel, Dallas.....			Harkrader Yel. Dent
4	U	36.73	100.7	87.5	18.1	2.9	3.0	Thos. Thompson, Villisca, Montgomery.....			Krug
5	MM	35.28	96.7	86.4	17.0	2.8	3.1				
6	JJ	34.51	94.6	85.5	17.2	2.9	3.0				
7	T	34.18	93.7	86.8	16.9	2.6	3.1				
8	S	34.07	93.4	87.8	17.5	2.5	2.9				
9	CC	33.17	90.9	88.3	16.4	2.4	3.0				
		36.48		87.4	17.4	2.8	3.1	Average of section entries			
<b>Hybrid Class</b>											
1	I	53.07	119.0	90.9	15.2	2.6	3.3	Farm Crops Subsec. & U. S. D. A., Ames, Story.....			Iowa Hybrid 13
2	J	51.33	115.1	91.0	17.7	2.1	3.2	Sioux City Seed Co., Sioux City, Woodbury....			South Central Iowahealth-CA
3	TT	47.20	105.9	91.2	15.9	2.7	2.6	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 311A
4	AD	45.60	102.3	83.9	17.3	2.6	3.2	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 306—Edge Drop
5	AI	45.18	101.3	89.6	15.8	2.4	2.8	H. H. Turner, Grand Junction, Greene.....			Iowa Hybrid 942
6	C	44.09	98.9	87.2	15.9	2.6	2.9				
7	A	43.90	98.5	86.7	15.4	2.4	2.8				
8	H	43.76	98.2	85.9	16.9	2.3	2.7				
9	AK	43.42	97.4	87.3	17.7	2.6	2.7				
10	AH	43.19	96.9	89.8	17.5	2.3	2.8				
11	D	43.12	96.7	85.6	17.7	2.2	2.8				
12	B	42.91	96.3	89.4	15.5	2.4	2.8				
13	AF	42.90	96.2	82.0	15.4	2.2	2.8				
14	F	41.54	93.2	81.7	18.9	2.2	2.9				
15	AG	41.09	92.2	85.8	17.0	2.7	3.0				
16	VV	41.03	92.0	85.4	15.8	2.4	2.6				
		44.58		87.1	16.6	2.4	2.9	Average of section entries			



Rank	Entry No.	Acre Yield		Stand %	Moist. %	Lodging grade	Ear Ht.	Name	Address	County	Variety
		Bu.	% of Av.								
<b>Southern Section—(Continued)</b>											
<b>EXPERIMENTAL DIVISION—Hybrid Class</b>											
1	PP	54.93	119.5	84.2	16.2	2.2	3.3	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa	Iowa Hybrid 3111
2	RR	53.06	115.4	89.6	19.15	2.5	3.1	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 195
3	P	51.98	113.1	88.9	17.5	2.8	2.7	Genetics Section, Ames, Story.....			K x La
4	ZZ	51.42	111.9	83.9	18.7	2.4	3.4	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa	Iowa Hybrid 3047
5	AB	50.68	110.2	83.5	16.8	2.4	3.1	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa	Iowa Hybrid 3045
6	YY	50.24	109.3	88.9	16.3	2.3	2.7	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2218
7	SS	50.19	109.2	87.8	16.5	2.4	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa	Iowa Hybrid 3144
8	GG	49.00	106.6	86.6	16.25	2.4	2.9	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 2111
9	QQ	48.43	105.4	86.2	16.85	2.3	3.3	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa	Iowa Hybrid 3122
10	AE	48.39	105.3	81.7	16.3	2.2	3.5	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa	Iowa Hybrid 3154
11	BB	47.83	104.0	86.5	18.65	2.5	3.0	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 224
12	WW	47.40	103.1	83.2	16.9	2.5	3.0	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa	Iowa Hybrid 3147
13	HH	47.14	102.5	79.3	16.15	2.8	3.1	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa	Iowa Hybrid 3160
14	UU	46.76	101.7	84.0	16.1	2.4	3.2	Farm Crops Subsec. & U. S. D. A., Ames, Story.....		Iowa	Iowa Hybrid 3112
15	Y	46.66	101.5	85.6	17.05	2.4	3.3	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 4
16	OO	46.27	100.7	88.8	19.05	2.4	3.1	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 55
17	LL	46.15	100.4	87.8	20.05	2.0	3.5	Hi-Bred Corn Co., Grimes, Polk.....			Hi-Bred 215
18	E	46.03	100.1	85.6	16.0	3.2	2.9	Cereal Crops & Diseases, Washington, D. C.; Arlington, Va.....		I.Y.T.	No. 13
19	L	45.88	99.8	73.1	18.1	2.1	2.6				
20	FF	45.53	99.0	81.8	15.35	2.2	2.2				
21	Q	45.44	98.8	72.1	17.95	2.3	3.5				
22	KK	45.44	98.8	83.3	17.7	2.4	3.1				
23	O	45.34	98.6	87.4	17.05	2.2	3.3				
24	AC	45.33	98.6	84.9	15.45	2.7	3.3				
25	I	44.97	97.8	89.2	16.55	2.3	2.2				
26	S	44.51	96.8	85.3	16.9	3.1	2.7				
27	W	44.12	96.0	82.7	15.8	2.1	2.9				
28	NN	44.07	95.9	90.7	16.7	2.3	2.3				
29	K	43.36	94.3	79.0	18.6	2.1	2.6				
30	R	43.27	94.1	81.8	15.95	1.7	2.6				
31	XX	43.18	93.9	86.7	18.55	2.3	3.2				
32	N	43.16	93.9	85.6	18.25	1.8	2.6				
33	M	42.94	93.4	76.4	18.6	2.3	2.8				
34	X	42.93	93.4	84.2	17.65	1.9	3.1				
35	G	41.99	91.3	79.6	16.1	2.6	2.8				
36	AA	41.46	90.2	79.1	18.6	2.4	3.4				
37	V	39.92	86.8	80.0	16.3	2.5	2.4				
38	EE	39.87	86.7	70.3	16.3	2.4	2.9				
39	DD	37.65	81.9	79.9	15.3	2.3	2.5				
		45.97		83.5	17.1	2.4	3.0	Average of section entries			

