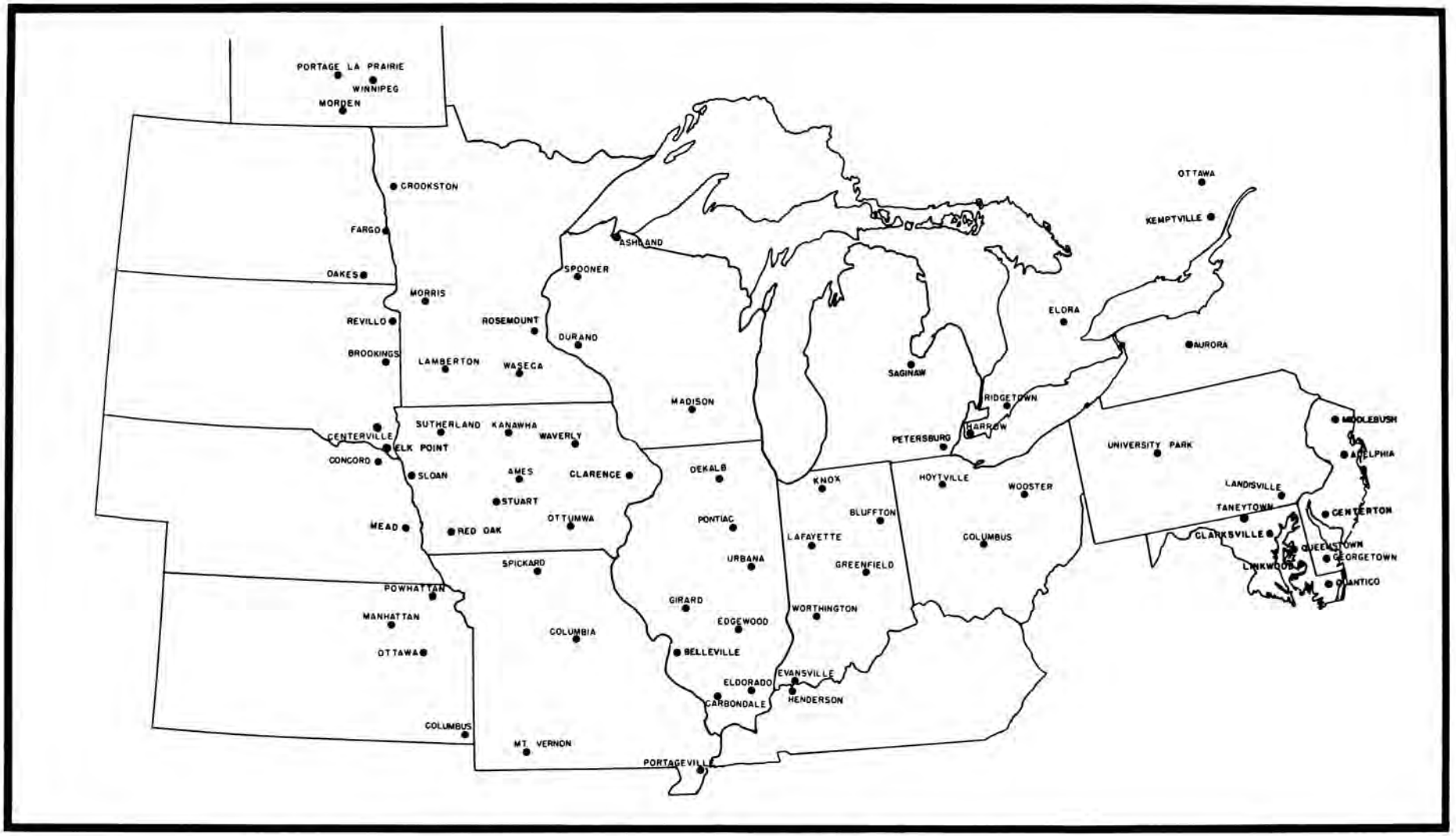

LOCATIONS OF UNIFORM SOYBEAN TESTS, NORTHERN STATES, 1971

THE UNIFORM SOYBEAN TESTS

NORTHERN STATES

1971

RSLM 248

Compiled by:

R. L. Bernard and D. A. Lindahl

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The U. S. Regional Soybean Laboratory conducts research directed toward breeding better varieties of soybeans in cooperation with federal and state research personnel in all important soybean producing states and with research workers in two provinces in Canada. The purpose of the Uniform Soybean Tests is to evaluate critically the best of the experimental soybean lines developed by these researchers.

A test is established for each of ten maturity groups. Uniform Test 00 includes maturity Group 00 strains for the northern fringe of the present area of soybean production. Uniform Tests 0 through IV include later strains adapted to locations progressively farther south in the North Central States and areas of similar latitude. Each year new selections are added and others that have been sufficiently tested are dropped. The summary of performance of strains in Uniform Tests 00 through IV in the northern states is included in this report. The report on Uniform Tests IVS through VIII in the southern states is issued separately.

Data from the Uniform Tests form the basis for decisions on the regional release of soybean varieties. Preliminary Tests are grown at a limited number of locations throughout the region to screen the experimental strains for maturity and general agronomic performance for one year before they are entered in the Uniform Tests.

Unreleased strains in this report are not available for general distribution. For further information on them contact the originating agencies listed on page 9.

Uniform Tests are usually planted in four-row plots with three replications or three-row plots with four replications and the center one or two rows are harvested. Preliminary Tests are usually planted in three-row plots (the center row harvested) with two replications. Usually 18 to 20 feet of row are planted and 16 feet harvested, to eliminate end-of-row effects. Seeds are packeted at a rate of 180 viable seeds per packet for each row.

Parentage. Parent strains other than named varieties are identified on page 12.

Generation Composited is the generation after the final single-plant selection.

Previous Testing. The number of previous years in the same Uniform Test is given, or, in the case of new entries, a reference to last year's test abbreviated UT 0 for Uniform Test 0, PT III for Preliminary Test III, etc.

Yield is measured after the seeds have been dried to a uniform moisture content and is recorded in bushels (60 pounds) per acre. [To convert to kilograms per are (or quintals per hectare) multiply by .6725; 1 kg/are = 1.487 bu/acre.]

Maturity is the date when 95% of the pods have ripened. Delayed leaf drop and green stems are not considered in assigning maturity. Maturity is expressed as days earlier (-) or later (+) than the average date of the reference variety. To aid in maturity group classification, one earlier and one later "tie" variety are listed on the maturity table for each Uniform and Preliminary Test except 00. Current reference and tie varieties and the maturity group limits relative to the reference varieties are:

Group	Reference	Range	Early Tie	Late Tie
00	Portage	-2 to +6		Clay (0)
0	Merit	-4 to +4	Morsoy (00)	Chippewa 64 (I)
I	Chippewa 64	-2 to +6	Merit (0)	Corsoy (II)
II	Corsoy	-3 to +5	Hark (I)	Wayne (III)
III	Wayne	-4 to +4	Beeson (II)	Cutler 71 (IV)
IV	Cutler 71	-4 to +7	Calland (III)	Hill (V)

These maturity group ranges are based on long-time means over many locations. When using data from fewer environments, the interval between reference varieties may differ from that implied above, but the division between maturity groups can be estimated in proportion to the above figures.

Lodging is rated at maturity according to the following scores:

1 Almost all plants erect
2 All plants leaning slightly or a few plants down
3 All plants leaning moderately (45°), or 25% to 50% of the plants down
4 All plants leaning considerably, or 50% to 80% of the plants down
5 Almost all plants down

Height is the average length in inches of plants from the ground to the tip of the main stem at the time of maturity. [To convert to centimeters, multiply by 2.54.]

Seed Quality is rated according to the following scores considering the amount and degree of wrinkling, defective seed coat (growth cracks), greenishness, and moldy or rotten seeds. (Threshing or handling damage is not considered, nor is mottling or other pigment.)

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

Seed Size in grams per 100 is based on a 100 or 200-seed sample. [To convert to seeds per pound divide this into 45,359.2.]

Seed Composition is measured on samples submitted to the Laboratory. A 60 to 70-gram sample of clean seeds is prepared by taking an equal volume or weight of seeds from each replication. Protein percentage is measured using the Kjeldahl method and oil percentage is measured using nuclear magnetic resonance. These percentages are expressed on a moisture-free basis.

Descriptive Code: 1234 567, abbreviated as underlined below:

1 = Flower Color: Purple, White
2 = Pubescence Color: Tawny, Gray, Light tawny
3 = Pubescence Type: Normal, Appressed, Semi-appressed
4 = Pod Color: Brown, Tan
5 = Seed Coat Luster: Dull, Shiny, Intermediate
6 = Seed Coat Color: Yellow, Gray, Light gray, Green
7 = Hilum Color: Black, Imperfect black, Brown, Buff, Gray, Tan, Yellow; prefixes indicate Light or Dark shades, e.g., Lbf = light buff, Dib = dark imperfect black.

Peroxidase Activity: H = high, L = low activity in seed coat.

Fluorescent Light Response: E = early flowering (about 35 days), L = late flowering (about 70 days) under 20-hour cool white fluorescent photoperiod.

Shattering is scored at a specified time after maturity and is based on estimates of the percent of open pods as follows:

1 No shattering 3 10% to 25% shattered 5 Over 50% shattered
2 1% to 10% shattered 4 25% to 50% shattered

Iron Chlorosis is rated from 1, no chlorosis, to 5, severe chlorosis.

Hypocotyl Elongation was measured at Ames, Iowa, on 24 seedlings after germinating for nine days at 25° C (a critical temperature for differentiating strains).

Disease reactions are listed according to "Soybean Classification Standards", March 1955, unless otherwise specified. Disease reaction is scored from 1 (healthy) to 5 (heavily infected) or in some cases as simply + (present) or o (absent). The location where the test was made is identified in the column heading, and the letter "a" or "n" signifies artificial or natural infection. Clearcut and consistent reactions are given by letter instead of number: R = resistant, S = susceptible, I = intermediate, and H = heterogeneous. Natural infection ratings are from agronomic tests in some instances and from special disease plantings in others. Absence of symptoms under natural infection does not necessarily mean high resistance.

Abbreviation	Disease	Pathogen
BB	Bacterial blight	Pseudomonas glycinea
BBV	Bud blight	Tobacco ringspot virus
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_1, FE_2	Frogeye race 1, 2	Cercospora sojina
PM	Powdery mildew	Microsphaera diffusa
PR	Phytophthora rot	Phytophthora sojae
PS	Purple stain	Cercospora kikuchii
PSB	Pod and stem blight	Diaporthe phaseolorum var. sojae
Pyd	Pythium root rot	Pythium debaryanum
Pyu	Pythium root rot	Pythium ultimum
RK	Root knot nematode	Meloidogyne spp.
RR	Rhizoctonia root rot	Rhizoctonia solani
SB	Sclerotial blight	Sclerotium rolfsii
SC	Stem canker	Diaporthe phaseolorum var. caulivora
SMV	Soybean mosaic	Soja virus 1
TS	Target spot	Corynespora cassiicola
WF	Wildfire	Pseudomonas tabaci
YMV	Yellow mosaic	Phaseolus virus 2

Ratings for BB, BP, BS, DM, FE_2, and PM were based on leaf symptoms; those for PS on the amount of seed stain; those for BSR on percent of plants with stem browning; and those for PR on seedling rotting and/or stunting.

Experimental (i.e., unreleased) strains are identified with number and a code letter prefix. These letters indicate the originating agency as follows:

A	Iowa A.E.S. and U.S.R.S.L.
C	Purdue A.E.S. and U.S.R.S.L.
CM	Canada Dept. of Agriculture, Morden, Manitoba
D	Mississippi A.E.S. and U.S.R.S.L.
E	Michigan A.E.S. and U.S.R.S.L.
FC	Forage and Range Research Branch, U.S.D.A.
H	Ohio A.E.S. and U.S.R.S.L.
K	Kansas A.E.S. and U.S.R.S.L.
L	Illinois A.E.S. and U.S.R.S.L.
M	Minnesota A.E.S. and U.S.R.S.L.
Md	Maryland A.E.S. and U.S.R.S.L.
ND	North Dakota A.E.S. and U.S.R.S.L.
O	Central Experiment Farm, Ottawa, Ontario
O	Research Station, Harrow, Ontario
OAC	University of Guelph, Guelph, Ontario
PI	Plant Introduction Investigations, New Crops Research Branch, U.S.D.A.
S	Missouri A.E.S. and U.S.R.S.L.
SD	South Dakota A.E.S. and U.S.R.S.L.
SL	Two or more state experiment stations and U.S.R.S.L.
T	Soybean Genetic Type Collection, U.S.R.S.L.
U	Nebraska A.E.S. and U.S.R.S.L.
UD	Delaware A.E.S. and U.S.R.S.L.
UM	University of Manitoba, Winnipeg, Manitoba
W	Wisconsin A.E.S. and U.S.R.S.L.

Location*		Tests Conducted by	Uniform Tests						Preliminary Tests					
			00	0	I	II	III	IV	00	0	I	II	III	IV
N. Y.	Aurora	H. A. MacDonald & W. D. Pardee		x	x	x								
Pa.	University Park	R. H. Cole				x	x							
	Landisville	"					x	x						
N. J.	Middlebush	J. R. Justin				x								
	Adelphia	"					x							
	Centerton	"						x						
Del.	Georgetown I	E. L. Wisk						x						x
Md.	Taneytown B	J. A. Schillinger					x	x						
	Clarksville	"					x	x					x	x
	Queenstown	"					x							
	" B	"					x	x						
	Quantico B	"					x	x						
	Queenstown	B. E. Caldwell & V. L. Miller						x						
	Linkwood	"						x						x
Ont.	Ottawa	L. S. Donovan	x						x					
	Kemptville	J. D. Curtis	x	x					x	x				
	Elora	D. J. Hume	x	x					x	x				
	Ridgetown	D. A. Littlejohns		x	x	x				x	x			
	Harrow	L. J. Anderson			x	x						x		
Ohio	Hoytville	P. E. Smith		x	x	x	x				x	x		
	Wooster	"			x	x	x							
	Columbus	"			x	x	x	x					x	
Mich.	Saginaw	T. J. Johnston		x	x	x				x	x			
	Petersburg	"			x	x								
Ind.	Knox	J. R. Wilcox			x	x						x		
	Bluffton	"				x	x							
	Lafayette	"			x	x	x	x				x	x	
	Greenfield	"				x	x							
	Worthington	"				x	x	x					x	x
	Evansville	"					x	x						x
Ky.	Henderson	D. B. Egli					x	x						
Wis.	Ashland	G. H. Tenpas	x						x					
	Spooner	C. O. Rydberg		x						x				
	Durand	J. H. Torrie		x	x									
	Madison	"			x	x					x	x		
Ill.	Dekalb	R. L. Cooper			x	x					x			
	Pontiac	"			x	x						x		
	Urbana	R. L. Bernard &			x	x	x	x				x	x	
	Girard	D. A. Lindahl				x	x	x					x	
	Edgewood	"				x	x	x						
	Belleville	"				x	x	x						x
	Eldorado	"				x	x	x						x
	Carbondale	D. R. Browning				x	x	x						
Minn.	Crookston	J. W. Lambert	x						x					
	Morris	"	x	x						x				
	Rosemount	"	x	o					x	o				
	Lamberton	"			x	x					x			
	Waseca	"			x	x					x			
Iowa	Sutherland	R. C. Clark &			x	x					x			
	Kanawha	W. R. Fehr			x	x					x	x		
	Waverly	"				x								

Location*		Tests Conducted by	Uniform Tests 00	0	I	II	III	IV	Preliminary Tests 00	0	I	II	III	IV
Iowa	Clarence	R. C. Clark &				x								
	Sloan	W. R. Fehr				x								
	Ames	"				x						x		
	Stuart	"					x	x					x	
	Ottumwa	"					x	x					x	
	Red Oak	"					o	o						
Mo.	Spickard	V. D. Luedders			x	x	x							
	Columbia	"			x	x	x	x				x	x	x
	Mt. Vernon	"				x	x	x						
	Portageville	L. A. Duclos						x						x
Man.	Portage la Prairie	J. E. Giesbrecht	x						x					
	Winnipeg	B. R. Stefansson	x											
	Morden	J. E. Giesbrecht	o						o					
N. D.	Fargo	D. A. Whited	x	x	o				x	x				
	Oakes I	"		x	x									
S. D.	Revillo	A. O. Lunden		x	x					x				
	Brookings	"			x	x					x			
	Centerville	"				x						x		
	Elk Point	"					x							
Neb.	Concord	R. S. Moomaw			x	x	x							
	Mead I	J. H. Williams			x	x	x	x			x	x	x	
Kansas	Powhattan	C. D. Nickell				x	x	x						
	Manhattan	"					x	x						
	" I	"					x	x					x	x
	Ottawa	"					x	x						x
	Columbus	G. L. Kilgore					x	x						
Ore.	Ontario I	L. A. Fitch	x	x										
No. of locations with agronomic data (x,x)			11	13	26	40	36	32	8	8	11	12	11	11
No. with seed composition data (x)			7	7	12	18	17	17	5	4	6	6	6	6

		Disease and Shattering Tests		UT	PT
Del.	Georgetown	PSB, PS	H. W. Crittenden	IV	IV
Ind.	Lafayette	FE_2, PR, BSR	K. L. Athow &	00-IV	00-IV
	"	BS	F. A. Laviolette	I-IV	I-IV
Ill.	Urbana	BSR, BB^{nl}, BP^{al}	D. W. Chamberlain	00-IV	00-IV
	Urbana	BP^{a2}	R. L. Bernard	I-IV	I-IV
Minn.	Crookston	Fe chlorosis	J. W. Lambert	--	00
	St. Paul	BSR	"	00-IV	--
Iowa	Ames	BB^{a}, BP, BS	J. M. Dunleavy	00-IV	--
	Ames	BB^{n}, PR, Fe	H. Tachibana & L. C. Card	00-IV	0-IV
	Ames	Hypocotyl elongation	W. R. Fehr	00-IV	--
Miss.	Stoneville	PR	E. E. Hartwig	II-IV	II-IV
	"	Shattering	"	II-IV	II-IV
Kansas	Manhattan	Shattering	C. D. Nickell	00-IV	00-IV
Texas	Lubbock	Shattering	R. D. Brigham	III-IV	--
Ont.	Harrow	PM, Peroxidase, Fluorescent Light	R. I. Buzzell	00-IV	--

* B = after barley, I = irrigated

Strain	Parentage or Source	Uniform Testing
Chip.-Rps rxp(L10)	PR and BP resistant Chippewa BC	65 I
"-Ir Rps rxp(L16)	PR and BP resistant yellow hilum Chippewa BC	67 PI
Clark-Ir Rps rxp(L12)	PR and BP resistant yellow hilum Clark BC	65-66 IV
Kent-Rps rxp(SL5)	PR and BP resistant Kent BC	65 IV
Wayne-Rps(L15)	PR resistant Wayne BC	67-68 III
Wayne-Ir Rps	PR resistant yellow hilum Wayne BC	(69 PIII)
II-54-139	Renville x Capital	--
II-54-240	(Lincoln^2 x Richland) x Korean	--
AX50F58-2	Hawkeye x Clark	61-62 II
AX56P64-1	Adams x Harosoy, progenitor of Amsoy	61-63 II
C1069	Lincoln x Ogden. From same F_3 plant as Kent	54-58 IV
C1079	Lincoln x Ogden. From same F_3 plant as Kent	54-56 IV
C1128	Wabash x Hawkeye	54-58 II,58,62 III
C1243	PI 68.521 x Wabash	60 PII
C1253	Blackhawk x Harosoy. PR resistant	64 PII
C1265	Harosoy x C1079	62-63 II
C1266	Harosoy x C1079	62-63 IV
FC 31.122	From E. R. Sheffel, Bayfield, Wis., in 1941	--
L2	Harosoy 63 x (Harosoy^6 x S54-1207)	62-66 II
L4	(C1128^6 x S54-1207) x [C1128^6 x sel. (Monroe x Lincoln)]	62 III
L46-1503	I t w from Lincoln^2 x Richland	49-50 III
L48-7289	Seneca x Richland	50-51 II
L49-4091	(F_3 Lincoln^2 x Richland) x (F_1 Lincoln x CNS)	51 IV, 52-53 III
L57-0034	Clark x Adams	60-62 IV
M10	Lincoln^2 x Richland	49-51 I
M319	Lincoln x Hawkeye	58-61 I
M323	Hawkeye x Capital	--
M372	M10 x PI 180.501	61 I
M387	Renville x Capital	63 00,64 0
M402	Renville x Capital	63-64 II
M406	Harosoy x Norchief	64-65 0
0-52-903	Strain 753-1 from Sven A. Holmberg, Norrkoping, Sweden, same as PI 194.654	60-61 00
0-57-2921	Blackhawk x Capital	60-1 0, 62-5 00
PI 68.521	RS No. 205 from Chinese Eastern Ry., Manchuria in 1926	--
PI 84.666-1	Unknown (unlike original from Korea in 1930)	--
PI 91.110-1	Collected in northern Manchuria in 1931	--
PI 132.207	No. D14 from Dr. L. Koch, Zeist, Netherlands, in 1939	--
PI 180.501	Strain No. 18 from a Manchurian strain x PI 54.616 from Frankfurt, Germany, in 1949	--
PI 248.406	Osijecka, from Yugoslavia in 1958	--
PI 261.475	Shika No. 1 from Manchuria via Hyogo Agricultural College, Japan, in 1959	--
S54-1207	Hawkeye x (L49-4091 x sib of Clark)	57 III
S62X30:1	(Clark^2 x L46-1503) x (Clark 63^3 x Kanrich) I t w, DM resistant	--
W57-2334	Seneca x Chippewa	62 I

Strain	Parentage	Generation Composited	Previous Testing*
1. Altona	0-52-903(Holmberg 753-1) x Flambeau	F_5	7
2. Flambeau	Introduction from Russia		13
3. Morsoy	Acme x L48-7289(Seneca x Richland)	F_7	3
4. Norman	Acme x Hardome	F_5	6
5. Portage	Acme x Comet	F_5	11
6. CM119	Acme x Blackhawk	F_7	P 00
7. CM121	Acme x Blackhawk	F_7	P 00
8. CM127	Acme x Blackhawk	F_7	P 00
9. Ada(M61-60)	Merit x Norman	F_5	1

* Number of years in this test or name of last year's test.

This test consisted mostly of released varieties this year. The long-time means (four and six years) show a small positive regression of yield on maturity, with the older variety Flambeau lagging below its expected yield. The newly named Ada variety performed similarly to the slightly earlier Norman based on a two-year mean and in addition carries resistance to phytophthora rot and to iron chlorosis (1970 data). The three CM strains were advanced from last year's preliminary test. They included the top two entries in regional mean yield this year and appear to merit further testing.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
				1971					
No. of Tests	10	10	8	10	10	9	8	6	6
Altona	30.9	4	+ 8.1	2.3	29	2.5	19.1	42.4	19.3
Flambeau	29.8	7	+13.3	3.3	32	2.5	17.3	43.1	18.3
Morsoy	31.1	3	+ 6.4	2.5	30	2.8	18.9	39.7	21.3
Norman	29.9	6	+ 4.0	1.8	27	2.3	16.8	41.8	19.1
Portage	27.8	9	9-9†	1.3	26	2.8	17.2	40.8	19.5
CM119	31.2	2	+ 4.3	2.2	29	2.7	17.8	41.0	19.8
CM121	31.6	1	+ 4.6	1.6	28	2.7	18.2	41.0	20.2
CM127	30.3	5	+ 6.1	1.7	27	2.5	16.6	40.0	20.7
Ada	29.7	8	+ 7.4	2.0	28	2.1	17.7	42.2	18.9

† 115 days after planting

				1970-71, 2-year mean					
No. of Tests	20	20	18	20	20	18	16	12	12
Altona	31.5	1	+ 6.5	2.4	30	2.2	18.9	42.2	19.8
Flambeau	30.2	3	+11.4	3.4	32	2.5	17.2	43.0	18.6
Morsoy	30.4	2	+ 6.8	2.7	31	2.7	19.5	39.7	21.6
Norman	29.9	4	+ 3.4	2.1	29	2.0	17.2	41.5	19.9
Portage	28.9	6	9-9†	1.6	27	2.4	18.0	40.8	20.0
Ada	29.7	5	+ 5.7	2.2	30	1.8	17.6	41.9	19.5

† 111 days after planting

				1968-71, 4-year mean					
No. of Tests	39	39	37	33	37	36	32	23	23
Altona	31.1	1	+ 4.2	2.5	29	2.2	19.0	41.1	20.1
Flambeau	30.5	3	+ 7.8	3.5	31	2.2	17.2	41.9	18.9
Morsoy	30.7	2	+ 6.0	2.8	30	2.7	21.1	38.9	21.7
Norman	30.1	4	+ 2.8	2.2	29	1.9	17.6	40.9	20.0
Portage	29.2	5	9-11†	1.5	27	2.4	18.4	40.1	20.0

† 114 days after planting

				1966-71, 6-year mean					
No. of Tests	59	59	55	47	57	52	48	33	33
Altona	30.1	1	+ 4.5	2.4	29	2.3	18.5	40.7	20.1
Flambeau	29.9	2	+ 7.6	3.3	30	2.3	16.8	41.5	18.9
Norman	29.4	3	+ 2.7	2.2	29	2.0	17.3	40.3	20.0
Portage	28.2	4	9-13†	1.5	27	2.3	18.0	39.5	20.1

† 113 days after planting

Disease Data

Strain	BB			BP		BS	BSR			FE_2	PM	PR	
	Urb. Ill.	Ames Iowa		Urb. Ill.	Ames Iowa	Ames Iowa	Laf. Ind.	Urb. Ill.	St. Paul Minn.	Laf. Ind.	Har. Ont.	Laf. Ind.	Ames Iowa
	nl	n	a	al	n	n	n %	n %	n %	a	a	a	a
Altona	1	2	4.5	4	5	4	7	50	80	3	R	R	H
Flambeau	1	2	4	4	5	3	6	40	75	4	R	S	S
Morsoy	1	3	3.5	3	5	3	29	60	75	4	R	S	S
Norman	3	3	3.5	4	5	3	5	40	35	5	S	S	S
Portage	2	3	5	3	5	2.5	43	50	80	4	S	S	S
CM119	1	3	4	4	5	2	22	50	75	4	R	R	R
CM121	1	3	4	4	5	3	47	60	50	4	R	H	S
CM127	1	4	4.5	4	5	3.5	48	40	85	5	H	S	S
Ada	1	3	4.5	4	5	2.5	25	30	60	5	R	H	R

Descriptive and Shattering Data

Strain	Descriptive Code	Peroxidase	Fluorescent Light	Shattering Kansas Manhattan 2 wk.	Shattering Kansas Manhattan 4 wk.	Hypocotyl Length cm
Altona	PTNBr SYBl	H	E	1	4	20
Flambeau	PTNBr SYBl	H	E	1	4	19
Morsoy	PGNBr DYLib	L	E	2	5	21
Norman	PGNBr SYY	H	E	1	4	24
Portage	PGNBr D+SYY	H	E	5	5	23
CM119	PGNBr SYG	H	E	2	5	19
CM121	PGNBr DYG	H	E	3	5	23
CM127	PGNBr DYIb	L	E	3	5	23
Ada	WGNBr SYY	L	E	1	4	22

Strain	Mean	Ontario			Wis.	Minnesota			Manitoba			North Dak.	Oregon
		Ottawa	Kemptville	Elora	Ashland	Crookston	Morris	Rosemount	Portage la Prairie	Winnipeg	Morden	Fargo	Ontario I
10 Tests						1971 YIELD (bu/a)							*
Altona	30.9	32.0	31.6	41.6	29.3	24.4	33.7	37.5	29.9	24.9		24.1	56.7
Flambeau	29.8	33.4	29.4	41.4	28.7	18.2	33.6	45.1	25.1	19.2		23.9	59.7
Morsoy	31.1	35.8	30.8	42.4	31.0	20.9	29.8	46.3	26.1	25.7		22.6	63.2
Norman	29.9	38.8	35.9	42.2	27.9	20.0	28.3	33.8	25.7	25.1		20.9	63.1
Portage	27.8	31.9	21.3	38.7	28.1	20.8	24.9	35.3	25.8	27.5		23.5	53.7
CM119	31.2	32.2	31.7	40.0	28.1	27.2	30.0	40.1	29.1	27.3		25.8	52.2
CM121	31.6	37.6	28.9	43.4	28.9	26.1	29.5	40.6	28.6	27.9		24.9	52.9
CM127	30.3	35.3	29.1	40.2	29.3	24.0	26.5	40.4	28.5	28.9		21.0	52.2
Ada	29.7	34.5	30.8	36.3	29.1	25.7	28.0	38.0	25.7	25.2		24.0	57.4
C.V. (%)		8.9	18.0	7.2	7.6	5.3	5.5	7.7	7.5	12.7		9.6	7.0
L.S.D. (5%)		n.s.	n.s.	4.3	3.2	2.0	2.7	5.8	3.0	4.8		3.3	6.8
Row Sp. (in.)		34	21	12	24	28	30	30	36	24		24	20
Rows/Plot		3	4	4	1	4	4	4	3	3		3	4
Reps		4	4	4	4	3	3	3	4	4		4	3
						YIELD RANK							*
Altona	4	8	3	4	2	4	1	7	1	8		3	5
Flambeau	7	6	6	5	6	9	2	2	9	9		5	3
Morsoy	3	3	4	2	1	6	4	1	5	5		7	1
Norman	6	1	1	3	9	8	6	9	7	7		9	2
Portage	9	9	9	8	7	7	9	8	6	3		6	6
CM119	2	7	2	7	7	1	3	5	2	4		1	8
CM121	1	2	8	1	5	2	5	3	3	2		2	7
CM127	5	4	7	6	2	5	8	4	4	1		8	8
Ada	8	5	4	9	4	3	7	6	7	6		4	4

Strain	Mean											
39 Tests				1968-71, 4-YEAR MEAN YIELD								
				a	68-69, 71			b		70-71	68-70	69-71
Altona	31.1	42.2	34.8	38.8	24.7	22.2	29.3	38.6	32.4	23.6	26.7	20.4
Flambeau	30.5	42.6	34.4	38.3	25.3	21.8	28.9	40.0	26.9	18.3	27.2	19.0
Morsoy	30.7	42.4	31.7	36.6	24.9	21.6	26.6	40.9	31.4	24.4	29.9	19.7
Norman	30.1	44.7	41.2	36.3	22.2	18.9	25.2	35.8	30.0	23.9	25.7	17.8
Portage	29.8	39.7	34.7	36.8	23.5	20.9	24.2	36.4	29.3	26.5	24.0	18.8
						YIELD RANK						
Altona	1	4	2	1	3	1	1	3	1	4	3	1
Flambeau	3	2	4	2	1	2	2	2	5	5	2	3
Morsoy	2	3	5	4	2	3	3	1	2	2	1	2
Norman	4	1	1	5	5	5	4	5	3	3	4	5
Portage	5	5	3	3	4	4	5	4	4	1	5	4

* Not included in the mean
a Guelph in 1968
b St. Paul in 1968-70

Strain	Mean	Ontario			Wis.	Minnesota			Manitoba		North Dak.	Oregon
		Ottawa	Kemptville	Elora	Ashland	Crookston	Morris	Rosemount	Portage la Prairie	Winnipeg	Fargo	Ontario I
	8 Tests	*	MATURITY (relative date)									*
Altona	+ 8.1	-6	+15	+14	0		+ 8	+ 9	+ 5	+ 6	+ 8	+ 1
Flambeau	+13.3	--	+20	+20	+2		+10	+12	+10	+19	+13	+ 8
Morsoy	+ 6.4	--	+10	+13	+3		+ 7	+ 8	+ 2	+ 5	+ 3	+10
Norman	+ 4.0	-9	+ 7	+ 7	+3		+ 5	+ 4	+ 1	+ 3	+ 2	+ 1
Portage†	9-9	9-30	9-20	9-10	10-6		8-26	8-29	9-13	9-7	8-25	8-28
CM119	+ 4.3	0	+ 6	+ 8	+3		+ 5	+ 4	+ 1	+ 4	+ 3	+ 8
CM121	+ 4.6	--	+ 8	+10	+2		+ 6	+ 4	0	+ 3	+ 4	+ 8
CM127	+ 6.1	-5	+ 9	+11	+3		+ 7	+ 5	0	+ 4	+10	+ 8
Ada	+ 7.4	-3	+10	+12	+4		+ 6	+ 6	+ 2	+11	+ 8	+ 7
Clay (0)			+10				+14	+14			+17	+10
Date Planted		5-17	5-20	5-21	5-19	6-4	5-21	5-12	5-22	5-13	5-6	5-7	5-1
†Days to mat.		115	133	122	114	124		106	97	123	124	110	119
	10 Tests			LODGING (score)								*
Altona	2.3	1.8	2	3.9	1	1.7	2.0	3.0	4	2.2	1	3.2
Flambeau	3.3	2.5	3	4.9	2	2.0	3.3	4.0	5	3.8	2	4.0
Morsoy	2.5	3.3	3	4.3	1	1.0	2.7	3.0	3	2.0	2	4.5
Norman	1.8	1.8	3	2.8	1	1.0	1.0	2.0	3	1.8	1	4.5
Portage	1.3	1.3	2	1.9	1	1.0	1.0	1.0	1	1.8	1	4.0
CM119	2.2	3.0	2	3.1	1	1.0	2.0	2.7	3	2.5	2	4.0
CM121	1.6	1.5	1	2.5	1	1.0	1.3	2.3	2	2.0	1	4.0
CM127	1.7	1.3	2	3.3	1	1.3	1.0	2.3	2	1.8	1	4.8
Ada	2.0	2.0	2	3.8	1	1.0	1.3	2.3	3	2.8	1	5.0
	10 Tests			PLANT HEIGHT (inches)								*
Altona	29	32	32	35	25	18	25	31	28	34	26	34
Flambeau	32	32	37	40	25	20	29	31	30	43	28	48
Morsoy	30	34	35	39	24	18	28	32	26	38	28	45
Norman	27	33	35	34	24	17	23	28	22	30	25	43
Portage	26	33	28	33	23	16	23	28	22	32	24	38
CM119	29	34	32	35	23	20	27	33	23	34	26	34
CM121	28	31	30	36	21	18	27	33	20	32	27	34
CM127	27	31	34	33	23	19	24	31	22	29	24	36
Ada	28	31	37	39	27	18	26	31	22	27	25	50

* Not included in the mean

Strain	Mean	Ontario			Wis.	Minnesota			Manitoba		North	Oregon
		Ottawa	Kemptville	Elora	Ashland	Crookston	Morris	Rosemount	Portage la Prairie	Winnipeg	Dak. Fargo	Ontario I
	9 Tests				SEED QUALITY (score)							*
Altona	2.5	2	3	2	2	2.7	3.3	3.3	2.0		2	1.5
Flambeau	2.5	2	2	2	2	3.7	2.7	3.7	1.0		3	2.5
Morsoy	2.8	3	3	3	2	3.5	3.3	3.7	2.0		2	4.0
Norman	2.3	2	2	2	3	2.7	3.0	2.7	1.0		2	2.5
Portage	2.8	2	3	4	3	3.0	3.0	3.3	1.7		2	1.5
CM119	2.7	3	2	3	2	3.5	2.7	3.0	3.5		2	3.5
CM121	2.7	2	2	3	2	3.3	3.3	3.3	3.0		2	3.5
CM127	2.5	1	3	2	3	2.7	3.7	3.3	1.5		2	1.5
Ada	2.1	2	2	2	2	2.7	2.7	3.0	1.5		1	2.5
	8 Tests				SEED SIZE (g/100)							*
Altona	19.1	23.9	18.0	19.5		21.6	17.0	18.3	19.8		15.0	22.5
Flambeau	17.3	21.9	16.4	17.8		19.6	14.3	17.1	18.6		12.4	20.0
Morsoy	18.9	23.5	18.4	17.6		23.2	15.5	18.9	19.5		14.2	24.0
Norman	16.8	22.3	17.0	15.8		19.2	13.4	15.9	18.6		11.8	23.5
Portage	17.2	22.9	15.7	15.8		19.4	14.6	16.8	19.3		13.1	22.0
CM119	17.8	22.6	18.4	17.3		18.0	15.3	18.0	18.2		14.9	22.0
CM121	18.2	24.4	18.4	17.7		17.9	15.7	17.9	18.6		15.1	22.5
CM127	16.6	21.7	17.5	16.3		16.3	14.7	15.6	18.2		12.7	21.0
Ada	17.7	22.1	18.5	16.4		21.2	13.8	17.2	19.3		13.1	21.5
	6 Tests				PROTEIN (%)							*
Altona	42.4	42.2		44.8	43.1	41.8			40.8		41.7	40.9
Flambeau	43.1	42.6		45.1	43.3	41.8			42.4		43.2	42.3
Morsoy	39.7	38.9		41.4	38.6	40.0			39.1		40.2	39.3
Norman	41.8	40.7		44.9	42.6	40.5			41.8		40.5	41.5
Portage	40.8	40.1		40.7	41.6	40.9			41.0		40.2	41.0
CM119	41.0	41.1		41.5	42.6	39.7			41.0		40.2	42.0
CM121	41.0	41.0		41.6	42.8	39.6			41.0		39.9	42.2
CM127	40.0	39.6		42.9	40.2	38.3			39.4		39.8	41.0
Ada	42.2	41.8		44.7	43.8	41.0			42.1		39.5	41.0
	6 Tests				OIL (%)							*
Altona	19.3	20.2		18.0	19.1	19.7			19.5		19.0	21.9
Flambeau	18.3	18.7		17.2	18.2	19.5			17.4		18.5	20.5
Morsoy	21.3	23.3		20.0	21.7	21.0			21.0		20.9	21.7
Norman	19.1	20.9		17.6	18.2	19.8			18.8		19.4	20.9
Portage	19.5	21.3		17.8	19.2	19.9			19.3		19.3	20.4
CM119	19.8	20.7		19.1	18.5	20.6			18.9		20.8	21.4
CM121	20.2	20.4		20.0	19.2	20.9			19.5		20.9	21.2
CM127	20.7	21.9		19.1	19.8	22.1			20.4		21.1	21.2
Ada	18.9	20.0		17.3	18.3	19.4			18.9		19.7	20.8

* Not included in the mean

Strain		Parentage	Generation Composited
1.	Morsoy		
2.	Norman		
3.	Portage		
4.	CM139	Acme x Blackhawk	F_7
5.	CM145	"	F_7
6.	CM146	"	F_7
7.	CM147	"	F_7
8.	CM148	"	F_7
9.	CM149	"	F_7
10.	CM151	"	F_7
11.	M63-133	M323(Hawkeye x Capital) x M406(Harosoy x Norchief)	F_5

This test was grown at 8 locations in the U. S. and Canada. The 7 CM strains are all from Acme x Blackhawk. Perhaps the most notable one was CM145 which was the earliest one by several days, yielded well for its maturity, and was apparently the only one uniformly resistant to phytophthora rot. Among the remaining lines only CM147 and CM148 outperformed the appropriate check varieties. They were similar to Norman in time of maturity and had a better mean yield, yielding about as much as the later check, Morsoy. M63-133 had the highest mean yield in the test but appears to be too late for Group OO. Where data were available it appeared to ripen about the same time as Clay.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
No. of Tests	8	8	6	8	8	8	6	5	5
Morsoy	32.4	2	+ 7.7	2.6	29	2.8	19.4	39.1	21.5
Norman	29.9	7	+ 2.8	1.9	27	2.0	17.7	41.1	19.8
Portage	27.9	10	9-12	1.0	25	2.9	17.7	40.6	19.7
CM139	30.4	6	+ 6.3	1.5	25	2.5	16.5	39.4	20.4
CM145	31.0	5	- 1.5	1.6	24	2.5	17.7	39.6	19.6
CM146	24.6	11	+ 3.7	1.6	25	2.9	17.7	41.4	19.6
CM147	32.4	2	+ 2.7	1.5	26	2.1	18.2	40.8	20.2
CM148	32.0	4	+ 3.3	1.5	26	2.7	18.9	41.2	20.3
CM149	29.1	9	+ 4.2	1.9	26	2.3	17.8	39.5	20.9
CM151	29.4	8	+ 5.2	2.5	27	3.2	15.8	39.3	20.9
M63-133	33.4	1	+14.0	1.9	32	3.0	21.9	41.4	19.9

Disease Data

	BB	BP	BSR		FE?	PR
	Urbana Illinois nl	Urbana Illinois al	Lafayette Indiana n %	Urbana Illinois n %	Lafayette Indiana a	Lafayette Indiana a
Morsoy	3	4	29	70	4	S
Norman	1	4	5	40	5	S
Portage	1	4	43	30	4	S
CM139	2	3	35	50	4	S
CM145	1	4	73	40	5	R
CM146	3	3	56	40	4	S
CM147	1	3	82	60	5	H
CM148	1	4	68	40	4	H
CM149	1	4	41	50	5	S
CM151	2	4	+4	30	5	H
M63-133	1	4	30	30	5	S

Descriptive and Shattering Data

Strain	Descriptive Code	Shattering Kansas Manhattan 2 wk.	Shattering Kansas Manhattan 4 wk.	Chlorosis Minnesota Crookston
Morsoy	PGNBr DYLib	2	4	3.0
Norman	PGNBr SYY	1	4	3.0
Portage	PGNBr D+SYY	5	5	3.0
CM139	WGNBr DYBf	3	5	1.5
CM145	PGNBr DYY	4	5	3.0
CM146	PGNBr IYIb	2	5	3.0
CM147	PGNBr SYG	2	5	2.5
CM148	PGNBr SYG	2	5	2.0
CM149	PGNBr IYIb	3	5	3.0
CM151	P+WGNTn SYBf*	2	5	2.5
M63-133	PGNBr DYY	1	3	1.0

* Normal and abnormal hilum

Strain	Mean	Ontario Ottawa	Ontario Kemptville	Ontario Elora	Wis. Ashland	Minnesota Crookston	Minnesota Rosemount	Manitoba Portage la Prairie	North Dak. Fargo
	8 Tests	1971 YIELD (bu/a)							
Morsoy	32.4	36.8	36.7	37.7	33.3	26.8	36.7	25.3	25.6
Norman	29.9	34.1	29.3	40.3	29.6	19.1	40.3	22.7	23.5
Portage	27.9	34.2	24.0	42.1	26.9	21.4	29.7	21.9	23.1
CM139	30.4	38.2	29.0	35.2	31.9	19.9	37.0	25.1	26.5
CM145	31.0	40.7	26.7	43.7	26.1	23.2	39.9	22.4	25.0
CM146	24.6	28.7	23.7	32.5	27.5	16.0	31.2	18.8	18.1
CM147	32.4	37.9	31.9	41.8	28.6	25.2	40.7	24.7	28.5
CM148	32.0	36.3	30.5	44.2	29.3	24.0	39.7	25.3	26.8
CM149	29.1	32.2	30.9	33.9	29.7	23.4	33.4	20.9	28.2
CM151	29.4	37.0	28.2	38.5	26.5	20.6	36.3	22.5	25.4
M63-133	33.4	41.4	32.9	34.7	32.4	19.8	47.8	28.4	29.8
Coef. of Var. (%)		6.9	14.7	8.7	7.5	7.6	5.1	5.8	10.2
L.S.D. (5%)		5.5	n.s.	7.5	4.5	3.4	4.0	3.0	5.7
Row Spacing (in.)		34	21	12	24	28	30	36	24
Rows/Plot		3	4	4	1	2	2	2	1
Reps		2	2	2	2	2	2	2	2

Strain	Mean	Ontario			Wis.	Minnesota		Manitoba	North Dak.
		Ottawa	Kemptville	Elora	Ashland	Crookston	Rosemount	Portage la Prairie	Fargo
	8 Tests			YIELD RANK					
Morsoy	2	6	1	7	1	1	7	2	6
Norman	7	9	6	5	5	10	3	6	9
Portage	10	8	10	3	9	6	11	9	10
CM139	6	3	7	8	3	8	6	4	5
CM145	5	2	9	2	11	5	4	8	8
CM146	11	11	11	11	8	11	10	11	11
CM147	2	4	3	4	7	2	2	5	2
CM148	4	7	5	1	6	3	5	2	4
CM149	9	10	4	10	4	4	9	10	3
CM151	8	5	8	6	10	7	8	7	7
M63-133	1	1	2	9	2	9	1	1	1
	6 Tests			MATURITY (relative date)					
		*				*			
Morsoy	+ 7.7	+10	+15	+14	+2		+ 7	+ 3	+ 5
Norman	+ 2.8	+ 7	+ 6	+ 6	0		+ 2	+ 1	+ 2
Portage	9-12	9-20	9-20	9-9	10-6		8-30	9-14	8-26
CM139	+ 6.3	+ 3	+11	+13	-1		+ 5	+ 1	+ 9
CM145	- 1.5	- 6	0	- 1	-8		0	0	0
CM146	+ 3.7	+ 6	+ 2	+ 4	-2		+ 5	+ 2	+11
CM147	+ 2.7	+ 4	+ 5	+ 7	-4		+ 3	- 1	+ 6
CM148	+ 3.3	+10	+ 3	+ 4	+2		+ 3	0	+ 8
CM149	+ 4.2	+ 3	+ 7	+ 8	-3		0	+ 2	+11
CM151	+ 5.2	-	+10	+ 9	-3		+ 5	+ 2	+ 8
M63-133	+14.0	-	+20	+22	+1		+13	+13	+15
Clay (O)			+10	+30			+13		+16
Date Planted	5-20	5-20	5-21	5-19	6-4	5-21	5-22	5-14	5-7

* Not included in the mean

Strain	Parentage	Generation Composited	Previous Testing*
1. Clay	Capital x Renville	F_5	4
2. Merit	Blackhawk x Capital	F_5	13
3. Swift(M59-121)	II-54-240[(Lincoln^2 x Richland) x Korean] x II-54-139(Renville x Capital)	F_5^8	3
4. Wilkin(M61-52)	Merit x Harosoy	F_5	1
5. M61-96	" "	F_5	1
6. M61-207	Merit x Norman	F_5	P 0
7. M61-216	Merit x Harosoy	F_5	P 0
8. M62-173	M387(Renville x Capital) x M406(Harosoy x Norchief)	F_5	P 00
9. M62-177	" "	F_5	P 0
10. M63-11	M402(Renville x Capital) x M406	F_5	P 0
11. M63-38	" "	F_5	P 0
12. M63-87	Chippewa x PI 261.475(Shika No. 1)	F_6	P 0

* Number of years in this test or name of last year's test.

Two new varieties are being released from this test, Swift and Wilkin. Swift has been in the test four years and shows an average advantage in yield over Clay and Merit and is only a day later than Merit. Wilkin is as early as Clay, slightly lower in mean yield, but is Phytophthora-resistant. M61-96 continues to have the top yield performance this year as it did in 1970 and is also Phytophthora-resistant and showed a tendency to superior seed quality in 1971 tests. The remaining seven strains are new entries this year. All are earlier than Swift and one is even earlier than Clay. None except possibly M61-207 showed evidence of a yield advantage over the check varieties.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
				1971					
No. of Tests	8	8	7	8	8	7	8	6	6
Clay	35.6	7	-7.4	1.3	26	2.8	16.3	42.0	21.3
Merit	35.8	5	9-24†	1.7	32	2.1	14.7	40.8	21.4
Swift	37.1	2	-1.1	2.1	34	2.3	15.8	39.3	21.4
Wilkin	34.2	9	-7.9	1.2	26	2.0	14.9	41.3	20.5
M61-96	39.4	1	-1.4	1.7	31	1.5	15.8	40.5	21.5
M61-207	36.3	3	-3.6	1.7	29	2.0	15.3	41.1	20.3
M61-216	34.2	9	-6.1	1.6	30	1.9	15.1	41.2	20.8
M62-173	35.1	8	-9.1	1.4	26	2.3	14.2	40.2	22.1
M62-177	36.1	4	-5.6	1.6	29	2.3	17.6	41.7	20.5
M63-11	34.2	9	-3.4	1.8	32	2.2	16.7	41.6	21.2
M63-38	35.8	5	-2.4	1.6	29	2.2	19.6	41.3	21.3
M63-87	31.4	12	-5.9	1.7	26	2.3	16.5	43.5	19.3

† 129 days after planting

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
				1970-71, 2-year mean					
No. of Tests	16	16	14	15	16	14	14	11	11
Clay	34.1	3	-6.7	1.4	27	2.4	16.7	41.4	21.8
Merit	33.9	4	9-20†	1.8	34	1.9	14.9	40.9	21.4
Swift	34.9	2	+0.4	2.3	35	2.1	15.8	39.3	21.5
Wilkin	32.6	5	-6.4	1.2	27	2.0	17.5	40.9	20.9
M61-96	36.6	1	-0.5	1.8	33	1.6	15.7	40.3	21.8

† 122 days after planting

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
				1968-71, 4-year mean					
No. of Tests	32	32	29	29	31	28	24	24	24
Clay	34.0	3	-5.6	1.4	27	2.2	16.7	41.3	21.7
Merit	34.2	2	9-20†	2.0	34	2.0	14.6	40.7	21.2
Swift	35.6	1	+0.9	2.3	35	2.2	15.9	39.5	21.3

† 124 days after planting

Disease Data

Strain	BB			BP		BS	BSR			FE_2	PM	PR	
	Urb. Ill.	Ames Iowa		Urb. Ill.	Ames Iowa	Ames Iowa	Laf. Ind.	Urb. Ill.	St. Paul Minn.	Laf. Ind.	Har. Ont.	Laf. Ind.	Ames Iowa
	nl	n	a	al	n	n	n %	n %	n %	a	a	a	a
Clay	1	2	3	3	5	3	57	40	90	5	S	S	S
Merit	1	1	3.5	3	5	3	22	60	75	5	R	R	R
Swift	1	1	2.5	2	5	2.5	36	50	75	4	R	S	S
Wilkin	1	2	3.5	3	5	2.5	35	80	80	4	R	R	R
M61-96	1	2	3.5	2	5	2.5	18	40	60	5	R	R	R
M61-207	1	2	4	2	4.5	3	0	30	70	5	H	R	R
M61-216	1	1	3.5	2	5	2	24	30	75	5	R	R	R
M62-173	1	2	2.5	3	5	2.5	31	50	35	5	H	S	S
M62-177	1	1	3	2	5	2	20	60	85	4	H	S	S
M63-11	1	1	3.5	3	5	2.5	25	40	80	5	R	S	S
M63-38	1	2	3.5	3	5	3	0	20	65	5	R	S	S
M63-87	1	2	2.5	3	5	4	30	50	65	3	R	S	S

Descriptive and Shattering Data

Strain	Descriptive Code	Peroxidase	Fluorescent Light	Shattering Kansas Manhattan 2 wk.	Shattering Kansas Manhattan 4 wk.	Hypocotyl Length cm
Clay	PGNBr SYY	L+H	E	1	4	23
Merit	WGNBr DYBf	L	E	1	3	20
Swift	WTNBr DYBl	H	E	1	3	17
Wilkin	WGNBr DYY	L	E	1	4	20
M61-96	WGNBr DYY	H	E+L	1	4	20
M61-207	WGNBr DYY	L	E	1	2	22
M61-216	W+PGNBr DYG+Y	L	E	1	4	19
M62-173	PGNBr DYY	L	L	1	2	22
M62-177	PGNBr DYY	L	E	1	4	20
M63-11	PGNBr DYY	H	E	1	5	19
M63-38	PTNBr DYTn	H	E	1	4	22
M63-87	PGNBr IYY	H	E	1	2	23

Strain	Mean	N.Y. Aurora	Ontario Kemptville	Ontario Elora	Ontario Ridgetown	Ohio Hoytville	Mich. Saginaw
	8 Tests	1971 YIELD (bu/a)					
		*				*	
Clay	35.6	27.8	38.2	35.9	39.7	24.4	27.1
Merit	35.8	27.9	35.7	32.4	42.5	28.1	26.1
Swift	37.1	29.3	34.2	36.3	43.0	32.6	29.4
Wilkin	34.2	31.0	33.8	38.9	36.9	21.5	27.1
M61-96	39.4	33.0	37.5	45.7	42.4	30.4	29.6
M61-207	36.3	32.3	33.8	36.9	44.2	27.5	30.7
M61-216	34.2	32.0	36.6	37.2	39.7	23.9	26.3
M62-173	35.1	29.5	33.9	40.1	37.1	21.2	28.0
M62-177	36.1	31.8	37.0	39.4	40.8	18.1	25.5
M63-11	34.2	28.7	31.3	33.6	39.0	23.3	27.9
M63-38	35.8	28.1	30.3	37.3	43.3	23.2	27.8
M63-87	31.4	29.4	29.4	33.0	39.1	25.6	25.3
Coef. of Var. (%)		5.6	10.7	8.4	7.7		12.0
L.S.D. (5%)		2.5	5.3	4.3	4.5		4.8
Row Spacing (in.)			21	12	24	32	28
Rows/Plot			4	4	4	3	3
Reps			4	4	4	4	4
		YIELD RANK					
		*					
Clay	7	12	1	9	7	6	7
Merit	5	11	5	12	4	3	10
Swift	2	8	6	8	3	1	3
Wilkin	9	5	8	4	12	10	7
M61-96	1	1	2	1	5	2	2
M61-207	3	2	8	7	1	4	1
M61-216	9	3	4	6	7	7	9
M62-173	8	6	7	2	11	11	4
M62-177	4	4	3	3	6	12	11
M63-11	9	9	10	10	10	8	5
M63-38	5	10	11	5	2	9	6
M63-87	12	7	12	11	9	5	12
	32 Tests	1968-71, 4-YEAR MEAN YIELD					
						69-71	
Clay	34.0		38.5	37.1	45.4	23.3	
Merit	34.2		38.5	33.9	48.4	24.7	
Swift	35.6		41.3	32.2	51.0	26.1	
		YIELD RANK					
Clay	3		2	1	3	3	
Merit	2		2	2	2	2	
Swift	1		1	3	1	1	

* Not included in the mean; a Milbank in 1968

Wisconsin		Minnesota		North Dakota		South Dakota	Oregon
Spooner	Durand	Morris	St. Paul	Fargo	Oakes I	Revillo	Ontario I
			1971 YIELD (bu/a)				
*	*						*
17.3	14.1	40.8		26.3	38.8	38.1	51.1
19.9	12.5	38.6		25.7	43.6	41.6	61.9
16.2	11.7	40.6		25.3	46.5	41.6	58.6
15.4	16.6	34.3		26.0	40.5	35.9	57.5
21.3	14.4	42.1		27.5	48.2	42.3	70.3
16.7	12.6	39.2		24.7	40.9	40.2	60.4
19.0	13.8	35.0		25.2	40.6	32.9	60.0
16.3	12.9	37.1		29.9	39.9	34.6	60.5
11.4	16.9	36.7		25.1	40.9	43.5	55.0
16.5	13.2	35.2		25.9	43.3	37.1	62.5
13.4	13.5	47.4		25.0	41.9	33.5	55.6
9.3	13.7	32.7		23.3	36.5	31.6	52.7
19.8	8.1	12.9		5.6	8.2	13.7	8.3
4.6	1.6	8.2		2.0	4.9		8.3
36	36	30		24	24	40	20
1	1	4		3	3	3	4
4	4	3		4	4	4	3
			YIELD RANK				
							*
4	4	3		3	11	6	12
2	11	6		6	3	3	3
8	12	4		7	2	3	7
9	2	11		4	9	8	8
1	3	2		2	1	2	1
5	10	5		11	6	5	5
3	5	10		8	8	11	6
7	9	7		1	10	9	4
11	1	8		9	6	1	10
6	8	9		5	4	7	2
10	7	1		10	5	10	9
12	6	12		12	12	12	11
			1968-71, 4-YEAR MEAN YIELD				
	68, 70-71		68-70	69-71	70-71	a	
23.8	21.6	32.0	42.0	23.5	37.2	31.4	
26.7	21.3	30.8	36.8	23.6	40.1	31.6	
27.1	22.6	32.8	39.7	24.4	42.5	32.6	
			YIELD RANK				
3	2	2	1	3	3	3	
2	3	3	3	2	2	2	
1	1	1	2	1	1	1	

Strain	Mean	N.Y.	Ontario			Ohio	Mich.
		Aur-ora	Kempt-ville	Elora	Ridge-town	Hoyt-ville	Sag-inaw
	7 Tests	MATURITY (relative date)				*	
Clay	-7.4		-11	-11	- 7	-16	-4
Merit†	9-24		10-10	10-11	9-8	9-9	9-14
Swift	-1.1		- 1	- 2	+ 1	0	0
Wilkin	-7.9		-10	- 9	- 8	- 7	-4
M61-96	-1.4		- 4	- 4	- 1	- 3	0
M61-207	-3.6		- 5	- 6	- 2	0	-2
M61-216	-6.1		- 9	-10	- 3	- 7	-3
M62-173	-9.1		-10	-11	-11	-15	-4
M62-177	-5.6		- 5	- 4	- 7	-12	-3
M63-11	-3.4		- 5	- 4	+ 4	- 6	-2
M63-38	-2.4		- 2	- 2	- 1	0	-1
M63-87	-5.9		- 5	- 5	- 6	- 5	-3
Morsoy (00)			-10	-18			
Chippewa 64 (I)					+ 2	+ 1	+4
Date planted	5-18	5-27	5-21	5-18	5-18	5-19	5-29
†Days to mat.	129		142	146	113	113	108
	8 Tests	LODGING (score)				*	
Clay	1.3		1	1.9	1.0	1.0	1
Merit	1.7		2	4.1	1.4	1.0	1
Swift	2.1		3	4.9	2.1	1.0	1
Wilkin	1.2		1	2.4	1.0	1.0	1
M61-96	1.7		2	3.8	1.5	1.0	1
M61-207	1.7		2	3.9	1.5	1.0	1
M61-216	1.6		2	3.4	1.5	1.0	1
M62-173	1.4		1	2.3	1.1	1.0	1
M62-177	1.6		1	2.6	1.5	1.0	1
M63-11	1.8		2	4.5	1.4	1.0	1
M63-38	1.6		1	4.1	1.0	1.0	1
M63-87	1.7		2	4.1	1.1	1.0	1

* Not included in the mean

Wisconsin		Minnesota	North Dakota		South Dakota	Oregon
Spooner	Durand	Morris	Fargo	Oakes I	Revillo	Ontario I
			MATURITY (relative date)			
*	*					*
	-2	-10	- 8		-1	- 7
	9-8	9-19	9-19		9-24	9-14
	+1	- 2	- 3		-1	- 1
	-3	-11	-11		-2	- 6
	+1	- 1	0		0	- 2
	0	- 5	- 3		-2	- 6
	0	- 9	- 7		-2	- 3
	-3	-15	-10		-3	-15
	-3	- 8	-12		0	- 6
	+2	-11	- 4		-2	- 3
	+3	- 5	- 5		-1	- 2
	+1	-10	-10		-2	- 2
		-17	-22			- 7
					+2	
5-28	5-28	5-12	5-7	5-26	5-21	5-1
	103	130	135		126	136
			LODGING (score)			
*	*					*
1.0	1.3	2.3	1	1	1	1.8
1.3	1.5	2.0	1	1	1	3.8
1.3	2.0	2.7	1	1	1	4.0
1.0	1.0	1.0	1	1	1	2.0
1.0	1.3	2.3	1	1	1	3.5
1.0	1.3	2.3	1	1	1	3.0
1.0	1.3	1.7	1	1	1	3.0
1.0	2.0	1.7	2	1	1	1.3
1.0	2.0	2.3	2	1	1	2.0
1.0	1.8	2.3	1	1	1	4.5
1.0	1.5	2.3	1	1	1	3.2
1.0	1.3	2.0	1	1	1	4.8

Strain	Mean	N.Y.	Ontario			Ohio	Mich.
		Aurora	Kemptville	Elora	Ridgetown	Hoytville	Saginaw
	8 Tests		PLANT HEIGHT (inches)			*	
Clay	26		29	33	21	23	23
Merit	32		38	42	24	26	28
Swift	34		39	44	28	32	33
Wilkin	26		29	34	21	25	21
M61-96	31		37	44	24	30	25
M61-207	29		35	36	23	26	25
M61-216	30		35	39	24	25	24
M62-173	26		28	35	21	24	23
M62-177	29		34	37	24	23	24
M63-11	32		36	42	25	26	30
M63-38	29		33	39	22	28	24
M63-87	26		31	33	20	24	24
	7 Tests		SEED QUALITY (score)			*	
Clay	2.8		3	5	2	1.0	
Merit	2.1		2	4	2	1.8	
Swift	2.3		3	2	3	1.8	
Wilkin	2.0		2	3	2	1.3	
M61-96	1.5		2	2	2	1.5	
M61-207	2.0		2	3	3	1.0	
M61-216	1.9		2	2	2	1.3	
M62-173	2.3		2	5	2	1.8	
M62-177	2.3		2	3	2	1.8	
M63-11	2.2		3	3	2	1.8	
M63-38	2.2		3	2	3	1.8	
M63-87	2.3		2	4	2	1.8	
	8 Tests		SEED SIZE (g/100)			*	
Clay	16.3		14.7	17.0	16.3	15.7	17
Merit	14.7		15.2	14.9	15.4	13.6	15
Swift	15.8		16.0	17.1	17.1	17.7	17
Wilkin	14.9		14.3	15.6	15.3	15.4	15
M61-96	15.8		16.0	16.0	16.1	18.2	16
M61-207	15.3		15.6	14.8	16.8	15.1	16
M61-216	15.1		15.6	15.5	15.4	14.7	15
M62-173	14.2		13.3	14.9	13.6	15.5	15
M62-177	17.6		17.8	18.8	17.6	16.5	17
M63-11	16.7		16.8	17.2	18.4	17.6	17
M63-38	19.6		19.7	20.3	22.4	17.5	20
M63-87	16.5		16.7	17.1	17.6	18.0	17

* Not included in the mean

Wisconsin		Minnesota	North Dakota		South Dakota	Oregon
Spooner	Durand	Morris	Fargo	Oakes I	Revillo	Ontario I
PLANT HEIGHT (inches)						
*	*					*
30	24	26	24	28	24	32
35	28	34	30	34	28	49
36	31	33	32	33	26	50
30	25	25	25	28	24	35
35	31	34	30	29	27	42
32	28	31	29	31	25	33
34	26	31	29	30	26	39
31	23	25	25	25	24	28
33	27	28	28	30	26	33
34	29	32	32	32	28	50
32	30	32	26	31	25	43
28	24	23	22	28	23	34
SEED QUALITY (score)						
*						*
1.5		2.3	4	1	2.2	2.0
2.0		3.0	1	1	1.7	1.5
2.3		3.7	2	1	1.5	1.5
2.0		2.3	2	1	1.5	2.0
1.9		1.3	1	1	1.5	2.0
2.3		2.0	2	1	1.2	2.0
1.7		3.0	2	1	1.5	3.0
2.5		2.7	2	1	1.2	2.5
2.9		3.7	3	1	1.2	2.5
1.9		2.7	2	1	1.5	1.5
1.6		3.3	2	1	1.2	2.0
1.7		2.3	3	1	2.0	2.0
SEED SIZE (g/100)						
						*
		15.6	13.0	18.2	18.3	20.0
		14.8	12.1	14.2	15.6	18.5
		13.9	13.3	15.8	15.8	21.0
		14.4	12.2	17.0	15.3	20.0
		15.3	13.3	17.7	16.3	19.0
		14.2	14.1	15.6	15.2	19.5
		14.1	13.2	15.7	16.2	19.5
		13.8	12.0	15.8	15.3	18.5
		16.6	13.8	19.2	19.9	23.5
		16.1	14.1	16.7	17.6	21.5
		18.9	14.8	19.8	20.9	21.5
		15.5	14.0	16.9	17.0	20.0

Strain	Mean	Ontario Elora	Michigan Saginaw	Wisconsin Spooner	Minnesota Morris	North Dakota Fargo	South Dakota Revillo	Oregon Ontario
	6 Tests			PROTEIN (%)				*
Clay	42.0	46.3	39.0	43.0	40.5	42.2	40.7	41.2
Merit	40.8	44.4	39.1	43.3	38.8	40.4	38.8	39.2
Swift	39.3	43.4	37.2	42.4	36.1	40.0	36.9	37.9
Wilkin	41.3	45.0	39.8	44.3	38.2	41.4	39.0	41.0
M61-96	40.5	43.4	38.0	44.2	37.8	41.0	38.5	40.0
M61-207	41.1	44.0	39.9	44.4	39.5	41.3	37.7	41.1
M61-216	41.2	44.5	40.1	44.1	38.6	41.3	38.6	40.1
M62-173	40.2	43.7	38.8	42.6	36.5	41.1	38.3	38.8
M62-177	41.7	44.2	40.1	44.6	39.2	41.3	40.9	40.7
M63-11	41.6	43.0	39.4	44.3	39.2	42.8	40.6	40.7
M63-38	41.3	43.5	40.5	42.4	39.8	40.0	41.3	38.8
M63-87	43.5	47.9	42.5	46.4	39.6	42.7	42.0	42.2
	6 Tests			OIL (%)				*
Clay	21.3	18.8	23.2	19.7	22.5	20.6	22.8	23.0
Merit	21.4	18.8	23.1	19.2	22.6	21.6	23.2	22.3
Swift	21.4	18.9	23.0	18.9	22.9	21.4	23.0	23.3
Wilkin	20.5	18.1	22.0	18.7	21.9	20.0	22.1	21.0
M61-96	21.5	18.8	23.7	18.7	23.4	21.0	23.5	22.8
M61-207	20.3	18.3	21.5	18.0	21.8	20.0	21.9	21.7
M61-216	20.8	18.1	22.4	19.0	22.1	20.3	22.9	21.7
M62-173	22.1	24.7	22.6	19.2	22.4	20.5	23.3	23.3
M62-177	20.5	18.1	21.9	18.0	22.0	21.0	21.7	21.4
M63-11	21.2	18.2	22.4	19.4	23.0	20.8	23.4	23.0
M63-38	21.3	19.8	22.3	19.6	22.8	21.1	22.3	23.0
M63-87	19.3	16.6	20.8	16.9	21.6	19.3	20.7	19.9

* Not included in the mean

Strain	Parentage	Generation Composited
1. Clay		
2. Merit		
3. M63-172	M402(Renville x Capital) x M406(Harosoy x Norchief)	F_5
4. M64-64	O-57-2921(Blackhawk x Capital) x Traverse	F_5

This small test was grown at 8 locations in 1971. The 2 experimental lines were similar to Merit in maturity. M64-64 was similar to Merit in mean performance but M63-172 showed a striking yield advantage.

Regional Summary

	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
No. of Tests	7	7	6	6	7	6	7	3	3
Clay	35.2	2	-6.8	1.3	26	2.7	15.6	43.4	20.3
Merit	33.2	3	9-25	1.9	31	2.4	15.1	43.0	19.7
M63-172	39.5	1	+0.2	2.3	35	2.8	17.5	43.3	19.7
M64-64	33.1	4	-1.0	2.1	33	2.6	14.7	43.4	19.2

Disease Data

	BB		BP	BSR		FE_2	PR	
	Urbana Illinois nl	Ames Iowa n	Urbana Illinois al	Lafayette Indiana n %	Urbana Illinois n %	Lafayette Indiana a	Lafayette Indiana a	Ames Iowa a
Clay	1	2	3	57	50	5	S	S
Merit	1	2	3	22	40	5	R	R
M63-172	1	2	2	16	30	5	S	S
M64-64	1	2	2	21	50	4	R	S

Descriptive and Shattering Data

Strain	Descriptive Code	Shattering Kansas Manhattan 2 wk.	Shattering Kansas Manhattan 4 wk
Clay	PGNBr SYY	1	4
Merit	WGNBr DYBf	1	2
M63-172	P+WGNBr DYY	1	5
M64-64	WGNBr DYY	1	2

Strain	Mean	Ontario			Mich.	Wis.	Minn.	North Dak.	South Dak.
		Kemptville	Elora	Ridgetown	Saginaw	Spooner	Morris	Fargo	Revillo
	7 Tests			YIELD (bu/a)		*			
Clay	35.2	29.8	38.3	39.2	31.0	14.6	40.8	33.2	34.4
Merit	33.2	30.4	31.2	48.3	25.1	14.9	38.6	24.5	34.6
M63-172	39.5	30.8	36.5	47.7	33.0	11.9	53.1	30.5	44.6
M64-64	33.1	25.7	37.2	37.2	25.3	13.6	36.5	30.0	40.1
Coef. of Var. (%)		12.3	7.8	5.6	13.0	21.8	16.8	12.4	
L.S.D. (5%)		n.s.	n.s.	4.0	10.9	n.s.	12.6	10.1	
Row Spacing (in.)		21	12	24	28	36	30	24	40
Rows/Plot		4	4	4	3	1	4	1	3
Reps		2	2	2	2	2	3	2	2
	7 Tests			YIELD RANK		*			
Clay	2	3	1	3	2	2	2	1	4
Merit	3	2	4	1	4	1	3	4	3
M63-172	1	1	3	2	1	4	1	2	1
M64-64	4	4	2	4	3	3	4	3	2
	6 Tests		MATURITY (relative date)			*		*	
Clay	-6.8	-11	- 5	- 8	- 4		-10	- 6	- 3
Merit	9-25	10-10	10-14	9-10	9-14		9-19	9-19	9-24
M63-172	+0.2	0	0	+ 3	- 2		+ 2		- 2
M64-64	-1.0	+1	+ 1	- 3	- 3		- 2		0
Morsoy (OO)		-5	-21				-17	-21	
Chippewa 64 (I)				+ 5	+ 4		+ 6		+ 2
Date Planted	5-20	5-21	5-17	5-18	5-29	5-28	5-12	5- 7	5-21

Strain	Parentage	Generation Composited	Previous Testing*
1. Chippewa 64	Chippewa[8] x Blackhawk	29 F_3 lines	9
2. SL8	Chippewa-Ir Rps rxp(L16)[9] x Kanrich	3 F_3 lines	1
3. Hark	Hawkeye x Harosoy	F_3	7
4. A66-1240-2	Provar x F_1(Harosoy 63 x PI 84.666-1)	F_5^9	P I
5. L68-4241	Chippewa-Rps rxp(L10)[5] x S62X30:1	F_3	P I
6. Steele(M59-213)	Blackhawk x Harosoy	F_5^3	3
7. M61-224	Merit x Harosoy	F_5^5	P I
8. M62-93	Merit x M406(Harosoy x Norchief)	F_5^5	1
9. M62-263	Grant x M319W(Lincoln x Hawkeye)	F_5	P I
10. M62-275	Norchief x Harosoy	F_5^5	P I
11. M62-345	M319W x Harosoy	F_5^5	P I
12. M63-17	M402(Renville x Capital) x M406	F_5^5	P I

* Number of years in this test or name of last year's test.

The new release, Steele, has been in the test four years and the four-year means show it to be almost as early as Chippewa 64 and superior in yield at almost every location. It is also Phytophthora-resistant and equal in other respects to Chippewa 64. M62-93 has been in the test two years, averaged two days earlier than Steele but somewhat lower in yield. It is outstanding in its high oil content. SL8 has also been in the test two years. It is the result of adding downy mildew resistance (Rpm from Kanrich) to a backcross line of Chippewa which already has phytophthora (Rps) and pustule resistance (rxp) and yellow hilum (I r). Yield performance averaged slightly better than Chippewa 64 but it also averaged a day later. The poorer seed quality rating may be related to the change in seed pigment.

The remaining seven strains were new entries this year. L68-4241 is another Chippewa backcross line, but it is less advanced and apparently carrying modifying genes for maturity at least. The major genes transferred to it are Phytophthora resistance (Rps), pustule resistance (rxp), and downy mildew resistance (Rpm), white flower color (w_1), gray pubescence (t), and yellow hilum (I). It generally outyielded Chippewa but was considerably later and similar to Hark in mean performance.

