RESULTS OF THE COOPERATIVE UNIFORM SOYBEAN TESTS

PART I. NORTH CENTRAL STATES

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1958
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TABLE OF CONTENTS

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 on a limited basis in 1938 but the work was rapidly expanded until ten groups were established to measure the yield and range of adaptation of the better strains developed through the breeding program. The last group to be established was designated Group 00, and is composed of strains adapted to the northern parts of North Dakota and Minnesota and to adjacent areas in Canada. This latest test was designed to develop improved, very early varieties for the northern fringe of the present area of soybean production. Groups 00 through IV 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 Test, Group 00, contains strains that will bloom and mature under the longer days encountered during the summer in northern North Dakota and Minnesota. Groups 0 through 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 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, together with a brief statement of growing conditions during the 1958 season, are included for most of the nursery locations as an aid to interpretation of the agronomic and chemical data. Also, this year a table has been added for each group giving reaction of the strains to all the diseases for which ratings are available.

The mean yield of each of the Uniform Test Groups was nearly the same in 1958 as in 1957, the one exception being Group IV, where the 1958 average was five bushels higher than in 1957. The mean protein content of the beans was similar in the two seasons but oil content in 1958 was 1.4% lower for Group 0, probably reflecting the cooler fall temperatures this season. The comparable 1958 means for Group I and II were lower in 1958 by only .3%. The mean oil content of the strains in Group 00 was only 18.2%, reflecting in part the lower late summer temperatures normally encountered in the northern part of the United States and in southern Canada.

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LOCATION OF COOPERATIVE NURSERIES, 1958

Location	Cooperator	Uniform Tests								
		Groups						Prelim.		
		00	0	I	II	III	IV	II	III	IV
Ottawa, Ont.	F. Dimmock, Central Exp. Farm	x	x							
Guelph, Ont.	G. E. Jones, Ont. Agr. College		x							
Ridgetown, Ont.	W. W. Snow, W. Ont. Agr. College		x	x	x			x		
Portage la Prairie, Man.	E. M. Mackey, Spec. Crops Substa.	x								
Winnipeg, Man.	B. R. Stefansson, U. of Manitoba	x								
Brandon, Man.	H. Gross, Experimental Farm	x								
Morden, Man.	E. D. Putt, Experimental Farm	x								
Glassboro, N. J.	Joseph Jones, Cooperator					x				
Newark, Del.	H. W. Indyk, Del. Agr. Exp. Sta.				x	x	x			x
Georgetown, Del.	H. W. Indyk, Del. Agr. Exp. Sta.					x	x			x
Hoytville, Ohio	Northwestern Substation			x	x	x		x	x	
Wooster, Ohio	Ohio Agr. Exp. Sta.			x	x			x		
Columbus, Ohio	P. E. Smith, Ohio State Univ.			x	x	x		x	x	
Chatham, Mich.	S. M. King, U.P. Exp. Sta., M.S.U.	x								
Vulcan, Mich.	Alfred Oelke, Cooperator	x								
Bark River, Mich.	Elmer Bolm, Cooperator	x								
Daggett, Mich.	Oren Berto, Cooperator	x								
Bath, Mich.	H. M. Brown, Mich. State Univ.		x							
East Lansing, Mich.	H. M. Brown, Mich. State Univ.		x	x						
Ida, Mich.	Chester Metz, Cooperator		x	x	x					
Walkerton, Ind.	Elburt F. Place, Cooperator			x	x			x		
Bluffton, Ind.	Gerald & Homer Bayless, Coop.				x	x				
Lafayette, Ind.	O. W. Luetkemeier, Purdue A.E.S.		x	x	x	x		x	x	
Greenfield, Ind.	Raymond Roney, Cooperator				x	x				
Worthington, Ind.	Frederic Sloan, Cooperator		x	x	x	x	x			
Evansville, Ind.	Bernard Wagner, Cooperator					x	x			x
Spooner, Wis.	Carl Rydberg, Spooner Br. E.S.	x	x							
Durand, Wis.	Antoine Sam, Wis. Agr. Exp. Sta.		x	x						
Madison, Wis.	J. H. Torrie, Wis. Agr. Exp. Sta.			x	x			x		
Shabbona, Ill.	R. R. Bell. N. Ill. Exp. Field			x	x					
Dwight, Ill.	Orland Bossert, Cooperator				x					
Urbana, Ill.	C. H. Farnham, Ill. Agr. Exp. Sta.				x	x		x	x	
Girard, Ill.	T. H. Lloyd & Sons, Cooperators				x	x			x	
Edgewood, Ill.	John Wilson, Cooperator					x	x			
Eldorado, Ill.	Cyril Wagner, Cooperator					x	x			x
Carbondale, Ill.	D. R. Browning, Southern Ill. U.					x	x			x
Ullin, Ill.	C. H. Woodard, Cooperator						x			
Miller City, Ill.	M. B. Patton, Cooperator						x			
Crookston, Minn.	Minn. Northwest Exp. Sta.	x	x							
Morris, Minn.	Minn. West Central Exp. Sta.		x							
St. Paul, Minn.	J. W. Lambert, Minn. A.E.S.	x	x	x						
Waseca, Minn.	Minn. Southern Exp. Sta.			x	x					
Cresco, Iowa	Howard County Exp. Assoc.			x						
Sutherland, Iowa	Galva Primghar Exp. Farm				x					
Kanawha, Iowa	Northern Iowa Exp. Assoc.			x	x			x		
Independence, Iowa	Carrington-Clyde Exp. Assoc.				x					
Ames, Iowa	Iowa Agr. Exp. Sta.				x	x		x	x	
Ottumwa, Iowa	A. E. Newquist, Cooperator					x			x	

LOCATION OF COOPERATIVE NURSERIES, 1958 (CONTINUED)

Location	Cooperator	Uniform Tests								
		Groups						Prelim.		
		00	0	I	II	III	IV	II	III	IV
Kirksville, Mo.	Earl Shockey, Cooperator				x	x		x		
Laddonia, Mo.	Carver Brown, Cooperator					x	x			
Columbia, Mo.	Mo. Agr. Exp. Sta.					x	x		x	x
Jefferson City, Mo.	Lincoln University						x			
Park River, N. D.	N. D. Agr. Exp. Sta.	x								
Minot, N. D.	N. D. Agr. Exp. Sta.	x								
Larimore, N. D.	N. D. Agr. Exp. Sta.	x								
Fargo, N. D.	R. E. Bothun, N. D. Agr. E.S.		x							
La Moure, N. D.	N. D. Agr. Exp. Sta.		x							
Dwight, N. D.	N. D. Agr. Exp. Sta.		x							
Rosholt, S. D.	S. D. Agr. Exp. Sta.		x							
Brookings, S. D.	C. J. Franzke, S. D. Agr. E.S.			x						
Menno, S. D.	S. D. Agr. Exp. Sta.				x			x		
Concord, Nebr.	N. E. Nebr. Exp. Sta.				x			x		
Lincoln, Nebr.	J. H. Williams, Nebr. Agr. E.S.				x	x			x	
Powhattan, Kans.	L. B. Hertz, Cornbelt Exp. Field				x	x	x			
Manhattan, Kans.	E. L. Mader, Kans. Agr. E.S.					x	x		x	x
Mound Valley, Kans.	J. D. Ives, Branch Exp. Sta.						x			
Columbus, Kans.	V. H. Peterson, Columbus Exp. Fld.						x			x
Bonners Ferry, Idaho	Don Diehl, Cooperator	x								
Ontario, Oregon	E. N. Hoffman, Malheur Exp. Sta.	x	x							

METHODS

All Uniform and Preliminary Tests are planted in replicated single rod-row plots, using either a lattice or a randomized block design with four replications for the Uniform Tests and two or four replications for the Preliminary Tests. 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 00, Acme; Group 0, Mandarin (Ottawa); Group I, Chippewa; Group II, Hawkeye, Group III, Shelby, 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.

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 all replications for each strain and are expressed on a moisture-free basis.

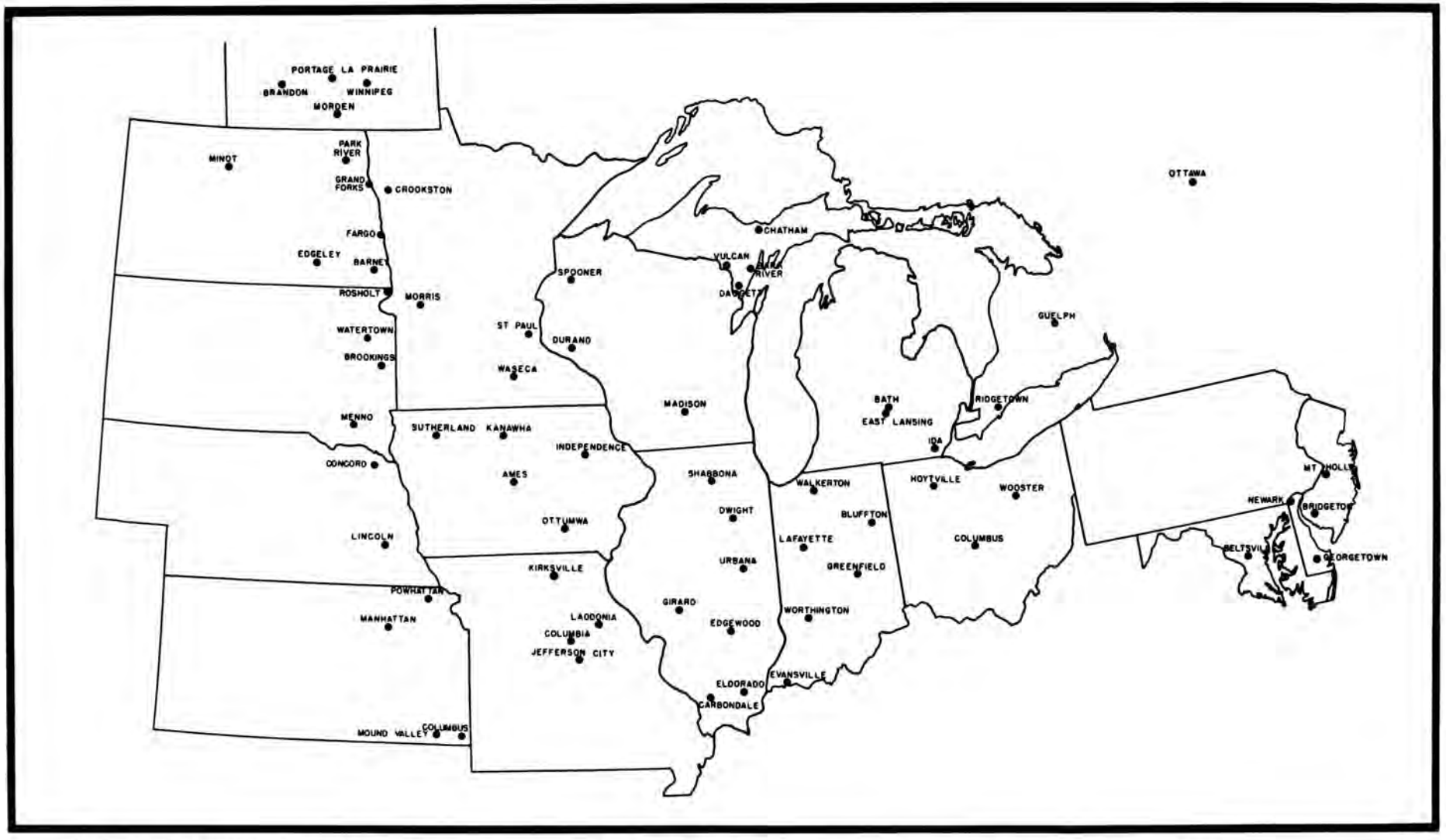
Calculating Summary Means. In cases where the lodging and seed quality notes are all 1 at a location, indicating no expression of strain differences, these locations are not included in the mean for these traits. Where the C. V. of yield is greater than 20% at a location, this location is not included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

Disease reactions are listed according to the Soybean Disease Classification Standards, March, 1955, unless otherwise specified. The disease reaction is listed 1-5, followed by a capital letter to identify the state where the test was made (L = Illinois, C = Indiana, etc.); small letter "a" or "n" after the code letter signifies artificial or natural infection. When the reaction is given by letter instead of numbers, R signifies resistant, S stands for susceptible, and I for intermediate. Seg. indicates that a strain is segregating for disease reaction.

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

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



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

UNIFORM TEST, GROUP 00, 1958

Strain	Source or Originating Agency	Origin
Acme	Central Exp. Farm, Ottawa	Sel. from Pagoda
Crest	Central Exp. Farm, Ottawa	Sel. from ND8-291 x Mandarin
Flambeau	Wis. Agr. Exp. Station	Sel. from Introduction from Russia
Manitoba 55-2	Univ. of Manitoba, Winnipeg, Man.	Sel. from Pagoda 2 x 201-14-18
Manitoba 56-1	Univ. of Manitoba, Winnipeg, Man.	Sel. from Pagoda 2 x 201-14-18

Identification of Parent Strains

ND8-291	Sel. from Manitoba Brown x Mandarin
201-14-18	Sel. made by Sven A. Holmberg, Norrkoping, Sweden

This test was initiated in 1958 in response to the need for regional testing of strains earlier than Group 0 in the newly developing northern areas of soybean production. Widespread interest in this test is indicated by the fact that in its first year it was grown at 17 locations in eight states and provinces. These data are presented in Tables 1 to 5. While yield levels were quite low at many locations, high enough yields for economic return were obtained at several locations in the area of this test.

The latest strain, Flambeau, was the highest in average yield but was poor in lodging resistance and oil content. The remaining four strains yielded about the same. The earliest strain, Acme, performed very well and was second in over-all yield rank. The two Manitoba selections were similar to Acme in over-all performance.

Table 1. Summary of agronomic and chemical data for the strains in the Uniform Test, Group 00, 1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	12	7	6	11	10	11	11	11
Flambeau	24.3	+8.3	3.1	27	2.4	14.7	42.0	17.2
Acme	20.9	0	2.1	24	2.0	15.9	40.7	18.4
Manitoba 55-2	20.7	+2.0	2.3	27	2.1	16.4	39.7	18.6
Manitoba 56-1	20.2	+0.9	2.2	21	2.1	16.6	38.5	18.6
Crest	19.9	+4.6	2.1	26	2.2	18.3	41.8	18.2
Mean	21.2	+3.2	2.4	25	2.2	16.4	40.5	18.2

[1]Days earlier (-) or later (+) than Acme. Acme required 116 days to mature.

Table 2. Summary of disease reaction data for the strains in the Uniform Test, Group 00, 1958.

Strain	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker	Phytophthora Rot	Cyst Nematode
Flambeau	3La,3Aa	3La,4Aa	3Ca	4Ln	SCa		SCa	4Nn
Acme	4La,4Aa	4La,4Aa	4Ca	3Ln	SCa		Seg.Ca	4Nn
Manitoba 55-2	4La,4Aa	3Aa	4Ca	3Ln	RCa		Seg.Ca	
Manitoba 56-1	4La,4Aa	4Aa	3Ca	3Ln	RCa		RCa	
Crest	4La,4Aa	3La,4Aa	4Ca	3Ln	RCa		RCa	
Lincoln (Check)	5La,5Aa	4La,4Aa						

Table 3. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group 00, 1958.

Strain	Mean of 12 Tests[1]	Ottawa Ont.	Portage la Prairie Man.	Winnipeg Man.	Brandon Man.	Morden Man.	Chatham Mich.	Vulcan Mich.	Bark River Mich.
Flambeau	24.3	38.7	21.4	26.1	12.3	18.2	8.7	12.6	8.3
Acme	20.9	29.6	22.9	27.0	13.9	16.2	9.7	11.8	7.7
Manitoba 55-2	20.7	30.9	20.2	25.5	11.6	17.8	8.3	13.4	6.9
Manitoba 56-1	20.2	30.7	22.3	26.0	14.6	19.3	6.9	13.1	6.1
Crest	19.9	30.6	18.8	24.0	13.9	13.4	8.6	11.3	7.3
Mean	21.2	32.1	21.1	25.7	13.3	17.0	8.4	12.4	7.3
Coef. of Var. (%)		7.6	7.3	6.5	--	7.5	19.2	18.3	20.2
Bu. Nec. for Sig. (5%)		3.3	2.3	--	N.S.	1.8	N.S.	N.S.	N.S.
Row Spacing (In.)		30	30	24	36	36	36	36	36
		Yield Rank							
Flambeau		1	3	2	4	2	2	3	1
Acme		5	1	1	2	4	1	4	2
Manitoba 55-2		2	4	4	5	3	4	1	4
Manitoba 56-1		3	2	3	1	1	5	2	5
Crest		4	5	5	2	5	3	5	3

[1]Chatham, Bark River, and Daggett, Michigan, Bonners Ferry, Idaho, and Ontario, Oregon not included in the mean.

Table 3. (Continued)

Strain	Dag-gett Mich.	Spoon-er Wis.	Crooks-ton Minn.	St. Paul Minn.	Park River N.D.	Minot N.D.	Lari-more N.D.	Bonners Ferry Idaho	On-tario Ore.
Flambeau	11.4	24.7	36.2	40.1	24.7	19.5	17.0	7.5	35.2
Acme	10.2	15.4	31.0	30.6	22.0	15.5	15.0	6.1	42.2
Manitoba 55-2	11.0	17.9	32.2	28.6	19.7	16.1	14.6	8.7	31.6
Manitoba 56-1	11.9	15.1	28.0	25.5	18.4	15.4	14.2	9.9	29.8
Crest	10.0	17.0	33.1	28.3	20.7	14.2	13.8	6.9	51.7
Mean	10.9	18.0	32.1	30.6	21.1	16.1	14.9	7.8	38.1
Coef. of Var. (%)	21.7	--	--	--	7.8	6.8	7.1	--	--
Bu. Nec. for Sig. (5%)	N.S.	--	--	--	2.5	1.7	1.6	--	--
Row Spacing (In.)	38	36	24	40	36	24	40	28	36
	Yield Rank								
Flambeau	2	1	1	1	1	1	1	3	3
Acme	4	4	4	2	2	3	2	5	2
Manitoba 55-2	3	2	3	3	4	2	3	2	4
Manitoba 56-1	1	5	5	5	5	4	4	1	5
Crest	5	3	2	4	3	5	5	4	1

Table 4. Summary of maturity data, days earlier (-) or later (+) than Acme, and lodging for the strains in the Uniform Test, Group 00, 1958.

Strain	Mean of 7 Tests[1]	Ottawa Ont.	Portage la Prairie Man.	Winnipeg Man.	Brandon Man.	Morden Man.	Chatham Mich.	Vulcan Mich.	Bark River Mich.
Flambeau	+8.3		--	+15	+6	+8		+5	+8
Acme	0		0	0	0	0		0	0
Manitoba 55-2	+2.0		0	+ 4	+6	-1		+4	+3
Manitoba 56-1	+0.9		+5	+ 2	+7	+1		+4	+2
Crest	+4.6		--	+ 6	+7	+9		+5	+5
Date planted	5-22	5-15	5-20	5-23	--	5-30	5-23	5-22	5-21
Acme matured	9-15	--	9-19	9-22	--	9-26	10-1	9-19	9-24
Days to mature	116	--	122	122	--	119	131	120	126
	Mean of 6 Tests[2]	Lodging							
Flambeau	3.1	5.0		2.2	1.0	2.0	1.0	1.0	1.0
Acme	2.1	4.0		1.5	1.0	1.3	1.0	1.0	1.0
Manitoba 55-2	2.3	3.0		1.8	1.0	1.0	1.0	1.0	1.0
Manitoba 56-1	2.2	3.0		2.2	1.0	2.0	1.0	1.0	1.0
Crest	2.1	4.0		1.5	1.0	1.0	1.0	1.0	1.0
Mean	2.4	3.8		1.8	1.0	1.5	1.0	1.0	1.0

[1]Portage la Prairie, Brandon, and Morden, Manitoba, Bark River and Daggett, Michigan, and Ontario, Oregon not included in the mean.

[2]Brandon, Manitoba, Chatham, Vulcan, Bark River, and Daggett, Michigan, Park River, Minot, and Larimore, North Dakota, and Bonners Ferry, Idaho not included in the mean.

Table 4. (Continued)

Strain	Dag-gett Mich.	Spoon-er Wis.	Crooks-ton Minn.	St. Paul Minn.	Park River N.D.	Minot N.D.	Lari-more N.D.	Bonners Ferry Idaho	On-tario Ore.
Flambeau	+5	+8	+3	+6	+11	+10			+12
Acme	0	0	0	0	0	0			0
Manitoba 55-2	+2	+2	-1	+2	0	+ 3			+ 4
Manitoba 56-1	+4	-3	-1	+4	+ 2	- 2			+15
Crest	+4	+2	+1	+2	+ 8	+ 8			+10
Date planted	5-23	5-25	5-25	5-23	5-19	5-20	5-23	4-30	5-23
Acme matured	9-20	9-8	9-22	9-11	9-12	9-12	--	--	8-29
Days to mature	120	106	120	111	116	115	--	--	98
	Lodging								
Flambeau	1.0	2.3	2.5	4.5	1.0	1.0	1.0	4.0	
Acme	1.0	1.0	1.0	3.7	1.0	1.0	1.0	2.0	
Manitoba 55-2	1.0	3.0	1.0	4.2	1.0	1.0	1.0	1.0	
Manitoba 56-1	1.0	1.5	1.0	3.7	1.0	1.0	1.0	1.0	
Crest	1.0	1.5	1.0	3.7	1.0	1.0	1.0	2.0	
Mean	1.0	1.9	1.3	4.0	1.0	1.0	1.0	2.0	

Table 5. Summary of height data and percentage of oil for the strains in the Uniform Test, Group 00, 1958.

Strain	Mean of 11 Tests[1]	Ottawa Ont.	Portage la Prairie Man.	Winnipeg Man.	Brandon Man.	Morden Man.	Chatham Mich.	Vulcan Mich.	Bark River Mich.
Flambeau	27		28	35	22	23	20	22	22
Acme	24		24	33	19	18	19	19	18
Manitoba 55-2	27		25	35	22	24	19	22	20
Manitoba 56-1	21		18	32	22	19	16	19	16
Crest	26		25	35	25	24	17	18	20
Mean	25		24	34	22	22	18	20	19
	Mean of 11 Tests[2]			Percentage of Oil					
Flambeau	17.2	18.0	14.8	16.4	20.1	14.5		17.5	17.9
Acme	18.4	18.2	17.7	17.9	18.2	16.2		19.7	20.2
Manitoba 55-2	18.6	18.6	17.4	18.9	18.1	17.0		19.6	20.5
Manitoba 56-1	18.6	19.3	18.0	18.3	17.3	16.9		19.1	20.8
Crest	18.2	18.7	16.7	18.3	17.9	15.9		19.1	20.9
Mean	18.2	18.6	16.9	18.0	18.3	16.1		19.0	20.1

[1]Chatham, Bark River, and Daggett, Michigan not included in the mean.
[2]Bark River and Daggett, Michigan, Bonners Ferry, Idaho, and Ontario, Oregon not included in the mean.

Table 5. (Continued)

Strain	Dag-gett Mich.	Spoon-er Wis.	Crooks-ton Minn.	St. Paul Minn.	Park River N.D.	Minot N.D.	Lari-more N.D.	Bonners Ferry Idaho	On-tario Ore.
Flambeau	18	24	29	40	31	22	26		
Acme	19	18	28	36	28	20	21		
Manitoba 55-2	18	24	29	41	29	24	25		
Manitoba 56-1	16	16	25	28	22	16	19		
Crest	20	22	28	36	30	22	24		
Mean	18	21	28	36	28	21	23		
	Percentage of Oil								
Flambeau	17.2		16.3	20.1	18.2	17.0	16.7	14.7	22.2
Acme	19.7		18.3	19.9	19.3	18.8	18.6	15.9	22.3
Manitoba 55-2	19.6		17.8	19.8	19.6	18.9	18.4	15.3	21.5
Manitoba 56-1	19.3		18.5	20.5	19.3	19.5	18.2	16.0	20.9
Crest	19.0		17.7	19.9	18.9	18.6	18.4	15.5	18.8
Mean	19.0		17.7	20.0	19.1	18.6	18.1	15.5	21.1

UNIFORM TEST, GROUP 0, 1958

Strain	Source or Originating Agency	Origin
Capital	Central Exp. Farm, Ottawa	Sel. from Strain 171 x A.K.(Harrow)
Flambeau	Wis. Agr. Exp. Station	Sel. from Introduction from Russia
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
0-55-2065	Central Exp. Farm, Ottawa	Sel. from Blackhawk x Capital

This test was grown at 18 locations in 1958, and the data are presented in Tables 6 through 12. Yields at most locations in Wisconsin, Minnesota, and the Dakotas were below average due to drouth, while yields were above average farther east.

Four of the check varieties, Capital, Grant, Mandarin (Ottawa), and Norchief, have been in this test for at least nine years, and the 9-year summary of these data is given in Tables 11 and 12. Flambeau was dropped from Uniform Tests in 1957 but was reinstated in the Group 0 Test as a tie-in variety with the newly established Group 00 Test.

Two strains, M316 and 0-55-2065, were entered in this test from the 1957 Preliminary Test, Group 0. 0-55-2065, while it did not yield as well as Grant, was 2.6 days earlier, much better in lodging resistance, and higher in oil content. M316 was also high in oil content but was otherwise no better than Mandarin (Ottawa) in average performance.

Table 5. Summary of agronomic and chemical data for the strains in the Uniform Test, Group C, 1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	13	7	10	12	13	13	13	13
Grant	32.7	0	2.9	30	2.1	15.8	40.1	19.0
O-55-2065	29.7	-2.6	1.8	30	1.9	13.4	39.6	19.6
Mandarin (Ottawa)	29.7	0	2.0	27	1.9	18.6	42.0	18.5
M316	29.4	-0.7	2.2	31	2.2	13.8	39.9	19.6
Capital	29.2	+0.9	2.7	30	2.3	12.2	40.1	18.8
Norchief	28.6	-4.1	2.3	28	2.4	15.7	40.8	19.1
Flambeau	27.3	-8.7	2.8	28	2.2	15.8	41.8	18.3
Mean	29.5	-2.2	2.4	29	2.1	15.0	40.6	19.0

[1]Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 120 days to mature.

Table 7. Summary of disease reaction data for the strains in the Uniform Test, Group O, 1958.

Strain	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker[1]	Phytophthora Rot	Cyst Nematode
Grant	4La,5Aa	4La,5Aa	4Ca	4Ln	SCa	4Cn	SCa,5Hn	4Nn
O-55-2065	4La,4Aa	5La,4Aa	4Ca	4Ln	RCa		RCa,3Hn	
Mandarin (Ottawa)	4La,5Aa	2La,5Aa	4Ca	5Ln	SCa		SCa,3Hn	4Nn
M316	4La,4Aa	4La,4Aa	3Ca	4Ln	RCa		SCa,3Hn	
Capital	4La,5Aa	4La,5Aa	2Ca	4Ln	RCa	5An	SCa,5Hn	4Nn
Norchief	4La,4Aa	3La,5Aa	3Ca	5Ln	SCa	26Cn	SCa,5Hn	4Nn
Flambeau	3La	3La,4Aa	3Ca	3Ln	SCa	5An	SCa	4Nn
Lincoln (Check)	5La,5Aa	4La,4Aa						

[1]Stem canker readings from Indiana (C) are percentages of diseased plants based on the number of infected Hawkeye as 100%. Readings from Iowa (A) follow the regular 1-5 ratings of the Soybean Disease Classification Standards, 1955 (RSLM 179).

Table 8. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group 0, 1958.

Strain	Mean of 13 Tests[1]	Ottawa Ont.	Guelph Ont.	Ridgetown Ont.	Bath Mich.	East Lansing Mich.	Ida Mich.	Lafayette Ind.	Worthington Ind.
Grant	32.7	39.4	46.7	41.0	14.9	42.0	40.8	23.7	25.3
0-55-2065	29.7	40.4	43.6	30.4	15.3	35.3	38.8	18.2	23.1
Mandarin (Ottawa)	29.7	36.9	36.8	36.4	17.5	37.2	46.3	24.8	29.3
M316	29.4	37.3	46.5	31.9	12.1	33.5	37.5	23.0	25.7
Capital	29.2	38.9	39.7	29.9	15.0	35.2	35.4	22.9	23.6
Norchief	28.6	36.1	40.2	34.7	17.0	32.8	33.5	19.5	22.3
Flambeau	27.3	36.3	41.6	31.4	15.5	33.6	31.2	21.8	22.9
Mean	29.5	37.9	42.2	33.7	15.3	35.7	37.6	22.0	24.6
Coef. of Var. (%)		13.3	4.7	6.5	31.6	14.1	10.7	9.4	7.2
Bu. Nec. for Sig. (5%)		N.S.	--	4.6	8.6	8.4	6.9	3.1	2.7
Row Spacing (In.)		30	27	24	32	36	28	40	38

	Yield Rank							
Grant	2	1	1	6	1	2	2	3
0-55-2065	1	3	6	4	3	3	7	5
Mandarin (Ottawa)	5	7	2	1	2	1	1	1
M316	4	2	4	7	6	4	3	2
Capital	3	6	7	5	4	5	4	4
Norchief	7	5	3	2	7	6	6	7
Flambeau	6	4	5	3	5	7	5	6

[1]Bath, Michigan, Lafayette and Worthington, Indiana, Rosholt, South Dakota, and Ontario, Oregon not included in the mean.

Table 8. (Continued)

Strain	Spooner Wis.	Durand Wis.	Crookston Minn.	Morris Minn.	St. Paul Minn.	Fargo N.D.	La Moure N.D.	Dwight N.D.	Rosholt S.D.	Ontario Ore.
Grant	29.7	17.4	40.2	26.3	39.6	28.4	14.7	18.5	11.9	55.0
0-55-2065	25.5	14.4	37.6	24.4	34.3	26.6	14.4	20.8	10.5	58.0
Mandarin (Ottawa)	24.8	17.3	36.2	25.9	31.3	25.1	13.2	18.2	8.0	54.3
M316	23.7	13.7	33.8	25.9	37.6	27.4	14.6	19.2	11.4	63.2
Capital	23.3	12.6	39.4	26.6	36.0	29.5	13.8	19.7	11.2	57.4
Norchief	26.7	16.1	36.9	23.3	34.4	23.9	14.2	18.4	9.2	45.8
Flambeau	23.2	16.4	35.1	23.7	31.9	24.7	10.1	15.7	7.9	47.5
Mean	25.3	15.4	37.0	25.2	35.0	26.5	13.6	18.6	10.0	54.5
Coef. of Var. (%)	--	6.6	--	--	--	4.9	10.0	9.4	--	--
Bu. Nec. for Sig. (5%)	--	1.5	--	--	--	1.9	2.4	N.S.	--	--
Row Spacing (In.)	36	36	24	40	40	40	40	40	42	36
	Yield Rank									
Grant	1	1	1	2	1	2	1	4	1	4
0-55-2065	3	5	3	5	5	4	3	1	4	2
Mandarin (Ottawa)	4	2	5	3	7	5	6	6	6	5
M316	5	6	7	3	2	3	2	3	2	1
Capital	6	7	2	1	3	1	5	2	3	3
Norchief	2	4	4	7	4	7	4	5	5	7
Flambeau	7	3	6	6	6	6	7	7	7	6

Table 9. Summary of maturity data, days earlier (-) or later (+) than Mandarin (Ottawa), and lodging for the strains in the Uniform Test, Group 0, 1958.

Strain	Mean of 7 Tests[1]	Ottawa Ont.	Guelph Ont.	Ridgetown Ont.	Bath Mich.	East Lansing Mich.	Ida Mich.	Lafayette Ind.	Worthington Ind.
Grant	0		Frost.	- 4		0		-3	-4
0-55-2065	-2.6		-6	- 9		C		-5	-4
Mandarin (Ottawa)	0		0	0		0		0	0
M316	-0.7		-2	- 6		0		-3	-4
Capital	+0.9		Frost.	- 3		+8		-3	-4
Norchief	-4.1		-6	- 6		-1		-6	-6
Flambeau	-8.7		-5	-12		-9		-8	-7
Date planted	5-24	5-15	5-21	5-26	5-22	5-15	5-27	7-1	7-2
Mand. (Ott.) matured	9-21	--	10-8	9-18	--	9-13	--	10-1	9-27
Days to mature	120	--	140	115	Frost.	121	--	92	87
	Mean of 10 Tests[2]	Lodging							
Grant	2.9	5.0	3.5	2.0	5.0	2.0	3.0	1.5	1.0
0-55-2065	1.8	2.5	2.0	1.0	3.0	1.0	2.0	1.0	1.0
Mandarin (Ottawa)	2.0	1.0	3.0	1.0	3.0	1.0	3.0	1.0	1.0
M316	2.2	2.8	2.5	1.0	4.0	1.0	3.0	2.3	1.0
Capital	2.7	3.0	3.5	2.0	4.0	2.0	3.0	2.0	1.0
Norchief	2.3	2.5	2.5	1.0	4.0	1.0	4.0	1.3	1.0
Flambeau	2.8	4.5	3.0	2.0	3.0	2.0	4.0	1.0	1.0
Mean	2.4	3.0	2.9	1.4	3.7	1.4	3.1	1.4	1.0

[1]Guelph, Ontario, Lafayette and Worthington, Indiana, La Moure, North Dakota, and Ontario, Oregon not included in the mean.

[2]Guelph, Ontario, Lafayette and Worthington, Indiana, La Moure and Dwight, North Dakota, and Rosholt, South Dakota not included in the mean.

Table 9. (Continued)

Strain	Spooner Wis.	Durand Wis.	Crookston Minn.	Morris Minn.	St. Paul Minn.	Fargo N.D.	La Moure N.D.	Dwight N.D.	Rosholt S.D.	Ontario Ore.
Grant	+5	0		0	-3	+2	+1			-15
0-55-2065	0	- 4		0	-5	0	--			-13
Mandarin (Ottawa)	0	0		0	0	0	0			0
M316	+2	- 2		0	-2	+3	--			-13
Capital	-2	0		-1	+1	+3	+1			-13
Norchief	-5	- 5		-5	-2	-5	-2			-14
Flambeau	-9	-10		-6	-8	-7	-8			-14
Date planted	5-23	5-19	5-25	5-25	5-23	5-22	6-6	5-24	5-20	5-23
Mand. (Ott.) matured	9-25	9-15	--	9-22	9-25	9-27	9-29	--	--	10-3
Days to mature	125	119	--	120	125	128	115	--	--	133
					Lodging					
Grant	2.0	2.1	2.7		3.5	1.2	1.0	1.0	1.0	
0-55-2065	1.0	1.4	2.0		3.5	1.0	1.0	1.0	1.0	
Mandarin (Ottawa)	2.0	1.5	2.0		4.0	1.0	1.0	1.0	1.0	
M316	1.0	1.8	2.7		3.5	1.2	1.0	1.0	1.0	
Capital	2.0	2.3	3.2		3.2	2.2	1.0	1.0	1.0	
Norchief	2.0	1.5	2.7		3.5	1.0	1.0	1.0	1.0	
Flambeau	2.0	2.0	3.5		4.0	1.2	1.0	1.0	1.0	
Mean	1.7	1.8	2.7		3.6	1.3	1.0	1.0	1.0	

Table 10. Summary of height data and percentage of oil for the strains in the Uniform Test, Group 0, 1958.

