RESULTS OF THE COOPERATIVE UNIFORM SOYBEAN TESTS

PART I. NORTH CENTRAL STATES

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1957
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Compiled by:

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INTRODUCTION

The U. S. Regional Soybean Laboratory was organized in 1936 under the Bankhead-Jones Act, as a cooperative project by the U. S. Department of Agriculture and the twelve Agricultural Experiment Stations of the North Central Region. In 1942, the work of the Soybean Laboratory was expanded to include cooperation with twelve Agricultural Experiment Stations of the Southern Region also. The research program of the Laboratory has been directed toward the development of improved varieties and strains of soybeans for industrial use, and the obtaining of fundamental information necessary to the efficient breeding of strains to meet specific needs.

The Uniform Soybean Tests were initiated in 1938 on a limited basis but the work was rapidly expanded until nine test groups were established to measure the yield and range of adaptation of the better strains developed through the breeding program. The first five groups include strains of proper maturity for the North Central States. The summary of performance of the first five groups is included in Part I of this report. Information on the last four groups adapted to the southern part of the United States is contained in Part II, which is issued separately.

Uniform Preliminary Tests are grown at a limited number of locations and have been very useful in the early screening of experimental strains, thus improving the quality of entries in the Uniform Tests. This is the first year that there have been Preliminary Tests for all maturity Groups 0 through IV.

Uniform Test, Group 0, contains the strains that will bloom and mature under the longer days encountered during the summer in the Dakotas, Minnesota, and northern Wisconsin. Group I contains strains generally adapted to South Dakota, the southern parts of Minnesota, Wisconsin, and Michigan, and the northern parts of Iowa and Ohio. Groups II, III, and IV, respectively, include strains adapted to locations farther south in the North Central States and to other areas of similar latitude. In general, each group is arranged to include strains differing in maturity by about ten days. Maturity of the strains is expressed as so many days earlier or later than some well-known check or reference variety in the group.

Daily rainfall and maximum and minimum temperature graphs and a brief statement of growing conditions during the 1957 season are included for most of the nursery locations as an aid to interpretation of the agronomic and chemical data. The 1957 planting conditions were ideal in the western part of the North Central Region, but frequent rains seriously delayed planting in much of Illinois, Indiana, and Ohio. Ideal weather in this area during late summer and fall served to offset the unfavorable start and most nurseries produced satisfactory yields. The mean oil content of each of the five nursery groups was higher in 1957 than in 1956, the greatest differences being .7% in Group 0 and .9% in Group I. In contrast, protein contents were generally lower in 1957, the greatest differences being 1.3% in Group 0 and 1.4% in Group I. The only exception was in Group IV, where the 1957 protein value was slightly higher. Mean oil and protein values for 1957 followed closely those of 1955.

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LOCATION OF COOPERATIVE NURSERIES, 1957

Location	Cooperator	Uniform Tests					Prelim. Tests				
		0	I	II	III	IV	0	I	II	III	IV
Ottawa, Ont.	F. Dimmock, Central Exp. Farm	x					x				
Guelph, Ont.	G. E. Jones, Ont. Agr. College	x					x				
Ridgetown, Ont.	W. W. Snow, W. Ont. Agr. College		x	x							
Mt. Holly, N. J.	Wilbur Lippincott			x							
Bridgeton, N. J.	Joseph Hancock			x							
Newark, Del.	H. W. Indyk, Del. Agr. Exp. Sta.			x	x	x					
Beltsville, Md.	W. D. Hanson, Soybean Sec., CR				x	x				x	x
Hoytville, Ohio	Northwestern Substation	x	x	x			x	x	x		
Wooster, Ohio	Ohio Agr. Exp. Sta.	x	x	x			x				
Columbus, Ohio	P. E. Smith, Ohio State Univ.	x	x	x	x		x	x	x	x	
Bath, Mich.	Mich. State University	x									
E. Lansing, Mich.	Mich. State University	x	x								
Ida, Mich.	Chester Metz	x	x	x							
Walkerton, Ind.	Elburt F. Place, Cooperator		x	x				x			
Bluffton, Ind.	Gerald & Homer Bayless, Coop.			x							
Lafayette, Ind.	O. W. Luetkemeier, Purdue A.E.S.			x	x				x	x	
Greenfield, Ind.	Raymond Roney, Cooperator			x	x						
Worthington, Ind.	Frederic Sloan, Cooperator				x	x					
Evansville, Ind.	Bernard Wagner, Cooperator					x					x
Spooner, Wis.	Carl Rydberg, Spooner Br. E.S.	x					x				
Durand, Wis.	Antoine Sam, Wis. Agr. Exp. Sta.	x	x				x	x			
Madison, Wis.	J. H. Torrie, Wis. A.E.S.		x	x				x	x		
Shabbona, Ill.	R. R. Bell, N. Ill. Exp. Field		x	x				x			
Dwight, Ill.	Orland Bossert, Cooperator			x					x		
Urbana, Ill.	C. H. Franham, Ill. Agr. Exp. Sta.			x	x				x	x	
Girard, Ill.	T. H. Lloyd & Sons, Cooperators			x	x					x	
Eldorado, Ill.	Cyril Wagner, Cooperator				x	x					x
Carbondale, Ill.	D. R. Browning, Southern Ill. U.					x					x
Crookston, Minn.	J. W. Lambert, Minn. N.W. E.S.	x									
Morris, Minn.	J. W. Lambert, Minn. N.W. E.S.	x					x				
St. Paul, Minn.	J. W. Lambert, Minn. A.E.S.	x	x				x	x			
Waseca, Minn.	J. W. Lambert, Minn. S. E.S.		x	x				x			
Cresco, Ia.	Howard County Exp. Farm		x					x			
Sutherland, Ia.	Galva Pringhar Exp. Farm			x							
Kanawha, Ia.	Northern Iowa Exp. Farm		x	x				x	x		
Independence, Ia.	Carrington Clyde Exp. Farm			x							
Ames, Ia.	Iowa Agr. Exp. Sta.			x	x				x	x	
Ottumwa, Ia.	A. E. Newquist, Cooperator				x					x	
Kirksville, Mo.	Earl Shockey, Cooperator			x	x				x		
Columbia, Mo.	Mo. Agr. Exp. Sta.				x	x				x	x
Larimore, N. D.	R. E. Bothun, N.D. Agr. Exp. Sta.	x									
Fargo, N. D.	R. E. Bothun, N.D. Agr. Exp. Sta.	x					x				
Barney, N. D.	R. E. Bothun, N.D. Agr. Exp. Sta.	x									
Rosholt, S. D.	C. J. Franzke, Agr. Exp. Sta.	x					x				
Brookings, S. D.	C. J. Franzke, Agr. Exp. Sta.		x					x			
Menno, S. D.	C. J. Franzke, Agr. Exp. Sta.			x					x		
Concord, Nebr.	Nebraska Agr. Exp. Sta.			x					x		
Lincoln, Nebr.	J. H. Williams, Nebr. A.E.S.			x	x					x	
Powhattan, Kans.	L. B. Hertz, Cornbelt Exp. Field			x	x						
Mound Valley, Kans.	Donald Thompson, Branch Exp. Sta.					x					
Columbus, Kans.	V. H. Peterson, Columbus Exp. Fld.					x					
Corvallis, Oregon	H. H. Rampton, Oregon A.E.S.	x					x				

METHODS

All Uniform Tests are planted in replicated single rod-row plots, using either a lattice or a randomized block design with four replications. Row widths used at the different test locations vary from 21 to 42 inches, depending upon the width in common use or the equipment available for handling the crop. Usually 18 to 20 feet of row is planted and only 16 or 16½ feet harvested. Seeds have been planted on the basis of 200 viable seeds per row. The following data were taken for each plot.

Yield is measured after the seeds have been dried to a uniform moisture content and is reported in bushels per acre.

Maturity is taken as the date when approximately 95% of the pods are ripe and most of the leaves have dropped. Green stems are not to be considered in determining maturity but should be noted separately. Maturity is expressed as days earlier (-) or later (+) than the average of a standard reference variety. Reference varieties used for the Uniform Tests are as follows: Group 0, Mandarin (Ottawa); Group I, Chippewa; Group II, Hawkeye; Group III, Lincoln; and Group IV, Wabash.

Lodging notes are taken at maturity and recorded on a scale of 1 to 5 according to the following degrees of lodging:

1 Almost all plants erect
2 Either all plants leaning slightly or a few plants down
3 Either all plants leaning moderately, or 25% to 50% of the plants down
4 Either all plants leaning considerably, or 50% to 80% of the plants down
5 Almost all plants down

Height is reported as the average length in inches of plants from the ground to the tip of the stem at time of maturity.

Shattering data were taken 30 days after mid-maturity and represent actual counts on 300-500 pods, expressed as percentage of shattering.

Seed quality is rated from 1 to 5 according to the following scale:

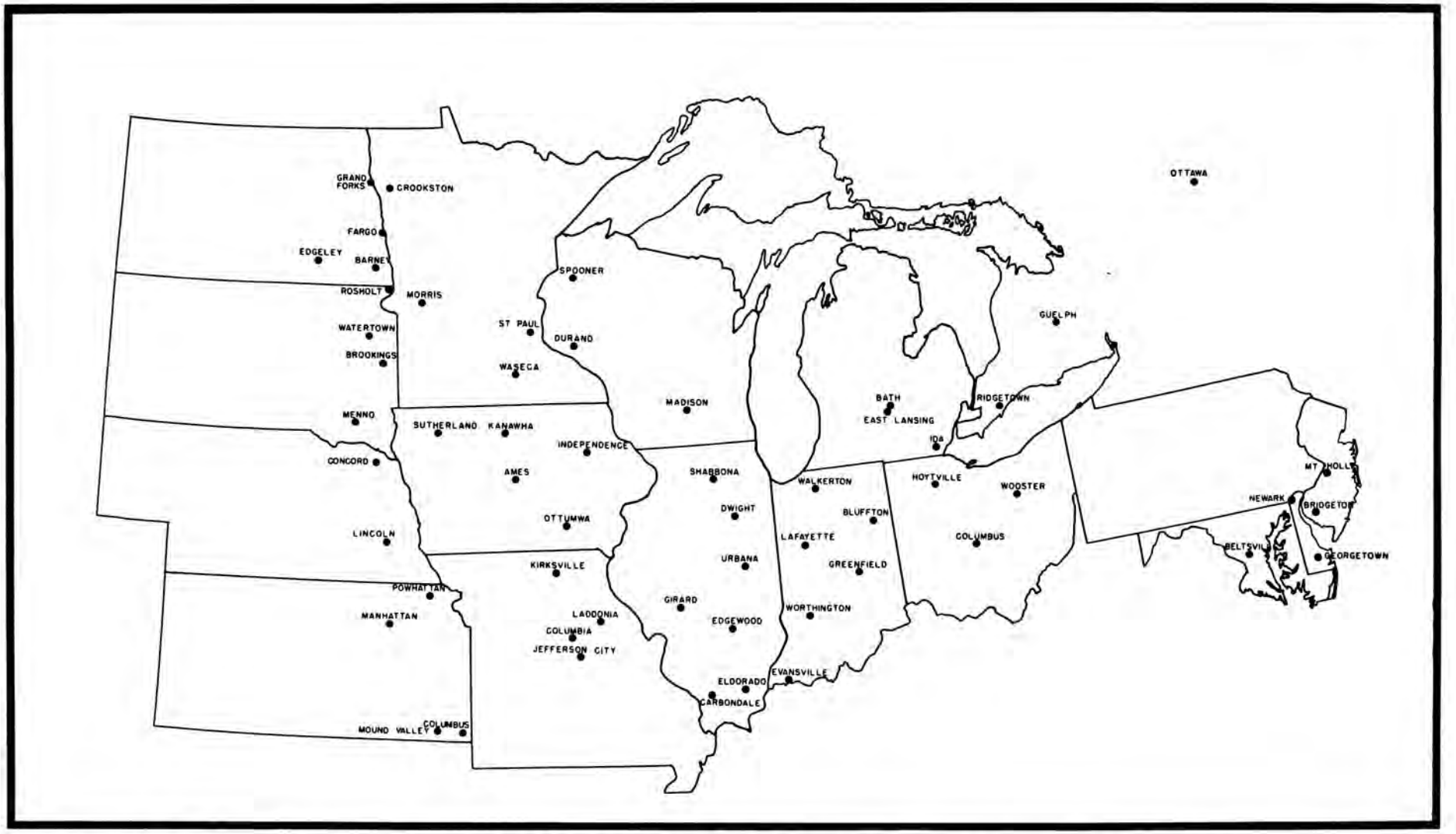
1 - Very good	3 - Fair	5 - Very poor
2 - Good	4 - Poor	

The factors considered in estimating seed quality are: seed development, wrinkling, damage, and objectionable color for the variety.

Seed weight is recorded as weight (in grams) per 100 seeds.

Chemical composition of the seed is determined on samples submitted to the Laboratory headquarters in Urbana. Percentages of oil and protein are determined on a composite sample of four replications for each strain and are expressed on a moisture-free basis.

Calculating Summary Means. In most cases where the lodging and seed quality notes are all 1 at a location, indicating no expression of strain differences, these locations are not included in the mean. Where the C. V. of yield is greater than 20% at a location, this location is not usually included in the strain means.



MAP OF THE NORTH CENTRAL STATES SHOWING LOCATION OF THE COOPERATIVE UNIFORM SOYBEAN TESTS

Strain Designation. In order to simplify strain designations and indicate state of origin for entries in the Uniform Tests, the following code letters to precede strain numbers have been agreed upon in meetings of experiment station agronomists collaborating with the U. S. Regional Soybean Laboratory.

Code Letter	State	Code Letter	State
L	Illinois	Au	Alabama
C	Indiana	R	Arkansas
A	Iowa	B	California
K	Kansas	F	Florida
E	Michigan	Ga	Georgia
M	Minnesota	La	Louisiana
S	Missouri	Md	Maryland
U	Nebraska	D	Mississippi
ND	North Dakota	N	North Carolina
H	Ohio	Ok	Oklahoma
SD	South Dakota	SC	South Carolina
W	Wisconsin	UT	Tennessee
O	Ontario, Canada	TS	Texas
		V	Virginia

It is suggested that states cooperating in these Uniform Tests use these letters to designate their strains.

UNIFORM TEST, GROUP O, 1957

Strain	Source or Originating Agency	Origin
Capital	Central Exp. Farm, Ottawa	Sel. from Strain 171 x A.K. (Harrow)
Chippewa	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Grant	Wis. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Seneca
Mandarin (Ottawa)	Central Exp. Farm, Ottawa	Sel. from Mandarin
Norchief	Wis. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Flambeau
W9S-2703	Wis. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Flambeau

This test was grown at eighteen locations in 1957, and the data are presented in Tables 1 through 6. The general yield level in 1957 was slightly below the five-year mean, due to lower yields at locations in Ohio and Michigan. Elsewhere yields were about the same or slightly higher.

No new strains were entered in this test in 1957. Based on five-year means, W9S-2703 has been similar to Norchief in maturity but has yielded slightly higher and compared favorably in other traits. Both strains have been outyielded by the later varieties.

Among the named varieties, Grant and Chippewa have led the test in yield. Grant has outyielded the similar-maturing Capital by two bushels and lodged somewhat less, although still somewhat inferior in this respect.

Table 1. Summary of agronomic and chemical data for the strains in the Uniform Test, Group O, 1957.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	17	12	13	16	16	17	17	17
Chippewa	32.4	+4.0	2.0	32	2.1	15.3	40.3	20.7
Grant	32.3	+1.8	2.3	30	2.0	16.0	39.7	20.4
Mandarin (Ottawa)	30.0	0	1.9	28	2.0	18.8	41.2	20.0
Capital	29.6	+1.3	2.8	31	2.6	13.2	40.1	20.3
Norchief	28.4	-3.3	2.1	28	2.3	16.6	40.2	20.8
W9S-2703	28.4	-3.3	1.8	28	1.9	16.0	41.2	20.3
Mean	30.2	+0.1	2.2	30	2.2	16.0	40.5	20.4

[1]Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 112 days to mature.

Table 2. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group O, 1957.

Strain	Mean of 17 Tests[1]	Ottawa Ont.	Guelph Ont.	Hoytville Ohio	Wooster Ohio	Columbus Ohio	Bath Mich.	East Lansing Mich.	Ida Mich.	Spooner Wis.
Chippewa	32.4	36.4	43.8	18.1	39.2	29.5	20.7	33.3	30.6	38.5
Grant	32.3	41.7	42.8	17.2	39.6	28.8	22.8	32.2	29.7	40.0
Mandarin (Ottawa)	30.0	26.6	40.6	14.5	40.2	28.6	22.4	27.0	31.3	37.2
Capital	29.6	37.1	43.6	17.0	31.9	26.2	16.5	27.3	26.8	35.3
Norchief	28.4	33.6	41.2	12.6	35.2	21.1	24.7	28.5	27.8	34.1
W9S-2703	28.4	35.9	40.2	15.7	35.5	25.1	24.8	26.6	29.6	31.0
Mean	30.2	35.2	42.0	15.9	36.9	26.6	22.0	29.2	29.3	36.0
Coef. of Var. (%)		10.9	12.0	12.9	11.5	7.7	--	--	--	7.3
Bu. Nec. for Sig. (5%)		5.4	3.1	3.0	N.S.	6.2	--	--	--	3.8
Row Spacing (In.)		30	27	36	28	28	34	28	28	36
		Yield Rank								
Chippewa		3	1	1	3	1	5	1	2	2
Grant		1	3	2	2	2	3	2	3	1
Mandarin (Ottawa)		6	5	5	1	3	4	5	1	3
Capital		2	2	3	6	4	6	4	6	4
Norchief		5	4	6	5	6	2	3	5	5
W9S-2703		4	6	4	4	5	1	6	4	6

[1]Corvallis, Oregon not included in the mean.

Table 2. (Continued)

Strain	Durand Wis.	Crookston Minn.	Morris Minn.	St. Paul Minn.	Larimore N.D.	Fargo N.D.	Barney N.D.	Rosholt S.D.	Corvallis Ore.
Chippewa	33.4	32.8	33.4	52.7	23.3	35.4	27.4	22.3	13.5
Grant	30.8	34.0	33.7	46.0	24.6	36.2	26.6	21.6	16.0
Mandarin (Ottawa)	25.2	27.5	29.3	49.0	23.6	34.0	30.6	22.7	12.9
Capital	23.8	32.8	30.6	48.3	20.4	35.6	26.3	23.4	13.0
Norchief	25.0	34.5	26.5	38.1	24.0	34.7	27.2	14.8	12.1
W9S-2703	21.3	33.3	28.7	41.7	21.8	33.8	25.5	12.4	10.6
Mean	26.6	32.5	30.4	46.0	23.0	35.0	27.3	19.5	13.0
Coef. of Var. (%)	9.4	--	--	--	8.1	8.6	11.2	--	--
Bu. Nec. for Sig. (5%)	3.5	--	--	--	2.8	4.5	4.6	--	--
Row Spacing (In.)	36	24	40	40	40	42	30	42	36
	Yield Rank								
Chippewa	1	4	2	1	4	3	2	3	2
Grant	2	2	1	4	1	1	4	4	1
Mandarin (Ottawa)	3	6	4	2	3	5	1	2	4
Capital	5	4	3	3	6	2	5	1	3
Norchief	4	1	6	6	2	4	3	5	5
W9S-2703	6	3	5	5	5	6	6	6	6

Table 3. Summary of maturity data, days earlier (-) or later (+) than Mandarin (Ottawa), and lodging for the strains in the Uniform Test, Group 0, 1957.

Strain	Mean of 12 Tests[1]	Ottawa Ont.	Guelph Ont.	Hoytville Ohio	Wooster Ohio	Columbus Ohio	Bath Mich.	East Lansing Mich.	Ida Mich.	Spooner Wis.
Chippewa	+4.0	+8	Frost.	+4	+3	+1		+4	0	+ 2
Grant	+1.8	-1	0	+4	+1	+1		+2	0	+ 1
Mandarin (Ottawa)	0	0	0	0	0	0		0	0	0
Capital	+1.3	-4	-4	+4	-5	-1		+1	0	+ 1
Norchief	-3.3	-8	-3	-4	0	-6		-3	-3	- 9
W9S-2703	-3.3	-7	-6	-3	0	-4		0	0	-10
Date planted	5-28	5-16	5-21	5-29	6-6	5-28	6-7	6-5	5-29	5-29
Mand. (Ott.) matured	9-17	9-22	9-28	9-5	9-16	8-29	--	9-25	9-9	9-25
Days to mature	112	129	130	99	102	93	--	112	103	119
	Mean of 13 Tests[2]	Lodging								
Chippewa	2.0	1.0		1.0	1.5	2.5	4.0	1.5	1.0	2.5
Grant	2.3	1.0		1.0	1.5	2.5	4.5	1.5	1.0	3.0
Mandarin (Ottawa)	1.9	1.0		1.0	1.0	1.2	4.5	1.0	1.0	3.8
Capital	2.8	1.0		1.0	2.0	2.0	4.0	2.0	2.0	4.0
Norchief	2.1	1.0		1.0	1.2	1.2	4.0	1.5	1.5	3.3
W9S-2703	1.8	1.0		1.0	1.5	1.0	4.0	1.0	1.5	2.0
Mean	2.2	1.0		1.0	1.5	1.7	4.2	1.4	1.3	3.1

[1]Guelph, Ontario and Corvallis, Oregon not included in the mean.
[2]Ottawa, Ontario, Hoytville, Ohio, and Rosholt, South Dakota not included in the mean.

Table 3. (Continued)

Strain	Durand Wis.	Crookston Minn.	Morris Minn.	St. Paul Minn.	Larimore N.D.	Fargo N.D.	Barney N.D.	Rosholt S.D.	Corvallis Ore.
Chippewa	+7		+5	+4		+1		+9	+1
Grant	+4		+3	0		+1		+5	0
Mandarin (Ottawa)	0		0	0		0		0	0
Capital	+4		+3	+5		+2		+5	0
Norchief	-2		-4	-4		-1		+5	0
W9S-2703	-1		-6	-7		-2		+1	+2
Date planted	5-24	6-1	5-25	5-24	6-3	6-4	5-31	5-29	4-30
Mand. (Ott.) matured	9-4	--	9-24	9-24	--	9-30	9-20	9-25	9-11
Days to mature	103	--	122	123	--	118	112	119	134
	Lodging								
Chippewa	1.5	1.5	1.0	4.0	1.0	2.8	1.0	1.0	
Grant	1.8	2.0	1.0	5.0	1.0	4.0	1.2	1.0	
Mandarin (Ottawa)	1.0	1.5	1.0	4.0	1.0	3.0	1.0	1.0	
Capital	2.3	2.7	2.0	5.0	1.5	4.8	1.8	1.0	
Norchief	1.0	1.2	1.0	5.0	1.0	3.8	1.0	1.0	
W9S-2703	1.1	1.0	1.0	4.0	1.0	3.8	1.0	1.0	
Mean	1.5	1.7	1.2	4.5	1.1	3.7	1.2	1.0	

Table 4. Summary of height data and percentage of oil for the strains in the Uniform Test, Group 0, 1957.

Strain	Mean of 16 Tests	Ottawa Ont.	Guelph Ont.	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	Bath Mich.	East Lan-sing Mich.	Ida Mich.
Chippewa	32	32	34	24	29	28		30	31
Grant	30	30	29	22	27	26		29	30
Mandarin (Ottawa)	28	28	29	22	28	23		28	29
Capital	31	33	30	26	28	27		30	31
Norchief	28	27	26	22	28	23		30	31
W9S-2703	28	30	29	22	26	23		30	32
Mean	30	30	30	23	28	25		30	31
	Mean of 17 Tests	Percentage of Oil							
Chippewa	20.7	21.0	19.7	21.8	21.4	20.7	20.9	20.6	21.2
Grant	20.4	21.2	18.7	21.7	21.1	21.0	20.1	21.1	20.3
Mandarin (Ottawa)	20.0	19.4	18.0	21.3	20.9	20.9	18.0	20.6	20.1
Capital	20.3	20.5	18.5	22.0	21.0	20.8	20.1	21.5	20.7
Norchief	20.8	21.7	18.7	22.3	21.2	21.9	19.3	21.2	20.8
W9S-2703	20.3	20.0	18.0	22.3	20.7	22.0	18.8	21.1	20.5
Mean	20.4	20.6	18.6	21.9	21.1	21.2	19.5	21.0	20.6

Table 4. (Continued)

Strain	Spooner Wis.	Durand Wis.	Crookston Minn.	Morris Minn.	St. Paul Minn.	Larimore N.D.	Fargo N.D.	Barney N.D.	Rosholt S.D.
Chippewa	34	31	29	27	41	29	35	36	36
Grant	31	29	28	27	39	27	36	34	32
Mandarin (Ottawa)	29	25	26	25	37	25	31	32	31
Capital	32	27	26	29	41	30	39	36	34
Norchief	30	26	24	25	38	26	32	34	29
W9S-2703	30	25	26	25	37	26	34	34	31
Mean	31	27	27	26	39	27	35	34	32
	Percentage of Oil								
Chippewa	19.9	20.8	19.3	20.2	20.4	20.8	21.6	21.7	20.1
Grant	19.2	20.9	18.7	20.4	20.3	19.8	21.2	21.7	19.5
Mandarin (Ottawa)	18.7	21.8	18.5	20.1	19.1	20.2	20.5	21.5	19.6
Capital	19.2	21.2	18.6	19.5	19.7	21.1	20.3	21.2	19.5
Norchief	20.6	21.9	19.2	20.9	21.0	20.4	21.3	21.1	19.9
W9S-2703	19.0	22.4	18.3	20.6	20.3	19.8	20.4	21.8	19.0
Mean	19.4	21.5	18.8	20.3	20.1	20.4	20.9	21.5	19.6

Table 5. Five-year summary of agronomic and chemical data for the strains in the Uniform Test, Group O, 1953-57.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	60	42	47	57	54	60	60	60
Grant	33.1	+0.9	2.3	32	1.8	16.0	39.8	20.3
Chippewa	33.0	+3.5	1.9	34	1.9	14.6	40.1	20.4
Capital	31.2	+1.4	2.9	33	2.0	13.3	40.1	20.3
Mandarin (Ottawa)	31.0	0	1.8	29	1.7	19.0	41.5	19.9
W9S-2703	30.3	-3.2	1.9	30	1.9	16.3	41.2	20.4
Norchief	29.0	-3.7	2.1	29	2.1	16.8	40.5	20.5
Mean	31.3		2.2	31	1.9	16.0	40.5	20.3

[1]Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 114 days to mature.

Table 6. Five-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group O, 1953-57.

Strain	Mean of 60 Tests	Ottawa Ontario	Guelph Ontario	Hoytville Ohio	Wooster Ohio	Columbus Ohio	East Lansing Mich.
Years Tested		1953-1957	1953-1957	1953-54, 1956-57	1956-1957	1953, 1955-57	1953-54, 1957
Grant	33.1	35.1	36.0	25.5	35.2	35.5	32.5
Chippewa	33.0	33.3	33.9	30.4	40.0	37.5	32.6
Capital	31.2	33.5	33.4	25.8	29.1	35.0	32.1
Mandarin (Ottawa)	31.0	29.1	32.0	22.9	36.9	34.4	35.7
W9S-2703	30.3	32.5	31.5	24.2	34.0	30.4	35.4
Norchief	29.0	30.4	31.3	20.5	32.2	27.5	35.5
Mean	31.3	32.3	33.0	24.9	34.6	33.4	34.0
		Yield Rank					
Grant		1	1	3	3	2	5
Chippewa		3	2	1	1	1	4
Capital		2	3	2	6	3	6
Mandarin (Ottawa)		6	4	5	2	4	1
W9S-2703		4	5	4	4	5	3
Norchief		5	6	6	5	6	2

[1]Deerfield, 1953; Ottawa Lake, 1954 and 1956.
[2]Fall City, 1953.

Table 6. (Continued)

Strain	Ida Mich.[1]	Spooner Wis.	Durand Wis.[2]	Crookston Minn.	Morris Minn.	St. Paul Minn.	Fargo N.D.	Rosholt S.D.
Years Tested	1953-54, 1956-57	1953-1957	1953-1957	1955, 1957	1953-1957	1953-1957	1953-1957	1954 1956-57
Grant	37.2	34.9	26.8	30.3	36.1	45.8	30.3	22.9
Chippewa	40.8	33.9	26.1	28.2	36.1	48.3	26.3	22.8
Capital	34.8	30.6	25.1	29.9	34.5	44.2	27.9	21.8
Mandarin (Ottawa)	39.5	34.0	26.9	30.4	33.1	40.2	27.4	21.5
W9S-2703	34.9	32.2	24.3	32.2	33.0	36.1	29.5	19.9
Norchief	31.8	31.1	25.1	30.2	31.8	35.9	28.4	18.3
Mean	36.5	32.8	25.7	30.2	34.1	41.8	28.3	21.2
	Yield Rank							
Grant	3	1	2	3	1	2	1	1
Chippewa	1	3	3	6	1	1	6	2
Capital	5	6	4	5	3	3	4	3
Mandarin (Ottawa)	2	2	1	2	4	4	5	4
W9S-2703	4	4	6	1	5	5	2	5
Norchief	6	5	4	4	6	6	3	6

UNIFORM AND PRELIMINARY TEST, GROUP 0, 1957

Strain	Source or Originating Agency	Origin
Capital	Central Exp. Farm, Ottawa	Sel. from Strain 171 x A.K. (Harrow)
Chippewa	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Grant	Wis. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Seneca
Mandarin (Ottawa)	Central Exp. Farm, Ottawa	Sel. from Mandarin
Norchief	Wis. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Flambeau
M316*	Minn. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Capital
M317*	Minn. A.E.S. & U.S.R.S.L.	Sel. from Adams x Capital
M320*	Minn. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Capital
0-55-2065*	Central Exp. Farm, Ottawa	Sel. from Blackhawk x Capital
W9S-2703	Wis. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Flambeau

*Preliminary Test strain.

The Preliminary Test, Group 0, was grown at twelve locations in 1957 with either two or four replications. The strains of the Uniform and of the Preliminary Test were grown together in one test, and the data are presented in Tables 7 through 9. Where only two replications were grown, means for all strains were based on these two replications, with the exception of the composition of Uniform Test strains, which was based on an analysis of a composite of all four replications.

There were four Preliminary Test strains in 1957. The earliest one, 0-55-2065, was one day later than Norchief, equal to it in yield, and several inches taller. M316 and M320 were three days later than Norchief and outyielded it by an average of three and one bushels, respectively; M316 was taller than Norchief but equal in lodging resistance, while M320 was several inches shorter than Norchief. M317 was similar to Grant in maturity, higher in oil, but yielded considerably less.

Table 7. Summary of agronomic and chemical data for the strains in the Uniform and Preliminary Test, Group O, 1957.

Strain	Yield Bu./A.	Yield Rank	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	11	11	10	7	11	10	11	6	6
Capital	32.1	4	+1.5	3.2	31	2.1	13.5	40.7	20.1
Chippewa	35.0	1	+4.6	2.4	32	1.8	15.9	41.5	20.6
Grant	34.1	2	+2.1	2.6	30	1.6	16.6	40.7	20.4
Mandarin (Ottawa)	31.7	5	0	2.0	28	1.7	19.1	41.7	20.1
Norchief	29.8	9	-3.3	2.3	28	2.1	16.6	40.5	21.1
M316*	32.4	3	-0.4	2.3	34	2.1	14.9	39.5	21.3
M317*	30.3	7	+1.4	2.5	31	1.6	15.2	41.2	21.2
M320*	30.8	6	-0.7	1.8	25	2.0	13.1	40.2	21.1
0-55-2065*	30.2	8	-2.3	2.3	32	1.7	13.9	39.6	21.4
W9S-2703	29.8	9	-3.9	2.1	28	1.8	16.2	41.7	20.5
Mean	31.6		-1.0	2.4	30	1.9	15.5	40.7	20.8

[1]Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 113 days to mature.

*Preliminary Test strain.

Table 8. Summary of yield in bushels per acre and yield rank for the strains in the Uniform and Preliminary Test, Group O, 1957.

Strain	Mean of 11 Tests[1]	Mean Yield Rank	Ottawa Ont.[2]	Guelph Ont.[2]	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio
Capital	32.1	4	37.1	43.6	17.4	31.7	26.7
Chippewa	35.0	1	36.4	43.8	15.5	41.1	30.0
Grant	34.1	2	41.7	42.8	16.6	39.7	29.7
Mandarin (Ottawa)	31.7	5	26.6	40.6	14.5	36.6	30.2
Norchief	29.8	9	33.6	41.2	11.9	37.8	23.2
M316*	32.4	3	33.3	46.8	11.7	40.9	27.6
M317*	30.3	7	31.5	41.9	14.6	27.5	30.7
M320*	30.8	6	36.5	37.0	12.4	33.3	26.7
0-55-2065*	30.2	8	34.1	36.2	14.1	34.5	28.0
W9S-2703	29.8	9	35.9	40.2	17.2	38.1	27.9
Mean	31.6		34.7	41.4	14.6	36.1	28.1
Coef. of Var. (%)			10.9	12.0	13.4	12.2	9.6
Bu. Nec. for Sig. (5%)			5.4	3.1	N.S.	N.S.	N.S.
Row Spacing (In.)			30	27	36	28	28

	Yield Rank				
Capital	2	3	1	9	8
Chippewa	4	2	4	1	3
Grant	1	4	3	3	4
Mandarin (Ottawa)	10	7	6	6	2
Norchief	7	6	9	5	10
M316*	8	1	10	2	7
M317*	9	5	5	10	1
M320*	3	9	8	8	8
0-55-2065*	6	10	7	7	5
W9S-2703	5	8	2	4	6

[1]Corvallis, Oregon not included in the mean.
[2]Four replications.
*Preliminary Test strain.

Table 8. (Continued)

Strain	Spooner Wis.[2]	Durand Wis.[2]	Morris Minn.	St. Paul Minn.	Fargo N.D.	Rosholt S.D.[2]	Corvallis Ore.[2]
Capital	35.3	23.8	30.0	47.3	36.4	23.4	11.4
Chippewa	38.5	33.4	34.6	53.3	36.0	22.3	11.2
Grant	40.0	30.8	34.6	41.9	35.7	21.6	15.2
Mandarin (Ottawa)	37.2	25.2	32.3	49.5	33.2	22.7	12.8
Norchief	34.1	25.0	28.2	41.7	35.8	14.8	10.9
M316*	34.9	25.3	32.1	46.7	35.3	21.7	14.8
M317*	33.6	24.2	28.6	49.1	34.9	17.2	14.5
M320*	38.6	24.5	26.5	52.0	36.6	15.0	10.9
0-55-2065*	34.0	21.8	30.3	44.5	36.8	17.7	13.1
W9S-2703	31.0	21.3	28.4	40.7	34.7	12.4	11.4
Mean	35.7	25.5	30.6	46.7	35.5	18.9	12.6
Coef. of Var. (%)	7.3	9.4	--	--	5.0	--	--
Bu. Nec. for Sig. (5%)	3.8	3.5	--	--	4.0	--	--
Row Spacing (In.)	36	36	40	40	42	42	36
	Yield Rank						
Capital	5	8	6	5	3	1	6
Chippewa	3	1	1	1	4	3	8
Grant	1	2	1	8	6	5	1
Mandarin (Ottawa)	4	4	3	3	10	2	5
Norchief	7	5	9	9	5	9	9
M316*	6	3	4	6	7	4	2
M317*	9	7	7	4	8	7	3
M320*	2	6	10	2	2	8	9
0-55-2065*	8	9	5	7	1	6	4
W9S-2703	10	10	8	10	9	10	6

Table 9. Summary of maturity data, days earlier (-) or later (+) than Mandarin (Ottawa), for the strains in the Uniform and Preliminary Test, Group O, 1957.