Iowa Hybrid 13 which was quite outstanding in the Southern Section was second in the North Central Section. It is possible that in a shorter season this hybrid would be too late in maturity for safety in that area.

Rupp Early Yellow was the highest open-pollinated strain in Northern Iowa. This strain has been entered in previous years and has made a good showing. Golden Krug, entered by Albert Schmitz, was second. In the regular hybrid group the three highest yielding samples were by the Sioux City Seed Co.

### SECTION YIELDS OF PREVIOUS YEARS

The record of those section entries which were in the test this year, and one or more previous years, is presented in table V. These data are given as percentages of the mean of the section open-pollinated entries. Only those having a mean percentage yield of 100 or greater are given. It is possible to compare the hybrids and open-pollinated strains of the same section as well as one strain with another within the same group. The comparison between strains which have been in the test for a different period of years is not as reliable as where both were in the test at the same time. The data do, however, give an indication of their relative performance.

Those strains which have the highest percentages with relation to yield are the ones with the best record. Those with the highest percentages relative to lodging are the ones which lodged most; therefore the lower percentage indicates the greater ability of the strain to stand erect until harvest. Low percentages in the moisture column indicate relatively low moisture content.

Few strains have been entered in the test for a long period of years. The entrant usually becomes satisfied concerning the ability of his strain to yield after several years. If the strain continued to be one of the lower yielding kinds it was usually replaced by one which had proven to be relatively high in production. If it was one of the better strains in that respect the grower often felt that he had nothing to gain by making further entry unless he was selling seed and wanted to keep the record of the particular strain before the public.

In the open-pollinated class of Northern Iowa, Golden King continued to be the sample entered for the longest period of years. Rupp Early Yellow and Golden Krug have both made outstanding yields for the period of time they have been in the test, both also had a high moisture content and might not show up so favorably in a shorter season. In the hybrid class of the same section Iowa Hybrid 931 had the most outstanding yield record and the stiffest stalk, but was high in moisture content.

Osterland Yellow Dent and Early Krug were the only two open-pollinated strains which had a yield above 100 in the North Central Section. In the hybrid class of the North Central Section, Hi-Breds 323 and 311 together with Iowa Hybrids 942 and 939 were outstanding for those which have been in the test four or more years. This table may be used to determine in part the relative merits of Hi-Bred 311 and Iowa Hybrid 942. Both have been in the North Central Section five years, during which time Iowa Hybrid 942 has made slightly the highest yield, has had a slightly lower moisture content, and a weaker stalk than Hi-Bred 311. Iowa Hybrid 939 has been in the test only four years and has equalled the above two in yield and moisture content and had a low percentage of lodging.