Strain	Mean of 12 Tests[1]	Ottawa Ont.	Guelph Ont.	Ridgetown Ont.	Bath Mich.	East Lansing Mich.	Ida Mich.	Lafayette Ind.	Worthington Ind.
Grant	30		34	25	39	29	33	21	21
0-55-2065	30		35	25	39	29	37	20	22
Mandarin (Ottawa)	27		31	22	42	27	31	19	21
M316	31		37	25	42	30	39	20	25
Capital	30		35	23	42	30	37	19	23
Norchief	28		32	22	40	28	32	18	20
Flambeau	28		35	21	43	25	35	17	22
Mean	29		34	23	41	28	35	19	22
	Mean of 13 Tests[2]	Percentage of Oil							
Grant	19.0	17.9	19.0	18.5	18.4	20.0	19.4	20.0	20.4
0-55-2065	19.6	19.3	18.9	19.7	18.8	20.7	20.8	21.0	21.6
Mandarin (Ottawa)	18.5	18.0	17.4	18.3	17.8	19.2	18.2	19.5	19.6
M316	19.6	19.0	18.8	19.4	19.1	20.9	20.1	21.4	21.9
Capital	18.8	18.6	18.2	17.3	18.2	20.0	19.7	20.1	20.3
Norchief	19.1	17.9	18.0	19.7	18.5	19.8	19.1	20.5	20.5
Flambeau	18.3	17.7	17.0	18.0	17.6	18.6	18.2	19.0	19.1
Mean	19.0	18.3	18.2	18.7	18.4	19.9	19.4	20.2	20.5

[1]Bath, Michigan, Lafayette and Worthington, Indiana, and Rosholt, South Dakota not included in the mean.

[2]Bath, Michigan, Lafayette and Worthington, Indiana, Rosholt, South Dakota, and Ontario, Oregon not included in the mean.

Table 10. (Continued)

Strain	Spooner Wis.	Durand Wis.	Crookston Minn.	Morris Minn.	St. Paul Minn.	Fargo N.D.	La Moure N.D.	Dwight N.D.	Rosholt S.D.	Ontario Ore.
Grant	26	30	33	31	38	28	21	28	18	
0-55-2065	30	27	35	29	36	27	23	31	20	
Mandarin (Ottawa)	24	27	33	27	33	25	20	27	19	
M316	28	30	35	32	38	28	24	31	21	
Capital	25	28	33	30	37	28	23	31	19	
Norchief	24	26	32	27	35	24	23	28	18	
Flambeau	25	25	32	29	37	26	22	29	20	
Mean	26	28	33	29	36	27	22	29	19	
	Percentage of Oil									
Grant	17.9	17.5	17.7	20.1	20.1	19.2	19.3	20.5	20.2	21.1
0-55-2065	18.8	17.2	17.1	21.4	20.8	19.9	20.7	19.8	20.7	23.0
Mandarin (Ottawa)	18.0	17.1	17.8	19.8	18.6	19.7	20.7	18.1	18.7	20.9
M316	18.9	16.6	17.6	21.0	20.5	20.6	21.0	20.3	20.5	22.8
Capital	18.1	17.3	17.3	19.5	19.1	19.8	19.9	19.2	20.6	21.7
Norchief	18.7	18.0	17.3	20.1	19.8	20.3	19.7	20.2	19.2	18.8
Flambeau	17.4	17.0	16.2	20.3	19.4	19.4	18.4	19.9	18.7	19.4
Mean	18.3	17.2	17.3	20.3	19.8	19.8	20.0	19.7	19.8	21.1

Table 11. Nine-year summary of agronomic and chemical data for the strains in the Uniform Test, Group 0, 1950-1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	106	74	79	103	101	106	110	110
Grant	32.7	0	2.3	31	1.9	16.0	40.2	19.9
Capital	30.4	+1.1	2.7	32	2.1	13.3	40.6	19.8
Mandarin (Ottawa)	30.3	0	1.7	29	1.8	19.1	42.0	19.4
Norchief	28.8	-4.1	1.9	29	2.1	16.5	40.9	20.0
Mean	30.6		2.2	30	2.0	16.2	40.9	19.8

[1]Days earlier (-) or later (+) than Mandarin (Ottawa). Mandarin (Ottawa) required 117 days to mature.

Table 12. Nine-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group 0, 1950-1958.

Strain	Mean of 106 Tests	Ottawa Ontario	Guelph Ontario	East Lansing Mich.	Ida Mich.	Spooner Wis.
Years Tested		1950-1958	1950-1958	1951-54 1957-58	1950-54 1956-58	1950-1958
Grant	32.7	37.8	36.4	33.4	37.6	33.4
Capital	30.4	36.7	32.9	31.1	34.2	27.9
Mandarin (Ottawa)	30.3	32.7	31.6	34.0	39.4	30.5
Norchief	28.8	33.4	31.2	32.8	32.0	30.3
Mean	30.6	35.2	33.0	32.8	35.8	30.5
		Yield Rank				
Grant		1	1	2	2	1
Capital		2	2	4	3	4
Mandarin (Ottawa)		4	3	1	1	2
Norchief		3	4	3	4	3

Table 12. (Continued)

Strain	Durand Wis.	Crookston Minn.	Morris Minn.	St. Paul Minn.	Fargo N.D.	Rosholt S.D.
Years Tested	1950-1958	1955, 1957-58	1950-1958	1950, 1952-58	1950-1958	1950-52, 1954, 1956-58
Grant	25.6	33.6	32.7	40.9	27.2	19.9
Capital	23.6	33.1	32.8	40.3	25.1	18.0
Mandarin (Ottawa)	25.0	32.3	30.1	35.7	24.6	17.2
Norchief	24.0	32.4	29.7	34.2	26.9	16.2
Mean	24.6	32.9	31.3	37.8	26.0	17.8
	Yield Rank					
Grant	1	1	2	1	1	1
Capital	4	2	1	2	3	2
Mandarin (Ottawa)	2	4	3	3	4	3
Norchief	3	3	4	4	2	4

UNIFORM TEST, GROUP I, 1958

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
A6K-1428-C4	Purdue A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
M304	Minn. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Flambeau
M319	Minn. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Hawkeye
M328	Minn. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Hawkeye
M336	Minn. A.E.S. & U.S.R.S.L.	Sel. from Blackhawk x (Lincoln x (Lincoln x Richland))
W9-1982-32	Wis. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Manchu

This test was grown at 17 locations in 1958, and the data are presented in Tables 13 through 19. The general yield level in 1958 was very close to the long-time average. Yields were average or above at most locations but were depressed by drouth at Durand and Madison, Wisconsin, Kanawha, Iowa, and Brookings, South Dakota.

The test consists of three check varieties and six experimental strains. The check varieties, Blackhawk, Chippewa, and Mandarin (Ottawa), have been in the test for ten years or more, and the 10-year means are presented in Tables 18 and 19.

W9-1982-32 was in this test in 1957 also and in the Preliminary Test, Group I, in 1956. It is an early-maturing selection from the strain W9-1982, which was in Uniform Test, Group I, in 1952 and Group II in 1953. It has topped this test in yield in both 1957 and 1958, and has been similar to Blackhawk in maturity although it was somewhat earlier this year.

M319 was entered from the 1957 Preliminary Test, Group I. It outyielded Chippewa by an average of almost one bushel but was almost 3 days later.

The strain A6K-1428-C4 is a reselection from A6K-1428, which was in the Preliminary Test, Group I, in 1948 and 1949. It outyielded the check varieties by a small margin and had a high oil content but was unusually poor in seed quality.

The remaining three strains, M304, M328, and M336, were in regional tests for the first time in 1958. None of them outyielded Chippewa or Blackhawk, but all had excellent lodging scores and M328 had the highest oil content in the test.

Table 13. Summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	17	16	15	17	15	17	17	17
W9-1982-32	31.8	+4.3	1.8	35	1.7	17.8	41.4	20.3
M319	31.4	+2.8	1.5	30	1.6	16.8	41.3	20.7
A6K-1428-C4	31.1	+5.5	2.1	32	2.3	17.5	41.5	20.9
Chippewa	30.6	0	1.5	31	1.6	14.8	42.4	20.1
Blackhawk	29.5	+7.5	1.7	32	1.7	16.3	41.6	20.0
M328	29.0	+3.5	1.3	28	1.8	17.7	40.8	21.2
M304	28.5	+0.3	1.5	25	1.9	16.6	41.6	20.2
M336	28.1	+2.2	1.4	32	1.6	15.4	41.5	20.3
Mandarin (Ottawa)	27.9	-1.6	1.5	27	1.8	19.4	43.4	19.4
Mean	29.8	+2.7	1.6	30	1.8	16.9	41.7	20.4

[1]Days earlier (-) or later (+) than Chippewa. Chippewa required 117 days to mature.

Table 14. Summary of disease reaction data for the strains in the Uniform Test, Group I, 1958.

Strain	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker[1]	Phytophthora Rot	Cyst Nematode
W9-1982-32	4La,4Aa	4La,5Aa	5Ca	5Ln	SCa		SCa,5Hn	
M319	4La,4Aa	4La,4Aa	3Ca	4Ln	RCa		SCa,3Hn	
A6K-1428-C4	4La,4Aa	4La,4Aa	2Ca	4Ln	RCa		SCa	
Chippewa	4La,5Aa	4La,5Aa	5Ca	5Ln	SCa		SCa,3Hn	4Nn
Blackhawk	4La,5Aa	4La,5An	3Ca	5Ln	SCa	44Cn,3An	RCa,2Hn	4Nn
M328	4La,4Aa	4La,4Aa	4Ca	4Ln	RCa		SCa	
M304	3La,3Aa	3La,4Aa	3Ca	4Ln	SCa		SCa	
M336	4La,4Aa	4La,4Aa	4Ca	5Ln	SCa		SCa	
Mandarin (Ottawa)	4La,5Aa	4La,5Aa	4Ca	5Ln	SCa		SCa,3Hn	4Nn
Lincoln (Check)	4La,4Aa	4La,4Aa						

[1]Stem canker readings from Indiana (C) are percentages of diseased plants based on the number of infected Hawkeye as 100%. Readings from Iowa (A) follow the regular 1-5 ratings of the Soybean Disease Classification Standards, 1955 (RSLM 179).

Table 15. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group I, 1958.

Strain	Mean of 17 Tests	Ridge-town Ont.	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	East Lansing Mich.	Ida Mich.	Walk-erton Ind.	Lafay-ette Ind.
W9-1982-32	31.8	39.4	33.4	45.5	43.8	34.7	41.2	30.6	29.5
M319	31.4	36.0	35.1	40.4	43.5	40.0	40.6	30.6	25.3
A6K-1428-C4	31.1	39.2	30.2	39.2	40.9	33.8	39.8	32.4	28.9
Chippewa	30.6	37.1	31.4	41.1	38.4	39.0	41.9	25.6	28.5
Blackhawk	29.5	35.1	34.4	39.8	41.5	32.9	35.4	28.7	24.4
M328	29.0	38.0	26.6	41.7	39.6	32.3	40.8	30.1	24.6
M304	28.5	36.1	25.4	37.6	36.1	33.6	37.6	27.4	24.7
M336	28.1	32.2	32.4	34.3	39.3	33.6	37.8	27.7	24.9
Mandarin (Ottawa)	27.9	34.9	28.4	37.8	35.9	34.5	38.0	26.4	26.0
Mean	29.8	36.4	30.8	39.7	39.9	34.9	39.2	28.8	26.3
Coef. of Var. (%)		4.1	8.0	8.6	14.1	9.8	8.8	10.1	5.2
Bu. Nec. for Sig. (5%)		3.1	3.6	5.0	N.S.	5.7	5.8	4.2	2.0
Row Spacing (In.)		24	36	28	28	36	28	38	40

	Yield Rank							
W9-1982-32	1	3	1	1	3	2	2	1
M319	6	1	4	2	1	4	2	5
A6K-1428-C4	2	6	6	4	5	5	1	2
Chippewa	4	5	3	7	2	1	9	3
Blackhawk	7	2	5	3	8	9	5	9
M328	3	8	2	5	9	3	4	8
M304	5	9	8	8	6	8	7	7
M336	9	4	9	6	6	7	6	6
Mandarin (Ottawa)	8	7	7	9	4	6	8	4

Table 15. (Continued)

Strain	Worth-ington Ind.	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	32.1	15.7	21.9	42.3	35.1	35.9	21.5	25.6	13.1
M319	25.0	16.9	18.4	42.3	38.6	34.4	22.9	27.7	15.7
A6K-1428-C4	30.0	16.5	19.7	41.0	37.7	35.0	23.9	26.6	14.0
Chippewa	28.9	15.7	18.2	39.3	38.7	34.1	22.1	25.9	14.3
Blackhawk	27.0	15.4	23.5	35.3	32.8	32.0	22.8	24.8	15.0
M328	21.7	16.0	13.5	40.1	31.8	35.2	23.4	25.0	14.8
M304	21.4	17.7	16.0	34.5	36.8	32.0	23.9	27.0	16.3
M336	24.3	14.1	19.3	33.3	32.1	31.4	20.2	25.1	15.3
Mandarin (Ottawa)	28.0	17.4	16.7	32.3	30.7	30.3	18.4	24.9	14.2
Mean	26.5	16.2	18.6	37.8	34.9	33.4	22.1	25.8	14.8
Coef. of Var. (%)	5.0	7.0	11.1	5.5	--	--	5.7	4.0	--
Bu. Nec. for Sig. (5%)	1.9	1.6	3.0	3.1	--	--	1.8	1.5	--
Row Spacing (In.)	38	36	36	40	40	40	42	40	42
	Yield Rank								
W9-1982-32	1	6	2	1	5	1	7	5	9
M319	6	3	5	1	2	4	4	1	2
A6K-1428-C4	2	4	3	3	3	3	1	3	8
Chippewa	3	6	6	5	1	5	6	4	6
Blackhawk	5	8	1	6	6	6	5	9	4
M328	8	5	9	4	8	2	3	7	5
M304	9	1	8	7	4	6	1	2	1
M336	7	9	4	8	7	8	8	6	3
Mandarin (Ottawa)	4	2	7	9	9	9	9	8	7

Table 16. Summary of maturity data, days earlier (-) or later (+) than Chippewa, and lodging for the strains in the Uniform Test, Group I, 1958.

Strain	Mean of 15 Tests	Ridge-town Ont.	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	East Lansing Mich.	Ida Mich.	Walk-erton Ind.	Lafay-ette Ind.
W9-1982-32	+4.3	+2	+ 3	+4	+ 7	+2		+7	+2
M319	+2.8	+1	+ 1	+4	+ 4	+1		+5	+2
A6K-1428-C4	+5.5	+3	+10	+5	+ 7	+3		+7	+4
Chippewa	0	0	0	0	0	0		0	0
Blackhawk	+7.5	+5	+17	+6	+13	+3		+8	+3
M328	+3.5	+3	0	+5	+ 5	+2		+8	+2
M304	+0.3	0	0	-3	+ 1	+2		+1	-3
M336	+2.2	0	+ 2	+6	+ 5	+2		+6	+2
Mandarin (Ottawa)	-1.6	-1	0	-1	0	+1		-3	-2
Date planted	5-24	5-26	5-20	5-14	5-16	5-15	5-27	5-27	7-1
Chippewa matured	9-18	9-19	9-14	9-9	9-6	9-22	--	9-18	10-4
Days to mature	117	116	117	118	113	130	--	114	95
	Mean of 15 Tests[1]	Lodging							
W9-1982-32	1.8	2.0	2.0	1.7	1.0	1.0	3.0	2.3	1.0
M319	1.5	1.0	1.0	1.5	1.0	1.0	3.0	1.0	1.0
A6K-1428-C4	2.1	2.0	2.0	2.0	1.0	2.0	3.0	1.5	1.8
Chippewa	1.5	2.0	1.2	1.2	1.0	1.0	2.0	1.5	1.0
Blackhawk	1.7	2.0	1.2	1.2	1.2	2.0	3.0	1.0	1.0
M328	1.3	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0
M304	1.5	1.0	1.0	1.2	1.0	1.0	2.0	1.0	1.0
M336	1.4	1.0	1.0	1.2	1.0	1.0	2.0	1.5	1.5
Mandarin (Ottawa)	1.5	1.0	1.0	1.0	1.0	1.0	3.0	1.0	1.0
Mean	1.6	1.4	1.3	1.3	1.0	1.2	2.6	1.3	1.1

[1]Madison, Wisconsin and Brookings, South Dakota not included in the mean.

Table 16. (Continued)

Strain	Worth-ington Ind.	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	+3	+ 6	+3	+6	+4	+9	+4	+6	+1
M319	0	+ 2	+2	+4	+2	+6	+3	+4	+3
A6K-1428-C4	+5	+ 6	+7	+8	+5	+7	+6	+4	+1
Chippewa	0	0	0	0	0	0	0	0	0
Blackhawk	+3	+12	+6	+9	+8	+9	+6	+8	+4
M328	+3	+ 4	+2	+5	+2	+6	+4	+3	+2
M304	-1	+ 2	-1	-1	+2	+3	-1	+1	+2
M336	+2	- 1	+2	+2	+1	+3	+1	+3	-1
Mandarin (Ottawa)	0	- 1	-2	-5	-1	-4	-3	-5	+1
Date planted	7-2	5-19	5-15	5-16	5-23	5-20	5-20	5-15	5-15
Chippewa matured	9-25	9-15	9-12	9-12	9-30	9-22	9-18	9-9	9-22
Days to mature	85	119	120	119	130	125	121	117	130
	Lodging								
W9-1982-32	1.0	1.5	1.0	1.9	3.7	2.0	1.4	1.8	1.0
M319	1.0	1.1	1.0	1.6	4.2	1.7	1.2	1.1	1.0
A6K-1428-C4	2.0	1.9	1.0	2.5	4.7	2.0	1.4	1.2	1.0
Chippewa	1.3	1.1	1.0	1.9	3.0	2.1	1.2	1.2	1.0
Blackhawk	1.0	1.4	1.0	2.3	4.5	2.0	1.2	1.2	1.0
M328	1.0	1.1	1.0	1.3	3.0	1.5	1.1	1.0	1.0
M304	1.0	1.8	1.0	1.6	4.2	2.4	1.2	1.2	1.0
M336	1.0	1.0	1.0	1.7	3.2	1.6	1.2	1.1	1.0
Mandarin (Ottawa)	1.0	1.3	1.0	2.6	3.2	1.7	1.2	1.0	1.0
Mean	1.1	1.4	1.0	1.9	3.7	1.9	1.2	1.2	1.0

Table 17. Summary of height data and percentage of oil for the strains in the Uniform Test, Group I, 1958.

Strain	Mean of 17 Tests	Ridge-town Ont.	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	East Lansing Mich.	Ida Mich.	Walk-erton Ind.	Lafay-ette Ind.
W9-1982-32	35	32	38	32	37	37	45	40	21
M319	30	25	31	27	34	34	35	30	21
A6K-1428-C4	32	28	35	35	36	34	38	33	25
Chippewa	31	27	34	28	38	32	37	30	25
Blackhawk	32	29	34	30	35	34	38	32	24
M328	28	26	30	27	34	27	34	28	26
M304	25	21	25	25	28	28	30	25	18
M336	32	28	34	30	37	32	40	33	28
Mandarin (Ottawa)	27	22	29	25	34	30	34	25	20
Mean	30	26	32	29	35	32	37	31	23
	Mean of 17 Tests	Percentage of Oil							
W9-1982-32	20.3	18.5	21.6	21.0	20.8	20.3	20.5	21.1	20.1
M319	20.7	19.5	21.4	21.3	21.7	21.4	20.1	22.1	21.2
A6K-1428-C4	20.9	19.5	21.8	22.0	21.3	21.4	19.9	22.8	21.3
Chippewa	20.1	18.7	20.7	20.4	20.9	20.5	19.6	22.1	20.6
Blackhawk	20.0	19.0	20.5	21.0	20.8	20.2	18.8	21.4	19.9
M328	21.2	19.4	22.3	21.9	22.5	21.2	20.8	22.9	21.2
M304	20.2	18.6	21.4	21.0	21.2	20.2	19.2	21.8	20.7
M336	20.3	19.4	20.7	21.0	21.1	20.6	20.0	21.6	20.6
Mandarin (Ottawa)	19.4	17.9	20.2	20.4	20.7	19.4	18.0	21.4	19.8
Mean	20.4	18.9	21.2	21.1	21.2	20.6	19.7	21.9	20.6

Table 17. (Continued)

Strain	Worth-ington Ind.	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	27	36	28	39	44	45	32	39	31
M319	23	31	20	32	37	39	28	31	27
A6K-1428-C4	26	31	23	35	38	40	32	34	27
Chippewa	25	31	24	32	37	35	28	32	26
Blackhawk	23	32	23	35	37	38	31	35	31
M328	20	30	19	30	35	33	26	28	24
M304	18	29	17	26	33	33	24	26	24
M336	26	31	22	33	35	38	29	34	26
Mandarin (Ottawa)	21	27	19	27	35	29	24	27	24
Mean	23	31	22	32	37	37	28	32	27
	Percentage of Oil								
W9-1982-32	20.0	18.9	19.7	21.2	20.2	20.6	20.9	20.7	19.3
M319	21.0	18.8	20.3	22.0	20.0	20.9	20.2	20.8	19.9
A6K-1428-C4	21.2	19.3	20.4	22.1	20.0	20.8	21.1	20.1	20.6
Chippewa	20.0	17.7	18.6	21.5	19.8	20.7	20.3	20.0	19.6
Blackhawk	20.0	18.1	19.6	21.9	19.7	20.0	19.6	19.6	19.6
M328	21.7	19.2	20.5	22.3	20.4	21.3	20.8	21.7	20.6
M304	20.8	18.2	19.2	22.6	19.0	20.3	19.7	19.5	19.6
M336	20.3	17.8	19.4	21.9	20.0	20.9	20.0	20.0	19.7
Mandarin (Ottawa)	19.5	16.3	18.7	21.2	18.6	19.5	19.1	19.6	19.6
Mean	20.5	18.3	19.6	21.9	19.7	20.6	20.2	20.2	19.8

Table 18. Ten-year summary of agronomic and chemical data for the strains in the Uniform Test, Group I, 1949-1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	150	120	128	143	128	150	150	150
Chippewa	31.2	0	1.5	33	1.8	15.2	41.2	20.5
Blackhawk	30.3	+6.0	2.0	35	1.6	15.9	40.9	20.5
Mandarin (Ottawa)	27.5	-3.0	1.3	28	2.0	18.7	42.6	19.7
Mean	29.7		1.6	32	1.8	16.6	41.6	20.2

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

Table 19. Ten-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group I, 1949-1958.

Strain	Mean of 150 Tests	Ridgetown Ont.	Hoytville Ohio[1]	Wooster Ohio	Columbus Ohio	Ida Mich.[2]	Walkerton Ind.	Durand Wis.[3]
Years Tested		1955-1958	1949-50 1952-58	1951-1958	1949-1958	1950-54 1956-58	1949-1958	1949-1958
Chippewa	31.2	35.6	31.0	31.9	32.0	34.4	35.1	25.5
Blackhawk	30.3	33.9	32.2	31.3	31.3	34.0	34.7	24.0
Mandarin (Ottawa)	27.5	32.1	27.2	26.3	26.9	32.0	33.3	23.6
Mean	29.7	33.9	30.1	29.8	30.1	33.5	34.4	24.4
		Yield Rank						
Chippewa		1	2	1	1	1	1	1
Blackhawk		2	1	2	2	2	2	2
Mandarin (Ottawa)		3	3	3	3	3	3	3

[1]Holgate, 1949-1950.
[2]Deerfield, 1950-1953; Ottawa Lake, 1954 and 1956
[3]Eau Claire, 1949-1950; Fall City, 1951-1953.
[4]Compton, 1949-1950.

Table 19. (Continued)

Strain	Madison Wis.	Shabbona Ill.[4]	St. Paul Minn.	Waseca Minn.	Cresco Iowa	Kanawha Iowa	Brookings S.D.
Years Tested	1949-52 1954-58	1949-1958	1949-50 1952-56,1958	1949-1958	1949-1958	1949-1958	1949-50 1952,1954-58
Chippewa	33.7	34.4	40.2	36.5	24.2	32.6	20.7
Blackhawk	35.4	32.9	32.0	34.3	24.0	32.3	20.9
Mandarin (Ottawa)	28.8	28.8	34.1	30.8	19.4	27.0	19.6
Mean	32.6	32.0	35.4	33.9	22.5	30.6	20.4
	Yield Rank						
Chippewa	2	1	1	1	1	1	2
Blackhawk	1	2	3	2	2	2	1
Mandarin (Ottawa)	3	3	2	3	3	3	3

AREA OF ADAPTATION OF LINDARIN

UNIFORM TEST, GROUP II, 1958

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
Ford (A0-8618-2)	Iowa A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Harosoy	Harrow E.S., 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
Lindarin (C1117)	Purdue A.E.S. & U.S.R.S.L.	Sel. from Mandarin (Ottawa) x Lincoln
A2-4008	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Blackhawk
A4K-1406	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Capital
AX29-267-1-1-2	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Hawkeye
C1128	Purdue A.E.S. & U.S.R.S.L.	Sel. from Wabash x A4-107-12
C1160	Purdue A.E.S. & U.S.R.S.L.	Sel. from Perry x Mandarin (Ottawa)
H20771-9	Ohio A.E.S. & U.S.R.S.L.	Sel. from Monroe x Lincoln
H21793-7	Ohio A.E.S. & U.S.R.S.L.	Sel. from Richland x H2
L54-1055	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

This test was grown at 26 locations in 1958, and the data are presented in Tables 20 through 28. The general yield level of this test was very similar to the long-time average, yields being up or down moderately at most locations, but severe drouth dropped yields well below normal at Madison, Wisconsin and Menno, South Dakota. General strain means for all traits in 1958 were strikingly similar to those in 1957.

The five check varieties and C1128 have been in this test at least five years, and the 5-year means are presented in Tables 27 and 28. C1128 has performed very well, outyielding, at least to some extent, all the varieties except Ford, the tie-in variety from Group III. It also had the highest oil content and equalled Hawkeye in lodging resistance. Compared to Adams, which it closely resembles in maturity, it has a higher average yield, better lodging resistance, possibly higher oil content, and does not retain green stems at maturity as does Adams under certain conditions.

Ford was named in November and will be released to growers in 1959. A history of its development is presented in the report with the Uniform Test, Group III, summaries.

Lindarin was named this past summer and will be released to growers in 1959. It has been in the test since 1956 and the two-year means are presented in Tables 25 and 26. A history of its development is presented below.

Four additional strains have been in test for two years (and were also in Preliminary Test, Group I or II, in 1956). A2-4008 has performed similarly to Hawkeye and is slightly earlier but has had unusually poor seed quality. AX29-267-1-1-2 had a rather low average yield but is outstanding in oil content. The two H-strains are Phytophthora rot resistant but have been quite low in yield and also do not excel in oil content.

The remaining three strains were advanced to this test from the 1957 Preliminary Test, Group II. L54-1055 is resistant to Phytophthora rot and compares very favorably in yield to the resistant H-strains. It is poor in oil content and lodging resistance. C1160 yielded very well and is a day earlier than Hawkeye and equally good in lodging score. A4K-1406 is similar to Harosoy in maturity but was not superior to it in any respect.

LINDARIN

Lindarin is a pure line selection from the cross Mandarin (Ottawa) x Lincoln made in 1945 by A. H. Probst. Early generation selection and testing was at Purdue.

Lindarin has gray pubescence, purple flowers and yellow seeds with a buff hilum. The leaves have a marked waviness on the outer edges. The plants pod sparsely near the base, which helps to reduce combining loss.

Lindarin is about a day earlier than Harosoy and is adapted to the northern half of Indiana and Illinois.

The development of Lindarin is as follows:

1945 - Cross CX98, Mandarin (Ottawa) x Lincoln, was made by A. H. Probst at Purdue University, Lafayette, Indiana.

1946 - F_1. Grown at Lafayette, Indiana.

1947 - F_2. Grown at Lafayette, Indiana.

1948 - F_3. Selection CX98-334 grown in an 8-foot plant row at Lafayette, Indiana and plant selections -1, -2, -3, -4, and -5 saved from the plant row.

1949 - F_4. Selections CX98-334-1, -2, -3, -4, and -5 grown in 8-foot plant rows at Lafayette, Indiana and bulk selection CX98-334-3 saved.

1950 - F_5. Grown in HLT II-2 yield trial at Walkerton, Indiana. Test damaged by flood, no yield taken. Seed harvested for testing in 1951.

1951 - F_6. Grown in HLT IIA-2 yield trial at Walkerton, Indiana. F_6 plant selections made concurrently with testing.

1952 - F_7. Selections CX98-334-3-1, -2, -3, -4, and -5 grown in 8-foot plant rows on muck soil at Walkerton, Indiana. CX98-334-3-1 saved and assigned C1117 designation.

1953 - F_8. C1117 tested in Indiana Preliminary Test II at Walkerton, Bluffton, and Lafayette.

1954 - F_9. C1117 grown in Uniform Preliminary Test, Group I. Considered somewhat late for this test.

1955 - F_{10}. C1117 grown in Uniform Preliminary Test, Group II. Fifty plants from seed of F_7 plant-row grown in 1952 were produced in the greenhouse.

1956 - F_{11}. C1117 grown in Uniform Test, Group II. Fifty F_8 plant-rows were grown, threshed individually, and seed examined. Seed of 44 rows was composited to give 61 pounds breeder's seed.

1957 - F_{12}. C1117 grown in Uniform Test, Group II. 95 3/4 bushels of breeder's seed (F_9) of C1117 was produced on the Agronomy Farm at Lafayette, Indiana. One bushel breeder's seed placed in cold storage to perpetuate breeder's seed and to produce foundation seed in future years.

1958 - F_{10}. (Breeder's seed). C1117 (named Lindarin in 1958) grown in Uniform Test, Group II. The Agricultural Alumni Seed Improvement Association planted 106 acres and produced 1,859 bushels of recleaned foundation seed. Illinois purchased 50 bushels of foundation seed for 1959 production and it will be released to growers in 1960. The remaining 1,809 bushels will be allotted to Indiana certified soybean seed growers for 1959 production except allotments that might be requested from other experiment stations.

South Dakota and Wisconsin obtained 5 and 2 bushels for breeder's seed, respectively, for 1958 production. Wisconsin produced 53 bushels of seed but has decided not to release Lindarin.

Table 20. Summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	25	23	23	24	25	25	25	25
C1128	38.6	+4.2	2.2	41	1.6	17.4	40.1	21.5
L54-1055	38.3	+0.8	2.4	40	1.7	14.5	41.3	19.9
C1160	38.2	-1.0	2.1	37	1.8	18.1	41.2	20.9
Ford	38.1	+4.0	2.4	39	1.8	16.7	41.2	20.5
Harosoy	37.4	-2.9	2.4	39	1.7	17.8	41.1	20.8
A2-4008	37.3	-1.0	2.1	36	2.3	17.9	40.9	21.0
Adams	36.9	+1.9	2.4	40	1.4	15.0	40.2	20.9
Lindarin	36.3	-3.7	1.8	35	1.5	15.8	41.2	21.0
Hawkeye	35.8	0	2.0	38	1.7	17.9	41.4	20.8
A4K-1406	35.7	-3.5	2.5	40	1.9	13.5	40.2	20.9
AX29-267-1-1-2	34.8	-3.2	2.1	38	1.8	15.9	40.4	21.7
H21793-7	34.3	-0.9	2.1	41	1.7	17.2	42.5	20.0
H20771-9	33.9	+0.2	2.3	40	1.6	13.8	42.3	20.7
Blackhawk	32.8	-3.4	1.8	35	1.9	16.4	41.6	20.5
Mean	36.3	-0.6	2.2	39	1.7	16.3	41.1	20.8

[1]Days earlier (-) or later (+) than Hawkeye. Hawkeye required 123 days to mature.

Table 21. Summary of disease reaction data for the strains in the Uniform Test, Group II, 1958.

Strain	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker[1]	Phytoph-thora Rot	Cyst Nematode
C1128	4La,5Aa	4La,5Aa	3Ca	5Ln	RCa	5Cn,3An	SCa,4Hn	4Nn
L54-1055	4La,5Aa	5La,5Aa	4Ca	5Ln	SCa		RCa,3Hn	
C1160	4La,5Aa	4La,4Aa	3Ca	5Ln	SCa		SCa,3Hn	
Ford	3La,5Aa	4La,5Aa	4Ca	5Ln	RCa	3An	SCa,4Hn	3Nn
Harosoy	4La,5Aa	4La,4Aa	3Ca	5Ln	RCa	3An	SCa,4Hn	4Nn
A2-4008	4La,5Aa	4La,5Aa	4Ca	5Ln	RCa	3An	RCa,2Hn	
Adams	4La,5Aa	4La,5Aa	4Ca	5Ln	RCa	11Cn,3An	SCa	3Nn
Lindarin	4La,5Aa	3La,5Aa	3Ca	5Ln	RCa	3An	SCa	4Nn
Hawkeye	4La,5Aa	4La,5Aa	5Ca	5Ln	SCa	100Cn,4An	SCa	4Nn
A4K-1406	4La,4Aa	4La,4Aa	3Ca	5Ln	RCa		SCa,3Hn	
AX29-267-1-1-2	4La,5Aa	4La,4Aa	4Ca	5Ln	RCa	3An	SCa,3Hn	
H21793-7	4La,4Aa	3La,4Aa	4Ca	5Ln	SCa		RCa	
H20771-9	4La,4Aa	4La,4Aa	5Ca	5Ln	RCa		RCa	
Blackhawk	4La,5Aa	4La,5Aa	3Ca	5Ln,3An	SCa	44Cn,3An	RCa	4Nn
Lincoln (Check)	4La,5Aa	4La,5Aa						

[1]Stem canker readings from Indiana (C) are percentages of diseased plants based on the number of infected Hawkeye as 100%. Readings from Iowa (A) follow the regular 1-5 ratings of the Soybean Disease Classification Standards, 1955 (RSLM 179).

Table 22. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1958.

Strain	Mean of 25 Tests[1]	Ridge-town Ont.	New-ark Del.	Hoyt-ville Ohio	Woos-ter Ohio	Co-lum-bus Ohio	Ida Mich.	Walk-er-ton Ind.	Bluff-ton Ind.	Lafayette Indiana Planted 5-14	Lafayette Indiana Planted 7-1	Green-field Ind.	Worth-ing-ton Ind.	Madi-son Wis.
C1128	38.6	40.0	44.7	35.1	46.8	50.1	47.1	33.0	40.0	47.8	32.8	38.1	37.0	22.1
L54-1055	38.3	37.1	39.4	35.6	48.3	50.6	43.2	36.3	39.6	49.3	29.3	40.9	35.0	22.4
C1160	38.2	40.7	52.3	30.7	48.0	56.8	44.6	38.5	32.8	40.8	32.0	36.1	34.2	20.4
Ford	38.1	35.8	50.5	29.3	45.3	48.7	44.0	33.5	37.7	46.5	35.4	41.5	38.0	23.2
Harosoy	37.4	37.0	48.7	28.3	40.2	52.7	47.2	35.4	36.6	45.3	31.4	38.3	34.2	17.5
A2-4008	37.3	32.3	43.2	31.9	48.6	57.8	38.1	37.5	32.2	48.0	29.4	34.0	33.7	20.5
Adams	36.9	29.0	42.7	27.4	39.4	55.1	44.1	33.2	30.7	43.0	30.8	39.2	34.0	21.2
Lindarin	36.3	30.4	46.1	24.5	41.8	51.1	41.9	36.2	30.9	41.4	32.0	37.1	37.6	19.4
Hawkeye	35.8	38.0	39.7	27.1	42.5	49.7	39.2	35.3	32.1	44.8	30.0	35.7	31.3	21.6
A4K-1406	35.7	29.0	45.1	25.6	44.5	48.5	39.7	31.9	27.1	43.5	30.0	34.5	32.6	19.8
AX29-267-1-1-2	34.8	31.7	37.5	25.0	34.9	45.5	40.9	37.0	32.9	41.6	28.8	35.3	29.0	17.8
H21793-7	34.3	31.4	42.0	27.2	42.4	48.2	38.2	32.3	30.2	42.5	27.7	35.3	32.3	17.5
H20771-9	33.9	31.4	39.5	32.3	37.8	45.3	36.3	30.6	30.7	40.4	28.3	34.9	29.4	19.7
Blackhawk	32.8	27.7	32.6	30.6	36.3	40.8	36.2	31.0	31.6	43.9	24.9	31.1	28.4	19.8
Mean	36.3	33.7	43.1	29.3	42.6	50.1	41.5	34.4	33.2	44.2	30.2	36.6	33.3	20.2
C.V.(%)		5.9	7.9	10.7	10.5	16.6	10.5	7.6	7.0	6.3	5.1	7.4	8.2	9.3
B.N.F.S.(5%)		4.0	4.8	4.4	6.5	N.S.	7.5	3.7	3.3	3.9	2.2	3.9	3.9	2.7
Row Sp.(In.)		24	36	36	28	28	28	38	38	40	40	38	38	36
		Yield Rank												
C1128		2	6	2	4	7	2	10	1	3	2	5	3	3
L54-1055		4	12	1	2	6	6	4	2	1	10	2	4	2
C1160		1	1	5	3	2	3	1	6	13	3	7	5	7
Ford		6	2	7	5	9	5	8	3	4	1	1	1	1
Harosoy		5	3	8	10	4	1	6	4	5	5	4	5	13
A2-4008		7	7	4	1	1	12	2	7	2	9	13	8	6
Adams		12	8	9	11	3	4	9	11	9	6	3	7	5
Lindarin		11	4	14	9	5	7	5	10	12	3	6	2	11
Hawkeye		3	10	11	7	8	10	7	8	6	7	8	11	4
A4K-1406		12	5	12	6	10	9	12	14	8	7	12	9	8
AX29-267-1-1-2		8	13	13	14	12	8	3	5	11	11	9	13	12
H21793-7		9	9	10	8	11	11	11	13	10	13	9	10	13
H20771-9		9	11	3	12	13	13	14	11	14	12	11	12	10
Blackhawk		14	14	6	13	14	14	13	9	7	14	14	14	8

[1]Lafayette, Indiana planted July 1 and Menno, South Dakota not included in the mean.