Strain	Mean of 10 Tests[1]	Ottawa Ont.	Guelph Ont.	Hoyt-ville Ohio	Wooster Ohio	Colum-bus Ohio
Capital	+1.5	-4	- 4	+4	-5	-1
Chippewa	+4.6	+8	Frost.	+4	+3	+1
Grant	+2.1	-1	0	+4	+1	+1
Mandarin (Ottawa)	0	0	0	0	0	0
Norchief	-3.3	-8	- 3	-3	0	-6
M316*	-0.4	-4	- 1	-2	-1	-5
M317*	+1.4	-4	+ 1	+3	+2	-2
M320*	-0.7	-7	-11	-2	-2	-2
0-55-2065*	-2.3	-8	- 7	0	-5	-2
W9S-2703	-3.9	-7	- 6	-3	0	-4
Date planted	5-27	5-16	5-21	5-29	6-6	5-28
Mandarin (Ottawa) matured	9-17	9-22	9-28	9-5	9-16	8-29
Days to mature	113	129	130	99	102	93

[1]Guelph, Ontario and Corvallis, Oregon not included in the mean.
*Preliminary Test strain.

Table 9. (Continued)

Strain	Spooner Wis.	Durand Wis.	Morris Minn.	St. Paul Minn.	Fargo N.D.	Rosholt S.D.	Corvallis Ore.
Capital	+ 1	+4	+3	+7	+1	+5	0
Chippewa	+ 2	+7	+5	+6	+1	+9	+1
Grant	+ 1	+4	+4	+1	+1	+5	0
Mandarin (Ottawa)	0	0	0	0	0	0	0
Norchief	- 9	-2	-5	-4	-1	+5	0
M316*	0	+1	0	+3	+2	+2	0
M317*	+ 1	+4	+3	+5	+1	+1	0
M320*	- 2	+1	+2	0	+1	+4	0
0-55-2065*	- 1	0	-4	-1	-1	-1	+1
W9S-2703	-10	-1	-6	-6	-3	+1	+2
Date planted	5-29	5-24	5-25	5-24	6-4	5-29	4-30
Mandarin (Ottawa) matured	9-25	9-4	9-24	9-23	9-30	9-25	9-11
Days to mature	119	103	122	122	118	119	134

UNIFORM TEST, GROUP I, 1957

Strain	Source or Originating Agency	Origin
Blackhawk	Iowa A.E.S. & U.S.R.S.L.	Sel. from Mukden x Richland
Chippewa	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Mandarin (Ottawa)	Central Exp. Farm, Ottawa	Sel. from Mandarin
Monroe	Ohio A.E.S. & U.S.R.S.L.	Sel. from Mukden x Mandarin
0-52-710	Central Exp. Farm, Ottawa	Sel. from Blackhawk x Mandarin (Ottawa)
0-52-793	Central Exp. Farm, Ottawa	Sel. from A45-251 x Flambeau
W9-1982-32	Wis. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Manchu

Identification of Parent Strain

A45-251	Sel. from Mukden x Richland, progenitor of Hawkeye

This test was grown at fifteen locations in 1957, and the data are presented in Tables 10 through 15. The general yield level in 1957 averaged almost two bushels above the nine-year mean (based on four strains). Only in Ohio and Michigan were yields lower than in 1956.

Three new strains were entered this year. W9-1982-32, from the 1956 Preliminary Test, Group I, topped the test in over-all mean yield but exceeded Chippewa by only 1.1 bushel, although almost seven days later. It had excellent lodging resistance for a tall strain. Its yield advantage was rather consistent except at the more northern locations, where it was outyielded by the earlier varieties. Strains 0-52-710 and 0-52-793 were both in Uniform Test, Group 0, in 1956 and were transferred because of their late maturity. The two strains have been similar in performance; 0-52-710 is a little later, a little lower in yield, but much better in lodging resistance. Neither strain has exceeded Chippewa in over-all performance.

The remaining four strains, all named varieties, are included in the nine-year summary. Chippewa, although three days earlier than Monroe and almost six days earlier than Blackhawk, has outyielded these varieties by 2.5 bushels and .9 bushel, respectively. Its other traits are equal or superior to those of the other varieties, with the exception of its height, which is rather short. Mandarin (Ottawa) is the earliest of the named varieties and has been consistently low in yield.

Table 10. Summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1957.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	15	15	11	14	12	15	15	15
W9-1982-32	36.0	+6.6	2.2	41	1.5	18.8	40.4	20.7
Chippewa	34.9	0	1.8	31	1.6	16.1	40.7	21.0
Blackhawk	33.1	+6.5	2.5	36	1.9	17.2	40.6	20.7
O-52-793	32.8	+0.6	2.6	34	1.7	18.3	41.1	21.0
O-52-710	32.5	+1.1	1.8	36	1.6	18.4	41.1	20.4
Monroe	32.0	+3.1	2.7	40	1.2	16.1	41.9	20.2
Mandarin (Ottawa)	30.4	-4.7	1.4	28	1.8	18.2	41.5	20.5
Mean	33.1	+1.9	2.2	35	1.6	17.6	41.0	20.7

[1]Days earlier (-) or later (+) than Chippewa. Chippewa required 110 days to mature.

Table 11. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group I, 1957.

Strain	Mean of 15 Tests	Ridge-town Ontario	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	East Lansing Mich.	Ida Mich.	Walk-erton Ind.
W9-1982-32	36.0	43.4	24.0	45.5	28.7	30.4	30.1	45.9
Chippewa	34.9	41.7	20.4	37.9	24.5	31.8	32.0	42.2
Blackhawk	33.1	37.5	21.0	37.5	23.1	27.6	28.0	41.4
0-52-793	32.8	40.7	17.3	34.5	24.8	27.0	26.6	41.5
0-52-710	32.5	36.1	22.3	35.5	23.4	29.4	33.6	43.2
Monroe	32.0	38.2	21.3	43.0	25.4	26.9	29.5	42.2
Mandarin (Ottawa)	30.4	39.4	16.1	34.8	22.7	29.0	31.6	38.7
Mean	33.1	39.6	20.3	38.4	24.7	28.9	30.2	42.2
Coef. of Var. (%)		4.0	8.2	11.0	8.7	--	--	6.0
Bu. Nec. for Sig. (5%)		3.3	2.0	6.3	3.2	--	--	3.7
Row Spacing (In.)		24	36	28	28	28	28	38
		Yield Rank						
W9-1982-32		1	1	1	1	2	4	1
Chippewa		2	5	3	4	1	2	3
Blackhawk		6	4	4	6	5	6	6
0-52-793		3	6	7	3	6	7	5
0-52-710		7	2	5	5	3	1	2
Monroe		5	3	2	2	7	5	3
Mandarin (Ottawa)		4	7	6	7	4	3	7

Table 11. (Continued)

Strain	Durand Wis.	Madi-son Wis.	Shab-bona Ill.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kana-wha Iowa	Brook-ings S.D.
W9-1982-32	33.2	43.4	47.0	44.2	36.1	31.1	34.0	22.8
Chippewa	34.2	42.5	43.6	48.8	40.3	27.2	32.8	23.2
Blackhawk	30.7	43.4	38.5	41.5	42.9	26.1	33.6	23.8
0-52-793	31.8	40.8	40.2	46.6	39.0	30.3	29.9	21.6
0-52-710	32.0	36.9	37.3	43.8	35.8	25.2	31.0	21.5
Monroe	29.2	37.0	38.8	39.5	30.6	27.2	28.2	22.8
Mandarin (Ottawa)	24.8	33.1	35.3	49.2	34.8	21.6	24.4	20.8
Mean	30.8	39.6	40.1	44.8	37.1	27.0	30.6	22.4
Coef. of Var. (%)	8.4	7.0	2.9	--	--	6.4	6.4	--
Bu. Nec. for Sig. (5%)	3.7	4.1	1.7	--	--	2.6	2.9	--
Row Spacing (In.)	36	36	40	40	40	42	40	42
	Yield Rank							
W9-1982-32	2	1	1	4	4	1	1	3
Chippewa	1	3	2	2	2	3	3	2
Blackhawk	5	1	5	6	1	5	2	1
0-52-793	4	4	3	3	3	2	5	5
0-52-710	3	6	6	5	5	6	4	6
Monroe	6	5	4	7	7	3	6	3
Mandarin (Ottawa)	7	7	7	1	6	7	7	7

Table 12. Summary of maturity data, days earlier (-) or later (+) than Chippewa, and lodging for the strains in the Uniform Test, Group I, 1957.

Strain	Mean of 15 Tests	Ridge-town Ontario	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	East Lansing Mich.	Ida Mich.	Walk-erton Ind.
W9-1982-32	+6.6	+11	+2	+2	+5	+5	+15	+6
Chippewa	0	0	0	0	0	0	0	0
Blackhawk	+6.5	+10	+5	+1	+6	+7	+14	+4
0-52-793	+0.6	0	0	+1	-2	+2	+11	+2
0-52-710	+1.1	+ 1	0	-1	+1	+3	+ 7	+3
Monroe	+3.1	+ 7	+3	-2	0	+6	+ 7	+4
Mandarin (Ottawa)	-4.7	- 9	-4	-1	-2	-1	0	-3
Date planted	5-30	5-31	5-29	6-6	5-28	6-5	5-29	6-4
Chippewa matured	9-17	9-18	9-10	9-17	9-3	9-28	9-9	9-15
Days to mature	110	110	104	103	98	115	103	103
	Mean of 11 Tests[1]	Lodging						
W9-1982-32	2.2		1.0	1.2	1.0	2.0	3.0	2.0
Chippewa	1.8		1.0	1.0	1.0	1.5	1.5	1.0
Blackhawk	2.5		1.0	1.7	1.0	3.0	2.5	1.5
0-52-793	2.6		1.0	1.7	1.0	2.5	4.0	2.3
0-52-710	1.8		1.0	1.0	1.0	2.0	2.5	1.5
Monroe	2.7		1.0	1.5	1.0	3.0	3.0	2.8
Mandarin (Ottawa)	1.4		1.0	1.0	1.0	1.0	1.0	1.0
Mean	2.2		1.0	1.3	1.0	2.1	2.5	1.7

[1]Hoytville and Columbus, Ohio and Brookings, South Dakota not included in the mean.

Table 12. (Continued)

Strain	Durand Wis.	Madison Wis.	Shabbona Ill.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S.D.
W9-1982-32	+9	+5	+12	+4	+ 8	+ 5	+ 6	+4
Chippewa	0	0	0	0	0	0	0	0
Blackhawk	+7	+6	+10	+5	+10	+ 4	+ 5	+4
0-52-793	-1	+2	- 1	-1	+ 3	- 2	- 6	+1
0-52-710	+1	+3	0	+1	+ 2	- 2	- 2	-1
Monroe	+3	+3	+ 5	+3	+ 6	+ 2	0	-1
Mandarin (Ottawa)	-7	-3	- 4	-4	- 8	-10	-11	-3
Date planted	5-24	6-10	6-3	5-24	5-28	5-28	5-25	5-27
Chippewa matured	9-11	9-23	9-11	9-30	9-21	9-22	9-14	9-23
Days to mature	110	105	100	129	116	117	112	119
	Lodging							
W9-1982-32	3.0	1.8	3.0	4.0	2.1	1.2	1.3	1.0
Chippewa	1.6	1.5	2.6	5.0	2.0	1.2	1.2	1.0
Blackhawk	3.0	3.3	3.1	5.0	2.5	1.1	1.2	1.0
0-52-793	2.3	3.3	3.7	4.0	2.6	1.3	1.3	1.0
0-52-710	1.8	1.8	1.8	4.0	1.9	1.0	1.0	1.0
Monroe	3.5	2.4	3.9	5.0	2.1	1.2	1.5	1.0
Mandarin (Ottawa)	1.0	1.0	1.2	4.0	1.7	1.0	1.0	1.0
Mean	2.3	2.2	2.8	4.4	2.1	1.1	1.2	1.0

Table 13. Summary of height data and percentage of oil for the strains in the Uniform Test, Group I, 1957.

Strain	Mean of 14 Tests	Ridge-town Ontario	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	East Lansing Mich.	Ida Mich.	Walk-erton Ind.
W9-1982-32	41		33	37	31	40	40	43
Chippewa	31		26	27	24	31	34	32
Blackhawk	36		31	32	27	36	37	35
0-52-793	34		28	28	23	37	38	35
0-52-710	36		35	30	26	37	39	38
Monroe	40		36	37	31	38	44	41
Mandarin (Ottawa)	28		25	30	21	29	31	26
Mean	35		31	32	26	35	38	36
	Mean of 15 Tests	Percentage of Oil						
W9-1982-32	20.7	21.0	23.0	20.8	21.5	19.3	21.3	20.5
Chippewa	21.0	20.8	23.0	21.5	21.2	20.4	20.7	21.5
Blackhawk	20.7	20.4	23.1	20.9	21.6	20.6	20.9	20.7
0-52-793	21.0	20.6	23.2	21.0	21.8	21.0	20.2	21.0
0-52-710	20.4	20.3	22.3	21.0	21.1	19.0	20.9	20.4
Monroe	20.2	19.9	22.2	19.9	20.9	19.6	20.8	20.5
Mandarin (Ottawa)	20.5	19.2	21.4	20.4	20.8	19.5	19.8	21.1
Mean	20.7	20.3	22.6	20.8	21.3	19.9	20.7	20.8

Table 13. (Continued)

Strain	Durand Wis.	Madi-son Wis.	Shab-bona Ill.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kana-wha Iowa	Brook-ings S.D.
W9-1982-32	41	38	48	58	46	40	37	38
Chippewa	32	29	36	40	35	30	30	31
Blackhawk	36	34	43	51	41	36	32	35
0-52-793	30	34	34	52	35	33	29	34
0-52-710	34	35	39	51	40	34	31	36
Monroe	39	38	47	52	46	40	33	36
Mandarin (Ottawa)	26	24	27	39	30	26	24	28
Mean	34	33	39	49	39	34	31	34
	Percentage of Oil							
W9-1982-32	20.6	20.3	20.4	19.9	20.4	20.3	20.6	21.2
Chippewa	21.8	19.9	21.1	20.7	20.2	20.6	21.3	20.8
Blackhawk	20.9	19.8	20.6	19.8	20.2	19.9	20.5	20.6
0-52-793	22.3	19.4	21.1	19.7	20.5	20.4	21.8	21.1
0-52-710	20.8	19.3	20.8	19.0	20.0	20.1	20.5	20.5
Monroe	20.0	19.8	20.7	18.8	19.7	19.1	20.4	20.6
Mandarin (Ottawa)	22.4	19.6	21.1	19.3	20.4	20.6	20.9	21.0
Mean	21.3	19.7	20.8	19.6	20.2	20.1	20.9	20.8

Table 14. Nine-year summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1949-57.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	133	104	113	126	113	133	133	133
Chippewa	31.3	0	1.5	33	1.8	15.2	41.1	20.5
Blackhawk	30.4	+5.8	2.0	35	1.6	15.9	40.8	20.5
Monroe	28.8	+3.4	2.4	39	1.6	15.2	42.2	19.7
Mandarin (Ottawa)	27.5	-3.1	1.3	28	2.0	18.6	42.5	19.7
Mean	29.5	+1.5	1.8	34	1.8	17.0	41.7	20.1

[1]Days earlier (-) or later (+) than Chippewa. Chippewa required 113 days to mature.

Table 15. Nine-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group I, 1949-57.

Strain	Mean of 133 Tests	Hoytville Ohio[1]	Wooster Ohio	Columbus Ohio	Ida Mich.[2]	Walkerton Ind.	Durand Wis.[3]
Years Tested		1949-50 1952-57	1951-1957	1949-1957	1950-54 1956-57	1949-1957	1949-1957
Chippewa	31.3	30.9	30.6	31.3	33.3	36.2	26.6
Blackhawk	30.4	31.9	30.1	30.2	33.8	35.4	25.0
Monroe	28.8	30.4	29.0	29.7	31.9	35.5	23.1
Mandarin (Ottawa)	27.5	27.0	24.7	25.9	31.1	34.1	24.3
Mean	29.5	30.1	28.6	29.3	32.5	35.3	24.8
		Yield Rank					
Chippewa		2	1	1	2	1	1
Blackhawk		1	2	2	1	3	2
Monroe		3	3	3	3	2	4
Mandarin (Ottawa)		4	4	4	4	4	3

[1]Holgate, 1949-50
[2]Deerfield, 1950-53; Ottawa Lake, 1954 and 1956.
[3]Eau Claire, 1949-50; Fall City, 1951-53.
[4]Compton, 1949-50.

Table 15. (Continued)

Strain	Madison Wis.	Shabbona Ill.[4]	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S.D.
Years Tested	1949-52 1954-57	1949-1957	1949-50 1952-56	1949-1957	1949-1957	1949-1957	1949-50, 1952,1954-57
Chippewa	35.6	33.8	40.4	36.8	24.4	33.3	21.6
Blackhawk	36.9	32.6	31.9	34.5	24.1	33.1	21.7
Monroe	33.2	31.6	32.4	29.7	22.8	28.8	19.7
Mandarin (Ottawa)	30.3	28.4	34.6	30.8	19.5	27.2	20.4
Mean	34.0	31.6	34.8	33.0	22.7	30.6	20.9
	Yield Rank						
Chippewa	2	1	1	1	1	1	2
Blackhawk	1	2	4	2	2	2	1
Monroe	3	3	3	4	3	3	4
Mandarin (Ottawa)	4	4	2	3	4	4	3

UNIFORM AND PRELIMINARY TEST, GROUP I, 1957

Strain	Source or Originating Agency	Origin
Blackhawk	Iowa A.E.S. & U.S.R.S.L.	Sel. from Mukden x Richland
Chippewa	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Mandarin (Ottawa)	Central Exp. Farm, Ottawa	Sel. from Mandarin
Monroe	Ohio A.E.S. & U.S.R.S.L.	Sel. from Mukden x Mandarin
A4K-1347*	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Capital
A4K-1433*	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Harly
CX147-25*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Perry x Capital
CX185A-25-1*	Purdue A.E.S. & U.S.R.S.L.	Sel. from C1067 x Monroe
CX197-23-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from L7-1355 x Mandarin (Ottawa)
CX203-11-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from L6-1503 x Mandarin (Ottawa)
M315*	Minn. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Capital
M318*	Minn. A.E.S. & U.S.R.S.L.	Sel. from Adams x Capital
M319*	Minn. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Hawkeye
0-52-710	Central Exp. Farm, Ottawa	Sel. from Blackhawk x Mandarin (Ottawa)
0-52-793	Central Exp. Farm, Ottawa	Sel. from A45-251 x Flambeau
W9-1982-32	Wis. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Manchu

Identification of Parent Strains

A45-251	Sel. from Mukden x Richland, progenitor of Hawkeye
C1067	Sel. from C985 (Lincoln x Ogden)
L6-1503	Sel. from Lincoln x (Lincoln x Richland)
L7-1355	Rogue in P. I. 81041

*Preliminary Test strain.

The Uniform and Preliminary Test, Group I, was grown at eleven locations in 1957 with either two or four replications. The strains of the Uniform and of the Preliminary Test were grown together as one test, and the data are presented in Tables 16 through 18. Where only two replications were grown, all data are from these two replications only, with the exception of composition of Uniform Test strains, which is based on a composite of all four replications.

The two "A" strains and four "C" strains in this test are of about Blackhawk maturity, ranging from one day earlier to three days later. They are equal or inferior to Blackhawk or Chippewa in most traits. Two of them, CX147-25 and CX185A-25-1, slightly exceeded Chippewa in yield but are eight and six days later. CX185A-25-1 has a high protein content along with high oil content.

The three "M" strains ranged from 2.5 to 5 days later than Chippewa. These strains were generally high in oil content, but only M319 exceeded Chippewa in yield. This strain performed as well as W9-1982-32, but was as short as Chippewa.

Table 16. Summary of agronomic and chemical data for the strains in the Uniform and Preliminary Test, Group I, 1957.

Strain	Yield Bu./A.	Yield Rank	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	11	11	11	9	11	10	11	5	5
Blackhawk	33.3	9	+6.4	2.4	36	1.6	16.2	41.7	20.7
Chippewa	34.6	5	0	1.9	31	1.5	15.8	41.5	21.1
Mandarin (Ottawa)	29.3	16	-5.3	1.4	27	1.6	17.7	41.8	21.0
Monroe	31.5	14	+2.9	2.5	40	1.2	15.4	42.6	20.4
A4K-1347*	32.3	11	+5.5	2.9	37	2.2	14.0	41.2	20.8
A4K-1433*	30.7	15	+7.5	2.2	40	1.4	14.5	41.2	20.4
CX147-25*	34.8	4	+8.1	2.2	35	1.4	16.0	41.3	21.0
CX185A-25-1*	34.9	3	+6.5	1.9	34	1.5	17.1	43.0	21.1
CX197-23-3*	33.6	8	+7.6	2.3	43	1.7	17.7	41.0	20.0
CX203-11-3*	34.2	6	+9.5	1.7	32	1.7	17.3	40.8	20.9
M315*	34.0	7	+3.0	2.0	34	1.5	15.8	41.4	21.2
M318*	32.6	10	+2.5	2.4	36	1.7	14.2	39.4	21.8
M319*	35.4	2	+5.3	2.0	31	1.5	17.4	40.9	21.3
0-52-710	32.3	11	+0.8	1.7	36	1.3	17.9	40.8	20.5
0-52-793	31.8	13	-0.2	2.5	34	1.5	18.0	40.9	21.1
W9-1982-32	35.7	1	+6.0	2.2	41	1.2	18.0	40.9	20.7
Mean	33.2		+4.1	2.1	35	1.5	16.4	41.3	20.9

[1]Days earlier (-) or later (+) than Chippewa. Chippewa required 110 days to mature.
*Preliminary Test strain.

Table 17. Summary of yield in bushels per acre and yield rank for the strains in the Uniform and Preliminary Test, Group I, 1957.

Strain	Mean of 11 Tests	Mean Yield Rank	Hoyt-ville Ohio	Colum-bus Ohio	Walk-erton Ind.[1]	Durand Wis.[1]	Madi-son Wis.[1]
Blackhawk	33.3	9	20.3	22.3	41.4	30.7	43.4
Chippewa	34.6	5	20.7	25.0	42.2	34.2	42.5
Mandarin (Ottawa)	29.3	16	15.2	21.2	38.7	24.8	33.1
Monroe	31.5	14	20.8	26.0	42.2	29.2	37.0
A4K-1347*	32.3	11	15.6	22.3	41.6	30.9	40.5
A4K-1433*	30.7	15	19.2	21.0	40.2	26.1	43.4
CX147-25*	34.8	4	21.9	23.7	48.5	30.5	38.4
CX185A-25-1*	34.9	3	28.4	22.9	45.3	33.3	41.8
CX197-23-3*	33.6	8	22.4	24.1	44.5	32.0	45.1
CX203-11-3*	34.2	6	21.2	21.5	47.0	30.1	43.5
M315*	34.0	7	19.0	21.4	41.8	33.7	42.3
M318*	32.6	10	16.2	23.4	43.8	28.0	38.6
M319*	35.4	2	17.8	23.4	45.8	33.9	41.7
0-52-710	32.3	11	23.8	24.9	43.2	32.0	36.9
0-52-793	31.8	13	17.1	22.5	41.5	31.8	40.8
W9-1982-32	35.7	1	24.1	26.7	45.9	33.2	43.4
Mean	33.2		20.2	23.3	43.4	30.9	40.8
Coef. of Var. (%)			11.1	10.8	6.0	8.4	7.0
Bu. Nec. for Sig. (5%)			4.6	N.S.	3.7	3.7	4.1
Row Spacing (In.)			36	28	38	36	36

	Yield Rank				
Blackhawk	9	11	14	10	3
Chippewa	8	3	9	1	6
Mandarin (Ottawa)	16	15	16	16	16
Monroe	7	2	9	13	14
A4K-1347*	15	11	12	9	11
A4K-1433*	10	16	15	15	3
CX147-25*	5	6	1	11	13
CX185A-25-1*	1	9	5	4	8
CX197-23-3*	4	5	6	6	1
CX203-11-3*	6	13	2	12	2
M315*	11	14	11	3	7
M318*	14	7	7	14	12
M319*	12	7	4	2	9
0-52-710	3	4	8	6	15
0-52-793	13	10	13	8	10
W9-1982-32	2	1	3	5	3

[1]Four replications.
*Preliminary Test strain.

Table 17. (Continued)

Strain	Shab-bona Ill.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kana-wha Iowa	Brook-ings S.D.[1]
Blackhawk	39.7	41.1	42.5	28.4	33.0	23.8
Chippewa	44.2	49.3	38.9	27.4	33.2	23.2
Mandarin (Ottawa)	36.1	49.5	35.1	21.8	25.6	20.8
Monroe	39.4	40.1	31.1	28.4	30.0	22.8
A4K-1347*	44.8	37.4	33.3	29.4	36.0	23.0
A4K-1433*	42.0	36.4	30.6	26.1	31.8	21.0
CX147-25*	49.8	43.4	38.2	29.2	34.8	24.2
CX185A-25-1*	43.5	46.5	38.3	28.2	34.8	21.2
CX197-23-3*	44.0	37.5	31.7	29.4	34.6	24.1
CX203-11-3*	45.3	46.1	35.8	30.0	35.0	21.1
M315*	47.6	42.1	39.3	26.4	34.3	25.7
M318*	42.3	48.5	34.6	27.5	33.2	22.0
M319*	46.3	48.3	44.1	29.2	36.9	21.6
0-52-710	37.0	44.0	34.1	26.6	31.6	21.5
0-52-793	40.4	41.8	32.3	30.8	29.2	21.6
W9-1982-32	46.9	48.2	36.8	29.9	35.1	22.8
Mean	43.1	43.8	36.0	28.0	33.1	22.5
Coef. of Var. (%)	4.1	--	--	6.3	5.4	--
Bu. Nec. for Sig. (5%)	3.7	--	--	3.8	3.9	--
Row Spacing (In.)	40	40	40	42	40	42
	Yield Rank					
Blackhawk	13	12	2	8	11	4
Chippewa	7	2	4	12	9	5
Mandarin (Ottawa)	16	1	9	16	16	16
Monroe	14	13	15	8	14	7
A4K-1347*	6	15	12	4	2	6
A4K-1433*	11	16	16	15	12	15
CX147-25*	1	9	6	6	5	2
CX185A-25-1*	9	6	5	10	5	13
CX197-23-3*	8	14	14	4	7	3
CX203-11-3*	5	7	8	2	4	14
M315*	2	10	3	14	8	1
M318*	10	3	10	11	9	9
M319*	4	4	1	6	1	10
0-52-710	15	8	11	13	13	12
0-52-793	12	11	13	1	15	10
W9-1982-32	3	5	7	3	3	7

Table 18. Summary of maturity data, days earlier (-) or later (+) than Chippewa, for the strains in the Uniform and Preliminary Test, Group I, 1957.

Strain	Mean of 11 Tests	Hoyt-ville Ohio	Colum-bus Ohio	Walk-erton Ind.	Durand Wis.	Madi-son Wis.
Blackhawk	+6.4	+6	+6	+4	+ 7	+6
Chippewa	0	0	0	0	0	0
Mandarin (Ottawa)	-5.3	-5	-2	-3	- 7	-3
Monroe	+2.9	+4	0	+4	+ 3	+3
A4K-1347*	+5.5	+3	+4	+2	+ 4	+7
A4K-1433*	+7.5	+7	+5	+7	+ 6	+8
CX147-25*	+8.1	+7	+6	+7	+ 8	+8
CX185A-25-1*	+6.5	+7	+7	+6	+ 5	+8
CX197-23-3*	+7.6	+6	+4	+9	+ 8	+8
CX203-11-3*	+9.5	+7	+9	+9	+10	+9
M315*	+3.0	+2	+1	+2	+ 4	+3
M318*	+2.5	+3	-3	+1	+ 2	+4
M319*	+5.3	+7	0	+5	+ 5	+4
0-52-710	+0.8	0	+1	+3	+ 1	+3
0-52-793	-0.2	+3	-2	+2	- 1	+2
W9-1982-32	+6.0	+2	+5	+6	+ 9	+5
Date planted	5-29	5-29	5-28	6-4	5-24	6-10
Chippewa matured	9-16	9-10	9-3	9-15	9-11	9-23
Days to mature	110	104	98	103	110	105

*Preliminary Test strain.

Table 18. (Continued)

Strain	Shab-bona Ill.	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kana-wha Iowa	Brook-ings S.D.
Blackhawk	+11	+6	+11	+ 4	+ 5	+4
Chippewa	0	0	0	0	0	0
Mandarin (Ottawa)	- 4	-3	- 7	-10	-11	-3
Monroe	+ 5	+4	+ 7	+ 2	+ 1	-1
A4K-1347*	+ 9	+7	+11	+ 2	+ 8	+3
A4K-1433*	+11	+7	+12	+ 5	+ 7	+7
CX147-25*	+13	+9	+10	+ 6	+ 8	+7
CX185A-25-1*	+ 7	+7	+ 8	+ 4	+ 8	+5
CX197-23-3*	+12	+8	+12	+ 4	+ 7	+6
CX203-11-3*	+12	+7	+10	+10	+12	+9
M315*	+ 5	+4	+ 7	0	+ 4	+1
M318*	+ 5	+4	+ 8	0	+ 4	0
M319*	+ 7	+3	+ 8	+ 5	+ 8	+6
0-52-710	+ 1	+3	+ 2	- 2	- 2	-1
0-52-793	- 1	0	+ 3	- 2	- 7	+1
W9-1982-32	+12	+4	+ 9	+ 4	+ 6	+4
Date planted	6-3	5-24	5-28	5-28	5-25	5-27
Chippewa matured	9-11	9-29	9-20	9-22	9-14	9-23
Days to mature	100	128	115	117	112	119

UNIFORM TEST, GROUP II, 1957

Strain	Source or Originating Agency	Origin
Adams	Iowa A.E.S. & U.S.R.S.L.	Sel. from Illini x Dunfield
Blackhawk	Iowa A.E.S. & U.S.R.S.L.	Sel. from Mukden x Richland
Harosoy	Harrow Exp. Sta., Harrow, Ont.	Sel. from Mandarin x (Mandarin x A.K.)
Hawkeye	Iowa A.E.S. & U.S.R.S.L.	Sel. from Mukden x Richland
Lincoln	Ill. A.E.S. & U.S.R.S.L.	Sel. from Mandarin x Manchu
Richland	Purdue Agr. Exp. Sta.	Sel. from P. I. 70502-2
A0-8618-2	Iowa A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Linc. x Rich.)
A2-4008	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Blackhawk
AX29-267-1-1-2	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Hawkeye
C1106	Purdue A.E.S. & U.S.R.S.L.	Sel. from A4-107-12 x Mandarin (Ott.)
C1117	Purdue A.E.S. & U.S.R.S.L.	Sel. from Mandarin (Ott.) x Lincoln
C1128	Purdue A.E.S. & U.S.R.S.L.	Sel. from Wabash x A4-107-12
H20771	Ohio A.E.S. & U.S.R.S.L.	Sel. from Monroe x Lincoln
H21793	Ohio A.E.S. & U.S.R.S.L.	Sel. from Richland x H2
L9-5139	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Linc. x Rich.)

Identification of Parent Strains

A4-107-12	Sel. from A45-251 (Mukden x Richland), Hawkeye line
H2	Sel. from Dunfield x Illini

This test was grown at twenty-seven locations in 1957, and the data are presented in Tables 19 through 26. The general yield level in 1957 averaged very close to the four-year mean. The two locations in New Jersey; Hoytville, Ohio; and Menno, South Dakota, were all appreciably below average in yield. At the remaining locations, performance was about average or above.

Four new strains were entered in Uniform Test, Group II. A2-4008 was in Preliminary Test, Group I, in 1956, and the other three strains were in Preliminary Test, Group II. Two of these strains, A2-4008 and AX29-267-1-1-2, were similar to Harosoy in maturity, but lower in yield. Slightly better lodging scores were offset by shorter height. AX29-267-1-1-2 was outstanding in its high oil content. Two strains resistant to Phytophthora rot, H20771 and H21793, were of Hawkeye maturity, had good agronomic traits and composition, but were low in yield.

Two strains, C1106 and C1117, have been in this test for two years. C1117 was similar to Harosoy in maturity, had better lodging resistance, but was quite short. It has averaged one bushel lower than Harosoy in yield over the last two years. C1106 averaged almost two days earlier than Harosoy but one bushel less in yield. It had excellent lodging resistance and was as tall as Harosoy.

Two of the three unnamed strains in the four-year summary have been approved for release. The remaining strain, C1128, had superior oil content and combined height

with excellent lodging resistance. It has been slightly exceeded in yield by A0-8618-2 and L9-5139. A0-8618-2 topped the test in four-year average yield with L9-5139 close behind. Both strains are late for this test and have a yield advantage of about one bushel over the much earlier Harosoy. As compared to Lincoln, they averaged almost two bushels higher in yield and were slightly more lodging resistant.

Among the Group II varieties, Harosoy is high in yield followed by Adams, Hawkeye, and Richland, in that order. Considering its early maturity, the yield superiority of Harosoy is exceptional. Its main shortcomings are its greater lodging, compared with Hawkeye, a slightly lower oil content, and perhaps a tendency to poor seed quality.

Table 19. Summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1957.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Shattering[2]	Percentage of Protein	Percentage of Oil
No. of Tests	26	23	21	24	21	26	1	26	26
L9-5139 Shelby	39.1	+6.9	2.1	39	1.7	16.2	1	40.3	21.1
A0-8618-2	38.3	+5.4	2.1	37	1.8	16.7	15	41.5	20.3
C1128	38.1	+3.0	2.0	40	1.9	17.4	26	40.4	21.7
Harosoy	38.0	-3.5	2.1	37	1.7	17.0	6	40.8	20.9
Lincoln	37.3	+6.5	2.3	38	1.8	15.2	14	40.5	21.1
C1117 Lindarin	36.8	-2.8	1.7	33	1.5	16.2	5	41.3	21.0
Adams	36.0	+2.1	2.2	37	1.6	14.9	3	40.0	21.5
C1106	35.7	-4.4	1.8	37	1.8	16.8	5	41.2	21.0
Hawkeye	35.5	0	1.7	36	1.6	17.8	28	40.8	21.2
A2-4008	34.9	-3.8	1.9	33	2.6	17.2	17	40.6	21.5
AX29-267-1-1-2	34.7	-3.1	1.8	35	1.6	15.7	23	40.4	22.2
H20771	33.9	-0.2	2.0	37	1.8	14.0	6	41.6	20.7
H21793	33.3	-0.5	1.9	40	1.7	17.6	26	42.2	20.4
Blackhawk	31.9	-6.4	1.8	33	1.9	15.7	17	41.0	20.8
Richland	31.2	+1.0	1.8	32	2.0	17.3	18	41.0	20.3
Mean	35.6	+0.1	1.9	36	1.8	16.4		40.9	21.1

[1]Days earlier (-) or later (+) than Hawkeye. Hawkeye required 116 days to mature.
[2]Columbia, Missouri.

Table 20. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1957.