A66-1240-2 was higher than the other entries in protein content but was the lowest in mean yield, slightly below Chippewa 64. Of the new M strains M62-263 was the outstanding one in performance, averaged highest in yield in the test, slightly above Hark, and was almost two days earlier.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
				1971					
No. of Tests	18	18	16	18	18	15	14	12	12
Chippewa 64	37.9	10	9-9 †	1.6	34	1.7	15.6	41.2	21.2
SL8	38.3	9	+0.9	2.1	34	2.2	15.4	41.8	21.2
Hark	40.5	2	+6.9	1.6	35	1.6	16.6	42.8	20.9
A66-1240-2	37.0	12	-0.1	1.9	31	2.0	19.7	44.5	20.1
L68-4241	40.0	3	+6.3	1.8	33	1.6	15.1	40.4	21.7
Steele	39.1	7	+1.1	1.7	33	1.6	17.3	40.2	21.5
M61-224	38.4	8	-1.2	1.2	30	1.8	16.4	39.6	22.3
M62-93	37.6	11	-1.9	1.6	29	1.7	16.4	39.7	22.8
M62-263	40.9	1	+5.4	1.8	31	2.1	20.4	40.0	22.0
M62-275	39.7	5	+2.4	2.0	34	1.8	18.4	39.4	22.1
M62-345	40.0	3	+6.1	2.0	33	1.8	18.2	41.0	21.9
M63-17	39.5	5	+2.7	1.5	34	2.0	16.1	40.5	22.2

† 112 days after planting

				1970-71, 2-year mean					
No. of Tests	38	38	33	36	38	30	28	23	23
Chippewa 64	34.8	5	9-11†	1.7	34	1.9	14.9	41.0	21.1
SL8	36.0	3	+1.2	2.0	34	2.2	15.1	41.6	21.1
Hark	38.4	1	+6.8	1.6	36	1.8	16.3	42.0	21.0
Steele	36.9	2	+1.5	1.7	34	1.8	16.8	40.3	21.4
M62-93	35.3	4	-0.8	1.7	30	2.2	16.4	39.7	23.0

† 110 days after planting

				1968-71, 4-year mean					
No. of Tests	78	78	70	69	76	61	58	45	45
Chippewa 64	35.6	3	9-15†	1.7	34	1.9	15.2	41.1	21.3
Hark	39.6	1	+5.5	1.8	36	1.8	16.2	41.8	21.1
Steele	38.5	2	+1.3	1.8	35	1.8	16.6	40.4	21.4

† 113 days after planting

Disease Data

Strain	BB				BP			BS		BSR			FE_2	PM	PR	
	Urb. Ill.		Ames Iowa		Urb. Ill.		Ames Iowa	Laf. Ind.	Ames Iowa	Laf. Ind.	Urb. Ill.	St. P. Minn.	Laf. Ind.	Har. Ont.	Laf. Ind.	Ames Iowa
	n1	n2	n	a	a2	a1	n	n	n	n %	n %	n %	a	a	a	a
Chippewa 64	1	2	2	4	S	2	5	4	3.5	47	40	90	4	R	R	R
SL8	1	2	2	3.5	R	1	2	5	4.5	21	30	65	4	R	R	R
Hark	1	5	2	3	S	1	4	4	3	41	60	55	5	S	S	S
A66-1240-2	1	5	2	3	S	1	4.5	5	2	12	80	100	5	R	S	S
L68-4241	1	3	1	4	R	1	2	3	3	33	100	45	4	R	R	R
Steele	3	5	2	3	S	1	4.5	5	2	64	80	85	5	S	R	R
M61-224	3	3	2	4	S	1	5	5	2.5	11	50	100	4	S	H	R
M62-93	3	1	2	2.5	S	2	5	5	4.5	31	40	80	5	R	R	R
M62-263	1	3	2	3	S	2	5	3	3.5	16	50	80	5	R	S	S
M62-275	3	2	1	2	S	1	4.5	3	4	21	30	65	5	R	S	S
M62-345	1	5	1	3.5	S	3	5	4	2.5	10	50	45	5	R	S	S
M63-17	1	3	2	4	S	3	5	5	3.5	35	40	70	4	R	S	S

Descriptive and Shattering Data

Strain	Descriptive Code	Peroxidase	Fluorescent Light	Shattering Kansas Manhattan 2 wk.	Shattering Kansas Manhattan 4 wk.	Hypocotyl Length cm
Chippewa 64	PTNBr SYB1	L	E	1	1	20
SL8	PTNBr SYY	L	E	1	1	20
Hark	PGNBr DYY	H	L	4	5	21
A66-1240-2	PTNBr DYTn	H	L	1	3	19
L68-4241	WGNBr SYY	L	E	1	2	19
Steele	PGNBr DYY	L	E	2	5	22
M61-224	WGNBr DYY	L	L	5	5	20
M62-93	WGNBr DYY	H	E	2	4	22
M62-263	WGNBr SYB1	L	L	3	5	22
M62-275	PGNBr IYY	H	E	3	5	22
M62-345	WGNBr SYY	L	L	2	2	19
M63-17	WGNBr DYY	H	E	3	4	20

Strain	Mean	N.Y. Aurora	Ontario Ridgetown	Ontario Harrow	Ohio Hoytville	Ohio Wooster	Ohio Columbus	Michigan Saginaw	Michigan Petersburg	Indiana Knox	Indiana Lafayette	Wisconsin Dur- and	Wisconsin Madison
18 Tests					1971 YIELD (bu/a)								
Chippewa 64	37.9	*31.5	46.9	30.3	*32.4	*15.8	*20.2	30.8	*17.1	32.1	42.3	*8.9	*24.6
SL8	38.3	29.5	51.1	29.2	30.4	18.1	21.2	30.1	18.7	30.8	43.9	10.2	27.6
Hark	40.5	31.6	57.7	26.5	32.8	15.8	27.8	32.6	16.8	35.0	52.1	15.5	26.5
A66-1240-2	37.0	29.3	46.8	29.4	26.9	16.7	20.1	27.8	18.1	32.3	42.0	13.8	21.0
L68-4241	40.0	35.6	59.2	30.6	35.5	17.2	22.2	33.9	16.8	36.1	45.1	11.6	29.8
Steele	39.1	39.9	55.0	34.6	31.5	12.4	23.1	32.4	17.8	32.2	45.3	13.9	27.3
M61-224	38.4	33.4	51.1	28.4	29.4	11.3	18.4	30.7	15.3	32.8	47.0	15.7	26.0
M62-93	37.6	35.3	55.9	30.2	23.2	10.5	16.6	28.7	15.5	36.7	41.0	11.6	25.2
M62-263	40.9	36.2	58.7	29.9	33.8	15.4	22.8	32.0	19.2	33.9	46.4	15.2	29.4
M62-275	39.7	36.1	55.0	29.8	31.4	15.3	28.5	31.6	19.2	40.9	47.7	14.3	28.9
M62-345	40.0	31.2	59.3	32.0	25.1	12.3	26.1	30.8	17.7	36.8	45.0	13.2	30.1
M63-17	39.5	33.4	56.4	28.8	33.1	13.5	24.4	29.7	21.0	35.1	47.0	13.1	24.8
C.V. (%)		5.6	7.2	15.3	--	--	--	11.0	18.0	14.7	5.5	9.0	14.9
L.S.D. (5%)		2.5	5.6	n.s.	--	--	--	7.2	4.7	n.s.	3.6	1.7	6.1
Row Sp. (in.)			24	24	32	32	28	28	38	38	38	36	36
Rows/Plot			4	4	3	3	3	3	3	3	3	1	1
Reps			4	3	4	4	4	4	4	4	4	4	4
					YIELD RANK								
Chippewa 64	10	*9	11	4	*5	*4	*9	6	*8	11	10	*12	*11
SL8	9	11	9	9	8	1	8	9	4	12	9	11	5
Hark	2	8	4	12	4	4	2	2	9	6	1	2	7
A66-1240-2	12	12	12	8	10	3	10	12	5	9	11	6	12
L68-4241	3	4	2	3	1	2	7	1	9	4	7	9	2
Steele	7	1	7	1	6	9	5	3	6	10	6	5	6
M61-224	8	6	9	11	9	11	11	8	12	8	3	1	8
M62-93	11	5	6	5	12	12	12	11	11	3	12	9	9
M62-263	1	2	3	6	2	6	6	4	2	7	5	3	3
M62-275	5	3	7	7	7	7	1	5	2	1	2	4	4
M62-345	3	10	1	2	11	10	3	6	7	2	8	7	1
M63-17	5	6	5	10	3	8	4	10	1	5	3	8	10
78 Tests					1968-71, 4-YEAR MEAN YIELD								
												68, 70-71	
Chippewa 64	35.6		46.2	30.8	27.3	24.4	*33.4			35.1	43.1	15.4	34.4
Hark	39.6		52.5	34.9	28.9	25.9	35.3			40.0	49.9	18.8	36.0
Steele	38.5		54.8	34.8	27.6	24.5	30.8			36.8	46.5	18.9	36.9
					YIELD RANK								
Chippewa 64	3		3	3	3	3	*2			3	3	3	3
Hark	1		2	1	1	1	1			1	1	2	2
Steele	2		1	2	2	2	3			2	2	1	1

* Not included in the mean

Illinois			Minnesota		Iowa		Missouri		N.Dak.	S. Dakota		Nebraska	
De-kalb	Pon-tiac	Ur-bana	Lamb-erton	Wa-seca	Suth-erland	Kan-awha	Spick-ard	Col-umbia	Oakes I	Rev-illo	Brook-ings	Con-cord	Mead I
1971 YIELD (bu/a)													
39.3	34.0	47.6	33.4	37.3	43.5	39.3	38.1	38.2	43.4*	44.9	29.1	31.1	43.6
37.9	33.1	48.2	41.4	35.1	43.3	39.5	41.3	40.4	42.1	43.0	31.3	29.3	41.0
36.6	34.5	47.1	32.7	36.7	49.2	41.8	34.7	42.8	41.7	51.3	34.0	36.4	47.3
33.7	33.7	42.6	35.1	35.4	43.8	40.9	40.6	33.7	39.2	43.9	31.0	32.6	40.9
39.6	33.0	49.7	35.6	37.0	46.5	39.4	36.6	41.0	36.2	48.0	30.9	32.3	45.3
34.9	36.2	47.5	32.7	36.3	44.4	39.4	38.5	38.4	40.9	44.9	30.8	33.8	46.1
36.8	36.2	44.2	38.4	36.8	45.6	40.9	36.9	26.9	44.2	41.0	34.3	34.5	48.1
32.8	34.0	41.2	39.1	39.3	48.6	38.7	37.4	22.2	51.5	43.0	29.2	34.6	44.6
39.3	33.8	52.9	35.8	38.2	48.4	42.5	41.5	41.2	43.0	51.2	32.5	34.4	43.8
37.4	32.3	49.4	33.5	36.3	49.3	40.1	34.6	37.4	44.5	43.8	31.0	36.8	47.1
39.2	33.4	49.8	34.1	32.4	46.9	41.4	37.0	38.5	43.7	49.8	32.9	34.3	45.5
37.9	32.1	51.7	37.2	38.1	47.0	40.7	35.3	37.4	45.6	43.3	34.6	32.0	47.5
5.7	8.9	3.7	9.3	10.1	5.2	6.2	4.9	9.1	9.9	9.5	9.0	6.7	6.7
3.6	5.1	4.3	5.5	6.1	3.5	3.6	2.6	4.8	6.1	n.s.	n.s.	3.8	5.0
30	38	30	30	30	27	27	15	15	24	40	30	30	30
4	4	4	4	4	4	4	4	4	2	3	3	4	4
3	3	3	3	3	4	4	4	4	4	4	4	3	3
YIELD RANK													
2	4	7	10	4	11	11	5	7	6*	5	12	11	10
5	9	6	1	11	12	8	2	4	8	10	6	12	11
9	3	9	11	7	2	2	11	1	9	1	3	2	3
11	7	11	7	10	10	4	3	10	11	7	7	8	12
1	10	4	6	5	7	9	9	3	12	4	9	9	7
10	1	8	11	8	9	9	4	6	10	5	10	7	5
8	1	10	3	6	8	4	8	11	4	12	2	4	1
12	4	12	2	1	3	12	6	12	1	10	11	3	8
2	6	1	5	2	4	1	1	2	7	2	5	5	9
7	11	5	9	8	1	7	12	8	3	8	7	1	4
4	8	3	8	12	6	3	7	5	5	3	4	6	6
5	12	2	4	3	5	6	10	8	2	9	1	10	2
1968-71, 4-YEAR MEAN YIELD													
						69-71	68-69, 71						68, 70-71
42.3	32.4	43.7	35.9	37.9	33.5	37.6	39.7	32.0		30.6	30.3	33.5	40.0
45.2	35.6	48.4	38.8	41.0	39.2	42.1	42.2	37.4		33.6	32.6	39.0	47.6
43.4	36.2	46.9	38.6	38.9	35.6	38.0	43.1	33.5		32.3	32.5	38.0	44.0
YIELD RANK													
3	3	3	3	3	3	3	3	3		3	3	3	3
1	2	1	1	1	1	1	2	1		1	1	1	1
2	1	2	2	2	2	2	1	2		2	2	2	2

Strain	Mean	N.Y.	Ontario		Ohio			Michigan		Indiana		Wis.	
		Aurora	Ridgetown	Harrow	Hoytville	Wooster	Columbus	Saginaw	Petersburg	Knox	Lafayette	Dur-and	Mad-ison
	16 Tests			MATURITY (relative date)									
Chippewa 64†	9-9	*	9-13	9-10	9-8 *	9-2 *	9-1 *	9-18	9-11 *	9-12	8-30	9-13 *	9-19 *
SL8	+0.9		+ 4	0	+ 1	+ 1	- 2	0	0	+ 2	0	-1	- 1
Hark	+6.9		+15	+ 3	+ 7	+ 5	+10	+5	+3	+ 4	+7	+6	+ 3
A66-1240-2	-0.1		- 3	+ 3	+ 2	+ 1	+ 3	+1	+1	+ 1	0	+2	+ 3
L68-4241	+6.3		+13	+ 2	+ 3	+ 7	+ 8	+6	+3	+10	+5	+4	+ 5
Steele	+1.1		+ 7	+ 7	- 3	+ 3	+ 1	-2	0	+ 1	-1	-1	+ 2
M61-224	-1.2		- 4	- 2	0	+ 2	+ 1	-1	-2	0	-1	0	0
M62-93	-1.9		- 4	- 2	0	- 1	- 2	-1	0	0	-3	-2	- 2
M62-263	+5.4		+12	+ 5	+ 2	+ 7	+ 8	+6	+1	+ 7	+6	+4	+ 4
M62-275	+2.4		+10	+ 3	+ 2	+ 8	+ 4	+1	+1	+ 5	+2	+3	+ 3
M62-345	+6.1		+14	+ 8	+ 4	+10	+ 8	+6	+2	+ 8	+6	+5	+ 5
M63-17	+2.7		+10	+ 7	+ 2	+ 7	+ 6	+4	+1	+ 1	+1	+5	+ 4
Merit (0)			- 5	-12	+ 1			-4				-5	-13
Corsoy (II)			+17	+ 5	+10	+11	+24	+3	+9	+11	+9	+8	+ 5
Date Planted	5-20	5-27	5-18	5-19	5-19	5-14	5-18	5-29	5-21	5-26	5-18	5-28	5-19
†Days to mat.	112		118	114	112	111	106	112	113	109	104	108	123
	18 Tests			LODGING (score)									
Chippewa 64	1.6		2.5	1	1 *	1 *	1 *	1	1 *	2.1	2.4	2.0 *	1.1 *
SL8	2.1		3.6	1	1	1	1	1	1	2.3	3.0	2.0	1.0
Hark	1.6		2.6	1	1	1	1	1	1	2.3	1.8	1.0	1.0
A66-1240-2	1.9		3.8	1	1	1	1	1	1	2.1	2.3	2.0	1.4
L68-4241	1.8		1.8	1	1	1	1	1	2	2.4	2.3	1.3	1.3
Steele	1.7		3.6	1	1	1	1	1	1	2.5	2.1	1.3	1.3
M61-224	1.2		1.8	1	1	1	1	1	1	1.4	1.1	1.0	1.0
M62-93	1.6		2.6	1	1	1	1	1	1	2.3	2.0	3.0	1.1
M62-263	1.8		2.9	1	1	1	1	1	1	2.1	2.9	2.5	1.5
M62-275	2.0		3.8	1	1	1	1	1	1	3.6	3.1	2.0	1.0
M62-345	2.0		3.6	1	1	1	1	1	1	3.3	3.4	1.5	1.8
M63-17	1.5		1.8	1	1	1	1	1	1	2.6	2.0	1.5	1.4

Illinois			Minnesota		Iowa		Missouri		N.Dak.	S. Dakota		Nebraska	
De-kalb	Pon-tiac	Ur-bana	Lamb-erton	Wa-seca	Suth-erland	Kan-awha	Spick-ard	Col-umbia	Oakes I	Rev-illo	Brook-ings	Con-cord	Mead I
MATURITY (relative date)													
8-30	8-26	8-29	9-9	9-11	*	9-9	*	8-28	*	9-26	9-25	9-9	9-8
0	0	0	+ 4	0		+2		+3		0	+1	-2	0
+ 9	+8	+8	+10	+6		+8		+7		+4	+6	+5	+6
- 3	+5	-3	+ 1	0		-1		-2		+1	-1	-3	0
+ 6	+5	+6	+ 7	+6		+7		+6		+5	+5	+4	+7
0	+3	-3	+ 4	0		+2		-1		+1	0	0	0
- 1	+4	-4	0	-3		-2		-3		0	-2	-1	+1
- 5	+3	-5	0	-3		-3		-5		+1	-3	-2	+2
+ 6	+6	+4	+ 6	+5		+5		+6		+3	+1	+3	+5
0	+6	+2	+ 2	0		+2		+3		+1	+1	-1	+2
+ 7	+7	+6	+ 5	+3		+5		+7		+4	+4	+4	+4
+ 4	+4	0	+ 1	+1		+4		+1		+2	+3	-2	+2
- 6	-2	-7	- 6	-4						-2			
+13	+7	+8	+11	+5				+8		+6	+7		+9
5-14	5-18	5-15	5-13	5-14	5-13	5-21	5-13	5-19	5-26	5-21	5-26	5-21	5-26
108	100	106	119	120		111		101		128	122	111	105
LODGING (score)													
1.2	1.3	1.4	2.3	2.0	2.0	1.5	1.7	2.0	* 2	1	1	1	1.1
1.2	1.3	2.5	4.0	2.3	2.3	2.0	2.7	2.4	2	1	1	1	2.7
1.2	1.3	1.6	2.0	1.3	1.9	1.5	1.2	1.6	2	1	1	1	2.8
1.7	2.7	1.5	3.2	2.0	2.0	1.9	2.4	1.6	2	1	1	1	2.3
1.2	1.5	1.8	2.3	2.0	2.1	1.9	2.9	2.1	2	1	1	2	2.3
1.0	1.5	1.3	3.3	1.7	1.8	2.0	1.8	1.8	2	1	1	1	1.2
1.0	1.0	1.0	1.0	1.0	1.2	1.4	2.1	1.2	1	1	1	1	1.3
1.0	1.2	1.1	2.7	1.7	2.0	2.0	2.0	1.1	2	1	1	1	1.5
1.3	1.7	1.5	3.7	2.3	2.2	1.8	1.9	1.5	2	1	1	1	1.8
1.3	2.2	1.7	3.3	2.0	2.5	2.4	2.2	1.8	2	1	1	1	1.7
1.3	2.0	1.8	3.7	1.7	2.2	1.9	1.9	1.9	2	1	1	1	2.4
1.0	1.5	1.5	2.0	1.7	1.6	1.5	2.0	2.1	1	1	1	1	1.1

Strain	Mean	N.Y.	Ontario		Ohio			Michigan		Indiana		Wisconsin	
		Aurora	Ridgetown	Harrow	Hoytville	Wooster	Columbus	Saginaw	Petersburg	Knox	Lafayette	Dur-and	Madison
	18 Tests				PLANT HEIGHT (inches)								
Chippewa 64	34		35	23	33	22*	28*	34	24*	37	40	30*	27*
SL8	34		37	23	32	24	28	32	24	35	40	30	28
Hark	35		38	19	35	21	24	33	22	34	44	27	26
A66-1240-2	31		31	20	29	20	25	33	22	31	38	30	29
L68-4241	33		35	21	34	21	29	34	28	36	40	27	27
Steele	33		37	24	31	21	31	30	22	34	40	32	29
M61-224	30		31	18	29	18	29	26	18	33	38	28	25
M62-93	29		30	20	27	18	23	27	18	31	37	27	26
M62-263	31		31	20	30	21	25	27	20	31	38	28	26
M62-275	34		35	20	31	20	31	33	20	38	41	29	29
M62-345	33		35	21	32	19	31	30	21	36	41	29	27
M63-17	34		36	23	34	21	29	33	26	37	42	30	27
	15 Tests				SEED QUALITY (score)								
Chippewa 64	1.7		3	2.0	1.0*	1.5*	2.0*			1.5	1.5		2*
SL8	2.2		3	2.0	1.8	1.8	1.5			2.0	2.0		3
Hark	1.6		3	2.0	1.3	1.0	1.0			1.5	1.5		2
A66-1240-2	2.0		4	1.7	1.3	1.5	1.5			2.0	2.0		2
L68-4241	1.6		2	1.7	1.3	1.5	1.0			2.0	1.0		2
Steele	1.6		3	2.0	1.3	1.3	1.0			1.5	1.0		3
M61-224	1.8		3	2.3	1.5	1.8	1.0			1.5	1.0		3
M62-93	1.7		3	2.3	1.5	1.8	1.0			2.0	1.0		2
M62-263	2.1		3	1.7	1.3	1.0	1.2			2.0	1.5		2
M62-275	1.8		3	2.3	2.0	1.3	1.0			2.0	1.5		2
M62-345	1.8		3	1.7	1.2	1.3	1.0			2.0	1.5		2
M63-17	2.0		4	2.3	1.5	2.0	1.2			2.0	1.0		3
	14 Tests				SEED SIZE (g/100)								
Chippewa 64	15.6		17.5	16.7	14.7*	17.4*	18.8*	15	16*	15.7	16.1		
SL8	15.4		18.1	15.6	15.3	16.9	17.9	16	16	15.7	15.1		
Hark	16.6		20.6	15.2	15.8	16.1	17.9	17	15	15.0	17.7		
A66-1240-2	19.7		22.4	20.0	20.8	23.1	21.9	19	19	20.2	20.6		
L68-4241	15.1		17.7	15.0	15.1	17.2	18.2	15	17	16.1	14.6		
Steele	17.3		20.1	21.3	15.3	19.9	18.2	16	16	16.3	16.6		
M61-224	16.4		18.9	17.6	16.0	18.4	18.8	16	16	16.8	15.7		
M62-93	16.4		20.5	15.9	15.7	17.8	14.4	16	16	17.3	16.3		
M62-263	20.4		25.9	20.6	18.7	19.6	21.8	20	19	20.7	20.2		
M62-275	18.4		23.3	18.2	19.6	19.1	19.9	17	19	18.9	19.0		
M62-345	18.2		22.1	18.3	16.4	18.1	19.9	19	16	18.8	17.4		
M63-17	16.1		19.2	17.2	16.3	16.5	17.3	17	16	16.1	14.5		

Illinois			Minnesota		Iowa		Missouri		N.Dak.	S. Dakota		Nebraska	
De-kalb	Pon-tiac	Ur-bana	Lamb-erton	Wa-seca	Suth-erland	Kan-awha	Spick-ard	Col-umbia	Oakes I	Rev-illo	Brook-ings	Con-cord	Mead I
PLANT HEIGHT (inches)													
31	36	34	33	35	39	36	36	31		27	32	26	40
32	36	35	36	32	40	37	35	31		28	30	28	41
32	38	38	40	35	41	38	35	30		30	33	32	44
31	34	31	32	32	37	35	32	26		29	30	25	36
31	34	35	35	31	39	36	34	31		28	29	30	40
31	38	32	35	32	37	36	33	28		28	32	26	38
30	34	28	33	29	35	32	27	22		26	32	26	36
29	31	24	33	30	36	30	28	21		29	30	26	36
31	32	32	32	31	38	35	35	27		26	29	27	37
34	35	35	34	34	38	35	34	29		29	32	29	38
32	36	36	36	29	41	37	35	29		27	30	27	38
33	35	35	36	33	38	38	33	29		28	36	29	40
SEED QUALITY (score)													
1.6	1.4	2.3	2.7	2.3	1.0	1.0		2.5	* 2	1.5	2.2		1.0
1.9	1.4	2.7	3.0	2.7	1.5	1.0		2.8	2	3.0	2.5		1.3
1.5	1.2	1.7	1.7	1.3	1.0	1.0		2.5	2	1.0	1.2		1.5
1.7	1.9	2.0	3.3	3.0	1.0	1.0		2.5	2	1.0	1.2		1.1
1.2	1.5	2.2	1.7	1.7	1.0	1.0		2.6	2	1.0	1.7		1.1
1.2	1.4	1.7	2.0	2.0	1.0	1.0		2.4	1	1.2	2.0		1.1
1.8	2.0	2.8	2.0	2.3	1.0	1.0		2.5	2	1.1	1.2		1.1
1.6	1.5	2.2	1.7	2.0	1.0	1.0		2.4	2	1.1	1.7		1.3
1.9	2.0	3.3	3.0	2.3	1.5	1.3		2.5	2	2.2	2.2		1.1
1.6	1.8	2.7	2.7	1.3	1.0	1.0		2.5	1	1.2	1.7		1.2
1.7	2.2	2.5	2.0	1.7	1.0	1.0		2.2	1	1.2	2.0		1.1
1.9	1.8	2.3	2.3	2.3	1.0	1.0		2.7	1	1.2	1.7		1.2
SEED SIZE (g/100)													
13.9	13.8	16.0	14.1	15.0	15.9				* 14.4	15.9	16.4		16.4
13.1	11.9	15.3	14.8	14.4	15.9				12.8	16.8	15.5		16.8
16.0	15.7	15.0	16.1	15.8	16.3				13.2	18.8	17.4		16.4
17.9	17.7	19.7	19.0	18.5	19.8				17.9	20.8	19.6		20.7
13.5	12.3	14.6	13.6	14.0	15.2				11.9	16.9	15.9		16.7
16.5	14.6	16.8	15.5	16.3	17.1				16.1	18.5	17.6		18.4
14.8	14.3	15.7	15.8	16.1	16.0				16.2	17.6	16.8		17.5
13.8	14.7	16.5	16.5	15.8	16.4				15.9	16.9	14.4		18.7
17.6	16.4	21.0	19.2	18.7	20.1				18.5	22.5	20.0		22.7
17.1	15.6	18.9	17.0	15.4	18.6				17.9	20.1	18.4		19.5
18.1	15.4	17.8	16.2	18.1	17.4				16.3	19.4	18.6		18.3
15.5	13.4	15.8	14.6	14.9	16.0				15.2	17.2	16.1		18.2

Strain	Mean	Ont. Ridge-town	Ohio Col-umbus	Mich. Sag-inaw	Ind. Knox	Wis. Mad-ison	Illinois De-kalb	Illinois Ur-bana	Minn. Wa-seca	Iowa Kan-awha	Mo. Col-umbia	S.Dak. Brook-ings	Neb. Mead I
12 Tests					PROTEIN (%)								
Chippewa 64	41.2	40.5	41.0	40.3	41.4	43.5	40.7	42.4	39.6	41.4	40.6	43.3	39.2
SL8	41.8	41.9	41.2	40.5	42.1	44.4	41.6	42.0	40.1	41.7	40.8	44.5	41.0
Hark	42.8	44.3	40.1	40.5	43.1	46.1	42.0	43.7	40.8	43.1	41.4	46.0	42.0
A66-1240-2	44.5	45.0	43.3	43.3	45.1	48.2	44.7	46.2	42.0	45.0	41.5	46.7	42.6
L68-4241	40.4	41.3	38.0	38.6	41.6	43.3	37.9	41.5	38.0	41.0	39.8	43.8	39.4
Steele	40.2	42.0	39.2	37.7	40.1	43.6	41.2	39.7	38.9	40.1	38.0	44.3	38.1
M61-224	39.6	39.4	39.7	39.2	39.3	42.1	39.8	38.4	37.9	39.1	39.0	43.5	37.9
M62-93	39.7	39.8	39.7	39.5	40.1	41.7	39.5	38.6	37.8	39.0	38.2	43.3	38.6
M62-263	40.0	40.8	38.8	39.1	40.6	41.9	38.8	39.5	38.2	40.6	39.0	42.1	40.3
M62-275	39.4	41.1	38.4	39.1	39.8	42.3	39.5	37.5	37.5	39.8	37.1	42.6	38.2
M62-345	41.0	41.9	40.0	39.8	42.5	43.2	40.9	41.5	39.6	41.5	38.6	43.4	38.7
M63-17	40.5	42.0	39.2	39.1	41.3	43.9	39.6	40.5	38.2	41.3	38.3	42.7	39.6
12 Tests					OIL (%)								
Chippewa 64	21.2	20.1	22.0	21.6	21.6	19.8	21.7	21.7	21.8	21.0	21.2	19.4	22.2
SL8	21.2	20.0	21.5	22.5	21.2	20.3	21.9	20.8	21.6	21.0	21.8	19.7	21.9
Hark	20.9	20.1	22.5	22.0	19.8	19.7	21.4	20.7	21.8	20.3	21.8	19.7	21.2
A66-1240-2	20.1	18.9	20.9	20.5	21.1	18.6	19.9	20.2	20.6	19.8	21.1	18.7	20.9
L68-4241	21.7	20.6	22.2	22.3	21.6	20.9	23.3	21.9	22.3	21.4	22.2	19.9	22.3
Steele	21.5	20.1	22.7	22.0	21.6	19.8	21.4	22.2	21.8	21.0	22.7	20.2	22.3
M61-224	22.3	21.5	23.2	22.0	22.6	21.3	22.8	22.9	22.5	22.3	22.8	20.4	23.8
M62-93	22.8	22.0	24.1	22.7	23.0	21.9	22.8	23.7	22.5	22.4	23.2	20.7	24.4
M62-263	22.0	21.0	23.2	22.2	21.9	21.1	22.6	22.0	21.7	21.8	23.0	20.2	23.3
M62-275	22.1	20.8	23.6	21.5	22.6	21.1	22.0	22.7	22.5	21.5	23.7	19.7	23.4
M62-345	21.9	20.9	22.9	22.5	21.1	21.1	22.8	22.0	21.7	21.3	23.0	20.6	23.2
M63-17	22.2	20.8	23.2	22.9	22.1	20.8	23.5	23.2	21.8	21.7	23.0	20.6	23.3

Strain	Parentage	Generation Composited
1. Chippewa 64		
2. Hark		
3. H140-673	L4(C1128-Rps rxp) x L2(Harosoy-Rps rxp)	F_5
4. H140-1367	"	F_5
5. H142-2894	L4 x AX56P64-1(Amsoy)	F_5
6. M61-229	Merit x Harosoy	F_5
7. M63-147	O-57-2921(Blackhawk x Capital) x M406(Harosoy x Norchief)	F_5
8. M63-175	Hawkeye 63 x Corsoy	F_5
9. M63-194	Corsoy x PI 132.207(from Netherlands in 1939)	F_5
10. M63-211	Harosoy 63 x Corsoy	F_5
11. M63-217	Corsoy x M372(M10 x PI 180.501)	F_5
12. M63-229	M402(Renville x Capital) x M406(Harosoy x Norchief)	F_5
13. OX-350	Harosoy 63 x Harman	F_4
14. W7-184	W7-2334(Seneca x Chippewa) x Chippewa 64	F_5
15. W7-186	"	F_5
16. W7-193	"	F_5
17. W8-7	"	F_5
18. W8-9	"	F_5
19. W8-37	"	F_5

This test was grown at 11 locations this year, mostly in bordered-row plots. A few strains yielded as well as or better than the mean of the Hark checks and most of the strains outyielded the early check, Chippewa 64. Three strains, M63-175, OX-350, and W8-37, were definitely earlier than Chippewa 64. Of these, M63-175 was highest in yield, almost 2 bushels above Chippewa 64 and almost 4 days earlier. It also appears to have a high level of shattering resistance. W8-37 was close behind it in performance and may be Phytophthora-resistant.

Several strains were of about the same maturity as Chippewa 64, with M63-217 being outstanding in mean yield, averaging 6 bushels above Chippewa 64 and slightly above Hark. Among the later strains, the two top performers were M63-194, which ranked first in mean yield in the test, almost a bushel above Hark, and M63-229 (the underline is to avoid confusion with M61-229), which equalled Hark's yield and was 3 days earlier. The three H strains were much later in maturity than Hark and must be considered to belong to Group II.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
No. of Tests	7	7	6	7	7	6	6	6	6
Chippewa 64	38.4	18	9-13	1.6	34	1.7	16.3	41.8	20.8
Hark	44.0	4	+ 7.8	1.7	38	1.4	17.9	43.6	20.8
H140-673	38.9	16	+13.5	2.0	41	1.7	17.8	41.1	21.2
H140-1367	40.0	12	+11.5	2.1	38	1.8	18.7	40.5	21.3
H142-2894	39.9	13	+13.5	1.8	43	1.9	17.3	41.3	20.6
M61-229	39.5	14	+ 2.7	1.8	36	1.4	19.0	41.7	21.7
M63-147	40.9	8	- 0.3	1.8	34	1.7	17.9	42.4	20.6
M63-175	40.1	11	- 3.8	1.3	31	1.3	15.9	41.6	22.0
M63-194	45.9	1	+ 7.0	2.1	38	1.5	17.5	41.1	21.7
M63-211	41.8	6	+ 0.5	1.8	34	1.4	17.3	40.8	21.8
M63-217	44.7	2	- 0.3	1.4	32	1.5	17.7	40.4	23.0
M63-229	44.4	3	+ 4.5	2.1	38	1.5	18.2	40.4	22.1
OX-350	37.2	19	- 1.5	2.0	34	1.6	18.5	44.6	19.3
W7-184	38.6	17	+ 0.8	1.7	35	1.5	17.0	40.2	20.4
W7-186	42.1	5	+ 1.0	1.6	36	1.4	17.8	40.1	21.1
W7-193	40.7	9	+ 3.2	1.7	37	1.6	17.7	40.8	21.2
W8-7	41.4	7	+ 2.8	1.4	36	1.7	17.2	41.1	20.7
W8-9	40.6	10	+ 3.2	1.4	36	1.5	17.2	41.3	20.8
W8-37	39.0	15	- 3.0	1.4	34	1.6	16.9	40.5	20.9

Disease Data

Strain	BB		BP		BS	BSR		FE_2	PR	
	Urb. Ill. nl	Ames Iowa n	Urb. Ill. a2	a1	Laf. Ind. n	Laf. Ind. n %	Urb. Ill. n %	Laf. Ind. a	Laf. Ind. a	Ames Iowa a
Chippewa 64	1	2	S	3	4	47	50	4	R	H
Hark	2	2	S	1	4	41	60	5	S	S
H140-673	2	2	R	1	3	23	40	4	R	R
H140-1367	3	2	R	1	3	76	50	5	R	R
H142-2894	3	2	R	1	4	25	60	4	R	R
M61-229	1	2	S	2	5	44	60	5	R	R
M63-147	1	1	S	2	5	23	30	5	R	R
M63-175	1	2	S	3	5	25	40	4	S	S
M63-194	1	2	S	2	5	44	30	4	S	S
M63-211	2	2	S	2	4	25	60	3	R	R
M63-217	2	2	S	2	5	62	50	4	S	S
M63-229	2	2	S	1	3	52	30	4	S	S
OX-350	1	2	S	3	4	43	50	4	H	R
W7-184	2	1	S	3	4	37	30	3	R	R
W7-186	1	2	S	3	3	30	20	4	R	R
W7-193	1	2	S	3	5	32	60	4	R	R
W8-7	1	2	S	3	4	0	50	4	S	S
W8-9	1	2	S	2	3	0	30	4	H	S
W8-37	3	2	S	2	4	50	30	4	R	S

Descriptive and Shattering Data

Strain	Descriptive Code	Shattering Kansas 2 wk.	Shattering Kansas 4 wk.
Chippewa 64	PTNBr SYB1	1	2
Hark	PGNBr DYY	4	5
H140-673	PGN— DYBF	4	5
H140-1367	PGN— DYY	4	5
H142-2894	PGN— SYY	2	5
M61-229	WGN— D+SYY	3	5
M63-147	W-N— DYY	3	3
M63-175	PGN— DYY	1	1
M63-194	P-N— DYY	1	3
M63-211	PGN— DYY	4	5
M63-217	P-N— SYY	4	5
M63-229	P-N— DYY	2	5
OX-350	PTN— DLgB1	3	5
W7-184	PTN— DYB1	1	2
W7-186	PTN— DYB1	1	3
W7-193	PTN— SYB1	1	4
W8-7	P-N— DYB1	1	2
W8-9	P-N— DYB1	1	4
W8-37	P-N— SYB1	1	1

Strain	Mean	Ontario Ridge-town	Ohio Hoyt-ville *	Mich. Sagi-naw	Wis. Madi-son *	Ill. De-kalb	Minnesota Lamb-erton *	Wa seca *	Iowa Suther-land	Iowa Kana-wha	S.Dak. Brook-ings	Neb. Mead I
	7 Tests				1971 YIELD (bu/a)							
Chippewa 64	38.4	44.4	31.5	31.8	19.9	39.6	35.0	36.7	42.7	39.8	30.3	40.4
Hark	44.0	57.1	30.6	33.5	29.3	40.5	34.8	34.6	46.8	45.8	34.4	49.6
H140-673	38.9	57.1	38.0	29.3	23.8	39.0	28.8	36.1	44.3	39.2	20.1	43.4
H140-1367	40.0	59.1	30.3	29.1	27.8	36.7	31.9	31.6	44.4	40.0	24.4	46.0
H142-2894	39.9	51.4	26.7	33.5	23.8	36.7	27.1	34.9	42.3	43.3	27.3	45.0
M61-229	39.5	48.3	32.7	29.4	25.5	38.5	35.5	33.1	43.4	39.8	28.7	48.7
M63-147	40.9	50.9	20.8	28.2	22.5	35.9	40.8	37.3	48.7	43.9	28.3	50.6
M63-175	40.1	45.8	29.9	31.9	22.8	36.5	39.8	39.1	50.3	40.6	32.2	43.2
M63-194	45.9	61.0	36.9	34.2	34.5	41.6	41.0	47.6	52.2	45.6	32.2	54.5
M63-211	41.8	57.1	36.6	30.1	22.8	38.5	40.6	35.9	52.2	43.4	27.8	43.8
M63-217	44.7	58.2	37.0	33.3	30.4	41.3	38.8	41.9	53.5	46.0	33.7	46.8
M63-229	44.4	59.5	34.2	32.0	30.6	40.0	34.4	36.4	47.4	47.3	35.7	48.9
OX-350	37.2	47.0	29.8	28.2	21.2	34.3	33.8	37.0	46.6	39.5	27.6	37.5
W7-184	38.6	47.4	35.3	31.9	28.2	34.6	31.3	33.3	45.2	38.3	31.8	41.2
W7-186	42.1	47.5	37.1	33.1	32.8	42.1	35.1	37.4	45.9	45.0	34.9	46.0
W7-193	40.7	49.7	33.9	33.0	29.8	38.4	30.7	37.9	45.8	44.4	28.0	45.7
W8-7	41.4	44.6	32.5	32.4	29.1	39.7	35.1	37.7	46.1	44.1	35.1	47.6
W8-9	40.6	51.2	32.1	29.5	28.9	37.9	41.4	37.0	46.4	44.6	27.2	47.5
W8-37	39.0	48.1	30.5	30.2	28.5	38.3	37.2	35.7	44.7	40.7	28.6	42.3
Coef. of Var. (%)		6.5		14.0	8.1	6.3	10.3	8.2	3.1	6.1	11.8	6.8
L.S.D. (5%)		7.1		9.0	6.7	5.0	7.4	6.2	3.0	5.5	6.6	6.3
Row Spacing (in.)		24	32	28	36	30	30	30	27	27	30	30
Rows/Plot		4	3	3	1	3	2	2	4	4	3	4
Reps		2	2	2	2	2	2	2	2	2	2	2

Strain	Mean	Ontario Ridge-town	Ohio Hoyt-ville *	Mich. Sagi-naw	Wis. Madi-son *	Ill. De-kalb	Minnesota Lamb-erton *	Wa seca *	Iowa Suther-land	Iowa Kana-wha	S.Dak. Brook-ings	Neb. Mead I
	7 Tests				YIELD RANK							
Chippewa 64	18	19	12	11	19	7	11	10	18	15	9	18
Hark	4	5	13	2	6	4	12	16	7	3	4	3
H140-673	16	5	1	16	13	8	18	12	16	18	19	14
H140-1367	12	3	15	17	11	14	15	19	15	14	18	9
H142-2894	13	8	18	2	13	14	19	15	19	11	16	12
M61-229	14	12	9	15	12	9	8	18	17	15	10	5
M63-147	8	10	19	18	17	17	3	7	5	9	12	2
M63-175	11	17	16	9	15	16	5	3	4	13	6	15
M63-194	1	1	4	1	1	2	2	1	2	4	6	1
M63-211	6	5	5	13	15	9	4	13	2	10	14	13
M63-217	2	4	3	4	4	3	6	2	1	2	5	8
M63-229	3	2	7	8	3	5	13	11	6	1	1	4
OX-350	19	16	17	18	18	19	14	8	8	17	15	19
W7-184	17	15	6	9	10	18	16	17	13	19	8	17
W7-186	5	14	2	5	2	1	9	6	11	5	3	9
W7-193	9	11	8	6	5	11	17	4	12	7	13	11
W8-7	7	18	10	7	7	6	9	5	10	8	2	6
W8-9	10	9	11	14	8	13	1	8	9	6	17	7
W8-37	15	13	14	12	9	12	7	14	14	12	11	16

Strain	Mean	Ontario Ridge-town	Ohio Hoyt-ville	Mich. Sagi-naw	Wis. Madi-son	Ill. De-kalb	Minnesota Lamb-erton	Minnesota Wa-seca	Iowa Suther-land	Iowa Kana-wha	S.Dak. Brook-ings	Neb. Mead I
	6 Tests			MATURITY (relative date)								
			*		*		*	*				
Chippewa 64	9-13	9-15	9- 9	9-18	9-20	8-30	9-12	9-12		9-13	9-25	9- 8
Hark	+ 7.8	+14	+ 5	+ 5	+ 4	+11	+ 9	+ 6		+ 7	+ 6	+ 4
H140-673	+13.5	+19	+12	+ 7	+ 7	+22	+12	+10		+13	+11	+ 9
H140-1367	+11.5	+17	+11	+ 7	+ 5	+17	+11	+ 8		+11	+ 9	+ 8
H142-2894	+13.5	+19	+11	+ 7	+ 5	+22	+14	+12		+13	+11	+ 9
M61-229	+ 2.7	+ 2	+ 1	- 1	0	+12	+ 4	- 2		0	+ 1	+ 2
M63-147	- 0.3	+ 8	+ 4	- 3	+ 4	+ 1	+ 2	- 5		- 3	- 5	0
M63-175	- 3.8	- 5	+ 2	- 3	+ 1	- 3	- 1	- 3		- 6	- 5	- 1
M63-194	+ 7.0	+15	+ 5	+ 2	+ 3	+ 9	+ 8	+ 2		+ 5	+ 4	+ 7
M63-211	+ 0.5	+ 6	0	- 1	0	+ 1	- 2	- 4		- 2	- 2	+ 1
M63-217	- 0.3	+ 4	0	- 1	- 1	0	- 2	- 2		- 4	- 2	+ 1
M63-229	+ 4.5	+14	+ 3	0	+ 3	+ 7	+ 4	0		+ 3	+ 2	+ 1
OX-350	- 1.5	+ 2	+ 2	- 2	+ 2	- 3	- 2	- 2		- 3	- 1	- 2
W7-184	+ 0.8	+ 1	0	+ 2	0	+ 1	0	- 1		- 1	+ 2	0
W7-186	+ 1.0	+ 1	0	+ 2	- 5	+ 2	+ 1	- 1		- 1	+ 2	0
W7-193	+ 3.2	+ 5	- 1	+ 3	- 3	+ 4	+ 3	+ 1		+ 2	+ 3	+ 2
W8-7	+ 2.8	+ 3	+ 1	+ 3	- 1	+ 5	+ 2	0		0	+ 5	+ 1
W8-9	+ 3.2	+ 6	+ 4	+ 3	0	+ 6	+ 6	0		0	+ 3	+ 1
W8-37	- 3.0	- 3	- 1	- 2	- 1	- 3	- 3	- 4		- 5	- 3	- 2
Merit (O)		- 5	0	- 4	-14	- 6	- 9	- 5				
Corsoy (II)		+14	+ 9	+ 3	+ 4	+13	+ 8	+ 4			+ 7	+ 8
Date Planted	5-22	5-18	5-19	5-29	5-19	5-14	5-13	5-14	5-13	5-21	5-26	5-26

Strain	Parentage	Generation Composited	Previous Testing*
1. Amsoy 71	Amsoy^{8} x C1253(Blackhawk x Harosoy)	4 F_3 lines	2
2. Beeson	C1253 x Kent	F_7	4
3. Corsoy	Harosoy x Capital	F_9	7
4. C1470	C1266R(Harosoy x C1079) x C1253	F_6	2

* Number of years in this test or name of last year's test.

This test was grown at 40 locations in 1971 but 11 were left out of the regional mean because of either a high or missing C.V., unbordered plots, out of north-central area or late submission of data. Despite large significant differences in yield at many locations the 29-location mean yield for the four entries were almost identical. At several locations Phytophthora rot probably affected the yield of Corsoy, the only susceptible entry. C1470 has been in the test three years and the three-year mean table shows it yielding almost as well as Amsoy 71 and Beeson, ripening slightly earlier than Corsoy, and with the best lodging resistance in the test. It appears to be relatively poor in shattering resistance. It is being considered for release as a replacement for Corsoy where Phytophthora resistance is needed and Amsoy 71 and Beeson are too late (southern Ontario, Michigan, Wisconsin, and Minnesota, for example).

Disease Data

	BB				BP			BS	
	Urbana Illinois		Ames Iowa		Urbana Illinois		Ames Iowa	Lafayette Indiana	Ames Iowa
Strain	n1	n2	n	a	a2	a1	n	n	n
Amsoy 71	3	4.0	2	3	S	3	4	2	2
Beeson	4	3.3	2	3.5	S	3	4.5	2	3.5
Corsoy	2	2.3	2	3.5	S	2	4.5	3	4
C1470	3	4.7	2	4	S	2	4	4	2.5

	BSR			DM	FE_2	PM	PR			PSB
	Laf. Ind.	Urb. Ill.	St.P. Minn.	Bel. Ill.	Laf. Ind.	Har. Ont.	Laf. Ind.	Ames Iowa	Stnv. Miss.	Mid. N.J.
Strain	n %	n %	n %	n	a	a	a	a	n	n
Amsoy 71	19	60	55	2.6	4	S	R	R	1	1.8
Beeson	46	40	95	2.9	1	R	R	R	1	1.3
Corsoy	5	50	20	2.9	5	S	S	S	5	2.1
C1470	17	50	70	4.0	1	S	R	R	2	1.6

Descriptive and Shattering Data

				Shattering						Hypocotyl
				Kansas Manhattan		Miss.	Illinois Carbondale		New Jersey	
Strain	Descriptive Code	Peroxidase	Fluorescent Light	2 wk.	4 wk.	Stoneville	4 wk.	6 wk.	Middlebush	Length cm
Amsoy 71	PGNTn SYY	H	L	3	5	2	1	3	1.8	12
Beeson	PGNBr SYIb	L	L	4	5	3	1	4	1.0	15
Corsoy	PGNBr DYY	H	E	1	3	3.5	1	2	1.2	22
C1470	PGNBr DYIb	L	L	4	5	5	4	5	1.0	16

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
				1971					
No. of Tests	29	29	22	28	28	26	21	16	16
Amsoy 71	45.2	4	+2.9	2.1	41	1.8	16.6	39.8	22.6
Beeson	45.6	1	+5.4	1.9	39	2.0	18.7	40.4	21.5
Corsoy	45.3	3	9-10†	2.4	38	1.7	15.4	40.1	22.3
C1470	45.6	1	+1.3	1.4	37	1.9	16.0	40.9	22.2

† 113 days after planting

				1969-71, 3-year mean					
No. of Tests	89	89	71	84	88	75	67	46	46
Amsoy 71	44.7	2	+3.0	2.4	42	2.1	17.1	39.7	22.5
Beeson	45.1	1	+3.9	2.1	40	2.2	19.2	40.5	21.8
Corsoy	44.0	4	9-17†	2.5	39	2.0	15.8	40.5	22.0
C1470	44.3	3	-0.5	1.6	38	2.3	16.1	41.1	22.1

† 116 days after planting

Strain	Mean	N.Y. Aurora	Penn. Univ. Park	N.J. Middlebush	Ontario Ridgetown	Ontario Harrow	Ohio Hoytville	Ohio Wooster	Ohio Columbus	Michigan Saginaw	Michigan Petersburg
	29 Tests				1971 YIELD (bu/a)						
Amsoy 71	45.2	35.4*	44.5*	22.9*	57.8	38.1*	41.2*	13.6*	54.7*	34.5	35.9*
Beeson	45.6	36.6	41.8	25.1	55.2	40.3	35.0	19.7	46.6	35.7	35.9
Corsoy	45.3	38.4	37.9	19.2	58.3	35.2	35.6	16.9	33.5	33.6	34.1
C1470	45.6	36.4	36.1	21.9	59.4	41.4	38.2	14.9	43.7	31.6	37.8
C.V.(%)		5.6	7.7	21.6	5.7	18.9	--	--	--	8.0	18.0
L.S.D.(5%)		2.5	3.5	10.9	n.s.	n.s.	--	--	--	4.0	10.0
Row Sp.(in.)			30	30	24	24	32	32	28	28	38
Rows/Plot			3	3	4	4	3	3	3	3	3
Reps			4	4	4	3	4	4	4	4	4
					YIELD RANK						
Amsoy 71	4	4*	1*	2*	3	3*	1*	4*	1*	2	2*
Beeson	1	2	2	1	4	2	4	1	2	1	2
Corsoy	3	1	3	4	2	4	3	2	4	3	4
C1470	1	3	4	3	1	1	2	3	3	4	1

Strain	Mean	Ontario Ridgetown	Ontario Harrow	Ohio Hoytville	Ohio Wooster	Ohio Columbus
	89 Tests	1969-71 MEAN YIELD				
Amsoy 71‡	44.7	58.0	38.2	32.8	30.7	52.8
Beeson	45.1	53.8	39.6	30.7	35.1	51.7
Corsoy	44.0	59.4	37.9	30.3	27.5	42.3
C1470	44.3	55.1	40.3	33.0	31.0	50.5
		YIELD RANK				
Amsoy 71	2	2	3	2	3	1
Beeson	1	4	2	3	1	2
Corsoy	4	1	4	4	4	4
C1470	3	3	1	1	2	3

Strain	Mean	N.Y. Aurora	Penn. Univ. Park	N.J. Middlebush	Ontario Ridgetown	Ontario Harrow	Ohio Hoytville	Ohio Wooster	Ohio Columbus	Michigan Saginaw	Michigan Petersburg
	22 Tests				1971 MATURITY (relative date)						
Amsoy 71	+2.9		+4*		+ 1	+ 3*	+6*	+ 4*	+ 2*	+2	+3*
Beeson	+5.4		+6		+ 7	+ 4	+8	+ 4	+ 5	+4	+4
Corsoy†	9-10		10-6		9-29	9-15	9-18	9-13	9-25	9-21	9-20
C1470	+1.3		-3		- 1	+ 1	+8	+ 5	+ 2	+4	+5
Hark (I)			-4	--	- 1	- 2	-3	- 6	-14	-2	-6
Wayne (III)			+9	--	+16	+12	--	+15	+16	--	--
Date Planted		5-20	5-27	6-1	6-11	5-18	5-19	5-19	5-14	5-18	5-29	5-21
†Days to Mat.		113		127	--	134	119	122	122	130	115	122

* Not included in the mean
‡ Mean of four sublines in 1969
a Trenton in 1969-70

Indiana					Wis.	Illinois	
Knox	Bluff-ton	Lafay-ette	Green-field	Worth-ington	Mad-ison*	De-kalb	Pon-tiac
1971 YIELD (bu/a)							
42.8	48.6	49.9	43.2	51.4	35.7	45.3	33.6
45.0	49.8	51.1	42.9	49.7	39.1	50.1	32.1
36.8	44.0	49.6	29.2	39.0	35.3	43.7	37.3
41.7	49.7	55.8	41.7	50.5	37.7	47.8	35.0
11.4	8.1	8.9	7.1	8.1	8.3	8.6	8.6
n.s.	n.s.	n.s.	4.3	5.9	4.4	7.2	7.2
38	30	38	38	38	36	30	38
3	3	3	3	3	1	4	4
4	4	4	4	4	4	3	3
YIELD RANK							
2	3	3	1	1	3*	3	3
1	1	2	2	3	1	1	4
4	4	4	4	4	4	4	1
3	2	1	3	2	2	2	2
1969-71 MEAN YIELD							
45.9	50.2	54.4	44.7	53.1	38.8	51.9	37.0
49.0	49.5	52.2	46.8	52.7	43.1	51.7	39.6
43.3	48.1	52.9	35.1	46.6	38.9	51.3	38.3
44.8	50.1	54.8	42.4	51.6	41.9	50.9	39.4
YIELD RANK							
2	1	2	2	1	4	1	4
1	3	4	1	2	1	2	1
4	4	3	4	4	3	3	3
3	2	1	3	3	2	4	2
1971 MATURITY (relative date)							
+2	+ 5	+ 2	+ 5	+3	+1*	+ 3	+ 6
+8	+ 7	+ 3	+ 5	+2	+3	+ 6	+ 6
9-24	9-15	9-8	9-13	9-7	9-24	9-12	9-2
-3	0	+ 1	+ 1	+1	+2	+ 2	+ 4
-8	--	- 7	--	--	-1	- 2	+ 1
--	+10	+13	+13	+9	--	+19	+22
5-26	5-21	5-18	5-18	5-21	5-19	5-14	5-18
121	117	113	118	109	128	121	107

Illinois						Minnesota	
Urbana	Girard	Edgewood	Belleville	Eldorado	Carbondale	Lamberton	Waseca
1971 YIELD (bu/a)							
52.0	46.7	43.6	50.1	50.0	43.1	31.3	38.6
54.2	45.1	43.5	50.6	51.4	54.0	31.2	39.1
56.7	55.5	42.3	47.4	48.9	39.8	41.9	37.1
51.8	48.7	46.8	45.3	45.2	40.2	35.4	42.1
4.2	3.6	5.7	3.4	1.5	9.9	9.7	6.6
4.5	3.5	5.0	3.3	1.4	7.9	6.0	4.6
30	30	38	38	37	30	30	30
4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3
YIELD RANK							
3	3	2	2	2	2	3	3
2	4	3	1	1	1	4	2
1	1	4	3	3	4	1	4
4	2	1	4	4	3	2	1
1969-71 MEAN YIELD							
48.6	48.7	46.0	48.0[a]	51.3	38.7	38.7	40.1
50.1	46.9	46.1	46.9	53.4	41.3	38.4	41.4
51.1	51.3	39.9	47.4	48.9	36.5	46.3	40.9
49.7	48.8	44.9	46.2	51.3	36.8	40.3	43.5
YIELD RANK							
4	3	2	1	2	2	3	4
2	4	1	3	1	1	4	2
1	1	4	2	4	4	1	3
3	2	3	4	2	3	2	1
1971 MATURITY (relative date)							
+ 4	+1	+ 2	+3	+ 2	+ 2		+6
+ 6	+2	+ 4	+6	+ 4	+10		+8
9-6	9-2	9-5	8-29	8-28	8-25		9-16
+ 4	-3	+ 2	+3	- 2	+ 1		+5
0	-8	- 3	-4	- 3	--	--	+1
+20	+9	+13	+9	+11	+14	--	--
5-15	5-16	6-2	5-14	5-19	5-18	5-13	5-14
114	109	95	107	101	99	--	125

Iowa						Missouri			South Dakota		Nebraska		Kansas
Suth-erland	Kan-awha	Wav-erly	Sloan	Clar-ence	Ames	Spick-ard	Col-umbia	Mt. Vernon	Brook-ings	Center-ville	Con-cord	Mead I	Pow-hattan
						1971 YIELD (bu/a)							
47.5	39.4	41.5	58.9	60.3	43.8	42.1	48.9	47.5	*27.9	*27.1	38.4	45.5	33.5
43.3	41.9	41.2	60.1	53.4	46.9	37.3	50.5	54.9	25.6	24.7	39.1	45.5	27.3
54.4	43.9	43.8	61.1	54.1	51.4	43.3	46.5	44.2	32.0	28.0	40.2	55.6	34.7
49.1	46.9	39.8	61.9	52.0	48.6	42.9	44.2	46.5	28.3	24.7	41.1	51.9	28.5
4.9	5.9	5.5	5.5	7.2	7.2	8.6	9.0	6.3	8.6	12.0	4.5	3.9	8.3
3.3	3.4	3.0	4.4	5.2	4.8	n.s.	6.8	4.7	3.9	n.s.	n.s.	3.8	4.1
27	27	27	27	27	27	15	15	15	30	30	30	30	30
4	4	4	4	4	4	4	4	4	3	3	4	4	3
4	4	2	4	4	4	4	4	4	4	4	3	3	4
						YIELD RANK							
3	4	2	4	1	4	3	2	2	*3	*2	4	3	2
4	3	3	3	3	3	4	1	1	4	3	3	3	4
1	2	1	2	2	1	1	3	4	1	1	2	1	1
2	1	4	1	4	2	2	4	3	2	3	1	2	3
						1969-71 MEAN YIELD							
	70-71	70-71					70-71	69,71		70-71		70-71	
42.7	40.8	40.0	48.9	55.4	44.9	40.5	39.5	41.9	29.7	31.2	37.8	44.5	39.6
40.4	40.4	38.8	51.2	55.7	46.8	38.9	39.7	46.1	29.2	30.9	37.2	43.2	37.0
45.7	44.4	41.0	52.8	50.4	47.6	37.0	36.4	38.2	34.2	34.2	36.7	47.9	32.9
42.6	45.2	40.3	51.1	49.5	45.9	38.0	39.1	37.5	32.0	31.4	37.6	46.0	33.5
						YIELD RANK							
2	3	3	4	2	4	1	2	2	3	3	1	3	1
4	4	4	2	1	2	2	1	1	4	4	3	4	2
1	2	1	1	3	1	4	4	3	1	1	4	1	4
3	1	2	3	4	3	3	3	4	2	2	2	2	3
						1971 MATURITY (relative date)							
	+4				0		+2		*+2	*+5	+ 9	0	0
	+6				+7		+2		+3	+4	+13	+ 2	0
	9-18				9-16		9-5		10-2	9-19	9-14	9-17	9-3
	0				+3		0		+1	+4	+ 6	0	0
--	--	--	--	--	--	--	-1	--	+3	+1	--	- 3	-2
--	--	--	--	--	--	--	+9	--	--	+8	--	+11	+8
5-13	5-21	5-29	5-13	5-12	5-27	5-13	5-19	5-11	5-26	5-19	5-21	5-26	5-17
--	120	--	--	--	112	--	109	--	129	123	116	114	109

Strain	Mean	N.Y. Aurora	Penn. Univ. Park	N.J. Middlebush	Ontario Ridgetown	Ontario Harrow	Ohio Hoytville	Ohio Wooster	Ohio Columbus	Michigan Saginaw	Michigan Petersburg
	28 Tests				LODGING (score)						
Amsoy 71	2.1		3.5*	2.0*	3.1	1*	1*	1*	1*	1	3*
Beeson	1.9		2.0	1.6	3.4	1	1	1	1	1	3
Corsoy	2.4		2.8	2.0	3.0	1	1	1	2	1	3
C1470	1.4		1.2	1.0	1.4	1	1	1	1	1	2
	28 Tests				HEIGHT (inches)						
Amsoy 71	41		40*	24*	39	26*	41*	25*	36*	37	33*
Beeson	39		38	26	37	29	37	24	35	36	36
Corsoy	38		39	21	38	26	36	24	37	36	36
C1470	37		35	22	34	26	38	22	35	34	35
	26 Tests				SEED QUALITY (score)						
Amsoy 71	1.8		2.8*	2.4*	3	3.3*	2.3*	2.0*	3.2*		
Beeson	2.0		1.5	1.8	3	2.0	1.6	1.0	3.2		
Corsoy	1.7		2.2	2.4	3	2.0	1.6	1.0	3.0		
C1470	1.9		2.8	1.9	2	2.0	1.8	1.3	2.0		
	21 Tests				SEED SIZE (g/100)						
Amsoy 71	16.6		20.7*	22.0*	21.7	17.4*	16.2*	17.0*	20.9*	18	18*
Beeson	18.7		21.7	25.0	23.2	19.1	18.6	17.9	25.8	20	20
Corsoy	15.4		18.3	19.0	19.2	14.6	16.4	16.4	19.0	16	15
C1470	16.0		17.4	19.0	18.7	15.3	17.3	15.1	18.9	17	16
	16 Tests				PROTEIN (%)						
Amsoy 71	39.8			38.4*		40.7			36.6		38.5
Beeson	40.4			39.6		42.7			40.2		40.3
Corsoy	40.1			38.3		41.9			38.6		41.2
C1470	40.9			39.7		42.5			40.1		40.1
	16 Tests				OIL (%)						
Amsoy 71	22.6			22.6*		22.0			24.6		22.8
Beeson	21.5			20.5		20.6			21.2		22.0
Corsoy	22.3			21.6		21.0			22.9		21.8
C1470	22.2			20.9		21.5			22.5		22.4

* Not included in the mean

Indiana					Wis.	Illinois	
Knox	Bluff-ton	Lafay-ette	Green-field	Worth-ington	Mad-ison	De-kalb	Pon-tiac
			LODGING (score)				
3.0	3.0	3.4	1.8	2.4	1.1*	1.3	1.8
2.3	2.9	2.6	1.0	2.0	1.4	1.2	1.7
2.3	3.1	4.0	1.0	3.6	1.5	1.2	2.3
1.3	2.0	2.1	1.0	1.5	1.1	1.0	1.3
			HEIGHT (inches)				
43	41	46	41	43	35*	41	40
41	36	43	38	39	35	39	39
38	39	43	31	43	33	39	42
38	35	46	34	39	33	38	40
			SEED QUALITY (score)				
2.0	2	2.0	2.0	2.0	2*	1.7	1.5
1.5	2	1.5	1.5	2.0	2	2.0	2.0
1.5	2	1.5	1.5	1.5	2	1.8	1.3
1.5	2	2.0	2.0	1.5	2	2.0	1.4
			SEED SIZE (g/100)				
18.0	19.4	16.5	18.2	16.1		17.3	14.4
20.7	22.1	18.5	20.3	18.6		19.2	16.5
15.0	17.3	14.8	16.0	13.8		15.3	13.2
16.2	17.0	15.8	16.9	15.4		16.3	14.2
			PROTEIN (%)				
40.5		43.6			40.9	38.8	
41.9		39.3			41.5	39.3	
40.7		40.1			42.6	39.7	
41.1		42.7			42.1	40.6	
			OIL (%)				
22.1		22.4			22.1	23.8	
21.2		21.5			21.3	22.7	
21.5		22.1			21.7	23.4	
22.1		21.9			21.3	24.0	

Illinois						Minnesota	
Ur-bana	Gi-rard	Edge-wood	Belle-ville	Eldo-rado	Carbon-dale	Lamb-erton	Wa-seca
LODGING (score)							
1.6	2.6	3.1	1.1	2.7	1	2.3	1.3
1.8	2.7	2.7	1.1	1.5	1	1.7	1.3
1.9	2.2	3.3	1.1	3.1	1	3.7	1.7
1.3	1.1	1.3	1.0	1.0	1	1.7	1.0
HEIGHT (inches)							
43	46	44	41	39	26	38	38
40	43	41	37	35	26	40	38
37	44	40	33	36	23	39	35
39	42	39	34	34	23	39	37
SEED QUALITY (score)							
2.0	2.5	2.3	1.7	2.7	2	2.3	1.7
2.5	2.9	2.9	1.9	3.0	2	3.0	2.7
2.0	2.0	2.0	1.7	2.5	2	2.0	1.7
2.7	2.2	2.2	1.9	2.9	1	3.0	2.7
SEED SIZE (g/100)							
15.4	14.9	15.8	15.3	15.9	18.1	15.1	15.7
17.6	16.3	16.1	19.4	19.7	21.6	17.4	17.5
15.8	15.8	13.3	13.9	14.9	15.5	16.2	15.5
14.9	14.3	14.7	15.2	15.5	17.1	16.0	16.5
PROTEIN (%)							
40.0	41.8			40.0		38.8	
40.8	41.4			41.1		39.1	
39.6	40.6			40.6		40.4	
40.2	42.7			40.2		41.0	
OIL (%)							
22.7	22.0			23.7		20.5	
21.5	20.8			22.9		21.0	
22.4	22.2			22.9		20.9	
21.9	21.2			23.7		20.9	

Iowa						Missouri			South Dakota		Nebraska		Kansas
Suth-erland	Kan-awha	Wav-erly	Sloan	Clar-ence	Ames	Spick-ard	Col-umbia	Mt. Vernon	Brook-ings	Center-ville	Con-cord	Mead I	Pow-hattan
						LODGING (score)							
1.9	2.0	1.5	2.2	3.4		2.2	2.5	2.6	1*		1	1.4	1
1.9	1.6	1.5	1.8	2.9		2.3	2 6	2.5	1		1	1.7	1
2.3	2.9	1.8	2.8	2.9		2.8	3.0	3.0	1		2	2.1	1
1.6	1.3	1.2	1.4	1.9		1.6	1.9	2.7	1		1	1.1	1
						HEIGHT (inches)							
48	44	44	45	48		40	39	34	33*	33*	37	47	31
46	40	43	40	45		36	36	32	33	29	36	47	29
42	42	42	40	44		38	34	28	36	32	36	45	29
44	40	43	41	44		38	33	29	32	31	34	46	28
						SEED QUALITY (score)							
1	1	1	1	1	1.3		2.3	3.0	* 2.2	* 1.5		1.3	1.7
1	1	1	1	1	1.0		2.5	2.8	2.0	2.2		1.1	2.0
1	1	1	1	1	1.0		2.3	2.5	1.8	1.5		1.2	2.2
1	1	1	1	1	1.6		2.5	3.0	2 0	2.0		1.6	3.0
						SEED SIZE (g/100)							
	16.8				18.0				* 17.2	* 13.9		16.7	12.1
	16.8				20.0				17.1	16.1		17.8	14.2
	16.2				16 1				16.3	13.9		17.7	11.9
	16.5				18.4				16.7	14.2		17.2	12.2
						PROTEIN (%)							
	40.2				38.8		39.0			* 39.9		38.4	39.5
	39.4				39.4		40.4			39.6		40.0	40.1
	40.9				38.9		38.9			39.5		39.1	37.6
	42.8				40.5		38.6			40.4		39.1	39.6
						OIL (%)							
	21.8				22.0		22.9			22.4		22.3	23.4
	20.5				21.8		21.7			21.7		21.2	22.4
	21.5				22.3		23.2			22 2		22.8	23.9
	20.5				22.5		22.7			22.4		22 9	22.9

Strain	Parentage	Generation Composited	Previous Testing
1. Amsoy 71			
2. Corsoy			
3. Magna	(F_6 Ottawa Mandarin x Jogun) x (F_6 Ott. Mand. x Kanro)	F_6	65-66 II
4. Provar	Harosoy x Clark	F_8	64-67 II
5. A66-1441-2	Provar x F_1(Harosoy 63 x PI 248.406)	F_5	P I
6. A66-1746-8	AX56P64-1(Amsoy) x FC 31.122	F_6	P II
7. A66-1746-9	"	F_6	P II
8. A66-1906-1	Provar x F_1(AX50F58-2 x FC 31.122)	F_5	P II
9. A66-1906-3	"	F_5	
10. AX58-1	Harosoy x Clark	F_{11}	
11. AX227-31	Hawkeye 63 x FC 31.122	F_5	
12. AX268-2	Provar x F_1(Hawkeye 63 x FC 31.122)	F_4	
13. AX268-70	"	F_4	
14. AX270-32	Provar x F_1(Hawkeye 63 x PI 91.110-1)	F_4	
15. AX271-44	Provar x F_1(Hawkeye 63 x PI 248.406)	F_4	
16. Blend 2	25% Amsoy 71 + 75% Corsoy		
17. H130-865	Harosoy 63 x C1243(PI 68.521 x Wabash)	F_5	
18. H142-2895	L4(C1128-Rps rxp) x AX56P64-1(Amsoy)	F_5	
19. L67D-805	Hark x Disoy	F_3	P I
20. L67D-942	"	F_3	P I
21. L67D-944	"	F_3	P I
22. L67D-950	"	F_3	P II
23. L67D-1220	"	F_3	P II
24. L67U-440	Chippewa 64 x Corsoy	F_3	P II
25. L67U-1111	Hark x Disoy	F_3	P II
26. L67U-1546	Provar x Magna	F_3	P II
27. L67U-1842	Provar x Disoy	F_3	P II

This test was grown at twelve locations in 1971 and the regional means includes ten of them. 14 of the 23 experimental strain entries were re-entries from last years Preliminary I and II. The objectives for most of these as well as some of the new entries were high protein (cf. Provar), or large seed size (cf. Magna), or a combination of both. Many entries have slightly more protein than Amsoy 71 or Corsoy but only five, A66-1906-1 and -3, AX227-31, AX268-70, and AX271-44, were as high as Provar. These five all yielded less than Provar, 1 to 3 bushels on the average and were 3 to 5 days later.

None of the entries had seed as large as Magna but many had distinctly larger seeds than those of the grain varieties Amsoy 71 and Corsoy and yielded much better than Magna. Among these the better yielding ones (averaging 5 bushels or more above Magna) were A66-1746-9, AX227-31 (also high protein), L67D-942,950,1220, and L67U-1111.

The only entries competitive with Amsoy 71 and Corsoy in yield were A66-1441-2 and L67U-440. A66-1441-2 had only slightly larger seeds and slightly more protein than Amsoy 71 and Corsoy. L67U-440 had distinctly smaller seeds and a normal protein content. The latter strain is fairly late, 5 days later than Amsoy 71, and probably should be considered in early Group III along with several other entries in the test.

"Blend 2" (Blend 1, a mixture of Shelby and a Ford sib, was a Uniform Test entry in 1956) is a mixture of Amsoy 71 and Corsoy and topped the test in yield, appreciably above either component. It was hoped that it would at least equal the performance of the better component at each location and thus outperform them in the regional mean. It tended to do this, in general, but a big (and unexplained) superiority in yield over both components at Lafayette and Mead helped offset major reversals of this at Columbia and Centerville. It is also interesting to note that it averaged not quite as late as the late component but lodged slightly more than either.

Regional Summary

	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
No. of Tests	10	10	10	9	10	10	8	6	6
Amsoy 71	43.8	4	+ 3.3	2.2	40	1.8	16.4	39.6	22.9
Corsoy	43.8	4	9-13	2.4	39	1.5	15.2	40.4	22.0
Magna	36.4	27	- 0.1	1.5	34	2.2	25.9	40.6	21.4
Provar	42.4	8	+ 1.1	2.3	35	1.5	21.3	44.3	20.8
A66-1441-2	44.5	3	+ 2.5	2.1	38	1.6	19.5	42.9	22.0
A66-1746-8	41.2	14	+ 5.6	2.2	38	2.0	22.4	42.4	21.5
A66-1746-9	43.2	6	+ 5.3	2.0	39	1.9	22.1	42.3	21.7
A66-1906-1	40.4	19	+ 4.6	2.2	35	1.8	22.0	45.0	19.8
A66-1906-3	39.4	23	+ 4.1	2.0	34	1.7	21.6	44.0	19.2
AX58-1	41.5	12	+ 4.8	2.3	35	1.6	18.4	41.8	21.7
AX227-31	41.4	13	+ 4.7	2.7	39	1.7	21.1	44.9	20.0
AX268-2	40.0	20	+ 4.4	2.7	37	1.6	21.0	43.1	20.4
AX268-70	39.4	23	+ 6.3	2.6	37	1.7	18.3	44.3	20.3
AX270-32	37.6	26	+ 8.0	3.2	41	1.6	17.6	43.5	20.2
AX271-44	39.7	22	+ 6.5	2.9	41	1.7	19.8	44.3	20.2
Blend 2	46.2	1	+ 2.7	2.6	40	1.7	15.5	40.3	22.0
H130-865	38.4	25	+ 8.2	2.6	40	1.6	15.6	40.5	21.4
H142-2895	41.2	14	+ 7.3	2.1	41	1.8	15.9	40.2	21.5
L67D-805	40.8	16	+ 2.1	2.0	35	1.7	21.1	42.8	20.7
L67D-942	42.2	10	+ 2.2	2.0	37	1.8	22.1	41.4	21.6
L67D-944	39.8	21	+ 4.7	2.5	40	1.8	22.2	43.0	21.1
L67D-950	42.4	8	+ 7.3	1.7	38	1.9	21.4	41.7	21.3
L67D-1220	42.9	7	+ 8.5	1.8	39	2.2	21.6	41.9	21.4
L67U-440	46.1	2	+ 8.1	3.0	41	1.7	13.5	39.4	21.8
L67U-1111	41.7	11	+ 8.8	3.2	43	1.8	22.2	42.2	21.4
L67U-1546	40.7	17	+11.5	2.3	41	2.1	23.3	42.9	20.2
L67U-1842	40.6	18	+ 9.9	1.6	37	2.2	24.6	43.1	20.6

Disease Data

Strain	BB			BP		BS	BSR		FE_2	PR		
	Urb. Ill.		Ames Iowa	Urb. Ill.		Laf. Ind.	Laf. Ind.	Urb. Ill.	Laf. Ind.	Laf. Ind.	Ames Iowa	Ston. Miss.
	n1	n2	n	a2	a1	n	n %	n %	a	a	a	n
Amsoy 71	2	3.0	2	S	3	2	19	50	4	R	R	1
Corsoy	2	3.0	2	S	3	3	5	40	5	S	S	5
Magna	1	3.0	2	S	3	4	40	10	1	S	S	3
Provar	4	3.5	3	S	3	3	25	20	4	S	S	2
A66-1441-2	1	3.5	2	S	1	2	28	30	5	S	S	1
A66-1746-8	4	3.5	2	S	4	4	54	20	4	S	S	1
A66-1746-9	4	3.0	2	S	1	3	67	40	5	S	S	1
A66-1906-1	2	3.5	2	S	3	3	33	30	5	S	S	3
A66-1906-3	3	3.5	2	S	1	4	11	40	5	S	S	1
AX58-1	4	4.0	2	S	1	4	19	100	5	S	S	3
AX227-31	4	3.5	3	S	3	2	24	60	5	R	R	1
AX268-2	4	3.5	2	S	3	3	30	40	5	R	R	3
AX268-70	3	2.5	2	S	2	5	20	40	4	H	R	1
AX270-32	3	3.0	2	S	3	3	35	60	4	R	R	3
AX271-44	1	3.5	2	S	3	3	11	40	5	R	R	2
Blend 2	2	3.5	2	S	2	4	24	50	5	S	S	4
H130-865	2	3.0	1	S	2	3	27	10	5	S	S	3
H142-2895	3	3.5	2	R	2	3	47	100	5	R	R	1
L67D-805	1	2.5	2	S	3	2	35	60	1	S	S	3
L67D-942	2	2.5	2	S	3	5	16	100	H	S	S	3
L67D-944	2	3.5	2	S	3	3	44	50	4	S	S	3
L67D-950	2	3.5	1	S	2	3	15	40	4	S	S	3
L67D-1220	1	3.0	1	S	2	4	21	60	H	S	S	3
L67U-440	2	2.5	2	S	1	5	20	50	5	S	S	2
L67U-1111	2	3.0	2	S	3	4	35	100	4	S	S	2
L67U-1546	3	2.5	2	S	1	5	32	60	H	S	S	1
L67U-1842	4	4.0	2	S	2	4	43	40	4	S	S	3

Descriptive and Shattering Data

Strain	Descriptive Code		Shattering Kansas Manhattan 2 wk.	4 wk.	Mississippi Stoneville
Amsoy 71	PGNTn	SYY	3	5	2
Corsoy	PGNBr	DYY	1	3	3.5
Magna	PGNBr	DYY	5	5	5
Provar	PTNBr	IYBr	1	3	2
A66-1441-2	PGNBr	DYBf	2	3	5
A66-1746-8	PGNBr	SYY	3	5	4
A66-1746-9	PGNBr	SYY	4	5	3
A66-1906-1	PGNBr	DYBf	1	2	3
A66-1906-3	PTNBr	SYBr	2	3	4
AX58-1	PGNBr	DYBF	1	1	2
AX227-31	PGNBr	SYG	4	5	5
AX268-2	PGNBr	DYIb	1	4	4
AX268-70	PTNBr	IYBl+G	1	3	4
AX270-32	PGNTn	DYBF	1	3	2
AX271-44	PGNBr	DYBF	1	5	3
Blend 2	PGNBr+Tn	D+SYY	3	5	4
H130-865	PGNBr	SYY	4	5	5
H142-2895	P(W)GNTn	SYY(Bf)	1	5	5
L67D-805	PGNTn	DYY	4	5	5
L67D-942	PGNTn	DYY	5	5	5
L67D-944	PGNTn+Br	DYY	5	5	5
L67D-950	PGNTn	DYY	5	5	5
L67D-1220	PGNTn	DYY	4	5	5
L67U-440	PTNBr	DYY	1	3	3
L67U-1111	PGNBr	DYY	3	5	5
L67U-1546	PGNBr	DYBf	2	5	4
L67U-1842	PGNBr	DYBf	3	5	3

Strain	Ontario Mean	Ontario Harrow	Ohio Hoytville *	Indiana Knox	Indiana Lafayette	Wis. Madison *	Illinois Pontiac	Illinois Urbana	Iowa Kanawha	Iowa Ames	Mo. Columbia	S. Dak. Centerville	Neb. Mead I
	10 Tests				1971 YIELD (bu/a)								
Amsoy 71	43.8	40.0	32.2	48.2	46.5	29.3	30.2	59.9	41.5	46.5	49.3	28.2	47.5
Corsoy	43.8	34.6	34.3	35.6	44.6	29.3	35.8	58.6	45.9	52.5	48.0	31.6	51.2
Magna	36.4	29.4	21.5	34.7	46.2	21.1	34.5	43.6	40.9	40.1	29.5	17.5	47.4
Provar	42.4	36.9	29.7	44.2	49.2	28.3	35.4	54.9	37.8	52.6	38.5	25.1	49.1
A66-1441-2	44.5	40.9	29.4	46.5	51.0	30.0	35.0	52.9	41.9	51.2	51.5	25.9	48.6
A66-1746-8	41.2	44.3	33.6	41.1	45.0	26.8	36.3	47.5	39.6	40.8	49.3	24.9	43.0
A66-1746-9	43.2	39.1	32.4	43.2	44.9	25.7	33.1	51.4	43.9	45.3	49.1	30.3	51.3
A66-1906-1	40.4	38.0	34.9	33.1	46.1	26.1	34.8	52.9	39.2	43.9	42.4	24.7	48.5
A66-1906-3	39.4	39.2	29.0	37.4	44.5	23.0	32.5	45.8	37.1	46.7	37.9	26.7	45.9
AX58-1	41.5	35.2	35.7	45.9	50.5	32.6	34.3	50.0	38.4	46.4	42.6	26.2	45.2
AX227-31	41.4	38.2	28.4	42.7	50.5	32.1	35.9	52.4	40.8	42.7	44.4	23.0	43.1
AX268-2	40.0	37.1	29.0	29.1	50.2	31.5	34.6	48.1	40.2	44.2	44.8	24.3	46.9
AX268-70	39.4	33.1	27.8	40.7	48.3	35.6	34.6	48.4	35.0	43.0	42.9	20.9	47.2
AX270-32	37.6	35.9	27.5	38.2	42.5	30.0	34.3	49.5	34.2	40.6	42.3	20.0	38.7
AX271-44	39.7	37.4	30.7	38.4	47.0	26.6	25.9	47.0	40.2	42.8	48.3	22.8	46.8
Blend 2	46.2	41.8	31.5	42.5	54.6	34.6	37.3	59.3	47.7	52.0	40.8	25.0	60.8
H130-865	38.4	34.4	29.2	36.3	46.1	30.8	29.9	48.3	34.2	39.6	42.9	26.1	46.0
H142-2895	41.2	32.1	31.0	44.9	48.2	26.2	29.4	56.8	39.0	43.0	45.6	25.3	47.7
L67D-805	40.8	35.8	29.9	42.5	53.1	21.1	31.1	51.6	44.6	42.8	39.3	20.6	46.4
L67D-942	42.2	39.6	36.1	39.2	48.6	24.2	31.0	54.4	41.2	51.7	45.4	22.0	48.6
L67D-944	39.8	35.2	24.8	41.6	52.0	26.9	29.4	49.4	37.8	48.9	40.3	18.2	45.6
L67D-950	42.4	37.4	28.3	40.7	53.7	30.9	31.8	52.8	41.7	47.9	40.2	27.8	50.2
L67D-1220	42.9	36.0	25.6	50.5	56.6	28.9	29.4	52.0	40.0	51.8	47.7	19.5	45.3
L67U-440	46.1	41.2	35.1	49.7	55.6	38.9	38.9	62.7	41.8	47.0	47.2	25.9	51.2
L67U-1111	41.7	36.0	27.1	55.4	46.3	28.8	33.5	53.7	42.3	38.1	43.7	23.4	44.9
L67U-1546	40.7	35.8	28.6	41.9	56.3	25.7	28.6	55.4	36.9	40.0	41.9	26.4	44.1
L67U-1842	40.6	38.7	37.4	49.2	46.5	27.2	31.2	52.5	39.6	41.9	39.3	21.7	44.9
C.V. (%)		12.8		12.5	7.9	13.4	10.1	8.0	6.5	10.9	10.0	13.4	9.9
L.S.D. (5%)		n.s.		10.8	8.0	10.1	7.2	8.6	5.3	10.0	9.3	6.7	8.2
Row Sp. (in.)		24	32	38	38	36	38	30	27	27	15	30	30
Rows/Plot		4	3	3	3	1	3	3	4	4	4	3	4
Reps		2	2	2	2	2	2	2	2	2	2	2	2

Strain	Ontario Mean	Ontario Harrow	Ohio Hoytville	Indiana Knox	Indiana Lafayette	Wis. Madison	Illinois Pontiac	Illinois Urbana	Iowa Kanawha	Iowa Ames	Mo. Columbia	S. Dak. Centerville	Neb. Mead I
	10 Tests					YIELD RANK							
			*			*							
Amsoy 71	4	5	9	5	17	11	21	2	9	11	2	3	11
Corsoy	4	23	6	24	25	11	5	4	2	2	6	1	3
Magna	27	27	27	25	20	26	11	27	11	24	27	27	12
Provar	8	15	14	9	12	15	6	7	21	1	25	12	6
A66-1441-2	3	4	15	6	8	9	7	10	6	6	1	9	7
A66-1746-8	14	1	7	16	23	18	3	24	16	22	2	14	26
A66-1746-9	6	8	8	10	24	22	15	17	4	13	4	2	2
A66-1906-1	19	11	5	26	21	21	8	10	18	15	17	15	9
A66-1906-3	23	7	17	22	26	25	16	26	23	10	26	5	18
AX58-1	12	21	3	7	9	4	12	18	20	12	16	7	21
AX227-31	13	10	20	11	9	5	4	14	12	20	12	18	25
AX268-2	20	14	17	27	11	6	9	23	13	14	11	16	14
AX268-70	23	25	22	17	14	2	9	21	25	16	14	22	13
AX270-32	26	18	23	21	27	9	12	19	26	23	18	24	27
AX271-44	22	12	12	20	16	19	27	25	13	18	5	19	15
Blend 2	1	2	10	12	4	3	2	3	1	3	20	13	1
H130-865	25	24	16	23	21	8	22	22	26	26	14	8	17
H142-2895	14	26	11	8	15	20	23	5	19	16	9	11	10
L67D-805	16	19	13	12	6	26	19	16	3	18	23	23	16
L67D-942	10	6	2	19	13	24	20	8	10	5	10	20	7
L67D-944	21	21	26	15	7	17	23	20	21	7	21	26	19
L67D-950	8	12	21	17	5	7	17	12	8	8	22	4	5
L67D-1220	7	16	25	2	1	13	23	15	15	4	7	25	20
L67U-440	2	3	4	3	3	1	1	1	7	9	8	9	3
L67U-1111	11	16	24	1	19	14	14	9	5	27	13	17	22
L67U-1546	17	19	19	14	2	22	26	6	24	25	19	6	24
L67U-1842	18	9	1	4	17	16	18	13	16	21	23	21	22

Strain	Mean	Ontario Harrow	Ohio Hoytville *	Indiana Knox	Indiana Lafayette	Wis. Madison *	Illinois Pontiac	Illinois Urbana	Iowa Kanawha	Iowa Ames	Mo. Columbia	S. Dak. Centerville	Neb. Mead I
	10 Tests			MATURITY (relative date)									
Amsoy 71	+ 3.3	+ 3	+ 5	+ 8	+ 4	+ 2	+ 4	+ 5	+ 3	+ 1	+ 1	+ 3	+ 1
Corsoy	9-13	9-14	9-17	9-23	9-6	9-25	9-2	9-6	9-18	9-17	9- 5	9-19	9-16
Magna	- 0.1	+ 2	0	- 5	- 3	+ 1	+ 1	- 3	0	- 1	+ 2	+ 6	0
Provar	+ 1.1	+ 2	+ 2	+ 9	+ 1	+ 1	+ 2	0	0	- 1	- 2	+ 2	- 2
A66-1441-2	+ 2.5	+ 2	+ 5	+ 9	+ 3	+ 4	+ 4	+ 2	+ 2	+ 1	+ 1	+ 4	- 3
A66-1746-8	+ 5.6	+10	+ 7	+ 9	+ 7	+ 5	+ 9	+ 6	+ 4	+ 3	+ 3	+ 4	+ 1
A66-1746-9	+ 5.3	+ 5	+ 8	+11	+ 5	+ 8	+ 9	+ 7	+ 6	+ 3	+ 3	+ 4	0
A66-1906-1	+ 4.6	+ 8	+ 5	+15	+ 4	+ 8	+ 7	+ 3	+ 4	0	+ 1	+ 4	0
A66-1906-3	+ 4.1	+ 6	+ 7	+14	+ 5	+ 2	+ 5	+ 3	+ 3	+ 4	0	+ 3	- 2
AX58-1	+ 4.8	+ 6	+ 8	+10	+ 4	+ 3	+ 7	+ 4	+ 6	+ 3	+ 2	+ 4	+ 2
AX227-31	+ 4.7	+ 4	+ 7	+ 9	+ 5	+ 4	+ 8	+ 6	+ 5	+ 5	+ 3	+ 2	0
AX268-2	+ 4.4	+ 6	+ 5	+ 5	+ 4	+ 2	+ 7	+ 6	+ 5	+ 5	+ 2	+ 3	+ 1
AX268-70	+ 6.3	+ 4	+ 3	+14	+ 6	+ 5	+15	+ 5	+ 6	+ 7	+ 2	+ 3	+ 1
AX270-32	+ 8.0	+10	+ 5	+13	+10	+ 4	+12	+ 9	+10	+11	+ 3	- 6	+ 8
AX271-44	+ 6.5	+ 6	+ 6	+12	+ 9	+ 4	+10	+13	+ 8	+ 7	+ 2	- 6	+ 4
Blend 2	+ 2.7	+ 7	+ 4	+ 3	+ 4	+ 2	+ 4	+ 4	0	+ 1	+ 2	+ 2	0
H130-865	+ 8.2	+ 4	+ 6	+12	+ 9	+10	+10	+ 8	+10	+12	+ 6	+ 8	+ 3
H142-2895	+ 7.3	+ 8	+ 7	+13	+ 9	+ 8	+10	+ 9	+ 8	+ 3	+ 5	+ 6	+ 2
L67D-805	+ 2.1	+ 1	+ 1	+ 3	+ 2	+ 5	+ 4	+ 3	+ 4	+ 1	0	+ 4	- 1
L67D-942	+ 2.2	+ 1	+ 4	+ 6	+ 4	+ 9	0	+ 2	+ 2	+ 3	0	+ 3	+ 1
L67D-944	+ 4.7	+ 4	+ 5	+ 7	+ 5	+ 4	+ 5	+ 4	+ 6	+ 7	+ 1	+ 7	+ 1
L67D-950	+ 7.3	+ 4	+ 6	+ 8	+10	+12	+10	+ 9	+ 9	+ 7	+ 5	+ 7	+ 4
L67D-1220	+ 8.5	+ 2	+ 5	+15	+11	+11	+11	+ 8	+ 8	+ 9	+ 5	+ 8	+ 8
L67U-440	+ 8.1	+14	+ 8	+11	+12	+ 6	+14	+11	+ 8	+ 9	+ 4	- 6	+ 4
L67U-1111	+ 8.8	+ 4	+ 7	+16	+12	+ 8	+11	+ 5	+10	+ 9	+ 5	+10	+ 6
L67U-1546	+11.5	+12	+ 6	+15	+13	+ 8	+16	+12	+10	+ 9	+ 7	+12	+ 9
L67U-1842	+ 9.9	+ 9	+ 7	+13	+13	+ 5	+11	+13	+ 9	+10	+ 5	+10	+ 6
Hark (I)		+ 2	- 2	- 7	- 5		+ 1	0				+ 1	- 2
Wayne (III)		+16			+15		+22	+20				+ 8	+12
Date Planted		5-22	6- 1	5-19	5-26	5-18	5-19	5-18	5-15	5-21	5-27	5-19	5-19	5-26

Strain	Parentage	Generation Composited	Previous Testing*
1. Calland	C1253(Blackhawk x Harosoy) x Kent	F_7	4
2. Wayne	L49-4091 x Clark	F_5	10
3. SL12	Wayne-Ir Rps x (Wayne^{10} x Kanrich)	4 F_4 lines	
4. Williams(L66L-108)	Wayne x L57-0034(Clark x Adams)	F_6	2
5. L66L-172	" "	F_6	1

* Number of years in this test or name of last year's test.

Because of increased testing on the East Coast we are presenting a separate regional mean for this area for the first time this year.

The two check varieties, Calland and Wayne, may be compared in the five-year regional summary. Calland has the slightly higher yield, perhaps a result of its Phytophthora resistance, while Wayne is higher in oil and protein content. The newly released variety Williams is present in the three-year tables. It shows a modest yield advantage over both Calland and Wayne and improved lodging resistance and seed quality. It is of average protein content but higher in oil than either check.

L66L-172 has been in this test two years. It tops the test in mean yield in the central area and is almost as early as Wayne, averaging three days earlier than Williams. It is from the same cross as Williams and similar to it in general plant appearance, lodging resistance, seed quality, and high oil content.

SL12 is a Wayne backcross with the added traits of Phytophthora resistance (Rps), downy mildew resistance (Rpm from Kanrich), and yellow hilum (I r). Similar lines with brown (SL11) and black hilum (SL10) are in Preliminary Test III. The strain equalled Wayne on the East Coast and surpassed it in the central area but has a tendency to be slightly later, taller, and more lodging susceptible.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
				1971, East Coast					
No. of Tests	8	8	8	8	8	8	8	4	4
Calland	46.5	2	+3.0	2.3	35	2.4	20.7	41.6	20.3
Wayne	40.8	3	10-12†	2.6	34	2.6	20.4	43.1	21.0
SL12	40.6	4	+0.8	2.7	36	3.1	19.6	43.6	20.5
Williams	46.7	1	+3.3	1.5	34	2.0	19.7	41.8	21.7
L66L-172	39.8	5	-2.5	1.7	32	2.5	16.9	41.6	21.4

† 121 days after planting

				1971, Central					
No. of Tests	24	24	20	23	23	22	19	13	13
Calland	45.2	3	+0.7	2.1	42	2.0	16.5	39.5	21.5
Wayne	44.9	5	9-17†	2.2	41	1.9	16.6	41.4	22.1
SL12	46.2	2	+2.1	2.5	44	2.1	17.1	41.6	21.9
Williams	45.1	4	+3.3	1.7	41	1.6	16.5	40.8	22.6
L66L-172	46.3	1	+0.4	1.6	39	1.6	14.5	39.9	22.5

† 122 days after planting

				1970-71, 2-year mean, Central					
No. of Tests	45	45	39	41	44	41	36	25	25
Calland	45.3	3	+2.0	2.3	42	2.4	17.5	39.7	20.8
Wayne	44.1	4	9-21†	2.4	41	2.2	17.2	41.4	21.5
Williams	45.6	2	+3.5	1.8	41	1.9	17.2	40.7	22.1
L66L-172	46.1	1	+0.4	1.8	39	2.0	15.2	39.7	21.9

† 122 days after planting

				1969-71, 3-year mean, Central‡					
No. of Tests	75	75	63	66	72	67	62	40	40
Calland	45.7	2	+1.8	2.3	42	2.3	17.4	39.8	21.1
Wayne	45.0	3	9-22†	2.5	41	2.1	17.1	41.5	21.8
Williams	46.4	1	+3.3	1.8	41	1.8	17.4	40.8	22.4

† 122 days after planting
‡ Includes three East Coast tests in 1969

				1967-71, 5-year mean, Central‡					
No. of Tests	141	141	117	120	136	122	111	68	40
Calland	44.5	1	+1.5	2.2	41	2.2	17.4	39.5	21.2
Wayne	43.7	2	9-23†	2.4	40	2.0	16.8	41.1	21.6

† 121 days after planting
‡ Includes six East Coast tests from 1967-69

Disease Data

Strain	BB				BP			BS	
	Urbana Illinois		Ames Iowa		Urbana Illinois		Ames Iowa	Lafayette Indiana	Ames Iowa
	n1	n2	n	a	a2	a1	n	n	n
Calland	1	4.0	2	3.5	S	3	5	3	4.5
Wayne	2	2.7	2	3	R	1	2	4	2.5
SL12	1	3.0	2	3.5	R	1	3	5	2
Williams	1	1.3	2	3.5	R	1	2	4	3
L66L-172	2	2.3	1	3	R	1	2	3	3.5

Strain	BSR						DM	FE_2	PM	PR			PSB	
	Laf. Ind.		Urb. Ill.		St.P. Minn.		Bel. Ill.	Laf. Ind.	Har. Ont.	Laf. Ind.	Ames Iowa	Stnv. Miss.	Adel. N.J.	
	n	%	n	%	n	%	n	a	a	a	a	n	n	
Calland	69		90		25		3.0	5	R	R	R	1	2.3	
Wayne	45		80		35		4.0	2	R	S	S	1	3.5	
SL12	63		50		60		1.0	2	R	R	R	1	3.3	
Williams	45		80		55		4.0	5	R	S	S	1	2.0	
L66L-172	85		70		10		3.7	5	R	S	S	2	3.3	

Descriptive and Shattering Data

Strain	Descriptive Code	Per-oxi-dase	Fluor-escent Light	Shattering							Hypo-cotyl Length cm
				Kansas Manhattan		Miss. Stoneville		New Jersey	Texas Lubbock		
				2 wk.	4 wk.	clay	loam	Adelphia	10/5	10/13	
Calland	PTNBr DYB1	L	L	3	4	4	3	2.3	1.0	2.0	23
Wayne	WTNBr SYB1	L	L	2	3	5	4	3.0	2.5	4.2	23
SL12	WTNBr SYY	L	L	2	5	5	3	3.3	2.2	3.5	22
Williams	WTNTn SYLb1	H	L	1	3	4	2	2.0	1.2	1.5	22
L66L-172	WTNTn DYB1	L	L	1	2	4	3.5	2.0	2.5	4.5	15

Strain	East Coast Mean	Pennsylvania Univ. Park	Pennsylvania Landis-ville	N.J. Adel-phia	Maryland Taney-townB	Maryland Clarks-ville	Maryland Queens-town	Maryland Queens-townB	Maryland Quan-ticoB	Cen-tral Mean
	8 Tests			1971 YIELD (bu/a)						24 Tests
Calland	46.5	46.2	46.1	39.1	36.3	44.6	57.1	50.0	52.9	45.2
Wayne	40.8	42.4	43.8	30.8	32.0	35.9	51.0	46.9	43.5	44.9
SL12	40.6	44.6	44.6	31.2	31.6	38.9	48.7	41.5	43.4	46.2
Williams	46.7	45.0	46.4	42.6	36.0	41.4	55.4	52.3	54.4	45.1
L66L-172	39.8	41.1	37.9	33.5	29.2	39.4	51.5	44.0	41.8	46.3
C.V.(%)		5.3	7.4	6.8	10.4	12.7	6.8	15.9	10.0	
L.S.D.(5%)		4.4	5.0	4.8	6.1	7.5	5.3	13.3	7.1	
Row Sp.(in.)		30	30	30	15	30	30	15	15	
Rows/Plot		3	3	3	5	3	3	5	5	
Reps		4	4	4	3	4	4	3	4	
				YIELD RANK						
Calland	2	1	2	2	1	1	1	2	2	3
Wayne	3	4	4	5	3	5	4	3	3	5
SL12	4	3	3	4	4	4	5	5	4	2
Williams	1	2	1	1	2	2	2	1	1	4
L66L-172	5	5	5	3	5	3	3	4	5	1
	9 Tests			1969-71, 3-YEAR MEAN YIELD						75 Tests
Calland	40.0			39.8	31.6	48.5				45.7
Wayne	35.7			36.1	26.3	44.8				45.0
Williams	40.8			43.9	28.8	49.7				46.4
				YIELD RANK						
Calland	2			2	1	2				2
Wayne	3			3	3	3				3
Williams	1			1	2	1				1
	8 Tests			MATURITY (relative date)						20 Tests
Calland	+3.0	+ 5	+ 5	+ 2	+4	+4	0	+2	+2	+0.7
Wayne	10-12	10-15	10-14	10-13	10-27	10-3	9-25	10-24	10-6	9-17
SL12	+0.8	+ 2	+ 3	- 2	+1	+1	+1	0	0	+2.1
Williams	+3.3	+ 7	+ 4	- 1	+5	+4	+1	+4	+2	+3.3
L66L-172	-2.5	- 5	- 6	- 8	0	0	-2	+1	0	+0.4
Beeson(II)		-3	--	-16	--		--	--	--	
Cutler 71(IV)		+21	+11	--	--	+6	--	--	+6	
Date Planted	6-13	6-1	6-10	6-8	7-13	5-24	5-27	6-26	6-25	5-18
†Days to Mat.	121	136	126	127	106	132	121	120	103	122

* Not included in the mean
a Trenton in 1969-70

Ohio			Indiana				
Hoyt-ville	Woo-ster	Col-umbus	Bluff-ton	Lafay-ette	Green-field	Worth-ington	Evans-ville
			1971 YIELD (bu/a)				
* 35.1	* 17.1	* 48.4	53.2	45.5	47.5	44.1	* 46.9
35.5	19.1	41.5	49.6	46.2	42.2	52.8	44.7
35.7	19.6	37.3	51.4	49.0	50.9	46.0	53.5
36.6	18.4	44.5	52.5	50.9	44.6	56.0	46.0
34.5	13.0	35.9	51.4	52.0	43.0	57.0	34.2
--	--	--	7.7	7.4	5.9	9.0	21.2
--	--	--	n.s.	n.s.	4.2	7.1	n.s.
32	32	28	30	38	38	38	40
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
			YIELD RANK				
* 4	* 4	* 1	1	5	2	5	* 2
3	2	3	5	4	5	3	4
2	1	4	3	3	1	4	1
1	3	2	2	2	3	2	3
5	5	5	3	1	4	1	5
			1969-71, 3-YEAR MEAN YIELD				
30.3	31.0	53.5	49.7	45.0	46.6	47.8	46.0
33.2	34.1	50.6	50.1	48.7	41.9	53.1	44.9
31.7	33.3	52.4	48.9	54.6	43.9	55.3	45.7
			YIELD RANK				
3	3	1	2	3	1	3	1
1	1	3	1	2	3	2	3
2	2	2	3	1	2	1	2
			MATURITY (relative date)				
* -1	* + 3	* - 1	-1	+ 1	+3	-2	* -8
10-9	9-28	10-11	9-25	9-21	9-26	9-15	9-21
0	+ 3	+ 5	+1	+ 2	+4	+3	+3
+3	+ 5	+ 7	0	+ 7	+6	+4	-2
0	+ 2	+ 6	+4	0	0	0	-5
--	-11	-11	--	-10	-8	-6	--
--	--	+ 9	--	+ 9	--	+8	+5
5-19	5-14	5-18	5-21	5-18	5-18	5-21	5-22
143	137	146	127	126	131	117	122

Ky.	Illinois					
Hend-erson	Ur-bana	Gir-ard	Edge-wood	Belle-ville	Eldo-rado	Carbon-dale
			1971 YIELD (bu/a)			
48.0	52.7	36.2	42.9	51.5	55.9	58.8
44.4	46.6	44.5	46.6	47.9	50.9	49.2
49.7	51.5	47.3	46.3	51.7	56.3	55.9
50.5	54.4	41.0	46.3	50.0	54.6	56.7
44.6	54.7	40.6	45.5	51.2	53.7	54.1
10.9	2.4	7.2	4.4	3.6	3.5	3.6
9.7	2.4	2.5	3.7	3.4	3.5	3.5
30	30	30	38	38	37	30
4	4	4	4	4	4	4
3	3	3	3	3	3	3
			YIELD RANK			
3	3	5	5	2	2	1
5	5	2	1	5	5	5
2	4	1	2	1	1	3
1	2	3	2	4	3	2
4	1	4	4	3	4	4
			1969-71, 3-YEAR MEAN YIELD			
				a		
53.1	48.2	47.3	47.8	49.0	54.7	49.4
50.7	47.5	50.7	46.0	51.3	53.4	45.4
52.8	50.3	49.3	47.5	51.1	56.0	50.0
			YIELD RANK			
1	2	3	1	3	2	2
3	3	1	3	1	3	3
2	1	2	2	2	1	1
			MATURITY (relative date)			
	+ 2	0	-1	+ 6	+2	+ 4
	9-26	9-11	9-18	9-7	9-8	9-8
	+ 2	+3	+1	+ 4	+3	+ 3
	+ 5	+1	+4	+ 5	+2	+ 5
	- 2	-1	-2	+ 3	+1	+ 1
--	-14	-7	-9	- 3	-7	- 4
--	+ 7	+9	+7	+11	+8	+10
6-7	5-15	5-16	6-2	5-14	5-19	5-18
--	134	118	108	116	112	113

Iowa		Missouri			S. D.	Nebraska		Kansas				
Stuart	Ottumwa	Spickard	Columbia	Mt. Vernon	Elk Point	Concord	Mead I	Powhattan	Manhattan	Manhattan I	Ottawa	Columbus
					1971 YIELD (bu/a)							
36.1	44.1	36.3	50.0	49.9	33.2	34.6	42.9	31.3	27.3	74.4	62.2	26.3
36.1	48.2	38.3	46.8	54.1	35.7	35.1	47.8	30.6	30.6	67.9	58.4	27.7
38.0	48.9	35.9	48.2	53.1	31.8	33.0	45.3	32.4	28.1	67.3	59.9	31.8
37.2	46.1	34.4	46.5	52.2	29.8	30.9	38.1	30.9	22.8	69.4	59.9	27.7
34.7	46.5	35.3	47.0	56.2	34.4	34.7	48.6	31.1	28.9	75.6	64.7	26.8
6.1	6.4	8.5	7.7	7.5	10.6	4.5	5.1	10.6	9.8	8.4	6.4	6.3
3.0	4.0	4.6	5.4	7.1	n.s.	2.8	4.1	n.s.	4.1	n.s.	n.s.	2.7
27	27	15	15	15	40	30	30	30	30	30	30	30
4	4	4	4	4	3	4	4	3	3	3	3	3
4	4	4	4	4	4	3	3	4	4	4	4	4
					YIELD RANK							
3	5	2	1	5	3	3	4	2	4	2	2	5
3	2	1	4	2	1	1	2	5	1	4	5	2
1	1	3	2	3	4	4	3	1	3	5	3	1
2	4	5	5	4	5	5	5	4	5	3	3	2
5	3	4	3	1	2	2	1	3	2	1	1	4
					1969-71, 3-YEAR MEAN YIELD							
70-71			70-71				70-71					
39.7	46.9	38.4	40.9	42.2	33.2	40.0	45.0	42.3		74.3	48.9	22.6
39.0	47.7	36.1	38.7	42.7	35.9	38.6	48.5	38.5		66.4	45.8	22.6
40.7	50.0	39.7	41.2	43.3	32.0	39.2	41.5	43.2		68.7	49.5	24.7
					YIELD RANK							
2	3	2	2	3	2	1	2	2		1	2	2
3	2	3	3	2	1	3	1	3		3	3	2
1	1	1	1	1	3	2	3	1		2	1	1
					MATURITY (relative date)							
+2			+1		0	0	0	+ 1	0	- 2	- 3	0
9-16			9-14		10-9	10-1	9-28	9-11	9-9	9-15	9-14	9-6
+3			+2		+3	+2	+1	+ 1	0	+ 1	+ 2	+1
+6			+2		+2	+2	+2	+ 6	0	+ 3	+ 3	0
+1			+1		0	-1	-4	+ 4	0	0	0	+2
--		--	-7	--	--	--	-9	- 8	-8	- 9	-12	--
--		--	+7	--	--	--	+4	+12	+6	+11	+ 3	--
5-14	5-16	5-13	5-19	5-11	5-22	5-21	5-26	5-17	5-6	5-3	5-7	6-7
125	--	--	118	--	140	133	125	117	126	135	130	91

Strain	East Coast Mean	Pennsylvania Univ. Park	Pennsylvania Landisville	N.J. Adelphia	Maryland Taneytown B	Maryland Clarksville	Maryland Queenstown	Maryland Queenstown B	Maryland Quantico B	Central Mean
	8 Tests				LODGING (score)					23 Tests
Calland	2.3	2.8	2.5	2.8	1	3	2	2	2	2.1
Wayne	2.6	2.8	3.0	3.0	2	4	2	2	2	2.2
SL12	2.7	3.5	3.2	3.5	2	4	2	2	1	2.5
Williams	1.5	1.5	1.2	2.3	1	3	1	1	1	1.7
L66L-172	1.7	1.8	2.0	3.1	1	3	1	1	1	1.6
	8 Tests				HEIGHT (inches)					23 Tests
Calland	35	41	42	39	30	42	35	21	29	42
Wayne	34	40	40	38	29	41	35	22	28	41
SL12	36	42	41	39	29	44	37	24	29	44
Williams	34	39	38	36	27	41	35	26	27	41
L66L-172	32	37	37	26	28	41	35	24	28	39
	8 Tests				SEED QUALITY (score)					22 Tests
Calland	2.4	2.0	5.0	2.1	2.3	2	1	2	3	2.0
Wayne	2.6	2.2	5.0	3.1	1.7	2	2	3	2	1.9
SL12	3.1	2.0	5.0	2.8	2.2	3	2	4	4	2.1
Williams	2.0	1.5	3.0	2.1	1.3	2	1	2	3	1.6
L66L-172	2.5	2.0	4.2	3.0	1.8	2	2	2	3	1.6
	8 Tests				SEED SIZE (g/100)					19 Tests
Calland	20.7	21.4	24.6	25.0	16.5	18.6	20.2	18.0	21.1	16.5
Wayne	20.4	20.5	32.1	22.0	15.7	16.9	20.1	17.3	18.8	16.6
SL12	19.6	20.9	23.2	23.0	15.8	17.9	20.6	16.7	18.9	17.1
Williams	19.7	20.6	21.4	25.0	15.7	18.3	19.5	17.7	19.1	16.5
L66L-172	16.9	17.7	19.2	18.0	14.7	16.0	17.6	15.2	17.0	14.5
	4 Tests				PROTEIN (%)					13 Tests
Calland	41.6			41.5	41.6	42.0	41.4			39.5
Wayne	43.1			44.2	41.1	44.1	42.9			41.4
SL12	43.6			45.3	41.9	43.4	43.6			41.6
Williams	41.8			42.9	40.3	42.6	41.3			40.8
L66L-172	41.6			41.7	41.6	42.2	40.7			39.9
	4 Tests				OIL (%)					13 Tests
Calland	20.3			20.3	19.3	20.8	20.7			21.5
Wayne	21.0			20.9	20.1	21.7	21.3			22.1
SL12	20.5			19.6	19.8	21.4	21.2			21.9
Williams	21.7			21.4	21.2	21.9	22.2			22.6
L66L-172	21.4			21.1	20.3	21.9	22.2			22.5

Ohio			Indiana				
Hoyt-ville	Woo-ster	Col-umbus	Bluff-ton	Lafay-ette	Green-field	Worth-ington	Evans-ville
			LODGING (score)				
1.5*	1*	1*	3.3	3.0	1	2.9	3.1*
1.9	1	2	3.6	3.3	1	2.1	2.0
2.0	1	1	3.6	3.4	1	2.9	3.0
1.0	1	2	2.9	3.1	1	1.5	1.9
1.0	1	2	2.5	2.4	1	1.5	1.4
			HEIGHT (inches)				
37*	29*	36*	41	47	41	44	43*
41	26	34	41	46	36	43	41
41	25	33	44	49	42	47	45
42	27	34	40	50	36	44	40
38	24	32	38	48	34	43	36
			SEED QUALITY (score)				
1.7*	2.0*	3.7*	2.5	1.5	2.5	1.0	2.0*
1.5	1.8	4.5	1.5	1.5	2.5	1.5	3.0
2.2	2.0	3.2	1.5	2.0	2.5	1.5	3.0
1.0	1.8	3.2	1.5	1.5	1.5	1.5	1.5
1.0	1.2	4.2	1.0	1.5	2.0	1.5	2.0
			SEED SIZE (g/100)				
19.4*	15.3*	21.3*	21.9	16.8	19.4	15.0	17.4*
19.4	15.2	19.3	19.7	18.4	19.6	16.3	19.0
19.5	15.3	19.5	21.1	18.0	20.0	16.2	20.0
19.1	16.8	21.4	21.1	20.2	20.0	16.0	18.6
19.1	13.3	17.5	16.9	16.5	17.6	14.4	15.9

PROTEIN (%)		
41.0	38.2	40.3
42.5	42.0	41.5
43.8	42.8	41.8
43.9	41.1	39.9
42.6	40.0	40.0

OIL (%)		
20.9	22.0	21.0
22.5	21.8	22.5
22.4	21.4	21.5
22.0	22.6	22.9
22.7	22.0	23.0

Ky.	Illinois					
Hend-erson	Ur-bana	Gir-ard	Edge-wood	Belle-ville	Eldo-rado	Carbon-dale
			LODGING (score)			
2.0	3.1	3.3	3.7	1.3	2.5	1
3.0	3.0	2.9	2.5	1.3	3.0	1
3.0	2.5	4.0	2.9	1.3	2.5	2
1.7	1.7	1.8	2.2	1.2	1.7	1
1.7	1.6	1.5	1.5	1.2	1.7	1
			HEIGHT (inches)			
41	44	51	46	43	44	36
34	43	47	43	41	43	35
40	42	49	46	49	46	38
35	48	49	43	41	39	37
34	43	46	40	42	41	32
			SEED QUALITY (score)			
2	2.5	3.5	3.3	2.8	2.1	1
2	2.2	2.2	2.8	2.6	1.9	1
3	2.2	2.5	3.1	2.6	2.0	3
2	1.3	2.2	2.2	2.4	1.6	1
2	1.4	2.0	1.9	2.3	1.4	1
			SEED SIZE (g/100)			
18.7	16.8	15.3	15.9	16.2	18.1	19.4
15.9	19.0	16.0	15.9	16.1	17.3	18.3
18.7	18.8	17.4	16.5	16.9	19.2	21.0
16.5	18.3	15.3	16.3	15.9	17.1	18.9
16.0	15.8	13.2	13.2	14.3	15.4	16.2
			PROTEIN (%)			
39.6	40.2	40.6			39.8	
40.5	42.6	43.6			42.5	
41.2	41.9	40.1			42.9	
40.6	41.0	41.8			39.9	
39.8	39.7	40.8			41.6	
			OIL (%)			
20.9	21.2	20.7			22.5	
22.6	21.2	20.9			22.8	
21.9	21.7	22.2			22.2	
22.7	22.0	21.9			24.2	
21.9	21.9	21.7			23.4	

Iowa		Missouri			S.D.	Nebraska		Kansas				
Stuart	Ottumwa	Spickard	Columbia	Mt. Vernon	Elk Point	Concord	Mead I	Powhattan	Manhattan	Manhattan I	Ottawa	Columbus
					LODGING (score)							
1.6	3.0	2.5	2.6	3.2		1	1.3	1	1	1.5	1.8	1.5
1.8	3.2	2.4	2.1	2.8		2	1.6	1	1	2.9	1.9	1.4
1.6	3.4	2.7	3.5	3.2		2	1.9	1	1	3.1	2.1	2.2
1.4	2.4	1.8	2.0	2.4		1	1.9	1	1	1.8	1.5	1.5
1.4	2.8	2.1	2.3	2.7		1	1.3	1	1	1.6	1.5	1.3
					HEIGHT (inches)							
	46	42	41	38	39	41	45	31	38	44	44	42
	48	41	41	39	40	41	46	30	40	44	44	43
	52	42	45	40	41	41	47	32	42	45	44	43
	47	40	42	37	40	38	47	27	40	45	43	38
	48	39	39	37	38	35	44	28	39	41	42	34
					SEED QUALITY (score)							
1	1		2.8	2.0	1.2		1.5	2.1	1.9	2.0	1.7	2.0
1	1		2.6	2.5	1.5		1.2	2.0	1.7	2.1	1.8	2.0
1	1		2.8	2.5	1.5		1.2	2.2	1.5	2.3	2.0	1.4
1	1		2.3	1.8	1.2		1.4	1.9	1.4	1.8	1.9	1.5
1	1		2.2	2.0	1.2		1.0	1.8	1.7	1.7	1.7	1.5
					SEED SIZE (g/100)							
	18.4				16.1		16.0	13.9	9.7	18.8	15.5	12.0
	18.0				16.2		17.2	12.8	10.6	20.1	17.7	10.8
	18.0				15.3		17.7	13.0	9.5	19.6	16.7	11.2
	18.7				14.7		16.1	13.4	9.5	18.1	15.1	11.4
	17.0				13.5		14.7	12.0	9.1	16.4	13.9	9.8
					PROTEIN (%)							
	39.8		40.5		37.9		38.5	39.0		38.4		
	42.5		41.3		38.7		40.3	39.4		41.1		
	42.6		41.4		39.0		40.8	40.0		42.0		
	41.5		41.3		39.9		40.3	39.6		40.1		
	40.1		40.3		38.2		38.1	38.8		38.2		
					OIL (%)							
	20.8		20.6		21.8		21.9	22.1		22.9		
	21.5		22.8		21.6		22.3	21.9		22.9		
	22.4		21.2		22.2		21.9	21.9		22.4		
	22.5		22.5		21.9		21.9	22.9		23.5		
	22.5		21.7		22.8		21.5	23.1		23.9		

Strain	Parentage	Generation Composited	Previous Testing
1. Calland			
2. Kanrich	Kanro[2] x Richland	F_7	58 P II
3. Wayne			
4. SL10	Wayne-Rps(L15) x (Wayne[10] x Kanrich)	3 F_3 lines	
5. SL11	Wayne-Ir Rps x (Wayne[10] x Kanrich)	3 F_4 lines	
6. L67U-1615	Provar x Magna	F_3	P III
7. L67U-1630	"	F_3	P III
8. L67U-1827	Provar x Disoy	F_3	P III

This test was grown at 11 locations in 1971. The two Wayne isolines, SL10 and SL11, were developed by backcrossing to Wayne to add Phytophthora resistance (Rps), downy mildew resistance (Rpm), and, in the case of SL11, a gene for brown hilum (r). Judging from the mean performance there may be some additional genetic difference from Wayne. They yielded as well or somewhat higher than Wayne (possibly caused by the disease resistance) but showed a tendency to be slightly later, taller, and more lodged. This has occurred before with Rps isolines and may be pleiotropy or an effect of linked genes.

The three L strains were re-entered from last year's Preliminary Test III. They may best be compared to Kanrich since they are entered as potential large-seeded varieties. The seeds are somewhat smaller than those of Kanrich but the yields are much higher, although distinctly below Wayne and Calland. Two of these lines carry yellow hilum mixed with brown or buff hilum, while the other one is uniformly buff hilum. They averaged somewhat poorer in seed quality than Kanrich and this may present a problem should they be used for edible purposes. Lodging and probably shattering resistance is improved over Kanrich.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
No. of Tests	10	10	9	10	9	10	8	6	6
Calland	49.5	4	0.0	2.3	44	1.8	17.1	40.3	21.3
Kanrich	38.2	8	-1.0	3.3	41	2.0	27.7	41.3	20.9
Wayne	49.7	3	9-20	2.3	44	1.8	17.7	41.9	22.0
SL10	50.1	2	+1.2	2.9	45	1.8	18.1	42.0	21.6
SL11	52.2	1	+0.8	2.9	45	1.8	17.9	42.3	21.8
L67U-1615	44.5	5	-0.1	2.4	45	2.8	25.1	41.6	21.8
L67U-1630	42.9	7	-1.1	2.5	45	2.4	24.3	43.7	21.0
L67U-1827	43.8	6	-4.3	1.8	41	2.2	22.6	41.8	21.9

Disease Data

Strain	BB Urb. Ill. n1	BB Urb. Ill. n2	BB Ames Iowa n	BP Urb. Ill. a2	BP Urb. Ill. a1	BS Laf. Ind. n	BSR Laf. Ind. n %	BSR Urb. Ill. n %	FE_2 Laf. Ind. a	PR Laf. Ind. a	PR Ames Iowa a	PR Ston. Miss. n
Calland	1	3.5	2	S	3	3	69	100	5	R	R	1
Kanrich	3	3.5	3	S	4	3	80	90	1	S	S	3
Wayne	2	2.5	1	R	1	4	45	100	2	S	S	1
SL10	2	2.5	1	R	1	4	79	100	1	R	R	1
SL11	2	2.5	1	R	1	5	82	90	2	R	H	1
L67U-1615	1	2.5	2	S	3	5	75	80	1	S	S	3
L67U-1630	1	3.5	2	S	3	3	89	70	H	S	S	3
L67U-1827	1	4.0	2	S	3	5	56	100	1	S	S	2

Descriptive and Shattering Data

Strain	Descriptive Code	Shattering Kansas Manhattan 2 wk.	Shattering Kansas Manhattan 4 wk.	Shattering Mississippi Stoneville clay	Shattering Mississippi Stoneville loam
Calland	PTNBr DYB1	3	4	4	3
Kanrich	PGNBr DYLbf	4	5	5	5
Wayne	WTNBr SYB1	2	3	5	4
SL10	WTNBr SYB1	2	3	5	3.5
SL11	WTNBr SYBr	3	4	5	3.5
L67U-1615	PGNBr DYY+Bf	1	5	3	3
L67U-1630	PGNBr DYBf	1	3	4	4.5
L67U-1827	PTNBr DYY+Br	1	4	4	5

Strain	Mean	Md. Clarksville	Ohio Columbus	Indiana Lafayette	Indiana Worthington	Illinois Urbana	Illinois Girard	Iowa Stuart	Iowa Ottumwa	Mo. Columbia	Neb. Mead I	Kansas Manhattan I
	10 Tests		*		1971 YIELD (bu/a)							
Calland	49.5	42.5	47.6	55.1	53.1	53.9	39.0	39.8	45.1	45.3	46.2	75.1
Kanrich	38.2	38.1	31.7	44.5	44.6	38.1	28.5	33.9	36.7	37.2	38.4	42.0
Wayne	49.7	42.2	43.2	52.0	54.7	52.9	45.5	40.6	48.7	44.8	46.3	69.5
SL10	50.1	48.8	44.2	59.6	57.9	48.1	49.0	41.0	52.7	41.0	39.7	63.4
SL11	52.2	48.7	35.5	60.6	55.9	56.0	50.7	43.0	51.0	46.7	41.1	68.6
L67U-1615	44.5	35.1	37.6	51.6	49.6	47.5	35.6	39.2	43.0	39.9	38.4	65.1
L67U-1630	42.9	31.7	35.7	48.6	43.3	51.2	40.8	32.2	40.3	38.8	38.2	63.5
L67U-1827	43.8	36.0	35.8	49.9	47.3	47.4	39.0	32.5	38.0	38.5	45.6	63.3
C.V. (%)		9.7		6.2	10.6	2.9	7.7	9.8	6.5	6.8	11.1	9.5
L.S.D. (5%)		8.5		7.8	n.s.	3.4	7.5	8.8	6.8	6.1	10.6	14.3
Row Sp. (in.)		30	28	38	38	30	30	27	27	15	30	30
Rows/Plot		3	3	3	3	3	3	4	4	4	4	3
Reps		2	2	2	2	2	2	2	2	2	2	2
	10 Tests				YIELD RANK							
Calland	4	3	1	3	4	2	5	4	4	2	2	1
Kanrich	8	5	8	8	7	8	8	6	8	8	6	8
Wayne	3	4	3	4	3	3	3	3	3	3	1	2
SL10	2	1	2	2	1	5	2	2	1	4	5	6
SL11	1	2	7	1	2	1	1	1	2	1	4	3
L67U-1615	5	7	4	5	5	6	7	5	5	5	6	4
L67U-1630	7	8	6	7	8	4	4	8	6	6	8	5
L67U-1827	6	6	5	6	6	7	5	7	7	7	3	7
	9 Tests				MATURITY (relative date)							
			*									
Calland	0.0	+3	+3	+1	-4	+2	0	+1		0	-2	-1
Kanrich	-1.0	+3	-5	-1	-2	-8	+1	0		0	+2	-4
Wayne	9-20	10-3	10-15	9-21	9-16	9-26	9- 8	9-18		9-13	9-26	9-15
SL10	+1.2	+1	+2	+2	+2	+1	+2	+2		+2	-1	0
SL11	+0.8	0	+2	+1	+2	+1	+3	0		-1	0	+1
L67U-1615	-0.1	-1	-6	-1	-1	-6	0	+4		0	+1	+3
L67U-1630	-1.1	-1	-7	-2	-4	-6	-1	+2		0	-1	+3
L67U-1827	-4.3	-1	-4	-8	-5	-11	-4	-3		-3	-4	0
Beeson (II)			-15	-10	-7	-14	-4			-6	-7	-9
Cutler 71 (IV)		+6	+5	+9	+7	+7	+12	+5		+10	+6	+11
Date Plnt.		5-17	5-24	5-18	5-18	5-21	5-15	5-16	5-14	5-16	5-19	5-26	5-3

Strain	Parentage	Generation Composited	Previous Testing*
1. Cutler	C1069(Kent sib) x Clark	F_7	8
2. Cutler 71	Cutler^4 x Kent-Rps rxp(SL5)	6 F_3 lines	2
3. Kent	Lincoln x Ogden	F_7	17
4. Bonus(C1474)	C1266R(Harosoy x Kent sib C1079) x C1253(Blackhawk x Harosoy)	F_6	2
5. C1483	C1266 x C1265(Harosoy x C1079)	F_7	P IV
6. L66-1359	Wayne x L57-0034(Clark x Adams)	F_6	1
7. L66L-144	" "	F_6	1
8. Wye(Md63-3303-3)	2nd cycle intermated population of Adams, Lincoln, Perry, Wabash, C799, C985, FC 33.243, and L46-1503.	F_7	1 (69)
9. Md66-1258	2nd cycle intermates	F_6	P IV

* Number of years in this test or name of last year's test.

This test was grown at nine East Coast locations and 22 locations in the Central area. Cutler 71 has averaged slightly below Cutler in mean yield despite its PR resistance. It averaged slightly earlier and shows a tendency toward being taller and more lodging susceptible at several locations. The newly released variety Bonus has been in the test for three years and the three year mean tables show it to be first in yield in the Central area but slightly below the Cutlers in the East. It is several days earlier than Cutler, tall, high in protein, and resistant to Phytophthora. On the negative side is a slight tendency to lodge and to shatter. It showed a very short hypocotyl elongation in the 25 C test.

Wye, also recently released, was not tested in 1970 and so we have presented a 1969, 1971 2-year table. Wye has generally averaged a little below Cutler and Bonus in yield, especially in the Central area. It is a few days later than these although not so late as Kent, and is quite short and lodging resistant.

Two strains, L66-1359 and L66L-144, have been in the test two years and mean yields put them at the top in both areas. They are slightly earlier than Bonus and are more lodging and shattering resistant. They have somewhat lower protein contents but are high in oil. L66-1359 has ranked first in yield in both East and Central areas in both 1970 and 1971. It is from the same cross as Williams and about two days later.

There are two new entries this year. Md66-1258 tied the yield of top-ranked L66-1359 in the East but was somewhat below it in the Central area where its average performance was nearly identical to Cutler's for all traits measured. The other new strain C1483 is later in maturity, almost as late as Kent. It combines height (tallest in the test) with good lodging resistance. It yielded about the same as Kent but not as well as some of the earlier strains.

Disease Data

Strain	BB				BP			BS		BSR			DM
	Urbana Ill.		Ames Iowa		Urbana Ill.		Ames Iowa	Laf. Ind.	Ames Iowa	Laf. Ind.	Urb. Ill.	St.P. Minn.	Belleville Illinois
	n1	n2	n	a	a2	a1	n	n	n	n %	n %	n %	n
Cutler	2	2.7	2	3.5	S	2	4	4	4	22	90	65	3.0
Cutler 71	1	2.7	2	4	S	3	3	3	4	25	100	60	3.1
Kent	3	4.0	1	4	S	3	4	3	4	25	100	20	2.0
Bonus	4	3.7	2	4	S	3	3.5	3	3	12	100	25	4.0
C1483	1	3.3	1	4	S	2	3.5	5	4	6	90	85	2.7
L66-1359	1	1.0	1	1.5	R	2	2	5	4	25	90	50	3.7
L66L-144	1	1.7	1	2.5	R	1	2	4	2.5	4	90	95	4.0
Wye	2	3.3	2	4.5	S	3	4	3	2	85	100	90	4.0
Md66-1258	1	3.0	2	2.5	S	3	4	4	4	41	100	50	3.3

Strain	FE_2	PM	PR			PS		PSB	
	Laf. Ind.	Har. Ont.	Laf. Ind.	Ames Iowa	Stoneville Miss.	Georgetown Delaware	Quantico Maryland	Georgetown Delaware	Centerton N. Jersey
	a	a	a	a	n	n	n %	n	n
Cutler	1	R	S	S	2	4.1	45	4.3	1.8
Cutler 71	1	R	R	R	1	3.8	23	3.3	1.9
Kent	1	R	S	S	2	4.3	22	2.6	1.6
Bonus	5	S	R	R	2	4.2	17	3.0	1.5
C1483	1	S	S	S	1	4.2	27	4.2	1.9
L66-1359	2	R	S	S	1	3.7	14	4.1	2.3
L66L-144	H	R	S	S	2	3.5	15	3.6	2.0
Wye	1	R	S	S	3	3.2	20	2.2	1.8
Md66-1258	1	R	S	S	2	4.3	51	3.8	1.9

Descriptive and Shattering Data

Strain	Descriptive Code	Peroxidase	Fluorescent Light	Shattering						Hypocotyl Length cm
				Kansas Manhattan	Miss. Stoneville		N.J.	Texas Lubbock		
				2 wk.	clay	loam	Centerton	10/5	10/13	
Cutler	PTNBr SYBl	L	L	3	4	3	1.0	1.0	1.5	10
Cutler 71	PTNBr SYBl	L+H	L	4	3	2	1.0	1.0	1.5	7
Kent	PTNBr IYBl	H	L	3	4	3.5	1.0	1.0	1.5	22
Bonus	PGNBr DYIb	L	L	5	5	4	2.5	2.5	5.0	8
C1483	PGNBr DYBf	H	L	5	3	3	2.5	1.0	2.5	21
L66-1359	WTNTn DYBl	L	L	4	3	3	2.0	1.2	2.0	24
L66L-144	WTNTn DYBl	L	L	4	4	2	1.8	1.5	2.0	23
Wye	WTNBr SYBl	L	L	2	3	2.5	1.5	1.2	1.5	19
Md66-1258	PTNBr SYBl	L	L	3	4	2	1.0	1.0	1.2	10

East Coast Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
				1971					
No. of Tests	9	9	8	9	9	9	9	5	5
Cutler	45.0	1	+0.3	2.1	35	3.0	20.6	41.2	21.3
Cutler 71	44.6	4	10-12†	2.3	38	2.8	20.5	41.0	21.6
Kent	43.5	7	+4.8	1.8	36	2.6	19.7	40.6	21.7
Bonus	42.9	9	-1.6	1.9	37	2.5	18.8	42.0	21.9
C1483	43.7	6	+2.4	1.9	40	2.3	18.2	41.0	22.0
L66-1359	45.0	1	-4.0	2.0	34	2.5	20.3	39.5	22.8
L66L-144	43.8	5	-3.1	1.9	34	2.5	20.2	39.1	22.9
Wye	43.5	7	+1.8	2.1	30	2.5	17.1	39.7	23.0
Md66-1258	45.0	1	+1.6	2.0	35	2.8	20.2	40.5	21.4

† 123 days after planting

No. of Tests	15	15	14	15	15	15	15	9	9
				1970-71, 2-year mean					
Cutler	42.6	3	+0.8	1.8	36	2.7	19.3	41.7	21.3
Cutler 71	41.3	4	10-4†	2.0	38	2.6	19.3	41.6	21.4
Kent	39.7	6	+2.1	1.6	37	2.4	18.3	41.3	21.5
Bonus	40.6	5	-1.4	1.7	38	2.5	18.0	42.9	21.7
L66-1359	44.4	1	-3.5	1.7	35	2.4	19.4	40.5	22.6
L66L-144	43.1	2	-3.5	1.8	35	2.5	19.5	40.0	22.8

† 120 days after planting

No. of Tests	15	15	13	15	15	15	15	8	8
				1969,71, 2-year mean					
Cutler	44.7	1	-0.2	2.1	39	2.6	19.5	40.7	22.0
Cutler 71	43.5	2	10-5†	2.2	41	2.4	19.4	40.2	22.1
Kent	42.8	5	+4.1	1.8	39	2.3	18.6	40.6	22.1
Bonus	43.0	3	-1.6	2.1	42	2.4	17.9	41.9	22.4
Wye	42.9	4	+2.0	1.8	33	2.2	16.5	39.4	23.3

† 122 days after planting

No. of Tests	21	21	19	21	21	21	21	12	12
				1969-71, 3-year mean					
Cutler	43.1	1	+0.3	1.9	38	2.5	18.9	41.1	22.0
Cutler 71	41.7	2	10-2†	2.0	40	2.4	19.0	40.9	22.0
Kent	40.5	4	+2.9	1.7	39	2.3	18.0	41.1	22.3
Bonus	41.4	3	-1.1	1.8	41	2.4	17.7	42.5	22.2

† 120 days after planting

Central Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
				1971					
No. of Tests	20	20	17	20	19	20	17	12	12
Cutler	44.9	2	+0.4	1.9	44	1.8	16.8	40.7	22.0
Cutler 71	44.3	6	9-22†	2.2	45	2.0	16.4	41.0	22.0
Kent	42.1	8	+5.1	1.9	43	2.0	16.4	40.7	22.2
Bonus	44.7	3	-2.0	2.2	47	1.7	15.7	42.4	22.1
C1483	42.6	7	+4.6	2.1	50	2.2	15.8	41.5	21.8
L66-1359	46.0	1	-3.0	1.9	42	1.9	16.4	40.3	23.3
L66L-144	44.6	5	-3.4	1.8	42	1.9	16.3	39.4	23.4
Wye	42.1	8	+0.6	1.9	37	1.8	15.2	39.7	23.4
Md66-1258	44.7	3	+1.9	1.8	43	1.8	16.3	40.6	22.1

† 127 days after planting

				1970-71, 2-year mean					
No. of Tests	36	36	30	34	35	36	30	22	22
Cutler	44.3	3	+0.8	2.1	42	2.2	17.7	40.8	21.9
Cutler 71	43.9	5	9-26†	2.3	43	2.3	17.4	41.0	21.9
Kent	42.6	6	+5.2	2.1	41	2.4	17.4	40.6	22.2
Bonus	44.2	4	-3.0	2.2	45	2.2	16.8	42.7	22.1
L66-1359	45.5	1	-3.6	2.0	40	2.3	17.6	40.1	23.2
L66L-144	44.8	2	-3.9	2.0	40	2.2	17.6	39.5	23.1

† 128 days after planting

				1969,71, 2-year mean					
No. of Tests	41	41	37	39	38	21	35	21	21
Cutler	45.3	2	+0.3	1.9	43	2.1	17.4	41.1	22.2
Cutler 71	44.7	3	9-25†	2.1	44	2.2	17.1	41.1	22.2
Kent	43.5	4	+4.7	1.8	42	2.2	17.0	41.0	22.3
Bonus	45.6	1	-2.4	2.3	47	2.0	16.4	43.1	22.3
Wye	42.6	5	+3.5	1.9	38	2.1	15.7	40.0	23.5

† 127 days after planting

				1969-71, 3-year mean					
No. of Tests	57	57	50	53	54	57	48	31	31
Cutler	44.8	2	+0.6	2.0	42	2.3	17.8	41.0	22.0
Cutler 71	44.3	3	9-27†	2.1	43	2.3	17.5	41.0	22.0
Kent	43.4	4	+4.0	2.0	41	2.4	17.5	40.8	22.3
Bonus	45.0	1	-3.8	2.3	46	2.2	16.9	43.1	22.2

† 128 days after planting

Strain	East Coast Mean	Penn. Landisville	N.J. Centerton	Del. Georgetown I	Maryland Taneytown B	Maryland Clarksville	Maryland Queenstown	Maryland Queenstown B	Maryland Linkwood	Maryland Quantico B
	9 Tests			1971 YIELD (bu/a)						
Cutler	45.0	54.3	44.6	54.6	30.4	40.2	46.9	45.7	37.4	51.3
Cutler 71	44.6	52.7	41.0	54.1	32.8	43.6	47.4	42.3	35.9	51.5
Kent	43.5	54.2	40.9	53.0	31.7	34.2	51.9	45.0	35.1	45.2
Bonus	42.9	51.0	44.2	56.6	28.4	39.9	45.7	40.4	30.8	49.1
C1483	43.7	48.4	37.8	52.1	30.3	38.2	51.9	41.9	38.0	54.5
L66-1359	45.0	52.5	37.0	56.3	32.4	43.1	51.7	44.4	34.2	53.4
L66L-144	43.8	50.7	38.2	56.7	33.0	41.3	47.0	41.6	33.4	51.9
Wye	43.5	50.3	39.3	56.5	36.6	42.2	48.6	43.4	27.1	47.5
Md66-1258	45.0	52.4	42.8	54.3	31.1	41.5	52.2	38.1	35.8	57.2
C.V.(%)		8.8	9.3	5.3	9.3	10.0	7.9	15.0	8.8	10.7
L.S.D.(5%)		n.s.	6.1	n.s.	4.9	5.7	3.9	10.5	3.0	7.8
Row Sp.(in.)		30	30	36	15	30	30	15	38	15
Rows/Plot		3	3	3	5	3	4	5	4	5
Reps		4	4	4	3	4	3	3	3	4
	9 Tests			YIELD RANK						
Cutler	1	1	1	5	7	6	8	1	2	6
Cutler 71	4	3	4	7	3	1	6	5	3	5
Kent	7	2	5	8	5	9	2	2	5	9
Bonus	9	6	2	2	9	7	9	8	8	7
C1483	6	9	8	9	8	8	2	6	1	2
L66-1359	1	4	9	4	4	2	4	3	6	3
L66L-144	5	7	7	1	2	5	7	7	7	4
Wye	7	8	6	3	1	3	5	4	9	8
Md66-1258	1	5	3	6	6	4	1	9	4	1

Strain		1969-71, 3-YEAR MEAN YIELD					
	21 Tests		70-71			70-71	
Cutler	43.1	45.7	28.6	47.7	41.3	37.2	41.2
Cutler 71	41.7	40.5	28.9	45.5	40.9	33.3	39.6
Kent	40.5	47.1	31.8	42.1	40.4	35.9	36.9
Bonus	41.4	47.3	28.2	43.0	38.5	36.0	38.5
		YIELD RANK					
Cutler	1	3	3	1	1	1	1
Cutler 71	2	4	2	2	2	4	2
Kent	4	2	1	4	3	3	4
Bonus	3	1	4	3	4	2	3

B = after barley
* Not included in the mean
a Trenton 1969-70

Central Mean	Ohio Columbus	Indiana Lafayette	Indiana Worthington	Indiana Evansville
20 Tests	1971 YIELD (bu/a)			
44.9	51.0*	53.1	54.8	49.1
44.3	47.0	49.9	49.6	55.4
42.1	49.9	45.2	50.7	50.8
44.7	45.9	45.0	49.7	50.0
42.6	46.5	42.5	45.4	52.8
46.0	39.1	48.6	54.8	51.3
44.6	40.6	53.3	51.4	41.5
42.1	47.5	38.4	46.7	41.8
44.7	44.2	53.6	52.7	51.3
	--	11.0	12.1	13.6
	--	7.7	n.s.	n.s.
	28	38	38	40
	3	3	3	3
	4	4	4	4
	YIELD RANK			
2	1*	3	1	7
6	4	4	7	1
8	2	6	5	5
3	6	7	6	6
7	5	8	9	2
1	9	5	1	3
5	8	2	4	9
8	3	9	8	8
3	7	1	3	3
57 Tests	1969-71 3-YEAR MEAN YIELD			
44.8	57.4	52.5	55.3	46.4
44.3	46.7	51.7	50.5	48.2
43.4	49.6	48.1	53.2	44.5
45.0	54.9	47.5	51.6	49.0
	YIELD RANK			
2	1	1	1	3
3	4	2	4	2
4	3	3	2	4
1	2	4	3	1

Ky.	Illinois				
Hend-erson	Ur-bana	Gir-ard	Edge-wood	Belle-ville	Eldo-rado
1971 YIELD (bu/a)					
51.6	50.3	38.9	44.9	51.7	57.1
40.3	51.3	39.4	44.1	51.8	55.9
50.0	50.3	34.9	42.9	48.0	57.6
46.8	52.0	43.0	46.5	48.1	52.2
56.9	46.4	45.2	44.0	50.4	55.4
44.5	56.0	43.5	42.8	51.3	53.4
40.7	52.8	38.2	45.0	49.3	52.6
50.1	48.7	41.3	44.9	48.1	53.8
46.1	51.8	40.2	40.8	51.5	54.3
11.0	5.1	5.5	3.4	4.7	5.3
8.8	4.5	3.8	2.6	7.9	5.0
30	30	30	38	38	37
4	4	4	4	4	4
3	3	3	3	3	3
YIELD RANK					
2	6	7	3	2	2
9	5	6	5	1	3
4	6	9	7	9	1
5	3	3	1	7	9
1	9	1	6	5	4
7	1	2	8	4	7
8	2	8	2	6	8
3	8	4	3	7	6
6	4	5	9	3	5

1969-71, 3-YEAR MEAN YIELD					
				a	
49.1	46.4	46.5	47.1	51.3	56.0
46.0	48.0	44.7	47.4	51.9	53.6
48.7	47.4	41.3	48.2	51.3	55.9
48.1	47.9	50.1	50.5	51.3	52.9
YIELD RANK					
1	4	2	4	2	1
4	1	3	3	1	3
2	3	4	2	2	2
3	2	1	1	2	4

Ill.	Iowa		Missouri			Neb.	Kansas				
Carb-ondale	Stuart	Ot-tumwa	Col-umbia	Mt. Vernon	Portage-ville I	Mead I	Pow-hattan	Man-hattan	Manhat-tan I	Ot-tawa	Col-umbus
					1971 YIELD (bu/a)						
60.4	36.2	45.4	44.6	38.9	49.3*	39.6	21.3	22.5	63.6	49.6	24.1
57.7	33.7	44.5	44.0	46.0	41.5	37.1	21.2	21.7	65.5	52.1	24.5
54.5	34.4	40.7	42.0	50.5	41.7	23.8	20.6	14.4	63.7	44.0	23.2
55.4	32.6	43.4	45.6	41.1	44.4	36.7	27.6	24.4	67.9	58.9	26.3
56.8	33.7	42.1	41.1	44.2	31.3	23.7	21.1	17.3	59.8	45.4	27.7
60.0	37.9	45.4	45.1	49.0	42.6	39.6	22.7	21.9	72.0	57.7	23.1
54.6	36.3	48.7	44.8	45.1	42.9	41.3	23.4	24.5	68.2	57.6	22.3
55.8	31.0	37.8	39.4	43.6	42.3	42.1	22.6	25.2	61.1	45.9	24.5
61.4	34.6	44.3	45.9	45.7	43.8	36.1	21.3	22.1	67.5	49.4	23.2
5.3	6.1	6.4	11.1	10.1	23.0	6.3	12.5	10.7	8.8	6.8	9.5
5.2	3.0	4.0	6.4	6.5	16.8	3.8	4.0	3.3	n.s.	5.0	n.s.
30	27	27	15	15	38	30	30	30	30	30	30
4	4	4	4	4	4	4	3	3	3	3	3
3	4	4	4	4	3	3	4	4	4	4	4
					YIELD RANK						
2	3	2	5	9	1*	3	5	4	7	5	5
4	6	4	6	3	8	5	7	7	5	4	3
9	5	8	7	1	7	8	9	9	6	9	6
7	8	6	2	8	2	6	1	3	3	1	2
5	6	7	8	6	9	9	8	8	9	8	1
3	1	2	3	2	5	3	3	6	1	2	8
8	2	1	4	5	4	2	2	2	2	3	9
6	9	9	9	7	6	1	4	1	8	7	3
1	4	5	1	4	3	7	5	5	4	6	6

					1969-71, 3-YEAR MEAN YIELD					
	70-71				70-71		69-71			
48.9	39.1	41.2	36.8		37.0	38.4	35.2	63.5	43.1	23.3
47.9	40.2	41.1	32.6		36.6	37.7	36.1	63.7	43.9	22.1
49.2	36.8	45.3	32.2		28.8	37.9	32.2	62.6	41.3	21.7
47.7	40.2	35.9	31.9		37.5	38.5	35.8	71.4	46.4	24.5
					YIELD RANK					
2	3	2	1		2	2	3	3	3	2
3	1	3	2		3	4	1	2	2	3
1	4	1	3		4	3	4	4	4	4
4	1	4	4		1	1	2	1	1	1

Strain	East Coast Mean	Penn. Landis-ville	N.J. Center-ton	Del. George-town I	Maryland Taney-town B	Clarks-ville	Queens-town	Queens-town B	Link-wood	Quant-ico B
	8 Tests			MATURITY (relative date)						
Cutler	+0.3	+2		0	+1	0	-1	-2	+ 2	0
Cutler 71†	10-12	10-25		10-4	11-7	10-9	9-28	10-16	9-23	10-12
Kent	+4.8	+9		+ 6	+7	+1	+3	-1	+11	+2
Bonus	-1.6	0		- 1	-5	-2	-9	-1	+ 6	-1
C1483	+2.4	+9		+ 1	-1	+2	+2	-1	+ 7	0
L66-1359	-4.0	-6		- 2	-3	-3	-9	-2	- 5	-2
L66L-144	-3.1	0		- 3	-4	-2	-8	-1	- 4	-3
Wye	+1.8	+2		+ 2	+3	0	+4	0	+ 1	+2
Md66-1258	+1.6	+9		+ 2	+1	-1	0	-2	+ 3	+1
Calland(III)		-6	--	--	--	-3	--	--	--	-5
Hill(V)		--	--	+14	--	--	--	--	--	
Date Pltd.	6-11	6-10	6-2	6-2	7-13	5-24	5-26	6-26	5-25	6-25
†Days to mat.	123	137	--	124	117	138	125	112	121	109
	9 Tests			LODGING (score)						
Cutler	2.1	2.8	2.5	2.5	2	2	1.7	2	2.1	1
Cutler 71	2.3	2.8	2.8	2.5	2	3	1.8	2	2.2	2
Kent	1.8	2.5	2.9	2.0	1	2	1.7	1	2.1	1
Bonus	1.9	3.0	2.9	2.4	1	2	1.7	1	1.8	1
C1483	1.9	2.0	2.4	2.3	1	3	1.7	1	2.1	2
L66-1359	2.0	2.8	2.9	2.8	1	3	1.7	1	2.2	1
L66L-144	1.9	3.2	3.3	2.8	1	2	1.2	1	2.0	1
Wye	2.1	3.0	3.5	2.6	1	2	1.3	2	2.2	1
Md66-1258	2.0	3.0	2.8	2.4	1	2	1.7	2	2.4	1
	9 Tests			HEIGHT (inches)						
Cutler	35	42	37	37	31	41	32	30	31	32
Cutler 71	38	46	39	42	33	45	36	34	33	33
Kent	36	43	40	38	31	41	33	29	33	32
Bonus	37	46	37	42	32	47	35	28	32	32
C1483	40	48	42	45	35	48	37	30	36	39
L66-1359	34	40	36	36	30	42	32	27	31	30
L66L-144	34	41	36	37	30	42	29	28	31	31
Wye	30	40	31	33	26	38	27	23	26	25
Md66-1258	35	42	40	38	31	40	35	30	32	30

B = after barley
* Not included in the mean

Central Mean	Ohio Columbus	Indiana Lafayette	Indiana Worthington	Indiana Evansville
17 Tests	MATURITY (relative date)			
+0.4	- 2*	+1	0	- 1
9-22	10-20	9-30	9-25	9-26
+5.1	0	+7	+ 2	+ 4
-2.0	0	0	- 1	- 7
+4.6	+ 4	+5	+ 2	+ 2
-3.0	- 1	-2	- 5	- 4
-3.4	- 4	-2	- 6	- 5
+0.6	+ 4	-2	0	0
+1.9	+ 6	+1	0	0
	-10	-8	-12	-13
5-18	5-18	5-18	5-21	5-22
127	155	135	127	127
20 Tests	LODGING (score)			
1.9	2.0*	2.8	2.8	2.1
2.2	2.0	3.1	3.6	2.6
1.9	1.0	2.9	2.6	2.8
2.2	1.0	3.0	3.3	2.6
2.1	2.0	3.0	3.1	1.9
1.9	1.2	3.0	2.5	2.1
1.8	1.3	3.1	2.9	1.5
1.9	1.4	3.3	2.4	1.6
1.8	2.2	3.0	2.9	1.8
19 Tests	HEIGHT (inches)			
44	33*	50	45	44
45	35	51	48	48
43	34	51	46	44
47	34	52	49	51
50	37	55	50	54
42	36	50	45	45
42	34	51	46	44
37	31	44	40	39
43	33	52	46	43

Ky.	Illinois				
Hend-erson	Ur-bana	Gir-ard	Edge-wood	Belle-ville	Eldo-rado
	MATURITY (relative date)				
*	+ 2	-1	+1	+2	+ 1
	10-3	9-20	9-25	9-18	9-16
	+ 5	+2	+5	+6	+ 7
	0	-3	0	-3	- 3
	+ 5	+5	+6	+4	+ 4
	- 3	-5	-5	-5	- 6
	- 4	-7	-4	-5	- 6
	0	-2	-1	0	+ 2
	+ 1	-1	+2	+4	+ 1
	- 5	-9	-8	-5	- 6
	+23				+20
6-7	5-15	5-16	6-2	5-14	5-19
--	141	127	115	127	120
	LODGING (score)				
2.3	1.6	1.9	2.1	1.4	1.6
2.2	2.1	3.2	3.5	1.4	1.8
1.8	1.9	1.9	2.3	1.6	1.4
1.7	2.5	3.4	3.1	1.5	1.6
2.5	1.7	3.2	2.6	1.5	1.8
1.2	2.2	2.3	2.2	1.5	2.1
1.2	2.2	1.8	2.3	1.4	1.8
1.2	2.9	1.6	1.8	1.3	1.6
2.0	1.7	1.6	2.2	1.3	1.3
	HEIGHT (inches)				
36	49	50	45	46	45
38	50	51	46	47	47
37	47	49	44	46	45
41	49	51	53	48	49
48	53	56	52	56	55
37	46	46	45	42	42
34	47	47	43	42	40
28	38	46	37	40	37
35	48	51	45	46	44

Ill.	Iowa		Missouri			Neb.	Kansas				
Carb-ondale	Stuart	Ot-tumwa	Col-umbia	Mt. Vernon	Portage-ville I	Mead I	Pow-hattan	Man-hattan	Manhat-tan I	Ot-tawa	Col-umbus
					MATURITY (relative date)						
		*		*	*						
0	+2		+1		0	0	- 1	+ 1	0	-1	0
9-18	9-23		9-21		9-15	10-2	9-23	9-15	9-26	9-17	9-12
+7	+7		+7		+ 3	+5	+ 6	+ 4	+ 4	+3	+6
-3	-1		+3		- 8	-1	- 5	- 2	- 4	-1	-3
+1	+6		+9		- 2	+6	+ 4	+ 5	+ 4	+2	+8
-7	-3		-3		- 8	-2	+ 1	- 1	- 2	-1	+2
-6	-3		-4		- 8	-3	+ 1	- 1	- 2	0	0
+2	-1		+5		+ 2	-1	+ 3	- 1	+ 4	+2	0
+3	+3		+5		+ 1	-1	+ 3	+ 2	+ 2	+2	+6
-6			-6			-4	-11	-14	-12	-6	
					+19				+12		
5-18	5-14	5-16	5-19	5-11	5-20	5-26	5-17	5-6	5-3	5-7	6-7
123	132	--	125	--	118	129	129	132	146	133	97
					LODGING (score)						
					*						
2	1.4	2.4	2.4	3.2	2.8	1.3	1	1	1.3	1.5	1.4
2	1.5	2.9	2.2	3.1	2.8	1.5	1	1	1.3	2.1	1.5
2	1.4	2.4	3.1	2.9	3.2	1.2	1	1	1.3	1.6	1.2
2	1.6	2.6	2.5	3.4	2.0	1.2	1	1	1.5	2.3	1.2
2	1.3	2.4	2.7	2.6	2.3	1.9	1	1	1.8	1.9	1.3
1	1.4	3.6	2.0	2.7	3.3	1.2	1	1	1.5	1.6	1.3
1	1.4	3.2	2.2	3.1	3.2	1.1	1	1	1.5	1.6	1.3
1	1.5	3.1	2.9	3.8	2.3	1.3	1	1	1.6	2.6	1.4
2	1.4	2.6	2.2	3.2	3.2	1.2	1	1	1.3	1.4	1.2
					HEIGHT (inches)						
					*						
38		50	42	41	42	47	28	43	45	45	39
39		52	45	40	42	50	30	44	46	46	42
41		48	42	38	38	45	29	39	44	43	38
38		55	44	44	38	52	33	45	52	49	36
47		54	47	45	47	55	34	48	56	51	39
38		49	41	39	40	45	27	40	43	45	35
36		48	42	39	39	43	28	40	44	46	36
32		42	33	36	33	40	25	38	39	39	35
40		48	42	40	43	47	30	40	46	46	37

Strain	East Coast Mean	Penn. Landis-ville	N.J. Center-ton	Del. George-town I	Maryland Taney-town B	Clarks-ville	Queens-town	Queens-town B	Link-wood	Quant-ico B
	9 Tests			SEED QUALITY (score)						
Cutler	3.0	3.7	1.9	3.8	2.0	3	3	2	3	5
Cutler 71	2.8	3.7	2.1	3.0	2.5	2	3	2	3	4
Kent	2.6	3.3	2.0	3.3	1.7	3	3	2	2	3
Bonus	2.5	3.0	2.3	2.8	1.5	2	3	2	3	3
C1483	2.3	2.0	2.5	2.8	1.4	2	3	2	2	3
L66-1359	2.5	3.7	2.3	3.0	1.3	2	3	2	2	3
L66L-144	2.5	4.3	2.3	2.6	1.3	2	3	2	2	3
Wye	2.5	3.0	2.3	2.3	1.8	2	3	2	2	4
Md66-1258	2.8	3.0	2.0	3.1	1.7	2	3	2	3	5
	9 Tests			SEED SIZE (g/100)						
Cutler	20.6	22.5	23	21.2	18.4	18.2	21.1	19.2	19.2	22.4
Cutler 71	20.5	23.8	23	22.5	17.6	18.3	20.5	19.1	18.9	21.0
Kent	19.7	20.8	22	20.9	16.8	18.6	21.2	17.2	18.7	21.4
Bonus	18.8	19.9	20	19.8	18.4	17.1	18.2	19.3	17.1	19.1
C1483	18.2	18.3	19	17.4	15.6	15.8	21.0	18.4	17.4	20.9
L66-1359	20.3	20.5	23	22.0	16.8	19.0	21.7	18.7	19.3	21.7
L66L-144	20.2	21.0	24	21.4	17.2	17.9	21.7	20.0	19.5	19.4
Wye	17.1	18.0	18	18.5	15.6	16.2	18.6	16.2	16.3	16.5
Md66-1258	20.2	21.9	23	20.4	18.2	17.3	20.8	19.3	18.9	22.2
	5 Tests			PROTEIN (%)						
Cutler	41.2		40.4	43.2		42.3	41.2		39.0	
Cutler 71	41.0		41.5	42.9		41.3	40.4		39.1	
Kent	40.6		40.8	42.4		40.6	40.5		38.7	
Bonus	42.0		42.0	43.5		43.7	41.1		39.5	
C1483	41.0		40.8	43.2		41.6	40.6		38.9	
L66-1359	39.5		39.8	41.0		41.1	39.2		36.6	
L66L-144	39.1		40.0	39.5		40.0	38.8		37.2	
Wye	39.7		40.6	40.4		39.8	40.4		37.5	
Md66-1258	40.5		40.4	42.1		40.5	40.4		39.0	
	5 Tests			OIL (%)						
Cutler	21.3		21.1	20.9		20.2	21.5		22.8	
Cutler 71	21.6		21.0	21.8		20.7	21.7		22.8	
Kent	21.7		21.4	20.9		21.4	21.8		22.8	
Bonus	21.9		21.3	21.2		21.4	22.5		23.0	
C1483	22.0		21.5	21.7		21.4	22.0		23.3	
L66-1359	22.8		22.9	22.1		22.3	22.9		23.8	
L66L-144	22.9		22.6	22.3		22.2	23.3		24.0	
Wye	23.0		22.0	22.6		23.2	22.7		24.4	
Md66-1258	21.4		21.1	20.7		21.7	21.4		22.0	

B = after barley
* Not included in the mean

Central Mean	Ohio Columbus	Indiana Lafayette	Indiana Worthington	Indiana Evansville
20 Tests	SEED QUALITY (score)			
1.8	3.5*	1.5	1.5	1.5
2.0	3.5	2.0	1.5	2.0
2.0	3.0	1.5	1.5	2.0
1.7	2.5	1.5	1.5	1.5
2.2	3.5	2.5	1.5	2.5
1.9	3.3	2.0	1.5	1.5
1.9	3.0	2.0	1.5	1.5
1.8	2.5	1.5	1.0	1.5
1.8	3.3	1.5	1.0	1.5
17 Tests	SEED SIZE (g/100)			
16.8	19.5*	19.6	18.2	18.6
16.4	20.9	18.9	17.1	18.5
16.4	19.6	20.2	17.6	18.2
15.7	19.3	18.7	16.9	18.2
15.8	21.0	18.6	15.4	17.7
16.4	18.9	20.2	17.8	18.4
16.3	19.9	20.3	17.5	17.8
15.2	19.0	18.2	16.4	16.6
16.3	19.2	18.9	17.7	18.1
12 Tests	PROTEIN (%)			
40.7	42.9			40.4
41.0	42.9			40.8
40.7	44.3			41.0
42.4	46.2			41.3
41.5	44.9			41.3
40.3	42.5			39.5
39.4	41.2			39.1
39.7	40.9			39.7
40.6	42.8			40.7
12 Tests	OIL (%)			
22.0	20.7			22.8
22.0	20.7			22.5
22.2	21.0			22.3
22.1	20.0			22.9
21.8	19.3			22.3
23.3	22.9			23.0
23.4	22.2			24.3
23.4	22.6			23.6
22.1	21.2			22.0

Ky.	Illinois				
Hend-erson	Ur-bana	Gir-ard	Edge-wood	Belle-ville	Eldo-rado
	SEED QUALITY (score)				
2.0	1.8	2.2	2.5	2.3	2.8
3.0	1.8	2.5	3.2	2.5	2.8
3.5	2.0	2.3	2.8	2.3	2.5
2.0	2.0	1.8	2.5	2.0	2.3
4.0	2.3	1.7	2.7	2.5	2.6
2.0	2.2	2.7	3.0	2.2	2.3
1.0	2.3	2.3	2.8	2.0	2.7
2.0	2.5	2.0	2.4	2.7	2.7
3.0	1.7	2.3	2.8	2.3	2.8
	SEED SIZE (g/100)				
18.7	18.4	16.5	17.8	17.4	18.6
18.7	18.0	16.2	16.4	17.1	18.3
19.8	18.3	15.9	16.4	16.4	18.2
16.9	17.1	14.9	16.2	15.7	17.2
19.2	15.8	16.5	16.2	16.6	16.9
16.5	20.1	16.0	15.3	16.4	16.8
17.4	18.1	15.6	16.2	16.3	16.8
17.2	17.8	15.8	15.4	15.3	16.2
18.0	18.0	16.6	16.8	17.0	18.1
	PROTEIN (%)				
39.9	40.6	41.3			41.7
40.5	40.4	41.2			42.2
41.3	39.5	39.3			41.5
42.1	42.6	42.8			43.3
42.4	41.0	40.3			42.4
38.9	41.8	40.9			40.4
38.6	40.6	39.7			39.9
39.0	40.2	40.9			40.0
40.8	40.3	40.9			41.2
	OIL (%)				
22.4	21.9	21.5			22.8
22.9	21.9	21.7			21.9
21.6	22.4	22.5			22.9
22.9	21.2	21.9			22.4
21.9	20.4	22.2			22.2
24.5	22.0	22.4			23.8
24.1	22.4	22.4			24.7
23.5	22.9	23.4			23.9
21.4	21.5	21.9			24.0

Ill.	Iowa		Missouri			Neb.	Kansas				
Carb-ondale	Stuart	Ot-tumwa	Col-umbia	Mt. Vernon	Portage-ville I	Mead I	Pow-hattan	Man-hattan	Manhat-tan I	Ot-tawa	Col-umbus
					SEED QUALITY (score)						
1	1	1.3	2.4	3.0	3.0*	1.3	2.1	1.6	1.4	1.5	1.6
1	1	1.0	2.5	3.3	3.2	1.2	2.0	1.5	1.5	1.6	1.5
2	1	1.0	2.2	3.5	3.5	1.4	2.0	1.6	1.4	1.8	2.0
1	1	1.0	2.2	2.7	3.2	1.3	2.2	1.2	1.6	1.5	1.5
2	1	1.5	3.0	3.5	2.3	1.3	2.4	1.6	1.6	1.7	1.6
1	1	1.0	2.5	3.6	3.2	1.2	1.9	1.6	1.7	1.5	1.9
2	1	1.0	2.6	3.0	2.8	1.1	1.9	1.5	1.7	1.6	1.8
1	1	1.0	2.5	3.0	3.2	1.0	2.0	1.5	1.4	1.8	2.0
1	1	1.3	2.5	2.5	3.0	1.0	2.0	1.5	1.4	1.7	1.8
					SEED SIZE (g/100)						
20.5		19.0			16.3*	15.0	13.0	9.5	17.9	14.1	12.0
19.4		17.8			15.7	15.0	12.8	9.2	18.0	14.5	12.4
18.6		19.6			16.0	12.9	13.6	9.8	16.7	12.9	13.5
18.6		17.2			16.3	14.8	12.8	8.9	17.1	14.3	11.4
16.9		17.6			15.3	13.5	15.4	9.7	16.3	12.9	13.8
19.5		18.6			18.0	17.2	12.5	9.4	18.1	15.2	10.8
18.6		18.3			17.3	16.6	12.4	9.9	18.0	15.4	11.9
16.8		18.0			14.7	15.1	11.5	8.3	16.6	13.3	10.4
17.0		18.8			16.7	14.8	13.3	9.6	17.8	14.4	12.8
					PROTEIN (%)						
		39.5	40.5		42.5	37.8	41.4		39.7		
		40.3	41.0		42.2	38.8	41.5		40.0		
		39.5	41.3		41.3	38.9	41.4		38.9		
		38.0	43.6		43.2	41.7	42.8		41.0		
		41.3	42.7		41.2	40.4	40.8		39.7		
		38.6	40.8		40.2	38.6	42.0		39.4		
		36.6	40.1		39.3	37.7	41.6		38.6		
		41.1	39.5		38.7	38.6	39.7		37.6		
		40.9	39.5		41.8	37.7	41.5		39.3		
					OIL (%)						
		22.8	21.2		21.2	21.7	22.9		22.5		
		22.0	22.3		21.7	21.4	22.4		22.6		
		23.3	21.8		21.7	21.1	22.4		23.9		
		24.1	20.7		21.6	21.2	23.1		23.6		
		21.9	21.6		22.0	21.3	22.2		23.7		
		23.8	22.8		23.5	22.9	22.9		24.5		
		25.0	22.8		23.8	22.9	22.4		24.0		
		22.3	24.0		22.6	23.2	24.1		24.4		
		22.3	22.0		21.5	22.1	21.6		23.6		

Strain	Parentage	Generation Composited
1. Clark 63	(Clark[5] x L49-4091) x (Clark[6] x Blackhawk)	13 F_3 lines
2. Cutler 71		
3. Kent		
4. L69-5338	Clark-Ir Rps rxp(L12)[6] x Hawkeye	F_3
5. L69-5343	"	F_3
6. L69-5366	"	F_3
7. Md66-1024	2nd cycle intermates	F_6
8. SS65-5704	Clark x (Scott[2] x Peking)	F_5
9. UD66-9222	Bethel x Kent	F_5

This test was grown at 11 locations this year. Evansville was omitted from the regional mean because UD66-9222 yielded so very poorly there because of heavy infection by Phytophthora rot.

The three L strains are Clark 63 backcross line with yellow hilum selected for non-mottling from Hawkeye, presumably the same gene Im as that reported for Merit. These lines in Illinois showed distinctly less mottling than Clark 63. Two of the three, L69-5338 and 5366 yielded well relative to Clark 63 but were slightly later, and perhaps taller and more lodging susceptible. These differences cannot be due to the Rps gene since it is also present in the check variety Clark 63.

Md66-1024 was almost as late as Kent and showed excellent lodging resistance but averaged 2 bushels below in yield. The remaining 2 strains, SS65-5704 and UD66-9222, were 1½ and 3 days later than Kent but averaged very low in yield, 9 to 10 bushels below Kent. SS65-5704 may have a local adaptation at Portageville where it was selected and where it yielded relatively well.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
No. of Tests	10	10	10	10	10	10	9	6	6
Clark 63	43.4	6	-1.3	2.4	41	2.3	15.6	39.9	22.5
Cutler 71	46.4	2	9-24	2.1	43	2.4	17.7	40.6	22.6
Kent	47.7	1	+4.9	1.9	41	2.3	17.2	40.5	22.7
L69-5338	45.2	4	+0.9	2.5	43	2.5	15.8	39.6	22.1
L69-5343	41.6	7	+1.6	2.5	44	2.5	15.7	39.9	22.5
L69-5366	44.2	5	+0.3	2.7	42	2.4	16.3	39.7	22.3
Md66-1024	45.5	3	+3.8	1.9	42	2.5	16.0	39.5	23.3
SS65-5704	38.7	8	+6.5	3.5	44	2.2	14.6	39.3	21.5
UD66-9222	37.8	9	+8.[illegible]	2.4	54	2.3	16.9	41.8	22.0

Disease Data

	BB		BP		BS	BSR		DM	FE_2	PR			PS	PSB
	Urb. Ill.	Ames Iowa	Urb. Ill.		Laf. Ind.	Laf. Ind.	Urb. Ill.	Bell. Ill.	Laf. Ind.	Laf. Ind.	Ames Iowa	Ston. Miss.	Geo. Del.	Geo. Del.
	n1	n	a2	a1	n	n %	n %	n	a	a	a	n	n	n
Clark 63	2	2	R	1	3	52	100	4.0	5	R	R	1	4.0	4.2
Cutler 71	2	1	S	3	3	25	100	3.0	1	R	R	1	3.8	3.5
Kent	1	2	S	3	3	25	100	2.0	1	S	S	2	4.2	2.5
L69-5338	3	2	R	1	3	72	100	4.0	5	R	R	2	3.6	4.0
L69-5343	3	1	R	2	3	83	90	4.0	5	R	R	1	4.1	4.2
L69-5366	2	1	R	1	2	60	90	4.0	5	R	R	1	3.6	3.8
Md66-1024	1	2	S	3	3	20	100	4.0	5	S	S	1	4.0	4.2
SS65-5704	2	2	R	1	3	47	100	4.0	5	S	S	2	3.2	2.0
UD66-9222	4	2	S	3	4	43	90	2.5	1	S	S	2	3.5	2.2

Descriptive and Shattering Data

Strain	Descriptive Code	Shattering: Kansas Manhattan 2 wk.	Shattering: Mississippi Stoneville clay	Shattering: Mississippi Stoneville loam
Clark 63	PTNBr DYB1	1	1	1
Cutler 71	PTNBr SYB1	4	3	2.5
Kent	PTNBr IYB1	[illegible]	4	3.5
L69-5338	PTNBr DYY	2	2	1
L69-5343	PTNBr DYY	1	1	1
L69-5366	PTNBr DYBr	1	1	1
Md66-1024	WTNTn DYIb	3	1	1
SS65-5704	PTSaBr DYB1	3	3	3
UD66-9222	PTNBr SYB1	2	2	3

Strain	Mean	Del. George-town I	Maryland Clarks-ville	Link-wood	Indiana Wor-thing-ton	Evans-ville	Illinois Belle-ville	Eldo-rado	Missouri Col-umbia	Portage-ville	Kansas Man-hat-tan I	Ot-tawa
	10 Tests				1971 YIELD (bu/a)							
						*						
Clark 63	43.4	41.5	26.6	33.4	49.5	51.1	47.0	50.0	42.6	32.3	59.5	51.1
Cutler 71	46.4	48.7	42.7	36.4	47.0	54.3	50.4	53.3	47.4	30.7	58.7	48.4
Kent	47.7	48.5	35.3	37.9	57.7	44.1	51.1	53.5	47.9	37.2	60.2	47.5
L69-5338	45.2	44.0	34.2	38.2	49.6	48.7	46.6	50.0	47.7	32.6	62.2	46.9
L69-5343	41.6	45.6	27.4	35.6	41.0	51.9	44.9	48.4	39.9	32.6	56.2	44.1
L69-5366	44.2	46.3	32.5	35.5	45.2	55.5	48.3	47.2	39.8	35.5	63.1	49.0
Md66-1024	45.5	48.6	43.4	38.9	51.6	50.2	44.2	49.3	48.6	32.6	54.0	43.9
SS65-5704	38.7	46.4	21.3	31.3	45.3	46.2	40.8	41.8	37.2	36.4	46.4	40.3
UD66-9222	37.8	45.7	25.3	34.2	42.0	15.0	41.8	44.8	39.5	31.5	36.8	36.2
C.V. (%)		6.7	12.4	10.8	8.0	8.5	4.0	7.4	13.9	8.2	6.9	9.5
L.S.D. (5%)		n.s.	9.2	4.2	8.8	9.1	4.3	8.3	n.s.	4.8	8.8	n.s.
Row Sp.(in.)		36	30	38	38	40	38	37	15	38	30	30
Rows/Plot		3	3	3	3	3	3	3	4	4	3	3
Reps		3	2	2	2	2	2	2	2	3	2	2
	10 Tests				YIELD RANK							
						*						
Clark 63	6	9	7	8	4	4	4	3	5	7	4	1
Cutler 71	2	1	2	4	5	2	2	2	4	9	5	3
Kent	1	3	3	3	1	8	1	1	2	1	3	4
L69-5338	4	8	4	2	3	6	5	3	3	4	2	5
L69-5343	7	7	6	5	9	3	6	6	6	6	2	6
L69-5366	5	5	5	6	7	1	3	7	7	3	1	2
Md66-1024	3	2	1	1	2	5	7	5	1	5	7	7
SS65-5704	8	4	9	9	6	7	9	9	9	2	8	8
UD66-9222	9	6	8	7	8	9	8	8	8	8	9	9
	10 Tests				MATURITY (relative date)							
						*						
Clark 63	-1.3	0	0	0	-1	-7	-5	-3	0	-1	-2	-1
Cutler 71	9-24	10-4	10-9	9-24	9-23	9-27	9-19	9-16	9-23	9-14	9-26	9-17
Kent	+4.9	+5	0	+10	+5	+3	+8	+7	+7	+4	+2	+1
L69-5338	+0.9	0	-1	+ 4	+3	0	-4	-1	+4	+2	+2	0
L69-5343	+1.6	0	-1	+ 8	+3	+1	-3	0	+4	+2	+3	0
L69-5366	+0.3	0	0	0	+2	+1	-3	-1	+4	+1	+1	-1
Md66-1024	+3.8	+4	+2	+ 8	+5	+4	+3	+1	+5	+2	+5	+3
SS65-5704	+6.5	+5	+1	+10	+8	+5	+9	+9	+8	+4	+8	+3
UD66-9222	+8.0	+7	-2	+10	+12	+5	+11	+10	+9	+5	+9	+9
Calland (III)			-3		-10	-14	-6	-6	-10		-12	-6
Hill (V)		+14						+20		+20	+12	
Date Plnt.	5-21	6-2	5-24	5-25	5-21	5-22	5-14	5-19	5-19	5-20	5-3	5-7

The following notes provide information useful in interpreting strain performance at the individual test locations.

University Park, Pennsylvania. Growth throughout the season was good to excellent. All lines were slow to fill the 30-inch rows. Only 90% of the ground was covered with the Group II strains. Temperatures were below normal and rainfall was deficient in May and June. A killing frost was not received until November, much later than normal.

Cooperator: Rock Springs Research Center.
Soil Type: Duffield silt loam.
Fertilizer: 0-100-100 and 2 T. of High Magnesium Lime per Acre.
Herbicide: Alachlor 2#/A pre-emergence.
Soil Analysis: pH, 6.3; P, Medium; K, Medium; Ca, Medium+; Mg, Low.

Landisville, Pennsylvania. Temperatures were below normal in June and July, normal in August, and above normal in September and October. The 1971 total growing degree days (50°F. base) was slightly higher than normal. A killing frost did not occur until 25 days later than normal. Rainfall was one inch below normal in June and September, and five inches above normal for the period July 1 to August 31. Rainfall distribution was excellent. Plant growth was good, but seed quality problems were the greatest ever experienced at this location.

Cooperator: Southeastern Field Research Laboratory.
Soil Type: Hagerstown silt loam.
Fertilizer: None.
Herbicide: Vernolate plus trifluralin 2 + 3/4#/A preplant incorporated.
Soil Analysis: pH, 6.9; P, High; K, High; Ca, Medium; Mg, High.

Middlebush, New Jersey. The seeding was made on June 11 on Penn Silt Loam which was fairly dry. The early part of the season was generally cool. Rainfall was limiting until the last week in July and first week in August when 4.6 inches fell. Previous to July 29, there was only 3 inches of precipitation. During August, rainfall exceeded one inch per week but on August 27 and 28, 8.6 inches fell. Cool wet weather through the fall delayed harvest until November 17. Repeated wetting and drying during October resulted in quality lower than normal seed quality and excessive shattering.

Cooperator: A. Puskas and H. N. Repair.
Soil Type: Penn Silt Loam.
Fertilizer: 7.5-30-30 Broadcast.
Herbicide: Lorox 1#/A. a.i.

Adelphia, New Jersey. The seeding was made on June 8 in dry soil. Stands were good. Growth during the season was quite normal although the early season was cooler than normal. Precipitation from planting until August 26 totaled 6.9 inches with 1.25 inches July 2 and 1.6 inches August 1. On August 27 and 28, 8.3 inches of rain fell accompanied by high winds causing considerable lodging. Nearly 8 inches of rain fell during September followed by a wet, cool October. Harvest was delayed until November 12. Foliar infections of downy mildew became heavy during August and were followed by heavy infections of pod and stem blight which seriously lowered seed quality over the state. Shattering was above normal at this location and the wet fall resulted in beans germinating in the pod.

Cooperator: Soils and Crops Research Farm, E. C. Visinski, Superintendent.
Soil Type: Freehold Loam.
Fertilizer: 25-50-50 Broadcast
Herbicide: Treflan, 3/4#/A. a.i.

Centerton, New Jersey. The seeding was made on June 2 in soil with good moisture. The early season was cooler than normal, but growth was good. Rainfall from planting until August 11 consisted mostly of light showers totaling 6.8 inches. From August 12 through September, 14.9 inches of rain fell with 7.4 inches falling August 27 and 28. October continued cool and wet delaying harvest until November 11. Downy mildew infections were heavy on leaves during August, followed by heavier than normal infection of pod and stem blight of the grain.

Cooperator: South Jersey Research Center, J. Steinke, Research Coordinator.
Soil Type: Sassafrass Sandy Loam.
Fertilizer: 15-60-60.
Herbicide: None.

Georgetown, Delaware. Growing conditions were generally fairly good in 1971. July temperatures were near normal and rainfall was deficient during the second and third weeks. August temperatures were below normal and rainfall again deficient the second and third weeks. September temperatures were near normal and rainfall was deficient during the second week and fourth week. Plots were irrigated July 12, July 28, and September 20. About 1.5 to 2.0 inches were applied each time. The only insect present this year was a light infestation of Mexican bean beetles.

Cooperator:
Soil Type: Norfolk loamy sand.
Fertilizer: 40-40-40.
Herbicide: Treflan .75#/A.
Soil Analysis: pH, 6.0; OM, 2.0%; P, High; K, Medium; Ca, 510#/A; Mg, High.

Taneytown, Maryland. Early conditions were unfavorable due to a prolonged drought from June 15 to July 20. However, after July 20 rainfall through harvest was about 10 inches above normal. Weed control was fair to good.

Cooperator: Ken Stonesifer.
Soil Type: Keysville Silty-Clay Loam.
Fertilizer: 20-80-80.
Herbicide: Lorox.
Soil Analysis: pH, 6.6; P, 180; K, 224; Mg, 220.

Clarksville, Maryland. Difficulty in establishing good stands in all plots was experienced because of excessive moisture which kept the soil saturated for 2+ weeks after planting. Severe lodging resulted from heavy rains in August (20 inches). Weed control was good but some smartweed and nutgrass caused problems.

Cooperator: Tom Blaney.
Soil Type: Manor Silt Loam.
Fertilizer: 20-80-80.
Herbicide: Vernam.
Soil Analysis: pH, 6.0; OM, 2.5; P, 180; K, 175; Mg, 215.

Queenstown, Maryland--After Barley. After a slow start due to prolonged dry period which lasted through much of July, the growing conditions improved with ample rainfall through August and September. A late frost allowed all varieties to complete their life cycle. Heavy rain and high humidity did encourage seed disease organisms and Diaporthe and Cercospora was prevalent.

Cooperator: Lewis Smith
Soil Type: Mattapex Silt Loam.
Fertilizer: 0-60-120.
Herbicide: Dyanap.
Soil Analysis: pH, 6.4; P, 190; K, 408; Mg, 164.

Quantico--After Barley. Conditions were generally satisfactory for most of the growing season. Rainfall was heavy during August and September well above average. High humidity at pod filling caused high infection rates of Diaporthe and Cercospora. Weed control was very satisfactory. Fifteen inch rows were used and the foliage had formed a complete canopy after five weeks after planting.

Cooperator: Ron Mulford.
Soil Type: Mattapex Silt Loam
Fertilizer: 40-100-100 (Barley and Soybeans)
Herbicide: Dinitro and Lasso.
Soil Analysis: pH, 5.9; OM, 2.1; P, 168; K, 176; Mg, 224.

Queenstown, Maryland. The seeding was made on May 26, 1971 in warm moist soil. Stands were good. Growth during the season was excellent. Temperature and rainfall were normal through September. October had an excessive amount of rainfall and the temperature was above normal which caused beans to germinate in the pods.

Cooperator: University of Maryland Farm.
Soil Type: Loam.
Fertilizer: 400#/A. 0-15-30.

Linkwood, Maryland. The seeding was made on May 25, 1971 in warm moist soil. Stands were good. Growth during the season was excellent. Temperature and rainfall were normal except around harvest. October had more than the normal amount of rainfall and the temperature was relatively high which caused beans to germinate in the pod during the last half of the month. A rather severe infestation of thrips was discovered in July and brought under control before the damage became excessive.

Cooperator: Dr. James Johnson.
Soil Type: Sassafras silt loam.
Fertilizer: 300#/A. 0-15-30.
Soil Analysis: pH, 6.0.

Ottawa, Ontario. Tests were planted on May 21, a few days later than normal. Germination and emergence were satisfactory. Plots were flooded for 36 hours when plants were 4-6 inches in height. Effect on growth was apparent for several weeks thereafter. Growing conditions in late June, July, and August were near normal but in September and October rainfall was above normal. Periods of cool wet weather distorted maturity relationships to the point where observations after September 30 were meaningless. Plots could not be threshed directly in the field. Material had to be dried first in burlap bags and then threshed.

Cooperator: L. S. Donovan.
Soil Type: Grenville loam.
Fertilizer: 400#/A. 5-20-20.
Herbicide: Lasso and Linuron.
Soil Analysis: pH, 6.0.

Kemptville, Ontario. Rainfall at Kemptville was 4 inches below normal in the growing season of 1971. This accounts in part for the lower yields. April through August was cooler than normal. The first fall frost was about 4 weeks later than normal. Other than the previous deviations we had a good crop year at Kemptville.

Cooperator: Kemptville College of Agricultural Technology.
Soil Type: Grenville sandy loam.
Fertilizer: 700 lb. of 0-15-30 in fall 1970; 100 lb. of Nitrogen spring 1971.
Herbicide: 1/2 lb. Treflan ppi; 1 lb. Linuron pp.
Soil Analysis: pH, 6.6; OM, Medium; P, H+; K, H+; Mg, H-.

Elora, Ontario. Soybeans were planted May 19. Precipitation was excessive with about 5 inches in each of June, July, and August. Temperatures were near normal. Flowering occurred about one week earlier than normal and maturity was also earlier than normal. No irrigation was applied. Lodging was much more severe than normal.

Cooperator: Crop Science Department, University of Guelph.
Soil Type: London silty clay loam.
Fertilizer: 400#/A. 5-20-20 fall applied plus 17 T/A cattle manure.
Herbicide: 0.5#.A (active) Treflan ppi + 0.5#/A (active) Lorox preemerge.
Soil Analysis: pH, 7.6; OM, Medium; P, M; K, Hi minus (H-); Ca, H; Mg, H.

Ridgetown, Ontario. Emergence was rapid and uniform. Dry conditions during June and July resulted in below average plant height. Above normal rainfall was recorded in August and September. Temperatures were near normal throughout the growing season. The plots were sprayed with 8 lbs. of $MnSO_4$ on July 2 to correct for manganese deficiency. Yields were below average in the Group 0 tests and average in the Group I and II tests.

Cooperator: Ridgetown College of Agricultural Technology.
Soil Type: Brookston clay loam.
Fertilizer: 900#/A of 3-11-11.
Herbicide: 4#/A of Amiben.

Harrow, Ontario. Even emergence resulted in good stands. Precipitation and growth were normal during June. Severe drought during July and August seriously affected plant height in UI and II with the result that there was no lodging in these tests. UP II, which was grown in an adjacent field, did not suffer from drought to the same extent. Variability in all tests was high but yields were only slightly below average.

Cooperator: Canada Department of Agriculture Research Station.
Soil Type: Brady sandy loam.
Fertilizer: 500#/A 5-10-15.
Herbicide: Amiben 2 1/2#/A.

Hoytville, Ohio. Both rainfall and temperatures near normal throughout the growing season.

Cooperator:
Soil Type: Hoytville Clay.
Fertilizer: None.
Herbicide: Amiben.
Soil Analysis: pH, 6.7; P, 50#/A; K, 394#/A; Ca, 6685#/A; Mg, 891#/A.

Wooster, Ohio. Both rainfall and temperatures below normal throughout the growing season.

Cooperator:
Soil Type: Wooster Silt Loam.
Fertilizer: None.
Herbicide: None.
Soil Analysis: pH, 6.8; P, 75#/A; K, 250#/A; Ca, 2215#/A; Mg, 471#/A.

Columbus, Ohio. Rainfall above normal and temperatures below normal throughout the growing season.

Cooperator:
Soil Type: Miami-Brookston Silt Loam.
Fertilizer: 500#/A (0-20-20).
Herbicide: Amiben.

Soil Analysis: pH, 6.1; P, 68#/A; K, 258#/A; Ca, 3825#/A; Mg, 530#/A.

Saginaw, Michigan. Growing conditions were about normal except for below-normal rainfall during June and July. However, plants did not seem to suffer because of adequate soil moisture at planting and the very high water-holding capacity of the soil.

Cooperator: Jim Oakes, Farm Manager.
Soil Type: Charity clay.
Fertilizer: 250 lbs. of 18-46-0 + Manganese 4%.
Herbicide: Amiben.
Soil Analysis: pH, 7.7; P, 17; K, 510; Ca, 8200; Mg, 1400.

Petersburg, Michigan. Soil moisture was adequate at planting for good germination. However droughthy conditions prevailed during June, July, and early August causing slow growth, early maturity, and reduced yields, particularly to the Uniform Group I entries.

Cooperator: John Stanger
Herbicide: Amiben.

Knox, Indiana. Planting on May 26 was timely for this location. Soil conditions were good and good stands were established. There were 5.43, 6.19, and 3.46 inches of rain in June, July, and August. Temperatures exceeded 90° F on 7 days in June and 1 day in July. Consistent rainfall during the growing season resulted in good growth. Plots were harvested October 18. Yields were average for the location.

Cooperator: Frank Pulver.
Soil Type: Maumee loam.
Fertilizer: 300#/A 6-15-40 plowdown; 250#/A 8-25-3 in row.
Soil Analysis: pH 6.4; P, 65#/A; K, 180#/A.

Bluffton, Indiana. Planting on May 21 was about normal for the location. Rainfall was .61, 4.30, and 2.46 inches for June, July, and August. There were 5, 1, and 1 days of temperatures above 90° in June, July, and August. Plants were shorter than average but yields were about average for the location. Plots were harvested October 20.

Cooperator: Gerald and Larry Bayless.
Soil Type: Nappanee silt loam.
Fertilizer: 100#/A 9-27-5 + 4% Mn.
Herbicide: 8 1/2#/A Lasso.
Soil Analysis: pH, 6.8; P, 53#/A; K, 245#/A.

Lafayette, Indiana. Planting on May 18 was timely for this location. Soil conditions were good and emergence was rapid with good stands. There were 4.73, 6.72, and a low 1.50 inches of rainfall in June, July, and August. There were 10, 2, and 1 days of temperatures above 90°. Plant growth was good and there was very little lodging in the plots. Harvest conditions were excellent and harvest was completed October 22. Yields were about average for this location.

Cooperator: O. W. Luetkemeier.
Soil Type: Chalmers silty clay loam.
Fertilizer: 660#/A 0-26-26 broadcast; 175#/A 5-20-20 + 4% Mn in row.
Herbicide: 1 qt./A Treflan
Soil Analysis: pH, 6.0; P, 75#/A; K, 375#/A.

Greenfield, Indiana. Planting May 18 was optimum for this location. Rainfall was 3.07, 4.06, and a low 1.28 inches for June, July, and August. Temperatures exceeded 90° F on 9, 5, and 1 days in June, July, and August. Plants were somewhat shorter than average but yields of Group II varieties were about average for the location. Harvest was completed October 11.

Cooperator: Mrs. Raymond Roney.
Soil Type: Brookston-Crosby complex.
Fertilizer: 200#/A 6-24-24.
Herbicide: None.
Soil Analysis: pH, 6.2; P, 28#/A; K, 150#/A.

Worthington, Indiana. Planting May 21 was about optimum for this location. Soil conditions were excellent and emergence was rapid resulting in good stands. Rainfall for June, July, and August was 4.33, 4.90, and a low 1.56 inches. There were 8, 2, and 2 days of temperatures above 90° in June, July, and August. Growth was good and there was very little lodging at harvest, which was completed October 12. Yields were about average for the location. Plots were unusually free of disease.

Cooperator: William Hinricksen.
Soil Type: Genesee silt loam.
Fertilizer: 100# 6-24-24/A in row.
Herbicide: 1 qt. Treflan/A.
Soil Analysis: pH, 7.8; P, 90#/A; K, 170#/A.

Evansville, Indiana. Planting May 22 was about one week late for this location. Soil conditions were excellent and good stands resulted. Rainfall for June, July, and August were 5.06, 4.11, and 2.33 inches. There were 17, 6, and 8 days in June, July, and August with temperatures above 90°. There was very severe phytophthora rot in plots of some strains. Harvest was completed October 7. Yields were better than average for this location.

Cooperator: Bernard Wagner.
Soil Type: Montgomery silty clay loam.
Fertilizer: 600#/A 6-21-7 fall 1970, 400#/A 3-10-30 spring 1971.
Herbicide: 1.5 pt. Treflan/A.
Soil Analysis: pH, 6.2; P, 85#/A; K, 375#/A.

Henderson, Kentucky. The test was planted late (June 7) as a result of wet weather in May. The plots received 1.00 inch of rain on June 8, immediately after planting, and this resulted in some Lorox injury and reduced stands on a few of the plots. Precipitation for June was 2.76 inches above normal; July was 2.15 inches above normal; August was 1.42 inches below normal; and September was 5.74 inches above normal. Temperatures were near normal throughout the growing season.

Cooperator: Stuart Brabant.
Soil Type: Calloway silt loam.
Fertilizer: None.
Herbicide: Lasso, 2#/A + Lorox .5#/A, incorporated.
Soil Analysis: pH, 6.6; P, 100#/A; K, 150#/A.

Ashland, Wisconsin. Temperatures for the growing season were below normal for every month except June and April. Rainfall was below normal for every month of the growing season. Although the soybeans were planted about the same time as last year, the first week in June, they matured about two weeks later this year. This was probably due to the abnormally low temperatures during the growing season. We were lacking in rainfall all summer, but a wet fall and a heavy snowfall last winter built up our water reserve which helped carry us through part of the growing season. We received some timely rain in late July at the time the beans were setting pods which

helped the yield. Despite the late planting and cool temperatures, the soybean yields were good. A big factor which helped up here was that our first killing frost came more than three weeks later than normal.

Cooperator: D. A. Schlough.
Soil Type: Clay-Loam.
Fertilizer: 400#/A. 0-20-20 drilled.

Spooner, Wisconsin. The 1971 season was in general below normal for soybean production. The nursery was planted May 28 under good soil conditions in terms of moisture and temperature. Temperatures in June were 3.4° above normal and rainfall was 1.31 inches below normal but still very ample for soybean growth at this stage. July temperatures were 4.6 below normal and rainfall .83 inches below normal with greatest shortage occurring the last 10 days of the month. Temperatures in August were 3.4° and rainfall 1 inch below normal. There was no rainfall the first 10 days and only .18 inches until the 13th when we received .75 of an inch. During the period July 21 to Aug. 11 temperatures generally ranged from 80° to the lower 90's and rainfall less than 1/2 inch. This was during the flowering season and resulted in a high percentage of aborted flowers. The field wasn't irrigated but one irrigation of 1 inch water about July 30 would have corrected this condition. The weed problem didn't appear serious but evidently was serious enough to have made considerable difference during this drought period. Both rainfall and temperatures were very near normal in September but frequency of showers and cloudiness did not force plants into maturity. The first killing frost didn't occur until October 12. There were two previous light frosts of 30° and 29° September 24 and October 7, respectively. Accurate maturity notes were impossible under these conditions.

Cooperator: C. O. Rydberg.
Soil Type: Pence sand loam.
Fertilizer: None.
Herbicide: None.

Durand, Wisconsin. Soybeans were planted May 28. Emergence was good and stands excellent. Early growth was excellent, however, drought during August greatly reduced yields. Temperature averaged below normal for all months save June when the mean daily temperature averaged 3° F above normal. Disease was not a problem.

Madison, Wisconsin. Soybeans were planted May 19. Emergence and stands were good. During the growing season, temperature was below normal for every month save June when it averaged 5.6° F above normal. Rainfall was 6" below normal for the period May through September. As a result, drought was a major problem and yields were about 2/3's of normal. Disease was not a factor.

Cooperator: Wisconsin Agricultural Experiment Station.
Soil Type: Miami Silt Loam.
Fertilizer: 200#/A 6-24-24.
Herbicide: Amiben 2#/A.
Soil Analysis: pH, 6.9; OM, 18; P, 98; K, 205.

Dekalb, Illinois. The soybean nursery was spring plowed and the seed bed was rough. Our nursery was in corn in 1970. We planted on May 14 and moisture was fair. Moisture and growth were normal thru the season until August and September when it turned dry. No serious disease or insect damage occurred. Yields were generally good on all plots.

Cooperator: R. R. Bell, Northern Illinois Research Center.
Soil Type: Flanagan silt loam.
Fertilizer: 480#/A of 0-25-25 applied in 1971.
Herbicide: 1 qt./A Treflan.

Soil Analysis: pH, 6.1; P_1, 64; P_2, 130+; K, 440.

Pontiac, Illinois. Planting was May 18 in a good seedbed. Last year's crop was corn. Stands were spotty earlier but early rains helped improve the stands. Rainfall was normal until pod fill stage when it turned dry. Seed size was small and yields were down due to dry spell in August and July. There was very little disease or insect damage this year. A large rep to rep variation resulted in high C.V.'s.

Cooperator: Donald Alltop.
Soil Type: Dodgeville silt loam.
Fertilizer: None.
Herbicide: 1 qt./A Lasso.
Soil Analysis: pH, 5.4; P_1, 45; P_2, 68; K, 420.

Urbana, Illinois. Planting was timely on May 15 in a good seedbed. June and September were warmer than average and July and August were cooler than average. July was very wet with over 10 inches of rain. The other months had a shortage of rainfall. There was general, moderate to severe bacterial blight. Harvest conditions were excellent.

Cooperator: M. G. Oldham, Illinois Agricultural Experiment Station.
Soil Type: Flanagan silt loam.
Fertilizer: None.
Herbicide: 15#/A granules, broadcast, preplant.
Soil Analysis: pH, 6.7; P_1, 88; P_2, 130+; K, 384.

Girard, Illinois. Planting was on May 15, a little earlier than average for this location. There was drought stress all season. Early season growth was good. Downy mildew was general and slight. Bacterial blight was locally heavy in the tops. There were a few phytophthora killed plants. In mid-July this was our best looking location. There was premature killing and lack of leaf abscission at maturity in most varieties except Corsoy, caused by drouth and/or disease. Corsoy yielded 10 bushels above Beeson and 9 more than Amsoy 71. Harvest was timely.

Cooperator: Lloyd Brothers.
Soil Type: Harrison silt loam.
Fertilizer: None.
Herbicide: Amiben, banded.
Soil Analysis: pH, 6.4; P_1, 170; P_2, 130+; K, 564.

Edgewood, Illinois. Planting was on June 2 in a good seedbed. Moisture was excellent until early August when it got very dry. General and slight to moderate bacterial blight, brown spot, and downy mildew. Yields were very good for this location.

Cooperator: John Wilson.
Soil Type: Cisne silt loam.
Fertilizer: None.
Herbicide: Amiben banded.
Soil Analysis: pH, 615; P_1, 43; P_2, 100; K, 186.

Belleville, Illinois. Planting was on May 14 in a good seedbed with moisture to the surface. Early season growth and moisture were good. Mid to late season was very dry. There was moderate to severe brown spot and moderate downy mildew; many plants had bud blight virus or stem canker. Drought compressed Group III and Group IV maturities. A good test.

Cooperator: George Kapusta, Belleville Research Center.
Soil Type: Ebbert silt loam.

Fertilizer: None.
Herbicide: Treflan
Soil Analysis: pH, 5.8; P_1, 38; P_2, 78; K, 224.

Eldorado, Illinois. Planting was on May 19 in a good seedbed. Growth and stands were very good. Moisture was adequate to slightly deficient. Bacterial blight was slight to severe, downy mildew was general and light, and there was slight bacterial pustule. Lodging was very moderate for this location. Yields were good and harvest conditions were excellent.

Cooperator: Marshall Grisham.
Soil Type: Harco silt loam.
Fertilizer: 175#/A 7-21-7.
Herbicide: Amiben, 1/2 gal/A, banded.
Soil Analysis: pH, 6.5; P_1, 29; P_2, 91; K, 224.

Carbondale, Illinois. Planting was on May 18, in an excellent seed bed. Emergence was very good and growth excellent. Dry weather for a short period in July may have reduced yields very slightly. The center two rows of four-row plots were harvested from three replications. Seed quality was above average. Yields were very good.

Cooperator:
Soil Type: Stoy silt loam.
Fertilizer: 0-120-180.
Herbicide: 1 qt./A treflan--incorporated.
Soil Analysis: pH, 6.5; OM, 1.3%; P, 100; K, 360.

Crookston, Minnesota. Seed bed dry and loose. Planting a little too deep. Hard rain following planting. Only fair emergence. Summer rainfall adequate. Temperatures cool in late summer and early fall. Slow ripening. Excessive rainfall delayed harvest until early November.

Cooperator: L. J. Smith.
Soil Type: Bearden silt loam.
Fertilizer: 50# P.
Herbicide: 3/4#/A treflan preplant; 2#/A amiben preemergence.
Soil Analysis: pH, 8.4; OM, High; P, 50#/A; K, 370#/A.

Morris, Minnesota. Excellent seed bed. Good emergence. Good weed control. Excellent early growth. Moisture adequate until mid-August. Some drought stress. Yields fairly normal for the area. Early frost (September) but soybeans were mature. Good tests.

Cooperator: D. D. Warnes.
Soil Type: La Prairie loam.
Fertilizer: None in 1971.
Herbicide: 3/4#/A treflan preplant; 2#/A amiben preemergence.
Soil Analysis: pH, 6.5; OM, High; P, 22#/A; K, 300#/A.

Rosemount, Minnesota. Heavy rains just after planting caused crusting. Stands only fair in Group 00 Uniform and Preliminary tests. Group 0 test not harvested because of poor stands and pod loss caused by high winds late in the season following a long, wet period. Some drought stress in August, but growth was good in general, and yield in the Group 00 tests were satisfactory.

Cooperator:
Soil Type: Waukegan silt loam.
Fertilizer: None.
Herbicide: 3/4#/A treflan preplant; 2#/A amiben preemergence.
Soil Analysis: pH, 6.4; OM, Medium; P, 50#/A; K, 230#/A.

Lamberton, Minnesota. Good seed bed. Good stands. Good weed control. Generally good growing conditions, with the exception of some drought stress in August. Yields about normal for the area. Tests seemed reliable. Frost on September 18 was fairly light and probably did not greatly affect yields.

Cooperator: W. W. Nelson.
Soil Type: Nicollet clay loam.
Fertilizer: Heavy application of 0-46-0 plowed down in fall of 1970.
Herbicide: 3/4#/A treflan preplant; 2#/A amiben preemergence.
Soil Analysis: pH, 6.0; OM, High; P, 40#/A; K, 170#/A.

Waseca, Minnesota. Good stands. Good weed control. Good early growth. Virtually no rainfall from early July to mid-September. Yields lower than normal but still fairly respectable and reliable despite the long drought. Some Phytophthora root rot in the susceptible varieties.

Cooperator: W. E. Lueschen.
Soil Type: LeSueur clay loam.
Fertilizer: 40#/A P_2O_5 and 40#/A K_2O plowed down in the fall of 1970.
Herbicide: 3/4#/A treflan preplant; 2#/A amiben preemergence.
Soil Analysis: pH, 6.4; OM, 6%; P, 73#/A; K, 300#/A.

Sutherland, Iowa. This nursery was planted May 13, with good soil moisture. Precipitation was below normal throughout the growing season. June temperatures set record highs and July set record lows, creating a temperature reversal of 4°. August was dry with precipitation less than 30% of normal. Weed control was excellent and general growth response and yield were good. This nursery was considered adequate for making strain comparison.

Cooperator: Northwest Iowa Experiment Association.
Soil Type: Primghar silt loam.
Fertilizer: None.
Herbicide: Treflan.
Soil Analysis: pH, 6.6; P, 11; K, 81.

Kanawha, Iowa. The nursery was planted May 21 with good soil moisture. June temperatures averaged 5° above normal and rainfall was near normal. July and August were cooler than normal and dry. July temperatures were 5° below normal and August temperatures averaged 3° below normal. Plots were kept weed free and growth was fair. The location was considered good for making strain comparisons.

Cooperator: Northern Iowa Experimental Association.
Soil Type: Webster silty clay loam.
Fertilizer: 0-40-40.
Herbicide: Treflan.
Soil Analysis: pH, 6.9; P, 40; K, 77.

Waverly, Iowa. This nursery is in northeastern Iowa on flat, Tripoli silt loam. The nursery was planted May 29. Above normal temperatures in June were followed by below normal temperatures in July and August. Normal precipitation in June was followed by dry conditions in July and August. Inadequate control of foxtail in the nursery resulted in the loss of two reps but data from the remaining two reps were considered adequate for making strain comparisons.

Cooperator: Elston Buls.
Soil Type: Tripoli silt loam.
Fertilizer: None.
Herbicide: Treflan.
Soil Analysis: pH, 7.1; P, 6; K, 47.

Clarence, Iowa. This nursery is located in east central Iowa. Planting was completed on May 12. Adequate moisture was available during the growing season. Temperatures were high in June and low in July and August. A hail storm in mid-July caused only minor damage. Plots were kept relatively weed free. This nursery was considered good for making strain comparisons.

Cooperator: Richard Elijah.
Soil Type: Muscatine silty clay loam.
Fertilizer: None.
Herbicide: Treflan.

Sloan, Iowa. This nursery is located in west central Iowa on flat Salix silt loam. The nursery was planted May 13. Precipitation was below normal throughout the growing season. Temperatures were well above normal in June and well below normal in July and August. Growth, yield and general response were fairly good. This location was considered good for making strain comparisons.

Cooperator: George Campbell.
Soil Type: Salix silt loam.
Fertilizer: None.
Herbicide: Treflan.
Soil Analysis: pH, 6.2; P, 42; K, 382.

Ames, Iowa. Soil moisture was fair at planting time, May 27. Precipitation was slightly below normal in June and July. August was the driest on record with only .50 inches of precipitation. June set new records for high temperatures and July set new records for cool temperatures. August was also cool. On July 7-8 a severe wind storm with winds to 80 m.p.h. cut through the plots. Extensive bruising and breakage resulted. The plots were kept weed free. The location was considered adequate for strain comparisons.

Cooperator: Agronomy Farm, Agricultural Experiment Station.
Soil Type: Nicollet silt loam.
Fertilizer: 0-80-80.
Herbicide: Amiben broadcast.

Stuart, Iowa. This nursery is located in south central Iowa. Planting was completed on May 14. Stands were good and plots were kept weed free. Below normal precipitation persisted throughout the growing season. Temperatures were above normal in June and below normal in July and August. This location was considered adequate for making strain comparisons.

Cooperator: Eugene Kading.
Soil Type: Sharpsburg silt loam.
Fertilizer: None.
Herbicide: Treflan
Soil Analysis: pH, 5.8; P, 35; K, 592.

Ottumwa, Iowa. This nursery is in southeastern Iowa on flat, productive Haig silty clay loam. The nursery was planted May 16. Temperatures were 5° above normal in June and 4° below normal in July. August temperatures were also below normal. Plots were kept weed free and growth was good. This nursery was considered good for making strain comparisons.

Cooperator: A. E. Newquist.
Soil Type: Haig silty clay loam.
Fertilizer Application: None.
Herbicide Application: Treflan.

Red Oak, Iowa. This nursery is located in southwest Iowa and is typical of the rolling terrain frequented by terraces. Drouth persisted throughout the growing season. Growth was stunted and seed set sporatic. This nursery was not considered good for making strain comparisons. No data submitted from this location.

Cooperator: Howard Jackson.
Soil Type: Marshall silt loam.
Fertilizer Applications: None.
Herbicide Application: Treflan.
Soil Analysis: pH, 6.2; P, 28; K, 467.

Spickard, Missouri. Planting was timely on May 13 and early season growth conditions were good. However rainfall was well below normal after midseason so yields were considerably depressed.

Cooperator:
Soil Type: Seymour silt loam.
Fertilizer: 12-48-48.
Herbicide: 2#/A Amiben.

Columbia, Missouri. Planting was on May 19 in a good seedbed. The rains were well distributed but tended to be too light in late summer. However there was no severe drought stress although late season temperatures were above normal which caused maturity to be hastened.

Cooperator:
Soil Type: Mexico silt loam.
Herbicide: 2#/A Amiben.

Mt. Vernon, Missouri. Growth conditions were good throughout the growing season. The May 11 planting date was too late: in a date of planting experiment Williams yielded 64 bu/A planted in April. Weed growth was good too--morning glories were extremely abundant.

Cooperator:
Soil Type: Huntington silt loam.
Fertilizer: 25-100-100.
Herbicide: Amiben + Lorax.

Portageville, Missouri. The Uniform Tests at Portageville, Missouri were grown under ideal conditions. Adequate rainfall throughout the growing season resulted little need for irrigation. Neither temperature nor rainfall was a limiting growth factor this year. The soybean cyst nematode was present in some tests, but populations were small. Moderate infections of pod mottle virus were also detected. The good weather continued throughout the fall, providing excellent harvest conditions.

Cooperator: University of Missouri.
Soil Type: Tiptonville Silt Loam and Sharkey Clay.
Fertilizer: None.
Herbicide: Treflan preemergence.
Soil Analysis: Loam--pH, 6.3; OM, 1.6; N, M; P, VH; K, H; Ca, H; Mg, H.
Clay--pH, 5.3; OM, 2.4; N, M; P, VH; K, VH; Ca, H; Mg, H.

Portage la Prairie, Manitoba. The soybeans emerged evenly and grew rapidly during June. Temperatures during this month were slightly above average and moisture was adequate. Considerably below average temperatures during July slowed growth a great deal. Growth continued at a normal rate during August and September when temperatures were again somewhat above average. Moisture appeared to be adequate throughout the season. The full yield potential was probably not attained because of 5° F below average temperatures per day for July.

Cooperator: Special Crops Substation, Canada Agriculture.
Soil Type: Riverdale Silty Clay Loam.

Winnipeg, Manitoba. Precipitation during the growing period was near normal and the crop did not suffer from severe moisture stress. Temperatures were near normal for the months from May to September inclusive, except for July temperatures which were six degrees below normal. Early varieties generally outyielded late varieties; late varieties did not appear to be able to express their yield potential this year.

Cooperator: B. R. Stefansson.
Soil Type: Riverdale silty clay.
Fertilizer: None.
Herbicide: None.

Morden, Manitoba. The soybeans emerged unevenly and slowly as a result of seeding too deeply. Otherwise growing conditions in spring were excellent as a result of 2° F above average temperature per day in June, accompanied by two inches above average rainfall. July was cold with 4° F per day below normal in temperature. This caused rate of growth to slow down drastically. It resumed at a normal rate in August for awhile with the return of above normal temperatures. These high temperatures continued to the end of the season. However, a severe moisture shortage from mid-August on prevented yields from reaching their full potential. The beans matured well, but before we got to harvest them an early snow storm covered them to within four inches of the top. Therefore, they were not harvested.

Cooperator: Research Station, Canada Agriculture.
Soil Type: Morden Heavy Clay Loam.
Fertilizer: 300#/A of 27-14-0 ammonium phosphate.
Herbicide: 1#/A Treflan.

Fargo, North Dakota. The Uniform and Preliminary Nurseries 00, 0, and the Uniform Nursery I were planted May 7. Dryness delayed emergence until rain on May 23 and low temperatures (3.5° below normal) slowed growth after emergence. The preemergence application of Amiben inhibited plant growth and the retardation was evident throughout the growing season. Moisture stress during podfilling in August (2.1 inches of rain below normal with biggest rain less than 1/4 inch and seven days of 90° and above) considerably decreased the yield potential. An early killing frost (less than 10% chance of killing frost at that date) stopped a potentially high yielding Uniform I Nursery. Bacterial blight was present during June and probably reduced yields in the Group 00 Nurseries. No insect damage was observed.

Cooperator:
Soil Type: Fargo Clay.
Fertilizer: None.
Herbicide: Amiben 2#/A.

Oakes, North Dakota. The Uniform 0 and I nurseries were planted May 26 when the soil temperature was 55° at the 4-inch depth. These plots were sprinkler irrigated when visually needed. Soil fertility was high. Plant growth and pod development was slowed during a cool July (4° below normal) and August. Seed quality was excellent for the Uniform 0 nursery, but the Uniform I nursery had smaller seed because of the killing frost on September 18. However, yields were sufficient to warrant further evaluation of soybeans as an irrigated crop for this region.

Cooperator:
Soil Type: Sandy Loam.
Fertilizer: None.
Herbicide: Treflan granule at 1#/A, active.

Soil Analysis: pH, 7.3; OM, low; N, 100#/A; P, 40#/A; K, 400#/A.

Revillo, South Dakota. Total rainfall and temperatures were near normal for the year but most of the rain came in a two week period in late June and early July so much of it was lost to runoff and drouth conditions were severe by late summer. Yields were near normal for the season.

Cooperator: James Street.
Soil Type: Forman Clay Loam.
Fertilizer: None.
Herbicide: Lasso Granules at 2 1/2#/A Broadcast.

Brookings, South Dakota. Temperatures were well below normal for the season but yields were near normal due to favorable moisture during almost the entire growing season.

Cooperator: Plant Science Farm, South Dakota State University.
Soil Type: Vienna Loam.
Fertilizer: 0-30-40.
Herbicide: 2#/A Amiben, Preemergence.

Centerville, South Dakota. Yields were well below average for the year because of moderate to severe drought in late summer. Growing season rainfall was about four inches below normal.

Cooperator: A. O. Lunden, S. E. Research Farm, South Dakota State University.
Soil Type: Poinsett Sandy Loam.
Fertilizer: 0-40-0.
Herbicide: Lasso granules at 2 1/2#/A, Broadcast.

Elk Point, South Dakota. Very severe drought conditions in late summer caused well below average yields during 1971. Conditions were good in the spring but growing season rainfall was nearly eight inches below normal from mid June through mid September. Temperatures were near normal for the summer.

Cooperator: Forrest Fennel, Elk Point, South Dakota.
Soil Type: Haynie Silt Loam.
Fertilizer: Application on corn in 1970.
Herbicide: Ramrod Granules Banded at 4#/A.

Concord, Nebraska. The 1971 growing season was characterized by excess early season moisture but extremely dry conditions from July 10 on through crop maturity. A full soil profile of water in early season plus nine inches of rain in June started the crop nicely. Early season growth was excellent. Weed control was satisfactory. Moderate summer temperatures benefited the crop in the absence of rain in July and August. The first killing frost September 19 was about two weeks ahead of normal. Varieties in the Uniform III test were still green, so yields were cut sharply.

Cooperator: Northeast Station, Concord, Nebraska.
Soil Type: Judson silt loam.
Fertilizer: None.
Herbicide: Amiben 3#/A.
Soil Analysis: pH, 6.4; OM, 2.5%; N, Medium; P, Medium; K, Very high.

Mead, Nebraska. Tests were established in good seed bed well supplied with moisture. Good emergence and stands were obtained. Moisture and temperature were near normal in June but drought conditions prevailed from late July through mid October. Temperatures were below normal in July and August. The tests were irrigated in alternate rows only on July 8 and 28 and August 18 and 27. Full season varieties probably did not receive as much water as needed under the extremely dry conditions of August and

September. Light frost occurred on September 19 and 22 that hastened maturity of early maturing types and killed leaves in tops of plants of all varieties. Killing frost (27°) occurred October 9.

Cooperator:
Soil Type: Sharpsburg Silty Clay Loam.
Fertilizer: 50 N + 60 P #/A.
Herbicide: Amiben (1#/A) + Lasso (1#/A) post planting.

Powhattan, Kansas. From May until late September precipitation was below normal. Leaf droppage and maturity was earlier than on the average. Pod set was reduced due to high temperature and seed size was reduced because of drouth and high temperature.

Cooperator: R. Sloan.
Soil Type: Grundy Silt Clay Loam.
Fertilizer: 16#/A N, 48#/A P_2O_5.
Herbicide: 1#/A Treflan, preplant, 2#/A Amiben Preemerg.
Soil Analysis: pH, 5.7; OM, 2.7; P, 59#/A; K, 324#/A.

Manhattan, Kansas. Early season growth (May through July) was abundant. Dry weather during August and September caused leaf droppage and maturity to occur earlier than usual.

Cooperator: C. Swallow.
Soil Type: Smoland Silty Clay.
Fertilizer: None.
Herbicide: 1#/A Treflan, Preplant, 2#/A Amiben Preemerg.
Soil Analysis: pH, 5.9; OM, 2.1%; N, 18.0 ppm; P, 44#; K, 550#; Zn, 2.3 ppm.

Manhattan, Kansas--Irrigated. Water was applied by furrow irrigation on June 28, August 12, August 17, and September 1 at 4", 3.3", 2.5" and 2.4"/acre, respectively. August and September were dry months with 1.50" of total rainfall.

Cooperator: C. Swallow.
Soil Type: Sarpy Fine Sandy Loam.
Fertilizer: 36# N, 92# P_2O_5.
Herbicide: 3/4#/A Treflan, Preplant, 2#/A Amiben Preemerg.
Soil Analysis: pH, 7.5; OM, 1.7%; N, 18.6 ppm; P, 61#/A; K, 500#/A; Zn, 3.9 ppm.

Ottawa, Kansas. Early season rains produced abundant plant growth and therefore caused severe lodging to occur. September was dry and late maturing varieties produced lower yields than early varieties.

Cooperator: C. Gruver.
Soil Type: Woodson Silt Loam.
Fertilizer: 32#/A N, 96#/A P_2O_5, 60#/A K_2O.
Herbicide: 1#/A Treflan, Preplant, 2#/A Amiben Preemerg.
Soil Analysis: pH, 6.7; OM, 2.6%; P, 18#/A; K, 262#/A.

Columbus, Kansas. Below normal but timely rainfall during June and early July resulted in excellent growth up to pod filling time. Then during July and August the plants were under considerable drought stress. The end result was average yields, tall plants, small seed, some lodging, and low quality seed. Disease or insects did not appear to affect yields.

Cooperator: Southeast Kansas Experiment Station.
Soil Type: Cherokee Silt Loam.
Fertilizer: 18-46-60 #/A before planting.
Soil Analysis: pH, 6.3; OM, 1.8; P, Med.; K, Med.

Ontario, Oregon. Stands of approximately 10 plants per foot in the group 00 nursery resulted in a high degree of lodging compared to the group 0 nursery which was uniformly thinned to a stand of six plants per foot. A severe mite infestation could not be completely contained with Kelthane applications and introduced an extra variable in yields of the later maturing varieties. May and June were cooler than normal, and early growth was slow, but July and August had sustained warm temperatures and unusually good growing weather which resulted in earlier than normal maturity and slightly higher than normal yields. Approximately 30" of water were applied with 10 furrow irrigations including a pre-plant irrigation and the final irrigation on August 20.

Cooperator: Malheur Branch Experiment Station.
Soil Type: Owyhee Silt Loam.
Fertilizer: 100#/A P_2O_5 applied fall of 1970.
Herbicide: None.
Soil Analysis: pH, 7.5; OM, 1.5%; N, medium (approx. 50#/A available NO_3 nitrogen per foot of soil with approx. 2' soil depth); P, 30#/A; K, 500+; Ca, Adequate; Mg, Adequate.

ADA (M61-60)--Group 00

1961 -- Cross, Merit x Norman, made by J. W. Lambert at the Minnesota Agricultural Experiment Station.

1961-62 -- F_1 cul 127, greenhouse.

1962 -- F_2 cul 199, St. Paul.

1963 -- F_3 row 428.

1964 -- F_4 row 3791.

1965 -- F_5 row 4272, seed bulked.

1966 -- Designated II-61-60, tested in replicated 10-foot-row plots at St. Paul and Crookston.

1967 & 68 -- Tested in replicated single-rod-row plots at St. Paul, Morris, and Crookston.

1969 -- Designated M61-60, tested in regional Preliminary Test 00, in replicated combine plots at Morris and Crookston, and in multiple-short-row plots at Grand Rapids. Twenty-four progeny rows grown to initiate purification.

1969-70 -- Equal amounts of seed of 17 Phytophthora-resistant progenies bulked for small increase in Chile. Twelve pounds of seed returned.

1970 -- Tested as in 1969 except in Uniform Test 00 and an additional combine plot test at Moorhead. Seed increased to 10 bushels and turned over to Minnesota Crop Improvement Association. Minnesota Agricultural Experiment Station approved for major increase. Seed shared with North Dakota.

1971 -- Tested as in 1970. Approved by Minn. A.E.S. for naming and release to registered and certified growers in April, 1972. Name will be "Ada".

BONUS (C1474)--Group IV

1962 -- Cross C1266R-3, -4, -6, (Sel. from Harosoy x C1079) x C1253 (Sel. from Blackhawk x Harosoy) made in the greenhouse by D. T. Cooper, A. H. Probst, and K. Edmondson at the Purdue Agricultural Experiment Station, Lafayette, Indiana.

Five F_1 plants grown at the Purdue Agronomy Farm.

F_2--1332 plants grown in the fall greenhouse.

1963 -- F_3--860 plants grown in the spring greenhouse.

F_4--840 plants grown at a 4" spacing in rows 38" apart at the Purdue Agronomy Farm.

F_5--837 plants grown in the fall greenhouse, inoculated with Phytophthora by F. A. Laviolette and K. L. Athow. 386 susceptible plants discarded, 451 resistant plants retained.

1964 -- F_6--451 plants grown in the spring greenhouse.

F_7--364 plant progenies grown in 3' rows at the Purdue Agronomy Farm.

1965 -- F_8--343 entries grown in a two-replicate yield trial at the Purdue Agronomy Farm. CX403-308 was the lowest yielding of 32 strains retained for further testing but ranked third in protein content and had the highest combination of protein and oil of the strains retained for additional testing.

1966 -- F_9 grown in CX403 IVA yield trial at Evansville, Indiana. CX403-308 ranked 1 in yield, 3 in percent protein, and 1 in percent protein + oil of 32 entries in the test.

1967 -- F_{10} grown in CX403 IVB-2 yield trial, a four-replicate test of 16 entries at both Worthington and Evansville, Indiana. CX403-308 ranked 3 in yield, and 1 in both protein and protein + oil content of the seed in the combined analysis. CX403-308 designated C1474.

1968 -- C1474 grown in CX403 IVC test, a four-replicate test of 16 entries and in Uniform Preliminary IV at both Worthington and Evansville, Indiana. C1474 ranked 9 in yield in the combined CX403 IVC analysis and 6 and 2 in UP IV at Worthington and Evansville. Fifteen rows of breeders seed grown at Lafayette, Indiana.

1969 -- C1474 grown in Uniform Test IV where it ranked 2 in yield of 12 entries tested at 27 locations. Forty-four rows of breeders seed increased at Lafayette, Indiana.

1970 -- C1474 grown in Uniform Test IV. 185 pounds of breeder seed increased on 9 acres at the Purdue Agronomy Farm to produce 298 bushels of recleaned seed.

1971 -- Seed of C1474 divided among releasing states as follows:

State	Bu. Allotment
Illinois	176
Indiana	83
Iowa	15
Nebraska	24

C1474 was named Bonus and released August 1, 1971.

COLUMBUS (K62-7221)--Group IV

1959 -- Bulked F_4 seed from the cross C1069 x Clark was received from Dr. A. H. Probst, USDA, Purdue University by Dr. E. L. Mader.

1959-61 -- F_4-F_6--Each generation was planted and harvested in bulk. Single plants were selected by Dr. Mader in F_6.

1962 -- F_7--Single plant selections were planted in rows at Manhattan, Kansas.

1963 -- F_8--Yield tested at Manhattan, Kansas and increased.

1964 -- F_9--Entered in regional Preliminary Test IV.

1965 -- F_{10}--Entered in regional Preliminary Test IVs.

1966 -- F_{11}--Increased seed and tested throughout Kansas.

1967 -- F_{12}--Increased seed and tested throughout Kansas.

1968 -- F_{13}--Seed impurities were noted and 200 single plant selections were made.

1969 -- F_{14}--Single plant rows (147) were evaluated and 28 rows were selected for further increase.

1970 -- F_{15}--Seed of the 28 selected rows were increased, yield tested at Manhattan and bulked to produce 35 bushels of seed.

Breeder seed allocations were made as follows:

State	Bu. Allotment
Maryland	5.3
Oklahoma	1.0
Kansas	28.7
	35.0

1971 -- Publicity release was August 1, 1971, in Oklahoma and Kansas.

1972 -- Seed released to certified growers.

HARWOOD (0-378-28)--Group II

F_3 seed of the cross CX378 was supplied by A. H. Probst to J. W. Aylesworth for use in his doctoral study which was conducted at the Woodslee Soils Substation from 1963 through 1966. CX378 is a cross of L59-738 x C1270 made at the Indiana A.E.S. L59-738 is one of three sister lines composited by the Illinois A.E.S. to produce Harosoy 63. C1270 is an Indiana selection from Mandarin (Ottawa) x Clark. L59-738 is resistant, and C1270 is susceptible, to Phytophthora rot.

1963 -- 2400 F_3 plants were grown; 505 were saved.

1964 -- F_3 plant to F_4 row; 51 lines (rows) saved.

1965 & 66 -- F_5 and F_6 yield test. Soil test values were very high for phosphorus and potassium and high for calcium with a pH of 6.3. Each year 300 lbs. of 5-20-10 fertilizer was applied.

1967 -- 10 lines transferred to Harrow and Phytophthora rot tests run by Jerry H. Haas.
DC_2-28 which had yielded 57 bushels per acre in 1965-66 compared to 43 for Harosoy 63, was resistant.
DC_2-28 was designated 0-378-28 and entered into the U. S. regional Preliminary Test II.
F_7 single plants were grown.

1968 -- 0-378-28 was grown in the U. S. Uniform Test II and the Ontario Soybean Variety Test.
F_7 plant to F_8 row; 30 lines (rows) relatively free of split seed coats were selected.

1969 -- 0-378-28 was grown in the O.S.V. Test.
A replicated test of 30 lines was grown in isolation. There was no detectable variation in maturity; the 30 lines were harvested in bulk as breeder seed.
The Ontario Soybean Committee at its February 26, 1969, meeting voted in favor of supporting a request for licensing of 0-378-28. Publicity release 1/1/71.

Identifying characteristics--0-378-28 is resistant to Phytophthora rot. It has purple hypocotyls and flowers, grey pubescence and medium brown pods. The seed coat is dull (not glossy) and is yellow with a yellow hilum. Other characteristics which may be used in identification are high peroxidase activity in the seedcoat, a late flowering response (E_3) to a 20-hour daylength extended by cool-white fluorescent light, and a susceptible reaction to powdery mildew in the greenhouse. Harosoy 63 has these same characteristics; however, 0-378-28 can be distinguished from Harosoy 63 by its leaf phenolic pattern using thin layer chromatography.

STEELE (M59-213)--Group I

1962 -- F_3, bulked seed of F_2 plants of cross CA x 54 (Blackhawk x Harosoy obtained from A. H. Probst, Purdue University. Planted at Rosemount, Minnesota. Early plants with yellow hilum seed selected.)

1962-63 -- F_4 row 219, Santiago, Chile.

1963 -- F_5 row 6082, Rosemount, seed bulked.

1964 -- Designated II-59-213 tested in replicated single 10-foot-row plots at St. Paul and Waseca.

1965-66 -- Tested in replicated single-rod-row plots at Waseca and Lamberton.

1967 -- Designated M59-213, tested in regional Preliminary Test I, in replicated combine plots at Waseca and Lamberton, and in replicated multiple-short-row plots in Faribault County. Thirty progeny rows grown to initiate purification.

1968 -- Tested as in 1967 but advanced to regional Uniform Test I. Seed from purification rows increased to 45 pounds.

1969 -- Tested as in 1968, also in combine plots at St. Paul and Morris and in multiple-short-row plots at Clear Lake. The 45 pounds of "purified" seed turned over to Minnesota Crop Improvement Association; increased to 35 bushels. Minnesota Agricultural Experiment Station approved for major increase. Seed offered to other interested states and provinces. Discovery of nearly 1% of solid buff mutants in seed supply caused abandonment of increase of this seed lot.

1969-70 -- 200 yellow seeds planted in the greenhouse. 188 plants harvested.

1970 -- Tested as in 1969. Progenies from greenhouse plants grown in short rows at Rosemount. Rows harvested individually. 113 rows bulked for purified base. 75 pounds turned over to MCIA.

1970-71 -- MCIA sent 55 pounds of purified seed to Chile for overwinter increase. 25 bushels of clean seed returned. Seed shared with other states and

Ontario for continued maximum increase.

1971 -- Tested as in 1969 and 1970. Approved by Minnesota A.E.S. for naming and release to registered and certified seed growers in April 1972. The name will be "Steele".

SWIFT (M59-121)--Group 0

1959 -- Cross, II-54-240 x II-54-132, made by J. W. Lambert at Minnesota Agricultural Experiment Station.

II-54-240 was a selection from II-42-37 x Korean (II-42-37 was a Minn. selection from Lincoln[2] x Richland).

II-54-132 was a selection from M10 x Capital (M10 was a Minn. selection from Lincoln[2] x Richland).

1959-60 -- F_1, greenhouse.

1960 -- F_2 culture 74, plant 2, St. Paul.

1961 -- F_3 row 1435, Rosemount.

1962 -- F_4 row 2717, Rosemount.

1963 -- F_5 row 4553, Rosemount, seed bulked.

1964 -- Designated II-59-121, tested in replicated single 10-foot-row plots at St. Paul and Morris.

1965 & 66 -- II-59-121 tested in replicated single-rod-row plots at St. Paul and Morris.

1967 -- Designated M59-121, tested in regional Preliminary Test 0 and in replicated combine plots at Rosemount and Morris. Thirty progeny rows grown to initiate purification.

1968 -- M59-121 tested in regional Uniform Test 0, in combine plots at Rosemount, Morris, Waseca, and Lamberton and in multiple short-row plots at Fairmount and Big Lake. Small purified increase based on 29 of the 1967 progeny rows.

1969 -- Tested as in 1968. Purified seed source increased to 120 pounds and turned over to Minnesota Crop Improvement Association for further increase.

1970 -- Tested as in 1968 and 1969. Increased by MCIA to 80 bushels. Approved by Minnesota Agricultural Experiment Station for maximum increase. Seed offered to other states. North Dakota, South Dakota, and Michigan accepted.

1971 -- Tested as in previous 3 years. Approved by Minn. AES for naming and release to registered and certified seed growers in April 1972. The name will be "Swift".

VANSOY (OAC 85)--Group 0

Developed by Crop Science Department, Ontario Agricultural College, University of Guelph, Guelph, Ontario.

F_1 of (strain from Lincoln x Flambeau) x Goldsoy, grown.

F_2 selections grown out as a bulk pedigree.

F_3, F_4, F_5, F_6, F_7 lines carried from plant selections within a line.

F_8 line selection increased and plant to row pure lines used to establish strain.

1965-67 -- Entered in Uniform Test 0 and Ontario Soybean Variety Tests.

Named and licensed January 16, 1970 (License No. 1241). 750 pounds breeder seed available for distribution.

WILKIN (M61-52)--Group 0

1961 -- Cross, Merit x Harosoy, made by J. W. Lambert at the Minnesota Agricultural Experiment Station.

1961-62 -- F_1 culture 78, greenhouse.

1962 -- F_2 culture 155, St. Paul.

1963 -- F_3 row 303, Rosemount.

1964 -- F_4 row 3665, Rosemount.

1965 -- F_5 row 4244, seed bulked

1966 -- Designated II-61-52, tested in replicated 10-foot-row plots at St. Paul and Crookston.

1967 & 68 -- Tested in replicated single-rod-row plots at Rosemount, Morris, and Crookston.

1969 -- Designated M61-52, tested in regional Preliminary Test 0, in replicated combine plots at Morris and Crookston, and in multiple-short-row plots at Grand Rapids. Thirty progeny rows grown to initiate purification.

1969-70 -- Equal amounts of seed of each of the 30 progenies bulked for small increase in Chile. Twelve pounds of seed returned.

1970 -- Tested as in 1969, except in Uniform Test 0 and an additional combine plot test at Moorhead. Seed increased to 12 bushels which were turned over to the Minnesota Crop Improvement Association. Approved by the Minnesota Agricultural Experiment Station for major increase. Seed shared with North Dakota.

1971 -- Tested as in 1970. Approved by Minn. AES for naming and release to registered and certified growers in April 1972. Name will be "Wilkin".

WILLIAMS (L66L-108)--Group III

The Williams soybean variety was developed in a breeding program conducted by R. L. Bernard, C. R. Cremeens, and D. A. Lindahl. The early generation selection was done on a farm near Eldorado in southern Illinois in cooperation with the farm operator Marshall Grisham.

1960-61 -- Cross L57-2222 (Wayne) x L57-0034 was made in the Agronomy greenhouse at Urbana. The parents were selected as the top yielding lines in the 1960 Preliminary Test III and Uniform Test IV, respectively

1961 -- F_1--grown at Urbana.

1962-65 -- F_2 to F_5--grown at Eldorado under moderate to severe stress on seed quality and a high frequency of duddy plants. Plants were selected visually each year for lodging resistance, ripe stems, good pod set, and good seed quality.

1962 -- F_2--300 plants grown from this cross and 63 selected.

1963 -- F_3--63 progeny rows grown and 1 or 2 plants selected from each of 23 rows.

1964 -- F_4--43 progeny rows grown and 145 plants selected from 32 of the rows.

1965 -- F_5--145 progeny hills grown and 1 best plant (occasionally 2 to 4) selected from each of 75 hills. (The 145 hills were also grown at Urbana and 47 plants selected from 38 hills; only 18 coincided with the Eldorado selected hills.)

1966 -- F_6--86 progeny rows grown at Eldorado. There was no seed quality stress this year, and the selection of 65 rows was based on vigor, podding, and lodging resistance. Selected rows were harvested in bulk (and included L66L-108). At Urbana 47 rows were grown from the 1965 Urbana selections and 22 were selected and bulk-harvested.

1967 -- F_7--the 65 plus 22 selected lines were yield-tested at Eldorado and Trenton in two replications of 1 rod-row plots, divided by maturity group. L66L-108 ranked first in yield in its maturity group and yielded 56 bu/a versus 47 for Clark 63 at Eldorado and 66 versus 44 for Clark 63 at Trenton.

1968 -- F_8--L66L-108 entered in regional Preliminary Test III at 23 locations. Mean yield was second only to a sister line L66L-140. In addition it showed good lodging resistance, shattering resistance, seed quality, and oil content.

1969-70 -- F_9-F_{10}--L66L-108 entered in Uniform Test III at 34 and 31 locations. It had the highest 2-year mean yield, 1 bushel above Cartland and 2 above Wayne and again showed superior lodging and shattering resistance and high seed quality and oil content.

1971 -- F_{11}--Reentered in Uniform Test III. Named Williams and publicity released July 20, 1971, by the state experiment stations in Illinois, Indiana, Iowa, Kansas, Maryland, Missouri, Nebraska, and Ohio.

Seed Increase

1968 -- F_8--48 plants were harvested individually from a seed increase block.

1969 -- F_9--45 progeny rows selected for uniformity were composited as breeder seed producing 79 pounds of seed, of which 20 pounds were sent to W. R. Fehr to increase in Iowa.

1970 -- F_{10}--2 acres of breeder seed grown in cooperation with Illinois Foundation Seeds, Inc., near Champaign, produced 76 bushels and 1 acre on the Iowa State University agronomy farm produced 44 bushels. Seeds of the sister strains L66L-140 and L66L-154 were also increased in Illinois and Iowa but were discarded after the decision to release L66L-108. The distribution of the 120 bushels among participating states was as follows:

	1970 Soybean Acreage (1000)	Commercial acreage of III and early IV* varieties			Breeder Seed Allotted (bu.)
		% of State	Acres (1000)	% of Region	
Maryland	213	41	87	.8	1**
Ohio	2438	37	902	8.0	10
Indiana	3311	47('69)	1,556	13.9	16
Illinois	6865	49	3,364	30.0	36
Iowa	5832	31	1,808	16.1	20**
Missouri	3496	61	2,133	19.0	23**
Nebraska	812	50	406	3.6	4
Kansas	1005	95	955	8.5	10
			11,211	99.9	120

* Clark 63 and Cutler
** Supplied from Iowa

WYE (Md63-3303-3)--Group IV

1951 -- Diallel crosses made between: Adams, Anderson (FC 33.243), Lincoln, Perry, Wabash, C799, C985 (progenitor of Kent), and L46-1503.

1957 -- Two F_3 lines selected from each of the 28 crosses.

1958 -- F_4 56 lines intermated by procedure described by Hanson in Crop Science 7, p. 99.

1959 -- Intercrossed seed from each line was planted and intermated. First three plants were used as females and other plants as males.

1959-60 -- F_1's grown in greenhouse.

1960 -- F_2 Two seeds from each F_1 space planted at Beltsville and single plants harvested.

1961 -- F_3 Single plant rows. Rows thinned to two plants--one harvested.

1962 -- F_4 Seed increase.

1963 -- F_5 Homozygous line test at Indiana and Beltsville.

1964 -- F_6 Homozygous line test at Indiana and Beltsville and single plant selections made from Md62-3303.

1965 -- Plant rows including Md62-3303-3.

1966 -- Preliminary test (Linkwood) M62-3303-3 entered by mistake as Md63-3303-3.

1967 -- Preliminary test at Linkwood and Queenstown, Maryland.

1968 -- Mid Atlantic Group IV and regional Preliminary Test IV

1969 -- Uniform Test IV.

1970 -- Mid Atlantic Group IV (Md62-3303 entered in regional Preliminary IV).

1971 -- Re-entered in Uniform Test IV and released August 24, 1971, by Delaware and Maryland Agricultural Experiment Station and USDA.