Table 22. (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.
C1128	43.5	46.2	46.2	41.9	34.7	31.7	31.9	35.2	39.9	32.0	10.9	35.8	41.9	22.0
L54-1055	40.5	44.2	52.7	39.2	33.7	34.5	28.8	31.0	43.4	32.6	8.0	39.8	37.3	20.9
C1160	42.3	46.6	42.9	40.8	36.4	33.6	29.6	30.8	39.0	32.7	8.8	43.2	38.5	23.1
Ford	41.3	43.9	43.8	39.7	33.8	32.0	28.3	32.0	44.8	34.6	8.6	38.0	42.6	24.2
Harosoy	41.2	45.6	45.6	34.5	34.7	33.0	30.9	33.5	37.8	34.2	9.9	42.2	37.9	22.0
A2-4008	38.9	47.8	41.1	37.2	36.5	35.4	30.8	31.4	42.8	35.7	10.0	43.6	37.5	15.4
Adams	41.4	48.2	45.0	38.6	34.8	32.8	30.8	33.2	43.0	29.8	9.2	39.5	39.9	25.3
Lindarin	38.8	43.8	45.0	34.6	34.7	33.8	28.8	32.3	40.9	31.0	7.4	43.3	38.9	22.0
Hawkeye	39.7	46.3	40.7	37.9	32.6	35.2	28.5	31.1	38.2	30.5	11.3	37.8	40.0	19.8
A4K-1406	38.8	47.1	45.4	39.3	38.2	30.8	29.8	30.6	37.4	32.4	8.8	40.5	38.5	22.0
AX29-267-1-1-2	38.2	45.8	40.1	36.3	35.4	31.6	30.1	30.1	40.3	33.1	15.4	39.6	39.8	19.8
H21793-7	34.9	43.7	45.1	38.6	30.2	29.0	26.8	28.1	38.2	30.2	9.2	38.4	37.2	17.6
H20771-9	37.1	41.3	47.7	37.5	31.4	30.4	26.8	29.4	37.2	28.8	9.7	36.4	36.2	19.8
Blackhawk	33.3	44.9	43.3	34.9	30.5	29.4	29.1	28.7	34.7	30.0	10.4	38.7	31.0	22.0
Mean	39.3	45.4	44.6	37.9	34.1	32.4	29.4	31.2	39.8	32.0	9.8	39.8	38.4	21.1
CV(%)	5.3	7.1	8.1	7.5	--	5.7	6.3	6.0	9.9	--	--	5.9	6.2	14.7
BNFS(5%)	3.0	N.S.	5.2	4.0	--	2.6	2.6	2.7	5.7	--	--	3.4	3.4	4.4
R.Sp.(In.)	40	38	40	38	40	40	40	40	40	40	42	40	38	40
	Yield Rank													
C1128	1	6	3	1	6	9	1	1	7	8	3	14	2	4
L54-1055	6	10	1	5	10	3	9	8	2	6	13	6	11	9
C1160	2	4	11	2	3	5	7	9	8	5	10	3	7	3
Ford	4	11	9	3	9	8	12	5	1	2	12	11	1	2
Harosoy	5	8	4	14	6	6	2	2	11	3	6	4	9	4
A2-4008	8	2	12	10	2	1	3	6	4	1	5	1	10	14
Adams	3	1	7	6	5	7	3	3	3	13	8	8	4	1
Lindarin	9	12	7	13	6	4	9	4	5	9	14	2	6	4
Hawkeye	7	5	13	8	11	2	11	7	9	10	2	12	3	10
A4K-1406	9	3	5	4	1	11	6	10	12	7	10	5	7	4
AX29-267-1-1-2	11	7	14	11	4	10	5	11	6	4	1	7	5	10
H21793-7	13	13	6	6	14	14	13	14	9	11	8	10	12	13
H20771-9	12	14	2	9	12	12	13	12	13	14	7	13	13	10
Blackhawk	14	9	10	12	13	13	8	13	14	12	4	9	14	4

Table 23. Summary of maturity data, days earlier (-) or later (+) than Hawkeye, and lodging for the strains in the Uniform Test, Group II, 1958.

Strain	Mean of 23 Tests[1]	Ridgetown Ont.	Newark Del.	Hoytville Ohio	Wooster Ohio	Columbus Ohio	Ida Mich.	Walkerton Ind.	Bluffton Ind.	Lafayette Indiana Planted 5-14	Lafayette Indiana Planted 7-1	Greenfield Ind.	Worthington Ind.
C1128	+4.2	+7	+3	+4	+4	0		+4	+4	+3	+4	+6	+4
L54-1055	+0.8	-2	+3	+2	-2	+5		-1	+2	+2	0	+4	-1
C1160	-1.0	-1	+2	0	-1	+1		0	-3	-4	0	-2	-2
Ford	+4.0	+5	+4	+4	+2	+4		+3	+3	+3	+3	+5	+2
Harosoy	-2.9	-4	+1	-1	-2	-4		-2	-4	-8	-1	-5	-2
A2-4008	-1.0	-6	+2	0	-2	+3		-1	-3	-4	+1	+1	-1
Adams	+1.9	-5	+3	0	+2	-2		+2	0	-1	0	+4	+2
Lindarin	-3.7	-5	+1	-6	-2	-2		-7	-6	-9	-1	-6	-2
Hawkeye	0	0	0	0	0	0		0	0	0	0	0	0
A4K-1406	-3.5	-5	+1	-3	-2	-4		-5	-7	-7	-2	-5	-3
AX29-267-1-1-2	-3.2	-4	-5	-2	-2	-2		-5	-4	-8	-1	-5	-3
H21793-7	-0.9	0	-2	-1	0	+1		-1	+1	-4	+1	-3	-1
H20771-9	+0.2	-3	+2	+1	-1	+2		-1	-1	-4	+1	0	-2
Blackhawk	-3.4	-5	+1	+3	-1	-5		-7	-5	-8	-3	-4	-3
Date pltd.[2]	5-23	5-26	5-24	5-20	5-14	5-16	5-27	5-27	5-17	5-14	7-1	5-20	7-2
Hawkeye mat.	9-23	10-4	9-17	9-25	9-26	9-25	--	10-3	9-21	9-21	10-10	9-19	10-1
Days to mat.	123	131	116	128	135	132	--	129	127	130	101	122	91
	Mean of 23 Tests[3]	Lodging											
C1128	2.2	3.0	2.3	2.2	1.5	1.2	5.0	2.5	1.8	2.3	1.0	1.8	2.0
L54-1055	2.4	2.0	3.3	2.0	1.5	1.2	5.0	2.8	2.5	2.8	2.0	1.8	2.8
C1160	2.1	2.0	2.8	1.7	1.5	1.2	5.0	1.8	1.8	2.0	1.0	1.0	1.5
Ford	2.4	3.0	2.3	2.2	1.7	1.2	5.0	3.0	2.3	2.8	2.0	2.5	2.8
Harosoy	2.4	2.0	3.3	1.7	1.7	1.0	5.0	3.8	2.0	2.8	1.3	1.8	3.0
A2-4008	2.1	2.0	3.5	1.2	1.0	1.2	4.0	2.3	2.0	2.3	2.0	1.3	2.3
Adams	2.4	3.0	2.5	1.2	2.0	1.0	4.0	2.8	1.8	3.0	2.5	2.3	2.8
Lindarin	1.8	1.0	2.3	1.2	1.0	1.2	4.0	1.3	1.3	2.0	1.3	1.3	1.8
Hawkeye	2.0	2.0	2.5	1.5	2.0	1.2	4.0	2.3	2.5	2.0	1.0	1.5	1.5
A4K-1406	2.5	3.0	3.0	2.0	1.7	1.2	5.0	3.0	2.0	3.0	2.3	2.8	2.5
AX29-267-1-1-2	2.1	2.0	3.8	1.0	2.0	1.2	4.0	2.0	1.8	2.0	1.3	2.3	2.0
H21793-7	2.1	2.0	2.5	1.5	1.7	1.2	4.0	3.0	2.5	2.0	1.8	1.8	1.8
H20771-9	2.3	2.0	3.3	1.5	2.0	1.2	4.0	3.0	2.3	1.8	2.0	2.0	1.8
Blackhawk	1.8	2.0	3.3	1.0	1.0	1.0	4.0	1.3	1.8	1.3	1.0	1.3	1.3
Mean	2.2	2.2	2.9	1.6	1.6	1.2	4.4	2.5	2.0	2.3	1.6	1.8	2.1

[1]Lafayette, Indiana planted July 1 not included in the mean.
[2]Waseca, Minnesota planted May 20.
[3]Lafayette, Indiana planted July 1, Kirksville, Missouri, and Menno, South Dakota not included in the mean.

Table 23. (Continued)

Strain	Madison Wis.	Shabbona Ill.	Dwight Ill.	Urbana Ill.	Girard Ill.	Sutherland Iowa	Kanawha Iowa	Independence Iowa	Ames Iowa	Kirksville Mo.	Menno S.D.	Concord Nebr.	Lincoln Nebr.	Powhattan Kans.
C1128	0	+7	+3	+5	+6	+5	+4	+5	+3	+6		+4	+4	+6
L54-1055	-2	+2	+1	+2	+2	-2	-2	+1	+1	+1		0	0	+2
C1160	0	+1	-1	0	-1	-2	-3	-2	-5	0		-1	0	0
Ford	+3	+8	+3	+7	+7	+3	+3	+4	+2	+4		+3	+5	+4
Harosoy	-2	-4	-5	-2	-3	-4	-4	-3	-4	0		-2	-1	-2
A2-4008	-2	-5	-3	0	-1	-3	-4	-3	-2	0		-1	+2	+9
Adams	+1	+4	+3	+4	+4	+2	+2	+1	+2	+1		+3	+4	+7
Lindarin	-1	-5	-5	-2	-3	-5	-4	-4	-5	-1		-4	-2	+1
Hawkeye	0	0	0	0	0	0	0	0	0	0		0	0	0
A4K-1406	-2	-5	-2	-2	0	-4	-4	-5	-6	-2		-5	0	-3
AX29-267-1-1-2	-2	-5	-5	-2	-1	-4	-3	-2	-4	-2		-1	-1	-2
H21793-7	-1	0	-2	0	0	0	-1	0	-2	0		-2	0	-2
H20771-9	-1	0	-1	+2	+1	0	-1	0	0	0		+2	+4	+6
Blackhawk	-5	-5	-7	-4	-1	-5	-5	-3	-5	-1		-2	-4	+2
Date pltd.[2]	5-15	5-16	5-21	5-13	5-14	5-28	5-15	5-20	5-14	5-25	5-19	6-3	5-31	6-4
Hawk. mat.	9-27	9-26	9-24	9-15	9-6	9-26	9-23	9-25	9-24	9-11	--	9-28	9-25	9-23
Da. to mat.	135	133	126	125	115	121	131	128	133	109	--	117	117	111
							Lodging							
C1128	1.1	2.5	3.4	2.4	3.7	1.2	1.4	1.5	2.5	1.0	1.0	1.0	2.8	1.0
L54-1055	1.3	3.0	4.0	2.2	4.2	1.2	1.3	1.8	2.3	1.0	1.0	1.3	3.0	2.0
C1160	1.8	2.8	3.9	2.3	4.0	1.0	1.2	1.3	2.3	1.0	1.0	1.3	3.0	1.0
Ford	2.0	2.5	3.6	2.3	3.9	1.3	1.4	1.4	2.5	1.0	1.0	1.3	3.0	2.0
Harosoy	1.5	2.5	3.6	2.7	4.3	1.2	1.4	1.4	3.0	1.0	1.0	2.0	2.5	1.0
A2-4008	1.0	2.4	3.8	2.9	3.9	1.2	1.3	1.2	2.3	1.0	1.0	1.0	3.0	1.0
Adams	2.0	2.5	4.3	3.1	4.0	1.3	1.6	1.3	2.7	1.0	1.0	1.5	3.0	2.0
Lindarin	1.3	1.9	3.5	2.3	3.4	1.0	1.2	1.3	2.6	1.0	1.0	1.3	2.3	1.0
Hawkeye	1.1	2.2	3.3	2.2	2.9	1.2	1.2	1.3	2.8	1.0	1.0	1.0	2.3	1.0
A4K-1406	1.3	3.1	4.1	2.8	4.0	1.5	1.3	1.4	2.9	1.0	1.0	1.5	3.0	2.0
AX29-267-1-1-2	1.5	2.0	3.4	2.5	3.7	1.1	1.3	1.4	2.5	1.0	1.0	1.0	2.3	1.0
H21793-7	1.0	2.2	3.5	2.3	3.0	1.3	1.4	1.6	2.9	1.0	1.0	1.3	2.3	1.0
H20771-9	1.1	2.2	3.6	2.7	3.8	1.3	1.3	1.4	2.7	1.0	1.0	2.0	2.8	2.0
Blackhawk	1.0	2.2	3.0	2.0	3.4	1.1	1.2	1.3	2.3	1.0	1.0	1.0	3.0	1.0
Mean	1.4	2.4	3.6	2.5	3.7	1.2	1.3	1.4	2.6	1.0	1.0	1.3	2.7	1.4

Table 24. Summary of height data and percentage of oil for the strains in the Uniform Test, Group II, 1958.

Strain	Mean of 24 Tests[1]	Ridgetown Ont.	Newark Del.	Hoytville Ohio	Wooster Ohio	Columbus Ohio	Ida Mich.	Walkerton Ind.	Bluffton Ind.	Lafayette Indiana Planted 5-14	Lafayette Indiana Planted 7-1	Greenfield Ind.	Worthington Ind.	Madison Wis.
C1128	41	37	47	38	38	40	50	41	38	44	31	37	32	29
L54-1055	40	35	47	39	38	41	47	38	38	43	29	38	30	27
C1160	37	34	42	35	35	38	43	40	31	38	27	32	26	27
Ford	39	35	45	35	36	36	46	38	35	42	29	34	30	30
Harosoy	39	32	48	38	36	36	46	44	32	42	29	34	30	27
A2-4008	36	30	46	34	32	37	44	38	31	38	27	31	29	25
Adams	40	32	48	38	36	38	49	41	35	42	29	36	29	28
Lindarin	35	25	42	34	34	38	40	34	30	37	26	31	28	24
Hawkeye	38	33	45	38	34	36	44	38	32	39	27	32	28	27
A4K-1406	40	32	48	40	38	40	45	44	34	40	31	35	34	27
AX29-267-1-1-2	38	31	44	37	36	39	45	41	34	40	29	33	29	27
H21793-7	41	39	51	38	38	40	50	44	35	43	30	36	33	27
H20771-9	40	34	49	38	39	39	48	39	34	41	29	33	30	26
Blackhawk	35	30	43	33	33	36	41	34	33	36	26	29	25	26
Mean	39	33	46	37	36	38	46	40	34	40	28	34	30	27
	Mean of 25 Tests[1]	Percentage of Oil												
C1128	21.5	19.0	22.9	20.6	20.1	21.7	20.8	21.4	21.0	21.9	20.9	21.4	20.3	21.0
L54-1055	19.9	17.9	20.9	19.5	20.3	19.9	17.7	20.4	19.4	20.6	19.5	20.7	18.0	18.7
C1160	20.9	18.5	22.2	20.0	20.1	21.1	18.5	21.7	20.8	21.1	20.9	21.0	19.9	19.9
Ford	20.5	19.2	21.4	19.1	19.3	20.4	18.9	20.6	20.3	21.3	20.2	20.4	20.0	18.7
Harosoy	20.8	18.8	21.5	19.9	19.8	21.1	18.7	20.9	20.9	21.4	20.8	20.3	19.7	19.4
A2-4008	21.0	19.2	22.6	19.9	20.1	20.6	19.3	20.7	20.7	21.3	20.6	20.6	20.5	20.2
Adams	20.9	18.3	22.5	19.8	19.6	20.8	19.3	20.7	20.3	21.2	20.2	20.6	20.2	20.7
Lindarin	21.0	19.3	22.3	19.6	19.6	20.8	19.5	21.8	20.8	21.3	21.1	20.9	20.1	19.1
Hawkeye	20.8	19.0	22.7	20.0	19.3	20.9	19.1	20.6	20.0	21.1	20.9	20.2	20.4	19.7
A4K-1406	20.9	18.1	23.3	19.4	19.9	21.4	19.8	21.0	20.3	21.2	20.3	20.4	20.8	19.6
AX29-267-1-1-2	21.7	19.9	23.8	20.3	20.3	22.2	20.2	21.9	21.3	22.0	21.1	21.2	21.1	21.1
H21793-7	20.0	18.8	20.7	20.4	19.7	20.1	18.9	20.0	19.8	20.4	20.3	19.4	18.8	18.8
H20771-9	20.7	18.8	22.3	19.9	19.2	20.5	19.8	21.2	19.7	21.7	21.3	19.9	20.1	19.1
Blackhawk	20.5	19.3	21.8	20.0	19.8	20.1	19.1	20.1	20.4	20.4	19.9	20.3	19.7	19.8
Mean	20.8	18.9	22.2	19.9	19.8	20.8	19.3	20.9	20.4	21.2	20.6	20.5	20.0	19.7

[1]Lafayette, Indiana planted July 1 and Menno, South Dakota not included in the mean.

Table 24. (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.
C1128	44		46	47	46	44	44	43	45	37	24	45	43	34
L54-1055	41		45	42	43	41	40	40	45	39	24	40	42	34
C1160	37		40	40	43	38	36	36	41	35	24	38	40	31
Ford	40		43	48	42	40	39	40	42	39	23	41	40	32
Harosoy	39		42	45	46	39	40	41	44	38	25	43	43	35
A2-4008	37		39	39	43	39	38	38	41	35	23	39	40	28
Adams	42		43	47	49	41	42	41	44	34	24	41	41	34
Lindarin	34		40	40	39	34	34	34	42	36	21	36	38	30
Hawkeye	40		42	41	44	41	41	40	44	35	23	41	42	33
A4K-1406	41		44	49	45	41	43	42	41	35	28	40	42	33
AX29-267-1-1-2	37		43	43	41	38	40	40	42	36	23	41	41	32
H21793-7	43		47	48	46	44	42	42	47	42	25	42	44	32
H20771-9	40		44	47	48	42	39	40	44	37	25	42	43	32
Blackhawk	36		40	39	40	36	38	36	40	35	25	38	38	30
Mean	39		43	44	44	40	40	40	43	37	24	41	41	32
	Percentage of Oil													
C1128	21.6	22.3	22.3	22.1	20.3	21.1	21.4	20.8	20.9	21.7	20.3	22.0	23.0	24.8
L54-1055	20.0	21.0	20.9	20.1	19.0	20.0	19.2	19.0	19.9	19.5	17.2	20.3	20.2	23.4
C1160	21.1	22.4	21.4	21.4	19.9	21.5	20.1	19.9	20.9	21.0	19.3	21.9	21.7	24.6
Ford	20.4	21.3	21.9	21.9	19.6	19.9	20.2	19.9	21.5	20.4	20.0	20.4	21.7	23.8
Harosoy	21.3	22.0	21.9	21.9	19.7	21.7	20.5	19.7	21.5	20.6	20.6	21.3	21.7	24.0
A2-4008	21.8	21.8	21.8	21.9	20.3	21.3	20.9	20.0	21.6	21.0	21.1	21.5	22.0	23.6
Adams	21.2	21.5	21.9	22.2	19.9	20.7	21.1	20.6	21.6	20.8	22.5	21.5	21.8	24.0
Lindarin	21.3	22.0	22.5	21.7	20.1	21.4	20.0	20.0	21.7	20.8	17.9	21.7	22.6	23.3
Hawkeye	21.1	21.6	22.3	22.5	19.8	20.6	20.1	20.1	20.5	20.9	20.4	21.6	21.5	24.3
A4K-1406	21.3	21.7	22.3	21.5	20.0	21.3	20.5	20.0	21.4	21.5	18.8	21.5	21.9	23.5
AX29-267-1-1-2	22.6	22.2	22.2	21.4	20.8	21.9	21.4	21.1	22.4	21.8	20.5	22.8	23.1	24.5
H21793-7	20.5	20.9	20.5	19.6	18.5	21.1	19.9	20.0	20.2	19.8	18.5	20.6	20.5	22.7
H20771-9	20.5	21.5	21.4	20.6	20.0	20.6	20.1	20.1	21.1	20.7	17.4	22.2	22.0	23.5
Blackhawk	20.5	21.5	21.3	21.5	19.9	21.8	20.0	19.6	20.9	20.4	21.8	20.7	21.4	22.7
Mean	21.1	21.7	21.8	21.5	19.8	21.1	20.4	20.1	21.2	20.8	19.7	21.4	21.8	23.8

Table 25. Two-year summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1957-1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	51	46	44	48	46	51	51	51
C1128	38.4	+3.6	2.1	41	1.8	17.4	40.3	21.3
Ford	38.2	+4.7	2.3	38	1.8	16.7	41.4	20.4
Harosoy	37.7	-3.2	2.3	38	1.7	17.4	41.0	20.9
Lindarin	36.6	-3.3	1.8	34	1.5	16.0	41.3	21.0
Adams	36.5	+2.0	2.3	39	1.5	15.0	40.1	21.2
A2-4008	36.1	-2.4	2.0	35	2.5	17.6	40.8	21.3
Hawkeye	35.7	0	1.9	37	1.7	17.9	41.1	21.0
AX29-267-1-1-2	34.8	-3.2	2.0	37	1.7	15.8	40.4	22.0
H20771-9	33.9	0	2.2	39	1.7	13.9	42.0	20.7
H21793-7	33.8	-0.7	2.0	41	1.7	17.4	42.4	20.2
Blackhawk	32.4	-4.9	1.8	34	1.9	16.1	41.3	20.7
Mean	35.8		2.1	38	1.8	16.5	41.1	21.0

[1]Days earlier (-) or later (+) than Hawkeye. Hawkeye required 120 days to mature.

Table 26. Two-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1957-1958.

Strain	Mean of 25 Tests	Ridge-town Ont.	New-ark Del.	Hoyt-ville Ohio	Woos-ter Ohio	Co-lum-bus Ohio	Ida Mich.	Walk-er-ton Ind.	Bluff-ton Ind.	Lafay-ette Ind.	Green-field Ind.	Madi-son Wis.	Shab-bona Ill.
C1128	38.4	41.2	40.5	30.6	46.1	41.1	42.6	40.9	46.7	49.7	35.0	32.0	43.9
Ford	38.2	43.5	37.3	27.4	43.8	40.2	41.7	41.8	44.7	48.9	35.7	29.8	44.5
Harosoy	37.7	39.4	43.9	25.2	45.4	43.4	41.2	42.7	44.1	46.1	36.2	26.9	43.8
Lindarin	36.6	37.0	43.2	22.3	41.7	42.4	37.4	43.7	40.2	43.9	33.7	30.0	41.3
Adams	36.5	34.4	39.7	23.4	38.7	45.2	39.0	41.2	40.1	45.3	33.9	29.5	42.8
A2-4008	36.1	36.7	37.6	25.8	43.7	42.5	33.2	42.2	40.1	46.3	31.3	30.3	41.9
Hawkeye	35.7	37.9	38.1	23.9	42.4	41.0	37.0	41.8	39.3	47.0	33.4	29.6	41.6
AX29-267-1-1-2	34.8	36.4	35.1	22.4	37.2	37.6	37.5	42.4	39.8	42.3	31.1	27.4	40.1
H20771-9	33.9	36.3	37.7	27.0	39.3	38.7	33.5	37.9	37.8	41.2	32.8	27.1	39.5
H21793-7	33.8	34.1	38.1	24.4	40.8	40.0	33.9	38.3	37.0	43.0	32.6	26.4	37.7
Blackhawk	32.4	30.8	32.7	25.3	36.8	33.6	32.9	36.5	35.8	42.7	28.9	28.4	36.4
Mean	35.8	37.1	38.5	25.2	41.4	40.5	37.3	40.9	40.5	45.1	33.1	28.9	41.2

	Yield Rank											
C1128	2	3	1	1	5	1	8	1	1	3	1	2
Ford	1	9	2	3	7	2	5	2	2	2	4	1
Harosoy	3	1	6	2	2	3	2	3	5	1	10	3
Lindarin	5	2	11	6	4	6	1	4	7	5	3	7
Adams	9	4	9	9	1	4	7	5	6	4	6	4
A2-4008	6	8	4	4	3	10	4	5	4	9	2	5
Hawkeye	4	5	8	5	6	7	5	8	3	6	5	6
AX29-267-1-1-2	7	10	10	10	10	5	3	7	10	10	8	8
H20771-9	8	7	3	8	9	9	10	9	11	7	9	9
H21793-7	10	5	7	7	8	8	9	10	8	8	11	10
Blackhawk	11	11	5	11	11	11	11	11	9	11	7	11

Table 26. (Continued)

Strain	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.
C1128	48.1	45.6	38.4	35.7	37.1	36.0	36.3	40.5	32.3	15.9	36.2	37.4	26.4
Ford	46.4	43.8	39.7	35.7	38.2	33.8	35.7	43.2	33.8	12.3	38.0	37.2	28.1
Harosoy	46.8	44.7	36.0	37.1	39.9	34.4	34.7	36.9	35.4	16.5	38.0	33.2	23.7
Lindarin	43.7	48.1	35.5	34.0	38.1	32.7	33.4	38.8	34.1	13.3	38.9	33.9	24.2
Adams	49.6	43.4	36.4	35.6	36.3	34.6	32.7	40.0	31.9	16.6	35.9	35.0	26.4
A2-4008	46.9	42.4	34.4	35.4	40.0	34.7	32.4	40.0	34.6	15.5	39.4	32.8	20.4
Hawkeye	45.0	41.7	36.8	33.3	38.6	34.5	33.5	37.2	32.2	13.6	33.7	34.5	23.1
AX29-267-1-1-2	44.3	41.2	34.5	37.0	36.6	33.9	29.9	37.9	33.5	17.0	36.8	34.7	22.0
H20771-9	42.6	43.5	34.5	31.7	35.4	30.9	31.2	36.8	28.8	13.1	34.0	31.8	23.1
H21793-7	43.9	42.6	35.2	31.7	34.3	29.8	28.4	36.7	31.3	13.1	34.9	31.1	20.9
Blackhawk	43.8	41.1	32.8	33.2	34.2	32.0	28.9	33.8	30.1	15.7	34.1	27.5	20.4
Mean	45.6	43.5	35.8	34.6	37.2	33.4	32.5	38.3	32.5	14.8	36.4	33.6	23.5

	Yield Rank												
C1128	2	2	2	3	6	1	1	2	6	4	6	1	2
Ford	5	4	1	3	4	7	2	1	4	11	3	2	1
Harosoy	4	3	5	1	2	5	3	8	1	3	3	7	5
Lindarin	10	1	6	7	5	8	5	5	3	8	2	6	4
Adams	1	6	4	5	8	3	6	3	8	2	7	3	2
A2-4008	3	8	10	6	1	2	7	3	2	6	1	8	10
Hawkeye	6	9	3	8	3	4	4	7	7	7	11	5	6
AX29-267-1-1-2	7	10	8	2	7	6	9	6	5	1	5	4	8
H20771-9	11	5	8	10	9	10	8	9	11	9	10	9	6
H21793-7	8	7	7	10	10	11	11	10	9	9	8	10	9
Blackhawk	9	11	11	9	11	9	10	11	10	5	9	11	10

Table 27. Five-year summary of agronomic and chemical data for the strains in the Uniform Test, Group II, 1954-1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	114	97	103	110	101	117	116	116
Ford	37.7	+4.5	2.2	39	1.9	16.5	41.3	20.4
C1128	37.2	+3.4	2.0	41	1.8	17.1	40.3	21.6
Harosoy	36.6	-3.1	2.3	38	1.9	17.4	41.3	20.6
Adams	35.9	+2.9	2.3	39	1.6	14.8	40.0	21.3
Hawkeye	35.2	0	1.9	37	1.8	17.7	41.2	21.0
Blackhawk	32.2	-5.1	1.9	34	2.0	15.9	41.2	20.7
Mean	35.8		2.1	38	1.8	16.6	40.9	20.9

[1]Days earlier (-) or later (+) than Hawkeye. Hawkeye required 121 days to mature.

Table 28. Five-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group II, 1954-1958.

Strain	Mean of 114 Tests	Ridgetown Ont.	Newark Del.	Hoytville Ohio	Wooster Ohio	Columbus Ohio	Ida Mich.[1]	Walkerton Ind.	Bluffton Ind.	Lafayette Ind.	Greenfield Ind.	Madison Wis.
Years Tested		1956-1958	1954-1958	1954-1958	1954-1958	1954-1958	1954, 1956-58	1954-1958	1954-1958	1954-1958	1954-1958	1954-1958
Ford	37.7	36.2	41.9	35.1	38.4	42.5	40.2	41.8	46.9	46.4	34.8	33.6
C1128	37.2	34.5	41.2	35.1	37.6	42.0	41.3	43.4	46.4	45.8	34.2	35.5
Harosoy	36.6	38.1	42.1	33.5	36.4	41.1	41.6	41.9	46.7	44.3	31.7	31.9
Adams	35.9	30.7	40.5	32.9	35.2	42.7	38.4	40.9	43.2	43.7	31.7	31.8
Hawkeye	35.2	33.0	40.2	31.8	34.7	41.9	38.2	40.2	41.8	43.0	31.7	31.7
Blackhawk	32.2	29.0	33.6	30.4	31.7	34.1	34.6	34.6	39.4	37.5	27.3	31.9
Mean	35.8	33.6	39.9	33.1	35.7	40.7	39.1	40.5	44.1	43.5	31.9	32.7
		Yield Rank										
Ford		2	2	1	1	2	3	3	1	1	1	2
C1128		3	3	1	2	3	2	1	3	2	2	1
Harosoy		1	1	3	3	5	1	2	2	3	3	3
Adams		5	4	4	4	1	4	4	4	4	3	5
Hawkeye		4	5	5	5	4	5	5	5	5	3	6
Blackhawk		6	6	6	6	6	6	6	6	6	6	3

[1]Ottawa Lake, 1954 and 1956.
[2]Marcus, 1954-1955.
[3]Viborg, 1954.

Table 28. (Continued)

Strain	Shab-bona Ill.	Dwight Ill.	Ur-bana Ill.	Wa-seca Minn.	Suth-erland Iowa[2]	Kana-wha Iowa	Inde-pen-dence Iowa	Ames Iowa	Kirks-ville Mo.	Menno S.D.[3]	Lin-coln Nebr.
Years Tested	1954-1958	1954-1958	1954-1958	1954-1958	1954-55, 1957-58	1954-1958	1954-1958	1954-1958	1955, 1957-58	1954, 1956-58	1954-1958
Ford	38.8	40.3	41.2	34.4	39.9	33.3	29.3	35.2	29.8	22.3	37.2
C1128	40.0	41.2	41.5	32.5	34.9	32.6	30.3	31.6	28.7	22.5	35.0
Harosoy	40.2	40.5	39.7	35.9	36.4	30.7	30.4	29.0	30.1	20.8	33.6
Adams	39.0	41.9	40.4	31.7	34.5	32.1	28.4	32.0	28.4	20.9	34.9
Hawkeye	38.3	38.7	38.9	31.9	36.1	32.3	29.4	30.3	28.2	18.1	35.5
Blackhawk	35.2	36.3	36.7	31.9	31.6	30.3	26.7	27.6	24.7	21.1	29.5
Mean	38.6	39.8	39.7	33.1	35.6	31.9	29.1	31.0	28.3	21.0	34.3
	Yield Rank										
Ford	4	4	2	2	1	1	4	1	2	2	1
C1128	2	2	1	3	4	2	2	3	3	1	3
Harosoy	1	3	4	1	2	5	1	5	1	5	5
Adams	3	1	3	6	5	4	5	2	4	4	4
Hawkeye	5	5	5	4	3	3	3	4	5	6	2
Blackhawk	6	6	6	4	6	6	6	6	6	3	6

UNIFORM PRELIMINARY TEST, GROUP II, 1958

Strain	Source or Originating Agency	Origin
Blackhawk	Iowa A.E.S. & U.S.R.S.L.	Sel. from Mukden x Richland
Ford (A0-8618-2)	Iowa A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Harosoy	Harrow E.S., 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
Kanrich	Iowa A.E.S. & U.S.R.S.L.	Sel. from (Kanro x Richland) x Kanro
Kim	Iowa A.E.S. & U.S.R.S.L.	Sel. from (Richland x Sac) x Sac
A6-7818	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Clark
AX58-C41-1	Purdue A.E.S. & U.S.R.S.L.	Sel. from Harosoy x Clark
CX252-3-1	Purdue A.E.S. & U.S.R.S.L.	Sel. from Harosoy x C1079
CX252-26-4	Purdue A.E.S. & U.S.R.S.L.	Sel. from Harosoy x C1079
CX252-34-3	Purdue A.E.S. & U.S.R.S.L.	Sel. from Harosoy x C1079
H20833-7	Ohio A.E.S. & U.S.R.S.L.	Sel. from Monroe x Lincoln
S6-5004	Mo. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
U2-28	Nebr. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Richland
W1-2118	Wis. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x Manchu 606
W3-1069	Wis. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x Capital

Identification of Parent Strains

C1079	Sel. from C985 (Lincoln x Ogden)

This test was grown at 11 locations and the data are presented in Tables 29 through 32. Preliminary Tests were grown separately from the Uniform Tests this year.

The test consisted of four check varieties, ten experimental strains, and two vegetable varieties, Kim and Kanrich, which were included to test their regional adaptation.

The three selections from CX252, Harosoy x C1079, are outstanding in the test. They were between Hawkeye and Harosoy in maturity, ranked highest in yield in the test, and equalled or excelled the checks in most other traits, being especially good in lodging resistance, and, in the case of two of them, in oil content. CX252-34-3 was the best of the three, considering all traits.

S6-5004, a day later than Hawkeye, was also excellent in lodging resistance and yield.

The remaining strains did not excel the checks in yield. H20833-7 is of interest because of its Phytophthora rot resistance. It matured along with Hawkeye and was slightly higher in average yield but lower than Harosoy. Its lodging susceptibility was also intermediate between Harosoy and Hawkeye, and in other traits it appears to be quite satisfactory.

Table 29. Summary of agronomic and chemical data for the strains in the Uniform Preliminary Test, Group II, 1958.

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	10	11	10	10	7	7
Blackhawk	36.4	9	-4.8	1.4	35	1.6	17.2	42.5	20.1
Ford	38.6	5	+4.2	2.5	39	1.5	17.0	41.8	20.3
Harosoy	38.2	6	-4.1	2.5	39	1.6	18.7	42.0	20.6
Hawkeye	35.7	14	0	2.0	39	1.4	18.5	42.3	20.3
Kanrich	35.3	16	+5.7	2.7	36	1.7	27.3	41.1	19.0
Kim	35.6	15	+4.9	2.1	34	1.7	28.7	40.4	19.9
A6-7818	36.2	11	+3.3	2.0	38	1.3	15.6	40.6	20.7
AX58-C41-1	37.9	7	+4.9	1.9	38	1.7	17.8	41.5	20.5
CX252-3-1	40.5	3	-2.0	1.8	40	2.0	17.1	40.9	21.2
CX252-26-4	40.6	2	-2.0	1.3	39	1.6	18.1	42.2	20.4
CX252-34-3	40.7	1	-3.2	1.5	40	1.5	17.3	41.3	21.4
H20833-7	36.4	9	+0.3	2.3	43	1.4	15.2	41.4	20.7
S6-5004	39.3	4	+1.3	1.9	38	1.4	15.8	41.4	20.6
U2-28	36.2	11	+4.4	2.3	39	1.6	14.6	40.5	20.4
W1-2118	36.0	13	-3.9	1.6	36	1.3	18.1	41.8	20.5
W3-1069	37.4	8	-2.8	1.7	38	1.8	16.3	41.4	21.0
Mean	37.6		+0.4	2.0	38	1.6	18.3	41.4	20.5

[1]Days earlier (-) or later (+) than Hawkeye. Hawkeye required 127 days to mature.

Table 30. Summary of disease reaction data for the strains in the Uniform Preliminary Test, Group II, 1958.

Strain	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker[1]	Phytophthora Rot	Cyst Nematode
Blackhawk	4La,5Aa	4La,5Aa	3Ca	5Ln	SCa	44Cn,3An	RCa,2Hn	4Nn
Ford	3La,5Aa	4La,5Aa	4Ca	5Ln	RCa	3An	SCa	3Nn
Harosoy	4La,5Aa	4La,5Aa	3Ca	5Ln	RCa	RCn,3An	SCa,5Hn	4Nn
Hawkeye	4La,5Aa	4La,4Aa	5Ca	5Ln	SCa	100Cn,4An	SCa	4Nn
Kanrich	5La,3Aa	5La,3Aa	4Ca	5Ln	RCa		SCa	4Nn
Kim	3La,4Aa	4La,3Aa	3Ca	5Ln	RCa		SCa	3Nn
A6-7818	4La,4Aa	4La,3Aa	3Ca	5Ln	RCa		SCa	
AX58-C41-1	5La,4Aa	4La,4Aa	3Ca	5Ln	RCa		SCa	
CX252-3-1	4La,4Aa	3La,4Aa	4Ca	5Ln	SCa		SCa	
CX252-26-4	4La,4Aa	3La,4Aa	3Ca	5Ln	Seg.		SCa	
CX252-34-3	3La,3Aa	3La,4Aa	3Ca	5Ln	RCa		SCa	
H20833-7	3La,4Aa	2La,4Aa	3Ca	5Ln	SCa		RCa	
S6-5004	3La,3Aa	4La,4Aa	3Ca	5Ln	RCa		SCa	
U2-28	4La,3Aa	4La,4Aa	4Ca	5Ln	RCa		SCa	
W1-2118	4La,4Aa	3La,4Aa	5Ca	5Ln	SCa		SCa	
W3-1069	4La,4Aa	2La,4Aa	4Ca	5Ln	RCa		SCa	

[1]Stem canker readings from Indiana (C) are percentages of diseased plants based on the number of infected Hawkeye as 100%. Readings from Iowa (A) follow the regular 1-5 ratings of the Soybean Disease Classification Standards, 1955 (RSLM 179).

Table 31. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Preliminary Test, Group II, 1958.

Strain	Mean of 11 Tests[1]	Mean Yield Rank	Ridge-town Ont.	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	Walk-erton Ind.
Blackhawk	36.4	9	32.8	37.3	38.5	47.8	29.8
Ford	38.6	5	35.4	36.5	34.9	51.5	34.0
Harosoy	38.2	6	39.2	34.3	38.2	43.7	35.6
Hawkeye	35.7	14	38.9	30.8	39.0	36.8	33.7
Kanrich	35.3	16	33.0	31.9	36.2	38.7	36.8
Kim	35.6	15	33.4	32.2	40.6	37.3	35.2
A6-7818	36.2	11	31.6	29.1	34.4	39.7	32.0
AX58-C41-1	37.9	7	40.0	35.5	34.4	39.7	37.1
CX252-3-1	40.5	3	37.8	34.4	44.8	50.0	37.8
CX252-26-4	40.6	2	41.8	29.2	42.7	48.7	41.2
CX252-34-3	40.7	1	39.8	36.6	46.7	54.3	35.4
H20833-7	36.4	9	31.9	27.7	39.0	50.2	31.7
S6-5004	39.3	4	38.9	31.4	40.4	48.9	36.1
U2-28	36.2	11	28.7	28.3	35.7	47.2	32.4
W1-2118	36.0	13	34.2	27.1	38.6	45.9	36.5
W3-1069	37.4	8	34.9	32.2	34.5	51.8	33.4
Mean	37.6		35.8	32.2	38.7	45.8	34.9
Coef. of Var. (%)			--	12.5	6.3	14.4	8.9
Bu. Nec. for Sig. (5%)			--	N.S.	3.7	N.S.	N.S.
Row Spacing (In.)			24	36	28	28	38

	Yield Rank				
Blackhawk	13	1	9	8	13
Ford	8	3	13	3	10
Harosoy	4	6	10	11	7
Hawkeye	5	11	6	16	11
Kanrich	12	9	11	14	4
Kim	11	7	4	15	9
A6-7818	15	13	15	12	14
AX58-C41-1	2	4	15	12	3
CX252-3-1	7	5	2	5	2
CX252-26-4	1	12	3	7	1
CX252-34-3	3	2	1	1	8
H20833-7	14	15	6	4	15
S6-5004	5	10	5	6	6
U2-28	16	14	12	9	13
W1-2118	10	16	8	10	5
W3-1069	9	7	14	2	12

[1]Madison, Wisconsin and Menno, South Dakota not included in the mean.
[2]Four replications.

Table 31. (Continued)

Strain	Lafayette Ind.	Madison Wis.	Urbana Ill.[2]	Kanawha Iowa	Ames Iowa	Kirksville Mo.	Concord Nebr.	Menno S.D.
Blackhawk	38.1	21.3	44.8	24.7	39.0	31.2	36.8	8.3
Ford	40.5	24.5	47.1	27.2	49.4	31.1	36.5	7.1
Harosoy	41.0	22.4	46.0	27.9	37.6	36.9	39.4	7.2
Hawkeye	39.0	23.4	42.7	24.9	39.2	30.6	37.2	7.7
Kanrich	40.4	--	48.1	22.0	38.4	30.6	31.9	7.3
Kim	42.7	--	45.5	22.0	43.6	26.4	32.6	8.3
A6-7818	40.5	23.2	45.7	26.8	47.4	34.2	36.6	13.0
AX58-C41-1	43.4	22.0	50.1	26.6	38.0	32.3	40.3	10.6
CX252-3-1	42.9	24.1	52.7	23.2	45.6	37.3	39.0	8.4
CX252-26-4	43.8	20.0	49.5	26.6	46.2	34.5	42.2	9.7
CX252-34-3	42.8	21.0	49.7	25.6	42.6	31.5	42.7	8.7
H20833-7	42.0	22.6	47.8	24.1	38.4	34.0	34.0	7.3
S6-5004	45.0	24.9	47.0	27.6	47.5	31.2	38.3	3.5
U2-28	35.8	25.1	48.1	27.4	49.9	33.5	31.4	4.2
W1-2118	36.8	20.8	42.9	26.0	33.3	33.0	41.8	7.2
W3-1069	39.7	23.1	45.5	27.4	39.4	34.2	38.3	7.7
Mean	40.9	22.7	47.1	25.6	42.2	32.7	37.4	7.9
Coef. of Var. (%)	7.1	10.5	8.6	6.3	7.2	--	10.2	--
Bu. Nec. for Sig. (5%)	N.S.	--	N.S.	3.4	6.5	--	N.S.	--
Row Spacing (In.)	40	36	40	40	40	40	40	42
				Yield Rank				
Blackhawk	14	11	14	12	11	11	10	6
Ford	9	3	8	5	2	13	12	14
Harosoy	8	9	10	1	15	2	5	12
Hawkeye	13	5	16	11	10	14	9	8
Kanrich	11	--	5	15	12	14	15	10
Kim	6	--	12	15	7	16	14	6
A6-7818	9	6	11	6	4	4	11	1
AX58-C41-1	3	10	2	7	14	9	4	2
CX252-3-1	4	4	1	14	6	1	6	5
CX252-26-4	2	14	4	7	5	3	2	3
CX252-34-3	5	12	3	10	8	10	1	4
H20833-7	7	8	7	13	12	6	13	10
S6-5004	1	2	9	2	3	11	7	16
U2-28	16	1	5	3	1	7	16	15
W1-2118	15	13	15	9	16	8	3	12
W3-1069	12	7	12	3	9	4	7	8

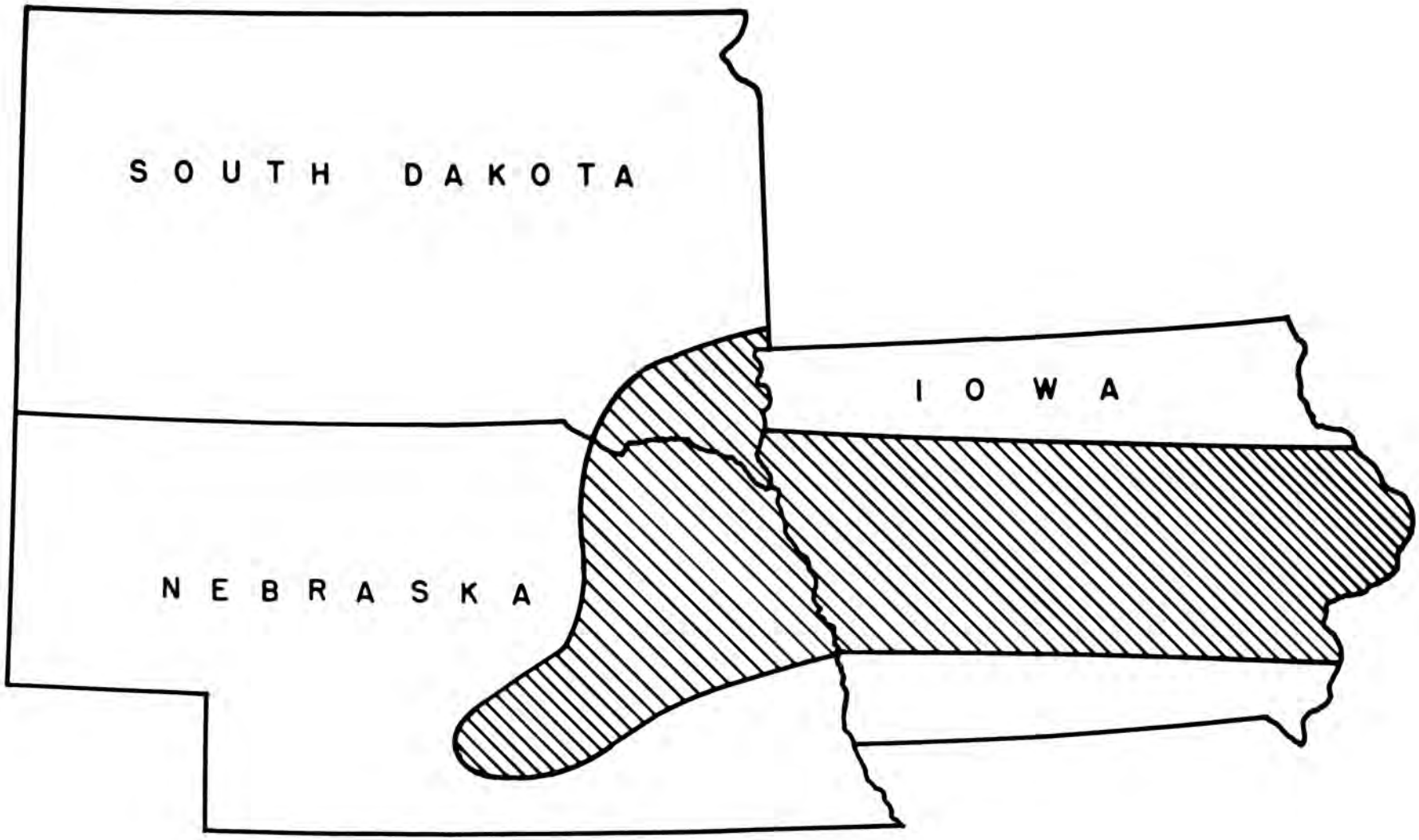
Table 32. Summary of maturity data, days earlier (-) or later (+) than Hawkeye, for the strains in the Uniform Preliminary Test, Group II, 1958.

Strain	Mean of 11 Tests[1]	Ridge-town Ont.	Hoyt-ville Ohio	Woos-ter Ohio	Colum-bus Ohio	Walk-erton Ind.
Blackhawk	-4.8	-3	+ 3	-15	- 9	-6
Ford	+4.2	+5	+ 4	0	+ 8	+3
Harosoy	-4.1	-3	- 5	-14	- 5	-2
Hawkeye	0	0	0	0	0	0
Kanrich	+5.7	+6	+ 5	+ 4	+11	+6
Kim	+4.9	+8	+ 3	+ 3	+ 5	+6
A6-7818	+3.3	+1	0	+ 1	- 1	+4
AX58-C41-1	+4.9	-4	-12	-13	- 4	-3
CX252-3-1	-2.0	-3	- 5	-11	- 2	-1
CX252-26-4	-2.0	0	- 5	- 6	- 4	-1
CX252-34-3	-3.2	-3	- 6	- 9	- 2	-3
H20833-7	+0.3	-1	- 3	- 2	- 2	0
S6-5004	+1.3	+2	- 1	- 1	0	0
U2-28	+4.4	+3	+ 2	+ 4	+ 6	+1
W1-2118	-3.9	-4	- 7	-11	- 1	-4
W3-1069	-2.8	-3	- 7	-10	0	-5
Date planted[2]	5-20	5-26	5-20	5-14	5-16	5-27
Hawkeye matured	9-24	10-4	9-28	9-30	9-27	10-2
Days to mature	127	131	131	139	134	128

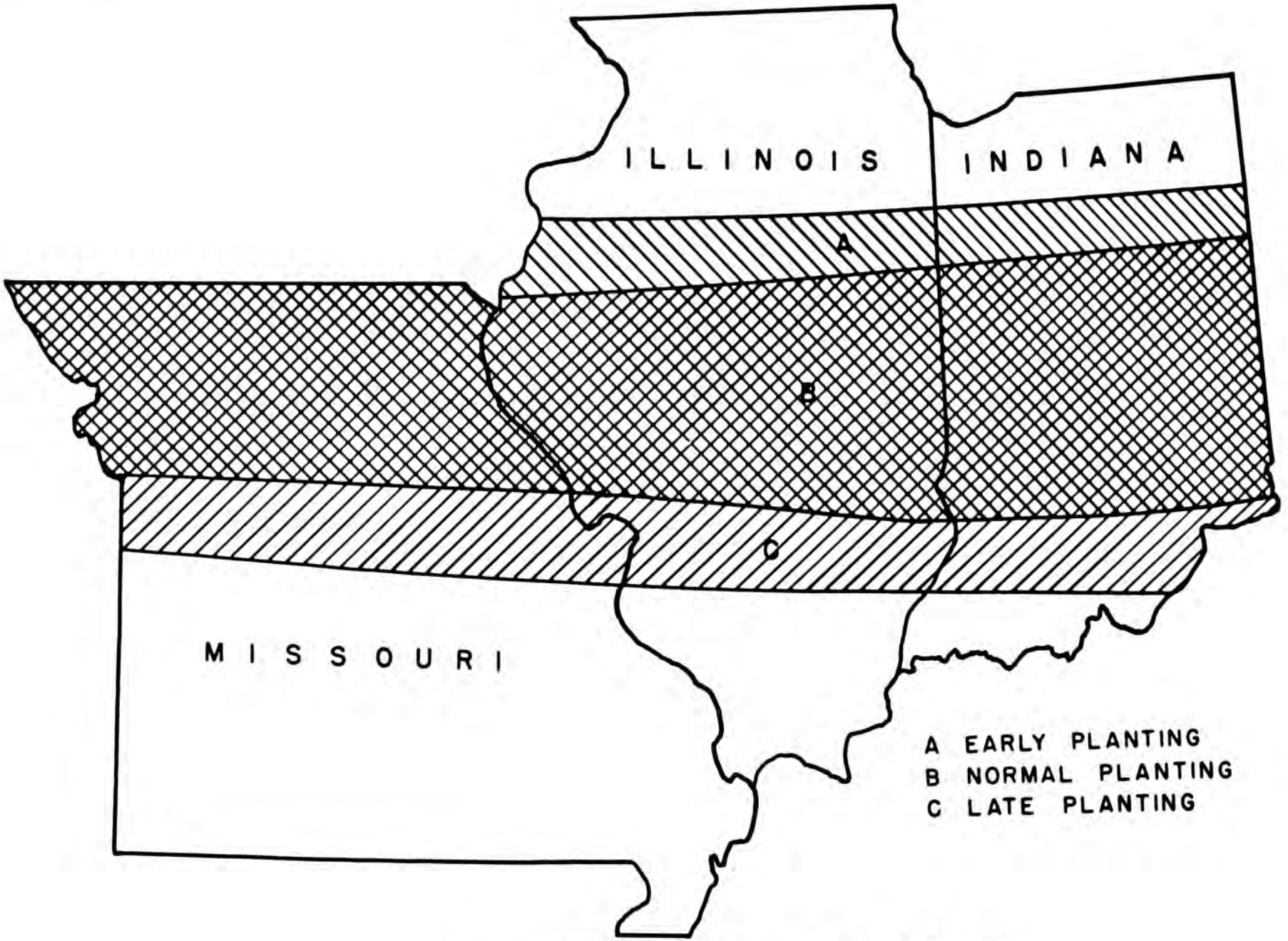
[1]Madison, Wisconsin not included in the mean.
[2]Menno, South Dakota planted May 19.

Table 32. (Continued)

Strain	Lafayette Ind.	Madison Wis.	Urbana Ill.	Kanawha Iowa	Ames Iowa	Kirksville Mo.	Concord Nebr.
Blackhawk	-3	- 4	-5	-4	-6	-3	-2
Ford	+7	+ 8	+6	+4	+3	+4	+2
Harosoy	-5	- 3	-1	-2	-5	-1	-2
Hawkeye	0	0	0	0	0	0	0
Kanrich	+6	+14	+7	+6	+4	+6	+2
Kim	+5	+19	+6	+8	+4	+1	+5
A6-7818	+4	+ 9	+7	+6	+4	+5	+5
AX58-C41-1	-5	- 3	-3	-2	-6	0	-2
CX252-3-1	0	- 3	0	0	0	+1	-1
CX252-26-4	-2	0	-3	0	-2	0	+1
CX252-34-3	-2	- 2	-3	-2	-4	0	-1
H20833-7	+2	- 5	+2	+2	0	+3	+2
S6-5004	+4	+ 2	+2	+4	0	+3	+1
U2-28	+7	+ 2	+6	+5	+4	+5	+5
W1-2118	-6	- 6	-3	-2	-3	-3	+1
W3-1069	-3	- 3	+2	-1	-2	-2	0
Date planted[2]	5-14	5-15	5-13	5-15	5-14	5-25	6-3
Hawkeye matured	9-17	9-27	9-15	9-20	9-24	9-12	9-29
Days to mature	126	135	125	128	133	110	118



AREA OF ADAPTATION OF FORD



AREA OF ADAPTATION OF SHELBY

UNIFORM TEST, GROUP III, 1958

Strain	Source or Originating Agency	Origin
Clark	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Ford (A0-8618-2)	Iowa A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Lincoln	Ill. A.E.S. & U.S.R.S.L.	Sel. from Mandarin x Manchu
Shelby (L9-5139)	Ill. 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)
C1128	Purdue A.E.S. & U.S.R.S.L.	Sel. from Wabash x A4-107-12
S2-5179	Mo. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
S6-1018	Mo. A.E.S. & U.S.R.S.L.	Sel. from S4-1207

Identification of Parent Strains

S4-1207	A4-107-12 x (L9-4091 x L6-2132-1)
A4-107-12	Sel. from A45-251 (Mukden x Richland), Hawkeye line
L6-2132	Sel. from Lincoln x (Lincoln x Richland), progenitor of Clark
L9-4091	Pustule resistant selection from (Lincoln x (Lincoln x Richland)) x (Lincoln x CNS)

This test was grown at 23 locations in 1958, and the data are presented in Tables 33 through 39. The general yield level was high this year, being about 20% higher than the mean of the six previous years. Yields at most locations were 3 to 18 bushels higher than the long-time mean and were lower at only two locations, Worthington, Indiana, and Laddonia, Missouri.

The four check varieties have been in test for seven years, and their 7-year means are presented in Tables 38 and 39. Two of these, Ford and Shelby, were named and released in 1958 and the history of their development is given below.

There are four strains in the test this year. One of them, C1128, has been in the Group II test for several years. Its maturity places it more properly in Group III, and so it was included in this test in 1958 for the first time. Its maturity was unusually late this year since in the past it has been similar to Adams and almost 3 days earlier than Shelby, while this year its average maturity was similar to Ford. Yield-wise, it did not perform so well in this test, but it has excellent oil content and lodging resistance.

Strain S6-1018 is a reselection from S4-1207, which was in this test in 1957. It is similar to Shelby in maturity, is equal to it or slightly better in all other traits measured, and in addition is resistant to bacterial pustule.

S2-5179, a sib of Shelby, was very similar to it in all traits and was a little higher in yield in this test as well as in the Preliminary Test in 1957.

The fourth strain, A3-6319, was also entered from the 1957 Preliminary Test. It was intermediate between Shelby and Clark in both maturity and yield.

FORD

Ford was named in 1958 and will be released for production in Iowa, Nebraska, and South Dakota in 1959. Ford, formerly strain A0-8618-2, is a BC_1S_8 line from the cross Lincoln x (Lincoln x Richland). It matures a day or two earlier than Lincoln and is similar to it in general appearance. It has consistently outyielded Lincoln in its area of adaptation and yields relatively better north of the area where Shelby is best adapted. It has white flowers, tawny pubescence, dark brown pods, and shiny yellow seeds with black hilums. Ford is resistant to frogeye leaf spot.

The following is a detailed outline of the origin and development of Ford.

1941 - Cross AX3015 made between Lincoln and Richland at Ames, Iowa.

1941-42 winter - AX3015 sent to L. F. Williams and backcross, LX938, Lincoln x (Lincoln x Richland) made in greenhouse at Urbana, Illinois.

1942 - BC_1 grown at Urbana, Illinois, and portion of seed sent to Iowa.

1943 - BC_1S_1. 610 plant rows grown at Kanawha, Iowa. Each of 610 plant rows bulked and brought to Ames.

1944 - BC_1S_2. 610 bulked rows grown at Ames, Iowa. Selected 450 plants.

1945 - BC_1S_3. 450 plant rows grown at Ames, Iowa. Selected 360 plants.

1946 - BC_1S_4. Plant rows grown at Ames, Iowa. 98 best rows bulked and selected 290 plants.

1947 - BC_1S_5. 290 plant rows grown at Ames, Iowa. 48 best rows bulked.

1948 - BC_1S_6. 48 lines tested in 2 replications at Ames, Iowa. A7-6402 progenitor of A0-8618, highest yield.

1949 - BC_1S_7. 27 lines tested in 4 replications each at Ames and Ottumwa, Iowa. A7-6402 second highest yield. Selected 5 plants from each line.

1950 - BC_1S_8. 10 lines tested in 6 replications each at Ames and Ottumwa, Iowa. A7-6402 highest yield. 50 plant rows grown at Ames. 2 plant rows bulked from each line.

1951 - BC_1S_9. 7 lines plus daughter strains tested in 6 replications each at Ames and Ottumwa, Iowa. A0-8618 highest yield. A7-6402 tested in Uniform Test, Group III.

1952 - BC_1S_{10}. 5 lines plus 31 unrelated strains tested in 3 replications each at Ames and Ottumwa, Iowa. A0-8618 second highest yield. A7-6402 and A0-8618 in Uniform Tests, Group II and III.

1953 - BC_1S_{11}. A0-8618 tested with 25 additional strains in 4 replications each at Ames and Ottumwa, Iowa. Third highest yield. A0-8618 tested in Uniform Tests, Group II and III.

1954 - BC_1S_{12}. A0-8618 tested with 31 additional strains in 4 replications each at Ames and Ottumwa. Fifth highest yield. A0-8618 tested in Uniform Tests, Group II and III. Selected 200 single plants of purple and white flowered strains.

1955 - BC_1S_{13}. A0-8618 tested with A0-8618-1 (purple flower) and A0-8618-2 (white flower) plus 27 additional strains in 4 replications each at Ames and Ottumwa, Iowa. A0-8618 tested in Uniform Tests, Group II and III. From 100 plant rows about 2 bushels of A0-8618-2 pedigreed seed produced.

1956 - BC_1S_{14}. A0-8618 tested with A0-8618-1 and A0-8618-2 in Uniform Tests, Group II and III. A0-8618-2 increased to 30 bushels. 10 bushels sent to each Nebraska and South Dakota in fall.

1957 - BC_1S_{14}. A0-8618-2 tested in Uniform and Preliminary Tests, Group II and III. Increased to 300 bushels in Iowa. Approximately same in Nebraska and South Dakota.

1958 - A0-8618-2 named Ford. Second increase by the three states of Iowa, Nebraska, and South Dakota amounted to 7,000 bushels. Tested in Uniform and Preliminary Tests, Group II and III.

SHELBY

Shelby was named in 1958 and released for production in Illinois, Indiana, and Missouri in 1959. Shelby, formerly strain L9-5139, is a BC_1S_7 line from the cross Lincoln x (Lincoln x Richland). It matures at the same time as Lincoln and is similar to it in many respects. It has consistently outyielded Lincoln in its area of adaptation and frequently resists lodging somewhat better. Its seeds are slightly larger and frequently higher in quality than those of Lincoln. It is similar to Lincoln in plant appearance but the stems appear coarser and flower color is purple instead of white. Its pubescence is tawny in color, the seeds are yellow with black hilums, and the pods are dark brown. The seed coat has a dull luster like Clark in contrast to the shiny luster of Lincoln and Ford. Shelby is resistant to frogeye leaf spot.

The following is a brief outline of the history of the development of Shelby.

1941 - AX3015, Lincoln (L6-685) x Richland cross made by M. G. Weiss at Ames, Iowa.

1941-42 winter - LX938, Lincoln x (F_1 of Lincoln x Richland) backcross, made by L. F. Williams in the greenhouse at Urbana, Illinois.

1942 - BC_1. 700 plants grown at Urbana, Illinois.

1943 - BC_1S_1. 700 plant progeny rows grown at Urbana and plant selections (including plant number 482-2) made from them.

1944 - BC_1S_2. 2,000 plant progeny rows grown at Urbana, Illinois. Best looking rows harvested (including L4-1458 from plant 482-2).

1945 - BC_1S_3. Performance test of 500 mid-maturity lines in four replications at Urbana, Illinois. Plant selections made from best appearing strains.

1946 - BC_1S_4. Performance test of 1,200 plant progenies (including strain L6-2132 grown from plant L4-1458-3) in 2-replicated, 8-foot rows at Urbana and in 1 8-foot row at Stonington, Illinois.

1947 - BC_1S_5. Performance test of 70 lines at Urbana and Stonington, Illinois, with four replications at each location.

1948 - BC_1S_6. L6-2132, along with four other lines from this cross, entered in Preliminary Test, Group III, grown at five locations in Illinois, Indiana, Iowa, and Missouri. Ten plants isolated and designated L6-2132-1 to -10.

1949 - BC_1S_7. L6-2132 entered in Uniform Test, Group III. Ten plant progeny rows grown at Urbana, Illinois, including L9-5139 from L6-2132-3 (and also L9-5138 from L6-2132-2).

1950 - BC_1S_8. L6-2132 grown in Uniform Test, Group III. Ten reselected lines (including L9-5139 and L9-5138) grown in performance test at Urbana, Illinois with 4 replications. L9-5139 was appreciably earlier than other selections but lower in yield. (L9-5138 was highest in yield and was later released as Clark.)

1951 - BC_1S_9. L9-5139 tested at seven locations in Illinois as an extra strain in Uniform Test, Group III. Averaged 4 bushels higher than Lincoln.

1952 to 1958 - L9-5139 tested in Uniform Test, Group III, and averaged 2.7 bushels higher than Lincoln and over a bushel higher than Ford.

From 1954 to 1957, strain L9-5139 was entered in the Group II test also, and averaged 1.6 bushels higher than Lincoln in yield and almost a bushel higher than Harosoy, the top-yielding check variety in this test, but slightly less than Ford.

1956 - Decision made to release L9-5139. 230 pounds of breeder's seeds produced at Lafayette, Indiana, and Urbana, Illinois, from about 200 plant progeny rows.

1957 - Foundation seeds produced on nine acres in Illinois, Indiana, and Missouri.

1958 - Foundation seeds produced on 737 acres in the three states (Illinois, 16,000 bushels; Indiana, 3,000 bushels; Missouri, 5,000 bushels). Named Shelby after counties in its area of adaptation in the three states and publicity released in August, 1958.

Table 33. Summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	20	20	19	21	18	21	21	21
Clark	43.6	+6.7	2.3	42	1.4	16.6	41.1	21.5
A3-6319	41.3	+4.9	2.3	44	1.8	17.9	39.6	21.5
S6-1018	41.0	+0.7	2.2	40	1.9	15.4	41.0	21.0
S2-5179	40.7	+0.2	2.1	40	1.7	15.5	41.1	21.2
Shelby	39.7	0	2.4	42	1.5	16.3	41.0	21.4
Ford	37.8	-0.8	2.4	40	1.7	16.8	41.4	21.2
C1128	36.1	-0.7	2.2	42	1.7	17.2	40.5	22.2
Lincoln	36.1	-0.1	2.5	41	1.8	14.8	41.0	21.5
Mean	39.5	+1.4	2.3	41	1.7	16.3	40.8	21.4

[1]Days earlier (-) or later (+) than Shelby. Shelby required 122 days to mature.

Table 34. Summary of disease reaction data for the strains in the Uniform Test, Group III, 1958.

Strain	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker[1]	Phytophthora Rot	Cyst Nematode
Clark	4La,5Aa	4La,5Aa	4Ca	5Ln	RCa	67Cn,2An	SCa	4Nn
A3-6319	4La,5Aa	5La,5Aa	4Ca	5Ln	SCa		SCa	
S6-1018	3La	3La	4Ca	5Ln	RCa		SCa	
S2-5179	4La,4Aa	4La,5Aa	5Ca	5Ln	RCa		SCa,4Hn	
Shelby	4La,4Aa	4La,4Aa	5Ca	5Ln	RCa	78Cn,2An	SCa,4Hn	4Nn
Ford	3La,5Aa	4La,5Aa	4Ca	5Ln	RCa	3An	SCa,4Hn	3Nn
C1128	4La,5Aa	4La,5Aa	3Ca	4Ln	RCa	5Cn,3An	SCa,4Hn	4Nn
Lincoln	5La,5Aa	4La,5Aa	5Ca	5Ln	RCa	20Cn,2An	SCa,3Hn	3Nn

[1]Stem canker readings from Indiana (C) are percentages of diseased plants based on the number of infected Hawkeye as 100%. Readings from Iowa (A) follow the regular 1-5 ratings of the Soybean Disease Classification Standards, 1955 (RSLM 179).

Table 35. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1958.

Strain	Mean of 20 Tests[1]	Glass-boro N.J.	New-ark Del.	George-town Del.	Hoyt-ville Ohio	Co-lum-bus Ohio	Bluff-ton Ind.	Lafayette Indiana Planted 5-14	Lafayette Indiana Planted 7-1	Green-field Ind.	Worth-ing-ton Ind.	Evans-ville Ind.
Clark	43.6	45.1	52.1	55.8	29.7	57.6	37.0	51.0	28.4	43.8	37.2	52.0
A3-6319	41.3	41.7	46.1	51.2	35.2	52.2	39.4	46.0	31.3	46.0	35.1	43.7
S6-1018	41.0	44.6	45.6	48.9	23.9	39.5	37.8	48.9	32.1	39.6	32.3	45.2
S2-5179	40.7	44.0	46.9	47.8	32.0	56.7	37.7	49.6	32.0	37.3	33.6	47.4
Shelby	39.7	45.0	46.2	46.8	28.1	49.8	36.1	42.6	31.2	39.8	32.3	43.7
Ford	37.8	35.6	44.6	43.6	34.4	49.3	35.9	41.9	33.2	39.4	33.0	40.8
C1128	36.1	38.8	38.9	43.2	35.1	52.1	35.7	40.0	30.4	37.1	35.2	36.2
Lincoln	36.1	34.7	41.9	43.5	28.7	55.7	34.6	40.7	30.3	35.2	29.6	39.6
Mean	39.5	41.2	45.3	47.6	30.9	51.6	36.8	45.1	31.1	39.8	33.5	43.6
C.V.(%)		7.4	9.2	8.2	15.7	35.0	6.4	7.6	5.4	7.4	6.2	5.7
B.N.F.S.(5%)		4.9	6.1	5.7	7.2	N.S.	N.S.	5.0	2.4	4.3	3.1	3.7
Row Sp.(In.)		40	36	36	36	28	38	40	40	38	38	38
		Yield Rank										
Clark		1	1	1	5	1	4	1	8	2	1	1
A3-6319		5	4	2	1	4	1	4	4	1	3	4
S6-1018		3	5	3	8	8	2	3	2	4	5	3
S2-5179		4	2	4	4	2	3	2	3	6	4	2
Shelby		2	3	5	7	6	5	5	5	3	5	4
Ford		7	6	6	3	7	6	6	1	5	7	6
C1128		6	8	8	2	5	7	8	6	7	2	8
Lincoln		8	7	7	6	3	8	7	7	8	8	7

[1]Glassboro, New Jersey, Columbus, Ohio, Lafayette, Indiana planted July 1, and Carbondale, Illinois not included in the means.