Black Yellow Dent and Steen Yellow Dent have been in the Southern Section test 15 years and both yielded slightly more than the average. Iowa Hybrid 13, was in the test four years and had the highest yield record followed in turn by Hi-Breds 311A and 306. Iowa Hybrids 942 and 939 were equal in yield and moisture content; 939 having the least lodging.



TABLE V. RECORDS OF YIELD, MOISTURE AND LODGING EXPRESSED AS PERCENTAGES OF THE OPEN-POLLINATED AVERAGES FOR REGULAR SECTION ENTRIES IN THE IOWA CORN YIELD TEST OF 1934 AND ONE OR MORE PREVIOUS YEARS.

Name	Post Office	County	Kind of Corn	No. of Years	% of Average O.P.		
					Yield	Moisture	Lodging
<b>NORTHERN SECTION—Open-Pollinated</b>							
Wm. McArthur .....	Mason City .....	Cerro Gordo .....	Golden King .....	12	104.1	86.1	97.6
Fred N. Rupp .....	Cherokee .....	Cherokee .....	Rupp Early Yellow .....	5	110.3	107.3	102.2
Frank Parcaut .....	Sutherland .....	O'Brien .....	Early Golden King .....	4	100.2	97.5	104.2
Albert M. Schmitz .....	Remsen .....	Plymouth .....	Golden Krug .....	2	108.2	104.9	107.0
<b>Regular Hybrids</b>							
F. C. Subsec. & U. S. D. A. ....	Ames .....	Story .....	Iowa Hybrid 931 .....	5	117.5	107.2	76.5
Hi-Bred Corn Co. ....	Grimes .....	Polk .....	Hi-Bred 355 .....	3	111.2	96.1	80.7
H. H. Turner .....	Grand Junction .....	Greene .....	E4 .....	2	114.4	94.1	86.6
H. H. Turner .....	Grand Junction .....	Greene .....	E6 .....	2	108.4	98.6	86.5
<b>NORTH CENTRAL SECTION—Open-Pollinated</b>							
H. F. Osterland .....	Faulkner .....	Franklin .....	Osterland Yel. Dent. ....	15	102.9	102.0	102.1
Ronald M. Wilson .....	Sac City .....	Sac .....	Early Krug .....	3	106.4	105.8	96.2
<b>Regular Hybrids</b>							
Hi-Bred Corn Co. ....	Grimes .....	Polk .....	Hi-Bred 323 .....	6	116.7	96.4	89.6
F. C. Subsec. & U. S. D. A. ....	Ames .....	Story .....	Iowa Hybrid 942 .....	5	118.7	101.3	82.1
Hi-Bred Corn Co. ....	Grimes .....	Polk .....	Hi-Bred 311 .....	5	110.8	105.7	75.7
F. C. Subsec. & U. S. D. A. ....	Ames .....	Story .....	Iowa Hybrid 939 .....	4	118.7	102.6	71.6
F. C. Subsec. & U. S. D. A. ....	Ames .....	Story .....	Iowa Hybrid 931 .....	4	107.0	92.2	80.2
F. C. Subsec. & U. S. D. A. ....	Ames .....	Story .....	Iowa Hybrid 13 .....	2	130.2	106.1	68.5
Hi-Bred Corn Co. ....	Grimes .....	Polk .....	Hi-Bred 311A .....	2	123.6	96.4	81.4
<b>SOUTHERN SECTION—Open-Pollinated</b>							
Clyde Black .....	Ames .....	Story .....	Black Yel. Dent .....	15	101.7	101.3	99.9
Geo. Steen .....	West Liberty .....	Muscatine .....	Steen Yel. Dent .....	15	100.1	94.2	93.4
G. V. Harkrader .....	Adel .....	Dallas .....	Harkrader Yel. Dent .....	9	105.7	96.3	98.2
Clarence Meyer .....	Van Meter .....	Madison .....	Meyer Yel. Dent .....	6	107.5	102.7	96.9
<b>Regular Hybrids</b>							
Hi-Bred Corn Co. ....	Grimes .....	Polk .....	Hi-Bred 311 .....	5	109.3	92.0	78.8
F. C. Subsec. & U. S. D. A. ....	Ames .....	Story .....	Iowa Hybrid 13 .....	4	125.7	97.8	77.3
Hi-Bred Corn Co. ....	Grimes .....	Polk .....	Hi-Bred 306 .....	4	113.4	102.9	87.3
F. C. Subsec. & U. S. D. A. ....	Ames .....	Story .....	Iowa Hybrid 942 .....	4	111.6	88.8	85.9
F. C. Subsec. & U. S. D. A. ....	Ames .....	Story .....	Iowa Hybrid 939 .....	4	111.6	90.7	74.8
Hi-Bred Corn Co. ....	Grimes .....	Polk .....	Hi-Bred 311A .....	3	120.0	89.8	83.1

## HYBRID

The use of hybrids for general planting has been limited only by the supply of available seed. The demand for hybrid seed has, no doubt, been largely because of the general belief that hybrids would produce more corn to the acre, and because the stalks were more lodging resistant. The data obtained in the Iowa Corn Yield Test lend themselves to making comparisons between the average of a group of hybrids and a group of open-pollinated strains. In table VI the average yield of hybrids by districts

TABLE VI. AVERAGE YIELD OF HYBRID SECTION ENTRIES IN PERCENTAGE OF THE AVERAGE YIELD OF OPEN-POLLINATED SECTION ENTRIES FOR THE YEARS 1926-1934 INCLUSIVE

	1926 %	1927 %	1928 %	1929 %	1930 %	1931 %	1932 %	1933 %	1934 %
1	117.1	109.2	109.8	108.9	114.3	116.2	115.3	114.3	112.4
2	104.6	117.4	120.4	124.1	113.3	.....	101.6	109.5	100.5
3	97.4	102.9	109.3	114.4	110.7	105.9	102.2	107.0	119.4
4	115.5	104.6	110.0	110.1	115.5	111.8	107.2	128.8	111.2
5	106.5	111.1	107.8	108.3	114.4	113.2	108.2	127.6	107.9
6	104.5	109.7	102.8	103.4	104.5	109.0	106.0	116.0	106.0
7	105.3	102.8	113.7	109.1	112.6	107.4	112.0	109.4	.....
8	103.9	98.1	115.3	109.1	123.5	108.4	109.6	114.1	148.7
9	104.9	102.3	113.9	114.1	105.6	106.8	105.5	105.3	115.2
10	111.4	102.2	111.0	107.7	102.3	104.8	102.2		
11	102.9	114.3	108.2	112.2	111.4	106.3	110.6		
12	110.3	107.1	104.2	106.0	103.2	102.2	99.8		
Average	107.0	106.8	110.5	110.6	110.9	108.4	106.7	114.7	115.2

for the past nine years is shown as the percentage of the average open-pollinated strains. One hundred comparisons are included, in 97 of which the average hybrid yield was greater than that of the open-pollinated strains. In the data for 1934 the hybrids seemed to have the greatest advantage in yield where the general level of production was lowest. Districts 2 and 6 were the highest yielding fields and the hybrids had the smallest advantage in yield. District 8 was the lowest producing field and the

TABLE VII. AVERAGE DISTRICT YIELDS, AND DIFFERENCE BETWEEN AVERAGE OF REGULAR OPEN-POLLINATED (O.P.), REGULAR HYBRIDS (R.H.), AND EXPERIMENTAL HYBRIDS (E.H.) FOR 1934.

District	No. of Entries			Average Acre Yield			Difference in Ave. Yield Between*		
	O.P.	R.H.	E.H.	O.P.	R.H.	E.H.	O.P. & R.H.	O.P. & E.H.	R.H. & E.H.
1	10	12	30	51.86	58.66	57.63	+6.80	+5.77	-1.03
2	8	13	19	71.39	72.42	70.18	-1.03	-1.21	-2.24
3	8	12	20	62.47	74.83	77.91	+12.36	+15.44	+3.08
4	12	24	42	51.62	56.91	56.39	+5.29	+4.77	-.52
5	11	22	30	55.21	62.96	63.15	+7.75	+7.94	+.19
6	7	23	29	71.07	76.08	73.47	+5.01	+2.40	-2.61
8	13	16	41	20.01	29.01	30.23	+9.00	+10.22	+1.22
9	11	17	41	53.36	60.15	61.81	+6.79	+8.45	+1.66

\*A plus favors the experimental hybrid, or regular hybrids when the experimental class is not included.



hybrids had the greatest advantage. This may point to an ability on the part of the hybrids to withstand adverse climatic conditions more successfully than open-pollinated strains.

The mean advantage of the hybrids for each year since 1926 varies from 6.7 per cent in 1932 to 15.2 per cent in 1934. These data presented in table VI indicate little improvement in the average yielding ability of the groups of hybrids in the yield test since they were first entered.

Comparisons are possible between the average acre yield of the three groups of section entries for 1934 in table VII. The lowest average yield was produced by the group of open-pollinated strains in seven of the eight districts. The average of the open-pollinated group was lower than the average of the regular hybrids in each of the eight districts, and lower than the experimental hybrids in all excepting District 2. The mean yield of the regular hybrids was higher than that of the experimental hybrids four times and lower four times.

The lowest yielding entry, in each district, was an open-pollinated strain. The highest yielding entry, in four districts, was an experimental hybrid, and in the other four, a regular hybrid. The group of experimental hybrids are those which are not in commercial production. It is from this group that the corn breeders are hoping to select superior combinations to place into commercial production in the future. These data would indicate that the regular and experimental groups, as a whole, are about equal in ability to yield. Any introductions into commercial uses from the 1934 group of experimental entries should be made only after a most careful study of the individual record over a period of years.

TABLE VIII. THE CLASS WHICH HAD THE HIGHEST AND ALSO THE LOWEST YIELDING ENTRY IN EACH DISTRICT FOR 1934.

District	Class Having the Highest Yielding Entry	Class Having the Lowest Yielding Entry
1	Experimental Hybrid	Open-Pollinated
2	Experimental Hybrid	Open-Pollinated
3	Experimental Hybrid	Open-Pollinated
4	Regular Hybrid	Open-Pollinated
5	Regular Hybrid	Open-Pollinated
6	Regular Hybrid	Open-Pollinated
8	Regular Hybrid	Open-Pollinated
9	Experimental Hybrid	Open-Pollinated

The variation in yield of the hybrids is evidence that all hybrids are not high yielding. Buyers of hybrid seed should place confidence only in those hybrids which have been thoroughly tested and are being sold under a guarantee that the corn is identical in pedigree with that in the test.

One of the best ways of locating good hybrid seed is to purchase certified hybrids. To be certified a hybrid must have yielded at least 10 per cent more than the average of the open-pollinated strains for two out of the immediate past five years. In addition, it must have been equal in lodging resistance and have had a combined advantage of yield and lodging resistance of 25 per cent. The crossing field is inspected at the time of detasseling to make certain that the tassels are removed and that the field has sufficient isolation to prevent serious contamination. The seed itself must be of good quality and germinate not less than 90 per cent.

In order to further protect growers and users of hybrid seed corn, the Forty-fifth General Assembly passed the following hybrid seed corn law: AN ACT to prohibit the fraudulent advertising or selling of seed corn represented to be hybrid unless it represents the first generation of a cross

between strains of different parentage and involving inbred lines of corn or their combination and prescribing a penalty therefor.

Be It Enacted by the General Assembly of the State of Iowa:

Section 1. It shall be unlawful for any person, firm, corporation or its agents or representatives to sell, offer or expose for sale, or falsely mark or tag, with in the state of Iowa, any seed corn as hybrid unless it represents the first generation of a cross between strains of different parentage and involving inbred lines of corn and (or) their combinations.

Section 2. The cross mentioned above shall be produced by cross fertilization, controlled, either by hand or by detasseling at the proper time.

Section 3. Every violation of the provisions of this act shall be deemed a misdemeanor punishable by a fine of not more than one hundred dollars (\$100) or imprisonment for thirty (30) days in the county jail or both. The department of agriculture through its duly authorized agent or agents may institute proceedings in a court of competent jurisdiction to enforce this act.

### SEED TREATMENT

Seed of five replications of each entry in the regular division was treated with a commercial dust. The remaining replications were planted as received from the grower. It is possible therefore to make a comparison between that portion of the sample which was treated and that which was not. Table IX indicates that in each of 16 group comparisons the treated seed gave the highest percentage stand, with one exception.

In seven of the eight comparisons with hybrids the yields were higher

TABLE IX. AVERAGE YIELDS AND PERCENTAGE STAND OF UNTREATED AND TREATED ENTRIES OF OPEN-POLLINATED AND REGULAR HYBRIDS IN THE 1934 IOWA CORN YIELD TEST.

District	No. of Entries	Percentage Stand		Acre Yield in Bushels		
		Untreated	Treated	Untreated	Treated	Difference
Open-Pollinated Strains						
1	10	77.8	80.9	51.09	52.62	+1.53
2	8	89.7	90.1	72.54	70.32	-2.22
3	8	91.9	93.8	63.01	61.94	-1.07
4	12	91.4	91.7	51.10	52.07	+ .97
5	11	92.5	92.2	54.99	55.40	+ .41
6	7	90.8	93.3	69.57	72.48	+2.91
8	13	80.8	88.1	20.08	19.90	- .18
9	12	89.4	91.9	53.52	53.16	- .36
Average		88.0	90.3	54.49	54.74	+ .25
Regular Hybrids						
1	12	79.0	80.9	57.66	59.78	+2.12
2	13	89.6	90.4	72.60	72.35	- .25
3	12	90.4	92.7	73.94	75.88	+1.94
4	24	90.8	92.5	56.64	57.28	+ .64
5	23	91.9	94.2	62.02	63.99	+1.97
6	23	89.4	91.7	75.33	77.09	+1.76
8	16	79.2	87.0	28.73	29.25	+ .52
9	17	90.3	91.9	59.31	60.99	+1.68
Average		87.6	90.2	60.78	62.08	+1.30



when treated than when not treated. Four of the comparisons with open-pollinated strains gave the higher yield when the seed was treated while four of them gave a lower yield. Apparently the hybrids responded more favorably to seed treatment than did the open-pollinated strains. No explanation of this is offered, although it may indicate that the entrants of the open-pollinated strains used greater care in selecting the seed entered.

The field weights of the section entries were analyzed statistically. The effects of seed treatment, as pointed out in the paragraph on statistical analysis, were found to be not significant excepting in the case of the hybrids in the North Central and Southern Section.

It is apparent that the season of 1934 was not one in which seed treatment was particularly advantageous. Previous results have indicated that a cool, wet soil at planting time offers the best opportunity to take advantage of seed treatment.

than did those who supplied the hybrids. On the other hand it may mean that the hybrids as a group were more susceptible than were the open-pollinated strains to the attack of decay producing organisms.

### STATISTICAL ANALYSIS

One should consider the significance of the results obtained. Are the differences in yield due to the ability of the different strains and hybrid combinations to actually produce more bushels to the acre or are they due to chance? Does one hybrid have the ability to stand up better than another or is the difference caused by accidents of location and seed? Answers to these questions can be obtained by analyzing the data and determining their reliability. The manner in which the plots were arranged in the testing fields makes the data well adapted to a statistical analysis. An analysis has therefore been made of the variations obtained in field weight and in observations on ear height and lodging. In order that the performance of the same varieties on different fields might be studied, only section entries were included. They were analyzed as three separate groups; regular open-pollinated, regular hybrids, and experimental hybrids.

The degrees of freedom and mean squares for variety, seed treatment, and field, together with the interactions between these are given in tables X, XI and XII. The ratios between the mean squares of these sources of variation and experimental error have been determined, and those which were large enough to be either significant or highly significant according to the method of R. A. Fisher are so indicated.

### Field Weight

When the variation in field weights was analyzed that portion of the variation attributed to differences between varieties within the three classes of entries was highly significant in each of the three sections. This indicated that the differences obtained in field weights between the varieties was not because of sampling but rather because some strains and hybrid combinations had the ability to produce more pounds of corn than others.

It was previously pointed out that the seed of five of the ten replications in both of the regular classes was treated. This makes possible an analysis of the effect of seed treatment upon the field weights of ear corn. The variation attributed to seed treatment in the regular open-pollinated class was not significant in any of the three sections. The variation resulting from seed treatment in the regular hybrid class was highly significant in the North Central Section, significant in the Southern Section, and not significant in Northern Iowa. Just why there was a difference in the response to seed treatment in the different areas and by the different classes is not satisfactorily explained, unless it be

TABLE X. ANALYSIS OF VARIANCE OF THE FIELD WEIGHTS OF THE THREE GROUPS OF ENTRIES IN 1934

Source of Variation	Northern Section*		North Central Section		Southern Section	
	Degrees of Freedom	Mean Square	Degrees of Freedom	Mean Square	Degrees of Freedom	Mean Square
Regular—Open-Pollinated						
Variety .....	5	128.92**	5	67.15**	9	32.35**
Seed Treatment .....	1	8.54	1	7.85	1	.04
Field .....	2	1525.60**	2	3217.35**	1	12800.00**
Variety x Treatment	5	36.82**	5	9.26	9	9.58
Variety x Field .....	10	63.53**	10	3.10	9	10.97
Field x Treatment ..	2	23.85	2	24.76	1	4.81
Experimental Error..	130	10.46	130	8.54	153	9.46
Regular—Hybrids						
Variety .....	11	105.29**	22	200.70**	15	42.27**
Seed Treatment .....	1	23.92	1	138.20**	1	45.98*
Field .....	2	3652.60**	2	11417.70**	1	19376.87**
Variety x Treatment	11	11.83	22	6.12	15	7.33
Variety x Field .....	22	42.43**	44	36.50**	15	17.89
Field x Treatment ..	2	11.31	2	10.31	1	1.14
Experimental Error..	286	14.91	572	10.74	254	10.29
Experimental—Hybrids						
Variety .....	18	49.84**	28	139.87**	38	34.36**
Field .....	2	4392.04**	2	5914.89**	1	22970.88**
Variety x Field .....	36	44.29**	56	24.97**	38	28.80**
Experimental Error	204	12.65	324	11.62	296	13.65

\*Significant.

\*\*Highly significant.

assumed that the entire class of regular hybrids in the North Central and Southern Sections were more responsive to seed treatment than the hybrids in Northern Iowa or the open-pollinated strains in any of the three sections. This difference in response can hardly be attributed to varietal differences within the groups because no significant interaction between the varieties within a group and seed treatment was found excepting in the open-pollinated class in Northern Iowa. The lack of general response to seed treatment may be partly because of the comparatively warm, dry spring. It may also be due in part to the care exercised by the entrants when they selected the samples placed in the test.

The variation between fields was highly significant in each of the sections and with each of the three classes of entries. This might have been expected, as no effort was made to obtain fields of uniform productiveness in the different districts, but rather to obtain those with a fertility level equal to the area in which they were grown. This together with the climatic differences accounts for these variations.

The data indicate that in each of the three classes of Northern Iowa the varieties tended to yield in a different order on the different fields. This varietal response to field was also present in both hybrid classes of the North Central Section, and the experimental hybrids of Southern Iowa. The open-pollinated varieties in the North Central and Southern Sections together with the regular hybrids in the latter section tended to produce in the same rank in each of the fields.

### Lodging

The statistical analysis indicated that the variation in lodging between the hybrids within both classes in each section was highly significant.



In Southern Iowa only, did the open-pollinated varieties differ in ability to stand erect. In the Northern and North Central Sections the open-pollinated varieties seemed to be equal in lodging resistance.

In each class and section, excepting the open-pollinated group in Northern Iowa, there was a significant variation in lodging between fields. This no doubt was because of the different soil and climatic conditions.

In the North and North Central Sections both of the hybrid classes showed a significant variation in varietal response to lodging when

TABLE XI. ANALYSIS OF VARIANCE OF LODGING OF THE THREE GROUPS OF SECTION ENTRIES IN 1934.

Source of Variation	Northern Section		North Central Section		Southern Section	
	Degrees of Freedom	Mean Square	Degrees of Freedom	Mean Square	Degrees of Freedom	Mean Square
Regular—Open-Pollinated						
Variety .....	5	1.29	5	.44	9	.81**
Seed Treatment .....	1	1.09	1	.00	1	.50
Field .....	2	.04	2	2.91**	1	81.92**
Variety x Treatment .....	5	.40	5	.28	9	.23
Variety x Field .....	10	.21	10	.54	9	.32
Field x Treatment .....	2	.11	2	.15	1	.02
Experimental Error	130	.59	130	.45	153	.28
Regular—Hybrids						
Seed Treatment .....	1	.00	1	.42	1	.05
Seed Treatment .....	1	.40	1	.42	1	.05
Field .....	2	10.01**	2	15.77**	1	70.31**
Variety x Treatment .....	11	.22	22	.52	15	.19
Variety x Field .....	22	.96*	44	.50*	15	.25
Field x Treatment .....	2	.06	2	.16	1	.01
Experimental Error	286	.55	572	.42	254	.32
Experimental—Hybrids						
Variety .....	18	1.40**	28	1.92	38	1.33**
Field .....	2	8.64**	2	2.53**	1	20.31**
Variety x Field .....	36	.88*	56	.57*	38	.38
Experimental Error	204	.50	324	.40	296	.46

\*Significant.

\*\*Highly significant.

planted in the different fields. This is a rather peculiar situation, indicating that these classes of hybrids contained some combinations that would lodge to a relatively different degree when planted upon one field than when planted upon another.

Seed treatment had no influence upon lodging in any part of the experiment. Likewise there was no interaction between variety and seed treatment, nor between field and seed treatment as it affected lodging.

### Ear Height

The data indicated that the height at which the ear was borne on the stalk was a varietal characteristic. This was true whether the kind of corn was open-pollinated or a hybrid and whether it was grown in the Northern, North Central or Southern Section. In all cases, excepting in the open-pollinated class of the North Central Section, the variation in ear height between fields was sufficient to be highly significant. This variation was probably caused by the different levels of fertility of the different fields and the varying climatic conditions. In Northern Iowa the open-pollinated varieties and both classes of hybrids tended to bear

the ears high on the stalk in one field and relatively low in another. This was also true of the regular hybrids of North Central Iowa and the experimental hybrids of the Southern Section.

TABLE XII. ANALYSIS OF VARIANCE OF THE EAR HEIGHT OF THE THREE GROUPS OF SECTION ENTRIES IN 1934.

Source of Variation	Northern Section		North Central Section		Southern Section	
	Degrees of Freedom	Mean Square	Degrees of Freedom	Mean Square	Degrees of Freedom	Mean Square
Regular—Open-Pollinated						
Variety .....	5	3.38**	5	1.34**	9	.71**
Seed Treatment .....	1	.05	1	.02	1	.01
Field .....	2	3.36**	2	.24	1	2.65**
Variety x Treatment	5	.28	5	.21	9	.26
Variety x Field .....	10	1.39	10	.34	9	.21
Field x Treatment .....	2	.80	2	.01	1	.13
Experimental Error	130	.37	130	.28	153	.20
Regular—Hybrids						
Variety .....	11	1.71**	22	4.36**	15	.87**
Seed Treatment .....	1	.18	1	.02	1	.01
Field .....	2	12.05**	2	6.66**	1	10.51**
Variety x Treatment	11	.21	22	.21	15	.26
Variety x Field .....	22	.96**	44	.32*	15	.24
Field x Treatment .....	2	.02	2	.18	1	.00
Experimental Error	286	.38	572	.25	254	.23
Experimental—Hybrids						
Variety .....	18	1.88**	28	3.14**	38	.86**
Field .....	2	4.89**	2	1.70**	1	83.08**
Variety x Field	36	.54**	56	.27	38	.45**
Experimental Error	204	.28	324	.28	296	.11

\*Significant.

\*\*Highly significant.

### PREMIUMS FOR 1934 TEST

- (1) The following premiums apply only to the Regular Division.
- (2) The Banner Trophy is awarded annually by Raymond A. Pearson, ex-president of Iowa State College, to the Iowa grower whose entry produces the highest percentage above the average yield of the upper two-thirds of all entries in its class in the three districts of any section. Thus the highest yielding section entries of the two classes compete for the Banner Trophy. Only section entries are eligible.
- (3) A gold medal will be awarded in each section to the entrant in each class whose corn produces the highest average yield for the three districts. Only section entries are eligible.
- (4) In each district the Association will award a bronze medal for the highest yielding corn in each class entered by a grower residing in the district where the test was made, provided the entry ranks in the upper third.
- (5) The highest yielding third of both classes in each district will receive suitable ribbons from the Association.

### PLAN FOR 1935

The plan for the 1935 Iowa Corn Yield Test will be completed and mailed to those interested after the Annual Farm and Home Week.



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