Strain	Mean of 26 Tests[1]	Ridge-town Ont.	Mt. Holly N.J.	Bridge-ton N.J.	New-ark Del.	Hoyt-ville Ohio	Woos-ter Ohio	Co-lum-bus Ohio	Ida Mich.	Walk-erton Ind.	Bluff-ton Ind.	La-fay-ette Ind.	Green-field Ind.	Madi-son Wis.
L9-5139	39.1	50.3	32.9	28.6	43.6	26.3	44.4	34.6	40.7	47.2	48.3	52.3	31.7	32.7
A0-8618-2	38.3	51.2	30.6	24.6	34.0	25.5	42.2	31.7	39.4	50.0	51.7	51.2	29.9	36.4
C1128	38.1	42.4	34.5	24.8	36.3	26.0	45.4	32.1	38.1	48.8	53.4	51.5	31.8	41.8
Harosoy	38.0	41.8	31.8	34.2	39.1	22.1	50.5	34.0	35.2	49.9	51.5	46.8	34.1	36.2
Lincoln	37.3	43.9	27.4	31.0	41.6	22.7	46.0	35.5	40.9	51.5	49.2	44.0	30.8	33.9
C1117	36.8	43.6	33.5	28.9	40.3	20.1	41.6	33.7	32.8	51.2	49.5	46.4	30.3	40.6
Adams	36.0	39.8	32.5	23.8	36.7	19.4	38.0	35.2	33.8	49.1	49.4	47.5	28.6	37.8
C1106	35.7	40.3	28.5	30.6	31.9	19.9	43.8	29.4	33.4	48.4	46.2	48.3	27.5	42.7
Hawkeye	35.5	37.7	31.1	23.4	36.5	20.7	42.2	32.3	34.8	48.3	46.4	49.2	31.0	37.5
A2-4008	34.9	41.1	30.1	26.6	31.9	19.6	38.8	27.2	28.2	46.9	48.0	44.6	28.5	40.1
AX29-267-1-1-2	34.7	41.0	30.8	28.0	32.6	19.7	39.5	29.6	34.0	47.7	46.6	43.0	26.9	37.0
H20771	33.9	41.1	24.5	28.8	35.8	21.6	40.8	32.1	30.7	45.2	44.8	42.0	30.7	34.5
H21793	33.3	36.8	29.2	26.4	34.2	21.5	39.2	31.8	29.6	44.2	43.7	43.5	29.9	35.3
Blackhawk	31.9	33.8	25.8	26.9	32.7	20.0	37.3	26.4	29.5	41.9	39.9	41.5	26.7	36.9
Richland	31.2	24.2	24.5	30.8	33.6	19.5	35.8	27.1	31.5	42.6	40.6	41.6	27.2	29.0
Mean	35.6	40.6	29.8	27.8	36.1	21.6	41.7	31.5	34.2	47.5	47.3	46.2	29.7	36.8
CV (%)		5.0	11.3	16.2	6.7	14.8	11.1	12.1	--	9.1	5.5	6.8	7.8	9.8
BNFS (5%)		4.2	4.7	N.S.	3.5	4.6	6.6	5.5	--	6.2	3.7	4.4	3.3	5.1
Row Sp.(In.)		24	20	28	36	36	28	28	28	38	38	40	38	36
		Yield Rank												
L9-5139		2	3	7	1	1	4	3	2	10	7	1	3	14
A0-8618-2		1	8	13	10	3	6	10	3	3	2	3	8	9
C1128		5	1	12	7	2	3	7	4	6	1	2	2	2
Harosoy		6	5	1	4	5	1	4	5	4	3	7	1	10
Lincoln		3	12	2	2	4	2	1	1	1	6	10	5	13
C1117		4	2	5	3	9	8	5	10	2	4	8	7	3
Adams		11	4	14	5	15	13	2	8	5	5	6	10	5
C1106		10	11	4	14	11	5	12	9	7	11	5	12	1
Hawkeye		12	6	15	6	8	6	6	6	8	10	4	4	6
A2-4008		7	9	10	14	13	12	13	15	11	8	9	11	4
AX29-267-1-1-2		9	7	8	13	12	10	11	7	9	9	12	14	7
H20771		7	14	6	8	6	9	7	12	12	12	13	6	12
H21793		13	10	11	9	7	11	9	13	13	13	11	8	11
Blackhawk		14	13	9	12	10	14	15	14	15	15	15	15	8
Richland		15	14	3	11	14	15	14	11	14	14	14	13	15

[1]Madison, Wisconsin not included in the mean.

Table 20. (Continued)

Strain	Shab-bona Ill.	Dwight Ill.	Ur-bana Ill.	Gir-ard Ill.	Wa-seca Minn.	Suth-er-land Iowa	Kana-wha Iowa	Inde-pen-dence Iowa	Ames Iowa	Kirks-ville Mo.	Men-no S.D.	Con-cord Nebr.	Lin-coln Nebr.	Pow-hat-tan Kans.
L9-5139	40.6	50.3	48.0	39.1	45.3	45.4	39.6	34.6	40.6	33.1	17.3	36.9	34.8	30.8
A0-8618-2	47.6	48.8	43.7	39.7	37.5	44.4	39.3	39.3	41.6	33.0	16.0	38.0	31.8	31.9
C1128	44.2	49.9	45.0	34.8	36.6	42.4	40.0	37.4	41.0	32.5	20.9	36.6	32.8	30.8
Harosoy	46.4	47.9	43.7	37.4	39.5	46.8	37.8	35.8	35.9	36.6	23.0	33.7	28.4	25.3
Lincoln	46.7	47.2	43.5	34.5	36.2	40.0	36.2	38.4	40.0	26.9	17.0	33.5	33.2	30.8
C1117	43.7	43.5	51.1	36.4	33.2	42.3	36.6	34.4	36.6	37.2	19.1	34.4	28.8	26.4
Adams	44.2	50.9	41.7	34.1	36.3	39.7	38.4	32.1	36.3	34.0	23.9	32.3	30.1	27.5
C1106	44.3	44.1	41.5	36.2	36.3	43.3	40.8	32.6	37.6	33.2	18.5	36.1	27.1	28.6
Hawkeye	43.5	43.6	42.7	35.7	33.9	42.0	40.4	35.9	36.2	33.9	15.8	29.6	28.9	26.4
A2-4008	44.8	45.9	43.6	31.5	34.2	44.6	38.6	33.3	37.1	33.4	20.9	35.2	28.1	25.3
AX29-267-1-1-2	41.9	42.7	42.2	32.7	38.6	41.6	37.7	29.6	35.5	33.9	18.5	33.9	29.5	24.2
H20771	41.8	43.8	39.3	31.5	31.9	40.4	35.0	32.9	36.3	28.7	16.5	31.6	27.4	26.4
H21793	40.5	44.0	40.0	31.8	33.1	39.5	32.8	28.7	35.1	32.3	17.0	31.3	24.9	24.2
Blackhawk	39.4	42.6	38.9	30.7	35.9	39.0	34.9	29.0	32.8	30.1	20.9	29.4	24.0	18.7
Richland	41.0	37.7	40.2	31.1	29.4	33.8	32.6	30.9	33.1	31.7	14.2	27.4	25.0	23.1
Mean	43.4	45.5	43.0	34.5	35.9	41.7	37.4	33.7	37.0	32.7	18.6	33.3	29.0	26.7
CV (%)	5.2	7.5	8.7	6.8	--	5.9	5.5	6.7	6.5	11.1	--	7.6	8.4	11.2
BNFS (5%)	3.2	4.9	7.8	3.3	--	3.5	3.0	3.2	3.4	3.5	--	3.6	4.3	4.2
Row Sp.(In.)	40	38½	40	40	40	40	40	40	40	40	42	40	38	40
	Yield Rank													
L9-5139	13	2	2	2	1	2	4	6	3	8	9	2	1	2
A0-8618-2	1	4	4	1	4	4	5	1	1	9	13	1	4	1
C1128	6	3	3	7	5	6	3	3	2	10	3	3	3	2
Harosoy	3	5	4	3	2	1	8	5	11	2	2	8	9	10
Lincoln	2	6	7	8	8	11	11	2	4	15	10	9	2	2
C1117	8	12	1	4	12	7	10	7	7	1	6	6	8	7
Adams	6	1	10	9	6	12	7	11	8	3	1	10	5	6
C1106	5	8	11	5	6	5	1	10	5	7	7	4	12	5
Hawkeye	9	11	8	6	11	8	2	4	10	4	14	13	7	7
A2-4008	4	7	6	12	10	3	6	8	6	6	3	5	10	10
AX29-267-1-1-2	10	13	9	10	3	9	9	13	12	4	7	7	6	12
H20771	11	10	14	12	14	10	12	9	8	14	12	11	11	7
H21793	14	9	13	11	13	13	14	15	13	11	10	12	14	12
Blackhawk	15	14	15	15	9	14	13	14	15	13	3	14	15	15
Richland	12	15	12	14	15	15	15	12	14	12	15	15	13	14

Table 21. Summary of maturity data, days earlier (-) or later (+) than Hawkeye, and lodging for the strains in the Uniform Test, Group II, 1957.

Strain	Mean of 23 Tests[1]	Ridgetown Ont.	Mt. Holly N.J.	Bridgeton N.J.	Newark Del.	Hoytville Ohio	Woos-ter Ohio	Co-lum-bus Ohio	Ida Mich.	Walk-erton Ind.	Bluff-ton Ind.	La-fay-ette Ind.	Green-field Ind.	Madi-son Wis.
L9-5139	+6.9	+7		+7	+11	+ 9	+4	+10	+ 5	+3	+ 9	+ 7	+5	+4
A0-8618-2	+5.4	+6		+4	+ 7	+10	+2	+10	+ 8	+3	+10	+ 7	+4	+1
C1128	+3.0	+3		+1	+ 3	+ 8	+1	+ 1	+ 2	+3	+10	+ 3	-2	+2
Harosoy	-3.5	-1		-4	- 6	- 2	-1	- 3	- 3	-3	- 1	- 7	-4	-1
Lincoln	+6.5	+7		+5	+11	+14	+4	+11	+10	+3	+ 9	+ 7	+5	+3
C1117	-2.8	-2		-4	- 6	- 2	-5	- 1	+ 2	-5	- 3	- 6	-4	-2
Adams	+2.1	+1		-2	- 4	+12	0	0	+ 5	+2	+ 9	+ 5	0	+1
C1106	-4.4	-3		-3	- 8	- 4	-7	- 3	- 4	-4	- 5	-10	-7	-2
Hawkeye	0	0		0	0	0	0	0	0	0	0	0	0	0
A2-4008	-3.8	-4		-5	-12	+ 2	-7	- 3	0	-5	+ 1	- 6	-5	-1
AX29-267-1-1-2	-3.1	-2		-5	- 9	- 3	+1	- 3	- 2	-4	- 4	- 5	-5	+1
H20771	-0.2	0		+2	- 1	+13	-5	- 4	+ 6	-1	+ 3	- 2	-2	0
H21793	-0.5	-1		+4	- 1	+ 4	-5	- 2	+ 3	-1	+ 3	- 2	-2	0
Blackhawk	-6.4	-3		-5	-10	- 4	-9	- 8	- 5	-8	- 6	-10	-7	-3
Richland	+1.0	-1		0	0	+ 3	-1	+ 2	+ 5	0	+ 6	+ 3	+1	+1
D. pltd.	5-31	5-31		5-28	5-24	5-29	6-6	5-28	5-29	6-4	6-3	5-29	6-5	6-17
Hawk. mat.	9-24	10-5		9-3	9-9	9-21	10-3	9-19	9-30	9-28	9-23	9-19	9-22	10-11
Da. to mat.	116	127		98	108	115	119	114	124	116	112	113	109	116
	Mean of 21 Tests[2]	Lodging												
L9-5139	2.1		1.0	2.0	2.0	1.7	1.0	1.7		2.8	2.3	2.5	1.0	3.3
A0-8618-2	2.1		1.0	1.0	1.8	1.2	1.0	1.5		3.0	2.8	3.0	1.0	3.6
C1128	2.0		1.0	1.0	1.5	1.0	1.0	1.0		2.3	2.3	2.8	1.0	2.8
Harosoy	2.1		1.0	2.0	1.3	1.0	1.0	1.0		2.5	2.0	2.8	1.0	3.1
Lincoln	2.3		1.0	1.0	2.5	1.7	1.5	1.8		3.5	2.3	3.0	1.0	3.3
C1117	1.7		1.0	1.0	1.0	1.0	1.0	1.0		1.5	1.3	2.0	1.0	2.5
Adams	2.2		1.0	1.0	1.5	1.2	1.0	1.0		3.0	2.3	2.8	1.0	3.4
C1106	1.8		1.0	1.0	1.0	1.0	1.0	1.0		1.5	1.0	1.5	1.0	2.4
Hawkeye	1.7		1.0	1.0	1.3	1.0	1.0	1.0		1.5	1.0	2.0	1.0	2.6
A2-4008	1.9		1.0	1.0	1.0	1.0	1.0	1.0		1.8	1.3	2.0	1.0	3.6
AX29-267-1-1-2	1.8		1.0	1.0	1.0	1.0	1.0	1.0		1.8	1.0	2.3	1.0	3.3
H20771	2.0		1.0	1.0	1.5	1.0	1.0	1.0		2.8	2.0	2.3	1.0	3.5
H21793	1.9		1.0	1.0	1.3	1.0	1.0	1.0		2.3	1.5	2.0	1.0	3.0
Blackhawk	1.8		1.0	1.0	1.0	1.0	1.0	1.0		1.8	1.3	2.0	1.0	3.9
Richland	1.8		1.0	1.0	1.3	1.0	1.0	1.0		3.0	1.8	2.0	1.0	2.6
Mean	1.9		1.0	1.1	1.4	1.1	1.0	1.1		2.3	1.7	2.3	1.0	3.1

[1]Hoytville, Ohio and Madison, Wisconsin not included in the mean.
[2]Mt. Holly, New Jersey, Greenfield, Indiana, Madison, Wisconsin, and Menno, South Dakota not included in the mean.

Table 21. (Continued)

Strain	Shabbona Ill.	Dwight Ill.	Urbana Ill.	Girard Ill.	Waseca Minn.	Sutherland Iowa	Kanawha Iowa	Independence Iowa	Ames Iowa	Kirksville Mo.	Menno S.D.	Concord Nebr.	Lincoln Nebr.	Powhattan Kans.
L9-5139	+8	+7	+7	+7	+4	+8	+7	+ 9	+9	+5	+9	+6	+4	
A0-8618-2	+7	+4	+6	+6	+6	+4	+4	+ 6	+6	+4	+5	+3	+2	
C1128	+7	+6	+2	+3	+4	+2	+2	+ 2	+4	+2	+3	+2	+4	
Harosoy	-5	-2	-4	-4	-2	-4	-5	- 9	-5	-2	-5	-1	0	
Lincoln	+7	+6	+6	+7	+1	+6	+6	+ 8	+8	+5	+7	+6	+5	
C1117	-4	-2	0	-2	-3	-2	-2	- 6	-2	-1	-3	-1	-2	
Adams	+4	+4	+1	+2	+4	+3	+2	- 1	+3	+3	+3	+1	+3	
C1106	-6	-3	-4	-2	-2	-4	-7	- 8	-4	-3	-2	0	-3	
Hawkeye	0	0	0	0	0	0	0	0	0	0	0	0	0	
A2-4008	-3	-1	-4	-4	-3	-4	-7	- 9	-2	-2	-5	-3	+6	
AX29-267-1-1-2	-3	-2	-2	-2	-3	-4	-3	- 6	-1	-2	-6	-1	+2	
H20771	-2	0	-1	-1	+1	-2	0	- 2	0	+1	+4	+1	0	
H21793	-1	0	-2	0	-1	-2	-1	- 4	0	0	+1	0	+2	
Blackhawk	-6	-6	-8	-6	-3	-5	-9	-10	-5	-5	-4	-5	-5	
Richland	0	+1	0	+1	+1	+2	-1	0	+1	+1	0	+2	+1	
D. pltd.	6-3	6-10	5-30	6-4	5-28	5-27	5-25	5-23	5-24	6-1	5-28	6-2	5-31	
Hawk. mat.	9-26	9-25	9-17	9-13	10-6	10-2	9-29	9-24	9-23	9-16	9-29	9-30	9-24	
Da. to mat.	115	107	110	101	131	128	127	124	122	107	124	120	116	
							Lodging							
L9-5139	4.0	1.9	2.0	3.7	2.2	2.0	1.4	1.7	1.6	2.3	1.0	2.0	1.7	2.0
A0-8618-2	4.2	2.0	2.1	3.8	2.7	1.8	1.5	1.9	1.4	2.4	1.0	1.8	2.0	2.0
C1128	3.7	2.3	2.4	3.8	2.3	1.9	1.2	1.6	1.2	2.8	1.0	1.0	2.0	2.0
Harosoy	3.2	2.7	2.5	3.4	2.5	2.0	1.5	1.6	1.5	2.1	1.0	3.0	2.0	2.0
Lincoln	4.1	2.1	2.6	3.8	2.5	1.8	1.6	2.1	1.6	2.6	1.0	2.5	2.3	2.0
C1117	3.3	1.7	2.1	3.4	2.5	1.8	1.4	1.4	1.4	2.3	1.0	2.3	1.3	2.0
Adams	3.7	3.0	2.1	3.8	2.3	2.0	1.6	1.9	1.5	2.4	1.0	2.0	2.7	3.0
C1106	2.8	1.7	3.0	3.1	2.3	1.8	1.5	1.5	1.3	2.8	1.0	1.5	3.0	3.0
Hawkeye	3.3	1.5	2.7	2.9	2.2	1.8	1.3	1.5	1.2	2.4	1.0	1.5	1.0	2.0
A2-4008	3.6	1.7	2.9	3.6	2.3	1.8	1.4	1.7	1.3	3.0	1.0	1.8	2.3	2.0
AX29-267-1-1-2	3.5	2.1	2.8	3.5	2.3	1.9	1.4	1.3	1.4	2.6	1.0	1.0	2.0	2.0
H20771	3.8	1.5	2.7	3.6	2.2	1.8	1.3	1.4	1.4	2.9	1.0	2.0	2.0	2.0
H21793	3.4	1.7	2.7	3.4	2.3	2.0	1.4	1.3	1.4	2.6	1.0	2.3	2.3	1.0
Blackhawk	3.5	1.9	3.1	3.5	2.3	1.8	1.2	1.3	1.3	2.6	1.0	1.5	2.0	1.0
Richland	3.0	1.2	2.4	3.4	2.0	1.9	1.3	1.2	1.5	2.8	1.0	2.3	1.7	1.0
Mean	3.5	1.9	2.5	3.5	2.3	1.9	1.4	1.6	1.4	2.6	1.0	1.9	2.0	1.9

Table 22. Summary of height data and percentage of oil for the strains in the Uniform Test, Group II, 1957.

Strain	Mean of 24 Tests[1]	Ridgetown Ont.	Mt. Holly N.J.	Bridgeton N.J.	Newark Del.	Hoytville Ohio	Wooster Ohio	Columbus Ohio	Ida Mich.	Walkerton Ind.	Bluffton Ind.	Lafayette Ind.	Greenfield Ind.	Madison Wis.
L9-5139	39		28	34	40	32	37	34		41	38	42	31	39
A0-8618-2	37		24	29	38	30	37	33		39	38	43	30	36
C1128	40		28	33	39	34	41	30		46	41	43	32	42
Harosoy	37		24	29	39	31	37	31		42	38	39	31	38
Lincoln	38		27	33	40	30	37	33		40	35	41	33	39
C1117	33		25	28	34	26	31	30		34	31	37	26	35
Adams	37		27	29	38	28	34	30		43	37	41	29	37
C1106	37		28	28	37	28	34	31		37	34	41	28	38
Hawkeye	36		24	27	38	29	33	31		40	37	38	29	36
A2-4008	33		23	26	31	25	30	26		40	34	37	25	35
AX29-267-1-1-2	35		24	27	33	27	32	30		39	33	41	27	37
H20771	37		25	30	40	29	36	32		42	37	41	30	36
H21793	40		26	35	41	34	41	34		49	39	43	32	40
Blackhawk	33		26	28	34	29	31	28		35	33	35	25	35
Richland	32		22	28	33	28	31	29		35	30	33	27	33
Mean	36		25	30	37	29	35	31		40	36	40	29	37
	Mean of 26 Tests[1]	Percentage of Oil												
L9-5139	21.1	20.5	20.9	22.7	23.0	22.4	20.9	21.9	20.3	20.7	20.6	20.7	20.4	17.4
A0-8618-2	20.3	20.4	20.5	21.6	21.3	21.8	20.2	20.6	19.6	20.1	20.2	20.8	19.6	17.8
C1128	21.7	20.7	22.3	24.4	23.0	22.4	21.2	22.0	20.3	21.1	21.3	21.9	21.5	18.9
Harosoy	20.9	19.2	20.9	23.4	22.3	22.4	20.4	20.8	20.7	19.3	20.4	21.0	20.8	18.0
Lincoln	21.1	20.4	22.1	23.1	23.0	21.9	21.3	21.6	20.3	20.7	21.0	20.6	20.9	17.9
C1117	21.0	20.1	22.0	22.6	22.1	22.4	20.4	21.1	20.6	20.1	20.9	20.5	21.3	18.3
Adams	21.5	20.4	22.4	24.0	23.1	22.9	21.4	22.3	20.5	20.4	21.3	21.7	21.4	19.2
C1106	21.0	19.5	21.2	22.5	21.6	22.6	21.0	21.1	20.5	20.0	20.2	21.0	21.1	18.9
Hawkeye	21.2	20.0	21.8	23.8	23.0	22.8	21.1	22.1	20.5	20.3	20.8	20.7	21.1	19.2
A2-4008	21.5	20.6	22.1	23.7	22.7	23.6	21.4	22.1	20.9	20.9	21.7	20.6	21.8	19.3
AX29-267-1-1-2	22.2	20.9	22.5	24.8	23.2	23.6	22.0	22.2	21.7	21.1	22.0	21.9	22.6	19.8
H20771	20.7	20.3	21.6	23.8	21.8	20.9	19.7	21.0	20.1	19.9	20.3	20.3	20.4	19.0
H21793	20.4	20.4	21.1	21.7	21.9	21.8	20.0	21.6	19.8	19.1	20.5	20.3	20.6	18.4
Blackhawk	20.8	19.8	21.2	23.0	22.3	22.7	21.4	21.7	20.3	19.8	20.9	19.7	21.1	19.1
Richland	20.3	20.2	21.6	22.0	21.6	22.9	19.9	20.7	19.8	19.5	20.5	19.9	20.1	18.0
Mean	21.1	20.2	21.6	23.1	22.4	22.5	20.8	21.5	20.4	20.2	20.8	20.8	21.0	18.6

[1]Madison, Wisconsin not included in the mean.

Table 22. (Continued)

Strain	Shab-bona Ill.	Dwight Ill.	Ur-bana Ill.	Gir-ard Ill.	Wa-seca Minn.	Suth-er-land Iowa	Kana-wha Iowa	Inde-pen-dence Iowa	Ames Iowa	Kirks-ville Mo.	Men-no S.D.	Con-cord Nebr.	Lin-coln Nebr.	Pow-hat-tan Kans.
L9-5139	47	41	46	43	47	48	39	36	42	41	37	43	37	26
A0-8618-2	46	39	44	43	46	46	37	37	42	41	32	42	34	26
C1128	52	42	48	44	51	48	40	37	44	41	37	45	37	26
Harosoy	46	40	45	43	46	45	35	34	41	41	36	42	35	24
Lincoln	46	40	45	41	45	46	36	36	42	40	33	39	37	25
C1117	41	34	41	37	41	40	32	30	36	38	31	36	29	22
Adams	49	42	44	42	48	46	36	34	42	41	35	41	34	23
C1106	46	40	45	42	48	46	37	34	42	39	34	44	33	26
Hawkeye	46	38	44	41	44	45	36	33	40	40	33	40	34	23
A2-4008	43	36	41	35	42	43	35	32	39	37	30	38	30	22
AX29-267-1-1-2	46	39	44	39	47	44	35	32	40	40	33	42	33	22
H20771	47	37	44	40	47	46	38	35	41	41	37	40	35	23
H21793	52	44	47	46	48	48	38	34	44	46	37	43	36	26
Blackhawk	41	35	40	36	41	42	34	30	38	36	33	37	32	22
Richland	40	32	39	32	40	38	32	29	38	36	30	34	29	22
Mean	46	39	44	40	45	45	36	34	41	40	34	40	34	24

	Percentage of Oil													
L9-5139	20.6	21.7	21.7	20.9	19.4	19.1	20.0	21.3	20.8	21.3	22.0	21.6	21.4	21.5
A0-8618-2	20.6	21.2	20.3	20.6	19.2	18.8	18.9	20.0	20.3	20.8	19.8	19.9	21.2	20.7
C1128	21.7	22.3	22.4	22.0	19.8	19.9	21.0	22.5	21.6	21.9	21.4	22.2	22.4	21.3
Harosoy	20.6	21.7	21.4	21.3	19.6	19.8	20.4	20.9	21.1	21.9	20.5	21.9	21.1	20.2
Lincoln	21.2	22.1	21.4	21.0	19.7	19.3	20.1	20.9	19.6	21.1	20.3	21.3	21.9	21.9
C1117	20.6	21.8	21.9	21.5	19.2	19.5	19.1	21.2	20.3	21.8	20.4	22.0	22.0	20.9
Adams	20.8	22.0	22.5	21.8	18.1	19.9	20.5	21.9	21.2	22.4	21.4	21.7	21.7	21.8
C1106	20.4	21.6	21.8	20.8	19.6	19.8	20.3	21.5	21.0	21.6	20.0	22.3	20.8	21.0
Hawkeye	20.6	22.4	21.4	20.9	19.8	19.5	20.2	21.2	20.8	22.0	20.4	21.7	21.5	21.3
A2-4008	21.3	21.7	22.2	21.6	20.1	19.8	21.5	22.0	19.8	21.8	21.4	22.5	20.6	20.2
AX29-267-1-1-2	21.9	22.6	23.2	21.6	20.8	20.9	21.8	23.2	22.1	22.8	21.2	23.2	22.0	21.8
H20771	20.2	20.9	21.4	20.1	20.1	19.9	20.0	20.5	19.0	21.4	19.8	22.0	21.7	21.3
H21793	20.5	21.6	20.9	19.9	19.1	19.2	19.9	20.3	19.6	20.3	20.1	20.9	20.2	20.0
Blackhawk	20.0	21.6	20.9	20.5	19.6	19.5	20.6	20.9	19.7	21.2	20.9	21.5	21.0	20.0
Richland	20.1	21.1	21.0	20.5	19.1	18.8	19.4	20.1	18.9	20.9	19.2	20.7	20.4	19.0
Mean	20.7	21.8	21.6	21.0	19.5	19.6	20.2	21.2	20.4	21.5	20.6	21.7	21.3	20.9

Table 23. Two-year summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1956-57.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	46	38	42	43	37	47	47	47
L9-5139	37.7	+5.8	2.3	40	1.8	15.6	40.5	20.8
Harosoy	37.5	-3.7	2.3	38	2.0	17.5	41.5	20.6
C1128	37.3	+2.8	2.0	41	1.8	17.2	40.5	21.4
A0-8618-2	37.3	+4.5	2.3	39	1.9	16.5	41.5	20.2
C1117	36.5	-4.1	1.9	34	1.7	16.2	41.8	20.8
Lincoln	36.4	+5.2	2.4	39	1.8	15.0	40.7	20.9
C1106	36.3	-5.3	1.9	38	1.9	17.5	41.7	20.7
Adams	35.9	+2.0	2.3	39	1.7	14.9	40.2	21.2
Hawkeye	35.3	0	1.9	37	1.7	17.9	41.2	20.9
Blackhawk	32.0	-6.6	2.0	34	1.9	15.9	41.4	20.7
Richland	31.2	+0.5	2.1	34	2.2	17.2	41.2	20.1
Mean	35.8		2.1	38	1.9	16.5	41.1	20.8

[1]Days earlier (-) or later (+) than Hawkeye. Average maturity date of Hawkeye was September 24, 119 days after planting.

Table 24. Two-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1956-57.

Strain	Mean of 46 Tests	Ridge-town Ont.	Mt. Holly N.J.	New-ark Del.	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	Ida Mich.[1]	Walk-erton Ind.	Bluff-ton Ind.	Lafay-ette Ind.
L9-5139	37.7	35.8	39.2	43.8	32.9	41.8	36.9	40.6	44.2	45.1	44.2
Harosoy	37.5	38.6	35.9	40.9	30.8	43.0	36.6	38.6	45.7	46.4	42.4
C1128	37.3	31.8	38.7	39.2	31.6	43.2	36.2	39.4	47.3	44.8	44.2
A0-8618-2	37.3	36.4	40.7	37.0	32.3	43.3	37.1	39.3	44.9	47.0	43.9
C1117	36.5	35.4	39.3	43.3	27.6	35.5	37.3	36.7	46.2	45.6	40.2
Lincoln	36.4	33.5	32.1	44.2	29.0	41.4	39.7	39.5	44.7	46.4	39.4
C1106	36.3	37.1	36.0	34.4	28.7	41.6	33.8	41.4	42.9	42.6	42.0
Adams	35.9	31.6	39.3	40.9	29.7	38.2	37.8	36.8	45.2	44.1	41.1
Hawkeye	35.3	30.5	36.3	40.6	26.8	39.6	35.2	37.5	43.5	40.2	42.4
Blackhawk	32.0	29.7	33.5	32.8	26.6	36.0	30.1	34.3	37.7	36.5	36.0
Richland	31.2	24.0	29.0	35.5	25.5	34.6	31.5	28.9	38.4	37.4	37.3
Mean	35.8	33.1	36.4	39.3	29.2	39.8	35.7	37.5	43.7	43.3	41.2

	Yield Rank									
L9-5139	4	4	2	1	4	5	2	7	5	1
Harosoy	1	8	4	4	3	6	6	3	2	4
C1128	7	5	7	3	2	7	4	1	6	1
A0-8618-2	3	1	8	2	1	4	5	5	1	3
C1117	5	2	3	9	10	3	9	2	4	8
Lincoln	6	10	1	6	6	1	3	6	2	9
C1106	2	7	10	7	5	9	1	9	8	6
Adams	8	2	4	5	8	2	8	4	7	7
Hawkeye	9	6	6	8	7	8	7	8	9	4
Blackhawk	10	9	11	10	9	11	10	11	11	11
Richland	11	11	9	11	11	10	11	10	10	10

[1]Ottawa Lake, 1956.

Table 24. (Continued)

Strain	Green-field Ind.	Madi-son Wis.	Shab-bona Ill.	Dwight Ill.	Urbana Ill.	Wa-seca Minn.	Kana-wha Iowa	Inde-pen-dence Iowa	Ames Iowa	Menno S.D.	Lin-coln Nebr.
L9-5139	31.8	30.6	39.2	48.6	46.9	35.1	33.6	28.5	29.8	14.0	39.0
Harosoy	30.8	35.3	43.9	44.9	44.8	34.7	31.5	31.5	25.3	19.0	31.7
C1128	32.0	39.5	41.0	45.9	46.6	31.1	32.6	31.0	28.5	19.1	34.9
A0-8618-2	29.7	34.8	41.8	46.0	46.6	32.8	34.5	30.3	29.8	15.6	36.7
C1117	28.3	36.8	43.4	41.6	48.8	30.8	30.6	30.1	26.2	19.1	33.7
Lincoln	30.6	33.8	41.6	42.9	46.2	31.2	31.3	29.6	29.4	14.7	36.0
C1106	27.6	40.5	40.6	41.4	44.4	36.3	32.8	29.2	26.5	17.2	32.7
Adams	26.8	35.2	40.3	47.1	45.4	30.3	32.8	26.6	26.3	18.4	35.0
Hawkeye	28.9	36.5	39.4	41.8	45.2	30.1	34.2	30.5	25.5	13.7	35.5
Blackhawk	25.1	34.5	36.9	39.0	41.2	31.5	29.8	26.0	22.8	18.1	28.8
Richland	26.2	28.2	36.2	36.6	40.7	25.1	28.8	26.6	23.1	14.4	30.3
Mean	28.9	35.1	40.4	43.3	45.2	31.7	32.0	29.1	26.7	16.7	34.0
	Yield Rank										
L9-5139	2	10	9	1	2	2	3	8	1	10	1
Harosoy	3	5	1	5	8	3	7	1	9	3	9
C1128	1	2	5	4	3	7	6	2	4	1	6
A0-8618-2	5	7	3	3	3	4	1	4	1	7	2
C1117	7	3	2	8	1	8	9	5	7	1	7
Lincoln	4	9	4	6	5	6	8	6	3	8	3
C1106	8	1	6	9	9	1	4	7	5	6	8
Adams	9	6	7	2	6	9	4	9	6	4	5
Hawkeye	6	4	8	7	7	10	2	3	8	11	4
Blackhawk	11	8	10	10	10	5	10	11	11	5	11
Richland	10	11	11	11	11	11	11	9	10	9	10

Table 25. Four-year summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1954-57.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	89	74	80	86	76	92	91	91
A0-8618-2[2]	37.6	+4.6	2.2	39	1.9	16.4	41.3	20.4
L9-5139	37.3	+5.7	2.3	40	1.8	15.4	40.5	20.9
C1128	36.9	+3.2	1.9	41	1.8	17.0	40.3	21.6
Harosoy	36.4	-3.2	2.3	38	2.0	17.3	41.3	20.6
Adams	35.7	+3.2	2.3	39	1.7	14.8	40.0	21.4
Lincoln	35.7	+5.8	2.4	40	1.9	14.7	40.6	21.0
Hawkeye	35.0	0	1.9	37	1.8	17.7	41.2	21.1
Blackhawk	32.0	-5.5	1.9	34	2.0	15.8	41.1	20.8
Richland	31.1	+0.6	2.0	34	2.2	17.1	41.0	20.3
Mean	35.3		2.1	38	1.9	16.2	40.8	20.9

[1]Days earlier (-) or later (+) than Hawkeye. Hawkeye required 121 days to mature.
[2]A0-8618, 1954 and 1955.

Table 26. Four-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1954-57.

Strain	Mean of 89 Tests	Mt. Holly N.J.[1]	Newark Del.	Hoytville Ohio	Wooster Ohio	Columbus Ohio	Ida Mich.[2]	Walkerton Ind.	Bluffton Ind.	Lafayette Ind.	Greenfield Ind.
Years Tested		1954, 1956-57	1954-1957	1954-1957	1954-1957	1954-1957	1954, 1956-57	1954-1957	1954-1957	1954-1957	1954-1957
A0-8618-2[5]	37.6	40.7	39.7	36.6	36.7	41.0	38.9	43.9	49.2	46.4	33.1
L9-5139	37.3	39.2	45.4	35.4	35.5	39.7	40.0	42.9	45.2	45.6	34.8
C1128	36.9	40.0	40.3	35.1	35.3	40.0	39.4	46.0	48.0	45.3	33.2
Harosoy	36.4	35.6	40.5	34.8	35.5	38.2	39.7	43.5	49.2	44.0	30.1
Adams	35.7	36.2	39.9	34.3	34.1	39.6	36.5	42.8	46.3	43.9	29.8
Lincoln	35.7	35.3	44.5	32.7	35.5	39.1	38.2	42.0	47.2	42.0	32.8
Hawkeye	35.0	33.7	40.3	33.0	32.8	40.0	37.8	41.4	44.2	42.5	30.7
Blackhawk	32.0	33.5	33.8	30.4	30.5	32.4	34.0	35.5	41.4	35.9	26.4
Richland	31.1	30.4	35.3	29.4	31.7	33.6	30.4	35.3	38.7	36.4	27.8
Mean	35.3	36.1	40.0	33.5	34.2	38.2	37.2	41.5	45.5	42.4	31.0
	Yield Rank										
A0-8618-2[5]		1	7	1	1	1	4	2	1	1	3
L9-5139		3	1	2	2	4	1	4	6	2	1
C1128		2	4	3	5	2	3	1	3	3	2
Harosoy		5	3	4	2	7	2	3	1	4	6
Adams		4	6	5	6	5	7	5	5	5	7
Lincoln		6	2	7	2	6	5	6	4	7	4
Hawkeye		7	4	6	7	2	6	7	7	6	5
Blackhawk		8	9	8	9	9	8	8	8	9	9
Richland		9	8	9	8	8	9	9	9	8	8

[1]Burlington County, 1956.
[2]Ottawa Lake, 1954 and 1956.
[3]Marcus, 1954-55.
[4]Viborg, 1954.
[5]A0-8618, 1954 and 1955.

Table 26. (Continued)

Strain	Madison Wis.	Shabbona Ill.	Dwight Ill.	Urbana Ill.	Waseca Minn.	Sutherland Iowa[3]	Kanawha Iowa	Independence Iowa	Ames Iowa	Menno S.D.[4]	Lincoln Nebr.
Years Tested	1954-1957	1954-1957	1954-1957	1954-1957	1954-1957	1954-55, 1957	1954-1957	1954-1957	1954-1957	1954, 1956-57	1954-1957
AO-8618-2[5]	36.2	38.2	39.4	40.6	34.6	42.5	34.5	28.6	32.8	26.8	35.9
L9-5139	34.7	37.3	40.6	40.1	34.6	36.1	33.0	27.3	32.9	22.0	38.2
C1128	38.8	39.1	39.9	40.3	32.0	36.0	32.8	29.1	29.5	26.4	33.3
Harosoy	35.5	40.0	39.2	38.2	36.2	37.5	30.6	29.6	26.8	24.4	32.5
Adams	34.4	38.4	40.3	39.2	30.9	35.1	32.4	27.2	29.3	24.8	33.6
Lincoln	34.7	37.3	37.1	38.2	31.5	32.3	30.8	27.5	31.9	20.0	34.0
Hawkeye	34.2	37.9	36.8	38.5	31.7	36.4	33.2	29.0	28.3	20.4	34.4
Blackhawk	34.9	35.7	34.1	35.1	32.3	32.3	30.6	26.2	25.8	24.6	29.1
Richland	29.2	33.4	32.5	34.3	27.2	31.9	28.4	24.8	26.4	21.9	30.8
Mean	34.7	37.5	37.8	38.3	32.3	35.6	31.8	27.7	29.3	23.5	33.5
	Yield Rank										
AO-8618-2[5]	2	4	4	1	2	1	1	4	2	1	2
L9-5139	5	6	1	3	2	4	3	6	1	6	1
C1128	1	2	3	2	5	5	4	2	4	2	6
Harosoy	3	1	5	6	1	2	7	1	7	5	7
Adams	7	3	2	4	8	6	5	7	5	3	5
Lincoln	5	6	6	6	7	7	6	5	3	9	4
Hawkeye	8	5	7	5	6	3	2	3	6	8	3
Blackhawk	4	8	8	8	4	7	7	8	9	4	9
Richland	9	9	9	9	9	9	9	9	8	7	8

UNIFORM AND PRELIMINARY TEST, GROUP II, 1957

Strain	Source or Originating Agency	Origin
Adams	Iowa A.E.S. & U.S.R.S.L.	Sel. from Illini x Dunfield
Blackhawk	Iowa A.E.S. & U.S.R.S.L.	Sel. from Mukden x Richland
Harosoy	Harrow Exp. Sta., Harrow, Ont.	Sel. from Mandarin x (Mandarin x A.K.)
Hawkeye	Iowa A.E.S. & U.S.R.S.L.	Sel. from Mukden x Richland
Lincoln	Ill. A.E.S. & U.S.R.S.L.	Sel. from Mandarin x Manchu
Richland	Purdue Agr. Exp. Sta.	Sel. from P. I. 70502-2
A0-8618-2	Iowa A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Linc. x Rich.)
A2-4008	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Blackhawk
A4K-1243*	Iowa A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Capital
A4K-1406*	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Capital
A4K-1411*	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Harly
A4-3026*	Iowa A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Capital
A4-3109*	Iowa A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Capital
A4-3215*	Iowa A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Capital
AX29-267-1-1-2	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Hawkeye
C1106	Purdue A.E.S. & U.S.R.S.L.	Sel. from A4-107-12 x Mandarin (Ott.)
C1117	Purdue A.E.S. & U.S.R.S.L.	Sel. from Mandarin (Ottawa) x Lincoln
C1128	Purdue A.E.S. & U.S.R.S.L.	Sel. from Wabash x A4-107-12
C1142*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Wabash x Mandarin (Ottawa)
C1160*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Perry x Mandarin (Ottawa)
CX201-97-5*	Purdue A.E.S. & U.S.R.S.L.	Sel. from L6-2132 x Adams
H20771	Ohio A.E.S. & U.S.R.S.L.	Sel. from Monroe x Lincoln
H21793	Ohio A.E.S. & U.S.R.S.L.	Sel. from Richland x H2
L9-5139	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Linc. x Rich.)
L54-1053*	Ill. A.E.S. & U.S.R.S.L.	Sel. from Blackhawk x Capital
L54-1055*	Ill. A.E.S. & U.S.R.S.L.	Sel. from Blackhawk x Capital
L54-1069*	Ill. A.E.S. & U.S.R.S.L.	Sel. from Blackhawk x Harly
L54-8054*	Ill. A.E.S. & U.S.R.S.L.	Sel. from Blackhawk x Capital

Identification of Parent Strains

A4-107-12	Sel. from A45-251 (Mukden x Richland), Hawkeye line
H2	Sel. from Dunfield x Illini
L6-2132	Sel. from Lincoln x (Lincoln x Richland), progenitor of Clark

*Preliminary Test Strain.

The Preliminary Test, Group II, was grown at eleven locations in 1957 with either two or four replications. The strains of the Uniform and of the Preliminary Test were grown together as one test, and the data are presented in Tables 27 through 30. Where only two replications were grown, all means are based on these two replications with the exception of composition of Uniform Test strains, which is based on an analysis of a composite of all four replications.

Of the Preliminary Test strains, two, A4K-1411 and C1142, were similar to Harosoy in maturity and other traits, but both averaged about four bushels lower in yield. Strains A4K-1243 and C1160 were intermediate to Harosoy and Hawkeye in maturity. A4K-1243 yielded appreciably less than either Hawkeye or Harosoy. C1160 equalled Harosoy in yield and equalled Hawkeye in oil content and lodging resistance but was slightly shorter. Strain A4K-1406 was of Hawkeye maturity, yielded less than Harosoy, but was poor in lodging resistance. Four Preliminary Test strains were later than Hawkeye. CX201-97-5, a day later, and very near the top of the test in yield, was equal to Harosoy in other traits and a little higher in oil content. It was surpassed by the Uniform Test strain C1128 in almost all traits but was two days earlier. The three strains, A4-3026, A4-3109, and A4-3215, from Hawkeye x Capital, ranged from three to six days later than Hawkeye. All were rather poor in lodging resistance. A4-3215 was the best in yield, slightly outyielding Harosoy, but when compared to Uniform Test strain C1128, it was poorer in almost every trait.

Of the four "L" strains, which range from five days earlier to the same as Hawkeye in maturity, none was outstanding in performance, but since they are all resistant to Phytophthora rot, it is pertinent to make comparisons with other such strains, namely Blackhawk and the two "H" strains. L54-1069 was similar to Blackhawk in maturity but poorer in yield. The three selections from Blackhawk x Capital, L54-1053, L54-1055, and L54-8054, are similar to the "H" strains in maturity and higher in yield. L54-1055 almost equalled Harosoy in yield. L54-1053 was excellent in lodging resistance and the only one of the six "L" and "H" strains having a satisfactory oil content. Whether any of these strains should be further tested depends upon the urgency of the need for a Phytophthora rot resistant variety.

Table 27. Summary of agronomic and chemical data for the strains in the Uniform and Preliminary Test, Group II, 1957.

Strain	Yield Bu./A.	Yield Rank	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Shattering[2]	Percentage of Protein	Percentage of Oil
No. of Tests	10	10	9	9	10	8	9	1	4	4
Adams	35.9	8	+2.4	1.9	39	1.4	14.1	3	41.1	21.9
Blackhawk	31.5	26	-6.3	1.7	34	1.3	14.6	17	41.2	20.5
Harosoy	36.2	7	-3.7	2.0	38	1.5	16.1	6	41.4	21.1
Hawkeye	34.0	16	0	1.6	37	1.4	17.0	28	41.2	21.3
Lincoln	34.6	14	+7.1	2.2	39	1.6	14.5	14	41.4	20.8
Richland	29.9	27	+1.1	1.7	33	1.6	16.5	18	41.8	20.1
A0-8618-2	37.5	2	+5.6	1.8	38	1.6	16.0	15	42.5	20.5
A2-4008	34.6	14	-3.3	1.9	35	1.9	16.3	17	40.8	21.2
A4K-1243*	31.9	24	-1.4	2.1	40	1.4	13.3	4	40.9	21.3
A4K-1406*	34.7	13	+0.2	2.3	40	1.6	12.7	5	40.3	21.7
A4K-1411*	31.9	24	-3.1	2.0	38	1.2	13.1	2	41.0	21.6
A4-3026*	35.6	9	+3.0	2.2	40	1.5	17.6	33	40.7	21.0
A4-3109*	33.0	20	+6.4	2.6	39	1.4	13.8	5	41.0	21.3
A4-3215*	36.5	5	+4.0	2.4	40	1.3	15.4	5	40.5	21.7
AX29-267-1-1-2	33.3	17	-2.3	1.8	37	1.3	14.5	23	41.0	22.4
C1106	35.0	11	-3.8	1.6	38	1.6	16.1	5	41.5	21.2
C1117	35.0	11	-1.8	1.6	34	1.2	15.4	5	41.7	21.0
C1128	37.7	1	+3.1	1.7	40	1.6	16.9	26	39.6	22.0
C1142*	32.2	23	-2.9	1.7	37	1.4	17.2	7	42.6	21.5
C1160*	36.4	6	-1.8	1.6	35	1.7	16.5	9	41.2	21.4
CX201-97-5*	37.4	3	+1.2	2.0	39	1.3	16.3	28	41.4	21.7
H20771	32.6	21	0	1.7	38	1.4	13.2	6	41.9	20.4
H21793	32.4	22	-0.6	1.7	41	1.3	17.0	26	42.3	20.6
L9-5139	37.3	4	+7.8	1.9	40	1.6	15.5	1	39.8	21.3
L54-1053*	33.3	17	-1.9	1.5	37	1.7	14.5	3	39.8	21.1
L54-1055*	35.6	9	+0.1	1.8	39	1.4	13.8	14	41.8	20.3
L54-1069*	29.9	27	-5.3	1.3	37	1.4	13.8	7	43.0	20.2
L54-8054*	33.3	17	-2.7	2.1	39	1.1	13.0	2	41.9	20.3
Mean	34.3		+0.4	1.9	38	1.5	15.2		41.3	21.1

[1]Days earlier (-) or later (+) than Hawkeye. Hawkeye required 116 days to mature.
[2]Columbia, Missouri.
*Preliminary Test strain.

Table 28. Summary of yield in bushels per acre for the strains in the Uniform and Preliminary Test, Group II, 1957.

Strain	Mean of 10 Tests[1]	Mean Yield Rank	Hoyt-ville Ohio	Colum-bus Ohio	Lafay-ette Ind.[2]	Madi-son Wis.[2]	Dwight Ill.
Adams	35.9	8	19.1	34.5	47.5	37.8	49.2
Blackhawk	31.5	26	20.5	28.1	41.5	36.9	39.1
Harosoy	36.2	7	22.1	34.0	46.8	36.2	42.9
Hawkeye	34.0	16	19.4	33.8	49.2	37.5	39.1
Lincoln	34.6	14	18.7	37.7	44.0	33.9	45.9
Richland	29.9	27	19.2	25.8	41.6	29.0	36.4
A0-8618-2	37.5	2	25.3	31.5	51.2	36.4	44.2
A2-4008	34.6	14	18.4	31.3	44.6	40.1	45.1
A4K-1243*	31.9	24	17.4	31.9	43.9	41.4	31.4
A4K-1406*	34.7	13	20.4	29.7	48.2	37.6	41.5
A4K-1411*	31.9	24	24.4	30.1	40.7	34.8	37.5
A4K-3026*	35.6	9	25.3	30.5	50.3	30.0	44.4
A4-3109*	33.0	20	21.3	27.9	44.5	30.9	41.1
A4-3215*	36.5	5	21.9	29.3	51.6	31.9	42.7
AX29-267-1-1-2	33.3	17	18.7	29.8	43.0	37.0	38.3
C1106	35.0	11	19.4	31.3	48.3	42.7	39.5
C1117	35.0	11	19.8	32.9	46.4	40.6	37.3
C1128	37.7	1	25.6	36.2	51.5	41.8	46.0
C1142*	32.2	23	20.7	32.8	39.9	34.5	38.7
C1160*	36.4	6	25.7	30.7	52.6	42.4	39.3
CX201-97-5*	37.4	3	25.6	33.9	46.4	39.8	47.7
H20771	32.6	21	17.5	34.4	42.0	34.5	43.0
H21793	32.4	22	22.3	29.1	43.5	35.3	41.3
L9-5139	37.3	4	27.1	32.6	52.3	32.7	46.7
L54-1053*	33.3	17	20.6	32.4	46.1	40.2	36.3
L54-1055*	35.6	9	23.4	32.8	45.5	39.0	43.4
L54-1069*	29.9	27	17.8	27.5	40.9	36.4	38.8
L54-8054*	33.3	17	19.0	34.5	41.2	35.7	42.6
Mean	34.3		21.3	31.7	45.9	36.7	41.4
Coef. of Var. (%)			15.9	5.4	6.8	9.8	8.9
Bu. Nec. for Sig. (5%)			N.S.	3.5	4.4	5.1	7.6
Row Spacing (In.)			36	28	40	36	38½

[1]Madison, Wisconsin not included in the mean.
[2]Four replications.
*Preliminary Test strain.

Table 28. (Continued)

Strain	Urbana Ill.	Kana-wha Iowa	Ames Iowa	Kirks-ville Mo.	Menno S.D.[2]	Con-cord Nebr.
Adams	44.5	39.0	36.4	34.0	23.9	31.3
Blackhawk	39.2	34.8	33.7	30.1	20.9	26.6
Harosoy	47.4	37.8	39.7	36.6	23.0	31.2
Hawkeye	43.4	40.0	36.4	33.9	15.8	29.4
Lincoln	45.2	35.8	43.2	26.9	17.0	31.9
Richland	39.0	32.8	31.7	31.7	14.2	26.9
A0-8618-2	49.9	41.2	43.0	33.0	16.0	39.6
A2-4008	43.5	37.3	36.9	33.4	20.9	34.3
A4K-1243*	41.9	36.3	37.6	27.2	21.0	30.8
A4K-1406*	47.0	41.1	38.1	29.4	22.1	29.6
A4K-1411*	38.7	36.9	30.3	26.9	23.1	30.4
A4K-3026*	42.8	38.0	39.8	29.9	25.0	30.3
A4-3109*	42.1	38.1	37.0	23.5	23.5	30.7
A4-3215*	43.8	40.8	43.0	30.9	25.5	35.3
AX29-267-1-1-2	43.8	38.4	36.6	33.9	18.5	32.4
C1106	42.4	41.8	39.4	33.2	18.5	36.1
C1117	50.5	36.4	37.4	37.2	19.1	32.6
C1128	47.5	39.0	43.0	32.5	20.9	35.1
C1142*	40.8	36.6	37.2	26.4	17.7	31.0
C1160*	45.1	41.2	36.2	34.7	22.0	36.2
CX201-97-5*	44.9	38.7	40.8	33.1	26.1	36.7
C20771	39.7	35.2	37.8	28.7	16.5	30.7
H21793	39.6	31.4	36.8	32.3	17.0	30.3
L9-5139	47.1	39.6	41.7	33.1	17.3	35.3
L54-1053*	47.3	34.9	31.0	33.9	17.9	32.3
L54-1055*	50.0	36.8	37.9	32.7	18.4	35.4
L54-1069*	35.2	30.9	29.7	30.8	20.4	26.6
L54-8054*	39.4	36.1	35.5	29.0	19.0	36.9
Mean	43.6	37.4	37.4	31.4	20.0	32.4
Coef. of Var. (%)	10.8	6.9	6.4	6.8	--	8.2
Bu. Nec. for Sig. (5%)	6.6	5.4	4.9	4.4	--	5.4
Row Spacing (In.)	40	40	40	40	42	40

Table 29. Summary of yield rank for the strains in the Uniform and Preliminary Test, Group II, 1957.

Strain	Mean Yield Rank	Hoyt-ville Ohio	Colum-bus Ohio	Lafay-ette Ind.	Madi-son Wis.	Dwight Ill.	Ur-bana Ill.	Kana-wha Iowa	Ames Iowa	Kirks-ville Mo.	Menno S.D.	Con-cord Nebr.
Adams	8	21	3	10	10	1	12	8	20	4	4	15
Blackhawk	26	15	25	24	14	19	25	25	24	19	11	27
Harosoy	7	10	6	11	17	11	5	14	8	2	7	16
Hawkeye	16	18	8	7	12	19	16	6	20	5	27	25
Lincoln	14	23	1	18	23	5	9	22	1	25	23	14
Richland	27	20	28	23	28	26	26	26	25	16	28	26
A0-8618-2	2	5	15	5	15	8	3	2	2	12	26	1
A2-4008	14	25	16	16	7	6	15	15	17	8	11	10
A4K-1243*	24	28	14	19	4	28	20	20	13	24	10	18
A4K-1406*	13	16	22	9	11	14	8	4	10	21	8	24
A4K-1411*	24	7	20	27	20	24	27	16	27	25	6	21
A4-3026*	9	5	19	6	27	7	17	13	7	20	3	22
A4-3109*	20	12	26	17	26	16	19	12	16	28	5	19
A4-3215*	5	11	23	3	25	12	13	5	2	17	2	7
AX29-267-1-1-2	17	23	21	21	13	23	13	11	19	5	17	12
C1106	11	18	16	8	1	17	18	1	9	9	17	5
C1117	11	17	9	12	5	25	1	19	14	1	15	11
C1128	1	3	2	4	3	4	4	8	2	14	11	9
C1142*	23	13	10	28	21	22	21	18	15	27	21	17
C1160*	6	2	18	1	2	18	10	2	22	3	9	4
CX201-97-5*	3	3	7	12	8	2	11	10	6	10	1	3
H20771	21	27	5	22	21	10	22	23	12	23	25	19
H21793	22	9	24	20	19	15	23	27	18	15	23	22
L9-5139	4	1	12	2	24	3	7	7	5	10	22	7
L54-1053*	17	14	13	14	6	27	6	24	26	5	20	13
L54-1055*	9	8	10	15	9	9	2	17	11	13	19	6
L54-1069*	27	26	27	26	15	21	28	28	28	18	14	27
L54-8054*	17	22	3	25	18	13	24	21	23	22	16	2

*Preliminary Test strain.

Table 30. Summary of maturity data, days earlier (-) or later (+) than Hawkeye, for the strains in the Uniform and Preliminary Test, Group II, 1957.

Strain	Mean of 9 Tests[1]	Hoyt-ville Ohio	Colum-bus Ohio	Lafay-ette Ind.	Madi-son Wis.	Dwight Ill.	Ur-bana Ill.	Kana-wha Iowa	Ames Iowa	Kirks-ville Mo.	Men-no S.D.	Con-cord Nebr.
Adams	+2.4	+13	0	+ 5	+1	+3	+1	+3	+3	+3	+3	+1
Blackhawk	-6.3	- 3	- 8	-10	-3	-6	-7	-7	-5	-5	-4	-5
Harosoy	-3.7	- 3	- 3	- 7	-1	-3	-3	-4	-5	-2	-5	-1
Hawkeye	0	0	0	0	0	0	0	0	0	0	0	0
Lincoln	+7.1	- 6	+11	+ 7	+3	+6	+7	+6	+9	+5	+7	+6
Richland	+1.1	+ 5	+ 2	+ 3	+1	0	+1	0	+1	+1	0	+2
A0-8618-2	+5.6	+11	+10	+ 7	+1	+3	+7	+5	+6	+4	+5	+3
A2-4008	-3.3	+ 2	- 3	- 6	-1	-1	-2	-6	-2	-2	-5	-3
A4K-1243*	-1.4	- 3	- 3	- 2	-3	-1	+1	-3	0	-4	-1	0
A4K-1406*	+0.2	- 1	- 3	- 1	+1	-1	+1	-1	+1	+1	+2	+3
A4K-1411*	-3.1	- 3	- 5	- 4	-1	-2	-5	-4	-3	-4	-1	0
A4-3026*	+3.0	- 2	- 4	+ 2	+1	+5	+6	+2	+5	+3	+5	+3
A4-3109*	+6.4	+ 5	+10	+ 5	+2	+7	+7	+5	+9	+5	+6	+4
A4-3215*	+4.0	+ 9	+ 1	+ 4	+3	+5	+5	+4	+7	+2	+4	+4
AX29-267-1-1-2	-2.3	- 3	- 3	- 5	+1	-2	-1	-1	0	-2	-6	-1
C1106	-3.8	- 3	- 3	-10	-2	-3	-3	-6	-4	-3	-2	0
C1117	-1.8	- 2	- 1	- 6	-2	-2	0	0	-2	-1	-3	-1
C1128	+3.1	+ 6	+ 1	+ 3	+2	+6	+3	+3	+5	+2	+3	+2
C1142*	-2.9	+ 1	- 4	- 7	0	-2	-3	-2	-3	-1	-4	0
C1160*	-1.8	+ 5	0	- 2	0	0	-1	-2	-3	-4	-4	0
CX201-97-5*	+1.2	+ 9	+ 3	+ 1	+1	+1	+1	+2	+3	0	-3	+3
H20771	0	+17	- 4	- 2	0	0	-2	+1	+1	+1	+4	+1
H21793	-0.6	+ 5	- 2	- 2	0	0	-2	-1	+1	0	+1	0
L9-5139	+7.8	+10	+10	+ 7	+4	+7	+9	+8	+9	+5	+9	+6
L54-1053*	-1.9	- 1	+ 1	- 1	-1	-2	-2	-2	-3	-4	-4	0
L54-1055*	+0.1	- 3	- 2	0	0	+1	+2	0	+3	-1	-3	+1
L54-1069*	-5.3	- 3	- 2	-10	-2	-6	-8	-7	-7	-4	-4	0
L54-8054*	-2.7	- 3	0	- 4	-1	-3	-4	-4	-3	-3	-4	+1
Date planted	5-30	5-29	5-28	5-29	6-17	6-10	5-30	5-25	5-24	6-1	5-28	6-2
Hawkeye matured	9-23	9-20	9-19	9-19	10-11	9-25	9-17	9-28	9-23	9-16	9-29	9-30
Days to mature	116	114	114	113	116	107	110	126	122	107	124	120

[1]Hoytville, Ohio and Madison, Wisconsin not included in the mean.
*Preliminary Test strain.

UNIFORM TEST, GROUP III, 1957

Strain	Source or Originating Agency	Origin
Clark	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Dunfield	Purdue Agr. Exp. Sta.	Sel. from P. I. 36846
Lincoln	Ill. A.E.S. & U.S.R.S.L.	Sel. from Mandarin x Manchu
AO-8618-2	Iowa A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
A3-6319	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x (Adams x Hawkeye)
CX166-103N-1	Purdue A.E.S. & U.S.R.S.L.	Sel. from L6-1503 x Bavender-2
CX168-46-5	Purdue A.E.S. & U.S.R.S.L.	Sel. from Mandarin (Ottawa) x L6-2132
CX169-9-2	Purdue A.E.S. & U.S.R.S.L.	Sel. from Mukden x L6-2132
CX192-28-3	Purdue A.E.S. & U.S.R.S.L.	Sel. from C1070 x Adams
H21162	Ohio A.E.S. & U.S.R.S.L.	Sel. from Monroe x Lincoln
L9-5139	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
S4-1207	Mo. A.E.S. & U.S.R.S.L.	Sel. from A4-107-12 x (L9-4091 x L6-2132-1)
U1-5	Nebr. A.E.S. & U.S.R.S.L.	Sel. from U9-2 (from mixed seed)

Identification of Parent Strains

A4-107-12	Sel. from A45-251 (Mukden x Richland), Hawkeye line
C1070	Sel. from C985 (Lincoln x Ogden)
L6-1503	Sel. from Lincoln x (Lincoln x Richland)
L6-2132	Sel. from Lincoln x (Lincoln x Richland), progenitor of Clark
L9-4091	Pustule resistant sel. from (Lincoln x (Lincoln x Richland)) x (Lincoln x CNS)

This test was grown at fifteen locations in 1957, and the data are presented in Tables 31 through 36. The general yield level in 1957 was six bushels higher than the long time average. Yields were up to a satisfactory level at all locations.

There were eight new strains in this test in 1957. A3-6319, the four "C" strains, and U1-5 were in the Preliminary Test, Group III, in 1956; H21162 was in the Group II Preliminary Test; and S4-1207 had not been in previous regional tests.

The earliest of these, S4-1207, was slightly earlier in maturity than L9-5139 and performed similarly in all other respects except for poorer seed quality. It is resistant to bacterial pustule and is the first resistant strain of this maturity with good agronomic traits. CX168-46-5 was also of L9-5139 maturity. Last year it yielded slightly more, this year slightly less. It has been equal to L9-5139 in other traits but poor in seed quality in both years. H21162, a Phytophthora rot resistant strain, was a day later in maturity and appreciably lower in yield.

Three strains, A3-6319, CX192-28-3, and CX169-9-2 were midway between L9-5139 and Clark in maturity. CX192-28-3 has been excellent in yield in both years and was superior to most of the other varieties in lodging, seed quality, and oil content, but has shattered seriously in Missouri in 1956 and 1957. A3-6319 has been outperformed in most respects by CX192-28-3, but has not shattered as badly although

still inferior to L9-5139 in this respect. CX169-9-2 has been found in Illinois tests to be heterogeneous for Phytophthora rot resistance. It had a rather low oil content but was otherwise satisfactory.

Two strains, CX166-103N-1 and U1-5, were one to two days earlier than Clark and averaged three and five bushels less in yield. Both were also inferior in lodging and seed quality. CX166-103N-1 had the highest oil content in the test in both years.

Two strains and three varieties are included in the six-year summary. The two strains, A0-8618-2 and L9-5139, have been accepted for release. A0-8618-2 will be a joint release by the Iowa, South Dakota, and Nebraska Experiment Stations, and L9-5139 will be released by the Indiana, Illinois, and Missouri Experiment Stations.

Clark has consistently led the group in yield and lodging resistance but is late. Of the Group III strains, L9-5139 has outyielded Lincoln by 2.5 bushels and A0-8618-2 has outyielded it by 1.0 bushel. They have averaged very close in all other traits.

Table 31. Summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1957.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Shattering[2]	Percentage of Protein	Percentage of Oil
No. of Tests	15	13	14	15	15	15	1	15	15
Clark	43.4	+5.5	1.9	39	1.8	16.6	7	40.9	21.4
CX192-28-3	43.0	+2.2	1.5	38	1.6	16.5	44	39.8	22.0
A3-6319	40.2	+2.0	2.1	42	1.9	17.2	18	40.0	21.6
CX166-103N-1	40.2	+3.9	2.3	39	2.3	17.6	25	39.5	22.4
L9-5139	40.0	-0.7	2.0	40	1.8	15.7	1	40.8	21.3
S4-1207	39.9	-1.1	1.9	38	2.3	15.5	13	40.8	21.2
CX169-9-2	39.5	+2.3	2.0	40	1.8	15.4	9	40.6	20.7
CX168-46-5	39.3	-0.5	2.2	39	2.3	16.5	16	39.4	21.3
A0-8618-2	39.2	-2.7	2.0	39	2.2	15.9	21	41.8	20.9
U1-5	38.6	+4.0	2.2	38	2.5	18.5	21	40.3	21.7
H21162	37.6	+1.2	2.2	42	1.7	13.9	19	40.8	21.1
Lincoln	36.7	0	2.2	38	2.2	14.6	12	40.8	21.5
Dunfield	31.5	-3.8	2.8	37	2.1	15.6	31	40.5	21.5
Mean	39.2	+0.9	2.1	39	2.0	16.1		40.5	21.4

[1]Days earlier (-) or later (+) than Lincoln. Lincoln required 120 days to mature.
[2]Columbia, Missouri.

Table 32. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1957.

Strain	Mean of 15 Tests	Newark Del.	Beltsville Md.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Worthington Ind.	Urbana Ill.
Clark	43.4	42.2	48.4	31.4	49.9	37.0	61.4	45.1
CX192-28-3	43.0	42.9	48.4	33.7	49.7	36.0	56.7	52.0
A3-6319	40.2	32.3	46.2	28.7	48.8	31.5	60.1	46.7
CX166-103N-1	40.2	36.7	43.1	31.7	51.4	33.6	51.9	46.8
L9-5139 Shelby	40.0	35.0	43.7	29.4	45.6	36.0	49.8	44.4
S4-1207	39.9	29.9	43.0	29.4	51.2	35.1	49.5	45.6
CX169-9-2	39.5	32.2	41.0	28.0	48.2	33.4	55.0	45.4
CX168-46-5	39.3	33.0	41.2	28.4	47.7	35.4	48.9	47.9
A0-8618-2	39.2	37.3	40.9	29.7	47.6	31.8	50.6	45.3
U1-5	38.6	34.9	37.8	27.5	43.3	31.5	51.2	44.5
H21162	37.6	32.8	45.9	28.5	42.6	31.0	57.5	40.9
Lincoln	36.7	32.1	42.0	28.6	44.1	33.2	45.7	43.4
Dunfield	31.5	23.8	28.3	21.9	40.9	29.0	40.2	40.7
Mean	39.2	34.2	42.3	29.0	47.0	33.4	52.2	45.3
Coef. of Var. (%)		7.6	11.7	10.0	7.3	7.2	7.5	8.0
Bu. Nec. for Sig. (5%)		3.6	7.1	4.2	4.8	3.4	5.6	5.2
Row Spacing (In.)		36	40	28	40	38	38	40

	Yield Rank						
Clark	2	1	3	3	1	1	8
CX192-28-3	1	1	1	4	2	4	1
A3-6319	9	3	7	5	10	2	4
CX166-103N-1	4	6	2	1	6	6	3
L9-5139 Shelby	5	5	5	9	2	9	10
S4-1207	12	7	5	2	5	10	5
CX169-9-2	10	10	11	6	7	5	6
CX168-46-5	7	9	10	7	4	11	2
A0-8618-2	3	11	4	8	9	8	7
U1-5	6	12	12	11	10	7	9
H21162	8	4	9	12	12	3	12
Lincoln	11	8	8	10	8	12	11
Dunfield	13	13	13	13	13	13	13

Table 32. (Continued)

Strain	Girard Ill.	Eldorado Ill.	Ames Iowa	Ottumwa Iowa	Kirksville Mo.	Columbia Mo.	Lincoln Nebr.	Powhattan Kans.
Clark	44.1	42.5	44.2	46.8	35.4	38.0	51.1	33.0
CX192-28-3	40.3	40.6	44.9	51.8	36.2	33.2	53.1	25.3
A3-6319	38.1	38.9	46.9	46.2	30.9	35.9	46.8	25.3
CX166-103N-1	38.5	39.4	44.0	46.4	31.6	37.1	44.7	26.4
L9-5139 Shelby	36.3	39.8	46.3	47.4	33.0	36.8	48.1	28.6
S4-1207	39.2	38.1	43.8	46.6	33.9	39.0	45.7	28.6
CX169-9-2	37.6	37.6	46.8	46.3	34.0	35.9	44.0	26.4
CX168-46-5	35.3	40.1	40.2	49.6	34.7	35.6	45.9	25.3
A0-8618-2	34.9	37.8	43.2	45.7	33.2	36.6	44.3	28.6
U1-5	38.1	37.4	43.3	46.7	32.9	37.6	44.3	28.6
H21162	36.5	36.5	38.6	42.0	29.1	37.0	41.7	23.1
Lincoln	33.2	33.8	41.4	41.8	29.5	34.8	42.4	24.2
Dunfield	27.6	32.7	39.2	37.8	25.9	29.8	37.3	17.6
Mean	36.9	38.1	43.3	45.8	32.3	35.9	45.3	26.2
Coef. of Var. (%)	8.9	6.8	7.6	7.0	9.2	8.0	9.0	13.3
Bu. Nec. for Sig. (5%)	4.7	3.7	4.7	4.6	3.0	4.1	5.9	6.2
Row Spacing (In.)	40	40	40	40	40	38	38	40

	Yield Rank							
Clark	1	1	5	4	2	2	2	1
CX192-28-3	2	2	4	1	1	12	1	8
A3-6319	5	6	1	9	10	8	4	8
CX166-103N-1	4	5	6	7	9	4	7	6
L9-5139 Shelby	9	4	3	3	7	6	3	2
S4-1207	3	7	7	6	5	1	6	2
CX169-9-2	7	9	2	8	4	8	10	6
CX168-46-5	10	3	11	2	3	10	5	8
A0-8618-2	11	8	9	10	6	7	8	2
U1-5	5	10	8	5	8	3	8	2
H21162	8	11	13	11	12	5	12	12
Lincoln	12	12	10	12	11	11	11	11
Dunfield	13	13	12	13	13	13	13	13

Table 33. Summary of maturity data, days earlier (-) or later (+) than Lincoln, and lodging for the strains in the Uniform Test, Group III, 1957.

Strain	Mean of 13 Tests	Newark Del.	Beltsville Md.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Worthington Ind.	Urbana Ill.
Clark	+5.5	+13	+4	+3	+7	+2	+7	+6
CX192-28-3	+2.2	+13	+2	-1	+3	+2	+3	+1
A3-6319	+2.0	+ 2	+2	-2	+4	+3	+6	+1
CX166-103N-1	+3.9	+ 7	+4	0	+4	+4	+8	+5
L9-5139 Shelby	-0.7	- 1	-2	+1	+1	-1	-3	+2
S4-1207	-1.1	+ 1	-4	-3	-3	-2	-2	0
CX169-9-2	+2.3	+ 3	0	0	+4	0	+8	+3
CX168-46-5	-0.5	- 3	-3	0	+1	0	+3	0
AO-8618-2	-2.7	- 6	-3	-3	-1	+1	-3	0
U1-5	+4.0	+11	+4	+2	+4	+2	+9	+5
H21162	+1.2	+ 1	0	-3	+3	-1	+4	+1
Lincoln	0	0	0	0	0	0	0	0
Dunfield	-3.8	- 9	-5	-7	0	+3	-2	-3
Date planted	5-27	5-24	5-23	5-28	5-29	6-5	5-16	5-30
Lincoln matured	9-24	9-22	9-24	9-30	9-25	9-28	9-14	9-25
Days to mature	120	121	124	125	119	115	121	118
	Mean of 14 Tests[1]	Lodging						
Clark	1.9	1.3	3.0	1.0	2.8	1.0	2.0	2.1
CX192-28-3	1.5	1.0	2.0	1.2	2.0	1.0	2.3	1.9
A3-6319	2.1	2.3	3.0	1.0	2.8	1.0	2.8	2.3
CX166-103N-1	2.3	2.5	3.0	1.2	3.3	1.0	2.8	2.8
L9-5139	2.0	1.3	3.0	1.2	3.0	1.0	2.8	2.5
S4-1207	1.9	1.5	2.0	1.0	2.5	1.0	2.3	2.6
CX169-9-2	2.0	1.0	3.0	1.0	3.3	1.0	3.0	2.8
CX168-46-5	2.2	1.3	3.0	1.0	3.0	1.0	3.3	2.7
AO-8618-2	2.0	1.0	3.0	1.0	3.0	1.0	2.5	2.6
U1-5	2.2	2.3	3.0	1.0	3.3	1.0	3.3	2.5
H21162	2.2	2.3	3.0	1.2	3.0	1.0	2.3	2.9
Lincoln	2.2	1.5	3.0	1.0	3.0	1.0	2.8	2.7
Dunfield	2.8	3.3	4.0	1.2	3.3	1.5	3.3	3.7
Mean	2.1	1.7	2.9	1.1	2.9	1.0	2.7	2.6

[1]Columbia, Missouri not included in the mean.

Table 33. (Continued)

Strain	Girard Ill.	Eldorado Ill.	Ames Iowa	Ottumwa Iowa	Kirksville Mo.	Columbia Mo.	Lincoln Nebr.	Powhattan Kans.
Clark	+8	+7	+3	+5		+4	+2	
CX192-28-3	+1	+2	+2	+2		+1	-3	
A3-6319	+4	+2	+2	+1		-1	+2	
CX166-103N-1	+7	+3	+2	+2		+3	+2	
L9-5139 Shelby	+1	0	0	0		0	-7	
S4-1207	0	-2	-1	-1		-2	+5	
CX169-9-2	+4	+2	+2	+2		+2	0	
CX168-46-5	+2	0	-1	0		-1	-4	
A0-8618-2	-1	-2	-2	-2		-4	-9	
U1-5	+5	+4	+2	+2		+1	+1	
H21162	+4	+2	+2	+1		+1	0	
Lincoln	0	0	0	0		0	0	
Dunfield	-2	-3	-3	-4		-6	-8	
Date planted	6-4	6-1	5-24	5-23	6-1	5-15	5-28	
Lincoln matured	9-20	9-12	10-4	9-26	9-21	9-11	10-6	
Days to mature	108	103	133	126	112	119	131	
	Lodging							
Clark	2.4	2.0	1.9	1.6	1.6	1.0	1.0	3.0
CX192-28-3	2.2	1.1	1.3	1.4	1.6	1.0	1.3	1.0
A3-6319	2.7	2.0	1.6	1.5	2.2	1.0	2.0	2.0
CX166-103N-1	3.1	2.6	1.9	1.6	2.7	1.0	2.3	2.0
L9-5139 Shelby	2.9	2.0	1.6	1.7	2.2	1.0	2.0	1.0
S4-1207	2.7	1.5	1.5	1.6	2.0	1.0	2.3	2.0
CX169-9-2	3.0	2.1	1.7	1.8	2.0	1.0	1.8	1.0
CX168-46-5	3.2	1.8	1.8	1.8	1.7	1.0	2.8	2.0
A0-8618-2	3.1	2.3	1.6	1.6	2.5	1.0	1.8	1.0
U1-5	2.8	2.9	1.6	1.7	1.4	1.0	2.5	1.0
H21162	3.0	2.1	2.0	1.7	2.2	1.0	2.3	2.0
Lincoln	3.0	2.7	1.7	1.9	2.0	1.0	2.3	2.0
Dunfield	4.4	3.3	2.1	2.4	3.2	1.0	2.5	1.0
Mean	3.0	2.2	1.7	1.7	2.1	1.0	2.1	1.6

Table 34. Summary of height data and percentage of oil for the strains in the Uniform Test, Group III, 1957.

Strain	Mean of 15 Tests	Newark Del.	Beltsville Md.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Worthington Ind.	Urbana Ill.
Clark	39	37	39	33	42	31	48	45
CX192-28-3	38	37	39	30	40	29	46	46
A3-6319	42	41	42	33	46	32	50	49
CX166-103N-1	39	39	38	31	42	31	47	44
L9-5139	40	40	43	31	43	31	49	48
S4-1207	38	38	38	29	41	30	47	44
CX169-9-2	40	38	38	31	42	30	49	46
CX168-46-5	39	36	39	29	43	31	47	45
A0-8618-2	39	37	40	30	43	30	47	44
U1-5	38	37	40	30	39	30	46	43
H21162	42	42	43	32	46	33	56	47
Lincoln	38	38	40	31	39	30	48	44
Dunfield	37	39	38	31	35	31	41	44
Mean	39	38	40	31	42	31	48	45
	Mean of 15 Tests	Percentage of Oil						
Clark	21.4	22.1	21.5	21.6	20.8	20.1	21.9	21.0
CX192-28-3	22.0	22.7	22.8	22.0	21.0	20.9	22.3	21.7
A3-6319	21.6	22.6	22.0	21.3	20.5	21.1	21.9	20.7
CX166-103N-1	22.4	23.3	22.3	22.5	21.3	21.6	22.5	21.8
L9-5139	21.3	22.4	21.2	21.5	20.2	20.1	21.8	21.0
S4-1207	21.2	21.6	21.6	21.2	19.8	19.9	21.5	20.4
CX169-9-2	20.7	21.3	20.5	20.6	19.9	19.9	20.4	19.7
CX168-46-5	21.3	22.7	21.9	20.6	20.1	20.4	21.0	21.1
A0-8618-2	20.9	21.4	21.3	20.8	20.3	19.7	21.1	20.2
U1-5	21.7	22.1	22.4	21.5	20.7	20.8	21.8	21.6
H21162	21.1	22.8	21.7	20.8	19.7	20.1	20.9	20.8
Lincoln	21.5	22.3	21.7	21.3	20.4	20.4	21.2	21.1
Dunfield	21.5	22.8	22.0	21.0	20.7	20.8	22.1	21.2
Mean	21.4	22.3	21.8	21.3	20.4	20.4	21.6	20.9

Table 34. (Continued)

Strain	Girard Ill.	Eldorado Ill.	Ames Iowa	Ottumwa Iowa	Kirksville Mo.	Columbia Mo.	Lincoln Nebr.	Powhattan Kans.
Clark	40	40	44	47	41	36	42	25
CX192-28-3	39	39	42	46	41	35	40	22
A3-6319	44	43	47	52	42	34	45	25
CX166-103N-1	41	40	44	47	42	36	42	24
L9-5139	41	41	45	48	41	34	42	24
S4-1207	40	37	42	45	40	34	40	21
CX169-9-2	41	41	46	48	45	35	43	23
CX168-46-5	40	38	44	46	42	34	40	24
A0-8618-2	40	40	43	47	41	32	41	24
U1-5	39	38	43	47	41	37	41	24
H21162	44	43	47	50	44	30	44	24
Lincoln	39	39	43	46	41	33	42	22
Dunfield	38	40	44	44	38	37	40	21
Mean	40	40	44	47	41	34	42	23
	Percentage of Oil							
Clark	20.8	21.3	20.5	22.2	20.6	22.4	21.5	22.0
CX192-28-3	20.7	23.3	20.8	22.7	21.1	23.5	22.2	22.6
A3-6319	20.8	22.6	20.4	22.4	21.2	22.9	21.8	21.5
CX166-103N-1	21.5	23.6	21.0	23.5	21.9	24.4	22.6	21.9
L9-5139	20.4	22.3	19.8	22.1	20.8	23.6	21.1	21.7
S4-1207	20.3	23.0	19.8	22.4	20.7	23.3	20.9	21.4
CX169-9-2	19.8	21.6	19.8	21.5	20.2	22.7	21.2	20.9
CX168-46-5	20.0	22.7	20.0	21.9	20.9	23.0	21.4	21.5
A0-8618-2	20.3	21.9	20.0	21.9	20.6	22.7	21.1	20.9
U1-5	21.3	22.1	20.5	22.5	20.5	23.4	22.1	21.6
H21162	19.8	21.4	19.8	22.0	20.5	22.3	21.9	22.3
Lincoln	20.8	22.4	20.5	22.7	21.1	22.9	21.3	21.9
Dunfield	19.9	23.0	20.5	22.0	21.5	22.9	21.6	20.8
Mean	20.5	22.4	20.3	22.3	20.9	23.1	21.6	21.6

Table 35. Six-year summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1952-57.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	120	98	106	114	106	118	119	119
Clark	37.2	+5.6	1.8	40	1.8	15.9	40.6	21.4
L9-5139	34.8	-0.1	2.1	40	2.0	15.2	40.6	21.4
AO-8618-2[2]	33.3	-1.6	2.0	39	2.3	15.9	41.1	21.1
Lincoln	32.3	0	2.2	39	2.3	14.2	40.6	21.4
Dunfield	27.3	-2.8	2.9	38	2.4	15.3	39.8	21.8
Mean	33.0		2.2	39	2.2	15.3	40.5	21.4

[1]Days earlier (-) or later (+) than Lincoln. Lincoln required 121 days to mature.
[2]AO-8618, 1952-55.

Table 36. Six-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1952-57.

Strain	Mean of 120 Tests	Newark Del.	Beltsville Md.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Worthington Ind.	Urbana Ill.	Girard Ill.
Years Tested		1952-1957	1952-1957	1952-1957	1952-1957	1952-1957	1952-1957	1952-1957	1955-1957
Clark	37.2	45.7	41.8	38.2	45.7	42.3	47.7	35.4	43.4
L9-5139	34.8	39.0	35.5	36.5	42.2	41.3	43.3	35.3	39.4
AO-8618-2[1]	33.3	36.5	36.4	34.5	43.1	38.4	39.0	36.4	37.4
Lincoln	32.3	38.0	35.5	34.2	40.5	38.1	37.4	34.2	35.4
Dunfield	27.3	26.9	30.6	25.1	36.8	33.4	29.2	30.1	30.1
Mean	33.0	37.2	36.0	33.7	41.7	38.7	39.3	34.3	37.1
		Yield Rank							
Clark		1	1	1	1	1	1	2	1
L9-5139		2	3	2	3	2	2	3	2
AO-8618-2[1]		4	2	3	2	3	3	1	3
Lincoln		3	3	4	4	4	4	4	4
Dunfield		5	5	5	5	5	5	5	5

[1]AO-8618, 1952-55.

Table 36. (Continued)

Strain	Edgewood Ill.	Eldorado Ill.	Ames Iowa	Ottumwa Iowa	Kirksville Mo.	Laddonia Mo.	Columbia Mo.	Lincoln Nebr.
Years Tested	1952-53 1955-56	1952-1957	1952-1957	1952-1957	1955-1957	1952-1956	1952-1957	1952-1957
Clark	28.1	39.1	38.3	40.9	31.1	27.5	27.8	36.8
L9-5139	30.2	36.1	36.3	40.0	28.4	27.2	25.0	34.1
A0-8618-2[1]	28.4	33.5	36.3	38.8	26.5	26.1	24.3	32.3
Lincoln	25.8	31.2	32.8	37.7	25.6	25.7	24.4	31.2
Dunfield	25.6	27.4	29.3	32.6	23.8	23.2	19.6	27.2
Mean	27.6	33.5	34.6	38.0	27.1	25.9	24.2	32.3
	Yield Rank							
Clark	3	1	1	1	1	1	1	1
L9-5139	1	2	2	2	2	2	2	2
A0-8618-2[1]	2	3	2	3	3	3	4	3
Lincoln	4	4	4	4	4	4	3	4
Dunfield	5	5	5	5	5	5	5	5

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Strain	Source or Originating Agency	Origin
Clark	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Dunfield	Purdue Agr. Exp. Sta.	Sel. from P. I. 36846
Lincoln	Ill. A.E.S. & U.S.R.S.L.	Sel. from Mandarin x Manchu
A0-8618-2	Iowa A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
A3-6319	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x (Adams x Hawkeye)
C1162*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Bavender Special
C1166*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Bavender Special
CX144-115*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Mukden x Capital
CX166-103N-1	Purdue A.E.S. & U.S.R.S.L.	Sel. from L6-1503 x Bavender-2
CX168-46-5	Purdue A.E.S. & U.S.R.S.L.	Sel. from Mandarin (Ottawa) x L6-2132
CX169-9-2	Purdue A.E.S. & U.S.R.S.L.	Sel. from Mukden x L6-2132
CX187-87-2*	Purdue A.E.S. & U.S.R.S.L.	Sel. from LX1061-9-30 x Earlyana
CX188-64-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from LX1061-9-15 x Richland
CX192-28-3	Purdue A.E.S. & U.S.R.S.L.	Sel. from C1070 x Adams
CX192-55-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from C1070 x Adams
CX196-3-2*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Dunfield x LX1061-9-35
CX196-82-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Dunfield x LX1061-9-35
CX208-23-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Lincoln x P. I. 68521
CX210-19-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from P. I. 68521 x Wabash
H21162	Ohio A.E.S. & U.S.R.S.L.	Sel. from Monroe x Lincoln
L9-5139	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
L54-1109*	Ill. A.E.S. & U.S.R.S.L.	Sel. from P. I. 68521 x L6-1152-7
S2-5179*	Mo. A.E.S. & U.S.R.S.L.	Sel. from the BC_1S_2 progenitor of L6-2132
S4-1207	Mo. A.E.S. & U.S.R.S.L.	Sel. from A4-107-12 x (L9-4091 x L6-2132-1)
S4-6135*	Mo. A.E.S. & U.S.R.S.L.	Sel. from A4-107-12-1 x Bavender Special
S4-6154*	Mo. A.E.S. & U.S.R.S.L.	Sel. from Adams x Clark
S4-6160*	Mo. A.E.S. & U.S.R.S.L.	Sel. from Adams x Clark
S4-6247*	Mo. A.E.S. & U.S.R.S.L.	Sel. from Adams x Clark
S4-6267*	Mo. A.E.S. & U.S.R.S.L.	Sel. from Adams x Clark
S4-6292*	Mo. A.E.S. & U.S.R.S.L.	Sel. from Adams x Clark
U1-5	Nebr. A.E.S. & U.S.R.S.L.	Sel. from U9-2 (from mixed seed)

Identification of Parent Strains

A4-107-12	Sel. from A45-251 (Mukden x Richland), Hawkeye line
C1070	Sel. from C985 (LX1061-9), Lincoln x Ogden
L6-1152	Sel. from Lincoln x (Lincoln x Richland)
L6-1503	Sel. from Lincoln x (Lincoln x Richland)
L6-2132	BC_1S_5 line from Lincoln x (Lincoln x Richland), progenitor of Clark
L9-4091	Pustule resistant sel. from (Linc. x (Linc. x Rich.)) x (Linc. x CNS)
LX1061-9	C985, sel. from Lincoln x Ogden

*Preliminary Test strain.

The Preliminary Test, Group III, was grown at nine locations in 1957 with either two or four replications. The strains of the Uniform and of the Preliminary Test were grown together as one test, and the data are presented in Tables 37 through 40. Where only two replications were grown, all means were based on these two replications with the exception of the composition of Uniform Test strains, which is based on an analysis of a composite of all four replications.

There were eighteen Preliminary Test strains in 1957. Nine of these were earlier than A0-8618-2 in maturity, ranging from 3.3 to 7.9 days earlier than Lincoln. The highest yielding of these was CX188-64-3, and it was similar to A0-8618-2 in other traits. CX187-87-2 was next in order of yield but was slightly lower than A0-8618-2 and was very similar in other traits. The remaining seven early strains all yielded less than Lincoln. Several were rather early for this test. CX192-55-3 was quite early and, considering its very high oil content, should be tested with Group II strains in 1958.

The remaining nine strains ranged from 1.7 days earlier to 2.7 days later than Lincoln. The outstanding one in yield was S2-5179, a selection from the progenitor of Clark and L9-5139. It was similar to L9-5139 in maturity and other traits, but 2.5 bushels higher in average yield. S4-6135 outyielded L9-5139 by 1.6 bushels but was three days later and rather short. S4-6292 also outyielded L9-5139 and had a high oil content. CX208-23-3 was very similar to L9-5139 in all traits. The remaining five strains were lower yielding than L9-5139 and not superior to it in other traits. L54-1109 is of interest because of its bacterial blight resistance (the present strain is heterogeneous in this trait). It was similar to L9-5139 in most traits but averaged two days later and one bushel less in yield.

Table 37. Summary of agronomic and chemical data for the strains in the Uniform and Preliminary Test, Group III, 1957.

Strain	Yield Bu./A.	Yield Rank	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Shattering[2]	Percentage of Protein	Percentage of Oil
No. of Tests	9	9	9	8	9	8	8	1	5	5
Clark	44.8	2	+4.8	2.0	41	1.7	16.7	7	40.9	21.1
Dunfield	34.3	31	-4.2	3.0	39	1.9	15.7	31	40.6	21.0
Lincoln	39.1	24	0	2.3	40	1.9	14.7	12	41.1	20.9
A0-8618-2	40.6	17	-2.6	2.2	40	2.3	16.5	21	42.0	20.5
A3-6319	42.8	6	+1.4	2.2	43	1.6	17.2	18	40.2	20.9
C1162*	39.7	23	-1.6	2.4	41	1.8	16.9	13	42.0	21.0
C1166*	38.8	25	-5.6	2.0	43	1.8	15.1	9	42.9	20.0
CX144-115*	34.6	30	-6.2	2.6	43	1.6	14.7	4	42.3	20.5
CX166-103N-1	41.9	11	+3.3	2.4	40	2.0	17.7	25	39.4	21.8
CX168-46-5	42.4	9	-0.6	2.6	40	2.0	16.6	16	40.0	20.6
CX169-9-2	41.8	12	+2.1	2.3	42	1.7	15.5	9	40.9	20.2
CX187-87-2*	40.0	22	-4.0	2.0	41	2.0	17.5	3	41.8	21.0
CX188-64-3*	41.2	15	-4.9	2.1	39	1.9	17.8	2	42.9	20.6
CX192-28-3	45.8	1	+1.2	1.7	40	1.6	16.6	44	40.2	21.5
CX192-55-3*	38.8	25	-7.9	2.0	38	1.6	14.1	4	40.0	22.5
CX196-3-2*	41.7	13	-1.7	2.3	42	1.8	18.3	42	40.3	21.9
CX196-82-3*	40.6	17	-4.1	1.9	39	2.1	19.2	17	41.5	21.4
CX208-23-3*	42.6	7	-0.2	2.7	38	2.1	16.1	25	41.1	20.7
CX210-19-3*	37.9	28	-6.7	2.8	38	1.8	15.0	42	41.4	20.4
H21162	40.3	21	+1.1	2.4	43	1.6	14.1	19	40.7	20.6
L9-5139	42.1	10	-0.6	2.3	42	1.8	15.7	1	40.9	20.7
L54-1109*	40.9	16	+1.7	2.4	41	1.8	17.6	35	39.5	21.1
S2-5179*	44.6	3	-1.0	2.1	40	1.8	15.0	16	40.8	20.5
S4-1207	42.6	7	-0.8	2.0	39	2.0	15.6	13	41.4	20.4
S4-6135*	43.7	4	+2.7	2.0	35	1.9	17.1	3	40.2	20.7
S4-6154*	37.7	29	-4.0	2.3	39	1.4	15.3	27	39.8	20.9
S4-6160*	38.8	25	-3.3	2.1	39	1.8	15.0	32	41.8	21.3
S4-6247*	41.3	14	+1.8	2.5	39	1.9	16.0	7	41.3	20.9
S4-6267*	40.5	19	+0.2	2.5	39	1.9	15.1	5	40.3	21.1
S4-6292*	43.4	5	+0.8	2.4	40	1.9	17.7	32	40.7	21.7
U1-5	40.4	20	+2.9	2.4	40	2.4	19.0	21	40.1	21.3
Mean	40.8		-1.2	2.3	40	1.9	16.3		40.9	21.0

[1]Days earlier (-) or later (+) than Lincoln. Lincoln required 123 days to mature.
[2]Columbia, Missouri.
*Preliminary Test strain.

Table 38. Summary of yield in bushels per acre for the strains in the Uniform and Preliminary Test, Group III, 1957.

Strain	Mean of 9 Tests	Mean Yield Rank	Beltsville Md.	Columbus Ohio	Lafayette Ind.[1]	Urbana Ill.	Girard Ill.	Ames Iowa	Ottumwa Iowa	Columbia Mo.	Lincoln Nebr.
Clark	44.8	2	52.0	32.2	49.9	47.6	43.6	43.4	47.0	38.0	49.1
Dunfield	34.3	31	32.4	20.7	40.9	42.5	28.3	39.8	38.2	29.8	36.3
Lincoln	39.1	24	44.1	26.5	44.1	43.6	32.0	38.8	41.1	34.8	47.3
A0-8618-2	40.6	17	45.8	28.5	47.6	40.9	34.8	41.4	46.0	36.6	43.7
A3-6319	42.8	6	46.8	26.8	48.8	48.0	36.3	50.0	48.6	35.9	43.6
C1162*	39.7	23	49.6	26.5	45.4	45.4	35.6	43.9	43.1	33.0	34.4
C1166*	38.8	25	42.0	29.1	43.5	45.2	33.4	42.0	45.1	30.2	38.8
CX144-115*	34.6	30	38.8	24.3	42.0	40.8	27.6	37.4	34.5	28.6	37.6
CX166-103N-1	41.9	11	42.2	26.5	51.4	46.7	37.8	41.7	48.1	37.1	46.0
CX168-46-5	42.4	9	45.2	27.0	47.7	51.2	38.1	41.6	47.8	35.6	47.5
CX169-9-2	41.8	12	43.4	28.1	48.2	45.5	39.3	45.6	47.9	35.9	42.4
CX187-87-2*	40.0	22	47.6	29.5	47.8	43.6	33.7	41.8	43.0	28.4	44.6
CX188-64-3*	41.2	15	42.2	32.8	50.2	43.3	28.1	45.7	48.4	31.0	48.9
CX192-28-3	45.8	1	50.9	34.2	49.7	55.6	38.9	45.0	54.3	33.2	50.1
CX192-55-3*	38.8	25	39.3	27.7	46.0	46.8	29.8	39.8	44.2	29.3	46.1
CX196-3-2*	41.7	13	46.4	31.1	50.1	49.6	34.9	43.3	42.2	32.1	45.4
CX196-82-3*	40.6	17	50.8	26.8	48.1	46.2	36.4	44.4	39.9	31.6	41.2
CX208-23-3*	42.6	7	46.8	38.6	45.1	45.2	36.3	42.6	44.4	35.5	49.1
CX210-19-3*	37.9	28	39.6	24.8	45.1	42.6	29.0	39.0	44.4	30.4	46.0
H21162	40.3	21	52.2	28.0	42.6	44.8	38.2	38.8	42.0	37.0	39.3
L9-5139	42.1	10	43.6	29.2	45.6	43.3	35.3	46.7	48.4	36.8	50.3
L54-1109*	40.9	16	44.4	30.2	45.0	48.6	29.2	43.4	48.0	37.8	41.8
S2-5179*	44.6	3	51.7	34.8	48.3	49.0	40.5	42.2	48.0	37.1	50.0
S4-1207	42.6	7	45.8	28.3	51.2	47.0	37.3	43.4	47.4	39.0	43.8
S4-6135*	43.7	4	53.7	35.0	48.8	51.1	38.6	41.9	47.4	34.2	42.6
S4-6154*	37.7	29	42.7	29.2	46.3	40.8	31.3	37.8	40.1	33.0	38.0
S4-6160*	38.8	25	42.9	30.4	45.2	43.7	29.7	38.7	44.4	29.2	45.0
S4-6247*	41.3	14	45.7	31.8	39.3	46.3	35.5	43.6	46.8	36.3	46.1
S4-6267*	40.5	19	41.3	32.1	45.1	46.4	32.7	42.8	47.6	30.9	45.4
S4-6292*	43.4	5	46.4	36.4	48.7	46.6	38.1	44.6	49.2	32.7	47.8
U1-5	40.4	20	37.6	25.9	43.3	44.8	39.4	42.8	49.8	37.6	42.2
Mean	40.8		45.0	29.5	46.5	45.9	34.8	42.4	45.4	33.8	44.2
Coef. of Var. (%)			10.7	11.9	7.3	6.7	8.2	6.4	6.7	5.9	8.2
Bu.N.F.S. (5%)			9.8	7.2	4.8	8.2	5.7	5.6	6.2	4.0	7.4
Row Spacing (In.)			40	28	40	40	40	40	40	38	38

[1]Four replications.
*Preliminary Test strain.

Table 39. Summary of yield rank for the strains in the Uniform and Preliminary Test, Group III, 1957.

Strain	Mean Yield Rank	Belts-ville Md.	Colum-bus Ohio	Lafay-ette Ind.	Ur-bana Ill.	Gir-ard Ill.	Ames Iowa	Ottum-wa Iowa	Colum-bia Mo.	Lin-coln Nebr.
Clark	2	3	7	5	8	1	10	15	2	4
Dunfield	31	31	31	30	28	29	24	30	27	30
Lincoln	24	18	25	25	23	23	27	27	15	9
A0-8618-2	17	13	17	15	29	19	23	17	9	19
A3-6319	6	9	23	7	7	13	1	4	11	20
C1162*	23	7	25	19	17	15	8	23	18	31
C1166*	25	25	16	26	18	21	18	18	26	27
CX144-115*	30	29	30	29	30	31	31	31	30	29
CX166-103N-1	11	23	25	1	11	10	21	7	5	12
CX168-46-5	9	16	22	14	2	8	22	11	13	8
CX169-9-2	12	20	19	11	16	4	4	10	11	22
CX187-87-2*	22	8	13	13	23	20	20	24	31	17
CX188-64-3*	15	23	6	3	25	30	3	5	23	6
CX192-28-3	1	5	5	6	1	5	5	1	17	2
CX192-55-3*	25	28	21	17	10	25	24	22	28	10
CX196-3-2*	13	11	10	4	4	18	13	25	21	14
CX196-82-3*	17	6	23	12	15	12	7	29	22	25
CX208-23-3*	7	9	1	21	18	13	16	19	14	4
CX210-19-3*	28	27	29	21	27	28	26	19	25	12
H21162	21	2	20	28	20	7	27	26	7	26
L9-5139	10	19	14	18	25	17	2	5	8	1
L54-1109*	16	17	12	24	6	27	10	8	3	24
S2-5179*	3	4	4	10	5	2	17	8	5	3
S4-1207	7	13	18	2	9	11	10	13	1	18
S4-6135*	4	1	3	7	3	6	19	13	16	21
S4-6154*	29	22	14	16	30	24	30	28	18	28
S4-6160*	25	21	11	20	22	26	29	19	29	16
S4-6247*	14	15	9	31	14	16	9	16	10	10
S4-6267*	19	26	8	21	13	22	14	12	24	14
S4-6292*	5	11	2	9	12	8	6	3	20	7
U1-5	20	30	28	27	20	3	14	2	4	23

*Preliminary Test strain.

Table 40. Summary of maturity data, days earlier (-) or later (+) than Lincoln, for the strains in the Uniform and Preliminary Test, Group III, 1957.

Strain	Mean of 9 Tests	Belts-ville Md.	Colum-bus Ohio	Lafay-ette Ind.	Ur-bana Ill.	Gir-ard Ill.	Ames Iowa	Ottum-wa Iowa	Colum-bia Mo.	Lin-coln Nebr.
Clark	+4.8	+ 5	+ 3	+7	+7	+7	+4	+4	+4	+2
Dunfield	-4.2	- 5	- 7	0	-3	-2	-3	-5	-6	-7
Lincoln	0	0	0	0	0	0	0	0	0	0
A0-8618-2	-2.6	- 2	- 3	-1	0	0	-2	-3	-4	-8
A3-6319	+1.4	+ 2	- 2	+4	+3	+3	+2	0	-1	+2
C1162*	-1.6	- 4	- 4	+1	+1	0	0	0	-4	-4
C1166*	-5.6	-10	-14	-5	-2	-5	-1	-5	-5	-3
CX144-115*	-6.2	- 9	-10	-5	-4	-5	-6	-3	-6	-8
CX166-103N-1	+3.3	+ 5	0	+4	+6	+7	+2	+1	+3	+2
CX168-46-5	-0.6	0	0	+1	0	+1	-1	-1	-1	-4
CX169-9-2	+2.1	0	0	+4	+5	+5	+2	+1	+2	0
CX187-87-2*	-4.0	- 2	-12	-2	0	-1	-2	-7	-5	-5
CX188-64-3*	-4.9	- 6	-12	-4	0	-3	-4	-5	-6	-4
CX192-28-3	+1.2	+ 3	- 1	+3	+2	+2	+3	+1	+1	-3
CX192-55-3*	-7.9	-15	-15	-6	-6	-6	-4	-7	-7	-5
CX196-3-2*	-1.7	- 3	- 9	+3	0	+1	+2	-2	-2	-5
CX196-82-3*	-4.1	- 1	-13	-1	-1	-4	-3	-1	-5	-8
CX208-23-3*	-0.2	+ 5	- 8	+2	+3	+1	0	-1	-3	-1
CX210-19-3*	-6.7	- 7	-14	-3	-5	-6	-7	-5	-6	-7
H21162	+1.1	0	- 3	+3	+2	+4	+2	+1	+1	0
L9-5139	-0.6	- 1	+ 1	+1	+2	0	0	-1	0	-7
L54-1109*	+1.7	+ 5	0	+1	+2	+1	+2	+1	+1	+2
S2-5179*	-1.0	- 1	- 3	+1	+2	+2	0	-2	-3	-5
S4-1207	-0.8	- 1	- 3	-3	+1	0	-2	-2	-2	+5
S4-6135*	+2.7	+ 5	+ 1	+3	+2	+2	+3	+1	+2	+5
S4-6154*	-4.0	-13	-11	-2	-2	-4	-3	-2	-7	+8
S4-6160*	-3.3	- 4	-10	-2	0	-2	-2	-3	-4	-3
S4-6247*	+1.8	+ 5	0	+5	+3	+3	+2	+1	-2	-1
S4-6267*	+0.2	- 2	- 9	+3	+4	+1	+2	+2	-1	+2
S4-6292*	+0.8	0	- 3	+3	+1	0	0	+1	-1	+6
U1-5	+2.9	+ 5	+ 2	+4	+6	+4	+2	+1	+1	+1
Date planted	5-26	5-23	5-28	5-29	5-30	6-4	5-24	5-23	5-15	5-28
Lincoln matured	9-26	9-23	9-30	9-25	9-25	9-20	10-4	9-27	9-11	10-6
Days to mature	123	123	125	119	118	108	133	127	119	131

*Preliminary Test strain.

UNIFORM TEST, GROUP IV, 1957

Strain	Source or Originating Agency	Origin
Chief	Ill. Agr. Exp. Sta.	Sel. from Illini x Manchu
Clark	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Perry	Purdue A.E.S. & U.S.R.S.L.	Sel. from Patoka x L7-1355
Wabash	Purdue A.E.S. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C1068	Purdue A.E.S. & U.S.R.S.L.	Sel. from C985
C1069	Purdue A.E.S. & U.S.R.S.L.	Sel. from C985
D53-354	Delta Br. E.S. & U.S.R.S.L.	Sel. from D49-2525 x L6-5679
L6-2132-A14	Iowa A.E.S. & U.S.R.S.L.	Sel. from L6-2132
S2-5164	Mo. A.E.S. & U.S.R.S.L.	Sel. from the BC_1S_2 progenitor of L6-2132
S2-7158	Mo. A.E.S. & U.S.R.S.L.	Sel. from D49-2525 x L6-5679
S4-1714	Mo. A.E.S. & U.S.R.S.L.	Sel. from L9-4091 x Clark

Identification of Parent Strains

C985	LX1061-9, sel. from Lincoln x Ogden
D49-2525	Pustule resistant sel. from S-100 x CNS, sib of Lee
L6-2132	BC_1S_5 line from Lincoln x (Lincoln x Richland), progenitor of Clark
L6-5679	Sel. from Lincoln x Richland
L7-1355	Rogue in P. I. 81041
L9-4091	Pustule resistant sel. from (Lincoln x (Lincoln x Richland)) x (Lincoln x CNS)

This test was grown at nine locations in 1957, and the data are presented in Tables 41 through 46. The general yield level in 1957 was two bushels higher than the four-year mean. Yields were lower at Beltsville and Carbondale, but the same or higher elsewhere. Yields were extremely high at the two Indiana locations, but this is in part due to the fact that plots are not trimmed at maturity in Indiana. Rains delayed planting at Edgewood, Illinois until July 6 and only a few varieties were planted, but yields (not reported) were quite good (43 bushels for Clark).

Four strains were entered in this test for the first time in 1957. S2-5164 and S4-1714 were in the Preliminary Test, Group IV, in 1956. D53-354 was in the Southern Uniform Test, Group IV, in 1956 and S2-7158 was in the Uniform Test, Group V. Both strains are in the Southern Uniform Test, Group IV, in 1957.

S4-1714 is a pustule-resistant strain of about Clark maturity. It performed well but yielded slightly less than Clark both years. S2-7158 is also pustule-resistant but was much later in maturity. It yielded slightly less than Clark and averaged five bushels less than C1068 and C1069, strains of similar maturity. It was rather poor in lodging resistance and very low in oil content. D53-354, a somewhat earlier pustule-resistant line, was also very low in oil content and was the lowest yielding strain in the test.

S2-5164 and also L6-2132-A14, which has been in this test two years, are both closely related to Clark. They were a day or two earlier in maturity and similar in all other traits.

Two experimental strains, C1068 and C1069, are included in the four-year summary, where they topped the named varieties in average yield. They were three and five days later than Perry, or nine and eleven days later than Clark, and outyielded Clark by one to two bushels. Lodging resistance in C1069 is rather poor but quite good in the case of the earlier C1068. Both have excellent oil content. They have a tendency to shatter under certain conditions (see 1956 Southern Uniform Test, Group IV).

Clark was outstanding among the named varieties, being highest in yield, earliest, and equal or better in lodging and oil content.

Table 41. Summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1957.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	9	7	6	8	7	9	9	9
C1069	40.1	+11.1	2.0	40	2.0	18.4	41.1	21.7
C1068	39.7	+ 9.3	1.5	36	2.1	18.7	41.4	21.7
L6-2132-A14	35.8	- 2.0	1.5	35	1.9	16.3	40.8	21.7
S2-5164	35.7	- 0.9	1.8	34	2.0	16.7	40.6	21.9
Clark	35.0	- 2.9	1.6	35	2.3	16.9	41.1	22.0
S2-7158	34.5	+ 9.6	2.1	38	1.9	15.2	39.0	20.9
S4-1714	33.3	- 1.9	1.9	36	1.9	14.7	41.0	21.7
Perry	33.2	+ 5.3	1.6	35	2.7	17.9	41.1	22.0
Wabash	32.9	0	2.1	38	1.9	15.5	40.4	21.7
Chief	31.8	- 2.0	2.7	45	2.2	13.1	40.4	20.9
D53-354	30.4	+ 6.9	1.9	38	1.8	13.0	41.2	20.2
Mean	34.8	+ 3.0	1.9	37	2.1	16.0	40.7	21.5

[1]Days earlier (-) or later (+) than Wabash. Wabash required 125 days to mature.

Table 42. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1957.

Strain	Mean of 9 Tests	Newark Del.	Belts-ville Md.	Worth-ington Ind.	Evans-ville Ind.	Eldor-ado Ill.	Carbon-dale Ill.	Colum-bia Mo.	Mound Valley Kans.	Colum-bus Kans.
C1069	40.1	45.5	30.6	65.4	73.4	46.7	21.7	35.7	23.9	18.1
C1068	39.7	44.9	34.0	68.0	66.0	48.1	19.5	37.6	21.8	17.8
L6-2132-A14	35.8	41.2	33.6	56.1	51.6	42.6	17.9	37.8	25.3	15.7
S2-5164	35.7	43.0	31.5	57.6	53.4	40.0	17.1	37.3	25.8	15.8
Clark	35.0	38.7	32.6	55.8	52.5	43.0	17.8	38.4	22.1	14.1
S2-7158	34.5	38.3	32.9	54.5	54.5	39.9	19.9	36.3	20.7	13.1
S4-1714	33.3	40.3	31.3	52.1	45.6	37.4	18.1	34.0	24.5	16.1
Perry	33.2	33.6	27.7	53.7	48.0	41.9	19.9	38.0	20.8	15.3
Wabash	32.9	36.7	30.4	55.9	46.5	40.3	18.0	32.8	21.1	14.0
Chief	31.8	33.3	28.0	50.3	49.6	39.1	20.2	33.9	19.2	13.0
D53-354	30.4	32.4	28.0	45.7	46.0	37.0	18.4	31.2	22.1	13.2
Mean	34.8	38.9	31.0	55.9	53.4	41.5	19.0	35.7	22.5	15.1
Coef. of Var. (%)		6.5	10.5	9.8	11.8	5.3	--	8.8	--	--
Bu. Nec. for Sig. (5%)		3.6	4.7	7.7	8.3	3.2	--	4.5	--	--
Row Spacing (In.)		36	40	38	38	40	40	38	40	40

	Yield Rank								
C1069	1	7	2	1	2	1	7	4	1
C1068	2	1	1	2	1	5	4	7	2
L6-2132-A14	4	2	4	6	4	9	3	2	5
S2-5164	3	5	3	4	7	11	5	1	4
Clark	6	4	6	5	3	10	1	5	7
S2-7158	7	3	7	3	8	3	6	10	10
S4-1714	5	6	9	11	10	7	8	3	3
Perry	9	11	8	8	5	3	2	9	6
Wabash	8	8	5	9	6	8	10	8	8
Chief	10	9	10	7	9	2	9	11	11
D53-354	11	9	11	10	11	6	11	5	9

Table 43. Summary of maturity data, days earlier (-) or later (+) than Wabash, and lodging for the strains in the Uniform Test, Group IV, 1957.

Strain	Mean of 7 Tests[1]	Newark Del.	Beltsville Md.	Worthington Ind.	Evansville Ind.	Eldorado Ill.	Carbondale Ill.	Columbia Mo.	Mound Valley Kans.	Columbus Kans.
C1069	+11.1	+8	+15	+6	+11	+11	+17	+10	+25	+21
C1068	+ 9.3	+8	+14	+4	+ 8	+10	+14	+ 7	+23	+21
L6-2132-A14	- 2.0	-4	- 2	-8	- 2	0	+ 3	- 1	+ 8	+ 8
S2-5164	- 0.9	-5	+ 2	-7	- 1	+ 1	+ 5	- 1	+ 8	+ 7
Clark	- 2.9	-8	- 4	-7	- 1	0	+ 1	- 1	+ 9	+ 5
S2-7158	+ 9.6	+6	+13	+7	+ 9	+10	+14	+ 8	+11	+ 9
S4-1714	- 1.9	-7	+ 1	-6	- 2	0	+ 2	- 1	+ 7	+ 7
Perry	+ 5.3	+3	+12	+3	+ 5	+ 2	+10	+ 2	+11	+ 9
Wabash	0	0	0	0	0	0	0	0	0	0
Chief	- 2.0	-6	- 5	+2	+ 1	- 1	- 4	- 1	- 2	0
D53-354	+ 6.9	+4	+11	+5	+ 6	+ 5	+ 9	+ 8	+ 9	+22
Date planted	5-24	5-24	5-23	5-16	5-14	6-1	6-13	5-15	6-28	6-29
Lincoln matured	9-26	10-13	10-2	9-27	9-21	9-21	9-19	9-17	10-25	10-2
Days to mature	125	142	132	134	130	112	98	125	119	95
	Mean of 6 Tests[2]	Lodging								
C1069	2.0	2.8	2.0	2.0	2.0	2.1	1.0	1.3		1.0
C1068	1.5	1.8	2.0	1.5	1.3	1.4	1.0	1.1		1.0
L6-2132-A14	1.5	1.5	2.0	1.8	1.0	1.5	1.0	1.1		1.0
S2-5164	1.8	1.3	2.0	2.0	1.5	2.6	1.0	1.2		1.0
Clark	1.6	1.5	2.0	1.8	1.5	1.9	1.0	1.0		1.0
S2-7158	2.1	2.8	2.0	2.3	2.0	1.9	1.0	1.3		1.0
S4-1714	1.9	2.3	1.0	2.5	1.8	2.7	1.0	1.2		1.0
Perry	1.6	2.5	1.0	1.8	1.3	1.6	1.0	1.1		1.0
Wabash	2.1	2.3	2.0	1.5	2.5	2.9	1.0	1.6		1.0
Chief	2.7	3.3	2.0	2.5	3.3	3.3	1.0	1.9		1.0
D53-354	1.9	2.3	2.0	2.0	1.5	2.1	1.0	1.4		1.0
Mean	1.9	2.2	1.8	2.0	1.8	2.2	1.0	1.3		1.0

[1]Mound Valley and Columbus, Kansas not included in the mean.
[2]Carbondale, Illinois and Columbus, Kansas not included in the mean.

Table 44. Summary of height data and percentage of oil for the strains in the Uniform Test, Group IV, 1957.

Strain	Mean of 8 Tests	Newark Del.	Beltsville Md.	Worthington Ind.	Evansville Ind.	Eldorado Ill.	Carbondale Ill.	Columbia Mo.	Mound Valley Kans.	Columbus Kans.
C1069	40	42	33	52	50	49	28	42	26	
C1068	36	38	31	48	44	44	25	36	24	
L6-2132-A14	35	37	31	49	40	40	24	35	23	
S2-5164	34	37	29	46	41	39	21	35	20	
Clark	35	38	30	46	42	40	25	35	22	
S2-7158	38	42	34	49	44	45	26	40	22	
S4-1714	36	39	31	48	43	41	25	35	23	
Perry	35	38	30	48	42	39	25	34	23	
Wabash	38	43	30	52	48	46	24	38	24	
Chief	45	51	38	61	58	51	32	46	25	
D53-354	38	41	32	49	43	45	26	41	25	
Mean	37	41	32	50	45	44	26	38	23	
	Mean of 9 Tests	Percentage of Oil								
C1069	21.7	21.9	20.1	22.4	22.4	22.3	23.2	22.0	19.7	21.5
C1068	21.7	22.3	20.6	22.2	22.4	22.3	21.9	21.7	20.8	21.1
L6-2132-A14	21.7	21.5	21.1	21.7	21.9	21.1	22.7	22.6	21.3	21.3
S2-5164	21.9	21.5	21.3	21.6	22.6	20.8	23.4	22.4	21.5	22.4
Clark	22.0	21.9	21.3	21.6	21.6	22.4	23.0	23.4	21.3	21.9
S2-7158	20.9	21.1	20.4	20.2	21.4	20.8	22.1	21.2	20.5	20.4
S4-1714	21.7	21.7	20.6	21.3	21.8	21.0	23.5	22.6	21.1	21.6
Perry	22.0	22.6	21.3	21.7	22.1	22.7	23.1	21.9	20.9	21.6
Wabash	21.7	21.5	21.6	21.2	21.5	22.3	22.1	22.8	20.0	21.9
Chief	20.9	20.4	20.4	19.5	20.9	21.7	21.9	22.1	20.3	20.5
D53-354	20.2	20.4	19.6	19.8	20.2	19.8	22.1	19.8	20.5	19.2
Mean	21.5	21.5	20.8	21.2	21.7	21.6	22.6	22.0	20.7	21.2

Table 45. Four-year summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1954-57.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	47	41	38	45	44	47	47	47
C1068	35.7	+ 7.6	1.7	40	2.2	16.7	41.3	21.6
C1069	35.2	+10.0	2.3	43	2.3	16.3	40.7	21.8
Clark	34.0	- 0.9	1.9	39	2.2	15.6	41.0	21.5
Perry	31.7	+ 4.6	1.9	39	2.8	16.2	41.7	21.3
Wabash	30.1	0	2.3	42	2.1	14.4	40.6	21.5
Chief	29.4	- 0.7	3.1	48	2.4	12.6	40.9	20.5
Mean	32.7		2.2	42	2.3	15.3	41.0	21.4

[1]Days earlier (-) or later (+) than Wabash. Wabash required 124 days to mature.

Table 46. Four-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1954-57.

Strain	Mean of 47 Tests	Newark Del.	Beltsville Md.	Worthington Ind.	Evansville Ind.	Edgewood Ill.	Eldorado Ill.	Carbondale Ill.	Laddonia Mo.	Columbia Mo.	Jefferson City Mo.	Mound Valley Kans.	Columbus Kans.
Years Tested		1955-1957	1954-1957	1954-1957	1954-1957	1955-1956	1954-1957	1954-1957	1954-1956	1954-1957	1955-1956	1955, 1957	1954-1957
C1068	35.7	47.4	45.1	46.7	50.9	35.2	40.7	27.1	21.1	24.6	30.0	18.1	13.5
C1069	35.2	46.2	38.0	47.4	53.6	35.8	41.0	27.6	20.6	24.4	33.0	18.2	13.8
Clark	34.0	38.7	37.9	43.5	49.4	38.0	39.8	26.7	22.9	25.0	32.0	17.5	14.6
Perry	31.7	39.7	37.7	39.5	44.6	35.4	35.4	26.1	20.9	24.1	26.7	17.2	12.5
Wabash	30.1	36.5	35.5	40.6	39.3	31.8	34.6	23.0	20.6	21.6	25.3	17.6	12.1
Chief	29.4	35.9	34.8	36.4	39.3	31.4	32.7	24.5	19.7	20.9	29.9	15.8	10.8
Mean	32.7	40.7	38.2	42.4	46.2	34.6	37.4	25.8	21.0	23.4	29.5	17.4	12.9
		Yield Rank											
C1068		1	1	2	2	4	2	2	2	2	3	2	3
C1069		2	2	1	1	2	1	1	4	3	1	1	2
Clark		4	3	3	3	1	3	3	1	1	2	4	1
Perry		3	4	5	4	3	4	4	3	4	5	5	4
Wabash		5	5	4	5	5	5	6	4	5	6	3	5
Chief		6	6	6	5	6	6	5	6	6	4	6	6

UNIFORM AND PRELIMINARY TEST, GROUP IV, 1957

Strain	Source or Originating Agency	Origin
Chief	Ill. Agr. Exp. Sta.	Sel. from Illini x Manchu
Clark	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Perry	Purdue A.E.S. & U.S.R.S.L.	Sel. from Patoka x L7-1355
Wabash	Purdue A.E.S. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C1068	Purdue A.E.S. & U.S.R.S.L.	Sel. from C985
C1069	Purdue A.E.S. & U.S.R.S.L.	Sel. from C985
CX171-87-3-1*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Wabash x L6-2132
CX188-97-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from LX1061-9-15 x Richland
CX193-88-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Perry x C1066
CX195B-122-1*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Wabash x C1066
CX224-6-5*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Kingwa x C1067
CX224-11-3*	Purdue A.E.S. & U.S.R.S.L.	Sel. from Kingwa x C1067
D53-354	Delta Br. E.S. & U.S.R.S.L.	Sel. from D49-2525 x L6-5679
L6-2132-A14	Iowa A.E.S. & U.S.R.S.L.	Sel. from L6-2132
S2-5164	Mo. A.E.S. & U.S.R.S.L.	Sel. from the BC_1S_2 progenitor of L6-2132
S2-7158	Mo. A.E.S. & U.S.R.S.L.	Sel. from D49-2525 x L6-5679
S4-1046*	Mo. A.E.S. & U.S.R.S.L.	Sel. from A4-107-12 x (L9-4091 x L6-2132-1)
S4-1714	Mo. A.E.S. & U.S.R.S.L.	Sel. from L9-4091 x Clark
S4-1771*	Mo. A.E.S. & U.S.R.S.L.	Sel. from L9-4091 x L6-2132
S4-2088*	Mo. A.E.S. & U.S.R.S.L.	Sel. from L9-4091 x L6-2132
S4-2089*	Mo. A.E.S. & U.S.R.S.L.	Sel. from L9-4091 x L6-2132
S4-2090*	Mo. A.E.S. & U.S.R.S.L.	Sel. from L9-4091 x L6-2132

Identification of Parent Strains

A4-107-12	Sel. from A45-251 (Mukden x Richland), Hawkeye line
C985	LX1061-9, sel. from Lincoln x Ogden
C1066	Sel. from C985
C1067	Sel. from C985
D49-2525	Pustule resistant sel. from S-100 x CNS, sib of Lee
L6-2132	BC_1S_5 line from Lincoln x (Lincoln x Richland), progenitor of Clark
L5-5679	Sel. from Lincoln x Richland
L7-1355	Rogue in P. I. 81041
L9-4091	Pustule resistant sel. from (Lincoln x (Lincoln x Richland)) x (Lincoln x CNS)
LX1061-9	C985, sel. from Lincoln x Ogden

*Preliminary Test strain.

This test was grown at five locations in 1957 with either two or four replications. The strains of the Uniform Test and of the Preliminary Test were grown together as one test, and the data for all strains are presented in Tables 47 through 50. Where only two replications of the Preliminary Test were grown, all means were based on these two replications with the exception of the composition of Uniform Test strains which was based on the analysis of a composite of all four replications.

There were eleven Preliminary Test strains in 1957. Four of them, S4-1046, S4-2088, S4-2089, and S4-2090, were comparable to Clark in maturity but yielded two to five bushels less. S4-1771 was five days later than Clark but also lower in yield. All five of these strains are pustule-resistant.

The four strains, CX171-87-3-1, CX188-97-3, CX193-88-3, and CX195B-122-1, range from eight to ten days later than Clark and rank third to sixth in yield, being exceeded only by the two C985 selections. These yield means ranged from two bushels above to just slightly above that of Clark. Lodging ranged from good to poor, and oil contents were satisfactory.

Strains CX224-6-5 and CX224-11-3 are selections produced in an effort to develop a yellow-seeded hay-type variety that could be used either for hay or for commercial processing. Comparing the two, CX224-6-5 was two days earlier and more lodging resistant, while CX224-11-3 was four bushels higher in yield and much higher in oil content. They were similar to Perry in maturity and the higher-yielding one equalled Perry in yield.

Table 47. Summary of agronomic and chemical data for the strains in the Uniform and Preliminary Test, Group IV, 1957.

Strain	Yield Bu./A.	Yield Rank	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	5	5	5	4	5	5	5	4	4
Chief	35.7	16	- 1.8	2.9	46	1.9	13.1	40.7	21.3
Clark	38.7	7	- 1.2	1.6	36	2.1	16.4	41.5	22.2
Perry	36.5	12	+ 6.4	1.4	35	2.1	17.4	41.6	22.0
Wabash	34.8	18	0	2.3	38	1.9	15.2	40.6	22.1
C1068	41.8	2	+10.4	1.5	36	2.3	17.6	40.4	21.8
C1069	43.4	1	+13.0	1.8	41	2.2	17.6	40.7	21.7
CX171-87-3-1*	39.3	5	+ 9.0	2.1	39	1.5	14.2	40.5	21.9
CX188-97-3*	40.7	3	+ 6.6	2.4	39	2.3	17.0	41.3	21.6
CX193-88-3*	39.6	4	+ 7.8	1.5	42	2.0	15.7	39.7	22.1
CX195B-122-1*	38.9	6	+ 7.6	2.0	42	1.7	15.4	39.7	22.6
CX224-6-5*	32.5	22	+ 5.2	2.3	43	2.9	14.8	41.6	20.9
CX224-11-3*	36.5	12	+ 7.4	2.9	42	3.2	16.9	40.2	22.2
D53-354	33.9	20	+ 7.8	1.8	39	1.8	12.5	41.4	19.9
L6-2132-A14	38.6	9	- 0.4	1.4	35	1.8	15.7	41.3	21.7
S2-5164	38.3	10	+ 1.4	1.7	34	1.8	15.9	40.8	21.8
S2-7158	38.7	7	+11.0	1.7	39	2.2	14.5	39.0	21.0
S4-1046*	35.7	16	+ 0.2	1.4	32	1.8	15.4	40.9	21.5
S4-1714	34.7	19	0	2.0	36	1.8	14.0	41.3	21.5
S4-1771*	36.2	14	+ 4.6	2.1	38	2.0	14.1	41.3	21.3
S4-2088*	33.7	21	- 0.8	1.4	33	1.9	15.6	40.4	21.7
S4-2089*	36.1	15	- 1.0	1.7	35	1.8	14.6	41.0	21.4
S4-2090*	37.1	11	0	1.8	35	1.8	14.8	40.8	21.5
Mean	37.3		+ 4.2	1.9	38	2.0	15.4	40.8	21.6

[1]Days earlier (-) or later (+) than Wabash. Wabash required 119 days to mature.
*Preliminary Test strain.

Table 48. Summary of yield in bushels per acre for the strains in the Uniform and Preliminary Test, Group IV, 1957.

Strain	Mean of 5 Tests	Mean Yield Rank	Belts-ville Md.	Evans-ville Ind.[1]	Eldor-ado Ill.	Carbon-dale Ill.	Colum-bia Mo.
Chief	35.7	16	34.6	49.6	38.6	22.0	33.9
Clark	38.7	7	40.8	52.5	43.3	18.4	38.4
Perry	36.5	12	34.2	48.0	40.6	21.8	38.0
Wabash	34.8	18	36.1	46.5	40.0	18.6	32.8
C1068	41.8	2	36.0	66.0	48.4	20.9	37.6
C1069	43.4	1	36.8	73.4	48.3	23.0	35.7
CX171-87-3-1*	39.3	5	46.4	52.0	45.4	19.9	32.8
CX188-97-3*	40.7	3	40.2	59.3	45.3	22.0	36.8
CX193-88-3*	39.6	4	44.4	51.5	45.2	22.7	34.3
CX195B-122-1*	38.9	6	37.0	58.1	47.0	19.5	33.0
CX224-6-5*	32.5	22	37.7	40.6	32.7	18.9	32.8
CX224-11-3*	36.5	12	35.4	48.5	42.5	22.2	33.9
D53-354	33.9	20	34.5	46.0	38.0	19.9	31.2
L6-2132-A14	38.6	9	41.2	51.6	43.2	19.3	37.8
S2-5164	38.3	10	41.0	53.4	41.0	19.0	37.3
S2-7158	38.7	7	39.2	54.5	41.5	21.9	36.3
S4-1046*	35.7	16	35.4	52.7	37.7	17.5	35.3
S4-1714	34.7	19	37.8	45.6	37.5	18.6	34.0
S4-1771*	36.2	14	39.4	44.7	39.4	19.9	37.8
S4-2088*	33.7	21	30.5	42.4	40.2	19.9	35.6
S4-2089*	36.1	15	31.6	47.8	41.2	20.1	39.9
S4-2090*	37.1	11	33.0	52.9	40.8	20.6	38.0
Mean	37.3		37.4	51.7	41.7	20.3	35.6
Coef. of Var. (%)			10.9	11.8	6.5	--	5.6
Bu. Nec. for Sig. (5%)			8.5	8.3	5.6	--	4.1
Row Spacing (In.)			40	38	40	40	38

[1]Four replications.
*Preliminary Test strain.

Table 49. Summary of yield rank for the strains in the Uniform and Preliminary Test, Group IV, 1957.

Strain	Mean Yield Rank	Belts-ville Md.	Evans-ville Ind.	Eldor-ado Ill.	Carbon-dale Ill.	Colum-bia Mo.
Chief	16	17	13	18	4	16
Clark	7	5	9	7	21	2
Perry	12	19	15	14	7	3
Wabash	18	13	17	16	19	19
C1068	2	14	2	1	8	7
C1069	1	12	1	2	1	11
CX171-87-3-1*	5	1	10	4	11	19
CX188-97-3*	3	6	3	5	4	9
CX193-88-3*	4	2	12	6	2	14
CX195B-122-1*	6	11	4	3	15	18
CX224-6-5*	22	10	22	22	18	19
CX224-11-3*	12	15	14	9	3	16
D53-354	20	18	18	19	11	22
L6-2132-A14	9	3	11	8	16	5
S2-5164	10	4	6	12	17	8
S2-7158	7	8	5	10	6	10
S4-1046*	16	15	8	20	22	13
S4-1714	19	9	19	21	19	15
S4-1771*	14	7	20	17	11	5
S4-2088*	21	22	21	15	11	12
S4-2089*	15	21	16	11	10	1
S4-2090*	11	20	7	13	9	3

*Preliminary Test strain.

Table 50. Summary of maturity data, days earlier (-) or later (+) than Wabash, for the strains in the Uniform and Preliminary Test, Group IV, 1957.

Strain	Mean of 5 Tests	Belts-ville Md.	Evans-ville Ind.	Eldor-ado Ill.	Carbon-dale Ill.	Colum-bia Mo.
Chief	- 1.8	- 4	+ 1	- 1	- 4	- 1
Clark	- 1.2	- 5	- 1	0	+ 1	- 1
Perry	+ 6.4	+12	+ 5	+ 3	+10	+ 2
Wabash	0	0	0	0	0	0
C1068	+10.4	+14	+ 8	+ 9	+14	+ 7
C1069	+13.0	+15	+11	+12	+17	+10
CX171-87-3-1*	+ 9.0	+10	+ 6	+10	+10	+ 9
CX188-97-3*	+ 6.6	+14	+ 3	+ 4	+ 8	+ 4
CX193-88-3*	+ 7.8	+12	+ 6	+ 6	+ 9	+ 6
CX195B-122-1*	+ 7.6	+ 9	+ 7	+ 8	+ 8	+ 6
CX224-6-5*	+ 5.2	+ 7	+ 6	+ 2	+ 8	+ 3
CX224-11-3*	+ 7.4	+15	+ 6	+ 5	+ 9	+ 2
D53-354	+ 7.8	+10	+ 6	+ 6	+ 9	+ 8
L6-2132-A14	- 0.4	- 2	- 2	0	+ 3	- 1
S2-5164	+ 1.4	+ 2	- 1	+ 2	+ 5	- 1
S2-7158	+11.0	+14	+ 9	+10	+14	+ 8
S4-1046*	+ 0.2	- 2	+ 1	- 1	0	+ 3
S4-1714	0	0	- 2	+ 1	+ 2	- 1
S4-1771*	+ 4.6	+ 4	+ 3	+ 5	+ 7	+ 4
S4-2088*	- 0.8	- 4	- 2	- 1	+ 3	0
S4-2089*	- 1.0	- 3	- 3	- 1	+ 2	0
S4-2090*	0	- 2	- 2	- 1	+ 4	+ 1
Date planted	5-26	5-23	5-14	6-1	6-13	5-15
Wabash matured	9-22	10-2	9-21	9-21	9-19	9-17
Days to mature	119	132	130	112	98	125

*Preliminary Test strain.

SOYBEAN DISEASE INVESTIGATIONS IN 1957

Compiled from Data Supplied by:

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Leafspots were the most prevalent diseases of soybeans in the Midwest in 1957. There was considerable variability, however, in the relative prevalence of individual diseases within the various states. Brown spot (Septoria glycines) was the dominant disease in Indiana and Ohio and ranked second in Illinois. Bacterial pustule (Xanthomonas phaseoli var. sojensis) was the most prevalent disease in Illinois, while bacterial blight (Pseudomonas glycinea) was more widespread in Iowa. Other diseases ranked in prevalence as follows: in Iowa, Cercospora leaf blight (Cercospora kikuchii) was second, root rot (Fusarium or Rhizoctonia) third, and bacterial pustule fourth; in Indiana, downy mildew (Peronospora manshurica) was second, bacterial pustule third, and bud blight (tobacco ringspot virus) fourth; in Illinois, bacterial blight ranked third and downy mildew fourth; in Ohio, bacterial blight was second, downy mildew third, and Phytophthora rot fourth. Wildfire (Pseudomonas tabaci) was found in trace amounts in three fields in Illinois, in one field in Indiana, and not reported elsewhere. In general, severe damage to the crop by leafspot diseases was confined to a few localized areas.

Brown stem rot (Cephalosporium gregatum) appeared in 30% of the fields in Illinois, in 15% of those in Iowa, and was less prevalent in Indiana and Ohio. In general, the disease appeared later than usual and probably caused little damage.

Stem canker (Diaporthe phaseolorum var. caulivora) was found in 33% of the fields in Iowa, in 27% of the fields in Illinois, and in 17% of those in Indiana. Severe damage was rare, however, since most infection varied from trace to light intensity.

Root and stem rot (Phytophthora) was found in 37% of the fields in Ohio, in 13% of the fields in Illinois, and in 10% of the fields in Indiana. The disease was less severe than in 1956 in Indiana and Ohio. In Illinois, it was distributed more widely than in previous years but was usually confined to trace amounts. Above normal rainfall during the early part of the growing season undoubtedly contributed to the wider distribution of the disease in Illinois in 1957.

Bud blight was found in 28% of the fields in Indiana, in 10% of the fields in Illinois, in 7% of those in Iowa, and to a negligible extent in Ohio. It was termed a damaging disease in Indiana but was less serious in the other states. In Illinois, a large collection of introductions and strains was planted on a field near Carrollton where 100% infection was found in 1956. The incidence of the disease was so low that no attempt was made to select resistant strains. At Oblong, Illinois the disease was severe enough to justify taking notes on a small nursery.

The soybean cyst nematode (Heterodera glycines) has not been found in the Midwest. Thus far it has been identified from North Carolina, Tennessee, Arkansas, Kentucky, Missouri, and Mississippi.

Information on the disease reaction of Uniform and Preliminary Test strains obtained during the past year is appended to this report. The reference list of plant introductions and varieties resistant to certain diseases has been brought up-to-date.

GLOSSARY

Common Name of Disease	Causal Organism
Bacterial Blight	*Pseudomonas glycinea*
Bacterial Pustule	*Xanthomonas phaseoli* var. *sojensis*
Brown Spot	*Septoria glycines*
Brown Stem Rot	*Cephalosporium gregatum*
Downy Mildew	*Peronospora manshurica*
Frogeye	*Cercospora sojina*
Phytophthora Rot	*Phytophthora* sp.
Purple Seed Stain	*Cercospora kikuchii*
Root Knot Nematode	*Meloidogyne incognita* var. *acrita*
Soybean Cyst Nematode	*Heterodera glycines*
Sphaceloma Scab Disease	*Sphaceloma* sp.
Stem Canker	*Diaporthe phaseolorum* var. *caulivora*
Target Spot	*Corynespora cassiicola*

Disease reactions are listed according to the Soybean Disease Classification Standards, March, 1955, unless otherwise specified. They are listed as follows:

1 to 5 = disease reaction, followed by capital letter or letters to identify the state where test was made (these are code letters used to identify strains in the Uniform Tests--L = Illinois, C = Indiana, A = Iowa, etc.); small letter "a" or "n" after the code letter signifies artificial or natural infection, respectively.

Frogeye readings are listed as R (resistant), I (intermediate), and S (susceptible). Strains showing the intermediate reaction are susceptible in their breeding behavior.

Phytophthora readings from Ohio were made on the following basis:

1 - Less than 5% post-emergence kill
2 - 5-10% kill, or less than 5% kill with 2-3 type root rot
3 - 11-20% kill, or 5-10% kill with 3-4 type root rot, or 5-10% kill with post-seedling kill
4 - 21-50% kill
5 - 51-100% kill

Disease Reaction of Uniform and Preliminary Test Strains Evaluated in 1957.

Strain	Downy Mildew	Bacterial Blight	Bacterial Pustule	Stem Canker	Phytophthora Rot	Brown Stem Rot	Bud Blight
Group O							
Capital		5Aa	5Aa	5An			
Chippewa		5Aa	5Aa		3Hn		
Grant		3La,5Aa	4La,5Aa			3Ln	
Mandarin (Ottawa)		5Aa	5Aa				
Norchief		4Aa	5Aa				
M316		1La	4La		3Hn	3Ln	
M317		1La	4La		3Hn	3Ln	
M320		1La	4La		3Hn	3Ln	
0-55-2065		1La	5La		3Hn	3Ln	
W9S-2703		5Aa	5Aa				
Group I							
Blackhawk			5An	3An	2Hn		5Ln
Monroe		5Aa	5Aa		2Hn		
A4K-1347		2La	4La		3Hn	3Ln	
A4K-1433		4La	4La		2Hn	4Ln	
CX147-25		3La	4La		3Hn	3Ln	
CX185A-25-1		4La	4La		1Hn	4Ln	
CX197-23-3		3La	3La		3Hn	4Ln	
CX203-11-3		3La	3La		3Hn	3Ln	
M315		2La	4La		3Hn	3Ln	
M318		3La	4La		2Hn	4Ln	
M319		2La	4La		3Hn	4Ln	
0-52-710		4La,4Aa	5Aa			3Ln	
0-52-793		3La,5Aa	5Aa			3Ln	
W9-1982-32		3La,4Aa	5Aa			3Ln	
Group II							
Adams		4La,5An	5An	3An			5Ln
Bavender Special		5An	4La	2An			
Harosoy		4La,5An	5An	3An	5Hn		5Ln
Hawkeye		5An	5An	4An	4Hn		3Ln
Lincoln		4La,5An	4La,4An	3An		4Ln	3Ln
Richland		4La,5An	5Aa	4An			
A0-8618-2		2La,5An	3La,5Aa	3An		4Ln	3Ln
A2-4008		3La,5An	4La,5Aa	3An		4Ln	3Ln
A4K-1243		4La,4An	4La,5An		4Hn	4Ln	3Ln
A4K-1406		3La,4An	4La,4An		3Hn	4Ln	3Ln
A4K-1411		4La,4An	3La,4An		3Hn	4Ln	4Ln
A4-3026		4La,4An	4La,5An		3Hn	4Ln	3Ln
A4-3109		4La,4An	4La,5An		4Hn	4Ln	3Ln

Disease Reaction of Uniform and Preliminary Test Strains...(Continued)

Strain	Downy Mildew	Bacterial Blight	Bacterial Pustule	Stem Canker	Phytophthora Rot	Brown Stem Rot	Bud Blight
Group II (Continued)							
A4-3215		4La,4An	4La,4An		3Hn	4Ln	2Ln
AX29-267-1-1-2		3La,5An	3La,5Aa	3An		4Ln	4Ln
C1106		4La,5An	5Aa	4An			5Ln
C1117		4La,4An	5An	3An			4Ln
C1128		3La,5An	5An	3An			4Ln
C1142		3La,5An	5La,5An		3Hn	4Ln	2Ln
C1160		4La,5An	4La,4An		3Hn	4Ln	3Ln
CX201-97-5		3La,4An	4La,4An		3Hn	4Ln	4Ln
H20771		4La,4An	5An	2An		4Ln	4Ln
H21793		4La,4An	4An	3An		4Ln	4Ln
L9-5139		4An	4Aa	2An			3Ln
L54-1053		4La,4An	4La,5An		3Hn	4Ln	4Ln
L54-1055		4La,5An	5La,5An		3Hn	4Ln	4Ln
L54-1069		4La,4An	5La,4An		3Hn	4Ln	4Ln
L54-8054		3La,3An	4La,5An		2Hn	4Ln	3Ln
Richland		4La,5An	4An	4An			3Ln
Group III							
Clark		3La,5Aa	4La,5An		3Hn	4Ln	2Ln
Dunfield		5An	4La,5An				2Ln
Illini					2Hn		
Lincoln		5La,5An	4La,5Aa		3Hn	4Ln	3Ln
A3-6319		4La,5Aa	5La,5Aa			4Ln	3Ln
C1162		4La,4An	4La,5An		3Hn	4Ln	1Ln
C1166		4La,4An	4La,5Aa		4Hn	4Ln	1Ln
CX144-115		4Ln,4An	4La,5An		4Hn	4Ln	2Ln
CX166-103N-1		2La,5Aa	4La,5Aa			4Ln	3Ln
CX168-46-5		4La,5Aa	4La,5Aa			4Ln	4Ln
CX169-9-2		4La,5Aa	4La,5Aa			4Ln	5Ln
CX187-87-2		4Ln,4An	4La,5An		4Hn	4Ln	2Ln
CX188-64-3		3Ln,5An	4La,4An		3Hn	4Ln	2Ln
CX192-28-3		4La,5Aa	4La,4Aa			4Ln	5Ln
CX192-55-3		4La,4An	4La,4An		2Hn	4Ln	3Ln
CX196-3-2		5La,4An	4La,5An		2Hn	4Ln	4Ln
CX196-82-3		4La,4An	4La,5An		4Hn	4Ln	5Ln
CX208-23-3		3La,5An	4La,5An		4Hn	4Ln	4Ln
CX210-19-3		2La,4An	4La,4An		4Hn	4Ln	2Ln
H21162		5La,5Aa	4La,5Aa			4Ln	3Ln

Disease Reaction of Uniform and Preliminary Test Strains...(Continued)

Strain	Downy Mildew	Bacterial Blight	Bacterial Pustule	Stem Canker	Phytophthora Rot	Brown Stem Rot	Bud Blight
Group III (Continued)							
L54-1109		4La,3An	4La,5An		3Hn	4Ln	3Ln
S2-5179		4La,4An	4La,5An		4Hn	4Ln	2Ln
S4-1207		4La,5Aa	4La,4Aa			4Ln	3Ln
S4-6135		4La,3An	4La,5An		3Hn	4Ln	2Ln
S4-6154		4La,4An	3La,5An		4Hn	4Ln	3Ln
S4-6160		4La,4An	4La,5An		4Hn	4Ln	3Ln
S4-6247		4La,4An	3La,5An		3Hn	4Ln	2Ln
S4-6267		4La,4An	3La,5An		4Hn	4Ln	2Ln
S4-6292		3La,4An	4La,5An		3Hn	4Ln	4Ln
U1-5		4La,5Aa	3La,5Aa			4Ln	2Ln
Group IV							
Chief	1.5Sn						3Ln
Lincoln		5La,5Aa	4La,5Aa	3An			
Perry	3.0Sn		5Aa				3Ln
Wabash	1.0Sn	5Aa	5La,5Aa				2Ln
C1068	1.5Sn	5Aa	5Aa				2Ln
C1069	1.8Sn	5Aa	5Aa				1Ln
CX171-87-3-1		3La	4La		4Hn	4Ln	4Ln
CX188-97-3		4La	3La		3Hn	4Ln	3Ln
CX193-88-3		4La	4La		3Hn	4Ln	5Ln
CX195B-122-1		3La	4La		4Hn	4Ln	4Ln
CX224-6-5		4La	4La		1Hn	4Ln	3Ln
CX224-11-3		4Ln	3La		3Hn	4Ln	3Ln
D53-354	3.9Sn	4Ln,5Aa	2La,2Aa			4Ln	1Ln
L6-2132-A14	2.3Sn						1Ln
S2-5164	2.9Sn	2Ln,4Aa	3La,4Aa				1Ln
S2-7158	2.5Sn	2Ln,5Aa	3La,2Aa			4Ln	3Ln
S4-1046		4Ln	2La		5Hn	4Ln	1Ln
S4-1714	3.5Sn	5La,5Aa	2La,2Aa			4Ln	3Ln
S4-1771		3La	1La		3Hn	4Ln	2Ln
S4-2088		2Ln	1La		3Hn	4Ln	2Ln
S4-2089		4La	1La		4Hn	4Ln	1Ln
S4-2090		4La	1La		4Hn	4Ln	1Ln

Disease Reaction of Uniform and Preliminary Test Strains...(Continued)

Strain	Downy Mildew	Bacterial Blight	Bacterial Pustule	Stem Canker	Phytophthora Rot	Brown Stem Rot	Bud Blight
Miscellaneous Strains							
A.K. (Kansas)		4Ln	4La	1An		4Ln	
Arksoy		5Ln	3La	3An		4Ln	4Ln
Clark	2.5Sn	4La	4La				3Ln
CNS						4Ln	1Ln
Dorman	2.0Rn	4La	3La	4An		4Ln	
Early Woods Yellow							1Ln
F. C. 33124							1Ln
Jackson	1.0Rn	4La	3La	1An		4Ln	
Lee	3.3Rn	4La	1La	3An		4Ln	1Ln
Lincoln		4Ln	4La			4Ln	3Ln
Ogden	2.0Rn	4La	2La	3An		4Ln	2Ln
Roanoke	2.7Rn	4La	3La	2An		4Ln	
D52-212		4Ln	2La				1Ln
D53-184	3.3Rn	4Ln	3La				3Ln
L9-4044							2Ln
L9-4091							3Ln
L9-4196		1La,3Aa	1La			4Ln	4Ln
L9-4197		3Ln	2La	5An	1Hn		5Ln
L9-4200							5Ln
L9-5139				2An			3Ln
S2-7160		3Ln	2La				
S3-5180		4Ln	3La				
S3-5191		4Ln	4La				

Reference List of Soybean Varieties Resistant to One or More Diseases.

Variety	Maturity Group	Bacterial Blight	Bacterial Pustule	Brown Spot	Frog-eye	Stem Canker	Brown Stem Rot	Phytophthora Rot	Sphaceloma Scab Disease	Target Spot	Purple Seed Stain	Soybean Cyst Nematode
Capital	0	3	5	4	S	5	4	5	R			
Flambeau	0	2	3	2-3	S	5	4	5				
Blackhawk	I	5	5	3-4	S	44	5	R	R			
Monroe	I	5	5	4	S	10	4	R				
Adams	II	5	5	3	R	3	5	S				
Harosoy	II	5	5	5	R	R	5	S				
Hawkeye	II	5	5	4	S	100	5	S	R			
Jogun	II								R			
Kanro	II								R			
Mukden	II	3	5	3	S	5	4	R				
H3665	II	2	4	2	S	5	5	3				
L8-7289	II	2	4	3	S	37	5	3				
Illini	III	5	4	4	R	40	5	R				
Ilsoy	III											1.3
Lincoln	III	5	5	4	R	20	5	S				
L9-4091	III	3	2	4	R	17	5	3				
L9-4197	III	3	2	5	S	5	4	1				
Clark	IV	5	5	3	R	27	5	S				
Patoka	IV	5	4	3	S	0	5		R			
Wabash	IV	5	5	3	R	47	5	S	R			
L9-4196	IV	3	1	3	S	0	4	3				
Peking	IV											1
A.K. (Kansas)	V	4	4	3	S	1	4	R				
Dorman	V	4	3.5		R	4	4	2		3		
Arksoy	VI	5	4			3	4	R				
Lee	VI	4	1		R	3	4			R	R	
Ogden	VI	4	3			3	5	3	R	2		
CNS	VII	5	1				4	R			R	
Jackson	VII	4	3		R	1	4	2		R		
Roanoke	VII	4	3		R	2	4	3		2.5		

Note.--Dorman and Lee appear to be more resistant than other varieties to the killing attributed to pod and stem blight.

Reference List of Plant Introductions Resistant to One or More Diseases.

Identity	Maturity Group	Bacterial Blight	Bacterial Pustule	Stem Canker	Brown Spot	Frogeye	Brown Stem Rot	Phytophthora Rot	Root-knot Nematode	Soybean Cyst Nematode
P. I. 153239	0	3	4	5	2	R	5	2		
153252	0	4	5	5	3	R	3	3		
153252-1	0	5	4		3	R	3	1		
153262-1	0	5	4	5	3	R	3	2		
153300	0	5	4	5	2		5	2		
161988	0	5	5	5	3	R	3	2		
177100	0	5	4	5	2	R	4	2		
179822	0	4	4	5	1	S	3	4		
180524	0	5	2	4	3	R	2	3		
180525	0	5	3	4	2	R	3	2		
189859	0	4	5	1	2	S	5	4		
189923	0	5	4	3	3	R	5	2		
68521	I	2	3	4	5	I	4	2		
68554-1	I	2	5	4	3	S	5	5		
92625	I	5	5	5	3	S	4	3		
153213	I	1-2	2	3	4	S	4	3		
180498	I	4	4	5	2	S	4	4		
65338	II	5	4	5	2	S	5	2		
68708	II	3	3	5	2	S	4	2		
79609	II	4	3	5	1	S	5	2		
79726	II	4	5	5	1-2	R	5	3		
84673	II	3	4	1	1-2	R	5	2		
86031	II	5	4	3	1-2	S	5	1		
86069	II	3	3	3	1-2	R	4	3		
87628	II	5	4	3	2	S	5	2		
90567	II	4	3	5	3	S	5	2		
91114	II	5	4	5	1-2	R	4	1		
91341	II	3	4	5	(1-2) 2	R	3	4		
92733	II	4	4	4	(1-2) 2	R	5	2		
200595	II	5	4	4	2	S	4	2		
F. C. 33243 (Anderson)	III	4	4	5	3	R	4	3	R	
P. I. 54583	III	4	4	3	1-2	S	5	3		
84578	III	4	4	4	1-2	S	5	3		
84946-2*	III	4	4	4	3	S	R*	5		
90180**	III	5	5	3	2	R	5	2		
96188	III	4	4	3	1-2	R	5	3		

Reference List of Plant Introductions...(Continued)

Identity	Maturity Group	Bacterial Blight	Bacterial Pustule	Stem Canker	Brown Spot	Frog-eye	Brown Stem Rot	Phytophthora Rot	Root-knot Nematode	Soybean Cyst Nematode
P. I. 90763	III	4	2		5	R	5			1
96322	III	4	3	3	1-2(2)	S	5	3		
157416	III	5	3	4	1	S	4	2		
84751	IV									1
91153-1	IV	4	4	2	2	S	4	3		
91346	IV	4	4	3	1-2(2)	R	5	2		
96333	IV	5	3	2	1	S	3	4		
157418	IV	5	1	1	1-2(2)	S	4	3		
157448	IV	5	4	1	1	S	3	2		
171431	IV	5	3	1	1-2(2)	S	5	2		
209332	IV									2
82200-1	V	3			1-2	S	3			
87968	VI				4	R	4			
166147	VI	2	4				4			
215693	VI	4	1	1	4		4	1		

*Selections from this P. I. show 75-90% disease-free plants while Lincoln control rows show 100% infection.

**This P. I. has been misnumbered sometime in the past. In the listing of the Plant Inventory of the Division of Plant Exploration and Introduction, some other species has this number. This soybean introduction has consequently been maintained at Urbana as P. I. 90180 in order to identify it. Its original P. I. No. is unknown.

Soybean Introductions Resistant to Meloidogyne incognita var. acrita (Tested in Delaware).

Strain	Field Reaction*		Greenhouse Reaction**
	Bethel	Phillips	
F. C. 33243	0	0	Light
P. I. 200446	1	0	Light
200507	0	0	Very Light
205909	0	0	Light

*Based on number of plants showing galls.
**Based on number of egg masses.

WEATHER CONDITIONS AND GENERAL GROWTH RESPONSES AT MOST OF THE NURSERY LOCATIONS DURING THE 1957 SEASON

The following general notes compiled from information supplied by the cooperators may be helpful in interpreting performance of the nurseries at individual locations.

Temperature and rainfall at most of the nursery locations for the 1957 season are presented in graphs at the end of this section of the report. The daily maximum and minimum temperatures and rainfall are taken from "Climatological Data" published by the Weather Bureau.

Ottawa, Ontario, Canada. The 1957 season was characterized by extremely dry weather during July and August. Rainfall for the two months amounted to two inches compared with a normal of about seven inches. Since the two inches fell during twelve separate days during the two months, it was of little or no use to the crop. Temperatures were about normal with somewhat more than normal hours of sunshine.

Guelph, Ontario, Canada. The growing season at Guelph was characterized by slightly below normal temperatures and near normal rainfall. The slightly below normal temperatures delayed maturity considerably. The yields, however, were excellent and seed quality good.

Ridgetown, Ontario, Canada. The 1957 season for soybeans in southwestern Ontario was one of the wettest on record with five to seven inches of rain recorded in July. The total for June, July, August, and September was 16.5 inches at Ridgetown. The crop was fairly late in harvest and moisture dropped slowly.

Mt. Holly and Bridgeton, New Jersey. In general, 1957 was the driest in the weather records. No general rain fell from the last week of April until September. Temperatures were about normal. Bridgeton had a shower in July and one in August. Mt. Holly had no rain from three weeks before planting until late September. After a killing frost on September 27, harvest conditions were good.

Newark, Delaware. Rainfall was deficient during May, June (latter half), July, and August. During the period June 10 to August 25 only two rainfalls of 0.5 inches or more were recorded. These were as follows: July 9 - 0.53 inches and July 28 - 0.85 inches. Temperatures of 90° F. or above were recorded on eleven days in June, sixteen days in July, and eight days in August. Despite the adverse growing conditions, the performance of the variety trials at this location was very satisfactory. Frequent rains prevailed during the prolonged harvest season.

Beltsville, Maryland. Moisture during the latter part of May and the first half of June was sufficient for a good stand. Drouth conditions existed over the State during the month of July. Drouth stresses were noted in the uniform test area in certain blocks (underlain with gravel) of the Group IV test. Plants growing within the blocks containing the better soils did not appear to be unduly affected. Moisture was adequate during August and September.

Hoytville, Wooster, and Columbus, Ohio. Temperatures were near normal throughout May at all three locations. There was only a trace of rainfall in early May at Hoytville and Columbus but heavy rainfall at Wooster. During middle May there was heavy rainfall at all three locations which continued the rest of the month at Columbus. Hoytville and Wooster were relatively dry the last half of May. Temperatures were near normal the first half of June and rainfall was below normal but

adequate for plant growth at all three locations. Temperatures were above normal during the last half of June at all three locations with adequate rainfall at Columbus and Wooster but inadequate moisture at Hoytville. The first half of July had near normal temperatures at all three locations. It was dry at Columbus and Hoytville, but Wooster had adequate moisture. Above normal temperatures and inadequate moisture prevailed at all three locations during the last half of July. August was unseasonably hot and dry at all three locations. The first half of September was hot and dry at all three locations with adequate rain during the middle of the month at Hoytville and Wooster. The last half of the month was hot and dry at all three locations. October was generally dry.

Bath, East Lansing, and Ida, Michigan. Yields were lower than usual with the early varieties showing the greatest reduction. The extended period of dry weather in August was responsible for most of this yield reduction. Apparently the later varieties were able to utilize water when rain did fall while the early varieties were too mature.

Walkerton, Indiana. There was good growth with rather severe lodging following heavy rains and wind after August 1. Heavy downy mildew and a trace of brown spot, bacterial pustule, and bacterial blight were present. Precipitation was about normal. Highest temperature of the growing season was 96° F. with only seventeen days with 90° F. or higher.

Bluffton, Indiana. Planting conditions were very good and there was good growth with only slight to moderate lodging. There was a trace of bacterial blight and downy mildew, and up to 5% stem canker in some strains. Precipitation was well above normal in May, June and September, but below normal in July and August with no periods of drouth or high temperatures. Rainfall for the growing season was 2.80 inches above normal and there were only fourteen days with temperatures of 90° F. or above.

Lafayette, Indiana. Early growth was poor but late growth was excellent and final height was very good. Excessive early moisture appeared to retard growth. There was considerable directional lodging due to wind and rain after early August. A moderate to heavy amount of bacterial pustule and brown spot and a moderate amount of stem canker and brown stem rot were present. Precipitation was 8.60 inches above normal for the growing season. The highest temperature was 92° F. with only eight days with 90° F. or above.

Greenfield, Indiana. Growth in this nursery was only fair and yields were low. It was planted somewhat late, June 5, on light colored soil. There was a light to moderate infection of brown spot, bacterial pustule, and bacterial blight, and one to two percent of bud blight. Precipitation was 7.78 inches above normal for the summer. The highest summer temperature was 94° F. and there were only seventeen days with temperatures of 90° F. or above.

Worthington, Indiana. This was an unusually good nursery and very high yields. There was considerable lodging. Brown spot was abundant on the lower half of the plants and bacterial pustule was moderate to heavy. There was some red spider or aphid injury. Planting and harvesting conditions were ideal. Precipitation was above normal in May, June, and July, below normal in August, and normal in September. The highest temperature was 95° F. with thirty days with 90° F. or above in the growing season.

Evansville, Indiana. Stands were about average to poor over most of the plot. One test was discarded due to poor stands. Although 30#/A. of 80% manganese sulfate was applied along with 100#/A. of 0-23-30 at planting, little to a moderate amount of manganese deficiency occurred throughout the plot. Precipitation of 8.22 inches in May, much occurring after planting, caused flooding of the plot twice and probably contributed to poor stands and manganese deficiency. In spite of early poor growth conditions, exceptionally high yields were obtained. Bindweed and grass were fairly abundant. There was a trace of bacterial pustule and downy mildew and an unidentified root rot scattered throughout the plot. Temperatures did not exceed 95° F., and there were only thirty-seven days with temperatures of 90° F. or above.

Spooner, Wisconsin. The 1957 season in northern Wisconsin was very favorable for soybean production. Rainfall was considerably above normal in June, July, August, and September. Temperatures were only slightly below normal. A drouth period of two weeks in late July and early August reduced yields somewhat. The Uniform Group 0 trial was irrigated once during this period. The first frost occurred September 26. The yields of 30 bushels per acre reported for Chippewa in this area were due to a great extent to the late date of the first killing frost.

Durand, Wisconsin. The nursery at Durand was planted May 24. All varieties of the Groups 0 and I tests matured prior to the late September frost. Growing conditions were favorable throughout the season. The average yield of Group 0 was 25.5 and Group I, 31.2, which is good for the Durand area. Lodging was above average, especially for Group I.

Madison, Wisconsin. Due to a wet spring, the Group I nursery was planted June 10 and the Group II nursery, June 17, compared with the usual planting date of May 20. A killing frost of 28° F. occurred September 28. Most of the Group I varieties were matured or near maturity at the time of the killing frost, whereas none of the Group II varieties were mature. Late maturing Group II varieties were reduced in yield as a result of the frost. Growing conditions were very favorable during the season as shown by an average yield of 41.4 bushels per acre for the varieties of Group I maturity. Lodging was severe.

Shabbona, Illinois. Planting was on May 18 in permeable black prairie silt loam. The seedbed was well prepared and moist, permitting a shallow depth of planting. Excellent stands were obtained. Normal temperatures and above normal rainfall prevailed throughout the growing season. Good growth and moderately severe lodging occurred along with the highest average yields obtained in the past seven years. A frost on September 23 (about Harosoy maturity) accelerated the approach to maturity of the later Group II strains and possibly caused a small yield reduction.

Dwight, Illinois. Planting was on June 10 in moderately permeable black prairie silty clay loam. Poor seedbed preparation and a delay in planting were caused by unusually heavy spring rains. The previous corn crop was not plowed under but was disked several times, leaving much debris on the surface of a packed soil. Uneven depth and rate of planting resulted in poor coverage. Transplanting was necessary to obtain satisfactory stands. Lower than normal temperatures and sufficient moisture prevailed during the growing season. Strain differences of lodging and height were not well expressed, but very high yields with excellent seed quality were obtained.

Urbana, Illinois. Tests were planted on May 30 in well prepared permeable black prairie silt loam. Seeding was at a normal depth in moist soil, and excellent

stands resulted. Adequate moisture throughout the growing season afforded excellent growth, moderate lodging, and above average yields. A slight infection of bacterial pustule occurred.

Girard, Illinois. Seeding date was June 4 in a well prepared seedbed having ample moisture. Soil was a black prairie silt loam with a moderately developed clay subsoil. Good stands were obtained. Twice the normal rainfall occurred in both May and June. Growth was luxuriant, and early lodging occurred in mid-August. Average yields were obtained. Poor seed quality was evident in some strains. The occurrence of bacterial blight, bacterial pustule, and Phytophthora stem rot may have affected yields.

Edgewood, Illinois. More than twice the normal precipitation occurred in each month of April, May, June, and July. Uniform tests were omitted at this location, though a variety test was planted on July 6. Considerable acreage in this general area was seeded at this late date. The variety test was planted at a shallow depth in well prepared (three previous times) soil, which was a gray prairie silt loam overlying impermeable clay. Moisture was ample throughout the entire growing season. Varieties matured before a killing frost. Height, lodging, and seed size were less than normal, though yields were relatively high (30-40 bushel range).

Eldorado, Illinois. Planting date was June 1 in this very productive heavy bottomland soil. Rainfall was abundant to excessive in May and June. Seedings were shallow in a well prepared moist seedbed and stands were good to excellent. Moisture was deficient at various intervals in July and August, but growth was good and average yields were obtained. Lodging was less than average. Several lines exhibited poor seed quality. A light to moderate bacterial pustule infection occurred.

Carbondale, Illinois. Planting was on June 11 in an upland light-colored soil with a strongly developed claypan. Excessive rains occurred during April and May delaying planting. Good stands were obtained but very dry weather from June through September caused short growth and uniformly low yields. Almost no lodging occurred.

Crookston, Minnesota. Plantings were made in late May in a good seedbed. Emergence was good and growth normal. Chlorosis, a very common condition in the Red River Valley, was evident about mid-July. Striking varietal difference occurred. Among the least affected were Flambeau, Norchief, Acme, and Capital. Most chlorotic were Mandarin (Ottawa) and Comet. Rainfall and temperature were favorable for rapid growth in mid-summer. Most varieties were near maturity on September 23, date of the first killing frost.

Morris, Minnesota. Good stands were obtained. Growth was essentially normal though development was somewhat slower than in 1956. Rainfall was adequate throughout the summer. Capital continues to be outstanding in this area of the state and as far north as Moorhead. This was evident from combine-harvested trials at Morris as well as from farmers' fields.

St. Paul, Minnesota. Planting was done in an excellent seedbed on May 24. As in several recent years, early growth at St. Paul was rapid. The plants grew tall and rank and became lodged rather early in the season. Maturity was delayed, making it difficult to harvest before expected snowfall dates. Yields were high despite lodging and late maturity. In common with many previous years at St. Paul, the seeds showed an excessive amount of mottling resulting from the extension of hilum pigments.

Waseca, Minnesota. This was an excellent soybean year in southern Minnesota. Stands were good. Rainfall was well distributed and adequate and yield level was high. This is probably the best all-around station for evaluating strains of medium to late maturity in Minnesota.

Cresco, Iowa. This nursery is located in northeast Iowa on Carrington Plastic Till Phase soil which is tight, cold, wet, slowly drained and low in fertility. The nursery was planted on May 28 on corn land. Stands were good and weeds were controlled. Temperatures and precipitation for May through September were slightly above normal. Growth, yields, and lodging were above normal. A moderately heavy frost occurred on September 20, though killing frost occurred after all strains matured. This nursery was considered good for making strain comparisons.

Sutherland, Iowa. This nursery represents the northwest section of Iowa with Primghar silt loam soil medium high in fertility and generally slightly undulating in topography. The nursery was planted May 27 on land previously planted to soybeans. Stands were excellent and plots were kept weed-free. Precipitation was slightly deficient in all months except June. Killing frost did not occur before maturity. Growth response and yields were very good for making strain comparisons.

Kanawha, Iowa. This nursery is located in north central Iowa on level, fertile Webster silty clay loam. Planting was completed on May 25 on land previously grown to corn. Stands were generally good to excellent and plots were kept weed-free. On June 25 a light hail caused very little damage. Moderately heavy bacterial blight occurred in July. Temperatures averaged -0.9° F. below normal and precipitation +0.8 inches above normal, permitting good growth and yields. Although a light frost occurred in September, a killing frost did not occur until after maturity. This nursery was considered good for making strain comparisons.

Independence, Iowa. This nursery is located in northeast central Iowa on well drained Carrington silt loam, medium in fertility. Planting was completed on May 23. Stands were excellent and plots were kept weed-free. Temperatures averaged -0.9° F. below normal and precipitation was below normal for nearly all the months May through September. Stem canker appeared spasmodically in the nursery. Growth, yield, and general response were considered fair for this location. Frost occurred later than normal. This nursery was considered only fair for making strain comparisons.

Ames, Iowa. This nursery is centrally located on level fertile Webster silt loam. Planting was completed on May 24 with subsequent stands good. Temperatures were generally below normal (-1.0° F.) and precipitation was above normal every month except September. Growth, yield, and general response were good. Frost occurred after the normal date. Strain comparisons are believed to be good.

Ottumwa, Iowa. This nursery was in southeastern Iowa on flat, very fertile, Haig silt loam. The nursery was planted May 23. Stands were excellent and weeds were controlled. Temperatures averaged slightly below normal and precipitation was above normal for May through September. Growth, yield, and response were good to very good. Killing frost occurred on the normal date (October 10). Strain comparisons are believed to be good to very good.

Kirksville, Missouri. Emergence at Kirksville was rather irregular and stands were not as uniform as desirable but the statistical constants indicate that yields were not seriously affected. Lodging and height scores are not very reliable, however,

as it was noticed that some rows had too heavy a stand with resulting serious early lodging while other rows had only half as many plants and were erect. It is difficult to account for the poor performance of Lincoln this year in relation to L9-5139 both at Kirksville and Columbia. Ample rain during most of the growing season resulted in rather heavy lodging at Kirksville, and a number of varieties produced much of their yield on branches arising from early lodged plants. Yields were satisfactory and seed quality high. Bud blight was heavy in part of the field but only scattered plants occurred in the Uniform Tests.

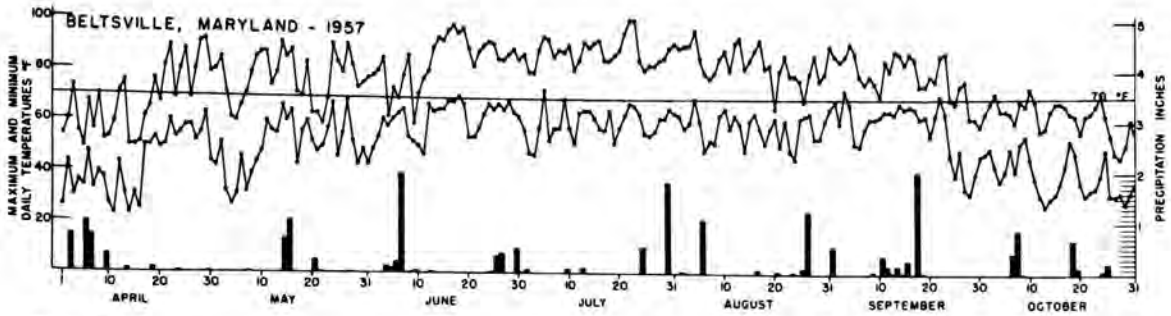
Columbia, Missouri. The uniform tests at Columbia were planted May 15 in a good seedbed. Showers totalling one inch over the next four days brought the plants up to a heavy stand. These were thinned June 1 to six plants to the foot. Although it rained on half the days in June, the total was only 2.1 inches. This was ample for good growth but only .57 inch fell during the first twenty-six days of July. By this time there was a serious deficit. Fortunately a 4.9 rain fell July 27-28 and this carried the beans for some time. The Group III varieties, however, had their growth retarded by this drouth and there was no lodging of consequence. August was dry with only two rains of .3 and by August 23 the Group IV varieties were beginning to wilt, so 2.5 inches of water was applied with sprinklers. Yields were good and, in general, this was the best year since 1952. Mildew was heavy but bacterial pustule was the lightest on record.

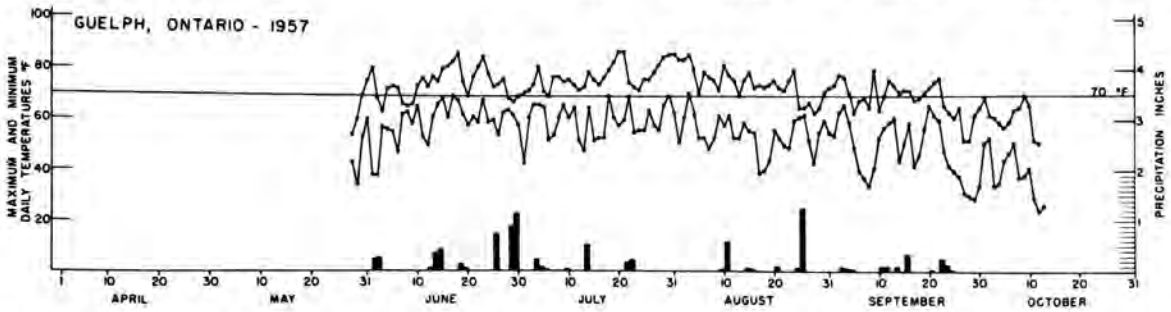
Rosholt, Brookings, and Menno, South Dakota. The growing season was very variable throughout the state. In some areas there was too much rain to properly take care of the soybean crop; other areas were affected by drouth. The growing season was cool and wet at Rosholt. There was too much moisture to properly plant and care for the crop. Moisture and growing conditions at Brookings and Menno were ideal except during the blossoming period when there was a moisture shortage and prevailing high temperatures. Terminal podding was not high due to considerable blasting of the flowers. Wet weather delayed much of the bean harvesting until late November and December. There was no early killing frost until mid-October and later.

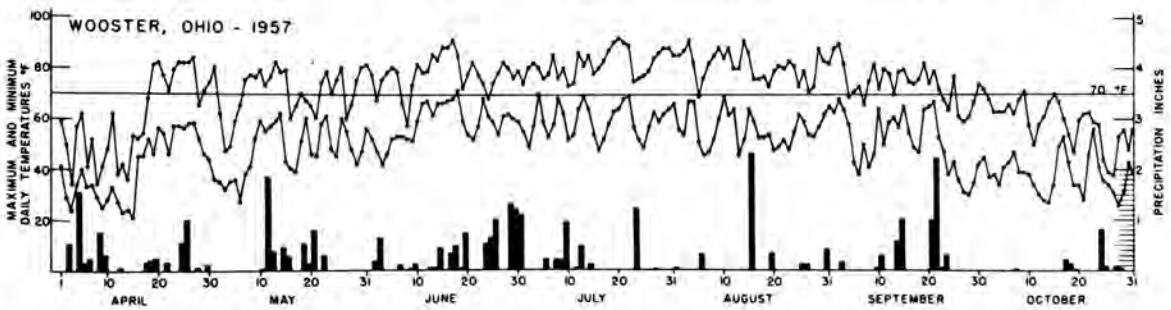
Concord, Nebraska. The Group II test was planted on June 3 on Wabash silt loam which had not been previously cropped. Excellent stands were obtained. June was quite dry, and growth was slow until July when above normal rainfall occurred. One irrigation was applied in August. Growth was generally good and the test averaged 33 bushels per acre. All entries were mature when killing frost occurred on October 18.

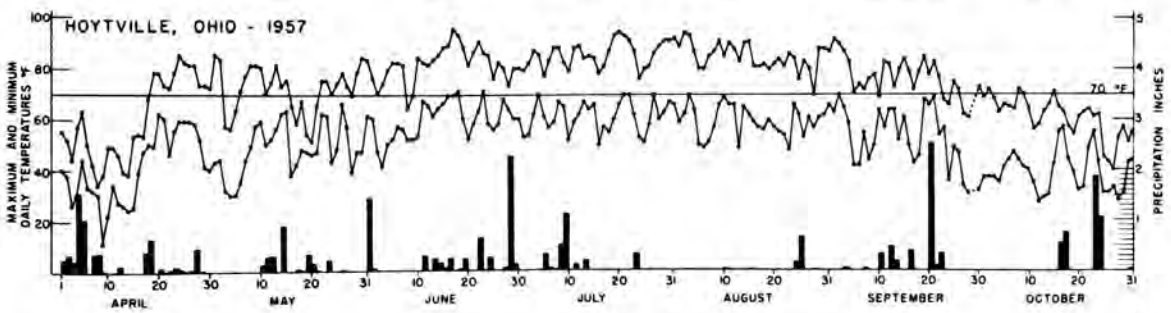
Lincoln, Nebraska. The Group II and III tests were planted on May 31 and 28, respectively, at different locations on the Agronomy Farm. The Group II test was planted on Sharpsburg silty clay loam; the Group III test on Wabash silt loam. Excellent stands were obtained. Irrigations were applied to the Group II test on July 17 and August 7 and to Group III on July 19, July 29 and August 12. After mid-August, rainfall was above normal and temperatures below normal. Cool, damp weather prevailed after October 5 and killing frost occurred late on October 25 after all entries were mature. In the Group III test, growth was especially good, lodging was excessive, and the occurrence of bacterial pustule was noted in most plots.

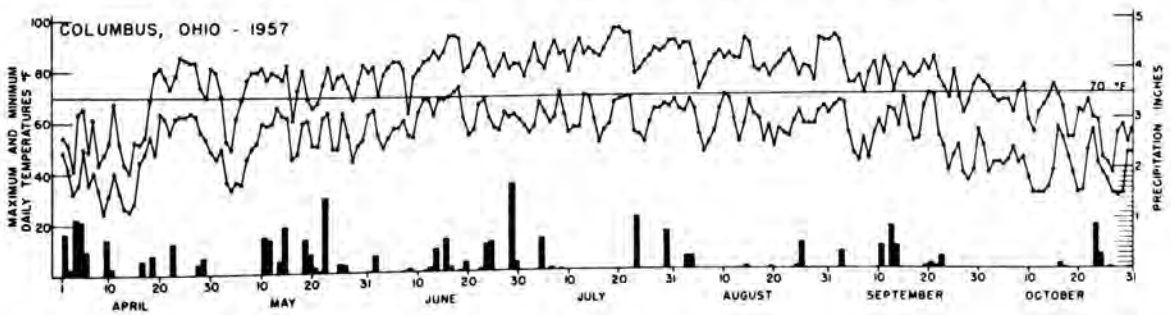
Columbus, Kansas. Due to the wet weather in May and June, it was not possible to seed the nursery test until June 29. Soil crusting after seeding was responsible for poor stands on some plots. During July and August a period of drouth occurred.

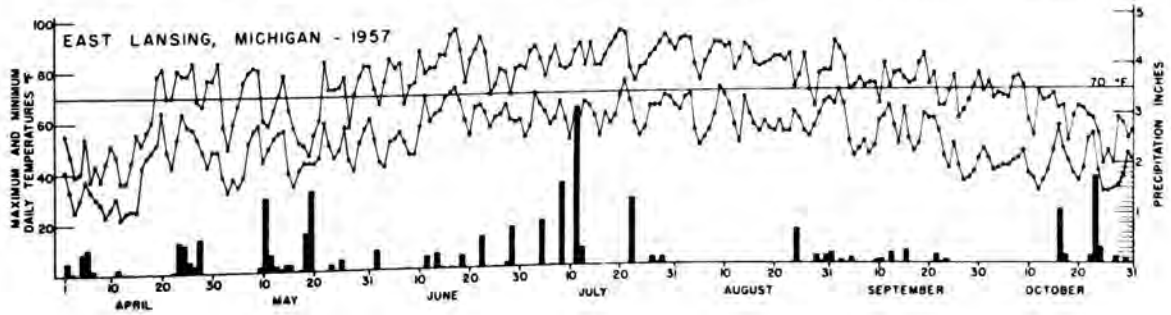

BELTSVILLE, MARYLAND - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

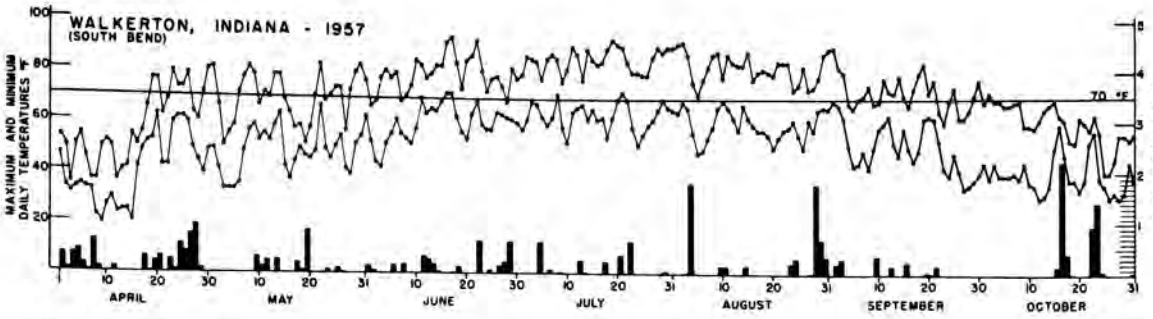

GUELPH, ONTARIO - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

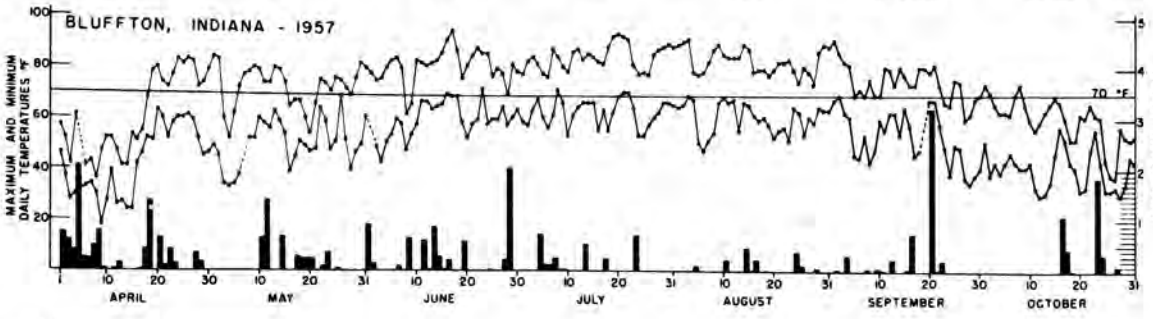

WOOSTER, OHIO - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

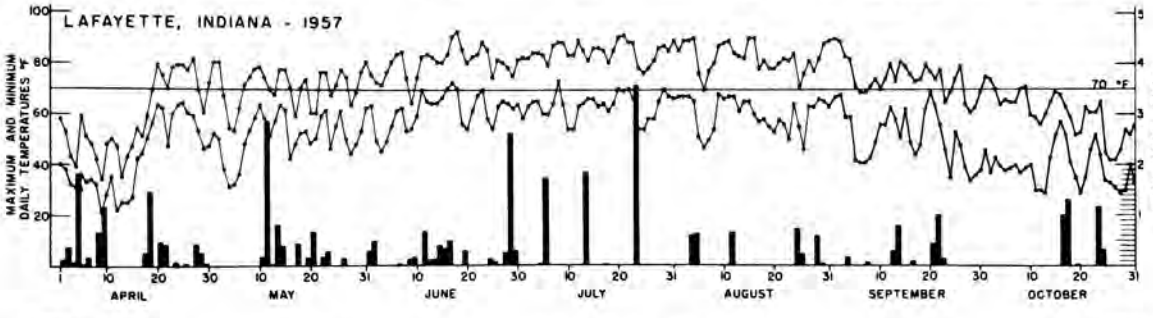

HOYTVILLE, OHIO - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

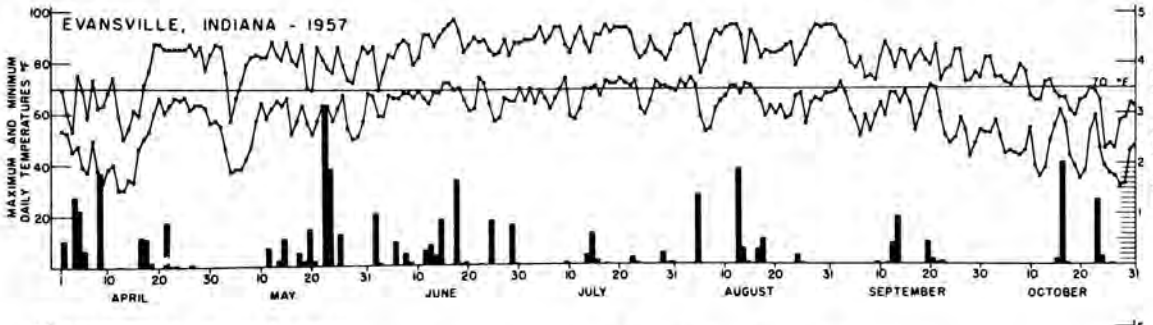

COLUMBUS, OHIO - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

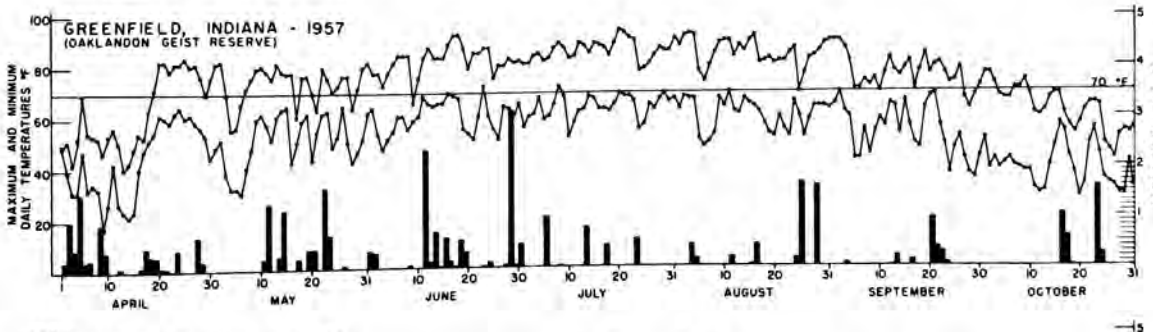

EAST LANSING, MICHIGAN - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

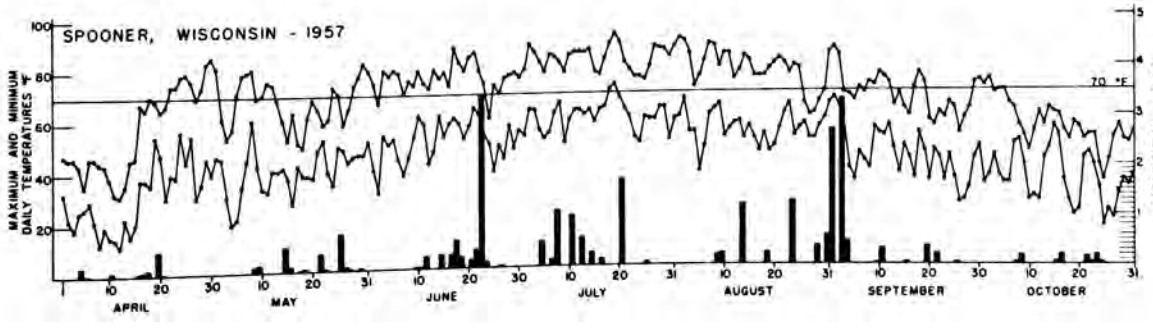

WALKERTON, INDIANA - 1957
(SOUTH BEND)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

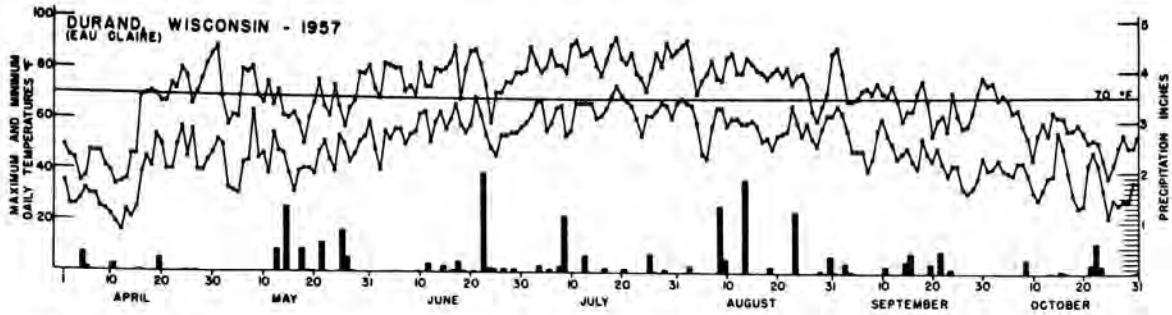

BLUFFTON, INDIANA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

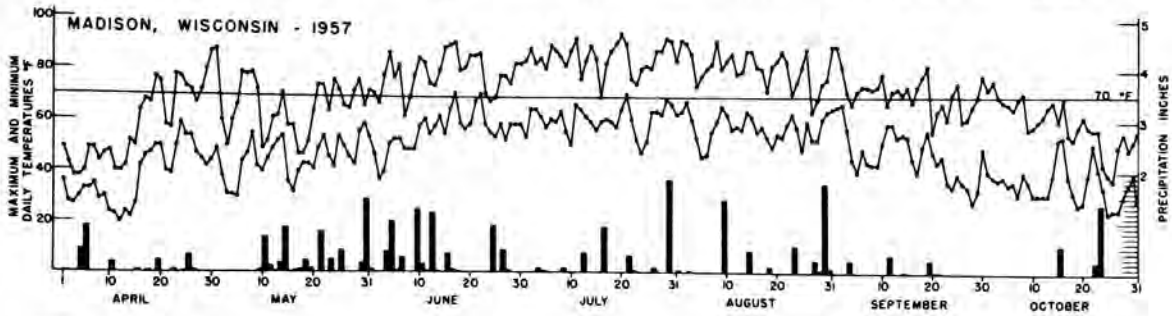

LAFAYETTE, INDIANA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

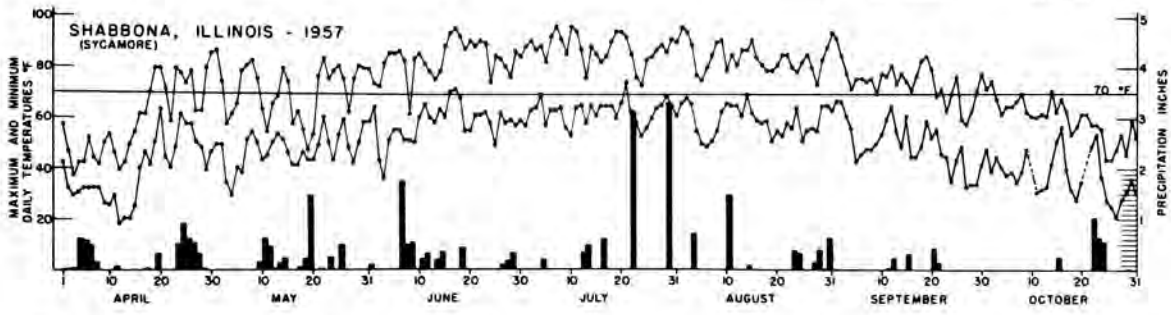

EVANSVILLE, INDIANA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

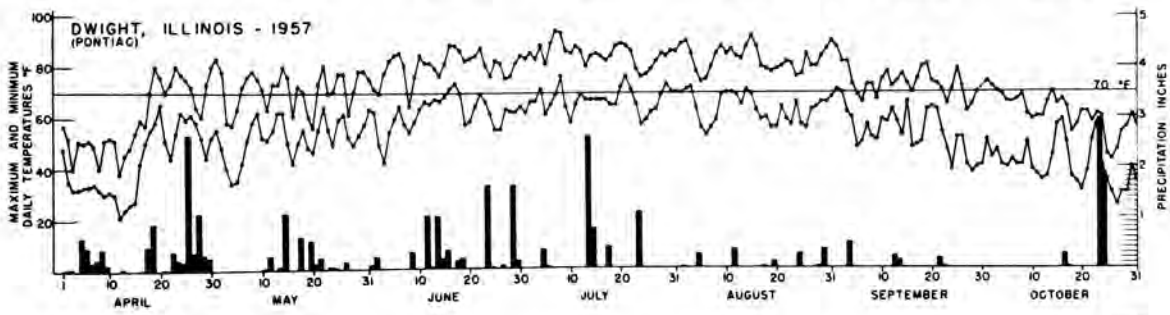

GREENFIELD, INDIANA - 1957
(OAKLANDON GEIST RESERVE)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

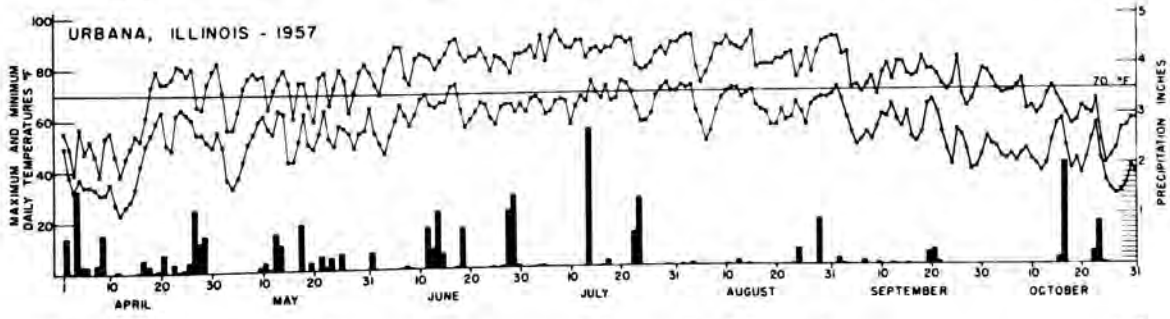

SPOONER, WISCONSIN - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

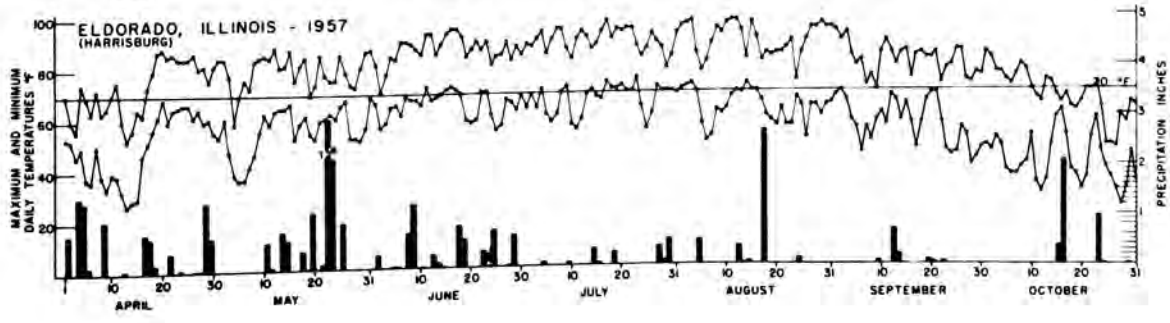

DURAND, WISCONSIN - 1957
(EAU CLAIRE)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

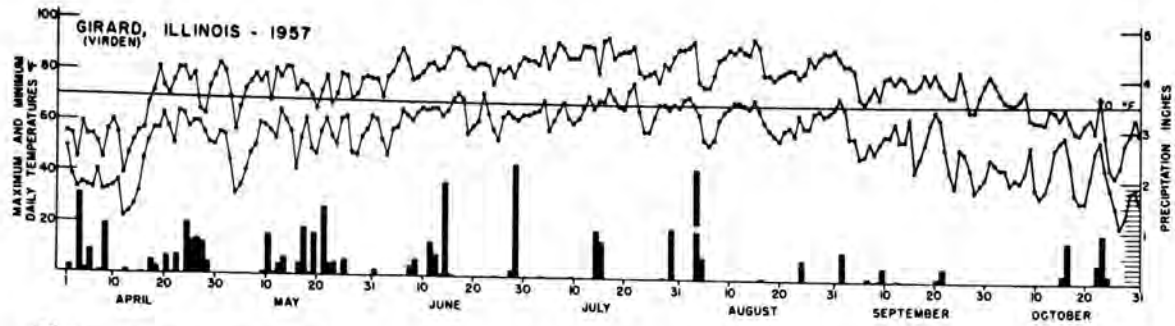

MADISON, WISCONSIN - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

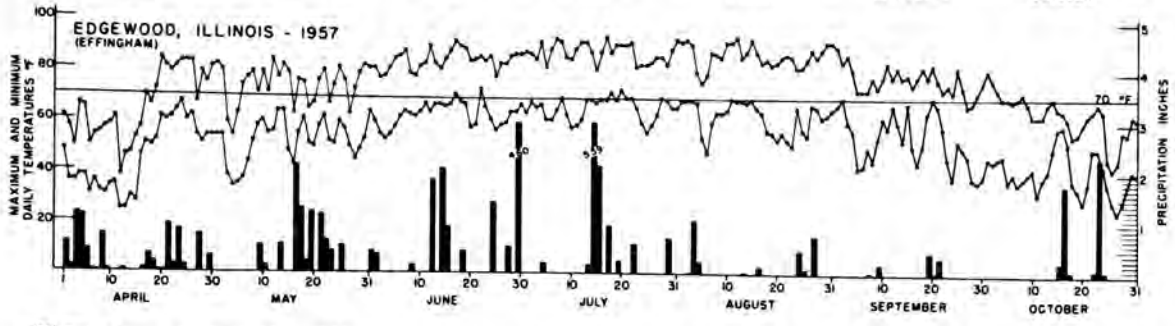

SHABBONA, ILLINOIS - 1957
(SYCAMORE)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

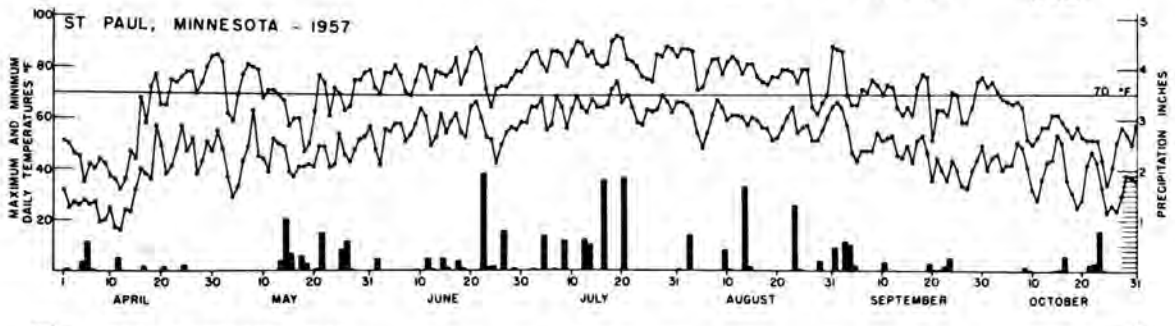

DWIGHT, ILLINOIS - 1957
(PONTIAC)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

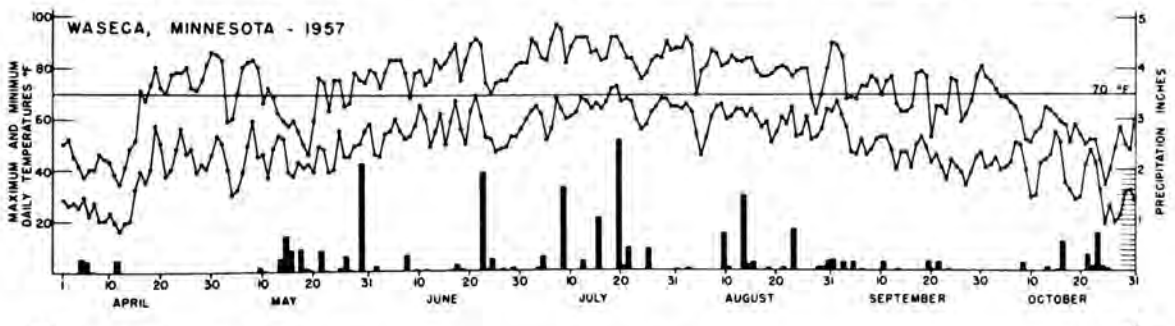

URBANA, ILLINOIS - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

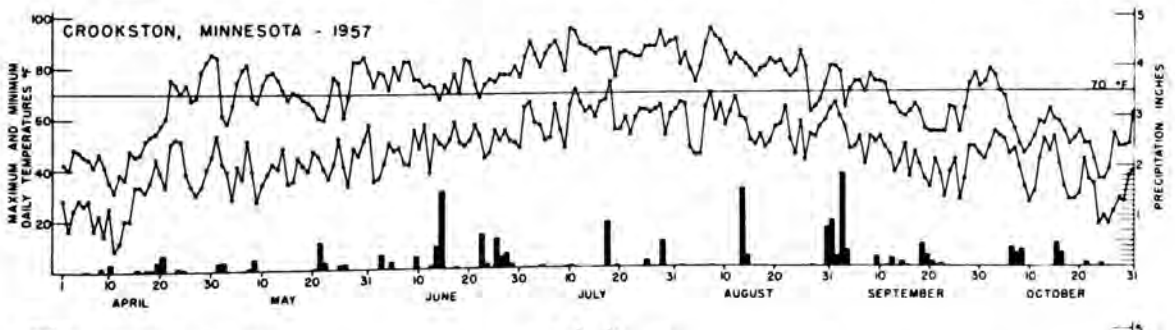

ELDORADO, ILLINOIS - 1957
(HARRISBURG)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

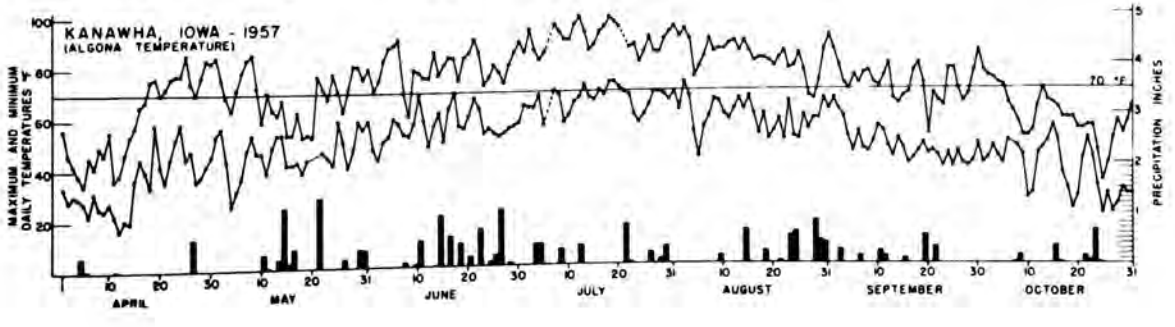

GIRARD, ILLINOIS - 1957
(VIRDEN)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

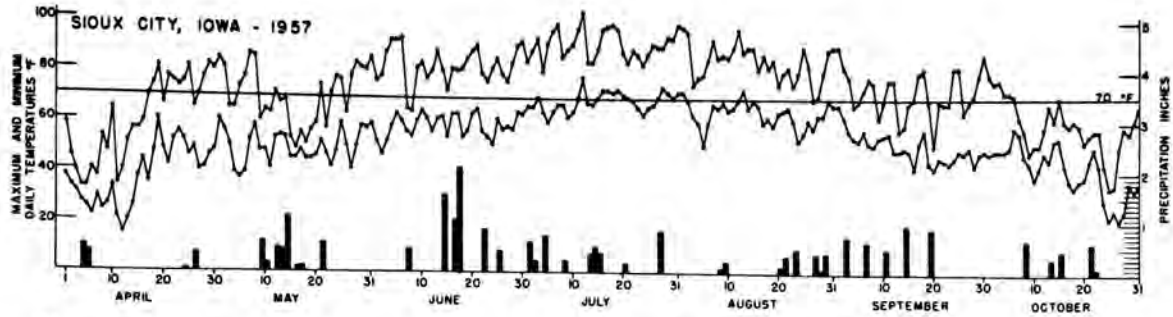

EDGEWOOD, ILLINOIS - 1957
(EFFINGHAM)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

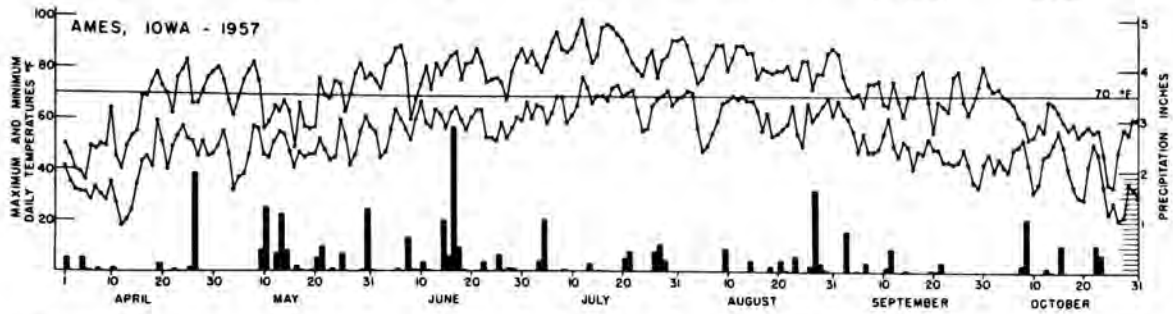

ST PAUL, MINNESOTA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

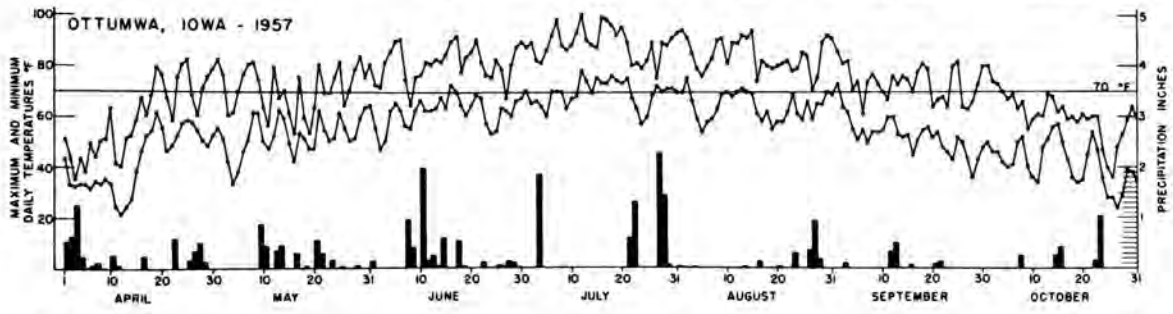

WASECA, MINNESOTA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

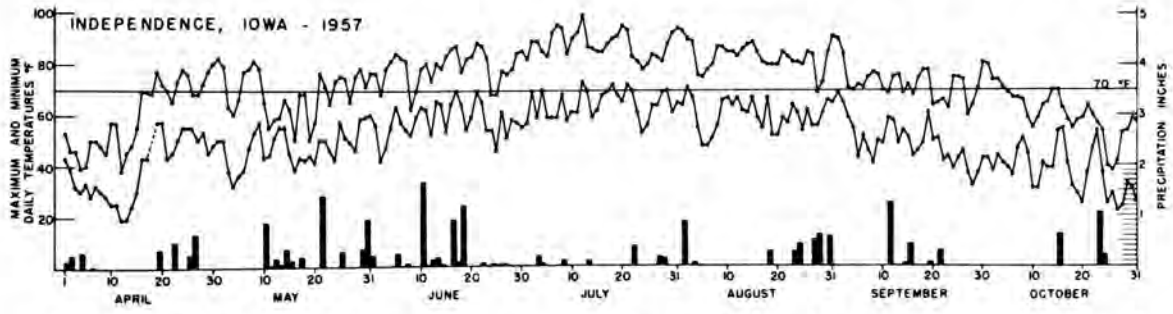

CROOKSTON, MINNESOTA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

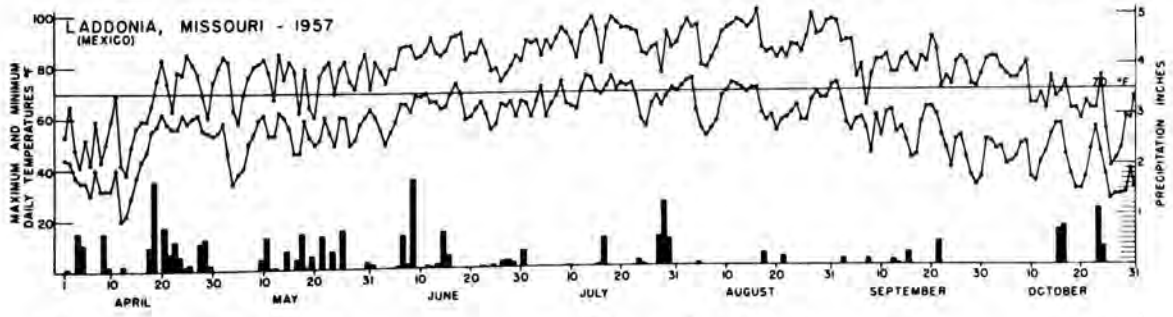

KANAWHA, IOWA - 1957
(ALGONA TEMPERATURE)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

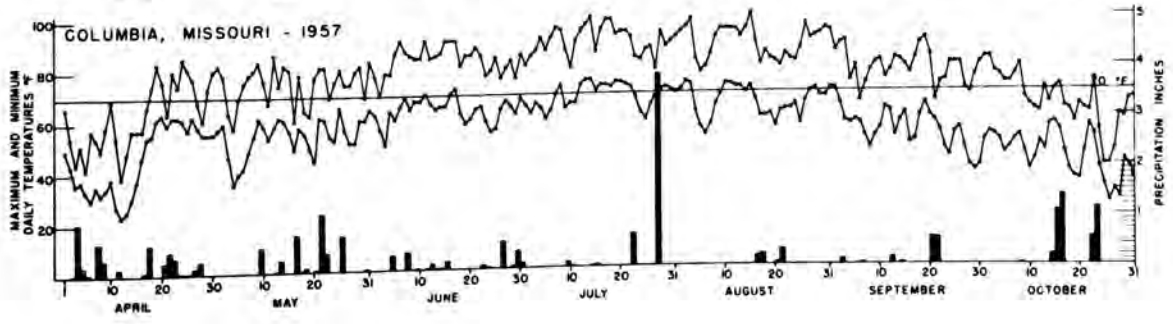

SIOUX CITY, IOWA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

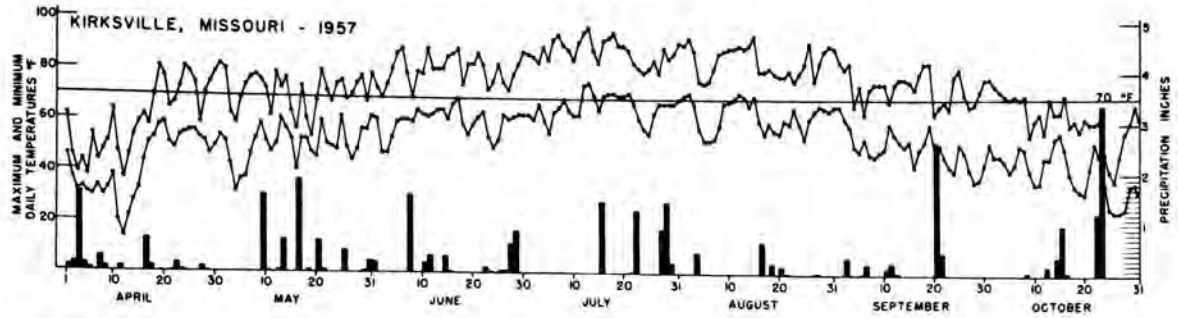

AMES, IOWA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

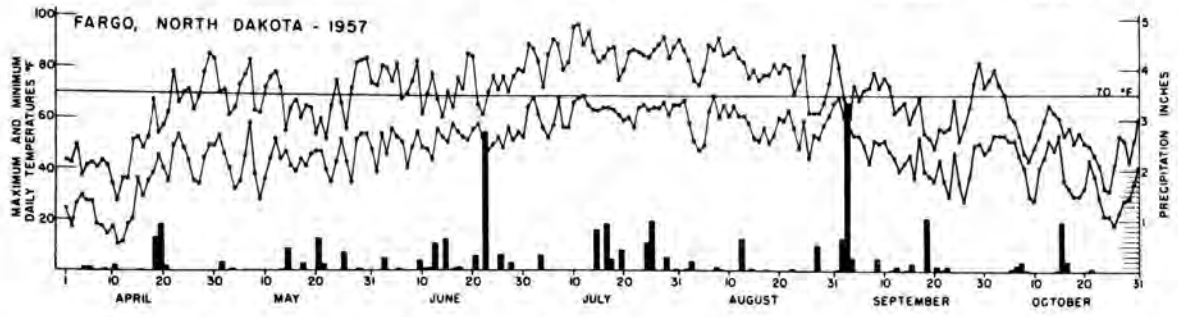

OTTUMWA, IOWA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

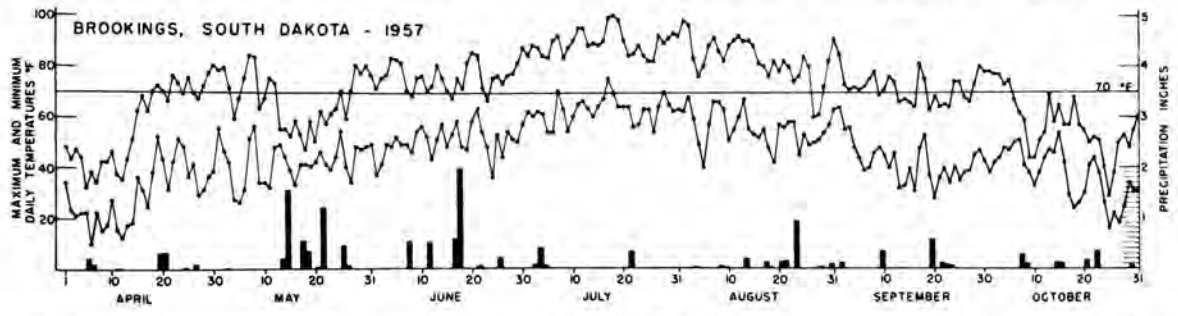

INDEPENDENCE, IOWA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

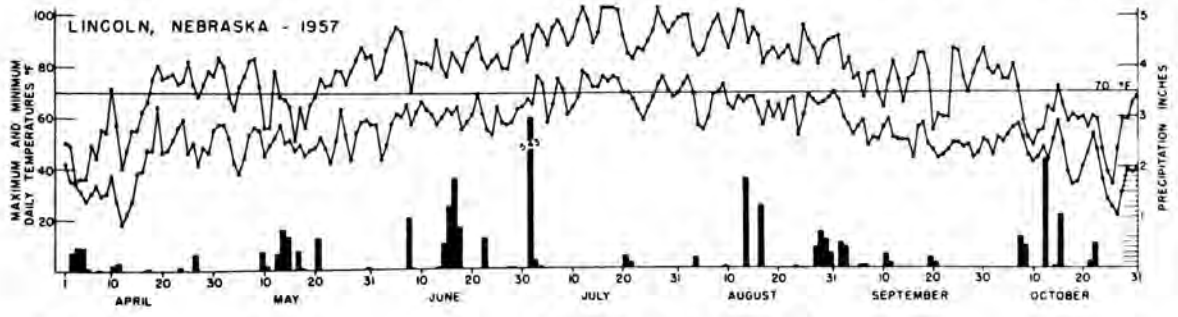

LADDONIA, MISSOURI - 1957
(MEXICO)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

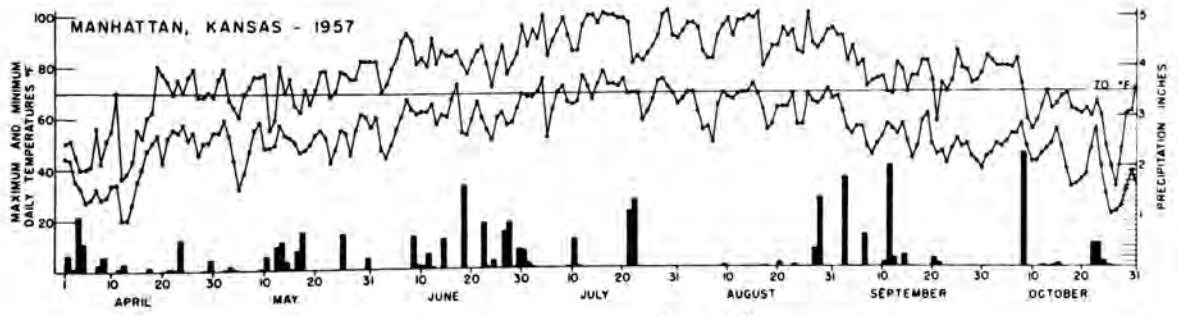

COLUMBIA, MISSOURI - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

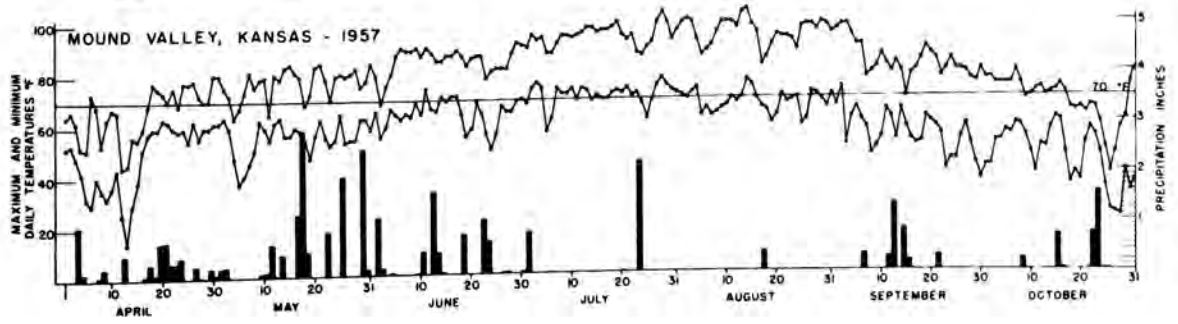

KIRKSVILLE, MISSOURI - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


FARGO, NORTH DAKOTA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


BROOKINGS, SOUTH DAKOTA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


LINCOLN, NEBRASKA - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


MANHATTAN, KANSAS - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


MOUND VALLEY, KANSAS - 1957
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER