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Illinòis (HYBRID **CORN** TESTS 1945

Bulletin 517

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CONTENTS

Location of 1945 test

fields

PLAN OF TESTS, WEATHER, INSECT PESTS,	PAGE
DISEASE DAMAGE2	27-233
MEASURING PERFORMANCE	33-235
RESULTS OF TESTS (Tables 4-23)	
Northern Illinois: Kings and Mt. Morris	36-237
West North-Central: Galesburg	38-239
East North-Central: Sheldon and Milford	40-241
Corn Borer Damage: Sheldon and Milford	41-242
Southern Corn Rootworm: Sheldon	243
South-Central: Sullivan	44-245
Southern : Alhambra	46-247
Extreme Southern: Dixon Springs	48-250
Soil Adaptation Test: Urbana2	50-252
SUMMARY	52-253
PEDIGREES, CONTRIBUTORS, INDEX	54-256

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Urbana, Illinois

February, 1946

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ILLINOIS HYBRID CORN TESTS 1945

By G. H. DUNGAN, J. H. BIGGER, A. L. LANG, BENJAMIN KOEHLER, and R. W. JUGENHEIMER¹

ORE THAN HALF of the major corn-producing acreage in Illinois in the past eight years has been planted to hybrid seed. The average yield for this period (1938-1945) was 48.5² bushels an acre. The average for the previous eight years (1930-1937), when little hybrid corn was grown, was 32.9 bushels.

In 1945 the corn acreage in 47 Illinois counties was planted entirely to hybrids. In the state as a whole 97.6 percent was planted to hybrids, an all-time high. In spite of many unfavorable growing conditions, the average corn yield for the state was 46.5 bushels to the acre.

PLAN OF THE TESTS

Number of hybrids and their sources. Two hundred seventy hybrids were grown in Illinois on seven regular test fields and on three special test fields. Forty companies and individuals, and the Kansas and Wisconsin Agricultural Experiment Stations, as well as the Illinois Station, furnished the seed for the tests (*see page 254*).

Seventy-two hybrids were tested on each of the fields except at the Dixon Springs Experiment Station, where 60 entries were planted on the bottomland and 14 on the upland field.

A representative of the Illinois Station took most of the seed for planting the test fields directly from the warehouses of the producers entering the corn. A few producers delivered small quantities to the Station. Seed of Illinois and United States hybrids in commercial production was obtained from the Illinois Crop Improvement Association. Seed of Kansas, Wisconsin, and Illinois hybrids not in commercial production was furnished by the respective experiment stations.

Most of the hybrids selected for testing are extensively grown in the state. Some experimental hybrids were included because they had shown promise for commercial production in preliminary tests. A few hybrids were put in the tests mainly to meet the field-performance requirement for certification.

¹G. H. DUNGAN, Chief in Crop Production, A. L. LANG, Associate Chief in Soil Experiment Fields, BENJAMIN KOEHLER, Chief in Crop Pathology, R. W. JUGENHEIMER, Associate Chief in Plant Genetics, Illinois Agricultural Experiment Station, J. H. BIGGER, Associate Entomologist, Illinois State Natural History Survey. ² Estimates for the acreage of hybrid corn and the average yield for the state were

² Estimates for the acreage of hybrid corn and the average yield for the state were furnished by the ILLINOIS COOPERATIVE CROP REPORTING SERVICE, Illinois State Department of Agriculture cooperating with the U. S. Department of Agriculture.

[February,

Field	County and loca-	Num ber	- Date planted	Date harvested		erage yield	Average mois- ture in	Average
	tion in state of entries			narvesteu	Total	Sound	grain	plants
					bu.	bu.	perct.	perct.
Kings	Ogle (N)		May 28	Nov. 20	62.8	62.4	31.3	72.0
Galesburg			May 29	Nov. 16	64.5	64.2	22.7	24.1
Sheldon			May 25	Nov. 8	76.1	75.4	22.8	42.1
Sullivan	Moultrie (SC)	72	May 24	Nov. 13	91.7	90.5	19.7	75.0
Alhambra Robbs (Dixon Sp.)		72	July 6	Oct. 12	26.2	••••	63.5	37.7
	Bottomland	60	May 26	Nov. 1, 2	47.3	46.6	24.6	65.0
	Upland		May 26	Nov. 1	52.3	51.6	21.7	88.0

Table 1.—GENERAL INFORMATION: Illinois Cooperative Hybrid Corn Tests, 1945

COOPERATORS: ELMER HAYES, Ogle county; EARL and WEBSTER GEHRING, Knox county; JOHN B. RICE AND SON, Iroquois county; R. B. VANDEVEER, Farm Manager, Illinois Masonic Home Farm, Moultrie county. The Alhambra field in Madison county is conducted by the Illinois Station. The Pope county field at Robbs is part of the Dixon Springs Experiment Station, of which R. J. WEBB is superintendent.

Soil characteristics of fields. The test fields were medium to high in productivity and each represents a soil type common to the region where it is located. Each field was selected carefully for uniformity in soil type, productivity, and drainage. The field on the bottomland at Dixon Springs Experiment Station at Robbs was the most variable in productivity. The Alhambra field contained a number of "slick spots."

In 1945 the northern field was changed from Mt. Morris to Kings, the east north-central field from Milford to Sheldon. The other tests were conducted on the same farms as in 1944. The approximate locations of the test fields are shown on the map on the inside front cover. General information on soil characteristics and soil management is given in Table 2.

Method of planting. All test plots were planted by hand on land prepared in the regular way for corn. Each plot consisted of 2 rows 10 hills long. Three kernels were dropped in each hill except on the fields at Dixon Springs, where only 2 kernels were planted. Six plots of each entry were planted in controlled random order on each field. Data from all plots were included in the results except as indicated in the tables. The only correction for imperfect stand was an adjustment for missing hills.

WEATHER CONDITIONS

Wet weather delayed corn planting beyond the usual date in all sections of the state. Water on newly planted fields in southern Illinois destroyed stands in general, making replanting of many fields necessary.

Second planting of the Alhambra field was delayed by continued rains until July 6. Corn on the bottomland field at the Dixon Springs Experiment Station was not planted again, altho about half the plots were drowned out by high water in early June. 1946]

Table 2-TESTING FIELDS: Soil Characteristics

		Managem		ices
Soil type	Lime require- ment	Available phosphorus	Available potassium	Previous crops and soil management
		Northern	: Kings	
Tama silt loam	tons 2	Low	High	Alfalfa sod.
	We	st north-cent	ral: Galesbu	rg
Muscatine silt loam	2	Low	Medium +	Clover 1941; corn 1942, 1943; oats- clover seeding in manure 1944. Limed in 1942.
	E	ast north-cen	tral: Sheldon	n
Lisbon silt loam	1	High	Medium +	Alfalfa 1942, 1943; corn in 1944. Limed in 1930; ½ ton phosphate 1938; 125 lbs. potash 1944.
		South-centra	l: Sullivan	
Flanagan silt loam	0	High	Medium	Oats 1940; alfalfa 1941, 1942, 1943; corn 1944.
		Southern:	Alhambra	
Putnam silt loam	None	High	Low	Timothy sod for past four years. Limed and phosphated.
	Extreme	southern: Re	bbs (Dixon	Springs)
Upland field: Ava silt loam	None	Low -	Medium	Soybeans 1942; small grain 1943; clo- ver 1944. Limed and phosphated.
Bottomland field: Bonnie silt loam	2	High	Very low	Corn, rye catch crop 1944. Manured in 1944.

R. S. SMITH, Chief in Soil Physics and Soil Survey, and HERMAN WASCHER, Associate Chief in Soil Survey, have approved the soil-type designations, uniformity, and physical characteristics of the above fields.

Plentiful supply of moisture favored plant growth and grain formation in all sections of the state except the west north-central, where drouth was severe during July and August. Frequent rains during the summer were especially helpful to the corn on the upland field at Dixon Springs.

Temperatures were generally below average thruout the state. As a result, plant development was slow. Because of late planting and the cool season, the crop had an unusually high moisture content at the normal harvest time. The moisture content delayed harvest beyond the usual date.

Local windstorms during early fall caused greater lodging than usual, especially in the west north-central and east north-central sections of the state.

The effect of unfavorable conditions on yield, moisture content, and percentage of erect plants is summarized in Table 1.

[February,

INSECT PESTS

Southern corn rootworm. The ability of corn hybrids to withstand conditions causing lodging or to recover from lodging received considerable attention in 1945, especially thruout an area in northern Illinois which suffered windstorm damage in the latter half of the season. Severe lodging occurred on the hybrid corn test fields at Galesburg and Sheldon.

Examination of the root systems of plants in the field at Sheldon showed they had been damaged by the southern corn rootworm, *Diabrotica duodecimpunctata* (F.). The damage was partly responsible for lodging on that field. No evidence of feeding by this insect was found at Galesburg. At Sheldon 5.5 to 83.3 percent of the plants of the different hybrids lodged 30 degrees or more as a result of root damage. Complete records for the field are shown in Table 13 on page 243.

European corn borer. The cool, wet weather of May retarded the development of the European corn borer, *Pyrausta nubilalis* (Hbn.). The same conditions delayed corn planting even more than they retarded the development of the borer. As a result, the corn was so small when the borer eggs were deposited and the larvae hatched that few borers survived. Consequently, early in the season the corn suffered only slight damage. Later, however, conditions were more favorable to the borer in much of the northern half of the state, and second-generation borers developed in such numbers that the final infestation in the fall of 1945 was greater than in the fall of 1944.

The only hybrid-corn test field that suffered from the corn borer was the Sheldon field. Breakage on this field due to borer attack is shown in Table 11, pages 241 and 242. Here 25.0 to 71.6 percent of the plants of the different hybrids were broken below the ear. Almost half the plants (49.8 percent) were broken at a point of borer injury. A three-year summary of corn borer damage in the east north-central field is given in Table 12, page 242.

Relation of rootworm and borer damage to yields. To evaluate rootworm lodging and borer breakage and their relation to yields is difficult. This is especially true in a period when weather conditions are also conducive to lodging. Both lodging and breakage at Sheldon were undoubtedly greater than they would have been had the windstorm not occurred. The consequences of the storm raise two questions: (1) Did the wind cause plants of some hybrids to break instead of lodge and those of others to lodge instead of break? (2) How much had heavy ears or ears high on the stalk to do with lodging and breaking? Evidence in the records supports the opinion that all these things were involved.

. The few hybrids which did not lodge, which showed little breakage

from borer damage, and which also yielded better than average may well be considered to have superior ability to produce and to stand up under adverse conditions.

Chinch bugs, northern corn rootworm, and corn earworm. A small area in north-central Illinois suffered some losses from attacks by the chinch bug, *Blissus leucopterus* (Say). The northern corn rootworm, *Diabrotica longicornis* (Say), has been increasing during recent years, but its effect upon the crop was not of great importance in 1945. Corn earworm, *Heliothis armigera* (Hbm.), was not abundant. Other insects attracted little attention.

DISEASE DAMAGE¹

Seedling diseases and seed treatments. Corn planted at the normal time suffered severely from seedling diseases in 1945. The damage was brought about by the unusually cold weather thruout most of May. Seed treatment was a great help to both stands and yields of corn, and it was fortunate that nearly all the seed corn sold to Illinois farmers had been treated.

A seed-treatment test, similar to the test reported for 1944, was conducted with 18 commercial hybrids on the University south farm at Urbana. The seed was planted May 12. The plants did not appear until 14 days later. The average increase in stand from seed treatment was 9.6 percent, the average increase in yield 8.7 bushels. Increases in yield varied from 1.7 to 24.1 bushels (Table 3). Most of these differences were significant since they were above 2.9 bushels.

The poorer the stand without seed treatment, the greater were the increases in yield from seed treatment (correlation coefficient .634). Among the factors known to cause differences in stand are: (1) the ability of the plant to grow at low temperatures, (2) susceptibility to disease, and (3) vitality. These three factors are somewhat interrelated. Inbred lines and their crosses are known to differ in their ability to grow at low temperatures and in their susceptibility to seedling diseases, but differences in vitality are governed more by nongenetic factors than by genetic factors. Therefore, the differences which the hybrids in this test showed in their response to seed treatments are not entirely, tho they may be partly, due to their genetic nature. There is no doubt that the poorer the vitality of corn plants, the greater the need for seed treatment.

Stalk rot diseases. The season was favorable for Diplodia stalk rot, but, owing to the greater use of resistant hybrids. losses were for

¹Estimates on percentage losses from diseases are based to a large extent on survey data obtained by G. H. BOEWE, Illinois State Natural History Survey.

1946]

Rank ba		Increase	Total ad	re-yield	Field	stand	Mois-	Ennet
on yiel rom trea seed	ted Entry=	in yield · from treatment	Treated	Un- treated	Treated	Un- treated	ture in grain at harvest	Erect
		bn.	bu.	bu.	perci.	perct.	perci.	perci.
1	Illinois 804	. 6.9	99.4	92.5	71.5	67.1	22.3	56.7
2	Illinois 206	. 2.8	97.7	94.9	70.0	61.7	19.7	80.6
3	Illinois 2184(W)	. 3.3	97.1	93.8	77.3	68.3	19.8	59.1
4	Illinois 784	. 1.7	96.0	94.3	73.1	69.0	22.9	59.3
5	Illinois 2019(W)	. 5.2	94.8	89.6	74.6	67.2	19.5	71.2
6	Illinois 273	. 3.8	93.2	89.4	75.6	69.2	18.7	78.7
7	Illinois 972	. 12.6	92.0	79.4	73.3	60.1	20.2	71.5
8	Illinois 200	. 5.6	91.5	85.9	73.1	65.4	19.1	73.6
9	Illinois 960	. 4.5	90.0	85.5	67.3	55.6	20.1	53.9
10	Illinois 751	. 8.5	88.6	80.1	74.0	57.3	19.5	83.8
11	Illinois 201	. 11.4	88.5	77.1	77.0	59.0	18.9	74.9
12	U. S. 13	. 9.1	87.8	78.7	73.3	68.1	19.9	78.8
13	Illinois 448	. 24.1	86.8	62.7	70.0	52.5	22.5	66.9
14	Illinois 101	. 9.1	85.7	76.6	69.0	61.7	18.7	73.5
15	Illinois 2059(W)	. 17.0	85.5	68.5	72.1	58.5	19.1	66.9
16	1llinois 246	. 13.9	81.4	67.5	69.4	66.5	20.4	80.3
17	Illinois 21	. 7.4	80.5	73.1	73.5	67.1	19.8	82.7
18	U. S. 35	. 8.8	80.4	71.6	75.2	61.9	19.2	80.0
	Average of all entries	. 8.7	89.8	81.1	72.7	63.1	20.0	71.8
	Increase or difference needed for significance	. 2.9	8.6	8.6				

 Table 3.—RESPONSE TO SEED TREATMENT: Arasan Applied at Rate of One Ounce per Bushel of Seed, Urbana, 1945

* For pedigrees see Table 4. There were eight replicated plots of each hybrid.

the most part only moderate. The estimated losses in yield were 3.7 percent from Diplodia, .8 percent from Gibberella, and 1.0 from unidentified causes. There was an unusual number of broken stalks in many fields; stalk rot was responsible for some of the breakage but not for all of it.

Smut. Losses from smut were low, about .8 percent.

Rust. Rust is usually of very minor importance in field corn, but it was more prevalent than usual in 1945. Yields were estimated to have been lowered 1.0 percent by rust.

Ear rots. Nigrospora, usually of small importance, was the most prevalent ear rot in 1945. In some parts of the state it was most damaging to the late-planted corn that was caught by frost. It also occurred more than usual in many early fields. Nigrospora makes the cobs fragile. Part of the loss from it comes during husking, when the cobs are apt to break. Broken cobs mean corn wasted on the ground.

Gibberella ear rot was also more prevalent than usual. Even so, the estimated damage from Gibberella was only .5 percent. In some areas, however, damage may have been bad enough to cause trouble since only a small amount of Gibberella corn makes feed unpalatable to hogs. Losses from *Fusarium moniliforme* and *Diplodia zeae*, which are ordinarily the most damaging, were very low.

A test at Urbana, similar to that reported in 1944, again showed the white hybrids and Illinois 960 and U. S. 35 topping the list of rotresistant hybrids (Table 4). The fact that these hybrids ranked high

			Rot da	mage	Exposed
Raı	nk Entry ^a	Pedigree of entry	1944- 1945 average	1945	- ear tips Sept. 10-11, 1945
			perci.	perct.	perct.
1	Illinois 2184(W)	$(K6 \times K64)$ (33-16 × CI.61)		1.18	17.6
2	Illinois 2019B(W)	$(Ky27 \times CI.61) (R30 \times 33-16) \dots$		1.19	14.8
3	Illinois 960	$(R4 \times Hy) (701 \times L317) \dots$	2.44	1.48	20.2
4	Illinois 2059(W)	$(Ky27 \times CI.61) (33-16 \times K6) \dots$	2.53	1.68	15.2
5	U. S. 35	$(WF9 \times 38-11)$ $(R4 \times Hy)$	3.03	2.34	23.7
6	Illinois 751	$(A \times 90) (WF9 \times Hy) \dots$	3.35	1.97	28.2
7	Illinois 200	$(WF9 \times 38-11)$ $(K4 \times L317)$	3.66	2.51	33.0
8	Illinois 21	(WF9 × 38-11) (Hy × 187-2)	3.82	2.49	28.7
9	Illinois 972	$(WF9 \times Hy) (701 \times L317) \dots$	3.87	2.41	32.7
10	Illinois 273-1	$(WF9 \times 38-11)$ (187-2 × 07)	4.15	3.94	45.6
11	Illinois 448	$(38-11 \times \text{Kys})$ (K4 × L317)	4.16	2.01	27.9
12	Illinois 804	$(5120 \times 38-11)$ (K4 \times L317)	4.29	2.38	23.4
13	Illinois 201	$(WF9 \times 38-11)$ (187-2 \times L317)	4.31	3.55	42.1
14	Illinois 246	$(WF9 \times Hy) (187-2 \times L317) \dots$	4.40	3.37	38.3
15	U. S. 13	$(Hy \times L317)$ (WF9 \times 38-11)	4.69	2.82	35.7
16	Illinois 206	$(WF9 \times 38-11) (5120 \times L317) \dots \dots$	4.83	3.15	44.7
17	Illinois 784	$(Hy \times 5120) (K4 \times L317)$	4.86	1.99	22.8
18	Illinois 101	$(WF9 \times M14) (CC7 \times 187-2) \dots$	4.98	5.84	49.3
		ficance	1.76	1.83	

Table 4.—DAMAGE FROM KERNEL ROT: Figures Are Based on Examination of Shelled Corn, Urbana, 1944 and 1945

There were eight 40-hill plots of each hybrid each year. All the ears of each plot were shelled and a representative sample taken with a special sampling device.

both in 1944 when Diplodia was prevalent and in 1945 when Nigrospora was important is of considerable interest. It should not be concluded, however, that all white corn has superior resistance to ear rots, but the fact that some of these white hybrids have superior ear-rot resistance is of importance. No doubt some other white hybrids are just as good or better.

The last column in Table 4 gives the percentage of ears that had exposed ear tips because of poor husk protection. The correlation coefficient between ear-rot damage in 1945 and exposed ear tips, .908, is highly significant. Extensive data obtained during the past four years leave no doubt that ears which are well covered by husks are more likely to escape ear rots.

MEASURING PERFORMANCE

The entries in the 1945 test are listed in the tables in the order of their total yields, except at Alhambra where, because of extremely late planting, they are listed in the order of the moisture content of the grain. Two or more entries having the same total yield are given the same rating, but the one having the higher yield of sound corn is placed first. Those having the same total yield and sound yield are placed in order by percentage of erect plants.

Erect plants. The percentage of erect plants in each plot of each entry on each field was estimated at the time of harvest. The ratings for

erect plants show how the percentage of erect plants for each hybrid compared with the percentage of erect plants on the field as a whole. (Each rating is obtained by dividing the percentage of erect plants for that hybrid by the percentage of erect plants on the field as a whole and multiplying by 100.)

Lodging may have been due to rootworm damage, weak or rotted roots, corn borer damage, stalk rots, or weak stalks. Stalks broken above the ear were not considered lodged.

Yield of grain. To determine shelling percentage, all the ears from one replicate of each entry were shelled. Because of the high moisture content of the ears, the samples on the Kings field did not shell well. Therefore, instead of using the shelled weights for determining shelling percentage, a uniform figure of 78 percent was used for all entries.

From the shelled corn one sample was taken to determine the percentage of moisture at harvest¹ and another to determine the percentage of damaged kernels. The percentage of damaged corn was determined according to the federal grain standards.

The total acre-yield was calculated as shelled corn containing 15.5 percent moisture, the upper limit allowable in No. 2 corn. The yield of sound corn was computed by deducting the amount of damaged corn from the total yield.

The rating of any hybrid for sound yield is the ratio, expressed as percentage, of the yield of sound corn from that hybrid to the average yield of sound corn from all the hybrids on the field.

Height of ear. Notes on comparative height of ear were taken at harvest time.² Each plot of each entry was placed in one of the five following categories: *low, mid-low* (midway between low and medium), *medium, mid-high* (midway between medium and high), and *high*. Beginning with *low* and continuing progressively to *high*, these terms were assigned numerical values from 1 to 5 to permit the averaging of the plots.

Maturity of late-planted corn. When it became necessary to make the second planting on the Alhambra field as late as July 6, interest in the test shifted from yield of grain to the capacity of the entries to reach maturity. Accordingly, notes on plant development were taken on October 12, which was just a few days ahead of the average date of the first killing frost. A light frost had killed a few blades on some of the plants.

¹All moisture determinations were made with a Steinlite moisture tester except for a few samples from Dixon Springs and all samples from the Kings and Alhambra fields, which were made with an electric oven.

² Height-of-ear notes were taken at the Alhambra field on October 12, which was in advance of harvest.

Each plot of each entry was placed in one of the following categories based on blade color: brown (most mature), $\frac{2}{3}$ brown, $\frac{1}{3}$ brown, green, and very green (least mature). Six average ears were taken from one plot of each entry and from these ears grain was taken for a moisture test. After these ears had become air-dry, 100 kernels were taken and weighed. These data are presented for what they may indicate about earliness. While some hybrids are inherently large-kerneled and some are small-kerneled, yet in the early stages of grain development the size of the kernel reflects the progress that has been made toward maturity. The data shown in Table 16 (page 246) may help farmers choose a hybrid corn for late planting.

Significance of yield differences. Too much confidence must not be placed in the particular ranking of a hybrid in the following tables, for chance has played a part in determining its position. Unaccountable variability in the soil and conditions on the field will cause differences in yield that are not inherent in the hybrids themselves.

The part played by chance in the 1945 tests has been calculated for total yield by the mathematical procedure known as "analysis of variance." At the bottom of each table is stated the approximate difference which there must be between any two entries in order for them to show a true inherent difference. Unless two hybrids differ by at least this amount, there is no assurance that one hybrid is inherently higher yielding than the other.

Readers are urged to note the difference necessary for significance, as shown for each test field, and to keep that difference constantly in mind in all comparisons of hybrids on that field.

1946]

Table 5.-NORTHERN ILLINOIS: Kings, 1945

		A	, wheth	Damaged	Mois-		Ratin	g for	Compara-
Rai	1k Entry		e-yield	corn in shelled	ture in grain at	Erect		Sound	- tive
		Total	Sound	sample	harvest	plants	plants	yield	height of ear
		bu.	bu.	perci.	perci.	perct.	perct.	perct.	
1	Pfister 366A		74.2	.0	27.3	62	86.1	118.9	Medium
2	Nichols N-400	71.7	71.4	.4	30.0	74	102.8	114.4	Medium
3 4	Nichols N-75 Doubet D-1	71.3	$71.2 \\ 70.4$.2 .4	29.1 28.6	71 73	98.6 101.4	$114.1 \\ 112.8$	Medium Medium
5	Pioneer 330. Pioneer 343.	68.3	67.8	.7	31.8	87	120.8	108.6	Medium
6	Pioneer 343	68.2	67.9 67.7	.5	$\frac{32.3}{28.2}$	81 70	112.5	$108.8 \\ 108.4$	Medium
8	Pfister 4897 Sieben S-450	67.8	67.7	.3	26.3	64	97.2 88.9	108.4	M-high Medium
9	Sieben S-450. Pioneer 341.	67.7	67.6	.1	29.7	75	104.2	108.1	Medium
10 11	Funk G-114	67.5	$67.4 \\ 67.2$.3	28.6 29.1	81 63	112.5 87.5	108.0 107.6	Medium Medium
12	Funk G-114 Furr 67A Blackhawk 98A DeKalb 615	67.3	67.2	.1	29.9	61	84.7	107.6	Medium
13 14			66.9 66.5	.5 .3	28.9 30.0	70 68	$97.2 \\ 94.4$	107.2 106.5	M-high Medium
15	Huebsch 25. Pioneer 340 Lowe 19.	66.5	66.4	.2	27.1	66	91.7	106.4	Medium
16	Pioneer 340	66.4	66.0	.6	32.5	78	108.3	105.7	M-high
17 18	Farmcraft 42	66.1	66.0 66.0	.5	32.6 33.9	64 66	88.9 91.7	105.7 105.7	M-high Medium
19	Pioneer 353A Producers' 1015	66.0	65.9	.1	24.2	64	88.9	105.6	M-high
20 21	Producers' 1015 DeKalb 458	65.8	65.7 65.6	.2	27.9 30.6	73 64	101.4 88.9	105.2 105.1	Medium Medium
21	Pfister 200	65.7	65.2	.7	31.7	77	107.0	104.4	Medium
23	Illinois 269. Illinois 1240-1	65.6	65.5	. 2	31.4	68	94.4	104.9	M-high
23 25	Illinois 1240-1	05.0 65.4	$65.4 \\ 65.1$.3 .5	$32.4 \\ 32.8$	67 55	$93.1 \\ 76.4$	$104.8 \\ 104.3$	Medium M-high
26	Stiegelmeier S-360 Illinois 1180	65.2	65.1	. 2	28.4	70	97.2	104.3	Medium
27 27	Wisconsin 692	65.1	65.0 64.1	.2 1.5	$34.9 \\ 34.0$	79 67	109.7 93.1	$104.1 \\ 102.7$	M-high Medium
29	Wisconsin 692. Doubet D-25. Frey 425.	64.9	64.2	1.0	32.7	74	102.8	102.8	Medium
30	FIE9 #23 Illinois 751 Crow 514(W) Illinois 1260 Nichols 5A Pioneer 322	64.8	64.6	.3	32.7	70	97.2	103.5	Medium
31 32	Crow 514(W)	04.7 64.6	$64.6 \\ 64.5$.2	$29.2 \\ 27.8$	59 77	82.0 107.0	$103.5 \\ 103.3$	High Medium
33	Nichols 5A	64.3	64.0	. 5	31.5	75	104.2	102.5	Medium
34	Pioneer 322	64.2	64.2 64.1	.0 .2	$29.7 \\ 27.4$	75 68	$\begin{array}{r}104.2\\94.4\end{array}$	$102.8 \\ 102.7$	M-high Medium
34 36	Ferris F-11 Producers' 1010	63.7	63.5	.3	31.5	78	108.3	102.7	M-high
37	Producers' 1010 Illinois 1091A	63.4	63.2	. 3	32.2	72	100.0	101.2	Medium
37 39	National 114-1 Pfister 50A Funk G-29	63 2	62.8 62.9	1.0	$34.5 \\ 25.8$	82 64	114.0 88.9	100.6 100.8	M-high Medium
39	Funk G-29.	63.2	62.6	1.0	34.2	83	115.3	100.3	Medium
39	National 114	63.2	$62.2 \\ 62.5$	1.6 .4	29.2 31.7	69 68	$95.8 \\ 94.4$	99.6 100.1	M-high Medium
42 43	Furr 66A Blackhawk 72A	62.4	62.3	.1	27.3	73	101.4	99.8	Medium
43	Producers' 909. DeKalb 404A. Moews 550.	62.4	60.6	2.8	37.1	84	116.7	97.1	High
45 46	DeKalb 404A Moews 550	62.3	62.3 61.5	.0 1.1	$29.2 \\ 32.3$	72 80	100.0	99.8 98.5	Medium M-high
47	Frey 410	62.1	61.8	.4	30.9	68	94.4	99.0	Medium
47 49	National 118-1	62.1	$61.5 \\ 61.4$.9 .6	32.3 35.5	74 89	102.8 123.6	$\frac{98.5}{98.4}$	M-high Medium
49 49	Sieben S-350	61.8	59.4	3.8	41.0	75	104.2	95.2	M-high
51	Noews 530 Frey 410 National 118-1 Funk G-116 Sieben S-350 Morgan M-105	61.0	60.6	.6	34.2	77	107.0	97.1	Medium
52 53			$\frac{60.8}{59.4}$.2 2.2	$30.4 \\ 32.4$	80 64	111.1 88.9	$97.4 \\ 95.2$	Medium Medium
54	DeKalb 609. Stiegelmeier S-379. Moews 14. Crow 360.	60.4	60.3	. 2	33.4	73	101.4	96.6	M-high
55 56	Moews 14	60.3	$\frac{60.0}{59.7}$.4	29.7 32.9	76 63	105.6 87.5	96.1 95.6	Medium M-high
57	Lowe 15	59.2	59.0	.3	30.7	63	87.5	94.5	Medium
58	DeKalb 422. DeKalb 450.	58.6	58.4	.4	33.9	67	93.1	93.6	Medium
59 60	Ward 115A	58.4	$57.3 \\ 58.2$	1.9	$\frac{36.7}{29.9}$	79 70	109.7 97.2	91.8 93.2	Medium Medium
61	Ward 115A Holmes Utility 96 Hoosier Crost F-138	58.2	57.8	.7	34.8	71	98.6	92.6	M-high
62 63			56.8 56.9	.8 .2	31.9 30.6	65 73	90.3 101.4	91.0 91.2	Medium Medium
64	Lowe 6(W)	56.4	56.2	.4	26.4	54	75.0	90.0	M-high
65	Crow 432	56.0	55.6	.7	32.7	77	107.0	89.1	Medium
66 675	Iowealth 25	55.4 53.8	55.2 53.7	.3 .2	37.5 32.6	70 74	97.2 102.8	88.4 86.0	High M-high
68	Funk G-51.	52.4	52.1	. 5	36.4	75	104.2	83.5	Medium
69	Hoosier Crost 405	51.9	51.7	. 3	33.1	74	102.8	82.8	Medium M bigh
70 71	Holmes Utility 49	51.8	51.3 50.0	$1.0 \\ 1.1$	37.6 33.5	80 86	111.1 119.4	82.2 80.1	M-high M-high
72	Producers 1020. Lowe 6(W). Crow 432 Iowealth 25. Iowealth QAQ. Funk G-51. Hoosier Crost 405 Pfister 281 Holmes Utility 49. Ward 115(W).	46.8	46.4	.9	25.5	62	86.1	74.3	M-high
	Average of all entries	62.8	62.4	.6	31.3	72			
	t Data and success of only 5 plate in		5.4				_		

⁵ Data are averages of only 5 plots instead of 6.

A difference of less than 4.4 bushels between total yields of any two entries in this table is not significant.

	- L Fritan	Acre	e-yield	Damaged corn in	1 Mois- ture in	Erect	Ratin	ig for—	Compara-
Ra	nk Entry	Total	Sound	shelled sample	grain at harvest	plants	Erect plants	Sound yield	height of ear
		bu.	bu.	perct.	perct.	perct.	perct.	perct.	
1	Nichols 5A	84.3	83.8	. 5	26.7	90.1	100.3	107.7	Medium
2	Pfister 4897	83.7	83.5	.2	24.3	88.2	98.2	107.3	Medium
3	DeKalb 458		81.9	. 1	25.9	86.5	96.3	105.3	Medium
4	Funk G-114		81.4	. 3	26.8	91.2	101.6	104.6	Medium
4	DeKalb 615		81.3	.5	25.2	87.5	97.4	104.5	Medium
6	Pfister 366		81.4	.3	26.9	86.1	95.9	104.6	M-high
7	Illinois 751		81.0	.2	27.5	89.3	99.4	104.1	Medium
8	Pioneer 341		80.7	.3	25.9	90.5	100.8	103.7	Medium
.9	Farmcraft 42	80.6	79.9	.8	28.4	87.0	96.9	102.7	Medium
10	Pioneer 330	80.3	79.8	.6	26.6	94.3	105.0	102.6	Medium
11	Pioneer 340	79.4	79.1	.4	26.7	91.1	101.4	101.7	Medium
11	Producers' 1010	79.4	79.1	.4	27.1	90.3	100.6	101.7	Medium
13	Doubet D-1	79.1	78.9	. 3	26.0	89.2	99.3	101.4	Medium
14	Nichols 202A		78.6	. 2	25.5	88.3	98.3	101.0	Medium
15	Illinois 1180		78.4	.2	24.8	88.5	98.6	100.8	Medium
16	Pioneer 322	78.2	77.4	.9	24.7	90.4	100.7	99.5	Medium
17	Producers' 909	77.7	76.6	1.6	30.5	93.4	104.0	98.5	M-high
18	DeKalb 422	77.5	77.3	.3	27.6	86.3	96.1	99.4	Medium
19 20	Pioneer 353A	77.3	77.1	.1	22.8	86.2	96.0	99.1	M-high
20	Hoosier Crost F-138	77.2	76.4	1.0	29.6	84.2	93.8	98.2	Medium
21	Illinois 101	77.0	76.8	.3	25.9	90.8	101.1	98.7	Medium
21	Funk G-29	77.0	76.4	.8	29.9	92.3	102.8	98.2	M-low
23	Crow 360		76.5	.4	28.3	84.7	94.3	98.3	M-high
24	DeKalb 404A	76.4	76.2	.2	26.1	87.8	97.8	97.9	Medium
25	DeKalb 450	76.1	75.5	.9	29.0	91.5	101.9	97.0	M-low
25	Doubet D-25	76.1	74.8	1.8	29.8	88.0	98.0	96.1	Medium
27	Moews 14	74.8	74.5	.4	27.5	91.1	101.4	95.8	Medium
28 29	Producers' 1020	14.4	74.3	.2	25.5	89.8	100.0	95.5	M-low
30	Crow 514(W) Crow 432	73.6	$73.2 \\ 72.7$.5 1.0	$24.7 \\ 27.8$	83.8 90.0	93.3 100.2	$94.1 \\ 93.4$	M-high Medium
31	Hoosier Crost 405	68.9	68.7	.2	27.8	89.7	99.9	93.4 88.3	M-low
51							yy.y	00.0	TAT -10 M
	Average of all entries	78.3	77.8	.5	26.8	89.8	• • • •	• • • •	

Table 6.—NORTHERN ILLINOIS: Summary, Mt. Morris, 1943, 1944; Kings, 1945

A difference of less than 4.1 bushels between total yields of any two entries in this table is not significant.

Table 7.-WEST NORTH-CENTRAL ILLINOIS: Galesburg, 1945

Deal	E.t.	Acre	-yield	Damaged corn in	Mois- ture in	Erect	Ratin	g for—	Compara- tive
Rank	Entry	Total	Sound	shelled sample	grain at harvest	plants	Erect plants	Sound yield	height of ear
		bu.	bu.	perct.	perct.	perct.	percl.	perct.	
1 Lowe 5 2 Doubet	20	73.1	72.8 70.7	.4 .2	$25.3 \\ 22.2$	18 23	$74.7 \\ 95.4$	113.4 110.1	High Medium
3 DeKall	D-72. 628A	70.3	69.2	1.5	23.4	30	124.5	107.8	Medium
4 Pfister	380	70.1	68.4	2.4	22.6	19	78.8	106.5	Medium
5 Illinois	1237. .k S-34	69.9	69.7 69.4	.3	$20.5 \\ 23.2$	15 28	62.2 116.2	$108.6 \\ 108.1$	Medium M bigh
7 Farmer	aft 47	69.3	69.2	.3	20.9	17	70.5	107.8	M-high Medium
8 Pfister	aft 47. 5897	69.0	69.0	0	22.2	24	99.6	107.5	Medium
8 Funk C 10 Morton	G-37	69.0	69.0 68.1	0 .6	20.5 23.2	28 29	116.2 120.3	107.5 106.1	Medium Medium
11 Appl A	1 M-12 -13 - Utility 29 - Utility 39	68.1	68.0	.2	23.1	34	141.1	105.9	Medium
11 Holmes	Utility 29	68.1	67.9	.3	21.4	33	136.9	105.8	Medium
13 Holmes 14 DeKall	8 Utility 39 8 847	68.0 67 0	67.5 67.6	.7 .4	23.3 20.0	22 25	91.3 103.7	105.1 105.3	Medium Medium
			67.5	.4	24.1	30	124.5	105.1	M-high
16 Funk C	5-169. n M-17. 5 840.	67.5	67.4	.1	22.0	28	116.2	105.0	Medium
17 Munsor 18 DeKall	$n M - 17 \dots N + 17$	67.4	$67.1 \\ 67.0$.4	22.1 23.9	21 15	87.1 62.2	$104.5 \\ 104.4$	M-high M-high
19 Frev 64	14	67.2	67.0	.3	23.9	16	66.4	104.4	M-high
19 Keysto	ne 42	67.2	66.9	.4	22.8	20	83.0	104.2	M-high
21 Pioneer	304	67.0	66.9 66.7	.2	23.6 23.6	21 26	87.1 107.9	104.2 103.9	Medium M-high
22 Funk C 23 Illinois	ne 42. 304. 5-94. 273-1	66.7	66.4	.4	20.9	29	120.3	103.4	Medium
23 Pioneer	5333	00./	66.3	.6	20.7	33	136.9	103.3	Medium
25 Crow 6 25 Moews	33 523	66.6	$\frac{66.4}{66.4}$.3	21.3 23.6	34 17	141.1 70.5	$103.4 \\ 103.4$	Medium M-high
25 Sieben	S-440	66.6	66.2	.6	22.9	23	95.4	103.1	Medium
28 Ferris l	S-440. F-31. awk 111.	66.4	66.3	.1	21.3	28	116.2	103.3	Medium
28 Blackh 30 Doubet	awk 111 . D-42	66.4	66.3 63.9	.2 3.5	20.9 25.2	22 20	91.3 83.0	103.3 99.5	Medium M-high
31 Moews	550	65.9	65.8	.2	21.1	28	116.2	102.5	Medium
31 Produc	550 ers' 1000 t S-11 n M-19	65.9	65.7	.3	23.2	13	53.9	102.3	Medium
33 Steward 34 Munsor	t S-11	65.6	65.3 64.9	.4 .8	22.1 20.8	34 27	$141.1 \\ 112.0$	$101.7 \\ 101.1$	Medium Medium
34 Kelly F		65.4	64.2	1.8	20.8	18	74.7	100.0	M-high
36 Stiegeli	nieier S-1313	65.2	64.9	.4	22.4	19	78.8	101.1	M-high
37 Holmes 38 Produce	s Utility 96	65.1	$64.8 \\ 64.9$.5	23.3 19.6	31 36	128.6	100.9 101.1	Medium Medium
39 Illinois	201	64.9	64.4	.8	23.7	12	49.8	100.3	M-high
40 Pioneer	r 339 meier S-102	64.8	63.8	1.6	21.9	30	124.5	99.4	Medium
41 Stiegeli	meier S-102	64.7	$64.4 \\ 64.0$.5	$21.7 \\ 24.6$	29 27	$120.3 \\ 112.0$	110.3 99.7	Medium Medium
42 DeKall 43 Crow 6	07	64.1	64.1	.0	23.7	18	74.7	99.8	Medium
43 Nation	07 al 125 (Appl) 972-2	64.1	64.0	.1	24.2	17	70.5	99.7	Medium
45 Illinois 46 Null N	(Appl) 972-2	63.8	$63.6 \\ 63.4$.3	21.8 22.2	29 19	120.3	99.1 98.8	Medium Medium
47 Produc	ers' FCXX	63.6	63.4	.3	23.2	20	83.0	98.8	M-high
48 Illinois	21	63.4	63.4	0	21.1	31	128.6	98.8	Medium
48 DeKall 50 Furr 80	b 817A	63.4	$\frac{62.9}{62.4}$.8 1.0	$23.4 \\ 22.8$	24 40	99.6 166.0	98.0 97.2	Medium Medium
51 Munso	n M-5	62.9	62.5	.6	23.1	27	112.0	97.4	Medium
52 Hoosier	r Crost 840	62.8	62.7	.1	23.0	15	62.2	97.7	Medium
53 U.S.1 53 Pfister	(Appl) 972-2. -54. -55	62.7	$\frac{62.4}{62.3}$.4 .6	$23.5 \\ 23.5$	33 31	136.9 128.6	97.2 97.0	M-high M-high
55 U.S.4	4-1	62.5	62.3	.4	22.5	25	103.7	97.0	M-high
56 Illinois	1091A	62.3	62.2	. 2	23.1	15	62.2	96.9	Medium
57 Illinois 58 Stiegeli	246. meier S-6911. n M-52. 307. b 680.	62.3	$62.1 \\ 62.1$.4	24.6 24.0	20 23	83.0 95.4	96.7 96.7	M-high Medium
58 Morgai	n M-52	62.2	61.9	.5	24.0	17	70.5	96.4	M-high
60 Pioneer	307	61.8	61.1	1.1	23.0	22	91.3	95.2	M-high
61 DeKall 61 Morgan	b 680 m M-546	61.5	$61.3 \\ 61.1$.3	$23.0 \\ 22.8$	16 24	66.4 99.6	95.5 95.2	Medium Medium
63 Frey 64	n M-546 45	61.3	61.2	.1	22.8	37	153.5	95.3	Medium
64 Lowe 5	60 Հ-42. 5	60.5	59.3	2.0	23.4	21	87.1	92.4	Medium
65 Kelly H	≤-42	59.6	$\frac{59.3}{58.2}$.5	$21.6 \\ 22.7$	20 26	83.0 107.9	92.4 90.7	Medium Medium
66 U.S.3 67 Ward 1	20A	58.4	58.2	.5	22.7	20 17	70.5	90.8	M-high
68 Iowealt	th 29A	57.5	57.0	.8	21.4	23	95.4	88.8	Medium
69 Pioneer	220A h 29A r 334 80 al 125-1 20(14)	56.9	56.7	.3	20.8	28	116.2	88.3	Medium
70 Funk C 71 Nation	al 125-1	53.9	$53.7 \\ 53.4$.3	$\frac{32.1}{21.2}$	23 21	95.4 87.1	83.6 83.2	M-high Medium
72 Ward 1	20(W)	46.9	46.4	1.0	25.6	22	91.3	72.3	High
Δ.	verage of all entries	64.5	64.2	.5	22.7	24.1			

A difference of less than 7.6 bushels between total yields of any two entries in this table is not significant.

1946]

		Acre	e-yield	Damageo			Ratin	g for—	Compara
Ran	k Entry		Sound	corn in shelled sample	ture in grain at harvest	Erect plants	Erect plants	Sound yield	- tive height of ear
		bu.	bu.	perct.	percl.	perct.	percl.	percl.	
2 3 4 5 6 7	Pfster 5897. DeKalb 800A. Producers' 1040. Funk G-169. DeKalb 628A. Crow 633. DeKalb 816. Holmes Utility 29.	93.9 93.8 93.7 93.4 93.3 92.9	94.2 91.5 93.1 92.8 92.0 90.9 91.3 91.9	.3 2.1 .7 .9 1.5 2.5 1.6	20.0 21.6 19.7 20.6 21.3 20.1 21.5 20.5	72.0 73.8 75.5 76.6 73.3 74.8 75.0 76.3	99.4 101.9 104.3 105.8 101.2 103.3 103.6 105.4	105.8 102.8 104.6 104.3 103.4 102.1 102.6 103.3	Medium Medium M-high Medium Medium M-high Medium
8	Morgan M-546 Doubet D-72	92.8	91.3 89.3	1.5 3.5	21.4 20.4	73.8 71.9	101.9 99.3	102.6	M-high Medium
12 13 13 15 16 17 18 18	Producers' 1000 U. S. 13 Doubet D-42 Farmcraft 47 Funk G-37 Illinois 246 National 125 Pfister 380 DeKalb 817A Crow 607	92.3 92.0 92.0 91.7 91.3 91.0 90.9 90.9	90.7 91.8 89.9 88.8 91.2 89.3 90.4 89.5 88.4 88.4	1.9 .5 2.5 3.2 .5 2.0 .7 1.7 2.7 2.1	21.3 22.1 22.0 19.8 19.5 21.7 21.3 21.0 21.6 22.0	70.0 76.5 71.3 67.0 75.4 70.9 70.3 71.5 73.9 68.7	96.7 105.7 98.5 92.5 104.1 97.9 97.1 98.8 102.1 94.9	101.9 103.1 101.0 99.8 102.5 100.3 101.6 100.6 99.3 99.3	M-high M-high Medium Medium Medium Medium Medium Medium Medium
22 23 24 25 25 25 25 28 29	Lowe 520 Illinois 21. Pioneer 339 DeKalb 680. Illinois 201. Producers' FCXX Pioneer 334. Moews 523. Pfister 1897. Moews 550.	89.8 89.7 89.1 88.9 88.9 88.9 88.9 88.8 87.7	88.5 88.5 87.9 87.5 88.7 87.9 87.5 87.1 86.9 86.2	1.7 1.3 1.9 1.8 .4 1.0 1.5 1.5 1.8 .9 1.0	22.6 20.2 20.1 21.8 21.3 21.5 19.7 20.9 20.6 19.8	69.8 75.8 75.5 67.7 68.7 70.9 73.3 69.6 74.7 72.4	96.4 104.7 104.3 93.5 94.9 97.9 101.2 96.1 103.2 100.0	99.4 99.4 98.8 98.3 99.7 98.8 98.3 97.9 97.6 96.9	Medium Medium Medium M-high M-high Medium M-high Medium Medium
32 33	Morgan M-52 U. S. 44-1 ^a Pioneer 333 Lowe 560	86.3 85.8	86.7 84.4 83.9 79.1	.5 2.1 2.1 2.2	21.3 20.5 20.1 21.4	67.6 68.9 76.4 71.2	93.4 95.2 105.5 98.3	97.4 94.8 94.3 88.9	Medium Medium Medium Medium
	Average of all entries	90.5	89.0	1.6	20.9	72.4	• • • •		

Table 8.—WEST NORTH-CENTRAL ILLINOIS: Galesburg Summary, 1943, 1944, and 1945

* This entry in 1943 was U. S. 44.

A difference of less than 3.9 bushels between total yields of any two entries in this table is not significant.

Table 9.-EAST NORTH-CENTRAL ILLINOIS: Sheldon, 1945

				Damaged	Mois-	-	Ratin	g for—	Compara-
Rar	nk Entry		e-yield	corn in shelled	ture in grain at	Erect		Sound	- tive height
		Total	Sound	sample	harvest	planes	plants	yield	of ear
	34	bu.	bu.	perct.	perct.	perct.	perct.	perct.	
15 2	Morton M-380 Frey 692	83.5	82.2 82.6	1.6	23.2 21.6	34 40	80.8 95.0	109.0 109.5	Medium
3	Miller 201 Holmes Utility 39. Stiegelmeier S-360. De Kalb 628A	83.2	83.0	.2	24.4	13	30.9	110.1	M-high M-high
45	Holmes Utility 39	82.9	82.6	.4	23.6	32	76.0	109.5	M-high
55	Stiegelmeier S-360	82.5	81.8	.8	21.3	34	80.8	108.5	Medium
65 7	DeKalb 028A	82.4	82.1 81.1	1.3	22.7 21.1	°39 37	92.6 87.9	$108.9 \\ 107.6$	Medium Medium
8	Phater 390 Holmes Utility 59 Pioneer 313B	81.4	81.2	.3	20.2	57	135.4	107.7	Medium
85	Pioneer 313B	81.4	81.2	. 3	24.8	31	73.6	107.7	Medium
10	Phster 380	81.1	80.9	.3	21.9	41	97.4	107.3	Medium
10 125	Funk G-94 Keystone 38	80.8	80.4 80.6	.9 .3	21.8 23.2	45 43	106.9 102.1	106.6 106.9	Medium M-high
135	Funk G-74	80.7	80.1	.7	20.8	52	123.5	106.2	Medium
145	Funk G-74. Pioneer 304.	80.4	79.1	1.6	28.1	33	78.4	104.9	Medium
155	Furr 67	80.1	79.6 78.9	.6	22.8	36	85.5	105.6	M-low
15 175	Frey 644 Illinois 273-1	80.1	79.4	1.5	23.6 19.5	39 50	92.6 118.8	104.6 105.3	M-high Medium
18	DeKalb 816. Doubet D-47. Pioneer 300	79.9	79.9	Ö	23.1	48	114.0	106.0	M-high
19	Doubet D-47	79.5	79.1	.5	20.7	52	123.5	104.9	M-high
195 215	Pioneer 300	79.5	78.9 79.0	.8	22.7 21.0	47 38	111.6 90.3	$104.6 \\ 104.8$	M-high M-high
215	Illinois 201 Farmcraft 42	79.3	78.7	.4 .7	22.0	38 34	80.8	104.8	M-nign Medium
23	Seeber 11A	70 0	78.4	.8	23.2	35	83.1	104.0	M-high
245	Producers' 1050	78.9	78.0	1.1	22.9	35	83.1	103.4	M-high
25 26	Producers' 1050 Morton M-33. Canady C-65. Lowe 523.	78.8	78.6 77.9	.2 1.0	22.9 20.3	47 48	111.6 114.0	104.2 103.3	Medium Medium
27	Lowe 523	78.5	78.2	.4	23.4	28	66.5	103.3	M-high
285	Pfister 280	78.4	76.9	1.9	21.6	49	116.4	102.0	Medium
295	Pfister 280 Crow 607	78.1	77.4	.8	23.1	36	85.5	102.7	Medium
29 29	DeKalb 800A Producers' 1030	78.1 78.1	77.2 77.0	1.2 1.4	23.6 23.3	46 43	109.3 102.1	102.4	Medium M-high
32	Funk G-53	77.6	77.0	.8	23.3	52	123.5	102.1	Medium
33	Kelly K-374 Pioneer 332	77.1	76.9	.2	22.2	43	102.1	102.0	M-high
34	Pioneer 332	77.0	76.9	.1	24.8	38	90.3	102.0	M-high
34 365	Crow 608. Farmcraft 69. DeKalb 840.	76.0	75.8 76.6	1.5 .4	$22.9 \\ 23.7$	45 42	106.9 99.8	100.5 101.6	M-high Medium
36	DeKalb 840.	76.9	76.6	.4	23.4	32	76.0	101.6	M-high
38	Lowe 520	76.7	76.7	0	33.2	16	38.0	101.7	High
395 40	Illinois 246 Illinois 21	76.5	76.4 74.9	.1	24.8	34	80.8	101.3 99.3	M-high Madium
40	Frev 645	75.5	74.9	.9	22.2 21.8	47 50	111.6 118.8	99.3	Medium Medium
425	Illinois 972-2 (Appl)	75.3	73.9	1.8	22.0	38	90.3	98.0	Medium
42	Illinois 21. Frey 645. Illinois 972-2 (Appl). U. S. 13. Producers' 1040. National 125-2. Hoosier Crost 668. DeKalb 847. Keystone 43. Pioneer 336	75.3	73.4	2.4	25.3	39	92.6	97.3	M-high
42 45	Producers' 1040	75.3	$73.3 \\ 74.7$	2.7 .5	20.8 21.2	54 40	128.3 95.0	97.2 99.1	Medium M-high
46	Hoosier Crost 668	74.7	74.3	.6	21.8	40	99.8	98.5	M-high
46	DeKalb 847	74.7	74.0	1.0	22.1	37	87.9	98.1	Medium
48	Keystone 43	74.5	72.7	2.4	22.2	45	106.9	96.4	Medium
49 505	Pioneer 336	74.3	70.7 73.6	4.8	$23.1 \\ 22.3$	40 49	95.0 116.4	93.8 97.6	Medium Medium
50	Notional 118 Funk G-37. Ward 120B Crow 633.	74.0	73.0	1.4	19.5	58	137.8	96.8	Medium
52⁵	Funk G-37.	73.8	73.1	.9	21.1	48	114.0	96.9	Medium
52 54	Ward 120B	73.8	71.9 73.2	2.6 .5	21.5 23.7	59 48	$140.1 \\ 114.0$	95.4 97.1	Medium Medium
54 54			73.2	.5	20.3	40	99.8	97.1	M-high
56	V. S. 35. Pioneer 334 Iowealth 29A. Crow 607(W). Kelly K-77. Dereter 49.7	73.5	73.4	. 1	21.7	61	144.9	97.3	Medium
565	Pioneer 334	73.5	73.2	.4	22.4	49	116.4	97.1	M-high
585 59	Crow 607(W)	13.4	$72.4 \\ 72.9$	1.3	22.6 22.9	49 28	116.4 66.5	96.0 96.7	M-high Medium
60	Kelly K-77	72.9	72.5	.5	22.7	44	104.5	96.2	Medium
61			72.5	.3	22.3	33	78.4	96.2	Medium
62	Appl A-201 Stiegelmeier S-379 DeKalb 817A Hoosier Crost FD-6	72.4	71.8	.8	23.9	42	99.8	95.2	Medium
63 645	DeKalb 817A	72.1	71.6 71.2	.8 1.2	$21.7 \\ 23.6$	46 38	109.3 90.3	95.0 94.4	Medium M-high
65	Hoosier Crost FD-6	71.4	71.0	1.2	21.0	50	118.8	94.2	Medium
665	Funk G-109	/0.0	69.3	1.9	24.3	39	92.6	91.9	Medium
67 685	Sibley 700 Hoosier Crost F-170	70.5	69.2	1.8	23.5	43 57	102.1	91.8 92.3	M-high Medium
69°	Iowealth 26N	70.3	69.6 69.7	1.0	22.2 22.1	48	$135.4 \\ 114.0$	92.3	Medium
70	Iowealth 26N. Lowe 530.	69.7	68.7	1.5	23.3	26	61.8	91.1	M-hlgh
71	Frey 634(W) Farmcraft 131(W)	63.3	62.8	.8	21.1	36	85.5	83.3	M-high
72			38.2	.7	29.8	63	149.6	50.7	High
	Average of all entries	/0.1	75.4	.9	22.8	42.1		• • • •	
		-							

⁵ Five plots were included in the average yield instead of six.

A difference of less than 5.0 bushels between total yields of any two entries in this table is not significant.

		Acre	e-yield	Damaged corn in	l Mois- ture in	Erect	Ratin	g for—	Compara- tive
Ran	ik Entry	Total	Sound	shelled	grain at harvest	plants	Erect plants	Sound yield	height of ear
		bu.	bu.	perct.	perct.	perci.	perct.	percl.	
1	Holmes Utility 39		87.3	.6	21.9	74.1	98.5	106.6	M-high
2	DeKalb 840		86.8	1.1	21.0	72.3	96.1	106.0	Medium
3	Funk G-94		85.9	.9	21.2	77.0	102.4	104.9	M-high
4	Producers' 1030		84.9	1.6	21.4	77.2	102.7	103.7	M-high
5	DeKalb 628A		85.3	.8	21.8	76.1	101.2	104.2	Medium
6	Seeber 11A		84.9	1.0	21.1	75.3	100.1	103.7	M-high
7	Pfister 380		85.3	.4	20.9	76.0	101.1	104.2	M-low
7	DeKalb 800A		84.5	1.4	21.1	77.4	102.9	103.2	Medium
.9	DeKalb 816		84.8	.6	22.0	76.5	101.7	103.5	M-high
10	Illinois 201	84.8	84.2	.8	20.2	73.2	97.3	102.8	M-high
11	Miller 201	84.6	83.5	1.4	21.8	65.5	87.1	102.0	Medium
12	Stiegelmeier 360		82.6	.6	19.8	70.6	93.9	100.9	Medium
13	Producers' 1040		81.9	1.4	21.1	81.6	108.5	100.0	Medium
14	Doubet D-47	82.9	82.2	.9	20.8	79.2	105.3	100.4	Medium
15	Crow 607		82.1	.8	21.5	72.2	96.0	100.2	Medium
16	Pioneer 300		82.1	.8	22.4	78.8	104.8	100.2	Medium
17	Funk G-169	82.6	81.6	1.2	21.1	72.0	95.7	99.6	M-high
18	Pfister 4817		81.8	. 4	20.6	73.4	97.6	99.9	Medium
19	Pfister 280	82.0	80.6	1.7	- 20.6	77.9	103.6	98.4	Medium
20	Pioneer 332		81.0	1.2	23.6	74.3	98.8	98.9	M-high
20	Illinois 21	81.9	80.2	2.0	21.4	77.1	102.5	97.9	Medium
22	Pioneer 313Da	81.6	81.1	.6	22.7	71.6	95.2	99.0	Medium
23	Funk G-37	81.5	80.0	1.9	20.1	78.0	103.7	97.7	Medium
24	U. S. 13	80.7	79.0	2.0	22.6	72.9	96.9	96.5	M-high
25	Pioneer 336		79.1	2.0	20.6	75.0	99.7	96.6	Medium
26	Crow 633		79.3	1.1	22.1	77.6	103.2	96.8	Medium
26	DeKalb 817A		79.1	1.5	21.5	74.5	99.1	96.6	Medium
28	DeKalb 847		78.8	1.7	21.5	73.3	97.5	96.2	Medium
29	U. S. 35	79.9	79.3	.6	21.0	81.9	108.9	96.8	Medium
30	Crow 608	79.6	78.3	1.5	21.4	77.8	103.5	95.6	Medium
31	Sibley 753B-1b	78.7	77.6	1.4	20.1	75.7	100.7	94.7	Medium
32	Lowe 520		78.1	.6	25.2	68.3	90.8	95.4	Medium
33	Hoosier Crost 668		77.2	1.2	22.0	76.0	101.1	94.3	Medium
34	Lowe 560	75.8	75.4	.6	20.8	77.3	102.8	92.1	Medium
	Average of all entries		81.9	1.1	21.5	75.2			

Table 10.—EAST NORTH-CENTRAL ILLINOIS: Summary, Milford, 1943, 1944 and Sheldon, 1945

* This entry in the 1945 tests was Pioneer 313B. b This entry in the 1943 tests was Sibley 753B.

A difference of less than 3.4 bushels between total yields of any two entries in this table is not significant.

Table 11.—CORN BORER DAMAGE: Sheldon, East North-Central Illinois, 1945

Ranl	c Entry	Plants broken below ear*	Rank	Entry	Plants broken below ear*
2 3 4 6 7 8 9	Morton M-33 Iowealth 26N Farmcraft 42 Lowe 520 Farmcraft 131(W). Holmes Utility 59 Pfister 280 Crow 607	<i>percl.</i> 25.0 27.2 29.0 29.1 35.5 36.5 36.8 39.9	15 16 17 18 19 20 21 22 23	U. S. 35 Producers' 1040 National 118 Crow 607(W) Illinois 246 Doubet D.47. Ward 120B Illinois 273-1	<i>perct.</i> . 41.7 . 42.1 . 42.3 . 42.6 . 42.7 . 44.7 . 45.1 . 45.6
11 12 12	Frey 692. Frey 644. Illinois (Appl) 972-2. Stiegelmeier S-379. Seeber 11A.	40.1 40.7 40.7	24 25 26 27 28	Funk G-53 Lowe 530. Pioneer 300. Frey 634(W). Pfister 380.	46.1 46.5 46.7

(Table is concluded on next page)

Plants broken Plants broken Rank Entry Rank Entry below ear* below ear* berct. berct. 47.1 20 Kelly K-77..... 55.2 Illinois 21. 51 Hinois 21. Hoosier Crost F-170...... Stiegelmeier S-360..... Pioneer 332. Sibley 753B. 52 55.9 30 47.4 31 47.9 48.2 53 56.0 DeKalb 628A DeKalb 816 54 Keystone 38..... 32 56.7 33 55 Miller 201 48.4 58.4 Pioneer 334. Canady C-65. 33 55 48.4 58.4 Holmes Utility 39. Producers' 1030. Hoosier Crost 668. Farmcraft 69. 35 49.5 57 59.6 36 49.6 58 Crow 633..... 60 3 36 49.6 59 Pioneer 336. 60.9 Pioneer 336..... DeKalb 817A..... 38 49.8 60 61.2 DeKalb 840 Kelly K-374 Illinois_201..... 39 50.8 61 61.5 40 51.4 62 Funk G-169 61.6 41 Pfister 4817..... 51.6 63 Pioneer 313B. 61.9 42 Furr 67. 52.1 64 Keystone 43..... 62.3 U. S. 13.... 43 Crow 608..... 52.2 65 62.4 44 Appl A-201..... 53.4 66 Frey 645 62.8 Sibley 700..... Producers' 1050..... 45 DeKalb 847. 53.7 66 62.8 46 DeKalb 800A..... 54.0 68 Pioneer 304..... Funk G-94. Funk G-37. 63.3 Lowe 560..... Morton M-380..... 47 54.4 69 63.4 48 54.8 70 65.1 Pfister 390..... 55.1 49 71 65.4 Iowealth 29A..... National 125-2..... 40 55.1 72 71.6 49.8 Average of all entries.....

Table 11.-CORN BORER DAMAGE: Sheldon, concluded

 $\ensuremath{^*}$ Includes only those plants broken below the ear at point of damage by the borer, Pyrausta nubilalis (Hbn.).

A difference of less than 15.7 in percentage figures is not significant.

Table 12.—CORN BORER DAMAGE: East North-CentralSummary, Milford, 1943, 1944; Sheldon, 1945

Ran	k Entry	Plants broken below ear*	Rank	Entry	Plants broken below ear*
1 2 3 4 5 6 7 8 9 10 11 12 13 15 16 17	Pfister 280. Lowe 520. Producers' 1040 Illinois (Appl) 972 ^b . Crow 607. Seeber 11A. Pfister 380. U. S. 35. Pioneer 300. Illinois 21. Crow 608. Pfister 4817. DeKalb 628A. Doubet D-47. Stiegelmeier S-360 ^c . DeKalb 840. Hoosier Crost 668.	<i>perct.</i> 12.8 14.5 15.5 15.6 16.7 16.8 17.9 17.8 17.9 18.1 18.3 18.3 18.8 19.2 19.5	19 20 21 21 23 24 25 26 27 28 29 30 31 32 33 34 35	DeKalb 800A Producers' 1030 Holmes Utility 39 Sibley 753B ^d . Pioneer 332. Lowe 560 DeKalb 816. Pioneer 336. Illinois 201. Crow 633 DeKalb 817A. U.S. 13. Pioneer 313B ^o . Funk G-94. Miller 201 National 125-2 ^f . Funk G-169.	<i>percl.</i> 20.5 20.7 21.0 21.3 21.4 22.8 23.1 23.2 23.3 24.4 25.5 24.4 25.7 25.8 27.4
18	DeKalb 847	20.3	36	Funk G-37 Average of all entries	

* Includes only those plants broken below the ear at point of damage by the borer, *Pyrausla nubilalis* (Hbn.). ^b This entry was Illinois 972-1 in 1944 and Illinois 972-2 in 1945. ^c This entry was Stiegelmeier 360 in 1943 and 1944. ^d This entry was Sibley 753B-1 in 1944. ^{*} This entry was Pioneer 313D in 1943 and 1944. ^f This entry was National 125 in 1943 and 1944.

A difference of less than 12.4 in percentage figures is not significant.

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Extent	
Illinois,	ct.
Table 13SOUTHERN CORN ROOTWORM: Sheldon, East North-Central Illinois,	which stalks resisted lodging caused by the feeding of this insect
on, East	the feed
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perct. perct. perct. 2 National 125. 0 1418 37 Illinois 273-1 2 National 125. 0 1418 37 Illinois 273-1 3 Frey 64.3 5.5 0 1418 37 Illinois 273-1 4 Funk G-37 6.8 1.2 863 40 Farm of the form of the for	1418 1073 223 39 223 30		30 degrees more than or more 45 degrees	more than pared with 45 degrees average ^b
Keystone 43. 5.5 0 1418 37 National 125-27 6.2 1.2 863 387 Furk G45 0.1013 5.5 0 1418 37 Pward 125-27 0.6 1.2 863 387 385 Producers' 1040 1065 6.7 265 42 39 Producers' 1040 117.5 6.7 265 42 39 Funk G53 1040 233 7.6 242 44 47 Producers' 1040 17.5 6.7 265 42 42 44 Producers' 1040 17.5 5.7 19 47 265 44 National 118 7.5 7.6 242 44 45 Vis G53 1011 6.9 233 9.9 46 46 Vis G54 111 6.9 233 13.4 188 44 46 Vis G53 10.6 13.1 10.6 13.1	39 33			
First ford 7.4 0 1073 38 First ford 0.0	39.88	inois 273-1		111
Frey 645. 6.2 1.2 923 39 Furk 637. 6.3 1.2 923 39 10 Ward Unsers' 1040. 21.8 3.0 286 40 11 25 265 40 11 25 44 11 25 7.6 242 14 11 25 46 17 25 46 17 25 46 17 25 45 12 10 17 5 242 14 11 11 5 7 5 233 40 11 10 10 10 10 10 10 10 10 10 10 11 10	30	oneer 332	38.3 17.4	108
Funk Carls 6.8 1.2 2863 40 Ward 1208 Ward 1208 1.2 2863 40 Ward 1208 Ward 1208 1.12 2863 40 Ward 1208 Ward 1208 1.12 2863 40 Ward 1208 Funk G-53 5.7 255 42 Funk G-53 17.5 7.6 242 44 Funk G-53 7.6 233 40 40 Funk G-53 17.5 7.6 242 44 National 118 2.3 7.5 233 45 Pinter 334 2.3 7.5 7.5 233 45 U. S. 35 11.6 9.9 194 45 U. S. 35 11.6 7.5 118 55 45 U. S. 35 11.6 7.4 188 45 45 U. S. 35 11.6 13.1 10.4 15 45 U. S. 35 11.6 13.1 10.4 15 <td></td> <td>oosier Crost F-170</td> <td></td> <td>101</td>		oosier Crost F-170		101
DeKab 800A. 21.8 3.0 286 40 Ward 120B. Producers' 1040 233 4.7 243 421 Producers' 1040 233 7.2 233 421 421 Producers' 1040 233 7.2 233 421 421 Producers' 1040 231 10.5 7.2 233 421 Doubet D-47 231 8.9 123 421 441 Phone D-47 235 10.5 134 233 445 Phone D-47 235 26.9 245 441 447 Phone D-47 235 26.9 245 445 447 Phone D-47 26.9 24.7 10.4 447 447 Phone D-41118 26.9 24.7 10.4 245 445 Phone D-41118 26.9 24.7 10.4 245 447 Phone D-41118 26.9 24.7 10.4 245 447 Plone D-410 <td>₽</td> <td>irr 67</td> <td></td> <td>100</td>	₽	irr 67		100
Ward Librob. 16.5 6.7 265 4.2 Producers' 1040 5.3 6.7 265 4.2 Funk G-53 Canady C-66 17.5 7.6 242 44 Funk G-54 Canady C-66 17.5 7.6 242 44 Funk G-94 233 194 17.2 233 45 Funk G-94 233 233 9.4 188 45 National 118 233 9.4 188 44 V. S. 35 233 9.4 189 44 U. S. 35 10.5 10.4 188 44 Pister 300 31.7 10.4 189 48 Pister 300 31.7 10.4 189 48 Pister 300 31.7 10.4 145 55 54 Pister 300 31.7 10.4 145 55 54 15 Pister 300 31.7 10.4 143 55 54 15 <	40	rmcraft 69		100
Producers 1040 2.3 4.4 2.42 4.4 Funk G-53 6.9 7.5 2.35 4.5 Funk G-53 6.9 7.5 2.35 4.5 Funk G-53 7.6 2.33 7.2 2.35 Funk G-53 7.6 2.33 7.5 2.35 Funk G-53 7.6 2.33 7.5 2.35 Prister 334 2.31 8.9 9.9 194 Vis 3. 7.5 2.35 9.7 180 Vis 5. 7.6 7.4 2.45 11.6 U. S. 13 7.15 2.16 11.6 106 U. S. 13 7.16 7.4 2.45 11.6 U. S. 13 7.17 11.7 10.4 149 Vis 6.74 2.17 2.17 11.6 160 U. S. 13 10.6 2.17 11.7 11.6 U. S. 13 10.6 12.7 11.6 150 U. S. 13 11.7 10.4 12.7 11.6 U. S. 13 11.7 10.4 12.7 11.6 DeKalb 816 2.74 $2.6.9$ 11.7 12.3 DeKalb 816 2.74 2.77 11.2 2.75 DeKalb 816 2.74 2.77 13.2 142 DeKalb 816 2.74 2.77 13.2 142 DeKalb 847 7.31 2.6 11.4 2.74 DeKalb 847 7.7 13.2 12.6 6.74 DeKalb 847 7.74 7.74	42	oneer 336	45.3 18.0	98
Funk Cost 1/2 2/2 2/4 1/2 2/4 1/2 2/4 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 1/2 2/4 1/2 <th1 2<="" th=""> 1/2 <th1 2<="" th=""> <th1 2<<="" td=""><td>47</td><td>orton M-380.</td><td>35.8 22.0</td><td>200</td></th1></th1></th1>	47	orton M-380.	35.8 22.0	200
Funktion 27.1 6.2 27.3 44.5 Pioneer 33.4 23.1 9.4 180 45.5 Pioneer 33.4 23.1 9.4 180 45.5 Pioneer 33.4 23.1 9.4 180 45.5 U.S. 35 5.7 9.9 170 51.1 45.5 U.S. 35 5.7 9.9 170 51.1 45.5 U.S. 35 5.7 9.9 170 51.1 45.5 Pister 30.0 31.7 10.4 155.1 45.5 Pister 30.0 31.7 10.4 155.5 55.1 Pister 20.6 31.7 10.4 155.5 55.1 Pister 20.6 31.7 10.4 155.5 55.1 Pink G.74. 20.6 31.7 13.4 146 55.1 Pink G.74. 20.6 14.8 133.6 51.1 55.1 Pow 633 13.7 14.8<	44	0081EF Crost F D-0	48.1 10.7 47.6 20.6	20
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	44	WEALLIL 2903	41 4 27 7	20
National 118 26.9 7.5 189 48 Pister 334 23.5 26.7 9.9 170 55 Pister 334 23.5 26.7 9.9 170 55 U.S. 13 23.5 26.7 9.9 170 55 U.S. 13 11.6 166 52 19.9 166 52 Holmes Utility 59 34.1 8.8 153 53 34 153 54 55 Holmes Utility 59 34.1 8.8 153 54 55 57 11.6 55 55 Illinois 201 28.3 13.1 13.3 144 55 57 Punk G.74 28.3 13.1 13.3 144 55 57 Punk G.74 28.3 13.1 20.7 15.5 133 56 57 Punk G.74 21.3 28.3 13.2 144 55 57 Punk G.74 21.3 22.7 23.8	47	allv K-374	46.5 20.8	06
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	48		40.0 25.6	87
$ \begin{array}{c} \mbox{Pister 380}, \mbox{\sim5.7$} \\ \mbox{Pister 380}, \mbox{\sim5.7$} \\ \mbox{U.} $$, 13, \sim13, \mbox{\sim10, \mbox{\sim10$	49	oncer 300.	44.0 24.1	86
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	50	Producers' 1030	41.7 25.8	85
$ \begin{array}{c} U.5. 13. \\ Holmes 13. \\ Holmes 21. \\ Derkal 81. \\ Dirker 300. \\ Sibley 700. \\ Sibley 700. \\ Sibley 700. \\ Sibley 700. \\ Derkal 81. \\ Derkal 81. \\ Derkal 81. \\ Derkal 81. \\ 13. 1 \\ 14. 9 \\ 13. 1 \\ 14. 9 \\ 15. 5 \\ 13. 3 \\ 14. 6 \\ 14. 8 \\ 13. 5 \\ 14. 8 \\ 57 \\ 13. 3 \\ 14. 8 \\ 57 \\ 57 \\ 13. 3 \\ 14. 8 \\ 57 \\ 57 \\ 13. 3 \\ 14. 8 \\ 57 \\ 57 \\ 13. 3 \\ 14. 8 \\ 57 \\ 57 \\ 13. 3 \\ 14. 8 \\ 57 \\ 57 \\ 14. 8 \\ 57 \\ 57 \\ 14. 8 \\ 57 \\ 57 \\ 14. 8 \\ 57 \\ 57 \\ 14. 8 \\ 57 \\ 57 \\ 13. 3 \\ 13. 3 \\ 13. 8 \\ 13. 8 \\ 13. 8 \\ 13 \\ 55 \\ 13. 3 \\ 13. 6 \\ 57 \\ 57 \\ 57 \\ 57 \\ 57 \\ 57 \\ 57 \\ $	170 51	•Kalb 840		52
Holmes 34.1 8.8 153 353 154 554 155 156 157 156 157 156 157 156 157 156 157 157 153 153 156 157 156 157 157 156 157 157 156 157 157 157 157 156 157 153 <th153<< td=""><td>166 52</td><td>ster 4817</td><td></td><td>18</td></th153<<>	166 52	ster 4817		18
Prister 30. 31.7 10.4 151 54 DeKalb 816 28.3 13.1 148 55 13.1 148 55 DeKalb 816 27.7 28.3 13.1 148 55 13.1 148 55 Finley 700. 27.7 28.3 13.2 146 57 148 55 57 Funk G-74. 21.3 21.3 13.3 146 57 148 55 57 148 55 157 148 55 157 148 55 157 148 55 157 148 55 157 158 157 158 157 158 157 158 157 159 57 157 156 157 156 157 158 157 158 157 158 157 158 157 158 157 158 157 158 157 158 157 158 157 158 157 158 </td <td>153 53</td> <td>olmes Utility 39.</td> <td></td> <td>27</td>	153 53	olmes Utility 39.		27
Illinois 21		wealth 20N	49.5 21.4	0
DeKaib 810	1 00 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ey 034(W)		22
Funk G-74. 28.3 13.8 142 57 Funk G-74. 28.3 13.8 142 57 DeKalb 817A. 201. 21.2 139 59 DeKalb 817A. 201. 21.2 139 59 DeKalb 817A. 201. 21.2 139 59 Detkalb 817A. 201. 20.5 13.4 60 Crow 633 201. 29.6 14.8 139 60 Crow 633 29.5 14.8 134 60 61 Sthey 753B 29.5 14.8 134 65 61 Remoratic 131(W) 20.3 29.5 14.8 133 65 Housier Cross 33.1 17.3 133 65 64 Keystone 38 33.1 14.3 123 65 67 Keystone 38 33.5 14.3 123 65 67 Funk G-169 33.8 16.3 33.6 17.6 68	146 57 1	DIECT JLJD		12
$ \begin{array}{c} \mbox{DeKab B47A} \\ \mbox{DeKab B47A} \\ \mbox{DeKab B47A} \\ \mbox{DeKab B47A} \\ \mbox{Dimons 201} $	142 57	ster 280		11
Appl A 201 26.7 15.5 137 60 Chow 633 29.6 14.8 134 61 Chow 633 29.6 14.8 134 62 Chow 633 29.6 14.8 134 62 Sibley X531 29.6 14.8 134 62 Kelyy K771 210 26.3 15.3 133 64 Kely K77 31.9 15.3 133 65 64 Keyton 83 33.1 14.4 2124 66 67 Keyston 84 37.3 13.6 13.4 124 66 Constend Creat 668 33.3 14.4 212 66 Funk G-169 33.3 15.6 118 70 Crows 608 33.2 17.4 121 66 Crows 608 33.2 17.4 121 67 Crows 608 33.2 17.4 121 67 Crows 608 33.2 17.6 118 70	139 50	orton M-33		20
Illinois 201 29.8 14.3 136 61 Sibey 733 Sibey 733 29.6 14.8 134 62 Sibey 733 Farncraft 131(W) 29.5 15.1 133 63 Farncraft 131(W) 26.3 17.3 130 64 Housier Costs 668 31.9 15.3 127 65 Housier Costs 668 37.3 13.6 127 65 Keystone 38 37.3 13.6 123 65 DeKab 847 33.8 16.3 123 66 Crows 608 33.7 33.8 16.3 123 66 Crows 608 33.7 13.6 123 67 67 Crows 608 33.2 16.3 120 69 67 Crows 608 33.2 17.6 118 70	137 60	Kalb 628A	50.6 32.7	68
Clow 633. 29.6 14.8 134 62 Siley 733. 20.5 15.1 133 63 Farmcraft 131(W) 20.5 17.3 133 63 Kelystone 38 77.1 35.1 134 65 Keystone 38 35.1 15.3 127 65 Hoosier Cast 668 33.1 15.3 124 66 Keystone 38 37.3 13.6 17.4 67 Funds G.169 33.8 16.3 123 67 Crow 608 33.2 16.3 123 67 Crow 608 33.2 16.3 123 67 Crow 608 33.2 17.6 118 70 Crow 600 33.2 17.6 118 70	136 61	inois 972-2 (Appl)		67
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	134 62	we 530		8 S
Farmcraft 131(W) 26.3 17.3 130 64 Kely K. Cryt. 31.9 15.3 127 65 Housier Cryt. 33.1 15.3 127 65 Keystone 38. 37.3 13.6 123 66 Fink G-169. 37.3 13.6 123 67 DeKalb 847 33.8 16.3 121 68 Crows 608 33.3 13.6 121 68 DeKalb 847 33.8 16.3 120 69 Crows 608 32.1 17.6 118 70	133 03	ow 607		33
Neury Neury <th< td=""><td>130 04</td><td>legelmeier S-300</td><td></td><td>10</td></th<>	130 04	legelmeier S-300		10
Thouse Cross toos 33.1 13.6 12.4 67 13.6 12.4 67 13.6 12.4 12.1 68 13.6 12.4 12.1 68 13.6 12.4 12.1 68 13.6 13.6 13.6 12.1 68 13.6 12.1 68 13.6 12.1 68 13.6 12.1 68 13.6 13.6 12.1 68 13.6 12.1 68 13.6 13.6 12.1 68 13.6 12.1 68 13.6 12.1 68 13.6 12.1 68 13.6 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 <th13.7< th=""> <th13.7< th=""></th13.7<></th13.7<>	121	eDer 11A.		2
Terps function Mark Stress Mark Stress <thmark stress<="" th=""> Mark Stress Mark Stress</thmark>	100 124	111015 240	67 3 30 6	45
DetKalb 847	121 68 1	rmcraft 47		53
Crow 608	120 69 6	ow 607(W).		52
37 6 15 6 115 71 1	118 70 1	iller 201		48
	115 71	owe 523.	78.8 55.2	42
11.8 112 12 LOWE	71 711	we 220	°.	04
Average of all entries		Average of all entries	38.7 20.3	100

In percentage of plants leaning 30 degrees or more, a difference of less than 21.5 between any two entries is not significant.

BULLETIN No. 517

[February,

Table 14.—SOUTH-CENTRAL ILLINOIS: Sullivan, 1945

_									
_				Damaged	Mois-		Ratin	g for	Compara-
Rar	ik Entry	Acre	e-yield	corn in	ture in	Erect ·			- tive
Rai	ik Entry	Total	Sound	shelled	grain at	plants	Erect	Sound	height
		1 Otai	Sound	sample	harvest		plants	yield	of ear
	- · · · ·	bu.	bu.	perct.	perci.	house		perct.	
	D 10 D 4				-	perct.	perct.		
1	Doubet D-41	102.1	101.5 98.9	.6 2.3	20.0 18.6	58 71	77.3	112.2 109.3	M-high
2 3	Lowe 523	100.4	90.9 99.6	.8	20.5	82	94.7	1109.3	Medium M-high
4	Pioneer 332. Producers' 1050	00.0	99.7	.2	19.5	65	109.3 86.7	110.2	Medium
ŝ			98.9	.3	22.4	56	74.7	109.3	M-high
6	Funk G-515(W)	99.0	98.6	.4	20.0	48	64.0	109.0	High
7	Hintols 764 Funk G-515(W). Bear OK-40 Bear OK-315(W). Pioneer 505(W). Pioneer 505(W). Pioneer 505(W).	98.6	98.0	.6	18.6	83	110.7	108.3	Medium
7	Bear OK-315(W)	98.6	98.4	.2	20.0	80	106.7	108.7	Medium
9 10	Pioneer 505(W)	98.0	96.5 96.0	1.5	$19.2 \\ 20.1$	76 76	101.3	106.6 106.1	M-high
11	Bear OK-150	07 2	97.1	1.4 .1	19.3	80	106.7	107.3	Medium M-low
12	Illinois 201	97 0	96.4	.6	18.9	79	105.3	106.5	Medium
12	Pfister 1897	97.0	96.6	.4	19.3	86	114.7	106.7	Medium
12	Miller 1050(W)	97.0	96.6	.4	19.3	71	94.7	106.7	High
15	Pfister 1897 Miller 1050(W) Pioneer 300	96.6	94.5	2.2	19.7	88	117.3	104.4	Medium
16	Pioneer 304	96.5	95.9	.6	21.1	82	109.3	106.0	Medium
17	Illinois 247	90.4	90.9	5.7	19.6	71	94.7	100.4	M-high
18 18	Iowealth 28N	90.3	95.3 95.1	$1.0 \\ 1.2$	$20.1 \\ 20.0$	55 83	73.3	105.3	Medium Medium
20	Keystone 38 Morton M-12	90.5	95.1	.6	19.4	81	108.0	105.1	Medium
21	Crow 607	95.6	94.7	.9	20.7	63	84.0	104.6	M-high
22	Pfister 164	05 2	93.0	2.3	18.9	88	117.3	102.8	Medium
23	Prister 180. DeKalb 835. Producers' 1040. Crow 608.	95.1	93.8	1.4	19.3	68	90.7	103.6	Medium
23	DeKalb 835	95.1	93.0	2.2	19.0	79	105.3	102.8	Medium
25	Producers' 1040	94.8	94.4	.4	19.4	89	118.7	104.3	Medium
26 27	Crow 008	94.5	93.6 93.8	1.0	19.0 19.4	83 [.] 78	$110.7 \\ 104.0$	$103.4 \\ 103.6$	Medium
28	Whisnand 831	03.8	93.8	.6 .3	19.4	69	92.0	103.0	Medium M-high
29	Pfeifer A-243.	93.6	89 4	4.5	21.8	44	58.7	98.8	M-high
30	Pfeifer 206	93.5	93.3	.2	19.6	81	108.0	103.1	M-high
30	Pfeifer 206 Producers' 777	93.5	92.1	1.5	19.2	61	81.3	101.8	M-high
32	DeKalb 816	93.3	90.7	2.8	20.0	81	108.0	100.2	M-high
33	National 129-1. Producers' 1000	93.2	92.6	.6	19.2	93	124.0	102.3	Medium
34	Producers' 1000	92.9	92.5	.4	19.3	68	90.7	102.2	Medium
35 35	Funk G-137	92.8	92.8 92.2	0 .6	22.8 18.6	78 92	$104.0 \\ 122.7$	102.5 101.9	M-high Medium
35	Illinois 1244	92.8	92.6	.2	20.2	60	80.0	101.9	Medium
35	Whispand 917(W)	92.8	92.2	.6	19.4	73	97.3	101.9	High
39	Illinois 21	92.3	89.3	3.2	19.3	83	110.7	98.7	Medium
40	Appl A-13	92.1	91.9	. 2	20.0	86	114.7	101.5	Medium
41	Morgan M-546	91.5	90.4	1.2	20.2	76	101.3	99.9	Medium
42	Producers 1000	91.2	90.9	.3	20.2 19.1	83	110.7	100.4 95.6	Medium
43 44	Null N-77.	91.1	86.5 90.6	5.1 .2	19.1	63 75	84.0 100.0	100.1	M-high Medium
45	Holmes Utility 39A. Keystone 106(W). Kelly K-99. Kelly K-374.	90.4	90.0	.4	18.8	80	106.7	99.4	M-high
46	Kelly K-99.	90.3	90.0	.3	19.5	73	97.3	99.4	Medium
47	Kelly K-374	90.1	85.8	4.8	18.8	77	102.7	94.8	Medium
47	Dekalo 849	90.1	86.9	3.6	19.3	91	121.3	96.0	Medium
49	U. S. 13	89.9	88.6	1.5	19.1	79	105.3	97.9	Medium
49	Farmcraft 88. Farmcraft 81.	89.9	88.3 89.1	1.8	19.8 19.2	72 89	96.0	97.6 98.5	Medium
51 51	Ulinois $072\Delta_1$	80.6	85.2	4.9	18.9	88	118.7 117.3	94.1	M-Low Medium
53	Illinois 972A-1 Hoosier Crost 746	88 5	87.8	.8	19.1	84	112.0	97.0	Medium
53	Lowe 855(W)	88.5	88.3	.2	20.9	65	86.7	97.6	High
55	DeKalb 922(W)	88.3	88.1	.2	19.7	79	105.3	97.3	Medium
56	DeKalb 922(W) Pfister 612(W)	88.0	87.6	.4	19.6	64	85.3	96.8	M-high
57	DeKalb 888 Pioneer 336	87.2	86.9	.4	20.2	66	88.0	96.0	M-high
58	Pioneer 336	86.9	86.6	.4	19.2	91	121.3	95.7	Medium
58 60	Funk G-80.	80.9	85.2 86.3	2.0	20.5 19.1	73 83	97.3 110.7	94.1 95.4	Medium Medium
61	Ward 120A	80.0	84.6	1.7	19.1	83 74	98.7	93.4 93.5	Medium
62	DeKalb 875. Hoosier Crost 840	85.4	79.0	7.5	19.9	78	104.0	87.3	Medium
63	1101018 200	84.8	83.9	1.0	20.7	68	90.7	92.7	Medium
64	Illinois 126	84 1	83.9	.2	19.1	76	101.3	92.7	Medium
65	Ward 120(W)	83.7	83.4	.4	19.7	68	90.7	92.2	M-high
66	Ward 120(W). Hoosier Crost 707(W) National 125-1	83.5	82.9	.7	20.0	52	69.3	91.6	M-high
67	National 125-1	81.9	79.0	3.5	19.3	86 76	114.7	87.3	Medium
68 69	National 120	80.7	80.5 78.0	.3 2.9	19.7 19.7	76 72	101.3 96.0	89.0 86.2	M-high Medium
70	Illinois 437.	78 0	77.0	1.3	19.7	83	110.7	85.1	Medium
71	Hoosier Crost 505(W)	77.7	77.4	.4	18.4	55	73.3	85.5	Medium
72	National 129- National 129 Illinois 437. Hoosier Crost 505(W). Lowe 865(W).	75.3	74.7	.8	18.5	73	97.3	82.5	M-high
	Average of all entries	91.7	90.5	1.3	19.7	75			
			_						

A difference of less than 5.5 bushels between total yields of any two entries in this table is not significant.

Table 15.—SOUTH-CENTRAL ILLINOIS: Sullivan Summary, 1943, 1944, and 1945

		Acre	-yield	Damageo corn in	l Mois- ture in	Erect	Ratin	g for—	Compara-
Ran	k Entry	Total	Sound	shelled sample	grain at harvest	plants	Erect plants	Sound yield	height of ear
		bu.	bu.	percl.	perct.	perct.	perct.	perct.	
1 2 3	Funk G-137. Funk G-80. Whisnand 917(W)	94.9 94.5	97.4 93.8 94.1	.3 1.1 .4	17.3 20.4 19.2	82.5 84.7 74.7	98.7 101.3 89.4	109.2 105.2 105.5	M-high M-high High
4 5 6 7	Miller 1050(W). Whisnand 831. Illinois 201. Pioneer 332.	93.9 93.6	93.9 93.2 93.1 92.3	.3 .7 .6 1.2	19.4 17.5 16.9 19.3	79.9 82.2 85.5 85.8	95.6 98.3 102.3 102.6	105.3 104.5 104.4 103.5	M-high Medium Medium Medium
8 9 10	DeKalb 835. Producers' 1040 Pfister 1897.	92.9 92.7	91.9 92.5 91.3	1.0 .3 1.2	$17.2 \\ 17.9 \\ 17.7$	88.4 91.9 91.8	105.7 109.9 109.8	103.0 103.7 102.4	M-low Medium Medium
11 11 13 14 15 15 17 18 19 19	Producers' 1000 Crow 607 U. S. 13 Illinois 247. DeKalb 816 Pfister 164 Null N-77. Illinois 200 Crow 805 Pioneer 313D ^a	91.9 91.3 91.2 91.0 91.0 90.9 90.0 89.6	91.6 91.2 90.5 89.0 89.9 89.8 88.4 89.0 88.9 88.9	.3 .8 1.0 2.4 1.1 1.2 2.7 1.1 .8 .8	17.1 19.5 17.4 18.7 18.7 17.7 17.9 19.3 17.9 17.7	$\begin{array}{c} 82.4\\ 77.4\\ 86.7\\ 80.1\\ 86.0\\ 91.0\\ 72.5\\ 78.6\\ 86.5\\ 80.0\\ \end{array}$	98.6 92.6 103.7 95.8 102.9 108.9 86.7 94.0 103.5 95.7	102.7 102.2 101.5 99.8 100.8 100.7 99.1 99.8 99.7 99.7	Medium Medium M-high Medium Medium Medium M-high Medium
21 22 23 25 26 27 28 29 30	Crow 608. Farmcraft 81. Pioneer 300. Illinois 21. Funk G-94. Farmcraft 88. DeKalb 888. Hoosier Crost 840. Pioneer 336. Hoosier Crost 746.	89.0 88.4 88.3 88.0 87.9 86.8 86.7	88.8 88.5 86.7 86.4 87.9 86.8 86.3 84.5 86.3 85.6	.6 .5 3.0 2.3 .5 1.4 1.8 2.7 .5 .5	16.9 17.0 18.7 18.7 17.8 18.2 19.8 18.4 17.4 17.7	88.7 89.0 87.2 90.9 83.3 80.1 72.5 85.6 87.7 89.3	$106.1 \\ 106.5 \\ 104.3 \\ 108.7 \\ 99.6 \\ 95.8 \\ 86.7 \\ 102.4 \\ 104.9 \\ 106.8 \\$	99.6 99.2 97.2 96.9 98.5 97.3 96.7 94.7 96.7 96.0	Medium Medium Medium Medium Medium Medium Medium Medium
31 31 33	DeKalb 922(W) Illinois 126 Hoosier Crost 505(W)	83.2	$82.9 \\ 81.6 \\ 82.0$.4 1.9 1.2	19.9 17.7 17.6	82.5 82.0 70.2	$98.7 \\ 98.1 \\ 84.0$	92.9 91.5 91.9	M-high Medium Medium
	Average of all entries	90.2	89.2	1.1	18.2	83.6	• • • •		

* This entry was Pioneer 313B in 1945 tests.

A difference of less than 3.8 bushels between total yields of any two entries in this table is not significant.

Table 16.—SOUTHERN ILLINOIS: Alhambra, 1945

Rai	nk Entry	Moisture in grain on Oct. 12	Weight of 100 air-dry kernels	Maturity of plants (color of blades)	Erect plants	Compara- tive height of ear	Approxi- mate yield
		perct.	grams		perct.		bu.=
1	Pfister 366	48.4	17.1	⅔ brown	18	M-low	38
2	Huebsch 25		12.9	brown	32	M-low	25
3	Wisconsin 640A	51.5	15.2	3/2 brown	22	M-low	41
4 5	DeKalb 888	53.0	7.6 14.6	green 2⁄3 brown	40 20	M-high M-low	17 29
6	DeKalb 458. Doubet D-25. Morgan M-105.	53.3	16.8	23 brown 23 brown 23 brown	34	Medium	42
7	Morgan M-105	53.6	11.1	2/3 brown	27	M-low	31
8	Illinois 1091A Funk G-114	53.8	18.8	16 brown	40	Medium	42
9 10	Funk G-114	54.2	$14.4 \\ 18.5$	² / ₈ brown	30 24	M-low	35 37
11	National 114		16.5	² / ₃ brown ¹ / ₃ brown	35	M-low Medium	40
12	Crow 432	55.5	14.5	13 brown 23 brown	28	M-low	25
13	Pfister 1897	55.9	17.1	green	42	Medium	39
14	Kelly K-374. Wisconsin 692	56.0	12.8	25 brown 25 brown	35	M-low	29
15 16	Frey 425	57 0	16.4 16.1	2% brown	36 37	M-low M-low	34 35
16	Frey 425 Wisconsin 641A	57.0	12.7	1's brown 1's brown 1's brown	35	Medium	25
18	Siehen S-440	57 6	15.1	1/2 brown	28	Medium	36
19	Frey 410	58.0	13.7	3⁄3 brown	29	M-low	28
20 21	Frey 410. Holmes Utility 49. Pioneer 330.	58.0	$14.1 \\ 13.4$	green	45 22	Medium	28 30
$\frac{21}{21}$	Nichols 202A	59.0	12.9	1⁄3 brown 2⁄4 brown	33	Medium M-low	29
23	Nichols 202A Pioneer 353A	59.4	14.9	25 brown 25 brown	32	M-low	25
24	Crow 514(W)	59.5	18.8	1/3 brown	23	M-high	34
25	Illinois 206	60.0	15.7	green	48	High	37
25 25	Furr 66A	60.0	$13.3 \\ 12.1$	⅔ brown brown	33 23	M-low M-low	28
28	DeKalb 404A. Crow 805. Illinois 269.	60.2	15.6	green	55	Medium	21 33
29	Illinois 269	60.7	13.5	16 brown	32	Medium	28
30	Pfister 4897	61.0	12.7	1/2 brown	37	M-low	29
31	Illinois 126		13.0	green	40	Medium	33
32 32	Lowe 15.	63.0	9.1 6.7	24 brown	23 38	M-low M-low	19 18
34	Blackhawk 72A	63.2	9.6	² % brown	32	M-low	23
35	Blackhawk 98A. Blackhawk 72A. Wisconsin 643.	63.4	12.3	25 brown 25 brown 25 brown 25 brown 25 brown 25 brown	35	Medium	27
36	Illinois 101	63.5	12.3	2⁄3 brown	30	M-low	22
37	Illinois 201	63.8	10.8	green	45	M-high	31
38 38	U. S. 13	64 0	12.6 10.6	green green	45 48	M-high M-high	30 25
38	Crow 607 Pioneer 304	64.0	8.9	1/2 brown	43	M-low	20
41	lowealth 25	64.4	11.6	green	48	Medium	25
41	Wisconsin 608	64.4	13.1	⅔ brown	18	M-low	26
43 44	U. S. 44-1.	04.7	12.1 13.0	green	33 52	Medium M-high	30 29
44	Pioneer 332	65 0	13.5	green V-green	43	M-high	29
46	Illinois 200 DeKalb 615	65.9	11.1	1/2 brown	33	M-low	25
46	Illinois 273-1	65 0	10.9	green	45	Medium	24
48	Funk G-29. DeKalb 816. Funk G-80. Illinois 751.	66.4	10.1	⅔ brown	30	M-low	18
49 50	DeKalb 810	00.5	$11.4 \\ 10.0$	green	42 43	Medium M-high	26 30
51	Illinois 751	67.5	9.7	green ½ brown	35	Medium	22
52	Phster 164	68.2	9.5	green	53	Medium	20
53	Wisconsin 701A		12.4	⅓ brown	37	Medium	26
53 53	Morton M-12.	68.5	11.0 8.9	green	48 33	Medium	24 20
53 56	Farmcraft 42. Hoosier Crost 746. Hoosier Crost 840.	68.6	8.9	⅓ brown green	33 40	Medium Medium	20
57	Hoosier Crost 840	68.7	9.7	green	45	Medium	25
58	U. S. 35	69.5	11.2	green	50	Medium	24
58	Pioneer 300	69.5	9.7	1/3 brown	40	Medium	23
58 61	Whisnand 917(W) Hoosier Crost 1005 Funk G-125	69.5	9.2 13.4	V-green V-green	37 37	Medium	17 25
62	Hoosier Crost 1005	71.6	8.9	V-green	67	High M-high	20
63	Funk G-125.	71.7	5.9	V-green	52	M-high	16
64	Producers 1010	12.1	10.1	1/3 brown	36	Medium	18
65	Dioneer 336	77 7	9.1	green	48	Medium	19
66 67	Moews 550	73.5	8.7 8.4	green	39 48	M-high M-high	20 18
68	Kelly K-374	74 3	8.4 8,6	green	48 45	High	19
69	Molect 550 Moews 550 Farmcraft 88 Kelly K-374 Lowe 855(W) Decific 4 042	76.6	7.9	V-green	27	M-high	15
70	Pfeifer A-243. Farmcraft 133(W) Iowealth $T \times I$.	79.5	7.0	V-green	58	M-high	16
71	Farmcraft 133(W)	82.5	7.0	green	35	Medium	13
72			2.8	V-green	66	Medium	5
	Average of all entries	03.5	12.0		37.7	0.1.1.1	26.2

* Yield was estimated from the six-ear sample taken from one plot of each entry on October 12, 1945.

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Table 17.-SOUTHERN ILLINOIS: Alhambra Summary, 1943 and 1944

_		Acre	e-yield	Damaged corn in	Mois- ture in	Erect	Ratin	g for—	Compara-
Ran	k Entry	Total	Sound	shelled sample	grain at harvest	plants	Erect plants	Sound yield	height of car
1 2 3 4 5 6 7 8 9 10	Illinois 1243. Illinois 200. Kansas K-2275(W). Kansas K-2234(W). Funk G-80. Kansas K-1583. Illinois 784. Whisnand 917(W) U.S. 13. Illinois 804.	50.2 49.0 46.3 46.1 45.1 43.9 43.5 42.8	<i>bu.</i> 50.4 49.7 48.9 46.0 45.7 44.6 43.7 43.3 42.5 42.5	<i>percl.</i> .6 1.0 .3 .6 1.0 1.1 .4 .5 .5 .3	<i>perct.</i> 16.7 13.9 15.6 17.9 16.8 19.9 18.1 17.3 13.2 15.4	<i>perct.</i> 73.9 77.3 69.8 70.4 88.3 73.7 73.7 71.3 87.5 71.5	<i>perct.</i> 91.6 95.8 86.5 87.2 109.4 91.3 91.3 88.4 108.4 88.6	<i>percl.</i> 129.6 127.8 125.7 118.3 117.5 114.7 112.3 111.3 109.3 109.3	Medium Medium Medium Medium Medium Medium M-high Medium
10 12 13 14 15 16 17 18 19 20	Illinois 877. Funk G-125. DeKalb 922(W). Miller 1050(W). Crow 607. DeKalb 888. Pfister 1823. Illinois 2059(W). Kansas K-1585. Crow 805.	42.2 41.1 41.0 40.8 40.6 40.4 39.6 39.4	42.5 42.1 40.9 40.1 39.9 40.4 40.3 39.5 39.2 39.2	.2 .3 .5 2.1 2.4 .5 .5 .4 .5 .3	16.8 15.0 15.9 15.0 14.7 13.7 16.0 17.2 13.2	67.6 78.8 76.3 79.0 85.7 84.6 88.8 81.7 75.4 87.9	83.8 97.6 94.5 97.9 106.1 104.8 110.0 101.2 93.4 108.9	109.3 108.2 105.1 103.1 102.6 103.9 103.6 101.5 100.8 100.8	Medium M-high M-high M-low Medium Medium Medium Medium M-low
21 22 23 24 25 26 27 28 28 30	Illinois 713. Iowealth 29A. Funk G-527(W). DeKalb 816. Illinois 201. Hoosier Crost 840. Farmcraft 133(W) Lowe 840 DeKalb 919(W). Whisnand 901(W).	38.6 38.5 37.7 36.8 36.5 36.0 35.7 35.7	38.9 38.4 38.4 37.6 36.6 35.8 35.5 35.5 34.5	.4 .5 .2 .3 .4 .6 .8 .5 .7 2.2	$14.8 \\ 13.5 \\ 15.7 \\ 14.3 \\ 13.7 \\ 14.5 \\ 16.5 \\ 13.7 \\ 16.3 \\ 16.8 $	85.6 80.3 72.5 92.3 92.1 92.0 72.9 87.1 85.4 78.0	$106.1 \\ 99.5 \\ 89.8 \\ 114.4 \\ 114.1 \\ 114.0 \\ 90.3 \\ 107.9 \\ 105.8 \\ 96.7 \\$	$100.0 \\ 98.7 \\ 98.7 \\ 96.7 \\ 94.1 \\ 93.3 \\ 92.0 \\ 91.3 \\ 91.3 \\ 88.7 \\$	M-low Medium M-low M-low Medium Medium Medium M-low Medium
31 32 33 34 35 36 37 38 39 40	Pioneer 332 Farmcraft 88. Illinois 2077(W). Pfister 1897 Pioneer 336. Hoosier Crost 746. Pioneer 300. Pioneer 313D. Pfister 164.	34.4 34.1 33.9 33.2 32.4 32.2 32.1 31.5	$\begin{array}{r} 34.8\\ 34.0\\ 34.0\\ 33.8\\ 33.1\\ 32.1\\ 32.1\\ 32.0\\ 31.3\\ 29.6\end{array}$.6 1.0 .4 .3 1.2 .3 .2 .6 .5	16.0 14.2 14.4 13.3 13.7 15.2 15.0 13.2 14.8 14.7	87.5 85.3 74.4 87.1 85.4 77.9 82.3 90.8 80.6 85.3	$\begin{array}{c} 108.4\\ 105.7\\ 92.2\\ 107.9\\ 105.8\\ 96.5\\ 89.6\\ 112.5\\ 99.9\\ 105.7\end{array}$	89.5 87.4 87.4 86.9 85.1 82.5 82.5 82.3 80.5 76.1	Medium M-low Medium M-low Medium M-low Low Medium M-low M-low
	Average of all entries	39.1	38.9	.65	15.3	80.7			

Table 18.—EXTREME SOUTHERN ILLINOIS: Dixon Springs Bottomland, 1945

		Acre	e-yield	Damaged corn in		Erect -		g for—	Compara- tive
Ran	k Entry	Total	Sound	shelled sample	grain at harvest			Sound yield	height of ear
1 ³ 2 ⁴ 3 ⁵ 4 ³ 5 ⁶ 6 ⁴ 7 ⁶ 8 ⁵ 9 ³ 10 ³	Illinois 2120(W). Whisnand 905(W) Illinois 2059(W) Funk G-711 Illinois 2019(W). Pfister 660 Illinois 1233. Illinois 2119(W). Kansas K-2275(W). Lowe 855(W).	67.3 61.5 59.0 58.7 57.4 57.0 55.7 55.5	<i>bu</i> . 67.6 66.5 60.8 58.4 57.1 57.2 56.8 55.4 54.8 54.0	<i>perct.</i> .6 1.2 .9 1.1 2.7 .4 .5 1.3 2.0	<i>percl.</i> 24.8 25.3 26.9 34.6 23.2 28.9 20.9 24.8 25.5 22.5	perct. 62 74 44 62 69 79 75 85 78 57	<i>perct.</i> 95.4 113.8 67.7 95.4 106.1 121.5 115.4 130.8 120.0 87.7	<i>percl.</i> 145.1 142.7 130.5 125.3 122.5 122.7 121.9 118.9 117.6 115.9	High M-high M-high M-high M-high M-high M-high M-high M-high
116 123 134 143 153 164 176 182 196 205	Iowealth 28N. Illinois 1239. Keystone 106(W). Kansas K-2234(W). DeKalb 888. Whisnand 831. DeKalb 816. National 129-2. Illinois 1238. U. S. 13 (Pfeifer).	53.7 53.3 52.5 52.1 51.9 51.3 50.3 49.7	53.5 53.0 52.9 52.3 50.9 50.7 50.7 50.2 49.4 49.1	1.1 1.2 .6 .4 2.3 2.4 1.1 .2 .6 .8	21.6 22.1 26.9 28.4 22.1 20.4 20.8 21.8 23.0 21.6	55 63 79 73 67 78 78 43 80 91	$\begin{array}{r} 84.6\\ 96.9\\ 121.5\\ 112.3\\ 103.1\\ 120.0\\ 120.0\\ 66.2\\ 123.1\\ 140.0\\ \end{array}$	$114.8 \\ 113.7 \\ 113.5 \\ 112.2 \\ 109.2 \\ 108.8 \\ 108.8 \\ 107.7 \\ 106.0 \\ 105.4 \\ 105.$	Medium Medium M-high Medium Medium Medium M-high M-high Medium
21 ³ 22 ⁴ 23 ⁴ 24 ⁵ 25 ⁶ 25 ³ 27 ⁴ 28 ³ 29 ⁴ 30 ³	Funk G-708. Pfister 612(W). Miller 1050(W). Kelly K-374. Pfister 164. Illinois 784 (Pfeifer). Whismand 834. Kelly K-200 Lowe 805(W). DeKalb 896.	48.7 48.6 48.4 48.2 48.2 48.1 47.7 47.5	$\begin{array}{r} 48.3\\ 48.1\\ 47.3\\ 48.2\\ 47.8\\ 47.2\\ 47.7\\ 46.7\\ 45.7\\ 47.2\end{array}$	1.6 1.2 2.6 .9 2.0 .8 2.1 3.8 .2	36.7 24.1 26.8 19.3 18.6 27.4 25.0 25.3 22.5 19.9	77 68 65 73 80 43 55 47 70 67	$118.4 \\ 104.6 \\ 100.0 \\ 112.3 \\ 123.1 \\ 66.2 \\ 84.6 \\ 72.3 \\ 107.7 \\ 103.1 \\$	103.6 103.2 101.5 103.4 102.6 101.3 102.4 100.2 98.1 101.3	High M-high Medium M-high Medium Medium Medium M-high Medium
316 324 335 344 354 363 372 386 383 404	DeKalb 875 Illinois 1244 Kansas K-1585 Illinois 126 Morgan M-546. Pfister 630(W) DeKalb 922(W) Illinois 2077(W). Illinois 804 Whisnand 917(W)	46.0 45.8 44.8 44.7 44.5 44.3 43.9 43.9	$\begin{array}{r} 45.8\\ 45.4\\ 45.0\\ 43.3\\ 44.2\\ 44.3\\ 43.8\\ 43.1\\ 42.2\\ 42.3\end{array}$.7 1.2 1.7 3.3 1.2 .5 1.2 1.8 3.8 2.1	23.2 23.2 31.4 22.1 21.8 23.9 22.7 27.2 30.2 24.3	70 65 87 74 58 68 75 57 33 74	$107.7 \\ 100.0 \\ 133.8 \\ 113.8 \\ 89.2 \\ 104.6 \\ 115.4 \\ 87.7 \\ 50.8 \\ 113.8 \\ 113.8 \\$	98.3 97.4 96.6 92.9 94.8 95.1 94.0 92.5 90.6 90.8	Medium Medium Medium Medium Medium Medium Medium M-high M-high
$\begin{array}{r} 41^4\\ 42^4\\ 43^3\\ 44^6\\ 45^2\\ 46^4\\ 47^5\\ 48^5\\ 48^3\\ 50^3\end{array}$	Ward 120A. Funk G-716. Hoosier Crost 707(W). Hoosier Crost 840. Keystone 40. Illinois 448 (Pfeifer). Lowe 830. Hoosier Crost 1012. Farmcraft 88. Hoosier Crost 1010.	42.9 42.5 42.2 42.1 41.7 40.0 39.7 39.7	42.8 42.4 41.8 41.6 41.4 40.9 39.5 38.7 38.9 39.2	.4 1.1 1.6 1.4 1.3 1.8 1.3 2.4 2.1 .8	20.6 35.0 28.8 20.4 19.6 23.4 22.7 35.6 21.8 29.1	79 45 60 80 40 65 34 38 83 62	$121.5 \\ 69.2 \\ 92.3 \\ 123.1 \\ 61.5 \\ 100.0 \\ 52.3 \\ 58.4 \\ 127.7 \\ 95.4$	91.8 91.0 89.7 89.3 88.8 87.8 84.8 83.0 83.5 84.1	Medium M-high Medium Medium M-high Medium M-high Medium M-high
51 ³ 53 ⁵ 54 ³ 55 ³ 56 ⁴ 57 ³ 58 ⁴ 59 ⁵ 60 ³	Producers' 1040 Lowe 840. Farmcraft 133(W) Illinois 713. Illinois 200. Lowe 523. U. S. 13. Kansas K-1583. National 129. Producers' 1050. Average of all entries.	39.3 39.0 38.8 38.7 38.5 38.3 37.3 37.2 34.0	38.1 38.2 38.6 38.2 38.3 38.0 37.3 36.1 36.8 32.7 46.6	3.1 2.7 1.0 1.6 1.0 1.2 2.6 3.2 1.0 3.7 1.5	20.8 23.4 26.0 21.1 21.9 20.9 22.1 32.1 22.1 25.5 24.6	78 55 67 60 53 63 70 61 60 37 65	120.0 84.6 103.0 92.3 81.5 96.9 107.7 93.8 92.3 56.9	81.8 82.0 82.8 82.0 82.2 81.5 80.0 77.5 79.0 70.2	Medium Medium Medium Medium Medium Medium M-high Medium Medium
	Average of all entries	41.3	40.0	1.5	24.0	05	••••		

2, 3, 4, 5, 5 These figures beside the rank numbers indicate the number of plots averaged to get the data in this table.

A difference of less than 7.1 bushels between total yields of any two entries in this table is not significant.

		Acre	e-yield	Damaged corn in	Mois- ture in	Erect	Ratin	g for—	Compara - tive
Ran	k Entry	Total	Sound	shelled sample	grain at harvest	plants	Erect plants	Sound yield	height of ear
		bu.	bu.	perct.	perct.	perci.	perct.	perci.	
23356789	Funk G-711. Illinois 2120(W). Illinois 2119(W). Kansas K-2275(W). Illinois 2059(W). Illinois 2019-B(W). Kansas K-2234(W). Illinois 1239. Illinois 2077(W).		63.2 62.5 58.8 58.4 57.3 54.9 53.5 52.4 53.1	1.6 1.0 1.8 2.5 2.0 1.6 1.6 2.7 1.2	30.8 . 23.7 23.1 22.9 22.8 25.8 21.5 24.1	85.7 85.9 93.9 88.8 79.1 88.5 90.2 86.8 83.2	98.2 98.4 107.6 101.7 90.6 101.4 103.3 99.4 95.3	125.6 124.3 116.9 116.1 113.9 109.1 106.4 104.2 105.6	M-high M-high M-high M-high Medium M-high Medium Medium
11 12 13 14 15 16 16 18 18	Whisnand 917(W). Hoosier Crost 707(W). Farmcraft 133(W). DeKalb 888. Miller 1050(W). Kansas K-1585. Illinois 1238-B*. Illinois 1238-B*. Illinois 1233. Kansas K-1583. Illinois 804.	53.2 52.0 51.7 51.5 51.4 51.0 51.0 51.0 51.0 51.2 49.8	52.4 52.5 51.4 50.9 50.6 50.5 49.8 49.5 49.2 48.4 37.7	1.6 1.4 1.1 1.5 1.6 2.4 2.9 2.2 2.9 3.9	23.7 24.7 24.0 22.1 24.1 26.4 20.7 22.2 21.3 27.4 23.6	89.7 85.5 87.3 88.4 86.9 95.4 91.4 90.8 85.3 76.8	102.7 97.9 100.0 101.3 99.5 109.3 102.4 104.7 104.0 97.7 88.0	104.2 104.4 102.2 101.2 100.6 100.4 99.0 98.4 97.8 96.2 75.0	M-high Medium Medium M-high M-high Medium Medium Medium M-high Medium
22 23 24 25 26 27 28	Illinois 713. DeKalb 922 (W) DeKalb 816. Illinois 784. Hoosier Crost 840. Farmcraft 88. Illinois 200. Lowe 840. U.S. 13.	48.5 47.1 46.9 45.7 45.4 45.4 44.8 43.1	48.1 47.7 45.9 45.9 44.1 44.2 43.5 42.0 41.7	1.5 1.5 3.0 2.0 3.5 2.7 2.7 2.4 2.1	21.6 21.4 19.2 25.2 20.5 21.0 21.5 22.9 20.7	84.7 89.7 91.3 78.5 92.5 90.4 82.7 83.9 88.3	97.0 102.7 104.6 89.9 106.0 103.6 94.7 96.1 101.1	95.6 94.8 91.3 91.3 87.7 87.9 86.5 83.5 82.9	Medium Medium Medium Medium Medium Medium Medium Medium Medium
	Average of all entries	. 51.8	50.3	2.1	23.2	87.3			

Table 19.—EXTREME SOUTHERN ILLINOIS: Dixon Springs Bottomland, Summary for 1943, 1944, and 1945

* This entry was Illinois 1238 in 1945.

A difference of less than 5.9 bushels between total yields of any two entries in this table is not significant.

Table 20.—EXTREME SOUTHERN ILLINOIS: Dixon Springs Upland, 1945

		Acre	e-yield	Damaged corn in	Mois- ture in			g for—	Compara tive
Ran	k Entry	Total	Sound		grain at harvest			Sound yield	height of ear
		bu.	bu.	perct.	percl.	perci.	perct.	perci.	
1	Miller 1050(W)	63.4	62.7	1.1	19.5	91	103.4	121.5	High
2	Lowe 855(W)	57.2	57.1	.2	21.8	84	95.4	110.7	M-high
2	Kansas K-1585	57.2	56.6	1.1	21.3	91	103.4	109.7	High
4	Kansas K-2275(W)	56.6	56.1	.9	21.3	86	97.7	108.7	Medium
5	Illinois 804	54.6	53.8	1.4	20.4	81	92.0	104.3	Mcdiun
6	Whisnand 917(W)	54.2	53.8	.8	. 20.9	96	109.1	104.3	M-high
7	Funk G-711	53.8	53.6	.4	28.4	68	77.2	103.9	M-high
8	Kansas K-1583	52.8	52.3	1.0	26.2	85	96.6	101.4	M-high
9	Kansas K-2234(W)	51.1	50.7	.8	20.4	87	98.8	98.3	M-high
	Illinois 200		49.3	3.3	19.6	93	105.6	95.5	M-high
1	DeKalb 888	46.4	45.4	2.1	19.7	92	104.5	88.0	M-high
2	Illinois 1244	45.3	43.7	3,6	20.9	93	105.6	84.7	Mediun
3	National 129	44.9	44.8	. 3	20.8	94	106.8	86.8	Mediun
4	Illinois 784 (Pfeifer)	43.9	43.2	1.6	23.2	84	95.4	83.7	M-high
	Average of all entries	52.3	51.6	1.3	21.7	88			

A difference of less than 11.1 bushels between total yields of any two entries in this table is not significant.

		Acre	e-yield	Damaged corn in	l Mois- ture in	Erect	Ratin	g for—	Compara- - tive height of ear
Rai	ik Entry	Total	Sound	shelled sample	grain at harvest	plants	Erect plants	Sound yield	
		bu.	bu.	perct.	perct.	perct.	perct.	perci.	
1	Kansas K-2275(W)	43.3	42.5	2.3	20.2	92.2	98.9	116.4	Medium
2	Kansas K-2234(W)		38.3	.9	20.0	93.5	100.3	104.9	M-high
3	Kansas K-1585		38.1	1.4	19.3	95.5	102.5	104.4	M-high
4	Whisnand 917(W)	37.0	36.7	1.3	19.1	98.0	105.2	100.5	M-high
5	Illinois 200	36.3	35.0	4.1	18.6	96.5	103.5	95.9	M-high
6	Kansas K-1583	34.4	33.7	3.2	22.3	92.5	99.2	92.3	M-high
7	Funk G-711	31.4	31.1	2.6	26.0	84.0	90.1	85.2	Medium
_	Average of all entries.	37.1	36.5	2.3	20.8	93.2			

Table 21.—EXTREME SOUTHERN ILLINOIS: Dixon Springs Upland, Summary for 1944 and 1945

A difference of less than 7.2 bushels between total yields of any two entries in this table is not significant.

SOIL ADAPTATION TEST

Nine double-cross hybrids tested at Urbana on soils of different productive levels in 1943 and 1944 were tested again in 1945 in the same way (Table 22).

Soils. The two areas used for the tests are on the Agronomy south farm and differ in productivity as a result of long-continued use of different cropping systems. In the Southwest rotation a high state of productivity has been maintained by a systematic rotation of corn, oats, clover hay, and wheat with a red-clover catch crop. The South-Central area has been depleted of fertility by a rotation of corn, corn, corn, and soybeans. Both fields have received manure and phosphate. The predominating soil type on both fields is Sidell silt loam.

Season. Wet weather delayed planting on both fields until May 23 and 24. Planting was similarly delayed in 1943 and 1944. Growing conditions were favorable thruout the rest of the season, but corn was late in maturing. Even when harvested in early December, the moisture content was higher than in the two previous years.

1945 results. Total yields averaged higher on both fields — the higher and the medium productive — than in either of the past two years. On the more productive soil they averaged 112.9 bushels an acre, which was 5.1 bushels more than the three-year average (Table 23). On the medium-productive soil they averaged 66.3 bushels an acre, or 4.6 bushels higher than the three-year average.

The percentage of damaged kernels was lower on both areas than in 1944 even tho the percentage of moisture was higher at husking time.

More lodging occurred on the highly productive soil. In 1944 more occurred on the medium-productive soil.

On the highly productive soil there was less difference between hybrids than there was in previous years. There was likewise less

		Acre	-yield	Damaged corn in	Mois- ture in	Erect	Ratin	g for—
ank	Entry	Total	Sound	shelled	grain at harvest	plants	Erect plants	Sound yield
	HIGHLY PRODUCT rolling pl			ostly Side athwest ro		oam slig	tly	
		bu.	bu.	perct.	perci.	perct.	perct.	perct.
L III	inois 201	117.8	117.1	.56	20.5	72	97	104.3
III	inois 972-1	117.5	116.6	.73	21.0	78	105	103.8
	inois 206		114.8	.69	21.5	75	101	102.2
	inois 784		113.8	.27	24.9	54	73	101.3
	inois 21		113.4	.64	20.8	76	103	101.0
	inois 246		111.1	.90	22.4	68	92	98.
	S. 13		110.9	.41	21.8	77	104	98.3
Ill	inois 751	108.8	108.0	.74	20.5	79	107	96.3
I11	inois 101	105.1	104.8	.30	19.8	89	120	93.
	Average		112.3	.58	21.5	74		
	A difference of less any two of						f	
	MEDIUM PRODUCT rolling pha						ghtly	
111	inois 201	68.9	68.5	.63	20.5	74	93	103.0
111	inois 972-1	68.8	68.7	.22	20.0	80	100	103.9
111	inois 206	67.6	67.5	.21	21.4	77	97	102.3
111	inois 246	67.1	66.7	.67	22.3	79	99	100.
U.	S. 13	67.0	66.8	.33	21.0	80	100	101.0
111	inois 21	67.0	66.7	.41	20.8	84	105	100.9
	inois 101	65.1	65.0	.23	20.1	92	115	98.
Illi	inois 751	63.0	62.8	.31	19.2	89	112	95.0
111i 111i			61.9	.24	24.2	62	78	93.0
111i 111i	inois 784	62.0	01.9					
111i 111i	inois 784 Average	62.0 66.3	66.1	.36	21.0	80	•••	

Table 22.—SOIL ADAPTATION TEST: Central Illinois, Urbana, 1945

difference between those on medium-productive soil. With the exception of Illinois 784, there was no significant differences in the ranking of hybrids on the two areas. Illinois 784 ranked higher on the highly productive soil than it did on the medium-productive soil. Its high moisture content, however, and its tendency to lodge severely showed that it is not a well-adapted hybrid for this area. Illinois 101 and 751, being generally too early for the locality of Urbana, ranked low in both tests.

The high yielding ability and the wide adaptability of Illinois 972-1 are demonstrated by the three-year averages given in Table 23. In standing ability, grain, quality, and maturity this hybrid ranks average or above.

[February,

	ık Entry	Acre	Acre-yield		Mois- ture in	Erect	Rating for-	
Ranl		Total	Sound	corn in shelled sample		plants 2 yr. ave.	Erect plants	Sound yield
	HIGHLY PROD phase, and	UCTIVE Flanagan	SOIL: Silt Lo	Sidell Sile am (Sout	t Loam, hwest ro	gently slotation)	oping	
		bu.	bu.	perct.	perct.	perct.	perct.	perci.
1	Illinois 972-1	113.3	112.1	.8	18.3	79	103.9	104.7
2	Illinois 201	111.3	110.2	1.1	19.2	74	97.4	102.9
3	Illinois 246	110.8	110.2	.6	19.9	73	96.0	102.9
	Illinois 21		109.4	.9	19.2	72	94.7	102.1
	U. S. 13		108.6	1.3	19.5	77	101.3	101.4
6	Illinois 206	109.1	108.3	.7	19.0	76	100.0	101.1
7	Illinois 784	107.5	107.1	.6	22.6	59	77.6	100.0
8	Illinois 751	100.7	100.1	.5	19.0	86	113.1	93.5
9	Illinois 101	98.1	97.7	. 4	17.3	88	115.8	91.2
	Average	107.8	107.1	.8	19.3	76		
	A difference o any tw	of less than o of the al					of	
	MEDIUM PR	ODUCTI ling phase				am, slight	tly	
1	Illinois 972-1	64.9	64.5	.8	18.7	69	97.2	105.4
	Illinois 201		63.4	1.1	18.4	69	97.2	103.6
3	Illinois 21	64.3	63.8	.9	19.1	77	108.4	104.2
	Illinois 206	63.2	62.9	.7	19.6	76	107.0	102.8
5	Illinois 246	63.0	62.5	.8	19.8	62	87.3	102.1
6	U. S. 13	62.4	61.5	1.4	19.6	75	105.6	100.5
7	Illinois 784	60.6	60.3	.8	21.8	56	78.9	98.5
8	Illinois 751	58.4	58.0	.8	18.1	78	109.9	94.8
9	Illinois 101	54.5	53.7	.9	18.1	77	108.4	87.7
	Average	61.7	61.2	.9	19.2	71		
	A difference of						of	

Table 23.—SOIL ADAPTATION TESTS: Summary, Central Illinois, Urbana, 1943, 1944, and 1945

SUMMARY

Two hundred and seventy corn hybrids were tested on seven fields in Illinois in 1945. Nine of these were again included in a test to determine their response to soils of two different levels of productivity. Eighteen hybrids were tested for their response to seed treatment and their resistance to ear rots. Wet weather made corn planting late on all fields. Good stands were obtained on all the fields, except the bottomland field at Dixon Springs, where about half the plots were drowned out, and at Alhambra, where excessive wetness after planting destroyed all plots of the first planting. These plots were planted a second time on July 6.

The results of these tests were briefly as follows:

1. The Sullivan field in south-central Illinois, as in 1944, had the highest average yield — 91.7 bushels an acre. The average acre-yields of the other test fields were: Sheldon, 76.1 bushels; Galesburg, 64.5 bushels; Kings, 62.8 bushels; Dixon Springs, upland, 52.3 bushels; Dixon Springs, bottomland, 47.3 bushels; and Alhambra, 26.2 bushels.

The average yield of corn on all seven fields was 60.1 bushels an acre. This is 29 percent more than the 1945 average yield of the state (46.5 bushels). (The locations of these fields are shown in Table 1, page 228, and on the inside of the front cover.

2. Approximately 30 hybrids have been tested for three years in five sections of the state. The difference between the yield of the highest ranking hybrid and the yield of the lowest, on each field, was as follows: northern Illinois, a difference of 15.4 bushels; west north-central, 13.6 bushels; east north-central, 12.0 bushels; south central, 14.6 bushels; and Dixon Springs, bottomland, 21.5 bushels. These differences indicate possible advantages to be gained by choosing well-adapted hybrids.

3. More white hybrids were included in tests in the southern half of the state than in the northern half. On southern fields they performed relatively better than the whites on the northern and northcentral fields.

4. Southern corn rootworm was one cause of the lodging of the corn on the Sheldon field in east north-central Illinois. From 5.5 to 83.3 percent of the plants of the different hybrids lodged 30 degrees or more on this field.

5. The greatest amount of stalk breakage ascribable to damage by the European corn borer occurred on the east north-central field at Sheldon. On this field 25.0 to 71.6 percent of the plants of the different hybrids were broken. Almost half of the plants (49.8 percent) were broken at a point of borer injury.

6. Lodging of corn was especially severe on the west northcentral field at Galesburg, the east north-central field at Sheldon, and the southern field at Alhambra. At Galesburg unfavorable weather was believed to be mainly responsible for lodging; at Sheldon, insect damage and unfavorable weather; at Alhambra, extremely late planting.

• 7. Losses from ear rots caused by Diplodia were low in 1945, but damage from Nigrospora was higher than usual.

8. Treatment of the seed of 18 hybrids with Arasan increased the yield of grain 8.7 bushels an acre in 1945 compared with 3.2 bushels in 1944. Damage from kernel rot in these same hybrids ranged from 1.18 to 5.84 percent, averaging 2.57 percent.

9. Variations in yields between the nine hybrids tested on soils of two different productivity levels were less than those of previous years. With the exception of Illinois 784, which showed better adaptation to soils high in productivity, there was no significant difference in the rankings of the hybrids on the two fields.

[February,

PEDIGREES OF HYBRIDS

Following is a list of Experiment Station and U. S. hybrids whose perform ance is shown in this bulletin.

Ill. 21 (WF9 \times 38-11) (Hy \times 187-2)	- III
$\frac{111}{101} = \frac{111}{101} \times \frac{101}{100} \times $	=
III. 101 (WF9 × M14) (CC7 × 187-2)	Ill
Ill. 126 (WF9 \times 38-11) (Tr \times L317)	111
Ill. 200 (WF9 \times 38-11) (K4 \times L317)	Ill
$111, 200, \dots, (117) \land 30^{-11}) (117 \land 1017)$	
Ill. 201 (WF9 \times 38-11) (187-2 \times L317)	III
Ill. 206 (WF9 \times 38-11) (5120 \times L317)	Ill
Ill. 246 (WF9 \times Hy) (187-2 \times L317)	Ill
	Î
III. $247(187-2 \times 38-11)$ (Hy × L317)	
III. 269(CC10 \times CC24) (WF9 \times Hy)	- Ill
Ill. 273-1 (WF9 \times 38-11) (187-2 \times O7)	Ka
Ill. 437 (WF9 × Hy) (K4 × L317)	Ka
111, 440 (20.11 × 17 -) (174 × 1.217)	
Ill. 448 (38-11 \times Kys) (K4 \times L317)	Ka
III. 713(WF9 \times 38-11) (G \times L317)	Ka
III. 751 $(A \times 90)$ (WF9 \times Hy)	U.
	Ŭ.
Ill. 784 (Hy \times 5120) (K4 \times L317)	
III. $804(5120 \times 38-11)$ (K4 × L317)	U.
III. 972A-1 (WF9 \times O7) (Hy \times L317)	W
III. 972-2 (WF9 \times Hy) (O7 \times R57)	W
Ill. 1091A (WF9 \times M14) (Hy \times 187-2)	W
Ill. 1180 (WF9 \times M14) (CC10 \times CC24)	Wi
III. 1233 (WF9 \times 38-11) (940 \times L317)	W
Ill. $1237(WF9 \times Hy)(R61 \times 187-2)$	W
III. 1238 (WF9 \times 38-11) (940 \times G)	

III. 1239 (K166 \times L317) (G \times 38-11)
Ill. 1240-1 (WF9 \times M14) (R2 \times Kr-Osf)
Ill. 1244 (WF9 \times 38-11) (K4 \times R60)
III. 1260 (WF9 \times M14) (R2 \times CC35)
III. 2019(W) (Ky27 \times R30) (33-16 \times CI.61)
Ill. $2059(W) \dots (Ky27 \times CI.61) (33-16 \times K6)$
Ill. 2077(W) (33-16 \times CI.61) (Ky27 \times CI.43
Ill. 2119(W) (Ky27 \times CI.61) (33-16 \times K64)
Ill. 2120(W) (Ky27 \times CI.61) (K6 \times K64)
Kans. 1583 (Kys \times K201C) (K4 \times 38-11)
Kans. 1585 (K155 \times K201C) (K4 \times 38-11)
Kans. 2234(W) (K41 \times K55) (K63 \times K64)
Kans. $2275(W)$. (K55 × K64) (Ky27 × 33-16)
U. S. 13
U. S. 35 (WF9 \times 38-11) (R4 \times Hy)
U. S. 44-1
Wis. $608(R3 \times 8) (24 \times 20)$
Wis. 640A \ldots (WF9 \times 32) (A \times 90)
Wis. $641A(WF9 \times 32) (187 \times 90)$
Wis. 643 (WF9 \times 22) (24 \times 20)
Wis. 692 (WF9 \times Hy) (A \times 22)
Wis. 701A \ldots (A \times Hy) (WF9 \times 17)

CONTRIBUTORS OF SEED

Bear Hybrids. Blackhawk Hybrids. Canady Hybrids. Crow Hybrids. DeKalb Hybrids. Doubet Hybrids. Farmcraft Hybrids. Ferris Hybrids. Frey Hybrids. Funk Hybrids. Holmes Hybrids. Hoosier-Crost Hybrids. Huebsch Hybrids. Illinois Hybrids. Kansas Hybrids. Kelly Hybrids. Kelly Hybrids. Lowe Hybrids. Moews Hybrids. Moews Hybrids. More Hybrids. More Hybrids.	Appl's Hybrid Seed Co Bear Hybrid Corn Co. Blackhawk Coop, Hybrid Corn Assn Lloyd A. Canady. Crow's Hybrid Corn Co. DeKalb Agricultural Assn E. W. Doubet Farmcraft Seed Co. Ferris Hybrids. Frey Hybrid Corn Co. Funk Brothers Seed Co. Furr Hybrids. Z. M. & C. W. Holmes. Edw. J. Funk & Sons. L. A. Huebsch & Son. Ill. Agr. Exp. Sta. Ill. Crop Improvement Assn.*. Michael-Leonard Seed Co. Kansas Agr. Exp. Sta. Kelly Seed Co. Corneli Seed Co. Lowe Seed Co. B. A. Miller & Son Moews Seed Co. Morgan Brothers.	Decatur, Box 628 Polo Watseka Milford DeKalb Hanna City Oxford, Ind. Princeton Gilman Bloomington Genoa Edelstein Kentland, Ind. Mundelein Urbana Urbana Vormal Manhattan, Kan. San Jose St. Louis, Mo. Aroma Park Forrest Granville Galva
Moews Hybrids	. Moews Seed Co	Granville
Morgan Hybrids	. Morgan Brothers	Galva Bowen
Munson Hybrids	. Carl Munson	Galesburg, R. 3
National Hybrids	. National Hybrid Corn Co	Hudson
INICHOIS HYDRIGS	Nichols Brothers	Hebron

Null Hybrids
Pfeifer Hybrids
Pfister Hybrids
Pioneer HybridsPioneer Hi-Bred Corn CoPrinceton
Producers' HybridsProducers' Crop Imp. AssnPiper City
Schwenk Hybrid
Seeber Hybrid
Sibley HybridsSibley FarmsSibley
Sieben Hybrids
Stewart HybridPrinceville, R. 1
Stiegelmeier Hybrids H. L. Stiegelmeier Normal
U. S. HybridsUrbana
Ward Hybrids Montgomery Ward & Co Chicago
Whisnand Hybrids Myron Whisnand Arcola
Wisconsin Hybrids Wis. Agr. Exp. Sta Madison, Wis.

^a Seed supplied by the Association was obtained from samples of the hybrids submitted in 1944 for the laboratory test required for certification.

INDEX TO ENTRIES

Hybrid	Table	Hybrid		Table
Appl A-13		Funk G-80.		7. 14. 15. 16. 17
Appl A-201				
		Funk G-114.		
Bear OK-40, OK-150, OK-315(W)				
Blackhawk 72A, 98A				
Blackhawk 111	7	Funk G-137.	•••••	
0 1 0 //		Funk G-169		
Canady C-65				
Crow 360		Funk G-527(W)	
Crow 432, 514(W) Crow 607				
Crow 607(W)				
Crow 608				
Crow 633				
Crow 805				
0.0		A 411 00,		
DeKalb 404A, 458, 615	5, 6, 16	Holmes Utili	ty 29	
DeKalb 422, 450				
DeKalb 609	5			
DeKalb 628A, 800A, 817A		Holmes Utili	ty 49	
DeKalb 680		Holmes Utili	ty 59	
DeKalb 816.		Holmes Utili	ty 96	
DeKalb 835				
DeKalb 840, 847 DeKalb 849				5,6 14,15
DeKalb 875				
DeKalb 888				
DeKalb 896	18			
DeKalb 919(W)				
DeKalb 922(W)	. 17. 18. 19			
Doubet D-1				
Doubet D-25		Huebsch 25.		
Doubet D-41				
Doubet D-42, D-72				3, 4, 7-15, 22, 23
Doubet D-47	9-13			3-6, 16, 22, 23
Farmcraft 42	11 12 16			
Farmcraft 47				
Farmcraft 69		Illinois 201.	•••••	3, 4, 16, 22, 23
Farmcraft 81		Illinois 246	3 4 7	-9, 11, 13, 14, 22, 23
Farmcraft 88				
Farmcraft 131(W)				
Farmcraft 133(W)	16-19			
Ferris F-11				4, 7, 9, 11, 13, 16
Ferris F-31				
Frey 410		Illinois 448		
Frey 425				
Frey 644, 645				
Frey 692, 634(W) Funk G-29		Illinois 751		3-6, 16, 22, 23 4, 14, 17, 19, 22, 23
Funk G-29				4, 14, 17, 19, 22, 23
Funk G-51				
Funk G-53, G-74.	0 11 13			
	, 11, 10		•••••	

.

Hybrid	Table
Hybrid Illinois 960, 972. Illinois 972-1. Illinois 972-A. Illinois 972-2. Illinois 172-2. Illinois 1091-A. Illinois 1233, 1238, 1239. Illinois 1237. Illinois 1234.	3,4
Illinois 972-1	14
Illinois 972-2 (Appl)	, 12, 13
Illinois 1180	5, 6, 18
Illinois 1233, 1238, 1239	.18,19
Illinois 1237	
Illinois 1243	17
Illinois 1244	
Illinois 2019(W)	
Illinois 2019B(W)	4. 17-19
Illinois 2077 (W)	17-19
Illinois 2119(W), 2120(W)	.18,19
Iowealth QAQ	
Iowealth 25	
Iowealth 28N.	.14, 18
Iowealth 29A	13, 17
Kansas K-1583, K-1585, K-2234(W), K-2275(W)	17-21
Kelly K-42	
Kelly K-77.	
Kelly 200	
Keystone 38	10, 18
Keystone 40.	18
Keystone 42	0.11.13
Kansas K-1583, K-1585, K-2234(W), K-2275(W). Kelly K-42. Kelly K-77. Kelly K-99. Kelly K-374. Kelly K-374. Keystone 38. Keystone 40. Keystone 43. Keystone 106(W).	.14,18
Lowe 6(W), 19. Lowe 15. Lowe 520, 560. Lowe 523. Lowe 530. Lowe 830. Lowe 840. Lowe 840. Lowe 855(W). Lowe 865(W).	5
Lowe 520 560	5, 16
Lowe 5239, 11, 1	3, 14, 18
Lowe 830	9, 11, 13
Lowe 840.	17-19
Lowe 855(W)14, 10	5, 18, 20
Miller 201. Miller 1050(W). Moews 14. Moews 523. Morgan 52. Morgan M-105. Morgan M-546. Morton M-33, M-380. Munson M-5, M-17, M-19.	
Miller 201	5. 18-20
Moews 14.	5,6
Moews 523	7.8.16
Morgan 52	7,8
Morgan M-105	5, 10 8. 14. 18
Morton M-12.	7, 14, 16
Morton M-33, M-380 Munson M-5, M-17, M-19	9, 11, 13
Notional 114	5 16
National 114-1, 118-1	
National 118	9, 11, 13
National 125	7, 14
National 125-29, 1	1, 12, 13
National 129	+, 18, 20
National 114. National 114-1, 118-1 National 118. National 125. National 125.1 National 125-1 National 125.1 National 125.1 National 125.1 National 129.1 National 129.2 Nichols 5A, 202A. Nichols N-75, N-400.	
Nichols N-75, N-400	. 5, 0, 10

Hybrid	Table
Null N-54. Null N-77	14, 15
Pfeifer 206 Pfeifer A-243	14 14, 16
Phister 50A Phister 164	14-18
Prister 180 Pfister 280	.9-13
Pfister 366	.6, 16
Pfister 390	11, 13
Pfister 630(W), 660 Pfister 1823.	18
Pfister 1897	14-17
Pfister 4897	, 6, 16 7, 8
Pioneer 300. Pioneer 304	9-17
Pioneer 307	15, 17
Pioneer 330	6, 6, 16 9-17
Pioneer 333, 339	7,8
Pioneer 340, 341	
Pioneer 353A	5, 6, 16
Producers' FCXX. Producers' 777.	
Producers' 909, 1020	14, 15
Producers 1010	0 13
Null N-54. Null N-77. Pfeifer 206. Pfeifer A-243. Pfister 50A. Pfister 180. Pfister 180. Pfister 280. Pfister 380. Pfister 380. Pfister 380. Pfister 612(W). Pfister 630(W), 660. Pfister 630(W), 660. Pfister 630(W), 660. Pfister 1897. Pfister 4817. Pfister 4897. Pfister 300. Pfister 301. Pfister 302. Pfister 303. Pfister 303. Pfister 304. Pfioneer 305. Pfoneer 306. Pioneer 307. Pioneer 308. Pioneer 309. Pioneer 3138. Pioneer 334. Pioneer 334. Pioneer 334. Pioneer 334. Producers' FCXX Producers' 1000. Producers' 1015. Producers' 1040. Producers' 1040. Producers' 1050. Producers' 1050. Producers' 1050.	-15, 18 14, 18
Schwenk S-34	7
Schwenk S.34 Seeber 11 A Sibley 750. Sibley 753.B Sieben S.350, S-450. Sieben S.440. Stewart S-11. Stiegelmeier S-102. Stiegelmeier S-379. Stiegelmeier S-1313, S-6911.	11, 13
Sieben S-350, S-450	
Stewart S-11 Stiegelmeier S-102	
Stiegelmeier S-360	5,9-13 11,13
Stiegelmeier S-1313, S-6911	7
U. S. 13	22, 23
U. S. 35	7, 8, 16
U. S. 44-1. Ward 115(W), 115A. Ward 120A. Ward 120B. Ward 120B. Ward 120(W). Whisnand 831. Whisnand 834. 905(W). Whisnand 901(W). Whisnand 901(W). Wisconsin 608, 640A, 641A, 643, 701A. Wisconsin 692.	
Ward 120B	11, 13
Whisnand 83114, Whisnand 834, 905(W)	15, 18
Whisnand 901(W). Whisnand 917(W).	17
Wisconsin 692	

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