Table 35. (Continued)

Strain	Urbana Ill.	Girard Ill.	Edgewood Ill.	Eldorado Ill.	Carbondale Ill.	Ames Iowa	Ottumwa Iowa	Kirksville Mo.	Ladonia Mo.	Columbia Mo.	Lincoln Nebr.	Powhattan Kans.	Manhattan Kans.
Clark	51.7	43.9	45.2	62.3	32.6	50.8	42.1	32.1	30.9	42.8	41.0	27.5	43.3
A3-6319	54.4	43.6	46.4	51.9	33.0	46.1	41.9	31.8	22.5	39.2	40.0	22.0	42.9
S6-1018	48.1	47.8	46.7	51.9	32.7	44.2	46.1	34.0	27.0	42.9	40.2	23.1	45.5
S2-5179	50.2	43.8	44.2	53.1	34.2	48.0	44.6	28.9	27.3	43.4	39.6	20.9	38.6
Shelby	48.6	44.8	40.9	54.7	35.7	45.3	42.0	31.7	25.5	46.3	42.2	20.9	36.3
Ford	50.2	36.8	39.2	48.9	19.7	42.4	41.2	29.7	24.3	35.8	37.0	22.0	34.2
C1128	47.4	36.2	34.1	45.1	33.4	39.1	41.6	32.9	20.1	31.9	35.4	20.9	35.9
Lincoln	44.7	39.6	37.4	45.1	31.0	42.1	38.1	28.0	20.4	31.2	38.3	26.4	36.5
Mean	49.4	42.1	41.8	51.6	31.5	44.8	42.2	31.1	24.8	39.2	39.2	23.0	39.2
C.V.(%)	6.5	8.6	9.8	9.0	--	5.2	5.4	--	--	--	10.0	15.3	7.2
B.N.F.S.(5%)	4.7	5.3	6.0	6.8	--	3.4	3.3	--	--	--	N.S.	N.S.	4.2
Row Sp.(In.)	40	38	38	40	40	40	40	40	40	38	38	40	40
	Yield Rank												
Clark	2	3	3	1	6	1	3	3	1	4	2	1	2
A3-6319	1	5	2	4	4	3	5	4	6	5	4	4	3
S6-1018	6	1	1	4	5	5	1	1	3	3	3	3	1
S2-5179	3	4	4	3	2	2	2	7	2	2	5	6	4
Shelby	5	2	5	2	1	4	4	5	4	1	1	6	6
Ford	3	7	6	6	8	6	7	6	5	6	7	4	8
C1128	7	8	8	7	3	8	6	2	8	7	8	6	7
Lincoln	8	6	7	7	7	7	8	8	7	8	6	2	5

Table 36. Summary of maturity data, days earlier (-) or later (+) than Shelby, and lodging for the strains in the Uniform Test, Group III, 1958.

Strain	Mean of 20 Tests[1]	Glass-boro N.J.	New-ark Del.	George-town Del.	Hoyt-ville Ohio	Co-lum-bus Ohio	Bluff-ton Ind.	Lafayette Indiana Planted 5-14	Lafayette Indiana Planted 7-1	Green-field Ind.	Worth-ing-ton Ind.
Clark	+6.7	+7	+6	+7	+6	+3	+7	+7	+2	+9	+7
A3-6319	+4.9	+1	+4	+3	+7	+3	+9	+9	+2	+5	+6
S6-1018	+0.7	+2	0	-2	+5	-1	0	+2	0	0	-1
S2-5179	+0.2	-2	-2	-2	+4	-2	-1	+1	0	0	0
Shelby	0	0	0	0	0	0	0	0	0	0	0
Ford	-0.8	-2	-2	-2	+1	-4	-1	0	0	0	-1
C1128	-0.7	-7	-3	-2	+6	-2	0	0	0	+1	+3
Lincoln	-0.1	-3	-1	-3	+1	-3	-1	0	0	+1	-1
Date planted[2]	5-23	5-29	5-24	5-26	5-20	5-16	5-17	5-14	7-1	5-20	7-2
Shelby matured	9-22	9-25	9-25	9-19	9-29	10-6	9-26	9-24	10-14	9-25	10-2
Days to mature	122	119	124	116	132	143	132	133	105	128	92
	Mean of 19 Tests[3]	Lodging									
Clark	2.3	3.7	2.3	2.0	2.5	1.2	2.0	3.0	2.0	1.5	2.8
A3-6319	2.3	4.2	2.8	2.0	2.5	1.0	2.0	3.5	1.5	1.3	2.5
S6-1018	2.2	3.2	2.0	2.0	2.5	1.5	2.0	3.0	1.0	1.5	2.0
S2-5179	2.1	3.0	2.3	3.0	1.7	1.0	2.0	2.5	1.3	1.3	1.8
Shelby	2.4	3.0	2.3	2.8	2.5	2.0	2.0	3.5	1.0	2.5	2.3
Ford	2.4	3.7	2.0	3.0	2.7	1.0	2.0	3.0	2.0	2.3	2.3
C1128	2.2	2.2	2.0	2.8	2.0	1.0	1.5	3.0	1.3	1.5	2.0
Lincoln	2.5	3.5	2.5	2.5	2.2	1.0	2.0	3.0	1.5	2.3	2.8
Mean	2.3	3.3	2.3	2.5	2.3	1.2	1.9	3.1	1.5	1.8	2.3

[1]Glassboro, New Jersey, Columbus, Ohio, and Lafayette, Indiana planted July 1 not included in the mean.

[2]Laddonia, Missouri planted June 6.

[3]Glassboro, New Jersey, Columbus, Ohio, Lafayette, Indiana planted July 1, and Kirksville, Missouri not included in the mean.

Table 36. (Continued)

Strain	Evansville Ind.	Urbana Ill.	Girard Ill.	Edgewood Ill.	Eldorado Ill.	Carbondale Ill.	Ames Iowa	Ottumwa Iowa	Kirksville Mo.	Columbia Mo.	Lincoln Nebr.	Powhattan Kans.	Manhattan Kans.
Clark	+6	+6	+8	+8	+6	+6	+6	+5	+7	+7	+4	+6	+ 9
A3-6319	+1	+5	+4	+5	+1	+6	+6	+3	+2	+4	+2	+5	+10
S6-1018	+1	0	0	0	0	+1	-2	-3	-1	+1	+1	+4	+ 7
S2-5179	0	-1	-1	+1	0	+1	-3	-1	+1	+1	+1	+3	+ 1
Shelby	0	0	0	0	0	0	0	0	0	0	0	0	0
Ford	-1	0	-2	-1	-1	+1	-2	-2	-1	0	-1	0	0
C1128	-2	0	-3	-3	-3	-1	-2	-2	-1	-1	-3	+2	0
Lincoln	-1	0	0	-1	-1	0	-1	0	0	+1	0	+3	+ 2
Date pltd.[2]	5-22	5-13	5-14	5-22	5-14	6-7	5-14	5-13	5-25	5-8	5-29	6-4	5-24
Shelby mat.	9-14	9-22	9-14	9-13	9-6	9-18	9-29	9-26	9-17	9-11	10-1	9-27	9-27
Days to mat.	115	132	123	114	115	103	138	136	115	126	125	115	126
	Lodging												
Clark	1.5	2.5	3.1	2.8	2.2	1.0	2.6	2.2	1.0	2.4	2.8	2.0	2.3
A3-6319	2.3	2.0	3.5	2.6	2.6	2.0	2.3	2.4	1.0	2.6	1.8	2.0	1.6
S6-1018	2.0	2.8	3.5	2.2	2.4	1.0	2.4	2.1	1.0	2.9	2.3	2.0	2.0
S2-5179	2.0	1.9	3.0	2.1	2.3	1.0	2.0	2.1	1.0	2.4	1.5	2.0	2.1
Shelby	2.8	2.4	3.2	2.5	2.2	1.0	2.6	2.2	1.0	2.6	1.5	2.0	2.4
Ford	3.0	2.3	4.1	2.2	2.3	1.0	2.3	2.0	1.0	2.9	1.5	2.0	2.2
C1128	2.8	2.0	3.9	3.0	2.4	1.2	2.3	2.2	1.0	3.1	1.3	1.0	1.5
Lincoln	2.8	2.6	3.6	2.9	2.7	1.0	2.9	2.6	1.0	3.1	2.5	2.0	1.8
Mean	2.4	2.3	3.5	2.5	2.4	1.2	2.4	2.2	1.0	2.8	1.9	1.9	2.0

Table 37. Summary of height data and percentage of oil for the strains in the Uniform Test, Group III, 1958.

Strain	Mean of 21 Tests[1]	Glass-boro N.J.	New-ark Del.	George-town Del.	Hoyt-ville Ohio	Co-lum-bus Ohio	Bluff-ton Ind.	Lafayette Indiana Planted 5-14	Lafayette Indiana Planted 7-1	Green-field Ind.	Worth-ing-ton Ind.	Evans-ville Ind.
Clark	42		47	44	37	40	35	40	30	38	30	44
A3-6319	44		50	46	40	41	39	42	35	40	33	42
S6-1018	40		46	44	36	38	35	39	29	34	29	40
S2-5179	40		45	44	38	39	35	40	29	33	29	40
Shelby	42		49	44	37	37	37	39	31	35	31	41
Ford	40		47	43	37	47	34	37	29	36	29	42
C1128	42		48	42	42	37	38	43	31	39	32	43
Lincoln	41		47	42	38	41	35	38	29	36	31	41
Mean	41		47	44	38	40	36	40	30	36	31	42
	Mean of 21 Tests[2]	Percentage of Oil										
Clark	21.5	21.2	22.8	22.0	20.6	21.3	20.2	20.6	19.0	20.5	20.9	21.3
A3-6319	21.5	21.5	21.8	21.7	20.6	20.9	20.7	20.8	19.3	20.6	20.4	22.3
S6-1018	21.0	19.3	21.0	21.1	19.3	19.8	19.7	20.4	19.3	19.5	19.7	21.2
S2-5179	21.2	20.9	21.0	21.0	19.9	20.5	20.1	20.9	19.2	20.1	19.6	21.6
Shelby	21.4	20.9	21.4	21.3	20.1	20.5	20.6	20.8	19.8	20.2	19.5	22.2
Ford	21.2	20.6	21.6	21.1	20.0	20.6	20.3	20.7	19.6	20.1	19.7	21.6
C1128	22.2	22.0	22.3	22.3	20.5	21.3	20.9	21.8	20.2	21.0	20.6	22.7
Lincoln	21.5	21.1	22.1	21.7	20.6	21.3	20.5	21.0	20.0	20.1	19.9	22.0
Mean	21.4	20.9	21.8	21.5	20.2	20.8	20.4	20.9	19.6	20.3	20.0	21.9

[1]Columbus, Ohio and Lafayette, Indiana planted July 1 not included in the mean.
[2]Glassboro, New Jersey, Columbus, Ohio, and Lafayette, Indiana planted July 1 not included in the mean.

Table 37. (Continued)

Strain	Urbana Ill.	Girard Ill.	Edgewood Ill.	Eldorado Ill.	Carbondale Ill.	Ames Iowa	Ottumwa Iowa	Kirksville Mo.	Laddonia Mo.	Columbia Mo.	Lincoln Nebr.	Powhattan Kans.	Manhattan Kans.
Clark	45	48	45	50	37	44	47	41	38	47	44	34	46
A3-6319	49	51	44	51	36	46	49	42	34	45	50	37	50
S6-1018	43	46	42	47	32	42	45	39	37	43	44	31	45
S2-5179	44	46	42	47	36	43	46	38	33	42	44	30	44
Shelby	45	47	43	49	37	43	45	39	38	45	47	34	47
Ford	44	46	42	46	34	42	45	38	33	47	44	32	46
C1128	45	49	44	50	33	44	46	40	33	44	49	35	47
Lincoln	45	46	42	49	36	42	44	39	33	41	46	34	46
Mean	45	47	43	49	35	43	46	40	35	44	46	33	46
	Percentage of Oil												
Clark	21.4	21.3	21.3	22.0	22.8	21.0	20.8	21.2	20.7	22.0	22.0	23.9	22.4
A3-6319	21.3	22.1	21.4	22.5	21.7	20.2	20.8	21.2	21.3	22.3	21.7	23.7	22.7
S6-1018	20.9	21.3	21.2	22.4	22.0	20.6	20.4	20.4	20.0	22.1	21.3	24.0	22.5
S2-5179	21.4	21.4	21.2	22.3	21.8	21.2	20.4	20.8	20.3	22.1	21.0	23.6	22.5
Shelby	21.3	21.3	21.4	22.2	21.7	21.4	21.5	20.9	20.3	22.1	21.4	24.5	23.1
Ford	20.9	21.9	20.8	21.8	22.0	20.9	21.2	20.2	20.6	22.0	21.9	24.2	22.7
C1128	22.0	22.4	22.7	23.3	22.5	21.5	22.0	21.4	21.5	22.8	22.7	25.1	23.6
Lincoln	22.0	21.5	21.7	22.8	21.6	21.6	21.1	20.7	20.8	22.3	21.8	24.3	22.4
Mean	21.4	21.7	21.5	22.4	22.0	21.1	21.0	20.9	20.7	22.2	21.7	24.2	22.7

Table 38. Seven-year summary of agronomic and chemical data for the strains in the Uniform Test, Group III, 1952-1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	140	118	125	135	124	139	140	140
Clark	38.1	+5.8	1.9	40	1.7	16.0	40.7	21.4
Shelby	35.5	0	2.1	40	1.9	15.4	40.7	21.4
Ford	33.9	-1.4	2.1	39	2.2	16.0	41.1	21.1
Lincoln	32.8	+0.1	2.2	39	2.2	14.3	40.7	21.4
Mean	35.1		2.1	40	2.0	15.4	40.8	21.3

[1]Days earlier (-) or later (+) than Shelby. Shelby required 121 days to mature.

Table 39. Seven-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group III, 1952-1958.

Strain	Mean of 140 Tests	Newark Del.	Georgetown Del.	Beltsville Md.	Columbus Ohio	Lafayette Ind.	Greenfield Ind.	Worthington Ind.	Urbana Ill.	Girard Ill.
Years Tested		1952-1958	1953-54 1956,'58	1952-1957	1952-1958	1952-1958	1952-1958	1952-1958	1952-1958	1955-1958
Clark	38.1	46.6	33.0	41.8	41.0	46.5	42.5	46.2	37.7	43.5
Shelby	35.5	40.0	26.2	35.5	38.4	42.3	41.1	41.7	37.2	40.8
Ford	33.9	37.7	25.4	36.4	36.6	42.9	38.5	38.1	38.4	37.3
Lincoln	32.8	38.6	25.1	35.5	37.3	40.5	37.7	36.3	35.7	36.5
Mean	35.1	40.7	27.4	37.3	38.3	43.1	40.0	40.6	37.3	39.5
		Yield Rank								
Clark		1	1	1	1	1	1	1	2	1
Shelby		2	2	3	2	3	2	2	3	2
Ford		4	3	2	4	2	3	3	1	3
Lincoln		3	4	3	3	4	4	4	4	4

Table 39. (Continued)

Strain	Edgewood Ill.	Eldorado Ill.	Ames Iowa	Ottumwa Iowa	Kirksville Mo.	Laddonia Mo.	Columbia Mo.	Lincoln Nebr.	Powhattan Kans.	Manhattan Kans.
Years Tested	1952-53, 1955-56,'58	1952-1958	1952-1958	1952-1958	1955-1958	1952-1956,'58	1952-1958	1952-1958	1955-1958	1952-55 1958
Clark	31.5	42.4	40.1	41.1	31.4	28.1	29.9	37.4	19.9	19.1
Shelby	32.3	38.8	37.6	40.3	29.2	26.9	28.0	35.3	16.7	16.0
Ford	30.6	35.7	37.2	39.1	27.3	25.8	25.9	33.0	16.6	15.5
Lincoln	28.1	33.2	34.1	37.8	26.2	24.8	25.4	32.2	16.5	15.9
Mean	30.6	37.5	37.3	39.6	28.5	26.4	27.3	34.5	17.4	16.6
	Yield Rank									
Clark	2	1	1	1	1	1	1	1	1	1
Shelby	1	2	2	2	2	2	2	2	2	2
Ford	3	3	3	3	3	3	3	3	3	4
Lincoln	4	4	4	4	4	4	4	4	4	3

UNIFORM PRELIMINARY TEST, GROUP III, 1958

Strain	Source or Originating Agency	Origin
Clark	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Ford (A0-8618-2)	Iowa A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Shelby (L9-5139)	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
A6-6522	Iowa A.E.S. & U.S.R.S.L.	Sel. from Capital x Clark
A6-7823	Iowa A.E.S. & U.S.R.S.L.	Sel. from Adams x Clark
CX252-7-4	Purdue A.E.S. & U.S.R.S.L.	Sel. from Harosoy x C1079
H24157-4	Ohio A.E.S. & U.S.R.S.L.	Sel. from Monroe x Lincoln
H24157-5	Ohio A.E.S. & U.S.R.S.L.	Sel. from Monroe x Lincoln
S4-1207 Dull	Mo. A.E.S. & U.S.R.S.L.	Sel. from A4-107-12 x (L9-4091 x L6-2132-1)
S4-1207 Shiny	Mo. A.E.S. & U.S.R.S.L.	Sel. from A4-107-12 x (L9-4091 x L6-2132-1)
U2-42	Nebr. A.E.S. & U.S.R.S.L.	Sel. from Hawkeye x H6150

Identification of Parent Strains

A4-107-12	Sel. from A45-251 (Mukden x Richland), Hawkeye line
C1079	Sel. from C985 (Lincoln x Ogden)
H6150	Sel. from Lincoln x (Lincoln x Richland)
L6-2132	Sel. from Lincoln x (Lincoln x Richland), progenitor of Clark
L9-4091.	Pustule resistant selection from (Lincoln x (Lincoln x Richland)) x (Lincoln x CNS)

Eight strains were entered in this test in addition to the three check varieties. Four of these eight had been previously in regional testing. S4-1207 Dull and S4-1207 Shiny are bulk isolates based on seed coat luster from S4-1207, which was in Uniform Test, Group III, in 1958. The two H-strains are reselections from H24157, which was in the 1956 Preliminary Test, Group II.

The two S4-1207 strains were quite similar. The "dull" strain had a slightly higher yield, but this is probably not statistically significant. Their performance compared favorably with that of Shelby.

The two H24157 lines, which are resistant to Phytophthora rot, differed in maturity and yield. Both were lower in yield than the check strains for their respective maturities and also were quite low in oil content.

Of the remaining four lines, none surpassed the yield of check strains of similar maturity. CX252-7-4 was outstanding in lodging resistance but also stood out as being low in oil content. The other three strains were similar to the check varieties in all other traits measured.

Table 40. Summary of agronomic and chemical data for the strains in the Uniform Preliminary Test, Group III, 1958.

Strain	Yield Bu./A.	Yield Rank	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	10		10	10	10	6	9	7	7
Clark	48.2	1	+7.1	2.4	43	1.5	17.0	40.0	21.5
Ford	39.9	9	-0.3	2.4	42	1.4	16.9	40.6	21.5
Shelby	43.4	4	0	2.3	44	1.4	16.5	40.3	21.7
A6-6522	39.0	10	+0.8	2.3	41	2.0	16.0	41.3	21.5
A6-7823	43.8	2	+4.3	2.3	44	1.4	17.4	41.2	21.6
CX252-7-4	42.4	7	-1.4	1.9	43	1.9	16.1	43.3	20.6
H24157-4	42.6	5	+5.2	3.0	44	1.3	14.5	41.9	20.3
H24157-5	38.3	11	+2.8	2.7	43	1.5	15.4	42.2	20.5
S4-1207 Dull	43.7	3	+1.5	2.2	42	1.7	15.8	40.4	21.4
S4-1207 Shiny	42.6	5	+1.0	2.4	42	1.6	15.3	40.1	21.3
U2-42	41.1	8	+2.6	2.4	42	2.1	17.0	40.0	21.7
Mean	42.3		+2.1	2.4	43	1.6	16.2	41.0	21.2

[1]Days earlier (-) or later (+) than Shelby. Shelby required 131 days to mature.

Table 41. Summary of disease reaction data for the strains in the Uniform Preliminary Test, Group III, 1958.

Strain	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker[1]	Phytophthora Rot	Cyst Nematode
Clark	4La,5Aa	4La,5Aa	4Ca	5Ln	RCa	67Cn,2An	SCa,3Hn	4Nn
Ford	3La,5Aa	4La,5Aa	4Ca	5Ln	RCa	3An	SCa	3Nn
Shelby	4La,4Aa	4La,5Aa	5Ca	5Ln	RCa	78Cn,2An	SCa,4Hn	4Nn
A6-6522	4La	2La	4Ca	5Ln	RCa		SCa	
A6-7823	4La	3La	5Ca	5Ln	RCa		SCa	
CX252-7-4	4La	2La	3Ca	5Ln	SCa		SCa	
H24157-4	4La	3La	4Ca	5Ln	RCa		RCa	
H24157-5	4La	4La	3Ca	5Ln	RCa		RCa	
S4-1207 Dull	3La	2La	3Ca	5Ln	RCa		SCa	
S4-1207 Shiny	3La	2La	4Ca	5Ln	RCa		SCa	
U2-42	3La	3La	3Ca	5Ln	SCa		SCa	

[1]Stem canker readings from Indiana (C) are percentages of diseased plants based on the number of infected Hawkeye as 100%. Readings from Iowa (A) follow the regular 1-5 ratings of the Soybean Disease Classification Standards, 1955 (RSLM 179).

Table 42. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Preliminary Test, Group III, 1958.

Strain	Mean of 10 Tests	Mean Yield Rank	Hoyt-ville Ohio	Co-lum-bus Ohio	Lafay-ette Ind.	Ur-bana Ill.[1]	Gir-ard Ill.	Ames Iowa	Ottum-wa Iowa	Co-lum-bia Mo.	Lin-coln Nebr.	Man-hat-tan Kans.
Clark	48.2	1	30.3	60.2	54.8	50.1	50.5	52.5	46.4	50.4	44.4	42.7
Ford	39.9	9	27.4	59.1	43.8	46.8	36.8	42.4	38.3	31.9	40.9	31.1
Shelby	43.4	4	26.7	62.3	45.1	44.6	40.9	47.7	41.2	41.0	43.2	41.3
A6-6522	39.0	10	28.7	49.9	42.5	46.2	36.8	42.9	40.2	31.2	39.9	32.1
A6-7823	43.8	2	26.1	66.3	42.1	48.6	37.3	48.4	44.3	46.0	35.4	43.8
CX252-7-4	42.4	7	38.2	55.0	48.7	49.3	41.5	38.4	42.1	34.9	38.2	37.2
H24157-4	42.6	5	27.9	65.2	44.0	46.5	43.5	40.0	36.6	40.5	39.9	42.3
H24157-5	38.3	11	25.0	56.1	38.3	44.6	37.2	36.1	37.3	35.9	36.6	36.1
S4-1207 Dull	43.7	3	25.9	59.0	52.0	46.6	43.7	44.4	42.0	43.7	39.2	40.4
S4-1207 Shiny	42.6	5	24.7	50.7	43.4	46.4	44.0	42.8	43.8	43.9	44.0	42.3
U2-42	41.1	8	22.8	49.6	47.8	48.9	39.0	47.2	42.0	32.8	41.0	39.4
Mean	42.3		27.6	57.6	45.7	47.1	41.0	43.9	41.3	39.3	40.2	39.0
C.V.(%)			11.7	9.7	5.6	7.2	4.7	5.0	5.1	--	9.3	4.1
B.N.F.S.(5%)			5.1	N.S.	5.9	N.S.	4.3	4.9	4.7	--	N.S.	4.6
Row Sp.(In.)			36	28	40	40	38	40	40	38	38	40
			Yield Rank									
Clark			2	4	1	1	1	1	1	1	1	2
Ford			5	5	7	5	10	8	9	10	5	11
Shelby			6	3	5	10	6	3	7	5	3	5
A6-6522			3	10	9	9	10	6	8	11	6	10
A6-7823			7	1	10	4	8	2	2	2	11	1
CX252-7-4			1	8	3	2	5	10	4	8	9	8
H24157-4			4	2	6	7	4	9	11	6	6	3
H24157-5			9	7	11	10	9	11	10	7	10	9
S4-1207 Dull			8	6	2	6	3	5	5	4	8	6
S4-1207 Shiny			10	9	8	8	2	7	3	3	2	3
U2-42			11	11	4	3	7	4	5	9	4	7

[1]Four replications.

Table 43. Summary of maturity data, days earlier (-) or later (+) than Shelby, for the strains in the Uniform Preliminary Test, Group III, 1958.

Strain	Mean of 10 Tests	Hoyt-ville Ohio	Colum-bus Ohio	Lafay-ette Ind.	Ur-bana Ill.	Gir-ard Ill.	Ames Iowa	Ottum-wa Iowa	Colum-bia Mo.	Lin-coln Nebr.	Man-hattan Kans.
Clark	+7.1	+6	+5	+7	+5	+9	+9	+6	+9	+7	+8
Ford	-0.3	+3	0	0	-1	-1	-1	-2	+1	0	-2
Shelby	0	0	0	0	0	0	0	0	0	0	0
A6-6522	+0.8	-1	+2	0	0	-1	-3	-1	+3	+2	+7
A6-7823	+4.3	+5	+3	+6	+4	+1	+3	+4	+6	+4	+7
CX252-7-4	-1.4	-1	-1	-4	-4	-2	-2	-4	0	-2	+6
H24157-4	+5.2	+4	+6	+3	+4	+7	+5	+5	+6	+5	+7
H24157-5	+2.8	+4	+7	+2	+2	+4	+1	+2	+4	+2	0
S4-1207 Dull	+1.5	+1	+5	+2	0	0	-1	-1	+1	+2	+6
S4-1207 Shiny	+1.0	-1	+2	+3	0	+1	-1	-3	+1	+2	+6
U2-42	+2.6	+2	+6	+3	+1	+2	+3	+2	+3	+2	+2
Date planted	5-16	5-20	5-16	5-14	5-13	5-14	5-14	5-13	5-1	5-29	5-24
Shelby matured	9-24	9-30	10-2	9-25	9-22	9-13	9-27	9-26	9-7	9-30	9-26
Days to mature	131	133	139	134	132	122	136	136	129	124	125

AREA OF ADAPTATION OF SCOTT

UNIFORM TEST, GROUP IV, 1958

Strain	Source or Originating Agency	Origin
Clark	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Scott (S2-7158)	Mo. A.E.S. & U.S.R.S.L.	Sel. from D49-2525 x L6-5679
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
S4-2090	Mo. A.E.S. & U.S.R.S.L.	Sel. from L9-4091 x L6-2132

Identification of Parent Strains

C985	LX1061-9, selection from Lincoln x Ogden
D49-2525	Pustule resistant selection 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
L9-4091	Pustule resistant selection from Lincoln x (Lincoln x Richland)) x (Lincoln x CNS)

This test was grown at 16 locations in 1958 and the data are presented in Tables 44 through 52. Yield levels were up 3 to 20 bushels over the five-year mean at all locations except Worthington, Indiana and Jefferson City, Missouri, where yields were low, probably due to the very late planting dates.

Two strains in addition to the Clark and Wabash checks have been in this test for five years, and these data are summarized in Tables 51 and 52. C1068 and C1069 are sister lines selected from C985, which was in Uniform Tests from 1950 to 1956. They have usually yielded somewhat more than Clark, especially at southern locations, but are 9 and 11 days later. Comparing the two lines, C1068 has had slightly higher over-all yield and was more lodging resistant and earlier. At some of the more southerly locations, the later C1069 has had the higher yields. Both were excellent in oil content.

The newly released Scott and one additional strain, D53-354, are included in the two-year summaries in Tables 49 and 50. Scott was comparable to C1068 and C1069 in maturity but has been consistently lower in yield at these test locations and was somewhat deficient in oil content. D53-354 has done well as an early strain in the Delta and similar areas of the South but has been quite poor in yield and oil content in the area of this test.

One new strain, S4-2090, was entered in this test in 1958 from the 1957 Preliminary Test. It is of especial interest because of its bacterial pustule resistance. It appears similar to Clark in most traits but was appreciably lower in yield in both 1957 and 1958.

SCOTT

Scott is an F_4 line from the cross D49-2525 x L6-5679. D49-2525 is a sister line of Lee (D49-2524), which in turn is from the cross S-100 x CNS. L6-5679 is from Lincoln x Richland and is similar to Perry in maturity. L6-5679 was tested in Group IV for several years and yielded very well, especially in more southern tests. The cross was made to secure material of Group IV and V maturity with the resistance to bacterial pustule of Lee. Scott is similar to L6-5679 in plant type, maturity, pubescence color, and hilum color, and is resistant to bacterial pustule. Scott is reported to be heterogeneous for frogeye resistance and in one test was reported to be very susceptible to Sclerotium blight. Scott is very susceptible to root knot nematodes.

The following is a history and description of Scott (S2-7158).

1948 - Cross D49-2525 x L6-5679 made by E. E. Hartwig at Stoneville, Mississippi.

1949 - F_1. Grown at Stoneville, Mississippi.

1950 - F_2. Grown at Stoneville, Mississippi.

1951 - F_3. 100 grams of seed planted at Sikeston, Missouri. Plants were mainly of two types--early, gray pubescent types like L6-5679, and late tawny determinate types. Seventeen plants of the early type were selected.

1952 - F_4. Plant rows were grown at Sikeston, Missouri and seven harvested for testing.

1953 - F_5. Four replications grown at Sikeston, Missouri. S2-7158 was highest in yield out of forty strains, 3.4 bushels above C985 and S-100.

1954 - F_6. Tested at two locations in Southeast Missouri. S2-7158 averaged 3 bushels above S-100 and 11 bushels above Dorman. Also entered in Uniform Preliminary Test, Group V, but no satisfactory data.

1955 - F_7. Four locations in Southeast Missouri averaged same yield as Perry, 4 bushels above S-100, and 7 bushels above Dorman. Entered in Uniform Preliminary Test, Group V, S2-7158 averaged 1 bushel below Dorman.

1956 - F_8. Four locations in Southeast Missouri. S2-7158 averaged 1 bushel above Perry and Clark and 5 bushels above Dorman. In Uniform Test, Group V, S2-7158 averaged .3 bushel below Dorman. 200 plant rows grown in isolated block at Columbia for increase. 190 harvested and composited.

1957 - F_9. Four locations in Southeast Missouri. S2-7158 averaged 5 bushels above Clark and Perry. Uniform Test, Group IVS--S2-7158 averaged 5 bushels above Clark and Perry. Uniform Test, Group IVN--S2-7158 averaged .5 bushel <u>below</u> Clark and 1.3 bushels above Perry. Seed increased to 500 bushels in Southeast Missouri.

1958 - F_{10}. Two locations in Southeast Missouri. S2-7158 averaged 1.3 bushels above Clark and 5.7 bushels above Dorman. Also grown in Uniform Test, Groups IV and IVS. 740 acres grown in Missouri.

Table 44. Summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	15	12	11	13	14	16	16	16
C1068	44.9	+ 7.8	2.1	44	1.6	17.4	40.0	22.4
C1069	43.6	+10.2	2.7	47	1.7	16.9	39.6	22.5
Scott	41.4	+ 8.3	2.4	46	1.7	14.5	38.3	21.0
Clark	40.9	- 1.8	2.3	43	1.8	15.7	41.2	21.9
S4-2090	38.4	- 0.8	2.5	44	1.9	14.7	40.8	21.3
D53-354	36.3	+ 5.6	2.4	46	1.7	12.9	40.8	20.5
Wabash	35.1	0	2.5	46	1.6	14.3	40.6	21.7
Mean	40.1	+ 4.2	2.4	45	1.7	15.2	40.2	21.6

[1]Days earlier (-) or later (+) than Wabash. Wabash required 120 days to mature.

Table 45. Summary of disease reaction data for the strains in the Uniform Test, Group IV, 1958.

Strain	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker[1]	Phytophthora Rot	Cyst Nematode
C1068	4La,5Aa	3La,5Aa	5Ca	5Ln	RCa	37Cn	SCa,5Hn	4Nn
C1069	4La,5Aa	3La,5Aa	4Ca	5Ln	RCa	42Cn	SCa,3Hn	4Hn
Scott	3Ln,5Aa	3La,4Aa	4Ca	5Ln	SCa		SCa	
Clark	4La,5Aa	4La,5Aa	4Ca	5Ln	RCa	67Cn,2An	SCa,3Hn	4Nn
S4-2090	4La,4Aa	2La,4Aa	3Ca	5Ln	RCa		SCa,4Hn	
D53-354	4La,5Aa	2La,4Aa	4Ca	5Ln	SCa		SCa	
Wabash	4La,5Aa	5La,5Aa	4Ca	5Ln	RCa	47Cn	SCa,4Hn	4Nn
Lincoln (Check)	4La,4Aa	4La,4Aa						

[1]Stem canker readings from Indiana (C) are percentages of diseased plants based on the number of infected Hawkeye as 100%. Readings from Iowa (A) follow the regular 1-5 ratings of the Soybean Disease Classification Standards, 1955 (RSLM 179).

Table 46. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1958.

Strain	Mean of 15 Tests[1]	Newark Del.	Georgetown Del.	Worthington Ind.	Evansville Ind.	Edgewood Ill.	Eldorado Ill.	Carbondale Ill.
C1068	44.9	53.6	65.5	42.8	62.4	53.0	50.9	48.3
C1069	43.6	49.6	57.1	35.7	62.4	43.2	53.1	44.5
Scott	41.4	44.3	54.5	38.2	56.7	50.7	48.3	39.2
Clark	40.9	52.8	51.7	37.0	52.1	46.1	52.0	36.2
S4-2090	38.4	47.4	47.2	31.9	46.2	44.5	50.7	33.8
D53-354	36.3	42.3	40.2	35.1	45.1	42.7	44.4	34.8
Wabash	35.1	41.1	41.1	35.4	42.1	43.0	46.2	30.4
Mean	40.1	47.3	51.0	36.6	52.4	46.2	49.4	38.2
Coef. of Var. (%)		10.7	9.0	6.5	8.7	11.4	8.6	--
Bu. Nec. for Sig. (5%)		7.5	6.8	3.5	6.7	N.S.	N.S.	--
Row Spacing (In.)		36	36	38	38	38	40	40
		Yield Rank						
C1068		1	1	1	1	1	3	1
C1069		3	2	4	1	5	1	2
Scott		5	3	2	3	2	5	3
Clark		2	4	3	4	3	2	4
S4-2090		4	5	7	5	4	4	6
D53-354		6	7	6	6	7	7	5
Wabash		7	6	5	7	6	6	7

[1]Powhattan, Kansas not included in the mean.

Table 46. (Continued)

Strain	Ullin Ill.	Miller City Ill.	Laddonia Mo.	Columbia Mo.	Jefferson City Mo.	Powhattan Kans.	Manhattan Kans.	Mound Valley Kans.	Columbus Kans.
C1068	45.1	49.0	26.2	43.5	28.3	19.8	46.1	26.8	31.8
C1069	47.7	48.8	29.4	45.6	31.2	35.2	42.7	29.3	33.6
Scott	46.8	46.5	26.4	41.7	24.8	35.2	44.8	27.3	31.5
Clark	40.2	45.0	30.9	43.0	26.5	27.5	42.5	25.9	31.1
S4-2090	39.1	45.6	28.3	42.4	16.8	28.6	45.2	25.7	30.9
D53-354	37.4	44.3	24.1	36.5	21.3	24.2	44.4	24.9	27.5
Wabash	35.9	38.7	23.8	34.9	26.0	31.9	39.2	22.0	26.3
Mean	41.7	45.4	27.0	41.1	25.0	28.9	43.6	26.0	30.4
Coef. of Var. (%)	8.3	11.3	--	--	--	30.4	12.7	8.7	--
Bu. Nec. for Sig. (5%)	5.2	N.S.	--	--	--	N.S.	N.S.	N.S.	--
Row Spacing (In.)	36	38	40	38	40	40	40	--	40
	Yield Rank								
C1068	3	1	5	2	2	7	1	3	2
C1069	1	2	2	1	1	1	5	1	1
Scott	2	3	4	5	5	1	3	2	3
Clark	4	5	1	3	3	5	6	4	4
S4-2090	5	4	3	4	7	4	2	5	5
D53-354	6	6	6	6	6	6	4	6	6
Wabash	7	7	7	7	4	3	7	7	7

Table 47. Summary of maturity data, days earlier (-) or later (+) than Wabash, and lodging for the strains in the Uniform Test, Group IV, 1958.

Strain	Mean of 12 Tests[1]	Newark Del.	Georgetown Del.	Worthington Ind.	Evansville Ind.	Edgewood Ill.	Eldorado Ill.	Carbondale Ill.
C1068	+ 7.8	+3	+10	+6	+10	+ 9	+ 7	+12
C1069	+10.2	+6	+10	+6	+14	+11	+11	+12
Scott	+ 8.3	+4	+10	+1	+10	+11	+11	+ 9
Clark	- 1.8	-3	- 4	-3	- 2	- 1	- 3	0
S4-2090	- 0.8	-1	0	-4	- 2	0	0	+ 1
D53-354	+ 5.6	+3	+10	+1	+ 5	+ 7	+ 5	+ 9
Wabash	0	0	0	0	0	0	0	0
Date planted[2]	5-29	5-24	5-26	7-2	5-22	5-22	5-14	6-7
Wabash matured	9-26	10-5	9-30	10-12	9-22	9-23	9-15	9-23
Days to mature	120	134	127	102	123	124	124	108
	Mean of 11 Tests[3]	Lodging						
C1068	2.1	2.0	2.0	1.5	2.0	2.4	2.4	1.8
C1069	2.7	3.0	2.8	2.0	2.3	2.8	3.1	2.0
Scott	2.4	2.5	2.0	1.8	2.0	2.6	3.0	1.5
Clark	2.3	2.0	2.0	2.8	2.0	2.4	2.6	1.5
S4-2090	2.5	2.3	3.0	2.3	2.3	2.2	3.3	1.5
D53-354	2.4	2.0	3.0	2.5	1.8	2.4	3.1	1.5
Wabash	2.5	2.8	2.5	3.5	2.0	2.0	2.9	1.5
Mean	2.4	2.4	2.5	2.3	2.1	2.4	2.9	1.6

[1]Manhattan and Mound Valley, Kansas not included in the mean.
[2]Laddonia, Missouri planted June 17 and Jefferson City, Missouri planted June 20.
[3]Mound Valley and Columbus, Kansas not included in the mean.

Table 47. (Continued)

Strain	Ullin Ill.	Miller City Ill.	Columbia Mo.	Powhattan Kans.	Manhattan Kans.	Mound Valley Kans.	Columbus Kans.
C1068	+ 9	+ 9	+3	+ 9	+11	+11	+6
C1069	+12	+13	+9	+10	+12	+11	+8
Scott	+10	+12	+9	+10	+13	+ 7	+3
Clark	+ 1	+ 1	-6	- 1	0	+ 2	0
S4-2090	+ 2	+ 2	-7	0	+ 5	+ 5	0
D53-354	+ 8	+ 8	+6	+ 2	+12	+ 7	+3
Wabash	0	0	0	0	0	0	0
Date planted[2]	5-26	5-27	5-8	6-5	5-24	6-12	6-10
Wabash matured	9-15	9-17	9-27	10-7	10-5	9-20	9-24
Days to mature	112	113	142	124	134	100	106
	Lodging						
C1068	1.8	2.4	2.3		2.0	1.0	1.0
C1069	2.2	2.8	3.0		3.5	1.0	1.0
Scott	2.1	3.2	3.0		2.6	1.0	1.0
Clark	2.4	3.0	2.5		2.2	1.0	1.0
S4-2090	2.2	3.3	2.5		2.9	1.0	1.0
D53-354	2.6	3.1	2.5		2.3	1.0	1.0
Wabash	2.0	3.1	2.8		2.1	1.0	1.0
Mean	2.2	3.0	2.7		2.5	1.0	1.0

Table 48. Summary of height data and percentage of oil for the strains in the Uniform Test, Group IV, 1958.

Strain	Mean of 13 Tests	Newark Del.	Georgetown Del.	Worthington Ind.	Evansville Ind.	Edgewood Ill.	Eldorado Ill.	Carbondale Ill.
C1068	44	49	46	36	45	47	50	38
C1069	47	51	49	35	48	49	55	43
Scott	46	53	50	34	48	48	53	40
Clark	43	48	44	29	44	44	50	37
S4-2090	44	49	44	30	44	46	52	37
D53-354	46	51	47	34	47	49	54	40
Wabash	46	52	48	35	48	48	55	39
Mean	45	50	47	33	46	47	53	39
	Mean of 16 Tests	Percentage of Oil						
C1068	22.4	22.1	21.7	20.5	22.3	22.2	22.7	22.0
C1069	22.5	23.0	21.7	20.3	22.5	20.7	22.7	22.2
Scott	21.0	20.6	20.1	18.8	20.8	20.0	21.4	20.6
Clark	21.9	21.2	21.2	20.4	21.5	21.8	22.0	21.7
S4-2090	21.3	20.5	20.8	19.1	20.8	21.3	21.3	21.0
D53-354	20.5	19.8	19.7	18.8	20.5	20.3	20.7	20.0
Wabash	21.7	21.4	21.3	19.6	21.5	21.4	21.3	20.6
Mean	21.6	21.2	20.9	19.6	21.4	21.1	21.7	21.2

Table 48. (Continued)

Strain	Ullin Ill.	Miller City Ill.	Laddonia Mo.	Columbia Mo.	Jefferson City Mo.	Powhattan Kans.	Manhattan Kans.	Mound Valley Kans.	Columbus Kans.
C1068	45	45	37	49	37		45		
C1069	48	49	42	51	41		49		
Scott	46	47	37	48	41		50		
Clark	43	46	38	48	38		46		
S4-2090	44	47	41	50	36		46		
D53-354	45	48	41	51	40		49		
Wabash	46	48	40	51	41		48		
Mean	45	47	39	50	39		48		
	Percentage of Oil								
C1068	22.9	22.4	21.0	22.8	22.8	22.6	22.1	23.4	24.5
C1069	23.4	22.4	20.3	22.6	22.8	23.5	22.7	24.2	25.3
Scott	21.3	20.4	19.8	21.7	20.6	22.0	21.5	22.9	22.9
Clark	21.4	22.1	20.8	22.0	21.1	23.4	22.7	23.0	23.4
S4-2090	21.3	21.2	20.3	21.9	21.1	23.3	22.1	22.0	23.5
D53-354	20.8	19.8	19.5	20.4	20.6	21.7	20.9	21.9	22.4
Wabash	22.2	21.6	20.7	21.6	21.5	23.6	22.2	22.2	24.1
Mean	21.9	21.4	20.3	21.9	21.5	22.9	22.0	22.8	23.7

Table 49. Two-year summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1957-1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	24	19	17	21	21	25	25	25
C1068	42.3	+ 8.6	1.8	40	1.9	18.1	40.7	22.1
C1069	41.9	+10.7	2.4	44	1.9	17.7	40.4	22.1
Scott	38.0	+ 9.0	2.3	42	1.8	14.9	38.7	21.0
Clark	38.0	- 2.4	2.0	41	2.1	16.3	41.2	22.0
Wabash	34.0	0	2.3	42	1.8	14.9	40.5	21.7
D53-354	33.4	+ 6.3	2.2	42	1.8	13.0	41.0	20.4
Mean	37.9		2.2	42	1.9	15.8	40.4	21.6

[1]Days earlier (-) or later (+) than Wabash. Wabash required 123 days to mature.

Table 50. Two-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1957-1958.

Strain	Mean of 24 Tests	Newark Del.	Worthington Ind.	Evansville Ind.	Eldorado Ill.	Carbondale Ill.	Columbia Mo.	Mound Valley Kans.	Columbus Kans.
C1068	42.3	49.3	55.4	64.2	49.5	34.1	40.6	24.3	24.8
C1069	41.9	47.6	50.6	67.9	49.9	33.1	40.7	26.6	25.9
Scott	38.0	41.3	46.4	55.6	44.1	29.6	39.0	24.0	22.3
Clark	38.0	45.8	46.4	52.3	47.5	27.0	40.7	24.0	22.6
Wabash	34.0	38.9	45.7	44.3	43.3	24.2	33.9	21.6	20.2
D53-354	33.4	37.4	40.4	45.6	40.7	26.6	33.9	23.5	20.4
Mean	37.9	43.4	47.5	55.0	45.8	29.1	38.1	24.0	22.7
		Yield Rank							
C1068		1	1	2	2	1	3	2	2
C1069		2	2	1	1	2	1	1	1
Scott		4	3	3	4	3	4	3	4
Clark		3	3	4	3	4	1	3	3
Wabash		5	5	6	5	6	5	6	6
D53-354		6	6	5	6	5	5	5	5

Table 51. Five-year summary of agronomic and chemical data for the strains in the Uniform Test, Group IV, 1954-1958.

Strain	Yield Bu./A.	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	62	53	49	58	58	63	63	63
C1068	37.5	+ 7.6	1.8	41	2.1	16.8	41.0	21.8
C1069	36.9	+10.0	2.4	44	2.2	16.4	40.5	21.9
Clark	35.4	- 1.1	2.0	40	2.1	15.6	41.0	21.6
Wabash	31.1	0	2.3	43	2.0	14.4	40.6	21.5
Mean	35.2		2.1	42	2.1	15.8	40.8	21.7

[1]Days earlier (-) or later (+) than Wabash. Wabash required 123 days to mature.

Table 52. Five-year summary of yield in bushels per acre and yield rank for the strains in the Uniform Test, Group IV, 1954-1958.

Strain	Mean of 62 Tests	Newark Del.	Georgetown Del.	Beltsville Md.	Worthington Ind.	Evansville Ind.	Edgewood Ill.	Eldorado Ill.
Years Tested		1955-1958	1954, '56, '58	1954-1957	1954-1958	1954-1958	1955-56 1958	1954-1958
C1068	37.5	49.0	40.6	45.1	45.9	53.2	41.1	42.7
C1069	36.9	47.1	38.0	38.0	45.1	55.4	38.3	43.4
Clark	35.4	42.2	35.0	37.9	42.2	49.9	40.7	42.2
Wabash	31.1	37.7	26.7	35.5	39.6	39.9	35.5	36.9
Mean	35.2	44.0	35.1	39.1	43.2	49.6	38.9	41.3
		Yield Rank						
C1068		1	1	1	1	2	1	2
C1069		2	2	2	2	1	3	1
Clark		3	3	3	3	3	2	3
Wabash		4	4	4	4	4	4	4

Table 52. (Continued)

Strain	Carbondale Ill.	Laddonia Mo.	Columbia Mo.	Jefferson City Mo.	Manhattan Kans.	Mound Valley Kans.	Columbus Kans.
Years Tested	1954-1958	1954-56 1958	1954-1958	1955-56 1958	1954-56 1958	1955, 1957-58	1954-1958
C1068	31.4	22.4	28.4	29.4	22.2	21.0	17.2
C1069	31.0	22.8	28.6	32.4	22.2	21.9	17.8
Clark	28.6	24.9	28.6	30.2	22.3	20.3	17.9
Wabash	24.5	21.4	24.3	25.5	18.9	19.1	14.9
Mean	28.9	22.9	27.5	29.4	21.4	20.6	17.0
	Yield Rank						
C1068	1	3	3	3	2	2	3
C1069	2	2	1	1	2	1	2
Clark	3	1	1	2	1	3	1
Wabash	4	4	4	4	4	4	4

UNIFORM PRELIMINARY TEST, GROUP IV, 1958

Strain	Source or Originating Agency	Origin
Clark	Ill. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
Wabash	Purdue A.E.S. & U.S.R.S.L.	Sel. from Dunfield x Mansoy
C1069	Purdue A.E.S. & U.S.R.S.L.	Sel. from C985
CX237-205-2	Purdue A.E.S. & U.S.R.S.L.	Sel. from Wabash x C1079
CX252-113-4	Purdue A.E.S. & U.S.R.S.L.	Sel. from Harosoy x C1079
S5-7047	Mo. A.E.S. & U.S.R.S.L.	Sel. from N48-1248 x Adams
S5-7116	Mo. A.E.S. & U.S.R.S.L.	Sel. from D49-2525 x L6-5679
S5-7144	Mo. A.E.S. & U.S.R.S.L.	Sel. from D49-2525 x L6-5679
S6-5092	Mo. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
S6-5162	Mo. A.E.S. & U.S.R.S.L.	Sel. from Lincoln x (Lincoln x Richland)
UD29-13	Del. A.E.S. & U.S.R.S.L.	Sel. from F. C. 33243 x Wabash
UD74-9	Del. A.E.S. & U.S.R.S.L.	Sel. from F. C. 33243 x Wabash
UD295-12	Del. A.E.S. & U.S.R.S.L.	Sel. from F. C. 33243 x Hawkeye
UD297-6	Del. A.E.S. & U.S.R.S.L.	Sel. from F. C. 33243 x Hawkeye
UD321-5	Del. A.E.S. & U.S.R.S.L.	Sel. from F. C. 33243 x Perry
UD580-10	Del. A.E.S. & U.S.R.S.L.	Sel. from F. C. 33243 x C985

Identification of Parent Strains

C985	LX1061-9, selection from Lincoln x Ogden
C1079	Sel. from C985 (Lincoln x Ogden)
D49-2525	Pustule resistant selection from S-100 x CNS, sib of Lee
L6-5679	Sel. from Lincoln x Richland
N48-1248	Pustule resistant selection from Roanoke x N45-745 (selection from Ogden x CNS)

This test consists of 13 strains plus three checks, Clark, Wabash, and C1069, and was grown at eight locations. All 13 strains were new in regional testing. In contrast to the past several years, the Preliminary Tests were all grown separately from the Uniform Tests this year.

The two CX-strains, which have a sib of C1069 as one parent, yielded rather high in the test, but the later one was outyielded by C1069 and the earlier one was outyielded by Clark.

The three S5-strains are pustule resistant and similar to C1069 in maturity. None of them has approached C1069 in yield.

The two S6-strains are from the Lincoln x (Lincoln x Richland) cross and performed similarly to Clark in most traits. S6-5092 was definitely lower in yield, but S6-5162 was almost a bushel higher.

All six UD-strains have resistance to the root-knot nematode from the F. C. 33243 parent. All were similar in maturity and satisfactory in seed composition. Some were poor in lodging and others in seed quality. Perhaps the best all-round strain is the highest yielding one, UD297-6, which ranked third in yield in the test and had fair lodging resistance and seed quality.

Table 53. Summary of agronomic and chemical data for the strains in the Uniform Preliminary Test, Group IV, 1958.

Strain	Yield Bu./A.	Yield Rank	Maturity[1]	Lodging	Height Inches	Seed Quality	Seed Weight	Percentage of Protein	Percentage of Oil
No. of Tests	8		8	6	6	7	6	5	5
Clark	44.3	5	- 1.3	2.1	45	1.9	17.2	41.7	21.7
Wabash	36.8	16	0	2.3	47	1.6	15.3	41.4	21.5
C1069	50.0	1	+10.0	2.7	49	1.7	17.5	40.3	22.6
CX237-205-2	46.5	2	+ 8.5	2.5	48	1.6	16.2	41.0	21.6
CX252-113-4	44.2	6	+ 0.8	2.6	49	2.3	16.4	42.7	21.6
S5-7047	43.1	9	+ 9.0	3.5	53	1.6	15.7	40.8	22.0
S5-7116	44.1	7	+ 8.4	2.5	54	1.4	14.9	40.0	21.4
S5-7144	43.8	8	+11.5	2.8	50	1.6	15.1	40.4	21.1
S6-5092	41.2	12	0	2.5	46	2.1	16.3	40.6	22.0
S6-5162	45.1	4	- 0.5	2.4	46	2.2	15.4	41.3	21.6
UD29-13	37.0	14	+ 7.4	3.6	47	1.7	18.1	40.8	21.8
UD74-9	36.9	15	+ 6.9	3.7	46	1.8	16.0	40.7	21.5
UD295-12	39.9	13	+ 6.9	2.6	48	2.1	16.4	40.9	21.6
UD297-6	45.2	3	+ 8.8	2.6	52	1.9	16.3	40.9	21.8
UD321-5	42.8	10	+ 7.5	2.4	49	2.1	16.5	42.2	21.0
UD580-10	42.1	11	+ 6.9	2.9	47	2.6	17.4	39.2	22.6
Mean	42.7		+ 5.7	2.7	49	1.9	16.3	40.9	21.7

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

Table 54. Summary of disease reaction data for the strains in the Uniform Preliminary Test, Group IV, 1958.

Strain	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker[1]	Phytophthora Rot	Cyst Nematode
Clark	4La,5Aa	4La,5Aa	4Ca	5Ln	RCa	67Cn,2An	SCa,3Hn	4Nn
Wabash	4La,5Aa	5La,5Aa	4Ca	5Ln	RCa	47Cn	SCa,4Hn	4Nn
C1069	4La,5Aa	3La,5Aa	4Ca	5Ln	RCa	42Cn	SCa,3Hn	4Nn
CX237-205-2	4La,4Aa	4La,4Aa	4Ca	5Ln	RCa		SCa	
CX252-113-4	4La,4Aa	3La,4Aa	3Ca	5Ln	RCa		SCa	
S5-7047	4La,4Aa	4La,4Aa	3Ca	5Ln	RCa		Seg.	
S5-7116	4La,4Aa	2La,3Aa	3Ca	5Ln	RCa		Seg.	
S5-7144	4La,4Aa	1La,3Aa	3Ca	5Ln	SCa		SCa	
S6-5092	4La,4Aa	4La,4Aa	4Ca	5Ln	RCa		SCa	
S6-5162	4La,4Aa	4La,4Aa	3Ca	5Ln	RCa		SCa	
UD29-13	4La,4Aa	4La,3Aa	5Ca	5Ln	RCa		SCa	
UD74-9	4La,3Aa	4La,3Aa	3Ca	5Ln	RCa		SCa	
UD295-12	4La,4Aa	3La,3Aa	5Ca	5Ln	RCa		SCa	
UD297-6	4La,4Aa	3La,4Aa	4Ca	5Ln	RCa		SCa	
UD321-5	4La,4Aa	3La,4Aa	5Ca	5Ln	RCa		SCa	
UD-580-10	5La,4Aa	3La,4Aa	3Ca	5Ln	RCa		SCa	

[1]Stem canker readings from Indiana (C) are percentages of diseased plants based on the number of infected Hawkeye as 100%. Readings from Iowa (A) follow the regular 1-5 ratings of the Soybean Disease Classification Standards, 1955 (RSLM 179).

Table 55. Summary of yield in bushels per acre and yield rank for the strains in the Uniform Preliminary Test, Group IV, 1958.

Strain	Mean of 8 Tests	Mean Yield Rank	Newark Del.	Georgetown Del.	Evansville Ind.	Eldorado Ill.	Carbondale Ill.	Columbia Mo.	Manhattan Kans.	Columbus Kans.[1]
Clark	44.3	5	56.1	54.3	53.9	50.3	30.4	43.6	36.2	29.3
Wabash	36.8	16	39.6	41.2	44.1	49.8	24.8	32.5	36.6	25.8
C1069	50.0	1	56.7	57.6	62.6	53.4	42.8	48.7	46.5	31.3
CX237-205-2	46.5	2	54.3	51.4	59.8	44.9	39.6	49.0	43.0	29.8
CX252-113-4	44.2	6	47.7	60.2	54.2	49.1	37.6	39.9	33.7	31.0
S5-7047	43.1	9	43.2	50.2	49.1	47.7	35.9	46.8	41.4	30.1
S5-7116	44.1	7	48.7	52.1	50.3	55.3	34.1	39.2	42.7	30.0
S5-7144	43.8	8	40.2	59.8	49.7	47.4	40.5	45.2	38.8	29.1
S6-5092	41.2	12	51.6	54.5	47.4	48.5	28.1	36.0	34.2	29.1
S6-5162	45.1	4	60.3	54.1	50.5	47.0	32.7	42.4	42.4	31.0
UD29-13	37.0	14	35.1	43.8	40.0	34.3	39.1	36.7	37.2	29.4
UD74-9	36.9	15	33.1	47.4	47.1	31.7	39.8	32.7	32.1	30.9
UD295-12	39.9	13	41.3	43.1	44.1	39.6	40.9	40.2	40.7	29.6
UD297-6	45.2	3	45.0	55.7	55.3	40.5	42.0	49.4	43.1	30.2
UD321-5	42.8	10	49.9	52.9	48.3	43.5	39.3	34.7	42.0	32.1
UD580-10	42.1	11	50.5	50.3	48.0	50.2	45.4	30.8	30.6	31.1
Mean	42.7		47.1	51.8	50.3	45.8	37.1	40.5	38.8	30.0
C.V.(%)			12.1	8.2	9.3	9.5	--	--	11.3	--
Bu.N.F.S.(5%)			16.1	9.7	2.4	9.4	--	--	N.S.	--
Row Sp.(In.)			36	36	38	40	40	38	40	40

	Yield Rank							
Clark	3	6	5	3	14	6	12	13
Wabash	14	16	14	5	16	15	11	16
C1069	2	3	1	2	2	3	1	2
CX237-205-2	4	10	2	11	7	2	3	10
CX252-113-4	9	1	4	6	10	9	14	4
S5-7047	11	12	9	8	11	4	7	8
S5-7116	8	9	7	1	12	10	4	9
S5-7144	13	2	8	9	5	5	9	14
S6-5092	5	5	12	7	15	12	13	14
S6-5162	1	7	6	10	13	7	5	4
UD29-13	15	14	16	15	9	11	10	12
UD74-9	16	13	13	16	6	14	15	6
UD295-12	12	15	14	14	4	8	8	11
UD297-6	10	4	3	13	3	1	2	7
UD321-5	7	8	10	12	8	13	6	1
UD580-10	6	11	11	4	1	16	16	3

[1]Three replications.

Table 56. Summary of maturity data, days earlier (-) or later (+) than Wabash, for the strains in the Uniform Preliminary Test, Group IV, 1958.

Strain	Mean of 8 Tests	Newark Del.	Georgetown Del.	Evansville Ind.	Eldorado Ill.	Carbondale Ill.	Columbia Mo.	Manhattan Kans.	Columbus Kans.
Clark	- 1.3	- 3	- 2	- 2	- 2	+ 1	- 2	- 1	+1
Wabash	0	0	0	0	0	0	0	0	0
C1069	+10.0	+ 5	+12	+12	+13	+ 8	+12	+10	+8
CX237-205-2	+ 8.5	+ 3	+10	+10	+ 9	+ 9	+10	+12	+5
CX252-113-4	+ 0.8	- 2	0	+ 3	+ 1	+ 4	- 1	- 1	+2
S5-7047	+ 9.0	+ 5	+10	+10	+12	+ 6	+14	+12	+3
S5-7116	+ 8.4	+ 5	+11	+ 9	+ 8	+10	+16	+ 5	+3
S5-7144	+11.5	+10	+12	+ 8	+17	+10	+18	+13	+4
S6-5092	0	+ 2	0	- 1	0	+ 1	- 1	- 2	+1
S6-5162	- 0.5	- 1	0	- 1	+ 1	- 2	- 1	- 2	+2
UD29-13	+ 7.4	+ 3	+ 8	+ 7	+ 7	+10	+12	+ 9	+3
UD74-9	+ 6.9	+ 3	+ 7	+ 5	+12	+ 7	+12	+ 6	+3
UD295-12	+ 6.9	+ 4	+12	+ 5	+ 4	+ 7	+11	+ 8	+4
UD297-6	+ 8.8	+ 4	+12	+ 8	+10	+ 8	+12	+13	+3
UD321-5	+ 7.5	+ 4	+12	+ 6	+ 6	+ 8	+12	+ 9	+3
UD580-10	+ 6.9	+ 3	+11	+ 6	+ 4	+ 7	+10	+11	+3
Date planted	5-24	5-24	5-26	5-22	5-14	6-7	5-1	5-24	6-10
Wabash matured	9-26	10-5	9-28	9-22	9-16	9-27	9-18	10-6	9-24
Days to mature	125	134	125	123	125	112	140	135	106

SOYBEAN DISEASE INVESTIGATIONS IN 1958

Compiled from Data Supplied by:

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Weather conditions prevailing in the Midwest through most of the growing season were characterized by above-average rainfall and below-average temperatures, with the exception of Minnesota and parts of Iowa. As a consequence, bacterial blight was prevalent throughout the region in 1958. Surveys in several states revealed the following percentages of blight-infected soybean fields, on the basis of total fields inspected: Minnesota, 93%; Illinois, 81%; Iowa, 64%; and Indiana, 57%. In northern Missouri, bacterial blight was more prevalent in 1958 than in any year previously reported for the area, appearing in 72% of the fields. Brown spot ranked second in regional prevalence, followed by downy mildew.

In the individual states, the diseases ranked as follows in relative prevalence, with the percentages of infected fields recorded parenthetically. Brown spot was the most prevalent disease in Indiana (97%), and in Illinois (93%); it ranked third in Minnesota. Bacterial blight was the dominant disease in Iowa (64%), and in Missouri (72%), ranking second in Minnesota (93%) and in Indiana (57%), and third in Illinois (81%). Bacterial pustule occupied second place in Illinois (83%), and third in Indiana (52%) and Missouri (58%). Downy mildew ranked third in prevalence in Iowa (48%), and fourth in Illinois (57%), in Indiana (41%), and in Missouri (33%).

Among the leafspot diseases, wildfire was a negligible factor in the Midwest. It was unusually prevalent, however, in Missouri (67%) and in Illinois (15%).

Root rots were listed among the first four diseases in only two states. Rhizoctonia root rot was the most prevalent disease in Minnesota; root rot caused by Fusarium or Rhizoctonia was found in 36% of the fields in Iowa. Phytophthora rot occurred in Illinois, Indiana, and Missouri; in spite of generally moist soil conditions, Phytophthora caused surprisingly little damage in the Midwest. In Illinois, Indiana, and Missouri, flooding and water damage accounted for more losses than did Phytophthora.

Stem canker was found in 51% of the fields in Iowa but was not prevalent in the other states.

Brown stem rot occurred in 13% of the fields in Illinois, 12% in Iowa, 10% in Indiana, and to a lesser extent elsewhere. In Central Illinois, the incidence of the disease, as usual, was considerably higher (50%). Following a trend of the past three or four years, the disease appeared late and severe browning was not apparent until September.

Bud blight was confined to trace amounts. Only a very light incidence was recorded for locations where severe infection was reported in 1956.

Information relative to the disease reaction of Uniform and Preliminary Test strains are recorded with the agronomic and chemical data for each maturity group. Disease

reaction data for miscellaneous strains and for the old variety germplasm collection, along with the regional disease tests and the reference list of resistant strains, are appended to this report.

GLOSSARY FOR SOYBEAN DISEASE REACTION

The following list of abbreviations for soybean diseases has been agreed upon by the pathologists. It is recommended that these be used whenever abbreviations are necessary to conserve space.

Abbreviation	Name of Disease	Causal Organism
BB	Bacterial Blight	Pseudomonas glycinea
BP	Bacterial Pustule	Xanthomonas phaseoli var. sojensis
BS	Brown Spot	Septoria glycines
BSR	Brown Stem Rot	Cephalosporium gregatum
CN	Cyst Nematode	Heterodera glycines
DM	Downy Mildew	Peronospora manshurica
FE	Frogeye	Cercospora sojina
PR	Phytophthora Rot	Phytophthora sojae
PS	Purple Stain	Cercospora kikuchii
PSB	Pod and Stem Blight	Diaporthe phaseolorum var. sojae
RK (followed by the initial of the specific nematode)	Root Knot Nematode	Meloidogyne sps.
RR	Rhizoctonia Root Rot	Rhizoctonia solani
SB	Sclerotial Blight	Sclerotium rolfsii
SC	Stem Canker	Diaporthe phaseolorum var. caulivora
SMV	Soybean Mosaic	Soja virus 1
BBV	Bud Blight	Tobacco Ringspot Virus
TS	Target Spot	Corynespora cassiicola
WF	Wildfire	Pseudomonas tabaci
YMV	Yellow Mosaic	Phaseolus virus 2

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

The disease reaction is listed 1-5, followed by a capital letter to identify the state where the test was made (L=Illinois, C=Indiana, etc.); small letter "a" or "n" after the code letter signifies artificial or natural infection.

When the reaction is given by letter instead of numbers, R signifies resistant, S stands for susceptible, and I for intermediate. Seg. indicates that a strain is segregating for disease reaction.

The Indiana (C) reactions to stem canker indicate the percentage of diseased plants, referenced to the number of infected Hawkeye as 100%. The Iowa readings follow the 1-5 designations.

Regional Disease Reaction Test, 1958.

Identity	Bacterial Blight	Bacterial Pustule	Brown Spot
P. I. 68521-L1	2La,3Aa,2Ca,1.4Mn,2Sn		
68554	2La,4Aa,2Ca,1.6Mn,2Sn,3Rn		
68708	3La,2Aa		
166147	2La,3Aa,1Ca,2.3Mn,4Sn		
Lincoln (Check)	4La,5Aa,4Ca,4Mn	4La,4Aa,4Ca	
P. I. 96333		3La,2Aa,1Ca,4Dn	
215693		1La,3Aa,1Ca,1Dn,1Na	
S2-7158		2La,3Aa,1Ca,1Rn,1Dn,1Na	4Ln,4Ca
S4-1714		2La,4Aa,1Ca,1Dn	3Ln,2Nn
CX262-79-3			2Ln,3Nn
Earlyana			4Ln,3Nn

Resume of conditions under which the tests were made.

Illinois and Indiana: Rainfall frequent and above normal, temperature below normal. Bacterial blight, pustule, and brown spot prevalent.

Iowa: Rainfall above normal for most of the growing season, temperature below normal. Bacterial blight prevalent, pustule not prevalent.

Missouri: Rainfall above normal, temperature below normal.

Arkansas: Rainfall above normal, temperature below normal.

Minnesota: Below average rainfall, the fourth driest year on record. Bacterial blight prevalent but light, pustule absent.

Mississippi: Rainfall above normal, temperature below normal. Bacterial pustule prevalent and heavy to the extent of masking bacterial blight. No brown spot infection.

Disease Reaction Data for the Old Variety Germplasm Collection, 1958.

Variety	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker	Phytophthora Rot	Cyst Nematode
Agate	5La	4Ln		5Ln			SCa	4Nn
A.K. (F. C. 30761-1)	4La	4La		4Ln			SCa	
A.K. (Harrow)	4La	4La		4Ln			RCa	3Nn
A.K. (Kansas)	4La	4La		4Ln			RCa	4Nn
Aksarben	4La	4Ln		4Ln			SCa	
Aoda	4La	2Ln		4Ln			SCa	4Nn
Bansei	4La	4Ln		4Ln			SCa	4Nn
Bavender Special	4La	4Ln		4Ln			SCa	4Nn
Black Eyebrow	4La	4Ln		5Ln			SCa	4Nn
Boone	4La	4Ln		4Ln			RCa	4Nn
Burwell	4La	4Ln		4Ln				4Nn
Carlin	4La	4Ln		4Ln			SCa	4Nn
Cayuga	4La	4Ln		4Ln			R & SCa	4Nn
Chestnut	4La	4Ln		4Ln			SCa	4Nn
Chief	4La	4La		4Ln			SCa	4Nn
Chusei	5La	4La		4Ln			R & SCa	4Nn
Cloud	4La	4La		4Ln			SCa	4Nn
Lincoln (check variety)	4La	4La		5Ln				3Nn
Columbia	3La	3Ln		4Ln			SCa	4Nn
Comet	4La	4La		4Ln			SCa	4Nn
Cypress #1	4La	4La		4Ln			SCa	4Nn
Dunfield	4La	4Ln		4Ln			SCa	4Nn
Earlyana	4La	4La		5Ln			SCa	4Nn
Early White Eyebrow	5La	4Ln		4Ln			SCa	4Nn
Easycook	4La	4La		4Ln			SCa	5Nn
Ebony	4La	4Ln		4Ln			SCa	4Nn
Elton	4La	5Ln		4Ln			SCa	4Nn
Emperor	4La	4La		4Ln			SCa	4Nn
Etum	4La	5La		4Ln			SCa	4Nn
Fabulin	4La	3La		4Ln			SCa	4Nn
Fuji	4La	4Ln		4Ln			RCa	4Nn
Funk Delicious	4La	5Ln		4Ln			SCa	4Nn
Funman	4La	4Ln		4La			SCa	4Nn
Giant Green	5La	4La		4La			SCa	4Nn
Gibson	4La	5La		4La			SCa	4Nn
Goku	4La	4Ln		4La			RCa	4Nn

Disease Reaction Data for the Old Variety Germplasm Collection (Continued)

Variety	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker	Phytophthora Rot	Cyst Nematode
Goldsoy	4La	4Ln		4La			SCa	4Nn
Lincoln (check variety)	4La	4Ln		4Ln				
Granger	3La	4Ln		4Ln			SCa	4Nn
Green and Black	4La	4Ln		4Ln			RCa	4Nn
Habaro	4La	5Ln		4Ln			RCa	4Nn
Hahto	4La	5La		4Ln			RCa	
Hakote	4La	4La		4Ln			R & SCa	4Nn
Harbinsoy	4La	4Ln		4Ln			SCa	4Nn
Hardome	4La	4La		4Ln			SCa	4Nn
Harly	4La	5Ln		4Ln			RCa	4Nn
Harman	4La	5Ln		4Ln			SCa	4Nn
Hidatsa	4La			4Ln			RCa	4Nn
Higan (P. I. 80475)	4La	4Ln		4Ln			RCa	4Nn
Hokkaido	4La	4La		4Ln			SCa	4Nn
Hongkong	4La	4Ln		4Ln			SCa	4Nn
Hoosier	4La	5Ln		4Ln			SCa	4Nn
Hurrelbrink	4La	4La		4Ln			RCa	4Nn
Illington	4La	4La		4Ln			RCa	4Nn
Illini	5La	4Ln		4Ln			RCa	4Nn
Ilsoy	4La	4Ln		4Ln			SCa	1Nn
Imperial	5La	4Ln		4Ln			SCa	3Nn
Lincoln (check variety)	4La	4Ln		5Ln			SCa	
Jackson (P. I. 82581)	4La	4La		4Ln			SCa	4Nn
Jefferson	4La	4Ln		4Ln			SCa	4Nn
Jogun	5La	4Ln		4Ln			SCa	4Nn
Kabott	4La	4Ln		4Ln			SCa	4Nn
Kagon	4La	4Ln		4Ln			SCa	4Nn
Kanro	4La	5Ln		4Ln			SCa	4Nn
Kanum	5La	5Ln		4Ln			SCa	4Nn
Kingston	4La	4Ln		4Ln			SCa	3Nn
Kingwa	4La	4Ln		4Ln			RCa	4Nn
Korean	3La	3La		4Ln				4Nn
Kura	4La	4La		4Ln			R & SCa	4Nn
Linman 533	3La	4La		4Ln			SCa	2Nn
Little Wonder	4La	2La		4Ln			SCa	2Nn

Disease Reaction Data for the Old Variety Germplasm Collection (Continued)

Variety	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker	Phytophthora Rot	Cyst Nematode
Macoupin	4La	2La		4Ln			SCa	4Nn
Manchu (L55-143)	4La	4La		4Ln			SCa	3Nn
Manchu (L54-161)	4La	4La		4Ln			SCa	4Nn
Manchu (42 Lafayette)	4La	4La		4Ln			SCa	3Nn
Manchu (Madison)	3La	4La		4Ln			SCa	4Nn
Manchu (Early Minn.)	4La	4La		4Ln			SCa	
Lincoln (check variety)	4La	4La		4Ln			SCa	
Manchu (Hudson)	4La	2La		4Ln			SCa	4Nn
Manchu (Montreal)	3La	3La		4Ln			SCa	4Nn
Manchu 3 Wisconsin	4La	4La		4Ln			SCa	4Nn
Manchu 606 Wisconsin	3La	4La		4Ln			SCa	
Manchu 2204	4La	4La		4Ln			SCa	4Nn
Manchukota	4La	4La		4Ln			SCa	3Nn
Manchuria	3La	4La		4Ln			SCa	
Manchuria 13-177	3La	3La		4Ln			R & SCa	4Nn
Manchuria 20173	4La	3La		4Ln			R & SCa	3Nn
Mandarin	4La	3La		4Ln			SCa	
Mandarin 507	4La	3La		4Ln			R & SCa	4Nn
Mandell	4La	3La		4Ln			SCa	3Nn
Manitoba Brown	4La			4Ln				4Nn
Medium Green (T-44)	4La	2La		4Ln			SCa	4Nn
Medium Green (34 Lafayette)	4La	4La		4Ln			RCa	4Nn
Mendota	4La	4La		4Ln			R & SCa	4Nn
Midwest	4La	4La		4Ln			SCa	4Nn
Mingo	4La	3La		4Ln			SCa	4Nn
Minsoy	5La			4Ln			SCa	4Nn
Lincoln (check variety)	4La	4La		4Ln			SCa	
Monroe	4La	3La		4Ln			RCa	3Nn
Morse	4La						SCa	3Nn
Mukden	3La	2La		4Ln			RCa	4Nn
Norredo	4La						SCa	4Nn
Norredo B (F. C. 31930)	4La						RCa	
Norsoy	4La						SCa	
O. A. C. No. 211	4La	3La		4Ln			SCa	4Nn
O. A. C. No. 211 (T51)	3La	3La		4Ln			RCa	4Nn

Disease Reaction Data for the Old Variety Germplasm Collection (Continued)

Variety	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker	Phytophthora Rot	Cyst Nematode
Ogemaw H	4La			4Ln			SCa	4Nn
Ontario	4La	3La		4Ln			SCa	4Nn
Osaya	4La	3La		4Ln				4Nn
Pagoda	5La			2Ln			R & SCa	4Nn
Pando	5La			3Ln			RCa	4Nn
Patoka	4La	4La		4Ln			SCa	4Nn
Peking	4La	4La		4Ln			SCa	1Nn,1Sn
Pennsoy	4La						SCa	4Nn
Perry	4La						SCa	3Nn
Pocahontas	5La	4La		4Ln			SCa	4Nn
Poland Yellow	4La			4Ln				3Nn
Lincoln (check variety)	4La	4La						
Polysoy	4La	5La		4Ln				4Nn
Portugal	5La			4Ln				4Nn
Pridesoy	3La	4La		5Ln				4Nn
Pridesoy 57	4La	4La		4Ln				3Nn
Renville	4La	4La		5Ln				4Nn
Richland	4La	4La		5Ln				4Nn
Roe	4La	3La		4Ln				
Sac	4La	2La		4Ln				4Nn
Sangra	4La	4La		4Ln				
Sato-3	4La	2La		4Ln				4Nn
Scioto	3La	3La		4Ln				4Nn
Seneca	4La	2La		4Ln				3Nn
Shingto	4La	4La		4Ln				4Nn
Shiro	5La	2La		4Ln				3Nn
Sioux	5La			4Ln				
Sooty	4La	3La		4Ln				2Nn
Sousei	4La	2La		4Ln				4Nn
Soysota	4La	3La		4Ln				4Nn
Tastee	4La	4La		4Ln				4Nn
Lincoln (check variety)	4La	4La		4Ln				
Toku	5La	4La		4Ln				4Nn
Tortoise Egg	5La	2La		4Ln				4Nn
Viking	4La	5La		4Ln			SCa	4Nn

Disease Reaction Data for the Old Variety Germplasm Collection (Continued)

Variety	Bacterial Blight	Bacterial Pustule	Brown Spot	Brown Stem Rot	Frog-eye	Stem Canker	Phytophthora Rot	Cyst Nematode
Virginia	4La	2La		4Ln			RCa	4Nn
Waseda	4La	2La		4Ln				4Nn
Wea	4La	3La		4Ln			SCa	4Nn
Willomi	4La	2La		4Ln			R & SCa	4Nn
Wilson	4La	4La		4Ln			SCa	3Nn
Wilson-5 (L43-132)	3La	4La		4Ln			SCa	4Nn
Wilson-5 (T68)	4La	2La		4Ln			SCa	4Nn
Wing Jet	4La	4La		4Ln			SCa	4Nn
Wisconsin Black	4La	4La		4Ln			SCa	4Nn
Wolverine	4La	4La		4Ln			SCa	3Nn

Disease Reaction Data for Miscellaneous Strains.

Strain	Soybean Cyst Nematode	Downy Mildew	Bacterial Blight	Bacterial Pustule	Stem Canker	Phytophthora Rot	Brown Stem Rot	Bud Blight
A.K. (Kansas)	4		4Ln	4La	1An	RCa	4Ln	
Arksoy	3		5Ln	3La	3An	RCa	4Ln	4Ln
Clark	4	2.5Sn	4La	4La			5Ln	3Ln
CNS	4		5La	1La		RCa	4Ln	1Ln
Dorman	4	2.0Rn	4La	3La	4An	RCa	4Ln	
Early Woods Yellow			4La	4Ln		RCa	4Ln	1Ln
F. C. 33124			4La	4Ln		SCa	4Ln	1Ln
Jackson	5	1.0Rn	4La	3La	1An		4Ln	
Lee	5	3.3Rn	4La	1La	3An		4Ln	1Ln
Lincoln	3		4Ln	4La			4Ln	3Ln
Ogden	5	2.0Rn	4La	2La	3An		4Ln	2Ln
L9-4091	4		3La	2La	17Cn		5Ln	3Ln
L9-4196	3		1La,3Aa	1La	0Cn		4Ln	4Ln
L9-4197	3		3Ln	2La	5An	1Hn		5Ln
L9-5139	4		3La,4Aa	5An	2An,78Cn		5Ln	3Ln
S2-7160	4		3Ln	2La				

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

Variety	Maturity Group	Bacterial Blight	Bacterial Pustule	Brown Spot	Frogeye	Stem Canker	Brown Stem Rot	Phytophthora Rot	Sphaceloma Scab Disease	Target Spot	Purple Seed Stain	Soybean Cyst Nematode[1]
Capital	0	3	5	4	S	5	4	5Hn	R			4
Flambeau	0	2	3	2-3	S	5	4	5Hn				4
Blackhawk	I	5	5	3-4	S	44Cn	5	RHn	R			4
Monroe	I	5	5	4	S	10Cn	4	RHn				3
Adams	II	5	5	3	R	3	5	SHn				3
Harly	II	4	5				4	RHn,RCa				
Harosoy	II	5	5	5	R	R	5	SHn				4
Hawkeye	II	5	5	4	S	100Cn	5	SHn	R			4
Jogun	II	5	4			2	4	SCa	R			4
Kanro	II	4	5				4	SCa	R			4
Mukden	II	3	5	3	S	5	4	RHn				4
H3665	II	2	4	2	S	5	5	3Hn,SCa				4
L8-7289	II	2	4	3	S	37Cn	5	3Hn,SCa				4
Illini	III	5	4	4	R	40Cn	5	RHn				4
Ilsoy	III	4	4				4	SCa				1.3
Lincoln	III	5	5	4	R	20Cn	5	SHn				3
L9-4091	III	3	2	4	R	17Cn	5	3Hn				4
L9-4197	III	3	2	5	S	5	4	1Hn,R-SCa				3
Clark	IV	5	5	3	R	67Cn	5	SHn				4
Patoka	IV	5	4	3	S	0	5	SCa	R			4
Wabash	IV	5	5	3	R	47Cn	5	SHn	R			4
L9-4196	IV	3	1	3	S	0	4	3Hn,SCa				3
Peking	IV	4	4				4	SCa				1
A.K. (Kansas)	V	4	4	3	S	1	4	RHn,RCa				4
Dorman	V	4	3.5	3	R	4	4	2Hn,RCa		3		4
Arksoy	VI	5	4	3	R	3	4	RHn				3
Lee	VI	4	1	3	R	3	4			R	R	5Sn
Ogden	VI	4	3	4	I or R	3	5	3Hn	R	2		5Sn
CNS	VII	5	1	3	RCa		4	RHn			R	4
Jackson	VII	4	3		R	1	4	2Hn		R		5
Roanoke	VII	4	3	3	R	2	4	3Hn		2.5		

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

[1]Most of the germplasm collection has been tested for reaction to the cyst nematode. Ilsoy and Peking are resistant varieties. See Reference List of P. I.'s for five resistant P. I.'s. Reactions of most of the germplasm collection are on file at Urbana, Illinois. Unless otherwise noted, cyst nematode reactions originated from North Carolina.

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

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

Reference List of Plant Introductions...(Continued)

Identity	Maturity Group	Bacterial Blight	Bacterial Pustule	Stem Canker	Brown Spot	Frogeye	Brown Stem Rot	Phytophthora Rot	Root-knot Nematode	Soybean Cyst Nematode[1]
P. I. 96188	III	4	4	3	1-2	R	5	3Hn,SCa		4
90763	III	4	2		5	R	5	SCa		1
96322	III	4	3	3	2	S	5	3Hn,SCa		4
157416	III	5	3	4	1	S	4	2Hn,SCa		3
84751	IV	4	3	4	4	S	4	SCa		1
91153-1	IV	4	4	2	2	S	4	3Hn,SCa		2
91346	IV	4	4	3	2	R	5	2Hn,RCa		4
96333	IV	5	4	2	1	S	3	4Hn		4
157418	IV	5	4	2	2	S	4	3Hn,SCa		4
157448	IV	5	4	1	1	S	3	2Hn,RCa		4
171431	IV	5	3	1	2	S	5	2Hn,SCa		4
209332	IV	3	4				4			2
82200-1	V	3			1-2	S	3	SCa		2Sn
166147	VI	2	4	2			4			5
215693	VI	4	1	1	4		4	1		5

[1]Unless otherwise noted, cyst nematode reactions originated from North Carolina.
[2]Selection 84946-2-L1 from this P. I. showed 31% disease-free plants while Lincoln control rows had 100% infection at Cresco and Ames, Iowa, and 38% disease-free plants at Urbana, Illinois.
[3]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	Maturity Group	Field Reaction[1] Bethel	Phillips	Greenhouse Reaction[2]
F. C. 33243	III	0	0	Light
P. I. 200446	VI	1	0	Light
200507	VII	0	0	Very Light
205909	VIII	0	0	Light

[1]Based on number of plants showing galls.
[2]Based on number of egg masses.

WEATHER CONDITIONS AND GENERAL GROWTH RESPONSES AT MOST OF THE NURSERY LOCATIONS DURING THE 1958 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 1958 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 past season was unusually cool and dry during May and June. June was the coldest in 60 years and averaged about 6° F. below normal. As a result, after emergence the growth of soybeans was very slow for four to five weeks, then with warmer weather and more moisture it became very rapid. Heavy rains during July beat the plants down and all soybeans became badly lodged and remained that way until harvest. Maturity was very uneven and no reliable data could be obtained. Yields were average to a little above average. The fall season was quite good.

Portage la Prairie, Manitoba, Canada. Because of cold weather maturity was very slow. After several frosts the plots were harvested on October 20, but even then not all seed was hard. It is interesting to note that the Acme variety appears to be more suited to this area and that Manitoba 56-1 stands high in the test. Crest, a high pod variety, appears to be late for this area.

Winnipeg, Manitoba, Canada. Extremely dry weather prevailed in May and June. Emergence was slow and the area occupied by the Group 00 test was irrigated (approximately 1") on June 10 to obtain a more uniform stand. Temperatures were below normal in June and July. Heavy rainfall (5.65") occurred in July but excessive moisture did not damage the test because drainage was adequate. These conditions probably account for the unusually late maturity of the strains in the test and for the wide differences in the maturity index. The high rank for the seed yields of Acme was very unusual.

Brandon, Manitoba, Canada. Soybean production in 1958 was below average for several reasons. In the spring, moisture was limited and germination was erratic; some varieties completed their germination over a period of ten days or more. This was one of the driest seasons on record and the precipitation which did occur came on fifty-four of the 123 days but only on fifteen of these days was over 0.1 inch recorded.

Morden, Manitoba, Canada. The April to September precipitation was the lowest in 40 years of recording and only four rains over one-half inch occurred during the season. Mean monthly temperature variations from the 40-year average were as follows: April, +3.6; May, +2.2; June, -3.4; July, -3.3; August, -1.3; and September, +1.4. Thus, extreme drouth compensated in part by below average June and July temperatures, was the main feature of the weather. The low monthly mean temperatures of 59.2° F. for June and 65.6° F. for July, while desirable for cereals, were not conducive to rapid soybean growth.

Glassboro, New Jersey. The growing season of 1958 was ideal and was reflected in record yield of corn and soybeans. Rainfall was well distributed and alternated with sunny days of normal temperatures. The farm's main crop is poultry and the

nitrogen level quite high. This, and lots of moisture, no doubt accounted for much of the lodging. All varieties were mature before the first killing frost which came October 6.

Newark and Georgetown, Delaware. Very favorable growing conditions prevailed throughout the entire season at both locations. Rainfall was adequate and well distributed. Abnormal rainfall conditions prevailed in August with an excess of four inches at Newark and eight inches at Georgetown. Temperatures, in general, were slightly below normal with the exception of July. The favorable climatic conditions were conducive to excessive vegetative growth which resulted in early-season lodging. Yield and seed quality, in general, were good.

Hoytville, Wooster, and Columbus, Ohio. Rainfall and temperature for May through August at all three locations were very similar; there was excessive soil moisture and below normal temperatures during the entire growing season. General response appeared to be increased plant height accompanied by heavy lodging and delayed maturity. Increased incidence of certain diseases such as brown spot, mildew, and stem canker was also apparent.

Bath, Michigan. On the muck plots near Bath, the season was generally cool and an early frost stopped the late varieties. Sclerotinia sclerotiorum became evident in the threshed samples.

East Lansing, Michigan. The cool wet May blended into an ideal summer, dry at times, but still good growing weather. Then after the first frost the weather was excellent into November. This allowed late planted plots of soybeans to mature and produce good seed.

Ida, Michigan. There was a good growing season and after the first frost, the weather was such that soybeans, in general, matured and produced a good crop.

Walkerton, Indiana. Drouth conditions prevailed prior to and at planting on May 27. Heavy rains followed planting and continued through the growing season. A 4.27 inch rain with wind on August 7 contributed to considerable lodging. Temperature was below normal in June, July, and August with only four summer days with a temperature of 90° F. or above. There was slight bacterial blight, moderate pustule, and moderately heavy mildew infection. Growth was good, but yields were below average.

Bluffton, Indiana. This plot was planted May 17 with good moisture. Precipitation was very excessive for the growing season. The plots were flooded and damaged some in mid-June. There was slight to moderate manganese deficiency. When observed July 29, Harosoy appeared to be less affected by manganese deficiency than most other varieties. Temperatures averaged 3.2° F. below normal for the growing season. Only five summer days had temperatures of 90° F. or above. There was only a light infection of bacterial blight, brown spot, and mildew. There was a trace of Phytophthora root rot in a small area. Growth was short and yields were below average.

Lafayette, Indiana. Yield trials were planted May 14 which is somewhat early. Moisture through the growing season was about eight to ten inches above normal. Temperature was below normal and there were only two days with temperatures of 90° F. or above. There was moderate to heavy infection of bacterial blight, bacterial pustule, and brown spot. Mildew was light. Brown stem rot was abundant, particularly in late maturing varieties. Growth and yields were very good. Late planted

varieties yielded exceptionally well. Uniform Groups 0, I, II and III planted July 1 averaged 22, 26, 30, and 31 bushels per acre, respectively.

Greenfield, Indiana. This plot was planted May 20 with good moisture. Precipitation was about eight inches above normal for the summer and appeared to be somewhat damaging in some areas of the plot. Weeds became fairly abundant by mid-summer but were removed. Temperature was below normal and there were only three days with 90° F. or above. There was moderate to heavy infection of bacterial blight, brown spot, and mildew. There was a light infection of bacterial pustule and some brown stem rot. Growth was good and yields about average for this location.

Worthington, Indiana. This plot was planted May 21 and destroyed by flooding following mid-June. Uniform Groups 0 through IV were planted July 2 which is considered rather late in Indiana, but there was very good growth and very good yields in all tests with average yields of 25, 27, 33, 34, and 37 bushels per acre, respectively. Precipitation averaged 7.46 inches above normal for May through September. Temperatures averaged 3° below normal for July, August, and September with only 14 days with 90° F. or above. Diseases were negligible except for a moderate infection of brown stem rot.

Evansville, Indiana. This plot was planted under ideal conditions on May 22. Precipitation was above normal for the May to September period. Temperature averaged 1.1° F. below normal for the summer with 30 days with 90° F. or above. There was a trace of manganese deficiency through most of the plot. There was a moderate infection of brown spot and considerable brown stem rot with much internal browning but no pronounced leaf symptoms. Growth and yields were above average.

Spooner, Wisconsin. This nursery was planted May 23 in ample soil moisture with near normal temperatures. Temperatures and rainfall in June were somewhat below normal but the beans were too small to have been seriously affected. Temperatures in July were 3.8 degrees below normal but rainfall was 2.9 inches above normal. Distribution of rainfall was very good except for a 10-day period from July 15 through July 24. However, the beans were somewhat retarded in growth and there was some sterilization of flowers. Due to the location it was not possible to irrigate the soybean nursery this year. August began with relatively high temperatures, ranging from 84 to 91 degrees the first twelve days. The .87 inch of rainfall August 5 was not sufficient to carry the beans through a dry period which lasted until August 23, so considerable damage was done to growth and yields. Total precipitation was 1.57 inches below normal for the month. Rainfall and temperatures were normal for September and the later varieties had ample opportunity to mature since no freezing temperatures occurred during the month.

Durand, Wisconsin. This nursery was planted May 19. Emergence and final stand were good in all plots. Yields were reduced by dry weather. Group 0 varieties suffered slightly more from dry weather than did those of Group I maturity. All varieties matured prior to fall frost.

Madison, Wisconsin. This nursery was planted May 15. Emergence was good and stands normal. During each of the growing months, moisture was from one to two inches below normal. Yields were about 50% of normal due to extreme drouth and below normal temperatures. Temperatures were below normal during all months except August when the departure from the long-time average was zero. All varieties matured prior to killing frost. Disease incidence was minor.

Shabbona, Illinois. This location is in northern Illinois on a fertile, permeable black prairie soil. The tests were planted May 16 in a well-prepared moist seedbed. Good stands occurred but plant growth was shorter than normal. Summer temperatures were rather cool, and, although no drouth occurred, rainfall was never abundant. A killing frost occurred a few days before maturity of C1128, Ford, Lincoln, and Shelby.

Dwight, Illinois. This location is 50 miles south of Shabbona and on a similar soil type. Planting was on May 21 in dry, cloddy soil. Favorable moisture conditions following planting brought plants up to a good stand. Growth was rapid and the heavy rains in late July and early August caused severe general lodging. Rainfall was abundant until shortly before maturity when a mild shortage occurred. Despite this and the excessive and early lodging, yields were rather good.

Urbana, Illinois. This location is 65 miles south of Dwight and on a similar soil type. Planting was on May 13 in a moist, friable seedbed. Plant growth was good but not excessive and only moderate lodging occurred. Very heavy infection of bacterial blight occurred sporadically in the plots early in the season. Yields were at a very high level for this location.

Girard, Illinois. This location is 35 miles south and 80 miles west of Urbana and is similar in soil type but has a moderately developed clay subsoil. Seeding was on May 14 in a moist, friable seedbed and excellent stands were obtained. Growth was rapid, and moderate to severe lodging occurred in August. Moderate to heavy bacterial blight infection occurred along with moderate bacterial pustule and sporadically severe patches of wildfire. Moisture was adequate to abundant throughout the season and yields were at a satisfactory level.

Edgewood, Illinois. This location is 80 miles south of Urbana on a gray silt loam over an impermeable claypan. The tests were seeded on May 22 in a moist, friable seedbed but stands were only fair. Rainfall was abundant to excessive through most of the season and plants in some areas in the test were stunted apparently from excessive soil moisture. Moderate to heavy bacterial blight and moderate bacterial pustule occurred. Growth was fair and there were some areas where heavy lodging occurred. Despite this, the general yield level was quite good.

Eldorado, Illinois. This location is 70 miles south of Edgewood and on a productive, heavy bottomland soil. The tests were seeded on May 14 in a very moist seedbed. Drying and crusting occurred and only fair stands were obtained with much delayed emergence. Plant growth was excellent with the Group III and IV strains exceeding four feet in height. Lodging was moderate and occurred late, and diseases were very light. Moisture was adequate throughout the season except in late August, and the yield level was excellent.

Ullin, Illinois. This location is near the southern tip of the state on terrace soil. Planting was on May 26 in a moist seedbed that had been prepared five days previously. As a result, only fair stands occurred in many plots. Rainfall was adequate throughout the season. Growth was good with little lodging, and yields were quite good. Moderate downy mildew and bacterial pustule occurred with some sporadic wildfire.

Miller City, Illinois. This location is 25 miles south of Ullin on river bottom soil. Planting was on May 27 in a dry and somewhat cloddy seedbed. Fair but

satisfactory stands were obtained. Rainfall was adequate and at times excessive. Moderate infections of bacterial pustule and wildfire occurred. Plant growth was excellent but early severe lodging occurred which depressed yields to some extent.

Crookston, Morris, St. Paul, and Waseca, Minnesota. Good stands were obtained in the nursery trials at all of these locations. Lower than normal temperatures prevailed over much of the summer. Killing frost, however, did not come until the very last of September, even at Crookston. Moisture was somewhat limited at Waseca and Morris, resulting in lower average yields than in the previous two or three years. Yields were good at St. Paul and Crookston where summer rains were more timely. Favorable harvesting conditions through October and early November permitted timely harvest and resulted in good seed quality.

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 productivity. The nursery was planted on May 20 on corn land. During May through September the temperature averaged normal with precipitation 4.1 inches below normal. Growth, yield, and lodging were nearly normal for this location. A killing frost occurred on October 1 after all strains were mature. This nursery was considered fair for making strain comparisons.

Sutherland, Iowa. This nursery represents the northwest section of Iowa with Primghar silt loam soil, medium high in productivity, and generally slightly undulating in topography. The nursery was planted May 28 on popcorn land. Precipitation was below normal for every month from May through September. Temperatures from May through September averaged near normal with June and July departing four to five degrees below normal. Killing frost on October 1 came after maturity. Growth response, yield, and lodging were reduced because of drouth. This nursery was considered fair for making strain comparisons.

Kanawha, Iowa. This nursery is located in north central Iowa on level, productive Webster silty clay loam. Planting was completed on May 15 on land previously in corn. Moderately heavy bacterial blight and bean yellow mosaic occurred in July. During the growing season, temperatures averaged 1.2° F. below normal with June and July, each, five degrees below normal. Precipitation was deficient in every month, May through September. These conditions caused short growth and less than normal yields and lodging. A killing frost on October 1 came after maturity. This nursery was considered fair to good for making strain comparisons.

Independence Iowa. This nursery was planted on May 20 in northeast central Iowa on well-drained Carrington silt loam, medium in productivity. Stands were excellent and plots were kept weed-free. Temperatures averaged 1.9° F. below normal with deficits of five degrees in June and July. Precipitation was below normal for all months except July, totalling 4.6 inches below normal for May through September. Growth, yield, and general response were considered fair for this location. Frost occurred October 1, later than normal. This nursery was considered only fair for making strain comparisons.

Ames, Iowa. This nursery is centrally located on level, productive Webster silt loam. Planting was completed on May 14. Temperatures were generally 1.7 degrees below normal and precipitation above normal with the grestest departure from normal (6.5 inches) occurring in July. Growth, yield, and general response were good. Frost occurred on October 1 before the normal date. Strain comparisons are believed to be good.

Ottumwa, Iowa. This nursery was planted May 13 in southeastern Iowa on flat, very productive Haig silt loam. Temperatures averaged 2.2 degrees below normal, with June and July each, five degrees below normal. Precipitation was 2.7 inches above normal for May through September, with the greatest departure of 6.5 inches occurring in July. Growth, yield, and response were good to very good. Killing frost occurred on November 6, much later than normal. Strain comparisons are believed to be good to very good.

Kirksville, Missouri. The plantings at Kirksville were made in a field with a lower productivity level than in former years. Phosphorus and potassium were fairly high but nitrogen evidently was low, as nodulation almost doubled yields whereas in the field formerly used, nodulation has given no response. Yields were not as high as in former years although moisture was adequate. Growth was short with practically no lodging. Some varieties, especially S6-1018 and Lindarin, showed considerable premature drying from undetermined causes.

Laddonia, Missouri. Wet weather delayed planting at Laddonia and prevented adequate cultivation. Weeds were heavy and were removed late, probably resulting in some reduction in yield and affecting the accuracy of the test. Very little leaf spot or other disease was evident, but Lindarin showed considerable premature drying in some replications. Phosphorus and potassium were at adequate levels but on this flat, slowly draining soil, available nitrogen was evidently low as nodulation increased yield from 8 bushels to 29 bushels.

Columbia, Missouri. Preliminary Groups III and IV and two replications of Groups III and IV were planted May 1 on soil which tested organic matter, 1.8; P, 205; K, 150; Ca, 3700; and pH, 6.6. Two hundred pounds of 0-20-20 were applied. Nodulation gave a 20 percent increase in yield. Moisture was adequate throughout the season. Rainfall during July was especially heavy. Growth was very heavy, especially in the later varieties. Stand counts at maturity on Preliminary Group IV, where lodging was severe, showed a range of from 73 plants per 15 ft. for C1068 to 135 plants for S5-7144 with fair consistency between replications. However, stand accounted for only about 30 percent of the variation in lodging. The Delaware strains, especially, were badly lodged. Replications three and four of Groups III and IV were planted May 15. Bacterial blight was very heavy on the May 1 plantings in mid-July. Later strains had some damage from stink bugs. Group III and Preliminary III can be considered very good tests but the excessive lodging in Preliminary IV undoubtedly prevented expression of true yield potential in some strains.

Jefferson City, Missouri. Stands on this heavy clay soil were quite erratic and only three replications were harvested. Crabgrass was rather bad and morning glories caused lodging in some rows so no lodging scores were taken. Moisture was more than adequate for much of the season and plants showed signs of damage from excess water in July (yellow color and stunted appearance). Results of this test cannot be considered very reliable. Phosphorus, potassium, and calcium are extremely high on this heavy clay.

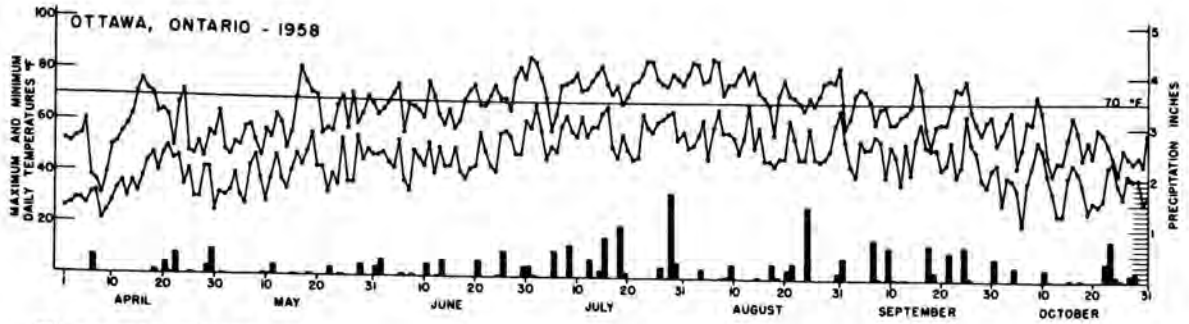
Concord, Nebraska. The Uniform Tests were planted on June 3 in a good seedbed and good stands were obtained. Cooler than normal temperatures prevailed during the growing season. Precipitation was above normal in July but less than half normal during the remainder of the summer. One irrigation was applied in August. Growth of beans appeared delayed during the season. Early frost on September 27 reduced seed quality of some strains although yields were not seriously affected. Tests were considered good for strain comparisons.

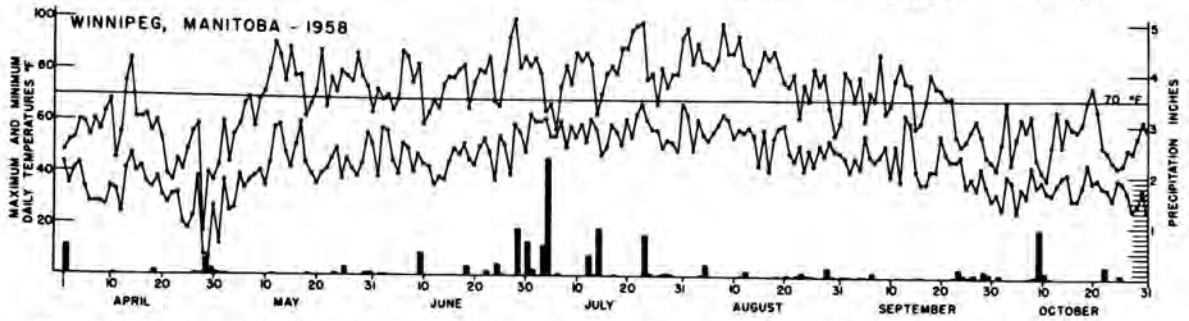
Lincoln, Nebraska. Nurseries were planted during the last week of May in well-prepared seedbeds. Good stands were obtained. Temperatures were below normal every month (-5.0 in June; -7.6 in July) during the growing season with only 16 days above 90° reported. Record precipitation occurred in July, about normal in August, and twice normal in September. The Uniform Group III tests were injured by light frost on September 30, though killing frost did not occur until October 26. Growth and yields were satisfactory for good strain comparisons.

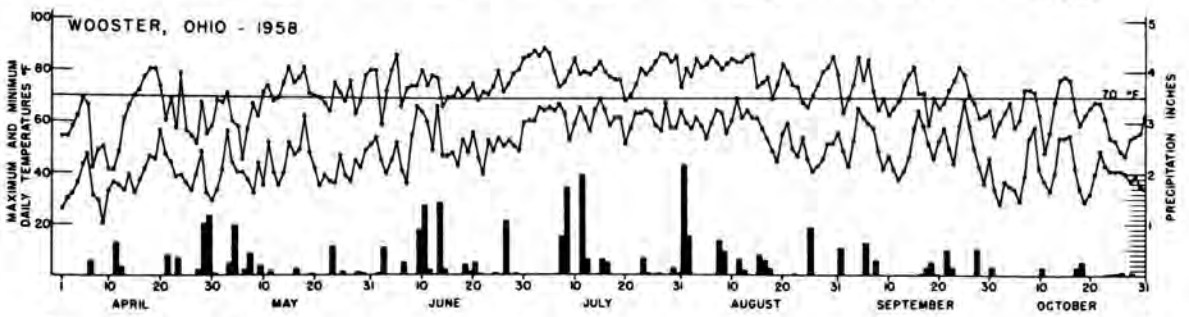
Manhattan, Kansas. Following planting May 24, ideal weather conditions prevailed throughout the growing season. Timely rains fell as needed and at no time did the crop suffer for moisture. A frost on October 1 killed the leaves of most all plants and many varieties and strains did not appear to be mature, though the frost was not severe enough to damage the beans.

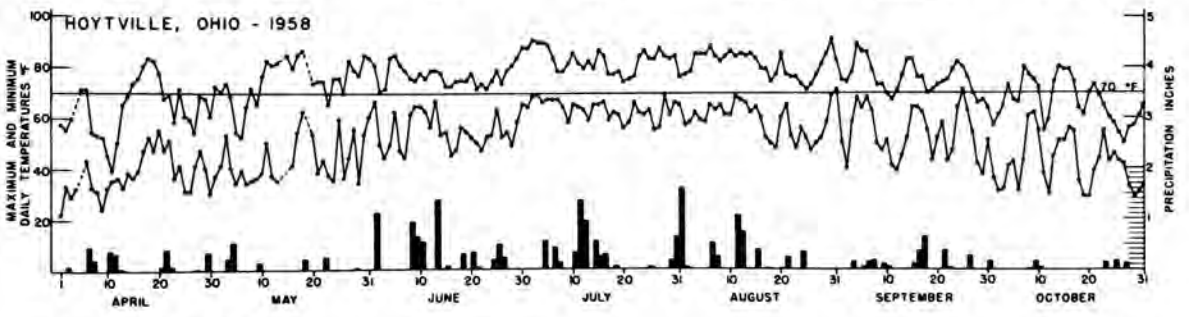
Columbus, Kansas. Weather conditions in 1958 were ideal for soybean production. From the time of planting on June 10 until about two weeks before maturity, the following precipitation was recorded: June, 3.81 inches; July, 12.99 inches; August, 1.01 inches; September, 1.58 inches.

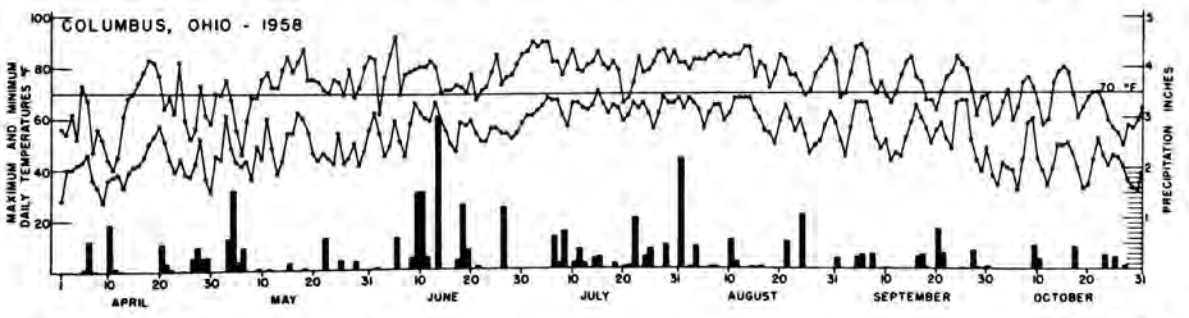
Bonners Ferry, Idaho. This nursery was located about seventy miles from the Sandpoint Branch Station. The soil type was an unclassified bottom land silt loam with a high organic-matter level. The nursery received no fertilization other than one air application of ten pounds of available nitrogen applied in the urea form. There was a high variability in the nursery yields which was partially caused by a very serious weed problem. A blotchy condition, which may have limited yield, developed on the leaves of all varieties. This condition did not kill the plants but caused necrosis of the affected area. In most cases there was some seed abortion and many pods contained only one seed. The Manitoba varieties were somewhat less affected by this pod condition than were the others.

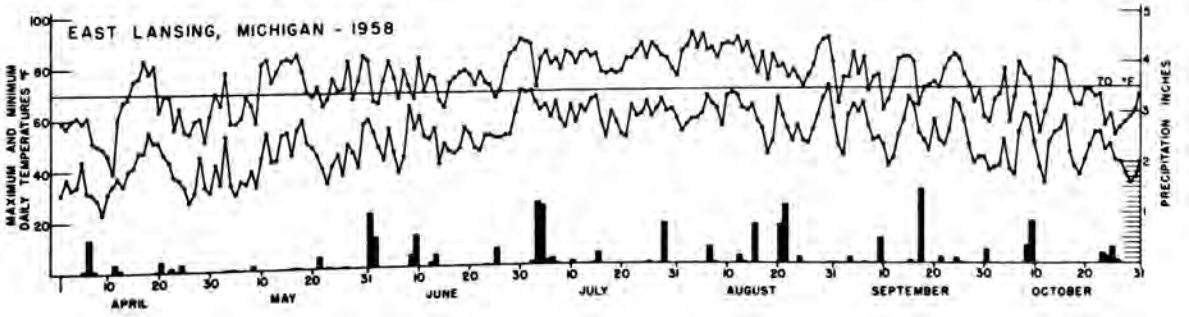

OTTAWA, ONTARIO - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

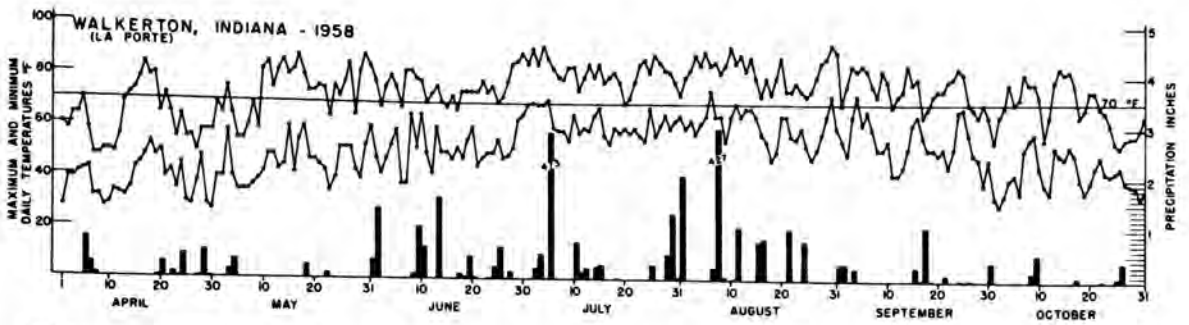

WINNIPEG, MANITOBA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

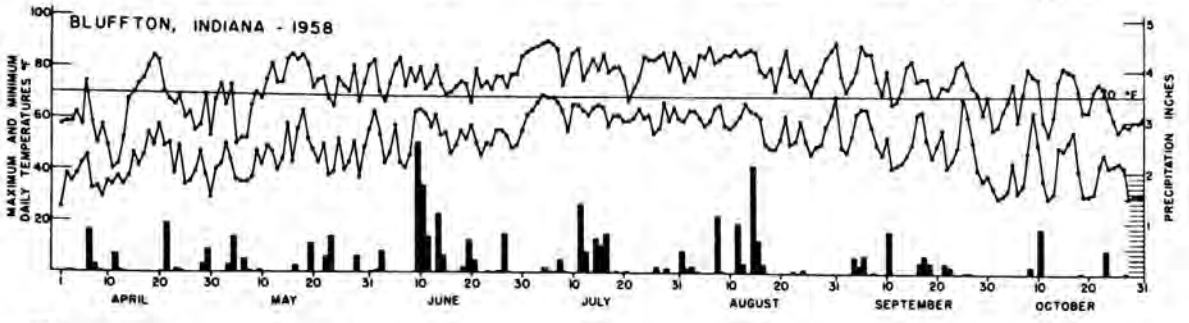

WOOSTER, OHIO - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

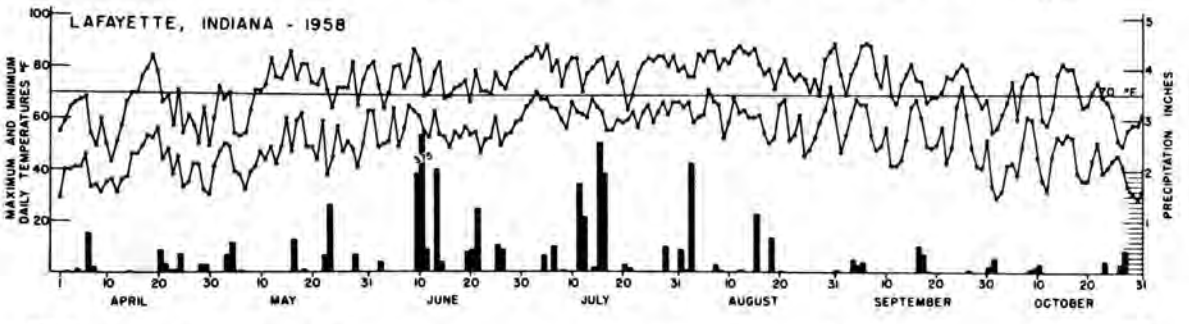

HOYTVILLE, OHIO - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

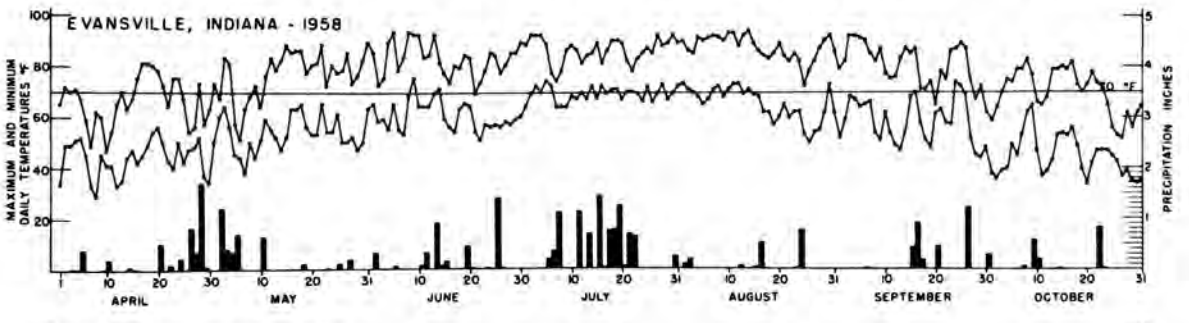

COLUMBUS, OHIO - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

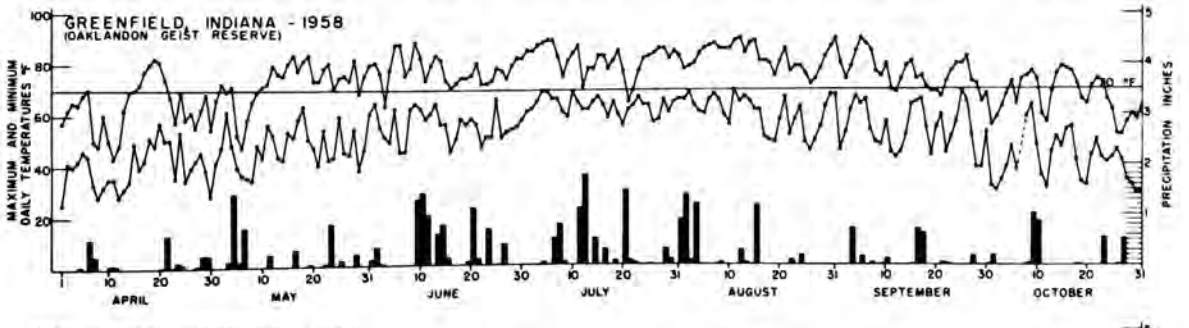

EAST LANSING, MICHIGAN - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

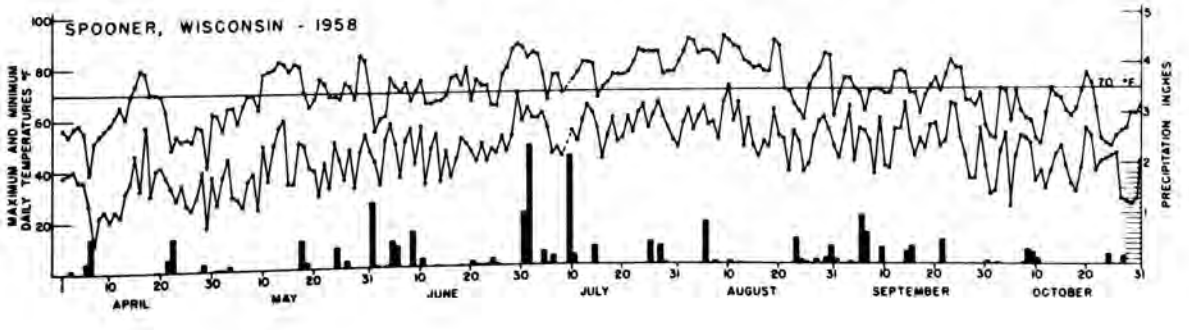

WALKERTON, INDIANA - 1958
(LA PORTE)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

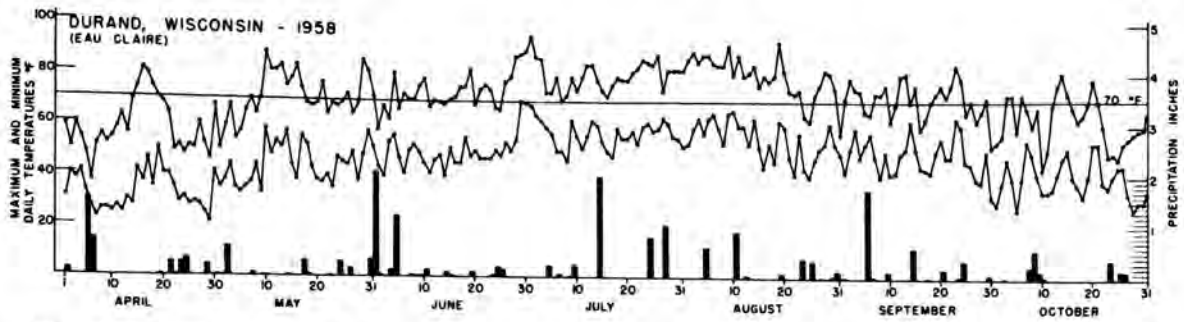

BLUFFTON, INDIANA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

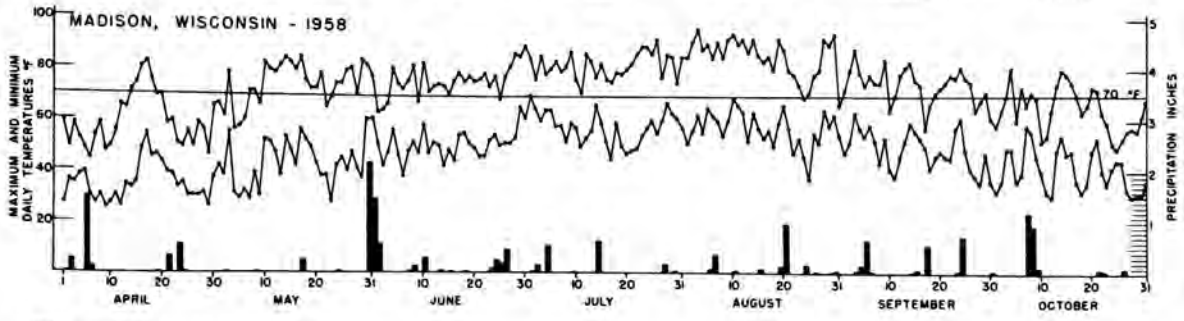

LAFAYETTE, INDIANA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

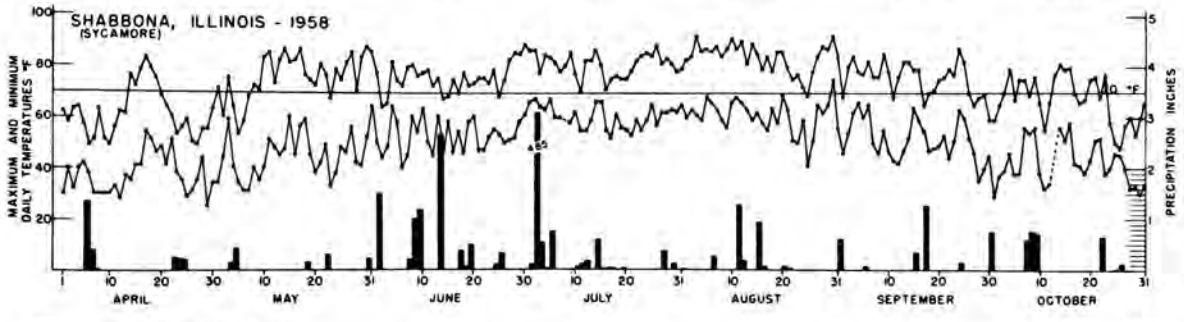

EVANSVILLE, INDIANA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

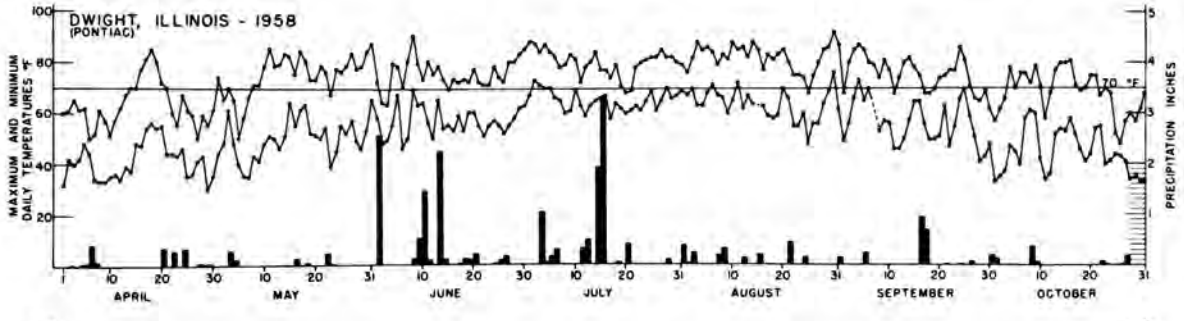

GREENFIELD, INDIANA - 1958
(OAKLANDON GEIST RESERVE)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

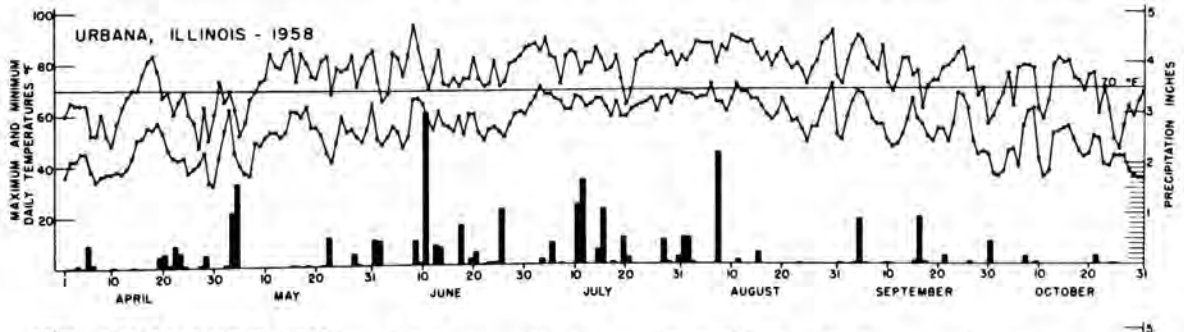

SPOONER, WISCONSIN - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


DURAND, WISCONSIN - 1958
(EAU CLAIRE)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


MADISON, WISCONSIN - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


SHABBONA, ILLINOIS - 1958
(SYCAMORE)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


DWIGHT, ILLINOIS - 1958
(PONTIAC)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


URBANA, ILLINOIS - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
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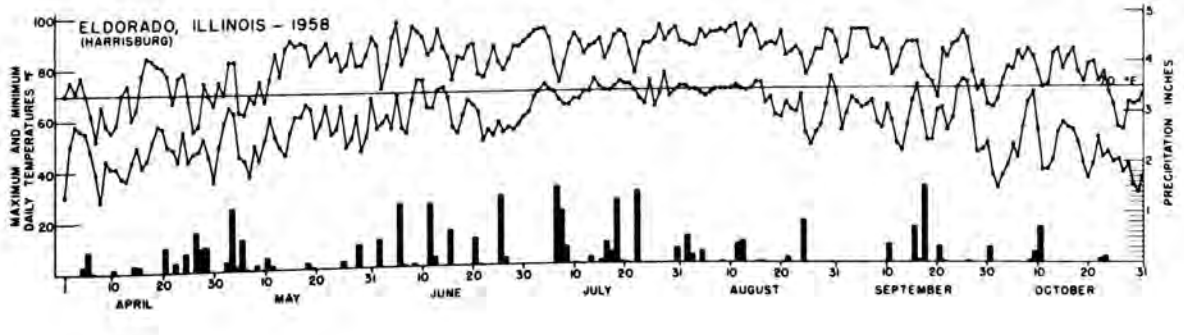
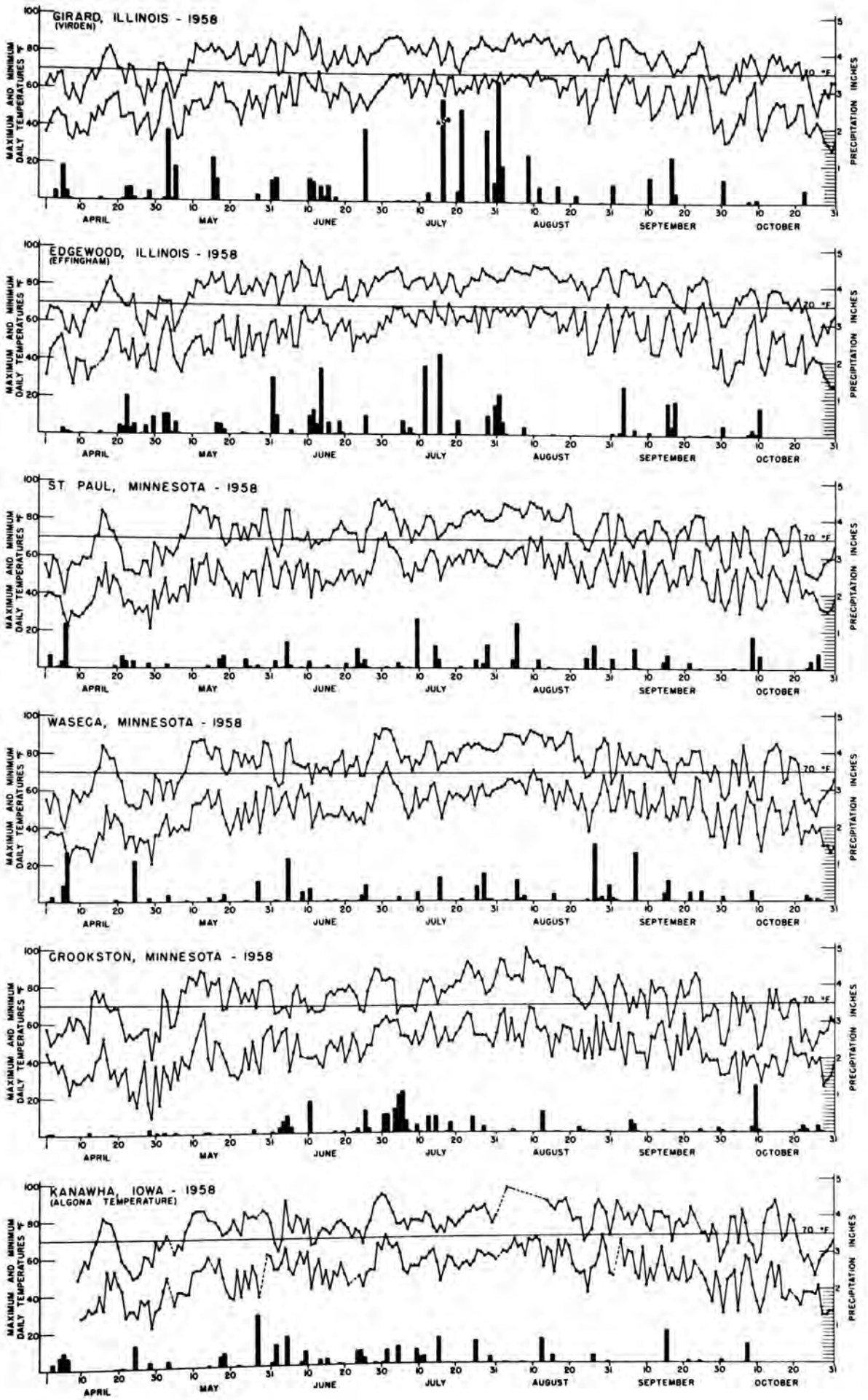
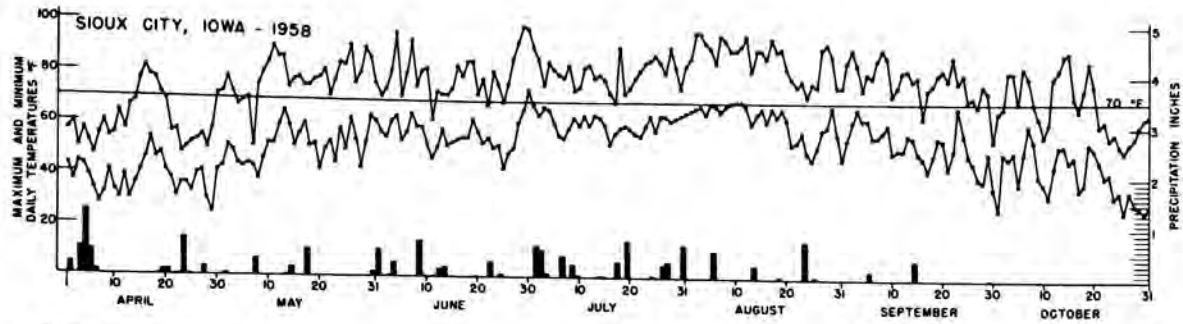
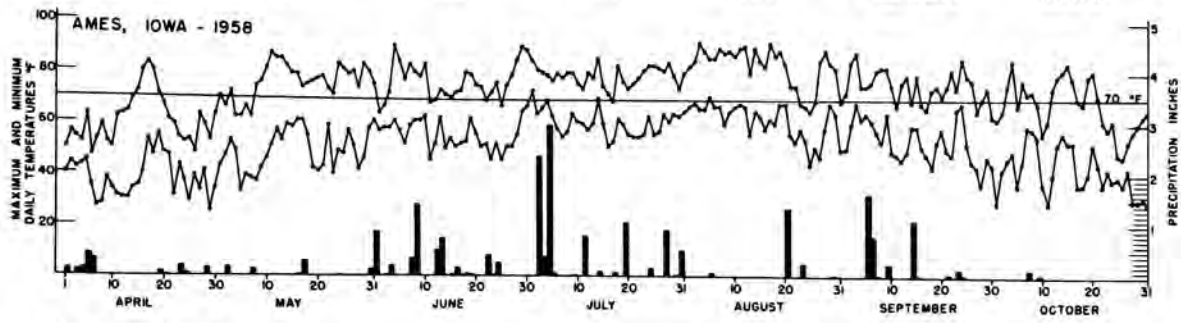
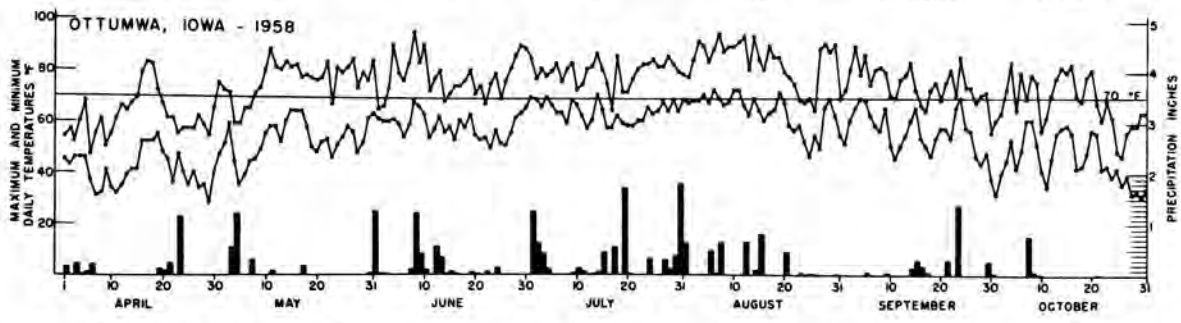
JULY
AUGUST
SEPTEMBER
OCTOBER

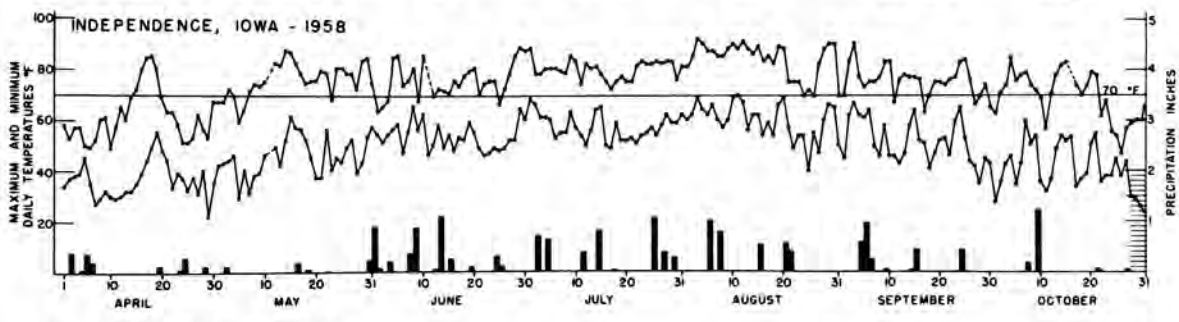

ELDORADO, ILLINOIS - 1958
(HARRISBURG)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

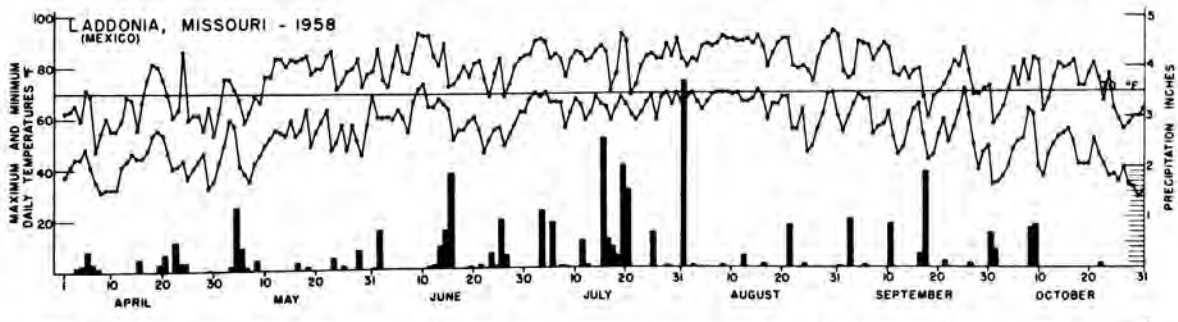

GIRARD, ILLINOIS - 1958
(VIRDEN)
EDGEWOOD, ILLINOIS - 1958
(EFFINGHAM)
ST. PAUL, MINNESOTA - 1958
WASECA, MINNESOTA - 1958
CROOKSTON, MINNESOTA - 1958
KANAWHA, IOWA - 1958
(ALGONA TEMPERATURE)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

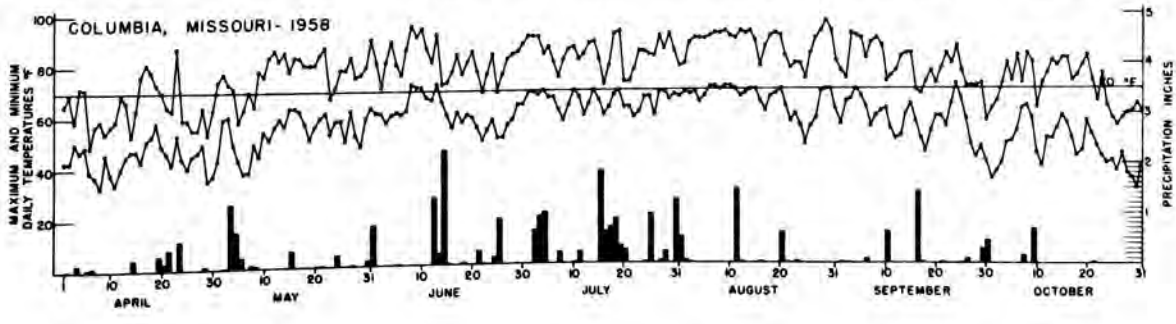

SIOUX CITY, IOWA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

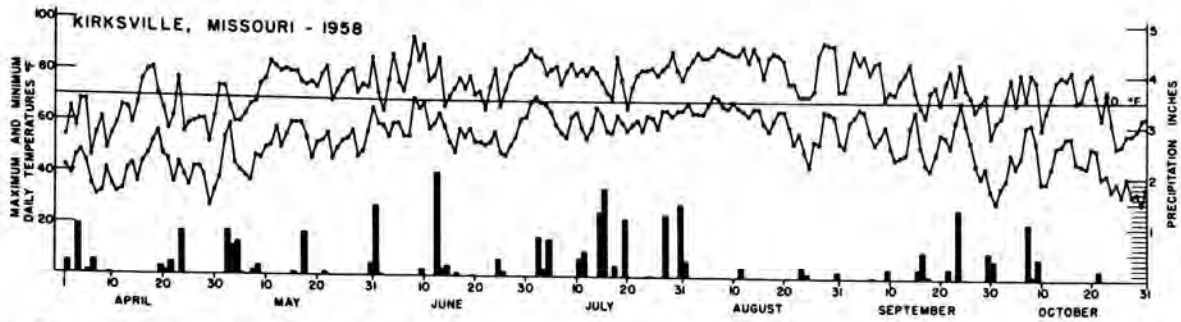

AMES, IOWA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

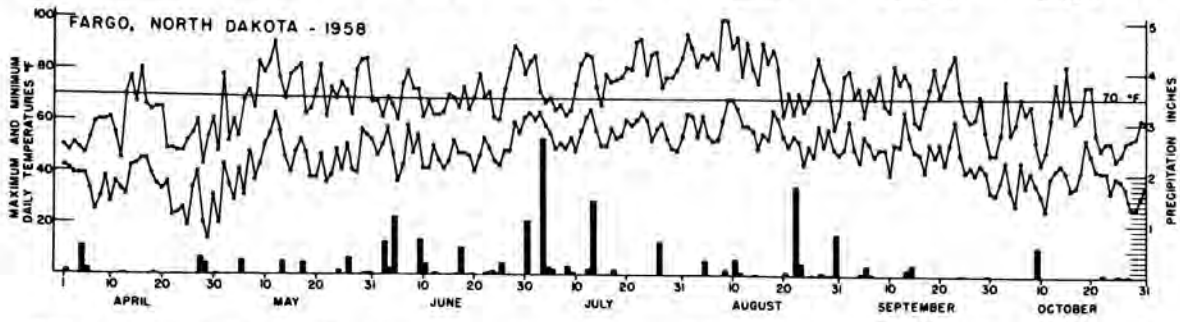

OTTUMWA, IOWA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

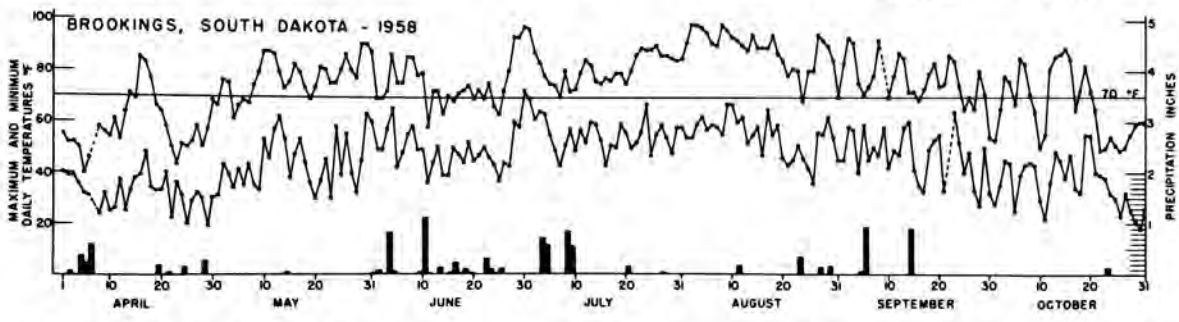

INDEPENDENCE, IOWA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

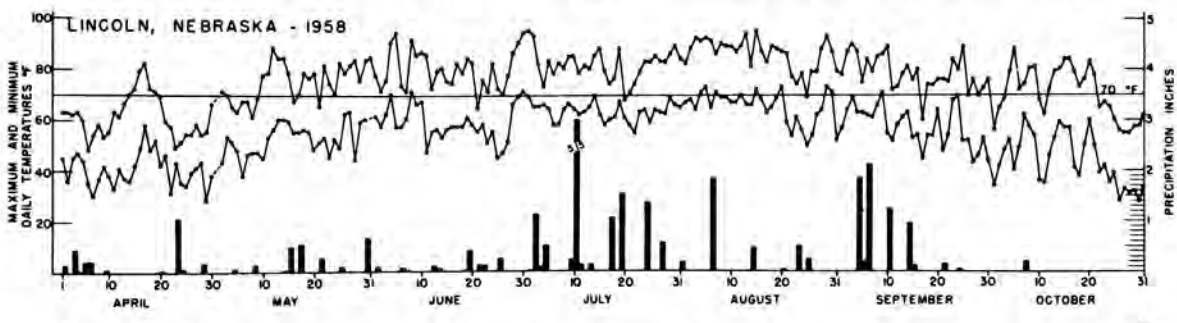

LADDONIA, MISSOURI - 1958
(MEXICO)
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

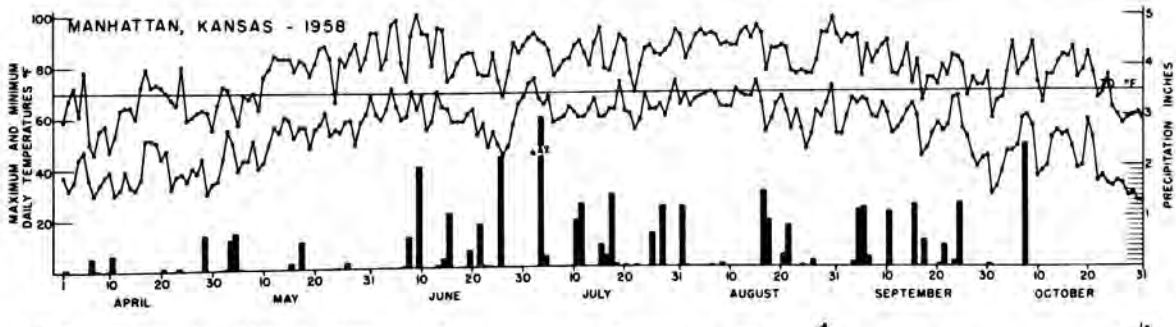

COLUMBIA, MISSOURI- 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER

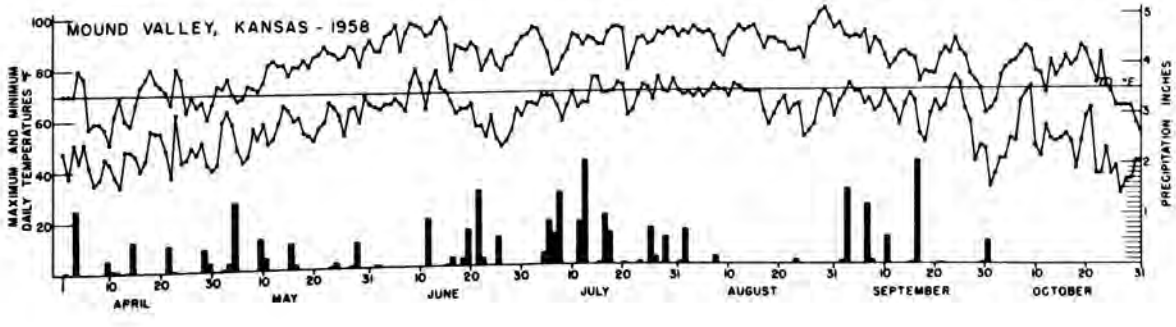

KIRKSVILLE, MISSOURI - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


FARGO, NORTH DAKOTA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


BROOKINGS, SOUTH DAKOTA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


LINCOLN, NEBRASKA - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


MANHATTAN, KANSAS - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER


MOUND VALLEY, KANSAS - 1958
MAXIMUM AND MINIMUM DAILY TEMPERATURES °F
PRECIPITATION INCHES
70 °F
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER