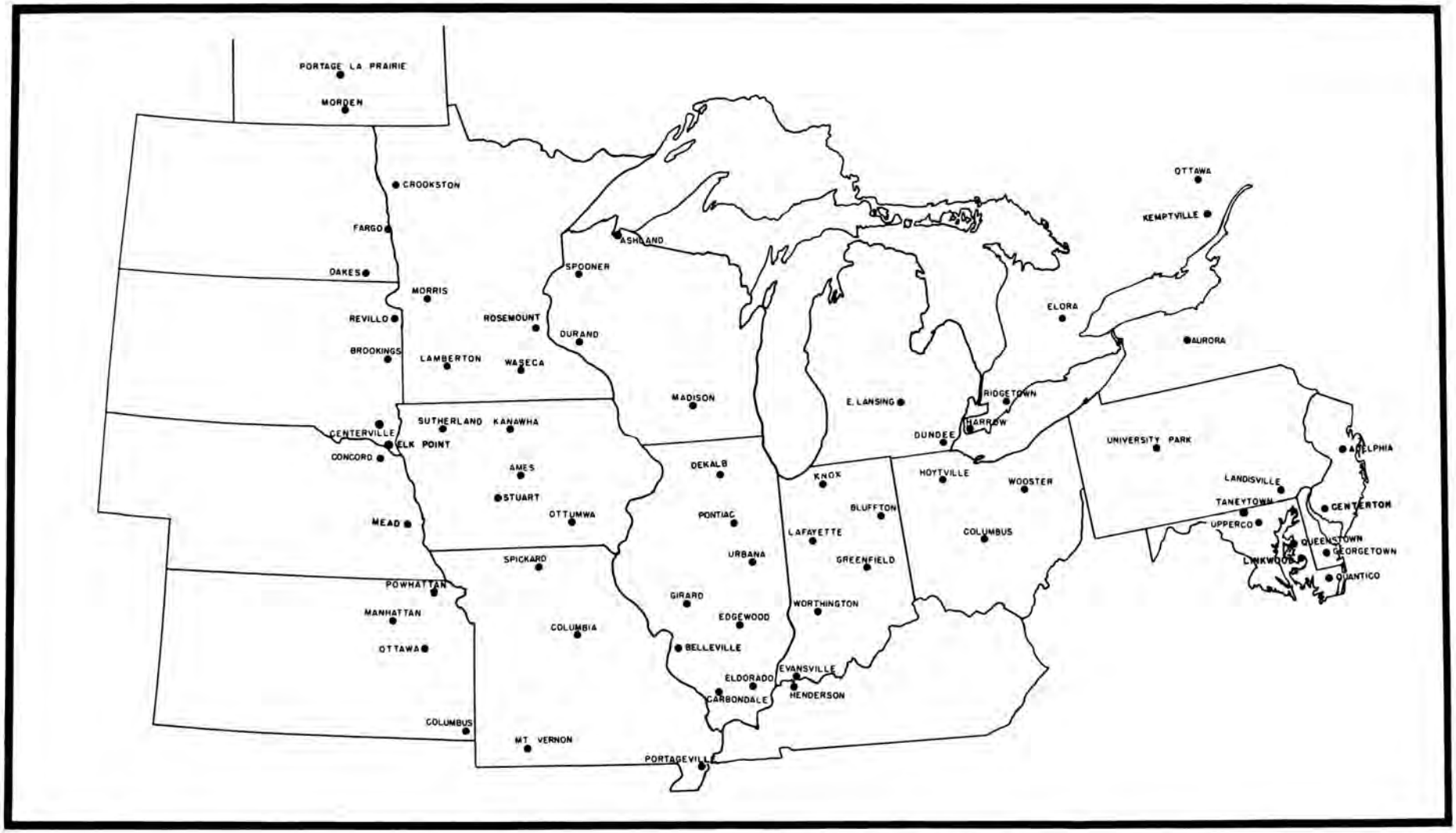

LOCATIONS OF UNIFORM SOYBEAN TESTS, NORTHERN STATES, 1972

THE UNIFORM SOYBEAN TESTS

NORTHERN STATES

1972

RSLM 250

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TABLE OF CONTENTS

Uniform Test Participants..... 3
Introduction..... 5
Methods..... 6
Uniform Test Locations..... 10
Identification of Parent Strains..... 12
Uniform Test 00..... 13
Uniform Test 0..... 20
Preliminary Test 0..... 26
Uniform Test I..... 29
Preliminary Test I..... 38
Uniform Test II..... 41
Preliminary Test II..... 56
Uniform Test III..... 59
Preliminary Test III..... 74
Uniform Test IV..... 78
Preliminary Test IV..... 94
Growing Conditions..... 98
Origin and Development of Wells.....112
Appendix: Uniform Test III-IV.....114

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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 approximately 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)	Steele (I)
I	Steele	-3 to +5	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.

Emergence Score is related to hypocotyl elongation and was measured at Ames, Iowa, on germination at 25° C (a critical temperature for differentiating strains).

Germination tests are reported on Uniform and Preliminary Tests O to IV grown at Lafayette, both on seed harvested at maturity and on seed harvested late, about 4 weeks after maturity.

Bentazon response. The new post-emergence herbicide Bentazon was tested on the strains of Uniform Tests I to IV at Urbana by Layd Wax. Although some exotic varieties of soybeans had been found to be highly sensitive the Uniform Test entries were all quite tolerant. The detailed data are not presented.

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 percent infected or simply as + (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
CR	Charcoal rot	Macrophomina phaseoli
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, PM, and SMV 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; and those for PSB are the percentage of infected seeds.

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	0	I	II	III	IV
Pa.	University Park	R. H. Cole				x	o						
	Landisville	"					x	x					
N. J.	Hopewell	J. R. Justin				o							
	Adelphia	"					x						
	Centerton							x					
Del.	Georgetown I	E. L. Wisk						x					x
Md.	Upperco	J. A. Schillinger				x							
	Reistertown B	"				o	o	o					
	Clarksville	"					x	x				x	x
	Queenstown B	"					x	x					
	Quantico W	"					x	x					
	Queenstown	R. C. Leffel &						x					
	Linkwood	V. L. Miller						x					x
Ont.	Ottawa	L. S. Donovan	x										
	Kemptville	C. Moore	x	x					x				
	Elora	D. J. Hume	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							
	Columbus	"			x	x	x	x				x	
Mich.	E. Lansing	T. J. Johnston		x	x	x			x	x			
	Dundee	"			x	x							
Ind.	Knox	J. R. Wilcox			o	o					o		
	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	o										
	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		
	Girard	D. A. Lindahl				x	x	x				x	
	Edgewood	"				x	x	x					
	Belleville	"				x	x	x				x	x
	Eldorado	"				x	x	x					x
	Cardondale	D. R. Browning				x	x	x					
Minn.	Crookston	J. W. Lambert	x										
	Morris	"	x	x					x				
	Rosemount	"	x	x					x				
	Lamberton	"			x	x				x			
	Waseca	"			x	x				x			
Iowa	Sutherland	R. C. Clark &			x					x			
	Kanawha	W. R. Fehr			x	x				x	x		

Location*		Tests Conducted by	Uniform Tests						Preliminary Tests				
			00	0	I	II	III	IV	0	I	II	III	IV
Iowa	Ames	R. C. Clark &				x					x		
	Stuart	W. R. Fehr					x	x				x	
	Ottumwa	"					x	x				x	
Mo.	Spickard	V. D. Luedders			x	x	x						
	Columbia	"			o	o	o	o			x	o	o
	Mt. Vernon	"				x	x	x					
	Portageville	L. A. Duclos						x					x
Man.	Portage la Prairie	J. E. Giesbrecht	x										
	Morden	"	x										
N. D.	Fargo	D. A. Whited	x	x					x				
	Oakes I	"			o								
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	o						
	Mead I	J. H. Williams			x	x	x	o		x	x	x	
Kansas	Powhattan	C. D. Nickell					x	x					
	Manhattan	"					x	x					
	" I	"					x	x				x	x
	Ottawa	"					x	x					x
	Columbus	L. J. Meyer					x	x					
Tex.	Lubbock I	R. D. Brigham						x					
Ore.	Ontario I	L. A. Fitch	x	x									
No. of locations with agronomic data (x,x)			10	12	22	32	30	29	9	11	11	10	10
No. with seed composition data (x)			6	7	11	14	14	13	5	6	4	4	5

1972 Disease and Shattering Tests

				UT	PT
Ont.	Harrow	PM, Peroxidase, Fluorescent Light	R. I. Buzzell	00-IV	--
Ind.	Lafayette	CR, FE_2, PR, PSB, Germination	F. A. Laviolette &	00-IV	0-IV
	"	BSR	K. L. Athow	I-IV	I-IV
Ill.	Urbana	BSR	D. W. Chamberlain	00-IV	0-IV
	"	Shattering	R. L. Bernard & C. R. Cremeens	00	--
	"	Bentazon	L. Wax	I-IV	--
Minn.	St. Paul	BSR	J. W. Lambert	00-IV	--
	Lamberton	Chlorosis	"	00-IV	--
	Crookston	"	"	00-IV	--
Iowa	Ames	BB_2, BSR, PR	H. Tachibana &	00-IV	0-IV
	"	SMVa	L. C. Card	00-IV	--
	"	BB_1, BP, BS, SMVn	J. M. Dunleavy	00-IV	--
	"	Chlorosis	W. R. Fehr	00-IV	0-IV
	"	Emergence	"	00-IV	--
Miss.	Stoneville	PR	E. E. Hartwig	II-IV	II-IV
	"	Shattering	"	II-IV	--
Kansas	Manhattan	Shattering	C. D. Nickell	00-II	0-II
Tex.	Lubbock	Shattering	R. D. Brigham	III-IV	--

* B = after barley, W = after wheat, I = irrigated

Strain	Parentage or Source	Uniform Test
Clark-I r 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-I r Rps	PR resistant yellow hilum Wayne BC	(69 P III
II-54-139	Renville x Capital	----
II-54-240	(Lincoln^2 x Richland) x Korean	----
AX56P64-1	Adams x Harosoy, progenitor of Amsoy	61-63 II
C1079	Lincoln x Ogden. From same F_3 plant as Kent	54-56 IV
C1223	C1070 x Adams; (F_3 sib of Adelphia)	60-61 III
C1253	Blackhawk x Harosoy. PR resistant	64 P II
C1264	Harosoy x C1079	62-63 II
C1265	"	62-63 II
C1266	"	62-63 IV
C1317-71	C1223^8 x Mukden	64 III
FC 31.122	From E.R. Sheffel, Bayfield, Wis., in 1941	----
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
L57-0034	Clark x Adams	60-62 IV
L62-1932	Clark-e_2 from Clark^6 x T245	65 II
L66-531	Clark-dt_1E_1t e_2 from dt_1e_2(Clark^6 x T245) x E_1t(Clark^6 x T175)	
L66-1322-1	(F_{10} Hawkeye x Lee) x (F_{10} Hawkeye x Lee)	
M10	Lincoln^2 x Richland	49-51 I
M55-134	Pagoda 25 x Chippewa	67 OO
M319	Lincoln x Hawkeye	58-61 I
M372	M10 x PI 180.501	61 I
M384	Capital x Renville	63-66 OO
M387	Renville x Capital	63 OO,64
M402	"	63-64 II
M406	Harosoy x Norchief	64-65 O
M433	Acme x Chippewa	64 O,65 O
O-52-903	Strain 753-1 from Sven A. Holmberg, Norrkoping, Sweden, same as PI 194.654 from Pagoda-2 x Fiskeby III	60-61 OO
O-57-2921	Blackhawk x Capital	60-1 O,62-5
PI 132.207	No. D14 from Dr. L. Koch, Zeist, Netherlands, in 1939	----
PI 180.501	Strain No. 18 from Frankfurt, Germany, in 1949; from a Manchurian strain x PI 54.616	----
PI 248.406	Osijecka, from Yugoslavia in 1958	----
UM-S58-544	Blackhawk x PI 194.633	
W57-2334	Seneca x Chippewa	62 I
PI 194.633	Strain 733-4 from Sven A. Holmberg, Norrkoping, Sweden	60 P OO (as Me27A

Strain		Parentage	Line	Previous Testing*
1.	Ada	Merit x Norman	F_5	2
2.	Altona	0-52-903(Holmberg 753-1) x Flambeau	F_5	8
3.	Morsoy	Acme x L48-7289(Seneca x Richland)	F_7	4
4.	Norman	Acme x Hardome	F_5	7
5.	Portage	Acme x Comet	F_5	12
6.	CM119	Acme x Blackhawk	F_7	1
7.	CM145	"	F_7	P 00
8.	M62-173	M387(Renville x Capital) x M406(Harosoy x Norchief)	F_5	U 0
9.	M64-101	Merit x M55-134(Pagoda 25 x Chippewa)	F_5	
10.	M64-105	Chippewa 64 x M433(Acme x Chippewa)	F_5	

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

Regional means of the five named varieties in this test show a positive regression of yield on maturity, which is expected for this maturity group. The top-yielding variety, Altona, is also the latest in maturity. Ada, which was just released last year, averaged (3-year mean) slightly low in yield for its maturity but has phytophthora resistance and remarkable resistance to lime-induced chlorosis in the Minnesota tests.

Of the 5 experimental strains only one was in this test last year. CM119 has averaged close to Altona in yield both years. It averaged earlier in 1971 but about the same maturity as Altona in 1972. CM145 was advanced from last year's Preliminary 00 and has yielded very well for its early maturity and in addition has phytophthora resistance but may be somewhat deficient in seed composition.

M62-173, **was entered** from last year's Uniform Test 0 since it is borderline in maturity between group 00 and 0. It averaged well ahead in yield in this test and ranked first in 7 out of the 10 locations but was several days later than the other strains. The remaining 2 strains were new entries, in this test since there was no Preliminary Test in 1972. Their yield performance was not up to that of the check varieties except in Manitoba where M64-101 did very well at both locations.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
				1972					
No. of Tests	9	9	9	7	7	9	9	5	5
Ada	33.5	10	+ 5.1	3.1	32	2.1	17.8	40.9	19.8
Altona	36.3	2	+ 5.8	2.8	30	2.1	19.0	40.2	20.2
Morsoy	36.0	4	+ 5.0	3.4	32	2.5	18.6	37.3	22.3
Norman	34.6	8	+ 1.7	2.8	30	2.1	17.4	40.2	20.3
Portage	33.8	9	9-15†	1.4	28	2.4	18.0	39.1	20.9
CM119	35.6	5	+ 5.6	2.9	31	2.7	20.0	39.9	20.2
CM145	35.6	5	+ 2.2	2.4	27	2.7	19.6	38.3	21.1
M62-173	39.7	1	+10.1	2.8	30	2.6	15.1	37.7	21.2
M64-101	36.1	3	+ 8.1	2.3	35	1.9	16.6	39.6	20.0
M64-105	34.7	7	+ 5.1	1.9	32	1.9	16.7	40.1	20.6

† 113 days after planting

				1970-72, 3-year mean					
No. of Tests	29	29	27	27	27	27	25	17	17
Ada	31.0	4	+ 5.5	2.5	31	1.9	17.7	41.6	19.6
Altona	33.1	1	+ 6.3	2.5	30	2.2	18.9	41.5	19.9
Morsoy	32.3	2	+ 6.2	2.9	31	2.6	19.2	38.9	21.8
Norman	31.5	3	+ 2.8	2.3	29	2.0	17.3	41.1	20.0
Portage	30.5	5	9-11†	1.5	27	2.4	18.0	40.2	20.3

† 112 days after planting

				1968-72, 5-year mean					
No. of Tests	48	48	46	40	44	45	41	28	28
Altona	32.1	1	+ 4.5	2.6	29	2.2	19.0	40.9	20.1
Morsoy	31.8	2	+ 5.8	2.9	30	2.7	20.6	38.6	21.8
Norman	31.0	3	+ 2.6	2.3	29	1.9	17.6	40.8	20.1
Portage	30.1	4	9-12†	1.5	27	2.4	18.3	39.9	20.2

† 114 days after planting

				1965-72, 8-year mean					
No. of Tests	74	74	67	59	70	67	63	43	43
Altona	30.6	1	+ 4.8	2.5	29	2.4	18.4	40.5	20.0
Norman	29.7	2	+ 2.7	2.3	29	2.1	17.0	40.1	20.0
Portage	28.6	3	9-13†	1.5	27	2.3	17.9	39.4	20.1

† 113 days after planting

Disease Data

Strain	BB Ames Iowa n1	BB Ames Iowa n2	BP Ames Iowa n	BS Ames Iowa n	FE_2 Laf. Ind. a	PM Har. Ont. a	BSR Urb. Ill. n	BSR Urb. Ill. %	BSR St. Paul Minn. n	BSR St. Paul Minn. %	BSR Ames Iowa n	BSR Ames Iowa %	CR Laf. Ind. n	CR Laf. Ind. %	PR Laf. Ind. a	PR Ames Iowa a	SMV Ames Iowa n	SMV Ames Iowa a
Ada	4.5	3	4.0	4.0	4	R	80		90		55		100		H	R	1	35
Altona	3.5	2	4.0	3.5	5	R	70		100		36		71		R	R	1	63
Morsoy	4.0	3	4.0	4.0	5	R	50		95		28		62		S	S	1	47
Norman	4.0	3	4.0	3.0	5	S	70		60		34		92		S	H	1	42
Portage	4.0	3	3.5	4.5	5	S	100		100		39		91		S	H	2	39
CM119	4.5	2	4.0	3.0	5	R	50		100		58		90		R	R	1	85
CM145	3.5	3	4.0	3.5	5	R	70		100		52		91		R	R	1	50
M62-173	3.5	2	4.0	5.0	5	R	70		80		37		100		S	S	1	60
M64-101	4.0	2	4.0	4.0	5	R	80		100		31		71		H	S	1	60
M64-105	3.5	3	4.0	5.0	5	R	50		95		25		100		R	R	1	85

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Crkstn. Minn.	Chlorosis Lamb. Minn.	Chlorosis Ames Iowa	Fluorescent Light	Emergence	Peroxidase	Shattering Urb. Ill.	Shattering Man. Kan. 2 wk.	Shattering Man. Kan. 6 wk.
Ada	WGNBr SYY	1	1.0	1.8	E	2	L	1.0	1.8	3.0
Altona	PTNBr SYBl	4	4.0	2.5	E	1	H	2.0	1.5	3.5
Morsoy	PGNBr DYLib	2	3.0	1.2	E	2	L	2.0	1.8	4.5
Norman	PGNBr SYY	2	2.3	2.2	E	1	H	1.5	1.0	2.0
Portage	PGNBr D+SYY	3	3.0	1.8	E	1	H	3.0	4.0	5.0
CM119	PGNBr SYG	5	2.0	2.5	E	1	H	2.0	1.8	4.0
CM145	PGNBr DYY	5	4.3	3.4	E	2	H	2.5	2.5	5.0
M62-173	PGNBr DYY	1	2.3	1.9	L	2	L	1.0	1.0	1.0
M64-101	WGNBr DYY	1	1.7	1.8	E	2	L	1.5	2.0	3.5
M64-105	PTNBr SYBr	1	2.3	2.1	E	2	L	1.0	1.0	1.5

Strain	Mean	Ontario			Minnesota			Manitoba		North Dak.	Oregon
		Ottawa	Kemptville	Elora	Crookston	Morris	Rosemount	Portage la Prairie	Morden	Fargo	Ontario I
9 Tests					1972 YIELD (bu/a)						*
Ada	33.5	35.6	35.1	40.1	19.6	34.3	38.7	30.7	26.4	41.3	50.9
Altona	36.3	39.4	42.4	41.7	21.7	36.6	40.9	34.7	28.1	40.8	52.3
Morsoy	36.0	38.5	38.5	40.3	22.1	38.1	37.7	33.8	30.1	44.5	59.1
Norman	34.6	36.1	40.7	38.4	21.1	33.1	37.2	32.5	26.5	45.5	59.1
Portage	33.8	35.1	38.2	38.5	24.2	33.9	34.0	32.5	24.9	42.5	52.4
CM119	35.6	37.4	40.9	44.0	19.9	39.1	37.5	32.5	25.0	43.9	53.6
CM145	35.6	41.5	40.8	42.3	21.1	38.7	38.1	31.1	22.1	45.1	49.5
M62-173	39.7	42.0	47.2	42.4	24.9	46.4	43.6	35.6	28.5	46.4	67.9
M64-101	36.1	37.4	40.3	41.2	20.7	36.2	38.9	36.2	31.3	42.5	64.2
M64-105	34.7	38.4	36.8	39.7	23.4	34.3	36.6	30.9	28.4	43.8	56.7
C.V. (%)		8.2	7.0	12.9	13.8	8.4	5.2	7.7	7.3	6.0	6.1
L.S.D. (5%)		4.5	4.3	ns	5.2	5.3	3.4	3.6	2.9	3.8	5.9
Row Sp. (in.)		34	21	12	28	30	30	36	30	24	20
Rows/Plot		3	4	4	4	4	4	3	3	3	4
Reps		4	3	4	3	3	3	4	4	4	3
					YIELD RANK						*
Ada	10	9	10	7	10	7	4	10	7	9	9
Altona	2	3	2	4	5	5	2	3	5	10	8
Morsoy	4	4	7	6	4	4	6	4	2	4	3
Norman	8	8	5	10	6	10	8	5	6	2	3
Portage	9	10	8	9	2	9	10	5	9	7	7
CM119	5	6	3	1	9	2	7	5	8	5	6
CM145	5	2	4	3	6	3	5	8	10	3	10
M62-173	1	1	1	2	1	1	1	2	3	1	1
M64-101	3	6	6	5	8	6	3	1	1	7	2
M64-105	7	5	9	8	3	7	9	9	4	6	5
29 Tests					1970-72, 3-YEAR MEAN YIELD						
					71-72		a		70,72		71-72
Ada	30.9	39.6	32.3	37.7	22.7	30.2	37.9	30.1	24.6	27.0	54.2
Altona	33.1	40.3	36.0	41.5	23.1	33.5	40.1	33.3	24.8	27.2	54.5
Morsoy	32.2	40.6	30.4	39.2	21.5	31.1	42.1	31.2	28.0	27.6	61.2
Norman	31.4	39.8	40.7	39.7	20.6	29.4	35.8	30.7	21.0	27.3	61.1
Portage	30.5	37.7	33.1	39.5	22.5	27.5	35.7	29.8	21.2	27.3	53.1
					YIELD RANK						
Ada	4	4	4	5	2	3	3	4	3	5	4
Altona	1	2	2	1	1	1	2	1	2	4	3
Morsoy	2	1	5	4	4	2	1	2	1	1	1
Norman	3	3	1	2	5	4	4	3	5	2	2
Portage	5	5	3	3	3	5	5	5	4	2	5

a St. Paul in 1970

Strain	Mean	Ontario			Minnesota			Manitoba		North Dak.	Oregon
		Ottawa	Kemptville	Elora	Crookston	Morris	Rosemount	Portage la Prairie	Morden	Fargo	Ontario I
	9 Tests			MATURITY (relative date)							*
Ada	+ 5.1	+11	+ 3	+ 3	+3	+ 5	+ 9	+ 5	+ 3	+ 4	+ 3
Altona	+ 5.8	+ 9	+ 5	+ 1	+3	+ 8	+ 8	+ 9	+ 5	+ 4	+ 3
Morsoy	+ 5.0	+ 8	+ 3	+ 4	-1	+ 5	+ 9	+ 9	+ 5	+ 3	+11
Norman	+ 1.7	+ 5	0	+ 1	-3	+ 3	+ 4	+ 2	+ 2	+ 1	+ 1
Portage†	9-15	9-22	9-17	9-17	9-23	9-10	8-27	9-17	9-10	9-19	8-26
CM119	+ 5.6	+11	+ 5	+ 5	+ 1	+ 6	+ 7	+12	+ 3	0	+ 8
CM145	+ 2.2	+ 9	0	0	+ 3	+ 3	- 2	+ 8	- 1	0	+ 2
M62-173	+10.1	+12	+16	+ 6	+ 8	+10	+ 9	+14	+10	+ 6	+ 5
M64-101	+ 8.1	+13	+ 8	+ 6	+ 3	+ 8	+ 9	+12	+ 8	+ 6	+ 7
M64-105	+ 5.1	+ 7	+ 5	+ 4	0	+ 3	+ 8	+12	+ 4	+ 3	+ 5
Clay (O)				+11	+ 6	+10	+10				+13
Date Planted	5-28	5-26	6-8	6-19	5-24	6-1	5-10	5-16	5-25	5-31	5-5
†Days to mat.	113	119	101	121	122	101	109	124	108	111	113
	7 Tests			LODGING (score)					*		*
Ada	3.1	4		2.5	2.0	3.7	4.0	2.3	1	3	3.5
Altona	2.8	3		2.3	1.7	3.7	3.7	2.3	1	3	2.3
Morsoy	3.4	4		3.6	1.7	4.0	4.3	3.0	1	3	4.2
Norman	2.8	3		3.3	1.7	3.0	3.7	1.8	1	3	4.5
Portage	1.4	2		1.4	1.0	1.3	2.0	1.3	1	1	2.2
CM119	2.9	3		3.3	1.7	3.7	4.0	2.8	1	2	3.8
CM145	2.4	4		2.5	1.0	3.0	3.0	2.0	1	1	4.0
M62-173	2.8	4		1.8	2.0	3.3	2.7	2.5	1	3	1.8
M64-101	2.3	3		2.1	1.0	2.7	3.0	2.5	1	2	3.2
M64-105	1.9	3		2.3	1.3	2.3	2.3	1.3	1	1	3.5
	7 Tests			PLANT HEIGHT (inches)							*
Ada	32	38		35	28	28	34		28	32	40
Altona	30	33		31	28	26	33		25	33	33
Morsoy	32	37		35	28	28	32		29	35	36
Norman	30	33		34	24	27	32		25	35	38
Portage	28	33		31	26	26	29		23	29	34
CM119	31	35		35	28	29	31		24	32	31
CM145	27	34		31	23	25	28		21	27	30
M62-173	30	32		31	31	27	31		26	29	24
M64-101	35	37		40	35	30	38		29	35	38
M64-105	32	37		33	30	28	36		26	31	38

Strain	Mean	Ontario			Minnesota			Manitoba		North Dak.	Oregon
		Ottawa	Kemptville	Elora	Crookston	Morris	Rosemount	Portage la Prairie	Morden	Fargo	Ontario I
9 Tests					SEED QUALITY (score)						*
Ada	2.1	3	2	1.5	1.7	2.0	3.7	1.8	1.8	1	2.0
Altona	2.1	1	2	3.0	2.3	2.0	2.7	1.5	1.3	3	2.0
Morsoy	2.5	2	2	2.0	3.0	2.3	4.0	2.5	2.3	2	3.0
Norman	2.1	3	1	2.5	2.3	1.7	3.7	1.8	2.0	1	1.5
Portage	2.4	4	2	1.5	2.7	2.3	2.7	2.3	2.0	2	1.5
CM119	2.7	3	2	2.0	3.7	3.0	3.7	3.3	1.8	2	2.5
CM145	2.7	3	3	3.0	3.0	2.3	2.7	3.0	2.5	2	2.0
M62-173	2.6	4	3	3.5	2.0	1.7	3.3	2.8	2.3	1	1.5
M64-101	1.9	3	1	1.5	2.3	1.7	2.3	2.0	2.0	1	1.5
M64-105	1.9	1	1	1.0	2.3	2.3	3.0	2.3	2.3	2	1.5
9 Tests					SEED SIZE (g/100)						*
Ada	17.8	21.6	16.8	15.6	16.5	16.7	17.1	20.0	17.3	18.9	22.0
Altona	19.0	22.6	19.9	17.4	16.9	19.0	18.0	21.1	18.6	17.4	22.0
Morsoy	18.6	20.3	18.3	16.0	16.2	19.0	18.5	21.2	17.9	19.7	23.0
Norman	17.4	21.3	16.0	15.1	17.9	16.4	16.4	18.0	16.7	18.7	19.5
Portage	18.0	21.0	16.4	15.5	19.7	18.2	17.5	19.1	16.0	18.9	21.0
CM119	20.0	22.9	19.2	17.2	19.1	20.8	19.6	21.3	19.0	20.8	22.0
CM145	19.6	23.3	19.6	16.3	19.2	21.3	17.5	21.0	18.2	19.8	22.5
M62-173	15.1	16.6	15.2	13.0	12.9	15.8	15.1	17.8	13.5	15.7	17.5
M64-101	16.6	19.5	14.5	14.2	16.9	16.6	16.9	18.9	16.0	15.7	21.0
M64-105	16.7	20.9	15.6	15.5	15.4	16.2	15.8	18.3	16.3	16.2	20.0

Strain	Mean	Ontario		Minnesota	Manitoba	North Dakota	Oregon
		Ottawa	Elora	Crookston	Morden	Fargo	Ontario I
	5 Tests			PROTEIN (%)			*
Ada	40.9	42.0	41.3	39.2	41.9	40.2	39.6
Altona	40.2	42.5	41.6	36.4	41.2	39.5	39.5
Morsoy	37.3	38.9	38.2	34.3	38.0	37.0	36.8
Norman	40.2	40.0	42.1	38.3	40.5	40.2	38.4
Portage	39.1	40.1	39.4	37.7	39.4	38.9	37.8
CM119	39.9	41.3	40.6	38.0	40.3	39.3	39.6
CM145	38.3	39.6	39.1	36.1	38.1	38.6	38.3
M62-173	37.7	39.2	39.9	32.8	38.6	37.8	37.2
M64-101	39.6	40.4	42.0	37.1	40.2	38.4	40.5
M64-105	40.1	41.6	42.8	36.9	41.0	38.4	41.4
	5 Tests			OIL (%)			
Ada	19.8	18.9	18.5	21.0	20.3	20.3	20.5
Altona	20.2	18.7	19.0	22.0	20.2	21.1	20.9
Morsoy	22.3	21.3	20.3	24.6	22.3	23.1	22.2
Norman	20.3	19.4	18.2	21.5	20.6	21.8	21.5
Portage	20.9	19.8	19.3	21.8	21.3	22.1	22.6
CM119	20.2	18.8	18.9	21.1	20.7	21.4	21.5
CM145	21.1	19.8	19.4	22.5	22.3	21.6	21.6
M62-173	21.2	19.9	19.3	23.2	21.3	22.2	23.5
M64-101	20.0	19.2	18.3	21.6	19.8	21.3	19.4
M64-105	20.6	19.5	18.9	21.5	21.1	22.2	21.0

Strain	Parentage	Line	Previous Testing*
1. Clay	Capital x Renville	F_5	5
2. Merit	Blackhawk x Capital	F_8	14
3. Swift	II-54-240[(Lincoln^2 x Richland) x Korean] x II-54-139(Renville x Capital)	F_5	4
4. Wilkin	Merit x Harosoy	F_5	2
5. M61-96	"	F_5	2
6. M61-207	Merit x Norman	F_5	1
7. M61-216	Merit x Harosoy	F_5	1
8. M62-177	M387(Renville x Capital) x M406(Harosoy x Norchief)	F_5	1
9. M63-172	M402(Renville x Capital) x M406(Harosoy x Norchief)	F_5	P 0

Three of the varieties have been in the test for 5 years or more, and their mean performance shows Clay and Swift yielding well for their respective maturities and the older variety, Merit, lagging in yield. M61-96 was top yielder in the 2- and 3-year regional means and has good lodging resistance, height, and seed quality and carries resistance to phytophthora rot.

Three of the remaining strains have been in the test for two years. The two-year regional mean shows M62-177 yielding second only to M61-96 which is over 3 days later. It outyielded the early check, Clay, by about a bushel but has the drawback of being susceptible to lime chlorosis. M61-207 and M61-216 were resistant to chlorosis and to phytophthora but showed no advantage in yield over checks of comparable maturity. M62-177, advanced from last year's Preliminary O, was relatively poor in yield performance, similar to Swift in maturity but 3 bushels lower in yield.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
				1972					
No. of Tests	8	8	7	7	7	7	8	6	6
Clay	38.3	5	-5.9	1.6	28	2.9	16.6	40.1	21.6
Merit	35.0	9	9-25†	2.4	36	2.3	13.7	39.4	21.1
Swift	38.9	4	+1.1	2.8	38	2.1	15.6	37.8	21.6
Wilkin	39.4	3	-5.3	1.3	30	2.2	15.2	39.4	21.0
M61-96	40.1	2	-1.4	2.2	37	2.2	15.1	38.2	21.7
M61-207	38.3	5	-2.3	2.5	32	1.9	15.4	40.3	20.2
M61-216	38.0	7	-3.6	2.1	34	1.9	15.3	39.2	21.2
M62-177	40.4	1	-4.3	2.1	32	2.1	18.1	39.5	20.7
M63-172	35.9	8	+1.1	2.6	38	2.4	16.8	38.5	21.5

† 124 days after planting

				1971-72, 2-year mean					
No. of Tests	16	16	14	15	15	14	16	12	12
Clay	37.0	5	-6.7	1.5	27	2.9	16.5	41.1	21.5
Merit	35.4	8	9-25†	2.1	34	2.2	14.2	40.1	21.3
Swift	38.0	3	0	2.5	36	2.2	15.7	38.6	21.5
Wilkin	36.8	6	-6.6	1.3	28	2.1	15.1	40.4	20.8
M61-96	39.8	1	-1.4	2.0	34	1.9	15.5	39.4	21.6
M61-207	37.3	4	-3.0	2.1	31	2.0	15.4	40.7	20.3
M61-216	36.1	7	-4.9	1.9	32	1.9	15.2	40.2	21.0
M62-177	38.3	2	-5.0	1.9	31	2.2	17.9	40.6	20.6

† 127 days after planting

				1970-72, 3-year mean					
No. of Tests	24	24	21	22	23	21	22	17	17
Clay	35.5	3	-6.4	1.5	27	2.6	16.7	41.0	21.7
Merit	34.3	5	9-22†	2.0	35	2.0	14.5	40.4	21.3
Swift	36.2	2	+0.6	2.5	36	2.1	15.7	38.8	21.5
Wilkin	34.9	4	-6.0	1.2	28	2.1	16.7	40.4	20.9
M61-96	37.8	1	-0.8	1.9	34	1.8	15.5	39.6	21.8

† 123 days after planting

				1968-72, 5-year mean					
No. of Tests	40	40	36	36	38	35	32	30	30
Clay	34.9	2	-5.7	1.4	27	2.3	16.7	41.1	21.7
Merit	34.4	3	9-21†	2.1	34	2.1	14.4	40.4	21.2
Swift	36.3	1	+0.9	2.4	36	2.2	15.8	39.2	21.4

† 124 days after planting

Disease Data

Strain	BB Ames Iowa		BP Ames Iowa	BS Ames Iowa	FE_2 Laf. Ind.	PM Har. Ont.	BSR Urb. Ill.	BSR St.Paul Minn.	BSR Ames Iowa	CR Laf. Ind.	PR Laf. Ind.	PR Ames Iowa	SMV Ames Iowa		PSB Laf. Ind. Mat.	PSB Laf. Ind. Late
	n1	n2	n	n	a	a	n %	n %	n %	n %	a	a	n	a %	n %	n %
Clay	3.5	1	4.0	4.0	5	S	40	100	40	100	S	S	1	45	12	70
Merit	3.0	2	4.5	4.5	5	R	60	100	35	100	H	R	1	47	8	78
Swift	3.0	1	4.5	4.0	5	R	80	100	35	80	S	S	1	30	8	82
Wilkin	4.0	2	3.5	4.0	5	R	50	100	28	92	R	R	3	30	3	73
M61-96	4.0	2	4.0	4.0	5	R	60	95	31	90	R	R	1	60	6	62
M61-207	4.5	2	4.0	4.0	5	H	50	100	41	100	R	R	1	25	1	66
M61-216	4.5	2	4.0	4.5	5	R	50	95	32	100	R	R	1	45	6	77
M62-177	4.0	2	4.0	4.0	5	R	60	95	41	100	S	S	2	32	32	86
M63-172	3.5	1	3.5	4.5	4	R	40	100	20	92	S	S	1	60	4	71

Descriptive and Other Data

	Descriptive Code		Chlorosis Crkstn. Minn.	Chlorosis Lamb. Minn.	Chlorosis Ames Iowa	Flour-escent Light	Emer-gence	Perox-idase	Shattering Manhattan Kansas 2 wk.	Shattering Manhattan Kansas 6 wk.	Germination Lafayette Indiana Mat.	Germination Lafayette Indiana Late
Clay	PGNBr	SYY	1	3.0	3.0	E	1	L+H	1.8	2.5	82	53
Merit	WGNBr	DYBf	3	2.7	2.1	E	1	L	1.8	2.0	88	45
Swift	WTNBr	DYBl	1	2.7	2.4	E	2	H	3.0	4.0	92	43
Wilkin	WGNBr	DYY	1	2.3	2.2	E	1	L	2.5	4.5	96	55
M61-96	WGNBr	DYY	2	3.0	2.2	E+L	1	H	2.0	2.0	74	53
M61-207	WGNBr	DYY	1	1.7	2.1	E	1	L	1.5	2.5	94	50
M61-216	WGNBr	DYY	2	2.3	1.8	E	2	L	2.0	2.5	95	41
M62-177	PGNBr	DYY	3	3.3	3.5	E	2	L	2.0	2.5	67	27
M63-172	PGNBr	DYY	1	2.7	2.0	E	3	H	2.5	4.0	85	47

Strain	Mean	Ontario Kemptville	Ontario Elora	Ontario Ridgetown	Ohio Hoytville	Mich. E.Lansing	Wisconsin Spooner	Wisconsin Durand	Minn. Morris	Minn. Rosemount	North Dak. Fargo	South Dak. Revillo	Oregon Ontario I
8 Tests						1972 YIELD (bu/a)							
					*		*	*					*
Clay	38.3	35.1	28.0	50.3	21.4	37.2	34.0	26.1	43.1	42.5	47.8	22.0	62.5
Merit	35.0	31.6	33.1	47.4	23.1	32.9	30.8	25.8	32.6	35.6	44.9	21.6	64.7
Swift	38.9	34.4	34.6	53.1	25.4	38.2	38.5	32.4	41.8	37.3	43.4	28.1	65.6
Wilkin	39.4	43.8	38.7	48.4	24.5	33.3	36.3	23.8	40.1	44.5	46.2	20.3	63.1
M61-96	40.1	37.9	43.5	52.9	25.1	39.6	37.3	28.9	39.9	41.4	41.1	24.7	69.9
M61-207	38.3	36.7	36.8	49.8	24.3	34.2	34.3	28.9	38.5	42.2	44.3	23.7	63.0
M61-216	38.0	41.8	36.2	47.7	23.3	30.4	31.7	26.5	39.5	41.5	45.4	21.1	60.9
M62-177	40.4	46.0	34.9	52.0	20.6	34.7	36.4	26.5	40.4	40.8	49.3	25.2	61.9
M63-172	35.9	23.9	32.4	50.9	31.0	39.0	36.7	31.5	35.4	41.8	40.2	23.8	65.1
C.V. (%)		8.1	13.8	4.9		11.5	8.7	7.2	9.3	8.6	6.7	14.8	5.7
L.S.D. (5%)		4.6	7.1	3.6		5.9	4.5	2.8	6.3	5.8	4.4	n.s.	n.s.
Row Sp. (in.)		21	12	24	32	28	36	36	30	30	24	36	20
Rows/Plot		4	4	4	3	3	1	1	4	4	3	3	4
Reps		3	4	4	4	4	4	4	3	3	4	4	3
						YIELD RANK							
Clay	5	6	9	5	8	4	7	7	1	2	2	6	7
Merit	9	8	7	9	7	8	9	8	9	9	5	7	4
Swift	4	7	6	1	2	3	1	1	2	8	7	1	2
Wilkin	3	2	2	7	4	7	5	9	4	1	3	9	5
M61-96	2	4	1	2	3	1	2	3	5	6	8	3	1
M61-207	5	5	3	6	5	6	6	3	7	3	6	5	6
M61-216	7	3	4	8	6	9	8	5	6	5	4	8	9
M62-177	1	1	5	3	9	5	4	5	3	7	1	2	8
M63-172	8	9	8	4	1	2	3	2	8	4	9	4	3
24 Tests						1970-72, 3-YEAR MEAN YIELD							
										70,72 a			71-72
Clay	35.5	35.7	34.8	45.8	23.7		24.5	21.5	39.6	47.3	31.8	31.4	56.8
Merit	34.3	31.8	33.5	46.0	26.6		25.0	20.9	34.7	39.0	30.4	32.3	63.3
Swift	36.2	35.6	35.0	49.2	28.6		26.8	23.8	39.1	41.1	29.1	33.6	62.1
Wilkin	34.8	36.4	38.6	43.8	22.5		24.3	21.0	37.8	44.9	30.5	28.5	60.3
M61-96	37.8	40.5	43.2	48.6	26.8		27.7	23.5	39.6	43.3	30.4	33.1	70.1
						YIELD RANK							
Clay	3	3	4	4	4		4	3	1	1	1	4	5
Merit	5	5	5	3	3		3	5	5	5	3	3	2
Swift	2	4	3	1	1		2	1	3	4	5	1	3
Wilkin	4	2	2	5	5		5	4	4	2	2	5	4
M61-96	1	1	1	2	2		1	2	1	3	3	2	1

a St. Paul in 1970

Strain	Mean	Ontario Kemptville	Ontario Elora	Ontario Ridgetown	Ohio Hoytville	Mich. E.Lansing	Wis. Spooner	Wis. Durand	Minn. Morris	Minn. Rosemount	North Dak. Fargo	South Dak. Revillo	Oregon Ontario I
	7 Tests			MATURITY (relative date)									
					*		*	*					*
Clay	-5.9	- 3	- 6	-12	- 4	- 2	- 9		- 5	-10		- 3	-10
Merit†	9-25	10-6	10-4	9-25	9-2	9-10	9-22		9-25	9-17		10-1	9-18
Swift	+1.1	- 5	- 5	+10	+ 3	+ 2	0		+ 4	+ 1		+ 1	- 1
Wilkin	-5.3	- 9	-12	- 5	- 3	- 2	- 8		0	- 9		0	-10
M61-96	-1.4	0	- 6	- 1	- 3	- 1	+ 3		- 1	- 1		0	- 2
M61-207	-2.3	0	- 7	- 5	- 1	- 1	0		0	- 1		- 2	- 8
M61-216	-3.6	- 3	-11	+ 3	- 3	- 4	- 2		- 3	- 4		- 3	- 6
M62-177	-4.3	- 5	-10	+ 2	- 3	- 4	+ 2		0	- 9		- 4	-10
M63-172	+1.1	+ 2	+ 2	+ 1	+ 2	0	+ 4		0	+ 2		+ 1	0
Morsoy (00)		-16	-13						-10	-11			-12
Steele (I)				+ 7	+13	+11			+ 2	+ 8			
Date Planted	5-25	6-8	5-19	5-19		5-19	5-25	5-25	6-1	5-10	5-31	6-3	5-5
†Days to mat.	124	120	138	129		114	120		116	130		120	136
	7 Tests			LODGING (score)									
				*		*	*						*
Clay	1.6		1.4	1.0	1	1	1.6	3.3	1.3	2.0	2	2.3	2.5
Merit	2.4		2.8	1.5	1	2	2.1	2.3	2.3	3.3	3	2.0	4.7
Swift	2.8		3.4	1.5	2	2	3.0	2.3	3.0	3.3	4	2.4	4.5
Wilkin	1.3		1.1	1.0	1	1	1.0	2.5	1.0	1.3	2	2.0	1.8
M61-96	2.2		2.8	1.5	1	1	2.0	2.5	2.0	3.0	3	1.9	4.0
M61-207	2.5		3.5	2.0	1	3	2.6	3.5	1.3	3.0	2	2.5	4.0
M61-216	2.1		1.9	1.5	1	1	2.3	2.8	1.7	3.0	3	2.3	4.0
M62-177	2.1		1.5	2.0	1	1	2.8	2.8	2.0	3.0	3	2.1	3.8
M63-172	2.6		3.6	2.0	2	2	1.9	2.0	2.7	3.0	3	1.8	4.8
	7 Tests			PLANT HEIGHT (inches)									
					*		*	*					*
Clay	28		30	29	23	28	25	29	26	32	31	21	31
Merit	36		42	41	28	35	35	35	33	39	42	23	52
Swift	38		44	42	31	40	36	37	32	42	42	27	57
Wilkin	30		34	33	24	31	28	30	26	34	31	22	32
M61-96	37		41	41	30	38	36	36	35	40	42	25	40
M61-207	32		35	35	23	37	32	34	27	38	33	22	35
M61-216	34		35	38	26	36	32	36	29	36	38	24	38
M62-177	32		33	36	21	33	29	33	30	33	35	22	34
M63-172	38		42	41	34	39	36	36	34	42	41	27	58

Strain	Mean	Ontario Kemptville	Ontario Elora	Ontario Ridgetown	Ohio Hoytville	Mich. E.Lansing	Wisconsin Spooner	Wisconsin Durand	Minn. Morris	Minn. Rosemount	North Dak. Fargo	South Dak. Revillo	Oregon Ontario I
7 Tests					SEED QUALITY (score)								
					*		*						*
Clay	2.9	3	3.5	3	1.2		1.0		3.0	3.3	2	2.2	1.5
Merit	2.3	3	2.0	3	1.0		1.7		2.7	3.0	1	1.3	1.5
Swift	2.1	2	1.5	3	1.5		1.5		2.7	3.3	1	1.3	1.0
Wilkin	2.2	2	3.0	3	1.5		1.0		2.0	2.7	1	1.4	2.0
M61-96	2.2	3	2.5	3	1.0		1.6		1.7	2.7	1	1.3	1.5
M61-207	1.9	2	3.0	2	1.0		1.0		1.7	2.0	1	1.3	2.0
M61-216	1.9	1	2.5	3	1.0		1.0		2.0	2.7	1	1.3	2.0
M62-177	2.1	1	2.0	3	1.2		1.4		2.3	3.7	1	1.8	2.0
M63-172	2.4	4	2.5	3	1.0		1.6		2.3	2.3	1	1.4	2.0
8 Tests					SEED SIZE (g/100)								
					*								*
Clay	16.6	15.9	14.0	18.5	17.8	17.4			16.4	16.5	16.5	17.4	22.5
Merit	13.7	13.3	12.0	14.8	15.0	15.2			12.3	13.8	14.5	14.0	19.0
Swift	15.6	13.8	12.7	19.2	16.9	17.1			15.5	17.0	15.0	14.6	21.5
Wilkin	15.2	13.5	12.2	16.6	17.2	15.5			15.5	14.6	16.0	17.5	20.5
M61-96	15.1	14.2	12.9	18.5	16.3	16.2			14.0	15.8	15.0	13.9	21.0
M61-207	15.4	13.7	12.9	18.6	17.4	15.9			15.3	16.1	16.0	15.0	21.0
M61-216	15.3	13.9	12.1	17.9	17.3	15.4			14.9	16.2	15.8	16.3	21.0
M62-177	18.1	17.8	14.4	21.4	16.2	17.4			18.9	17.4	19.0	18.8	21.8
M63-172	16.8	16.4	15.1	19.9	18.6	17.8			16.0	17.3	16.5	15.3	23.5
6 Tests					PROTEIN (%)								*
Clay	40.1		42.2		37.6	41.4			40.4		38.7	40.0	39.9
Merit	39.4		41.9		36.5	41.7			39.5		37.8	38.7	39.6
Swift	37.8		40.3		34.5	39.3			38.6		36.3	37.5	38.0
Wilkin	39.4		40.6		36.0	40.8			40.0		39.0	39.9	39.8
M61-96	38.2		39.8		34.4	40.0			39.8		37.3	37.6	38.9
M61-207	40.3		42.2		37.0	42.1			41.1		39.0	40.1	40.6
M61-216	39.2		41.3		35.8	40.7			39.7		38.3	39.4	40.0
M62-177	39.5		41.7		35.2	41.8			40.2		38.9	39.0	40.4
M63-172	38.5		41.6		35.9	40.2			39.5		37.2	36.8	39.0
6 Tests					OIL (%)								*
Clay	21.6		18.5		23.9	19.7			23.1		21.9	22.4	22.5
Merit	21.1		19.4		24.4	19.4			20.6		21.0	21.8	22.0
Swift	21.6		19.7		24.4	20.1			21.5		21.8	22.2	22.0
Wilkin	21.0		18.8		23.6	19.9			21.5		20.5	21.6	21.0
M61-96	21.7		19.9		24.4	20.0			22.0		21.2	22.5	22.1
M61-207	20.2		17.5		22.5	18.6			20.3		21.3	20.9	21.0
M61-216	21.2		19.5		23.6	19.9			20.9		20.8	22.2	20.7
M62-177	20.7		17.8		23.4	19.2			22.0		20.8	21.1	20.6
M63-172	21.5		19.2		24.5	20.1			21.6		20.9	22.9	22.3

Strain	Parentage	Line
1. Clay		
2. Merit		
3. M64-96	Merit x Portage	F_5
4. M64-157	Merit x Amsoy	F_5
5. M65-74	M384(Capital x Renville) x Corsoy	F_5
6. M65-85	" "	F_5
7. M65-94	" "	F_5
8. ND8	Grant x Harosoy	F_6
9. OAC89-5	UM-S58-544 x Merit	F_4

Three of the strains surpassed both check varieties in regional mean yield. M65-74 was the highest yielding one and was 2 days earlier than Merit. M64-157 yielded about as well, was 1 day earlier than Merit, and in addition is Phytophthora resistant. The third strain M65-94, is the earliest one, almost 5 days earlier than Merit and just 2 days later than Clay and a bushel higher in yield than Clay. The remaining four strains showed no advantage over the checks in regional mean performance or were distinctly poorer.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
No. of Tests	8	8	7	7	7	7	7	5	5
Clay	39.7	4	-6.7	1.7	29	2.3	16.2	40.0	21.1
Merit	37.9	6	9-23	2.7	39	2.1	13.7	39.8	20.4
M64-96	36.8	8	-6.9	2.0	33	2.4	17.4	40.5	19.1
M64-157	41.9	2	-1.1	1.7	36	2.0	15.9	39.3	20.8
M65-74	42.2	1	-2.1	1.7	34	2.3	15.3	39.8	21.1
M65-85	36.1	9	+1.3	1.7	33	2.8	17.3	40.9	19.9
M65-94	40.6	3	-4.7	1.4	32	2.5	16.9	39.5	21.3
ND8	38.9	5	+0.1	3.1	35	2.2	17.1	40.6	19.9
OAC89-5	37.9	6	-3.9	3.6	39	1.9	17.9	42.0	21.9

Disease Data

Strain	BB: Ames Iowa	FE_2: Laf. Ind.	BSR: Urb. Ill.	BSR: Ames Iowa	CR: Laf. Ind.	PR: Laf. Ind.	PR: Ames Iowa	PSB: Lafayette Indiana Mat.	PSB: Lafayette Indiana Late
	n2	a	n %	n %	n %	a	a	n %	n %
Clay	3	5	80	49	100	S	S	12	70
Merit	1	5	40	36	100	H	H	8	78
M64-96	2	5	70	51	100	R	R	8	47
M64-157	1	5	50	32	92	R	R	6	64
M65-74	2	5	50	40	89	S	S	7	50
M65-85	2	5	40	49	100	S	S	8	59
M65-94	3	5	70	46	100	S	S	21	60
ND8	2	5	40	29	100	S	S	2	56
OAC89-5	2	1	90	45	100	R	R	14	82

Descriptive and Other Data

Strain	Descriptive Code		Chlorosis: Ames Iowa	Shattering: Manhattan Kansas 2 wk.	Shattering: Manhattan Kansas 6 wk.	Germination: Lafayette Indiana Mat.	Germination: Lafayette Indiana Late
Clay	PGNBr	SYY	3.0	1.5	2.5	82	53
Merit	WGNBr	DYBf	2.1	2.0	2.5	88	45
M64-96	PGNBr	DYY	2.1	3.0	4.0	88	52
M64-157	WGNBr	DYY	2.5	1.5	2.0	90	63
M65-74	WGNDbr	DYY	3.1	1.8	3.0	92	72
M65-85	P+WGNDbr	DYY	2.4	1.5	2.0	89	65
M65-94	WGNBr	D+SYY	2.6	1.2	2.0	75	59
ND8	WGNBr	SYBl	2.9	2.0	2.5	92	65
OAC89-5	WTNBr	DYBl	2.1	3.5	4.0	75	19

Strain	Mean	Ontario			Mich.	Wis.	Minn.		North Dakota	South Dakota
		Kemptville	Elora	Ridgetown	E. Lansing	Spooner	Morris	Rosemount	Fargo	Revillo
	8 Tests			YIELD (bu/a)						*
Clay	39.7	31.7	36.9	51.7	32.7	33.8	40.8	42.7	46.9	15.6
Merit	37.9	31.3	44.7	46.2	31.8	28.4	37.8	37.3	45.4	17.4
M64-96	36.8	34.5	37.8	46.8	28.9	32.4	31.2	37.5	45.3	15.0
M64-157	41.9	33.2	47.0	52.2	34.4	38.2	45.1	44.6	40.1	19.4
M65-74	42.2	35.5	41.9	51.2	32.1	35.0	38.2	51.5	52.5	20.1
M65-85	36.1	18.1	27.9	48.6	31.0	36.0	36.6	43.1	47.5	17.5
M65-94	40.6	35.1	39.1	50.7	29.5	37.2	41.1	42.6	49.2	20.4
ND8	38.9	32.4	37.6	51.7	29.4	37.2	34.4	41.5	47.2	15.7
OAC89-5	37.9	35.0	45.6	42.6	30.9	32.2	35.4	35.4	46.4	17.5
Coef. of Var. (%)		8.4	12.6	5.2	8.4	8.5	6.8	10.3	12.6	23.0
L.S.D. (5%)		6.2	n.s.	n.s.	6.1	4.3	5.9	9.9	13.6	n.s.
Row Spacing (in.)		21	12	24	28	36	30	30	24	36
Rows/Plot		3	4	4	3	1	2	2	3	3
Reps		2	2	4	2	2	2	2	2	2
				YIELD RANK						
Clay	4	7	8	2	2	6	3	4	5	8
Merit	6	8	3	8	4	9	5	8	7	6
M64-96	8	4	6	7	9	7	9	7	8	9
M64-157	2	5	1	1	1	1	1	2	9	3
M65-74	1	1	4	4	3	5	4	1	1	2
M65-85	9	9	9	6	5	4	6	3	3	4
M65-94	3	2	5	5	7	2	2	5	2	1
ND8	5	6	7	2	8	2	8	6	4	7
OAC89-5	6	3	2	9	6	8	7	9	6	4
	7 Tests			MATURITY (relative date)						*
Clay	-6.7	- 2	-10	- 9	- 2	- 6	- 6	-12		- 2
Merit	9-23	10-5	10-1	9-22	9-10	9-20	9-26	9-18		10-2
M64-96	-6.9	- 8	-11	- 8	- 3	+ 3	-12	- 9		- 4
M64-157	-1.1	- 2	- 6	- 2	+ 4	0	0	- 2		+ 2
M65-74	-2.1	- 2	- 2	+ 2	- 2	- 2	- 4	- 5		- 4
M65-85	+1.3	+ 2	+ 7	- 2	- 2	+ 5	0	- 1		+ 1
M65-94	-4.7	- 8	- 9	- 4	0	- 2	0	-10		- 3
ND8	+0.1	- 2	- 6	+ 8	+ 2	+ 2	- 2	- 1		- 3
OAC89-5	-3.9	-10	- 8	+ 4	0	- 2	- 1	-10		0
Morsoy (00)		-15	-10				-11	-12		
Steele (I)		-		+ 8	+11		+ 1	+ 7		
Date Planted	5-23	6-8	5-19	5-19	5-19	5-25	6-1	5-10	5-31	6-3

Strain	Parentage	Line	Previous Testing*
1. Chippewa 64	Chippewa^{8} x Blackhawk	29 F_3 lines	10
2. Hark	Hawkeye x Harosoy	F_9	8
3. Steele	Blackhawk x Harosoy	F_5	4
4. M61-224	Merit x Harosoy	F_5	1
5. M62-263	Grant x M319W(Lincoln x Hawkeye)	F_5	1
6. M63-194	Corsoy x PI 132.207(from Netherlands in 1939)	F_5	P I
7. M63-217	Corsoy x M372(M10 x PI 180.501)	F_5	P I
8. W7-186	W7-2334(Seneca x Chippewa) x Chippewa 64	F_5	P I
9. W8-37	" "	F_5	P I

Two strains have been in this test for two years. M62-263 was top-yielding in the 2-year regional mean but not significantly above Hark. The other strain, M61-224, was earlier in maturity and higher yielding than Chippewa 64 but would probably not outyield the new early I varieties, Anoka, Dunn, and Wirth. M61-224 was somewhat chlorosis resistant and apparently segregating for Phytophthora resistance.

The remaining four strains were entered from last year's Preliminary Test I. Both M63-194 and M63-217 yielded well above the check varieties. M63-194 is late I maturity but M63-217 was as early as Chippewa 64. The remaining two strains (both W-strains) were earlier and averaged lower in yield. W8-37 is borderline between group 0 and I in maturity, averaging slightly closer to 0 in these data.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
				1972					
No. of Tests	16	16	14	16	15	14	14	11	11
Chippewa 64	38.4	9	-1.4	2.2	37	1.9	15.7	41.7	21.1
Hark	43.8	3	+4.8	2.1	38	1.7	17.0	42.3	20.7
Steele	40.7	6	9-21†	2.5	37	2.0	17.8	40.5	21.2
M61-224	42.4	5	-2.1	1.6	35	2.1	17.6	40.0	22.1
M62-263	43.8	3	+3.5	2.9	34	1.9	21.4	39.8	22.1
M63-194	46.9	1	+6.2	2.8	42	1.9	16.7	40.5	21.2
M63-217	45.8	2	-1.2	2.2	36	2.0	17.3	39.8	22.7
W7-186	40.3	7	-2.3	2.6	37	2.1	17.5	39.7	21.8
W8-37	39.8	8	-4.4	2.0	37	2.0	16.2	39.5	21.6

† 122 days after planting

No. of Tests	34	34	30	34	33	29	28	23	23
				1971-72, 2-year mean					
Chippewa 64	38.2	5	-1.3	1.9	36	1.8	15.7	41.5	21.2
Hark	42.2	2	+5.3	1.9	37	1.7	16.8	42.6	20.8
Steele	39.9	4	9-16†	2.1	35	1.8	17.6	40.4	21.4
M61-224	40.4	3	-2.2	1.4	33	2.0	17.0	39.8	22.2
M62-263	42.4	1	+3.9	2.4	33	2.0	20.9	39.9	22.1

† 118 days after planting

Disease Data

Strain	BB Ames Iowa n1	BB Ames Iowa n2	BP Ames Iowa n	BS Ames Iowa n	FE_2 Laf. Ind. a	PM Har. Ont. a	BSR Laf. Ind. n %	BSR Urb. Ill. n %	BSR St. Paul Minn. n %	BSR Ames Iowa n %
Chippewa 64	3.5	2	4.0	4.0	4	R	5	50	100	52
Hark	3.5	1	3.0	4.5	3	S	8	40	100	28
Steele	3.5	1	4.0	4.5	5	S	82	50	100	33
M61-224	4.0	2	4.0	4.0	4	S	25	70	100	30
M62-263	4.5	1	3.5	3.5	5	R	59	50	100	58
M63-194	4.5	1	4.0	3.0	4	S	13	50	100	27
M63-217	5.0	2	3.0	4.5	5	S	24	40	100	30
W7-186	4.0	3	3.5	4.0	4	R	19	70	100	46
W8-37	3.5	2	3.0	4.5	5	R	39	80	100	41

Strain	CR Laf. Ind. n %	PR Laf. Ind. a	PR Ames Iowa a	SMV Ames Iowa n	SMV Ames Iowa a %	PSB Laf., Ind. mat. n %	PSB Laf., Ind. late n %
Chippewa	100	R	R	1	50	6	73
Hark	92	S	S	1	26	42	58
Steele	100	R	R	1	50	16	66
M61-224	92	H	H	1	75	10	33
M62-263	65	S	S	1	35	36	56
M63-194	76	S	S	1	47	46	74
M63-217	54	S	S	1	41	10	69
W7-186	88	R	R	1	61	22	87
W8-37	100	R	R	1	50	13	70

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Crkstn. Minn.	Chlorosis Lamb. Minn.	Chlorosis Ames Iowa	Fluorescent Light	Emergence	Peroxidase	Shattering Man., Kan. 2 wk	Shattering Man., Kan. 6 wk	Germination Laf., mat.	Germination Ind. late
Chippewa 64	PTNBr SYB1	3	3.0	2.5	E	3	L	1.0	1.0	94	76
Hark	PGNBr DYY	4	2.7	3.9	L	2	H	2.5	3.0	66	71
Steele	PGNBr DYY	4	3.0	4.1	E	1	L	2.0	2.0	79	65
M61-224	WGNBr DYY	3	2.0	1.2	L	2	L	3.0	4.0	50	65
M62-263	WGNBr SYB1	3	2.3	2.6	L	1	L	1.5	2.0	49	28
M63-194	PGNBr DYY	3	2.0	4.1	E	1	H	1.0	2.0	71	74
M63-217	PGNBr SYY+Bf	2	1.0	3.1	L	5	H	1.5	1.5	83	73
W7-186	PTNBr DYB1	1	2.0	3.1	E	5	L	2.0	2.0	49	19
W8-37	PTNBr SYB1	3	1.7	2.9	E	1	L	1.0	1.5	73	54

Strain	Mean	Ontario		Ohio			Michigan		Ind.	Wisconsin	
		Ridge-town	Har-row	Hoyt-ville	Woos-ter	Col-umbus	E. Lan-sing	Dun-dee	Lafay-ette	Dur-and	Mad-ison
16 Tests				1972 YIELD (bu/a)							
				*	*	*				*	*
Chippewa 64	38.4	44.7	32.6	31.9	24.3	34.9	35.1	41.7	39.0	29.1	36.6
Hark	43.8	49.3	44.8	36.3	27.6	31.4	37.5	47.7	40.7	32.5	37.2
Steele	40.7	44.9	33.8	28.9	22.4	29.9	36.8	44.7	40.3	28.6	33.8
M61-224	42.4	50.6	40.0	34.0	26.7	25.1	34.2	47.7	40.4	30.9	34.7
M62-263	43.8	51.8	38.0	30.0	35.9	38.5	39.0	49.6	39.0	33.6	38.7
M63-194	46.9	55.1	33.2	31.4	39.4	33.3	41.8	51.8	42.3	34.1	43.2
M63-217	45.8	59.1	40.4	32.1	35.9	32.9	40.3	48.3	43.1	34.5	39.8
W7-186	40.3	43.4	33.9	29.4	29.9	34.0	33.3	44.2	37.5	30.9	37.2
W8-37	39.8	42.3	36.1	30.7	35.2	34.7	35.9	43.1	36.3	30.7	36.3
C. V. (%)		9.0	5.9				10.6	9.8	7.1	8.1	10.5
L.S.D. (5%)		6.4	3.8				5.7	6.6	n.s.	3.7	5.5
Row Spacing (in.)		24	24	32	32	28	28	30	38	36	36
Rows/Plot		4	4	3	3	3	3	3	3	1	1
Reps		4	3	4	4	4	4	4	4	4	4
				YIELD RANK							
Chippewa 64	9	7	9	4	8	2	7	9	6	8	6
Hark	3	5	1	1	6	7	4	4	3	4	4
Steele	6	6	7	9	9	8	5	6	5	9	9
M61-224	5	4	3	2	7	9	8	4	4	5	8
M62-263	3	3	4	7	2	1	3	2	6	3	3
M63-194	1	2	8	5	1	5	1	1	2	2	1
M63-217	2	1	2	3	2	6	2	3	1	1	2
W7-186	7	8	6	8	5	4	9	7	8	5	4
W8-37	8	9	5	6	4	3	6	8	9	7	7
94 Tests				1968-72, 5-YEAR MEAN YIELD							
										68 70-72	
Chippewa 64	36.2	45.9	31.2	28.2	24.4	33.7			42.3	18.8	34.8
Hark	40.4	51.9	36.9	30.4	26.2	34.5			48.1	22.2	36.2
Steele	38.9	52.8	34.6	27.9	24.1	30.6			45.3	21.3	36.3
				YIELD RANK							
Chippewa 64	3	3	3	2	2	2			3	3	3
Hark	1	2	1	1	1	1			1	1	2
Steele	2	1	2	3	3	3			2	2	1

Illinois			Minnesota		Iowa		Mo.	S. Dakota		Nebraska	
De-kalb	Pon-tiac	Ur-bana	Lamb-erton	Wa-seca	Suth-erland	Kan awha	Spick-ard	Rev-illo	Brook-ings	Con-cord	Mead I
					1972 YIELD (bu/a)						
40.2	41.0	45.3	30.5	26.9	45.3	39.5	40.1	20.6 *	31.5	42.1	39.3
46.5	42.9	55.8	32.8	37.4	54.0	49.3	39.6	25.8	32.6	44.2	46.4
44.3	40.0	43.1	31.5	30.6	47.1	42.9	47.3	22.0	34.4	43.3	46.0
43.4	40.0	40.7	37.0	37.9	43.9	45.4	44.9	24.5	36.7	47.2	48.5
48.4	41.3	54.2	37.8	33.9	48.5	45.1	47.4	20.6	32.4	46.5	47.3
51.0	45.2	58.2	39.8	42.0	55.1	51.2	49.7	22.4	35.2	45.7	53.1
50.0	40.7	47.9	42.0	36.3	48.4	48.6	51.7	19.8	39.7	48.7	47.5
40.9	38.3	45.4	34.0	34.2	48.6	44.8	45.2	26.0	33.2	45.6	42.4
41.3	41.2	41.4	36.6	31.9	43.3	43.1	47.6	23.4	31.2	43.8	41.0
4.1	6.4	6.1	7.7	12.9	5.4	6.0	10.5	23.8	7.1	4.8	6.4
3.2	4.5	5.1	4.8	7.7	3.8	4.0	7.1	n.s.	5.6	4.6	4.8
30	38	30	30	30	27	27	15	36	30	30	30
4	4	4	4	4	4	4	4	3	3	4	4
3	3	3	3	3	4	4	4	4	4	3	3
					YIELD RANK						
9	5	6	9	9	7	9	8	7	8	9	9
4	2	2	7	3	2	2	9	2	6	6	5
5	7	7	8	8	6	8	5	6	4	8	6
6	7	9	4	2	8	4	7	3	2	2	2
3	3	3	3	6	4	5	4	7	7	3	4
1	1	1	2	1	1	1	2	5	3	4	1
2	6	4	1	4	5	3	1	9	1	1	3
8	9	5	6	5	3	6	6	1	5	5	7
7	4	8	5	7	9	7	3	4	9	7	8
					1968-72, 5 YEAR MEAN YIELD						
						69-72	68-69 71-72				68, 70-72
41.9	34.1	44.0	34.8	35.7	35.9	38.1	39.8	28.6	30.5	35.2	39.8
45.5	37.1	49.9	37.6	40.3	42.2	43.9	41.6	32.0	32.6	40.0	47.3
43.6	37.0	46.1	37.2	37.2	37.9	39.2	44.2	30.2	32.9	39.1	44.5
					YIELD RANK						
3	3	3	3	3	3	3	3	3	3	3	3
1	1	1	1	1	1	1	2	1	2	1	1
2	2	2	2	2	2	2	1	2	1	2	2

Strain	Mean	Ontario		Ohio			Michigan		Ind.	Wisconsin	
		Ridge-town	Har-row	Hoyt-ville	Woos-ter	Col-umbus	E. Lan-sing	Dun-dee	Lafay-ette	Dur-and	Mad-ison
	14 Tests			MATURITY (relative date)							
				*	*	*				*	*
Chippewa 64	-1.4	- 6	- 3	- 3	+ 8	+ 7	+ 1	0	0		- 2
Hark	+4.8	+ 2	+ 6	+ 3	+ 8	+12	+ 5	+ 3	+ 3		+ 5
Steele†	9-21	9-30	9-23	9-15	9-12	9-9	9-21	9-26	9-15		9-26
M61-224	-2.1	+ 1	+ 1	- 3	- 1	+ 2	0	0	0		0
M62-263	+3.5	+ 2	+ 2	+ 3	+ 8	+ 8	+ 6	+ 2	+ 3		+ 4
M63-194	+6.2	+ 5	+ 6	+ 3	+ 8	+15	+ 7	+ 7	+ 5		+ 8
M63-217	-1.2	+ 1	- 2	+ 5	+ 1	+ 2	- 2	+ 2	- 2		+ 1
W7-186	-2.3	- 4	- 5	- 5	0	+ 1	+ 1	0	- 3		- 2
W8-37	-4.4	-11	- 4	- 6	0	- 1	0	- 2	- 4		- 3
Merit (0)		- 5	- 7	-13			-11		-14		- 7
Corsoy (II)	+8.4	+16	+ 7	+ 6	+ 9	+16	+13	+12	+ 8		+11
Date Planted		5-22	5-19	6-2			5-8	5-16	5-22	5-22	5-25	5-22
†Days to mat.		122	134	113			124	128	127	116		127
	16 Tests			LODGING (score)							
				*	*	*				*	*
Chippewa 64	2.2	2.0	3.0	1.7	1	1.0	2	2.0	2.2	2.0	2.5
Hark	2.1	2.5	1.7	1.2	1	1.0	2	2.0	2.2	2.0	2.8
Steele	2.5	2.0	3.3	1.7	1	1.0	3	3.0	2.0	2.0	2.5
M61-224	1.6	1.0	1.3	1.2	1	1.0	1	2.0	1.2	2.8	2.1
M62-263	2.9	3.5	3.7	2.0	1	1.2	4	4.0	2.1	2.0	3.4
M63-194	2.8	3.0	4.0	2.0	1	1.0	3	4.0	3.1	2.0	3.4
M63-217	2.2	2.0	2.3	1.7	1	1.0	2	3.0	1.8	2.0	2.9
W7-186	2.6	3.5	4.0	2.7	1	1.2	2	4.0	2.1	2.0	2.4
W8-37	2.0	2.5	2.7	2.0	1	1.0	1	2.5	2.0	2.0	2.1
	15 Tests			PLANT HEIGHT (inches)							
				*	*	*				*	*
Chippewa 64	37	41	27	33	24	29	40	36	39	37	33
Hark	38	43	27	33	20	29	40	36	40	38	33
Steele	37	43	29	33	21	26	39	37	36	38	35
M61-224	35	43	24	31	19	23	37	32	36	38	33
M62-263	34	37	25	28	22	26	38	33	33	37	33
M63-194	42	48	30	36	27	32	49	42	43	41	35
M63-217	36	41	28	32	28	27	39	35	35	37	33
W7-186	37	38	27	34	25	29	40	33	38	37	35
W8-37	37	41	25	34	26	29	40	36	39	39	34

Illinois			Minnesota		Iowa		Mo.	S. Dakota		Nebraska	
De-kalb	Pon-tiac	Ur-bana	Lamb-erton	Wa-seca	Suth-erland	Kan-awha	Spick-ard	Rev-illo	Brook-ings	Con-cord	Mead I
MATURITY (relative date)											
								*			
- 4	+ 1	0	- 1	0		- 3			- 2	- 1	- 1
+ 6	+ 5	+ 7	+ 6	+ 6		+ 5			+ 3	+ 5	+ 5
9-25	9-14	9-5	9-17	9-17		9-13			10-19	9-20	9-17
- 1	+ 1	- 8	- 4	- 4		- 5			- 6	- 3	- 1
+ 4	+ 5	+ 6	+ 3	+ 3		+ 3			+ 2	+ 3	+ 5
+ 7	+ 4	+11	+ 9	+ 5		+ 5			+ 5	+ 4	+ 7
- 5	- 2	- 2	+ 6	- 3		- 1			- 4	- 2	- 1
- 5	- 4	- 4	+ 3	0		- 3			- 3	- 2	- 3
- 6	- 4	- 8	- 4	- 3		- 6			- 5	- 2	- 3
- 7	- 8	- 9	- 8	- 4							
+ 7	+ 7	+ 4	+12	+ 5		+ 5			+ 5	+ 7	+10
5-24	5-26	5-12	5-15	5-9	5-10	5-9	5-17	6-3	6-7	5-26	5-31
124	111	116	125	131		127			134	117	109
LODGING (score)											
								*			
3.5	2.2	1.4	3.0	2.0	1.9	1.6	1.1	1.8	2.2	3.0	1.9
2.2	1.5	1.3	2.3	2.0	2.0	1.8	1.1	1.5	2.1	3.8	2.8
3.5	2.2	1.4	4.0	2.7	2.2	2.0	1.0	1.9	2.5	2.5	2.4
2.2	1.3	1.2	2.0	2.3	1.2	1.4	1.0	1.8	1.8	2.0	1.9
3.0	2.0	1.5	4.0	2.7	2.0	2.8	1.0	1.7	2.7	4.0	3.6
3.0	2.8	1.9	3.3	2.7	2.1	2.1	1.1	1.6	2.5	3.2	3.3
2.8	2.0	1.3	3.0	3.0	1.9	2.2	1.0	1.6	2.0	2.5	1.8
3.3	1.8	1.6	3.3	2.7	1.8	2.3	1.1	1.8	2.4	2.8	2.6
2.8	1.7	1.2	2.3	2.3	1.6	1.8	1.0	2.1	1.9	2.5	2.0
PLANT HEIGHT (inches)											
								*			
37	37	34	37	39	39	38		27	31	40	39
39	38	34	39	40	40	41		29	32	42	40
37	37	33	37	39	38	38		24	30	41	39
36	33	28	38	37	32	33		28	32	39	37
35	31	30	36	39	36	37		25	29	39	36
42	41	39	42	45	42	42		26	31	42	44
40	31	32	38	38	34	37		26	32	39	39
37	36	32	39	39	38	39		27	31	41	39
39	37	32	39	40	37	40		29	34	41	40

Strain	Mean	Ontario		Ohio			Michigan		Ind.	Wisconsin	
		Ridge-town	Har-row	Hoyt-ville	Woos-ter	Col-umbus	E. Lan-sing	Dun-dee	Lafay-ette	Dur-and	Mad-ison
	14 Tests			SEED QUALITY (score)							
				*	*	*					*
Chippewa 64	1.9	3	2.0	1.0	1.2	2.2			1.5		2
Hark	1.7	3	1.0	1.0	1.7	2.5			1.5		3
Steele	2.0	3	2.3	1.0	1.0	1.7			1.5		2
M61-224	2.1	3	2.0	1.0	1.0	2.0			1.5		1
M62-263	1.9	2	1.3	1.0	1.0	2.0			1.5		1
M63-194	1.9	3	1.7	1.0	1.2	2.5			1.5		3
M63-217	2.0	3	2.0	1.0	1.0	2.0			1.5		2
W7-186	2.1	3	3.0	1.2	1.5	2.2			1.5		2
W8-37	2.0	2	2.7	1.0	1.0	2.5			1.5		2
	14 Tests			SEED SIZE (g/100)							
				*	*	*					
Chippewa 64	15.7	17.2	15.6	15.6	17.0	18.1	14.6	16.1	15.5		
Hark	17.0	20.5	17.5	16.7	16.2	17.5	14.6	18.2	16.4		
Steele	17.8	20.3	18.1	17.3	15.6	18.4	18.6	18.8	16.6		
M61-224	17.6	19.0	18.5	17.5	15.1	17.6	17.6	18.7	16.6		
M62-263	21.4	24.1	21.8	19.8	19.9	21.1	20.6	23.5	18.2		
M63-194	16.7	19.3	15.8	17.1	15.7	17.2	15.5	18.2	14.4		
M63-217	17.3	20.3	18.2	18.1	16.9	17.9	16.9	18.7	16.6		
W7-186	17.5	17.7	18.4	17.3	17.4	17.7	17.0	17.0	16.5		
W8-37	16.2	15.5	17.5	15.7	16.9	16.6	15.6	17.9	14.7		
	11 Tests			PROTEIN (%)							
Chippewa 64	41.7	43.2				42.2		42.0	42.2		42.2
Hark	42.3	44.3				43.2		41.6	42.1		42.9
Steele	40.5	42.3				39.3		42.0	40.9		42.2
M61-224	40.0	41.2				40.5		40.7	39.2		41.2
M62-263	39.8	40.5				39.9		40.8	40.0		40.0
M63-194	40.5	41.2				42.6		42.0	40.2		42.1
M63-217	39.8	41.0				39.9		40.1	39.6		40.7
W7-186	39.7	40.6				39.5		40.1	41.0		40.2
W8-37	39.5	40.9				39.1		41.5	39.5		40.2
	11 Tests			OIL (%)							
Chippewa 64	21.1	19.9				22.8		20.5	21.0		20.4
Hark	20.7	19.8				22.1		21.4	20.0		19.5
Steele	21.2	20.0				22.6		20.8	21.4		19.9
M61-224	22.1	21.0				23.6		21.5	23.6		20.9
M62-263	22.1	20.8				23.1		21.9	23.0		21.8
M63-194	21.2	20.3				22.3		20.5	22.1		19.9
M63-217	22.7	21.4				24.5		22.1	24.1		21.2
W7-186	21.8	20.3				24.0		21.9	21.8		20.9
W8-37	21.6	20.1				22.9		20.6	22.0		21.0

Illinois			Minnesota		Iowa		Mo.	S. Dakota		Nebraska	
De-kalb	Pon-tiac	Ur-bana	Lamb-erton	Wa-seca	Suth-erland	Kan-awha	Spick-ard	Rev-illo	Brook-ings	Con-cord	Mead I
					SEED QUALITY (score)						
								*			
1.5	2.0	2.6	2.0	2.3	1.0	1.0	2.0	1.3	1.1	2.0	2.6
1.2	1.5	2.0	2.0	2.3	1.0	1.0	1.3	1.2	1.5	2.5	2.0
1.5	2.5	2.3	2.0	3.0	1.0	1.0	1.5	1.2	1.2	2.0	2.7
1.0	2.3	2.2	2.3	3.0	1.0	1.0	2.5	1.3	1.2	3.0	3.0
1.5	2.5	2.6	2.3	2.0	1.0	1.4	2.0	1.5	1.4	2.5	2.0
1.3	1.5	3.5	2.0	2.3	1.0	1.0	1.5	1.2	1.3	2.0	2.6
1.5	2.0	2.5	2.7	3.0	1.0	1.0	1.8	1.2	1.3	2.0	2.0
1.7	2.3	2.5	2.7	3.0	1.0	1.0	2.0	1.3	1.3	2.0	2.6
2.0	2.0	2.6	3.0	2.7	1.0	1.0	2.3	1.2	1.3	2.5	2.0
					SEED SIZE (g/100)						
								*			
14.0	**16.2**	16.1	14.0	14.8	15.3			14.1	15.9	17.9	17.2
14.7	17.0	18.1	15.3	18.4	17.6			15.4	13.6	17.8	18.9
16.3	17.7	17.1	15.2	17.5	16.7			15.1	15.6	20.2	20.3
15.7	17.1	16.9	16.8	17.1	16.2			17.2	16.7	19.3	20.8
20.5	19.9	22.7	19.4	19.5	21.3			17.3	19.1	23.5	24.8
14.5	15.7	17.7	17.0	17.2	16.6			14.1	15.0	17.6	19.2
16.3	15.9	18.1	16.2	15.9	17.0			16.3	15.6	17.7	19.4
15.6	15.9	17.8	17.4	17.7	17.2			16.4	17.6	19.4	20.1
14.8	15.7	15.8	14.7	14.5	16.8			15.0	15.9	19.2	18.2
					PROTEIN (%)						
41.1		40.3		42.6	39.8				42.5		40.1
42.3		41.2		42.8	40.8				43.4		40.7
40.5		40.0		40.8	37.9				40.9		39.2
39.9		39.2		40.2	38.6				40.6		39.1
39.5		39.5		40.4	37.7				41.7		37.6
40.0		39.2		40.4	37.9				40.6		39.4
39.2		38.3		42.0	38.3				40.7		37.9
39.7		37.8		40.3	38.3				41.0		37.7
39.5		38.2		40.5	37.3				40.0		37.7
					OIL (%)						
20.6		22.8		20.6	22.2				18.6		22.2
20.1		22.8		20.5	21.0				18.2		22.2
20.6		23.4		21.1	22.9				18.6		22.1
20.9		24.0		22.5	23.1				19.3		22.5
22.0		23.8		22.0	22.9				18.8		23.5
21.2		22.5		21.0	22.6				18.1		22.5
21.6		25.3		21.6	23.7				20.3		24.0
20.7		23.5		21.9	23.1				18.1		23.6
21.2		23.4		21.0	22.6				19.7		23.0

Strain	Parentage	Line
1. Hark		
2. Steele		
3. M64-122	A100 x 057-2921(Blackhawk x Capital)	F_5
4. M64-165	M384(Capital x Renville) x L62-1932(Clark-e_2)	F_5
5. M65-69	M384 x Corsoy	F_5
6. M65-115	Anoka x Amsoy	F_5
7. M65-122	"	F_5
8. OX-643	Blackhawk x Harosoy 63	F_5

Most of the strains in this test yielded well relative to the check variety of similar maturity. From the very early OX-643 to the mid-group I, M64-165, regional mean yields are well above those of the checks with the single exception of M64-122. M64-165 and M65-122 showed superior lodging resistance. Most of the strains (except OX-643) showed improved shattering resistance. Except for the resistant OX-643, Phytophthora response was segregating or uncertain.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
No. of Tests	9	9	8	9	9	7	8	5	5
Hark	42.2	5	+4.8	2.3	38	2.0	17.1	42.6	20.5
Steele	40.5	8	9-24	2.3	37	2.2	17.8	40.6	21.1
M64-122	41.1	7	+1.1	1.7	37	2.3	19.2	39.8	21.9
M64-165	44.5	2	+2.5	2.8	35	1.7	17.7	41.4	21.4
M65-69	44.3	3	+0.6	2.7	36	2.0	16.1	39.3	22.3
M65-115	45.3	1	+0.3	2.4	36	2.7	17.2	40.5	22.7
M65-122	43.0	4	-1.1	1.6	36	2.4	19.0	41.7	22.1
OX-643	41.5	6	-3.8	2.4	37	2.0	17.4	40.3	21.9

Disease Data

Strain	BB Ames Iowa n2	FE2 Laf. Ind. a	BSR Laf. Ind. n %	BSR Urb. Ill. n %	BSR Ames Iowa n %	CR Laf. Ind. n %	PR Laf. Ind. a	PR Ames Iowa a	PSB Laf., Ind. mat. n %	PSB Laf., Ind. late n %
Hark	2	3	8	40	18	92	S	S	42	58
Steele	1	5	82	60	28	100	R	R	16	66
M64-122	3	5	22	40	29	92	H	H	3	46
M64-165	3	4	69	50	26	72	H	S	36	62
M65-69	2	5	0	40	24	71	S	S	9	56
M65-115	3	5	27	60	36	81	H	H	54	79
M65-122	2	5	32	70	34	92	S	H	14	65
OX-643	2	5	50	50	31	100	R	R	17	68

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Ames Iowa	Shattering Manhattan Kansas 2 wk.	Shattering Manhattan Kansas 6 wk.	Germination Lafayette Indiana mat.	Germination Lafayette Indiana late
Hark	PGNBr DYY	3.9	2.5	3.0	66	71
Steele	PGNBr DYY	4.1	2.0	3.0	79	65
M64-122	WGNBr SYY	2.2	1.8	2.5	87	67
M64-165	WGNBr DYY	2.9	1.0	1.5	44	74
M65-69	WGNBr DYY	3.4	1.0	1.5	81	76
M65-115	PGNTn SYIb	3.2	1.5	1.5	26	23
M65-122	PGNTn SYIb+Bf	2.2	1.0	1.5	74	62
OX-643	WGNBr DYY	1.6	3.0	3.0	71	50

Strain	Mean	Ont. Ridge-town	Ohio Hoyt-ville	Mich. E.Lan-sing	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
	9 Tests				YIELD (bu/a)							
			*		*							
Hark	42.2	49.5	36.0	39.8	31.7	40.7	42.3	32.7	50.2	45.2	32.3	47.3
Steele	40.5	47.2	32.8	38.7	32.5	49.0	39.6	28.0	40.5	37.1	38.9	45.9
M64-122	41.1	43.7	28.3	38.0	34.3	46.3	41.3	35.9	44.0	39.6	33.3	48.2
M64-165	44.5	52.9	33.2	45.7	41.0	42.9	46.7	29.7	54.0	45.3	36.7	46.6
M65-69	44.3	56.2	33.3	42.7	43.4	48.2	47.9	32.8	50.2	48.8	40.4	31.7
M65-115	45.3	59.6	35.4	44.1	42.6	54.3	46.4	26.4	46.9	45.7	38.7	45.9
M65-122	43.0	56.0	36.4	38.1	35.8	43.6	46.1	30.0	46.6	45.1	34.3	47.0
OX-643	41.5	48.8	35.7	44.7	37.5	47.9	40.0	29.2	39.5	40.0	40.7	42.7
C. V. (%)		4.2		9.0	5.0	5.6	5.6	6.3	4.0	5.6	6.5	3.8
L.S.D. (5%)		5.1		9.0	4.3	5.1	5.8	4.5	4.4	5.8	5.7	3.9
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	3
Reps		4	2	2	2	2	2	2	2	2	2	2
					YIELD RANK							
Hark	5	5	2	5	8	8	5	3	2	4	8	2
Steele	8	7	7	6	7	2	8	7	7	8	3	5
M64-122	7	8	8	8	6	5	6	1	6	7	7	1
M64-165	2	4	6	1	3	7	2	5	1	3	5	4
M65-69	3	2	5	4	1	3	1	2	2	1	2	8
M65-115	1	1	4	3	2	1	3	8	4	2	4	5
M65-122	4	3	1	7	5	6	4	4	5	5	6	3
OX-643	6	6	3	2	4	4	7	6	8	6	1	7
	8 Tests				MATURITY (relative date)							
			*		*							
Hark	+4.8	+ 2	+ 3	+ 4	+ 9	+ 8	+ 4	+ 6		+ 4	+ 4	+ 6
Steele	9-24	9-30	9-18	9-21	9-25	9-23	9-18	9-16		9-18	10-20	9-17
M64-122	+1.1	+ 1	0	0	+ 3	+ 4	+ 2	- 2		- 3	- 4	+11
M64-165	+2.5	+ 3	0	+ 5	+ 5	+ 5	+ 3	0		+ 2	- 1	+ 3
M65-69	+0.6	+ 3	0	+ 5	+ 3	+ 3	0	- 2		- 5	- 1	+ 2
M65-115	+0.3	+ 2	0	0	+ 1	+ 1	0	- 1		- 3	+ 2	+ 1
M65-122	-1.1	- 5	0	+ 5	+ 2	- 3	0	- 2		- 2	- 2	0
OX-643	-3.8	+ 1	0	- 1	- 2	- 4	- 6	- 6		- 6	- 4	- 4
Merit (0)		- 5	-16	-11	- 6	- 5	- 9	- 3				
Corsoy (II)	+9.5	+16	+ 3	+13	+12	+ 9	+11	+ 6		+ 4	+ 5	+12
Date Planted		5-21	5-19		5-19	5-22	5-24	5-15	5-9	5-10	5-9	6-7	5-31

Strain	Parentage	Line	Previous Testing*
1. Amsoy 71	Amsoy^{8} x C1253(Blackhawk x Harosoy)	4 F_3 lines	3
2. Beeson	C1253 x Kent	F_7	5
3. Corsoy	Harosoy x Capital	F_9	8
4. Provar	Harosoy x Clark	F_8	64-67
5. Wells(C1470)	C1266R(Harosoy x C1079) x C1253	F_7	3
6. A66-1441-2	Provar x F_1(Harosoy 63 x PI 248.406)	F_5	P II
7. A66-1746-9	AX56P64-1(Amsoy) x FC 31.122	F_6	P II
8. AX227-31	Hawkeye 63 x FC 31.122	F_5	P II
9. Blend 2	25% Amsoy 71 + 75% Corsoy		P II

Four of the check varieties, Amsoy 71, Beeson, Corsoy, and Wells, have been in the test for four years or more, and the four year regional data shows them to be remarkably similar in mean yield. The most recent release, Wells, has shown excellent lodging resistance.

All of the experimental strains were new entries this year. The blend of Corsoy and Amsoy 71 was similar to the higher yielding variety, Corsoy, in mean yield, actually a non-significant .3 bushel higher. The three experimental A-strains are well below most of the check varieties. Because of their moderately higher protein they should be compared with Provar, and they appear to be slightly superior in mean yield. AX227-31 is PR resistant but yielded slightly below the other two.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
				1972					
No. of Tests	27	27	21	26	26	24	24	14	14
Amsoy 71	43.7	4	+3.5	2.6	41	2.6	17.9	39.9	22.3
Beeson	43.5	5	+5.0	2.2	38	2.3	19.4	40.9	21.1
Corsoy	45.1	2	9-23†	2.7	37	2.2	16.1	40.6	21.7
Provar	39.0	9	+0.8	2.3	36	2.1	21.4	43.7	20.8
Wells	44.3	3	-0.5	1.7	38	2.5	16.4	41.9	21.4
A66-1441-2	40.7	6	+0.9	2.0	39	2.1	20.7	42.8	21.7
A66-1746-9	40.1	7	+5.1	2.3	39	2.5	22.0	43.1	21.0
AX227-31	39.5	8	+4.0	2.7	40	2.3	21.6	44.8	19.6
Blend 2	45.4	1	+1.9	2.5	39	2.2	16.5	40.5	22.1

† 124 days after planting

				1969-72, 4-YEAR MEAN					
No. of Tests	116	116	92	110	114	99	91	60	60
Amsoy 71	44.5	2	+3.1	2.5	42	2.2	17.3	39.8	22.5
Beeson	44.7	1	+4.2	2.1	40	2.2	19.3	40.6	21.6
Corsoy	44.3	3	9-19†	2.6	39	2.1	15.9	40.5	21.9
Wells	44.3	3	-0.5	1.6	38	2.4	16.2	41.3	21.9

† 118 days after planting

Disease Data

Strain	BB Ames Iowa n1	BB Ames Iowa n2	BP Ames Iowa n	BS Ames Iowa n	FE_2 Laf. Ind. a	PM Har. Ont. a	BSR Laf. Ind. n %	BSR Urb. Ill. n %	BSR St. Paul Minn. n %	BSR Waseca Minn. n	BSR Ames Iowa n %
Amsoy 71	4.5	1	4.0	3.5	3	S	13	70	100	3.0	37
Beeson	3.5	2	4.0	4.0	2	R	28	50	95	2.7	62
Corsoy	4.5	3	4.0	4.0	4	S	54	60	95	4.0	52
Provar	4.5	3	4.0	4.0	5	R	60	70	100	4.3	61
Wells	3.0	3	4.0	4.5	1	S	13	40	100	3.7	59
A66-1441-2	3.0	3	4.0	4.5	5	R	9	30	100	3.3	59
A66-1746-9	3.5	3	4.0	3.0	3	S	8	70	100	2.7	58
AX227-31	2.5	2	4.0	4.5	5	S	20	30	100	3.0	57
Blend 2	1.5	1	3.5	4.0	4	S	0	70	85	3.3	79

Strain	CR Laf. Ind. n %	PR Laf. Ind. a	PR Ames Iowa a	PR Stoneville Mississippi n	SMV Ames Iowa n	SMV Ames Iowa a %	PS Upperco Md. n %	PSB Laf., Ind. mat. n %	PSB Laf., Ind. late n %
Amsoy 71	100	R	R	1	1	55	9	44	68
Beeson	50	R	R	1	1	30	13	27	47
Corsoy	91	S	S	3	1	26	1	50	72
Provar	84	S	S	2	1	50	1	50	84
Wells	67	R	R	1	1	89	6	21	47
A66-1441-2	100	S	S	1	1	57	4	39	55
A66-1746-9	69	S	S	1	1	61	9	32	52
AX227-31	85	R	R	1	1	55	2	29	56
Blend 2	67	H	H	2	1	47	5	21	46

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Crkstn. Minn.	Chlorosis Lamb. Minn.	Chlorosis Ames Iowa	Fluorescent Light	Emergence	Peroxidase	Shattering Stnvl. Miss.	Shattering Man. Kan. 2 wk	Shattering Man. Kan. 6 wk	Germination Laf., Ind. mat. %	Germination Laf., Ind. late %
Amsoy 71	PGNTn SYY	3	2.0	3.1	L	5	H	1	1.5	1.5	24	8
Beeson	PGNBr SYIb	3	1.5	2.8	L	5	L	1	2.5	3.0	50	59
Corsoy	PGNBr DYY	3	2.3	3.0	E	1	H	1	1.0	1.5	44	74
Provar	PTNBr DYBr	3	1.3	2.2	L	3	H	2	1.0	1.0	26	17
Wells	PGNBr DYIb	3	1.7	3.5	L	5	L	1	2.0	3.0	61	38
A66-1441-2	PGNBr DYBf	2	1.3	3.2	L	3	H	1	1.5	2.0	67	34
A66-1746-9	PGNBr SYY	2	2.0	3.0	L	2	H	1	1.5	1.5	27	4
AX227-31	PGNBr SYG	1	1.7	2.1	L	2	L+H	3	1.5	3.0	65	34
Blend 2	PGNBr	2	2.3		E+L		H	2	1.5	1.5	70	88

Strain	Mean	Penn. Univ. Park	Md. Upper-co	Ontario Ridge-town	Ontario Har-row	Ohio Hoyt-ville *	Ohio Woos-ter *	Ohio Col-umbus *	Michigan E. Lan-sing	Michigan Dun-dee
	27 Tests			1972 YIELD (bu/a)						
Amsoy 71	43.7	37.2	40.1	55.9	39.0	38.6	30.9	46.2	41.9	49.8
Beeson	43.5	34.9	39.3	53.8	40.9	39.5	32.3	51.3	39.5	50.4
Corsoy	45.1	33.8	36.5	50.8	37.8	33.0	31.7	39.1	41.4	55.5
Provar	39.0	28.7	33.7	47.9	40.0	35.3	30.4	42.9	38.4	42.4
Wells	44.3	35.3	38.2	50.1	42.8	43.0	28.8	40.8	42.3	50.5
A66-1441-2	40.7	32.9	34.0	47.1	39.0	37.5	24.9	37.7	40.5	42.3
A66-1746-9	40.1	33.6	38.4	44.2	40.0	39.1	22.8	33.4	37.9	46.8
AX227-31	39.5	33.8	40.5	48.4	32.8	30.3	17.9	40.8	35.2	41.3
Blend 2	45.4	31.3	40.2	53.8	41.4	35.4	18.4	37.5	44.1	50.3
C. V. (%)		8.1	8.7	12.0	7.4				10.2	11.3
L.S.D. (5%)		4.7	5.7	n.s.	5.0				6.0	7.7
Row Spacing (in.)		30	30	24	24	32	32	28	28	30
Rows/Plot		3	3	4	4	3	3	3	3	3
Reps		3	3	4	3	4	4	4	4	4
				YIELD RANK						
Amsoy 71	4	1	3	1	6	4	3	2	3	5
Beeson	5	3	4	2	3	2	1	1	6	3
Corsoy	2	4	7	4	8	8	2	6	4	1
Provar	9	9	9	7	4	7	4	3	7	7
Wells	3	2	6	5	1	1	5	4	2	2
A66-1441-2	6	7	8	8	6	5	6	7	5	8
A66-1746-9	7	6	5	9	4	3	7	9	8	6
AX227-31	8	4	1	6	9	9	9	4	9	9
Blend 2	1	8	2	2	2	6	8	8	1	4
	116 Tests			1969-72, 4-YEAR MEAN YIELD						69, 71-72 b
Amsoy 71	44.5			57.5	38.4	34.3	30.8	51.2		42.9
Beeson	44.7			53.8	39.9	32.9	34.4	51.6		45.2
Corsoy	44.3			57.3	37.9	31.0	28.6	41.5		46.4
Wells	44.3			53.9	40.9	35.5	30.5	48.1		42.8
				YIELD RANK						
Amsoy 71	2			1	3	2	2	2		3
Beeson	1			4	2	3	1	1		2
Corsoy	3			2	4	4	4	4		1
Wells	3			3	1	1	3	3		4

b Petersburg in 1971

Indiana				Wis.	Ill.
Bluff-ton	Lafay-ette	Green-field	Worth-ington	Mad-ison	De-kalb
		1972 YIELD (bu/a)			
			*	*	
45.6	48.5	32.2	43.8	36.0	49.3
43.7	46.3	33.9	42.4	37.9	49.0
40.9	45.7	27.8	38.1	39.9	53.0
23.0	42.3	27.9	38.7	36.6	43.3
44.9	47.2	28.9	41.1	42.6	46.8
40.2	41.1	25.5	39.1	35.6	42.2
39.8	46.3	25.5	41.1	26.7	45.7
36.7	38.4	27.4	42.9	34.5	45.4
45.2	45.7	30.2	40.7	41.1	46.8
15.1	6.6	9.4	19.0	12.7	7.4
8.9	4.3	3.9	n.s.	6.3	6.0
30	38	38	38	36	30
3	3	3	3	1	4
4	4	4	4	4	3
		YIELD RANK			
1	1	2	1	6	2
4	3	1	3	4	3
5	5	6	9	3	1
9	7	5	8	5	8
3	2	4	4	1	4
6	8	8	7	7	9
7	3	8	4	9	6
8	9	7	2	8	7
2	5	3	6	2	4
		1969-72, 4-YEAR MEAN YIELD			
49.1	52.9	41.6	50.8	38.1	51.3
48.1	50.7	43.6	50.1	41.8	51.0
46.3	51.1	33.3	44.5	39.2	51.7
48.8	52.9	39.0	49.0	42.1	49.9
		YIELD RANK			
1	1	2	1	4	2
3	4	1	2	2	3
4	3	4	4	3	1
2	1	3	3	1	4

Illinois					
Pontiac	Urbana	Girard	Edgewood	Belleville	Eldorado
1972 YIELD (bu/a)					
42.8	53.5	56.5	43.1	42.0	49.7
44.1	59.5	53.9	38.4	40.0	51.0
47.2	57.6	58.3	42.5	41.3	47.1
41.8	46.3	49.0	37.6	36.7	43.3
48.6	57.7	56.5	45.2	42.8	50.9
41.3	51.6	52.1	41.3	40.0	45.6
41.8	48.1	52.0	39.9	41.4	51.1
35.2	50.5	50.4	41.4	37.9	43.1
48.5	57.5	59.5	43.5	39.8	48.6
6.3	3.8	4.4	9.5	7.3	4.3
4.7	6.0	4.2	6.8	5.1	3.6
38	30	30	38	38	37
4	4	4	4	4	4
3	3	3	3	3	3
YIELD RANK					
5	5	3	3	2	4
4	1	5	8	5	2
3	3	2	4	4	6
6	9	9	9	9	8
1	2	3	1	1	3
8	6	6	6	5	7
6	8	7	7	3	1
9	7	8	5	8	9
2	4	1	2	7	5
1969-72, 4-YEAR MEAN YIELD					
38.5	49.8	50.7	45.3	46.5[a]	50.9
40.7	52.5	48.7	44.2	45.2	52.8
40.5	52.7	53.1	40.6	45.9	48.5
41.7	51.7	50.7	45.0	45.4	51.2
YIELD RANK					
4	4	2	1	1	3
2	2	4	3	4	1
3	1	1	4	2	4
1	3	2	2	3	2

a Trenton in 1969-70

Ill.	Minnesota		Iowa		Missouri		S. Dakota		Nebraska	
Carbon-dale	Lamb-erton	Wa-seca	Kan-awha	Ames	Spick-ard	Mt. Vernon	Brook-ings	Center-ville	Con-cord	Mead I
					1972 YIELD (bu/a)					
40.8	45.7	29.2	44.8	58.4	53.6	35.2	18.9	37.0	43.8	46.5
41.3	47.3	31.6	45.6	55.4	45.5	39.5	23.2	35.1	43.7	47.0
33.3	55.1	34.2	55.7	59.9	50.3	31.3	33.7	42.3	48.5	55.1
33.5	48.6	27.5	41.6	53.2	48.9	35.2	26.1	32.6	40.6	43.0
39.4	48.0	30.6	50.1	57.3	48.4	36.7	29.8	36.2	47.4	44.0
39.2	43.6	28.0	45.3	53.6	45.3	38.3	26.2	36.5	42.2	43.7
40.0	42.3	21.1	43.6	51.5	48.6	35.4	18.2	31.8	37.9	40.5
35.6	46.9	28.9	44.2	52.7	45.5	36.7	17.7	35.1	42.4	41.6
37.9	50.6	37.0	53.4	59.7	51.8	33.2	33.6	39.0	50.8	53.1
8.6	8.4	14.2	7.0	3.8	13.1	9.3	9.5	10.6	7.3	8.5
5.5	6.9	7.3	4.8	3.1	n.s.	4.9	5.6	8.8	6.8	6.4
30	30	30	27	27	15	15	30	30	30	30
4	4	4	4	4	4	4	3	3	4	4
3	3	3	4	4	4	4	4	4	3	3
					YIELD RANK					
2	7	5	6	3	1	6	7	3	4	4
1	5	3	4	5	7	1	6	6	5	3
9	1	2	1	1	3	9	1	1	2	1
8	3	8	9	7	4	6	5	8	8	7
4	4	4	3	4	6	3	3	5	3	5
5	8	7	5	6	9	2	4	4	7	6
3	9	9	8	9	5	5	8	9	9	9
7	6	6	7	8	7	3	9	6	6	8
6	2	1	2	2	2	8	2	2	1	2
					1969-72, 4-YEAR MEAN YIELD					
						69, 71-72		70-72		70-72
39.2	40.5	37.4	41.8	48.3	43.8	39.7	27.0	33.1	39.3	45.2
41.3	40.6	39.0	41.7	49.0	40.6	43.9	27.7	32.3	38.8	44.5
35.7	48.5	39.2	47.2	50.7	40.3	35.9	34.1	36.9	39.7	50.3
37.5	42.2	40.3	46.4	48.8	40.6	37.2	31.5	33.0	40.1	45.3
					YIELD RANK					
2	4	4	3	4	1	2	4	2	3	3
1	3	3	4	2	2	1	3	4	4	4
4	1	2	1	1	4	4	1	1	2	1
3	2	1	2	3	2	3	2	3	1	2

Strain	Mean	Penn.	Md.	Ontario		Ohio			Michigan	
		Univ. Park	Upper-co	Ridge-town	Har-row	Hoyt-ville	Woos-ter	Col-umbus	E. Lan-sing	Dun-dee
21 Tests				MATURITY (relative date)						
				*		*	*	*		
Amsoy 71	+3.5	+ 7	0	- 1	+ 5	+ 2	+ 6	+ 5	0	- 1
Beeson	+5.0	+ 9	0	- 2	+ 6	+ 4	- 1	- 1	+ 2	+ 2
Corsoy†	9-23	9-22	9-27	10-16	9-30	9-21	9-21	9-25	10-4	10-8
Provar	+0.8	+ 4	+ 4	- 8	0	+ 4	+ 4	+ 1	- 4	- 5
Wells	-0.5	+ 2	0	-14	- 1	0	- 1	- 5	- 6	- 7
A66-1441-2	+0.9	+ 4	+ 1	- 5	0	0	+ 2	- 3	- 2	- 2
A66-1746-9	+5.1	+ 6	+ 2	0	+ 9	+ 4	+ 9	- 1	+ 3	+ 4
AX227-31	+4.0	+ 6	+ 5	- 1	+ 1	+ 4	+ 4	+ 4	+ 2	+ 3
Blend 2	+1.9	+ 5	+ 3	- 1	0	+ 1	0	+ 4	+ 1	+ 2
Hark (I)		0		-14	- 1	- 3	- 1	- 4	- 7	- 9
Wayne (III)		+16			+ 6	+ 7		+27		
Date Planted	5-22	5-25	6-6	5-19	6-2			5-8	5-19	5-22
†Days to Mat.	124	120	113	150	120			140	138	139
26 Tests				LODGING (score)						
						*	*	*		
Amsoy 71	2.6		1.0	2.6	4.3	2.0	1	1.0	3	3.5
Beeson	2.2		1.1	2.9	3.0	1.0	1	1.2	2	3.5
Corsoy	2.7		1.3	3.5	3.0	2.0	1	1.2	4	4.0
Provar	2.3		1.1	3.0	2.0	2.0	1	1.5	3	3.5
Wells	1.7		1.0	2.0	1.7	1.0	1	1.0	2	2.0
A66-1441-2	2.0		1.0	2.0	2.7	1.2	1	1.0	2	3.0
A66-1746-9	2.3		1.0	3.6	3.3	1.7	1	1.0	3	4.0
AX227-31	2.7		1.0	3.1	3.0	2.0	1	2.0	3	4.0
Blend 2	2.5		1.0	2.9	3.3	2.0	1	1.0	3	4.0
26 Tests				PLANT HEIGHT (inches)						
						*	*	*		
Amsoy 71	41	30	33	51	36	39	26	33	40	39
Beeson	38	26	30	48	32	36	26	35	41	37
Corsoy	37	25	30	46	33	37	28	35	44	42
Provar	36	25	28	44	32	36	24	33	43	39
Wells	38	24	28	48	30	36	24	32	42	39
A66-1441-2	39	28	28	48	31	39	26	32	43	40
A66-1746-9	39	28	31	51	33	39	25	34	47	43
AX227-31	40	28	32	49	33	40	25	36	44	42
Blend 2	39	26	29	50	33	38	28	34	44	45

* Not included in the mean

Indiana				Wis.	Ill.
Bluff-ton	Lafay-ette	Green-field	Worth-ington	Mad-ison	De-kalb
		MATURITY (relative date)			
			*	*	
+ 2	+ 1	+ 2	+ 5	+ 2	+ 5
+ 2	+ 1	+ 2	+ 1	+ 2	+ 5
9-20	9-23	9-20	9-13	10-7	10-2
0	- 2	0	0	0	0
- 2	- 4	0	- 4	- 1	- 1
- 1	- 3	- 1	- 2	- 1	0
+ 2	+ 4	0	+ 5	+ 4	+ 6
+ 3	+ 1	+ 2	+ 3	+ 2	0
0	0	+ 1	+ 3	+ 1	+ 2
0	- 5			- 6	- 1
+14	+10	+15	+ 5		+11
5-22	5-22	5-24	5-19	5-22	5-24
121	124	119	117	138	131
		LODGING (score)			
			*	*	
2.4	2.9	1.0	4.1	3.8	2.8
1.8	2.1	1.0	3.2	3.8	1.8
2.2	3.4	1.1	4.0	3.4	2.8
2.1	1.6	1.0	3.9	3.5	2.0
1.5	1.2	1.0	3.1	2.6	2.3
1.6	1.4	1.2	3.2	2.9	1.8
1.4	2.1	1.0	2.9	3.5	2.5
2.2	3.2	1.0	3.5	3.4	2.7
1.9	3.2	1.0	4.0	3.3	2.8
		PLANT HEIGHT (inches)			
			*	*	
47	46	29	44	37	46
42	42	26	40	36	44
38	42	24	43	36	40
32	39	24	39	36	44
40	42	24	40	36	41
38	44	26	41	36	43
39	42	28	44	35	44
42	42	27	42	39	47
42	44	26	42	37	43

Illinois					
Pontiac	Urbana	Girard	Edgewood	Belleville	Eldorado
	MATURITY (relative date)				
+ 3	+ 3	+ 5	+ 1	+ 7	
+ 7	+ 6	+ 4	+ 2	+14	
9-21	9-16	9-13	9-16	9-3	
+ 2	0	+ 1	+ 3	+ 7	
+ 2	0	- 1	- 1	+ 7	
+ 2	- 1	+ 3	+ 2	+ 4	
+ 5	+ 2	+ 6	+ 2	+11	
+ 5	+ 5	+ 5	+ 3	+ 8	
+ 3	+ 1	+ 3	+ 1	+ 3	
- 2	- 4	- 5	- 3		
+ 8	+ 9	+ 9	+ 6	+ 3	
5-26	5-12	5-20	5-30	5-11	5-10
118	127	116	109	115	
	LODGING (score)				
3.2	1.8	3.5	1.9	2.1	2.7
1.8	1.6	3.2	1.3	2.3	2.5
2.8	1.9	3.7	2.2	2.7	2.9
2.2	1.7	3.8	1.8	2.4	2.4
1.7	1.3	3.2	1.1	1.2	1.4
2.0	1.4	3.3	1.5	2.1	2.1
2.2	1.4	3.4	1.3	2.0	2.5
3.0	2.7	3.2	2.6	2.9	2.6
2.8	1.9	3.5	2.3	2.5	2.5
	PLANT HEIGHT (inches)				
45	42	47	37	35	38
42	37	42	34	34	36
42	39	42	34	28	31
38	36	40	34	34	34
41	37	44	34	35	38
41	39	45	36	33	35
41	39	43	36	37	38
44	41	43	38	37	36
44	41	43	35	33	35

Ill.	Minnesota		Iowa		Missouri		South Dakota		Nebraska	
Carbon-dale	Lamb-erton	Wa-seca	Kan-awha	Ames	Spick-ard	Mt. Vernon	Brook-ings	Center-ville	Con-cord	Mead I
				MATURITY (relative date)						
+ 4	+ 6	+ 8		+ 4			+ 8		+ 2	+ 2
+ 5	+ 7	+11		+ 5			+ 9		+ 5	+ 1
8-28	9-23	9-21		9-14			10-27		9-27	9-27
0	+ 3	+ 1		+ 3			+ 2		+ 2	- 4
0	+ 2	0		+ 1			+ 1		0	- 2
0	+ 5	+ 1		+ 3			+ 6		+ 1	- 4
+ 4	+ 7	+13		+ 6			+ 7		+ 5	+ 3
+ 1	+ 7	+13		+ 8			+ 7		+ 2	- 2
+ 2	+ 4	+ 3		+ 4			+ 2		+ 1	- 1
	+ 5	+ 2		0			- 2		- 2	- 5
+10		+13		+13					+17	+ 6
5-12	5-15	5-9	5-9	5-11	5-17	5-10	6-7	5-26	5-26	5-31
108	131	135		126			142		124	119
				LODGING (score)						
3.7	3.0	3.0	2.5	2.2	1.2	1.2	4.0	1.5	2.8	3.1
2.3	3.0	3.0	2.2	2.5	1.5	1.4	3.5	1.4	2.5	1.7
4.0	3.0	2.7	2.0	2.4	1.6	1.5	3.4	1.7	3.5	2.0
2.7	4.3	2.3	2.2	2.3	1.2	1.5	2.7	1.4	3.0	2.2
2.0	2.7	2.0	1.8	1.6	1.2	1.1	2.6	1.2	2.5	1.7
2.7	3.7	2.3	2.2	2.3	1.1	1.2	2.8	1.3	2.5	1.9
2.0	3.3	2.7	2.3	2.4	1.5	1.8	3.1	1.3	2.8	2.0
2.7	3.0	4.0	2.6	2.8	2.5	1.5	3.2	1.7	3.0	2.1
3.7	3.0	2.7	2.0	2.4	1.2	1.6	2.7	1.5	3.0	2.6
				PLANT HEIGHT (inches)						
39	47	43	47	42		29	30	46	51	48
35	42	43	44	40		30	28	42	47	43
37	38	41	42	35		27	30	42	42	42
35	40	37	40	38		26	31	40	42	40
35	41	41	42	39		26	32	42	48	43
38	42	43	45	40		27	32	44	47	45
36	43	44	45	40		30	32	43	48	42
36	42	45	49	42		28	31	43	46	42
34	46	44	44	39		26	29	43	43	42

Strain	Mean	Penn. Univ. Park	Md. Upper-co	Ontario Ridge-town	Ontario Har-row	Ohio Hoyt-ville	Ohio Woos-ter	Ohio Col-umbus	Michigan E. Lan-sing	Michigan Dun-dee
	24 Tests			SEED QUALITY (score)						
						*	*	*		
Amsoy 71	2.6	1.5		2	3.3	1.0	2.0	4.0		
Beeson	2.3	1.2		2	1.7	1.0	1.2	2.0		
Corsoy	2.2	1.0		2	1.7	1.0	1.7	2.2		
Provar	2.1	1.7		2	2.0	1.2	1.5	2.0		
Wells	2.5	1.7		2	2.3	1.2	2.2	3.5		
A66-1441-2	2.1	1.4		1	2.0	1.0	1.5	1.7		
A66-1746-9	2.5	1.7		2	2.7	1.0	2.7	2.0		
AX227-31	2.3	1.9		2	1.0	1.0	1.5	2.0		
Blend 2	2.2	1.2		2	2.0	1.0	2.0	2.2		
	24 Tests			SEED SIZE (g/100)						
							*	*		
Amsoy 71	17.9	16.7	18.4	22.0	18.3		18.4	18.4	18.5	20.5
Beeson	19.4	18.9	20.5	21.9	19.4		19.5	23.6	18.2	22.2
Corsoy	16.1	13.7	14.9	18.9	15.9		15.4	18.6	15.8	19.0
Provar	21.4	21.3	19.7	23.6	21.4		21.1	22.6	18.8	22.7
Wells	16.4	14.7	16.0	18.3	16.8		16.6	17.2	14.2	18.6
A66-1441-2	20.7	20.3	19.7	23.2	21.6		21.6	22.6	22.2	22.6
A66-1746-9	22.0	19.2	23.2	27.1	22.8		21.0	23.1	20.1	25.8
AX227-31	21.6	21.8	22.4	24.3	20.7		21.7	25.1	21.2	23.5
Blend 2	16.5	14.3	15.0	20.0	16.4		17.1	17.7	16.2	19.4
	14 Tests			PROTEIN (%)						
Amsoy 71	39.9			43.3			42.4		40.7	
Beeson	40.9			44.2			41.3		42.7	
Corsoy	40.6			44.1			42.5		42.2	
Provar	43.7			46.9			44.8		45.4	
Wells	41.9			46.4			42.9		43.7	
A66-1441-2	42.8			47.2			43.4		43.2	
A66-1746-9	43.1			46.7			43.9		44.0	
AX227-31	44.8			48.9			45.3		47.0	
Blend 2	40.5			44.4			42.9		41.5	
	14 Tests			OIL (%)						
Amsoy 71	22.3			20.0			22.6		22.1	
Beeson	21.1			19.8			21.5		20.8	
Corsoy	21.7			18.8			22.1		20.9	
Provar	20.8			19.0			21.6		19.8	
Wells	21.4			19.0			24.3		20.3	
A66-1441-2	21.7			19.9			22.4		20.8	
A66-1746-9	21.0			19.3			21.4		20.6	
AX227-31	19.6			17.0			20.8		18.4	
Blend 2	22.1			19.7			21.8		21.4	

Indiana				Wis.	Ill.
Bluff-ton	Lafay-ette	Green-field	Worth-ington	Mad-ison	De-kalb
		SEED QUALITY (score)			
			*	*	
2.5	2.5	4.0	4.5	3	2.3
2.0	1.5	4.0	3.5	2	1.7
2.0	1.5	3.0	4.0	2	1.3
2.0	1.0	2.0	2.0	3	1.5
3.0	1.5	3.5	4.0	3	1.7
2.0	1.5	2.5	2.5	1	1.5
1.5	2.5	4.0	4.5	2	2.2
2.5	2.0	3.0	3.5	2	1.8
2.0	2.0	3.0	4.0	3	1.7
		SEED SIZE (g/100)			
			*		
16.8	17.3	17.9	19.0		16.3
19.0	19.4	20.5	20.8		17.3
14.1	15.4	15.6	16.2		15.0
19.7	21.9	21.9	22.4		21.0
15.2	16.2	16.8	16.3		14.9
18.8	20.8	20.1	19.8		19.8
21.2	22.4	19.8	24.0		20.9
21.8	21.8	22.2	23.0		19.6
15.2	16.6	16.9	17.0		16.1
		PROTEIN (%)			
38.4	39.7			39.4	38.7
39.3	41.1			42.0	40.2
39.1	40.4			41.3	40.3
40.9	43.6			42.6	43.5
40.8	42.2			42.6	41.3
41.0	43.4			41.9	42.3
41.1	43.1			43.9	42.2
43.3	45.4			45.5	44.5
38.1	40.7			40.8	40.0
		OIL (%)			
24.1	23.4			21.0	21.5
21.8	20.4			19.4	21.1
23.4	21.5			19.8	20.6
23.0	20.8			19.2	20.2
22.6	21.3			19.9	20.0
23.7	21.1			20.5	20.6
23.4	20.5			19.0	20.6
21.0	18.8			18.3	18.8
23.7	21.9			20.2	21.5

Illinois					
Pontiac	Urbana	Girard	Edgewood	Belleville	Eldorado
SEED QUALITY (score)					
2.5	2.8	2.7	2.9	4.9	3.9
1.8	2.4	2.7	2.8	4.6	3.4
1.8	3.5	3.2	2.9	3.8	2.4
2.2	1.9	2.7	2.9	3.5	2.9
2.5	3.5	3.5	3.2	4.0	2.8
2.0	2.2	2.4	2.6	3.1	2.3
2.5	3.2	2.8	2.7	3.3	2.7
2.2	2.3	2.4	2.6	3.5	2.7
2.0	3.2	3.1	2.8	3.7	2.5
SEED SIZE (g/100)					
18.0	19.2	19.0	16.0	18.1	16.5
19.9	22.0	20.3	16.0	19.9	17.9
14.8	17.9	17.2	14.4	17.3	15.6
22.4	23.0	23.0	19.2	21.3	20.3
17.7	18.2	15.8	15.6	17.0	14.9
21.5	21.2	21.2	18.5	20.3	18.5
24.2	24.1	23.7	19.3	21.5	19.6
22.9	24.6	21.5	18.8	23.0	19.5
16.5	17.9	17.5	14.8	18.0	16.1
PROTEIN (%)					
	41.0	41.0			41.2
	40.3	41.2			42.1
	39.9	41.4			41.2
	44.0	44.6			45.3
	41.6	42.0			41.8
	42.5	44.0			43.8
	43.5	44.1			43.3
	45.0	44.3			45.5
	40.1	41.2			40.9
OIL (%)					
	23.4	23.1			23.3
	21.8	22.0			21.6
	22.6	22.5			23.1
	21.2	21.3			20.9
	22.6	22.1			22.8
	22.0	22.9			22.3
	22.3	20.9			21.8
	19.9	20.8			20.7
	23.0	22.8			23.1

Ill.	Minnesota		Iowa		Missouri		South Dakota		Nebraska	
Carbon-dale	Lamb-erton	Wa-seca	Kan-awha	Ames	Spick-ard	Mt. Vernon	Brook-ings	Center-ville	Con-cord	Mead I
					SEED QUALITY (score)					
5.0	2.0	2.3	1	1.4	1.5	3.0	3.0	1.3	2.0	2.3
5.0	3.0	2.7	1	1.0	2.0	2.2	2.6	1.4	1.5	1.7
5.0	2.0	2.3	1	1.3	1.5	2.0	1.6	1.3	1.5	2.0
4.7	3.0	2.7	1	1.0	1.5	2.0	2.2	1.3	2.0	1.5
5.0	3.0	3.0	1	1.2	2.0	2.5	1.4	1.5	2.0	2.7
4.0	3.0	3.0	1	1.0	2.0	3.0	2.0	1.3	1.5	1.8
4.7	2.7	3.0	1	1.0	1.8	2.5	2.8	1.5	1.5	2.7
5.0	3.0	3.3	1	1.0	2.0	2.0	2.4	1.4	2.5	2.3
5.0	1.7	2.7	1	1.0	1.7	1.5	2.0	1.2	2.0	2.7
					SEED SIZE (g/100)					
17.5	16.6	18.0		18.6			13.7	17.7	18.6	20.5
18.8	17.8	21.6		19.0			14.4	19.3	20.2	22.3
15.3	16.3	16.8		16.2			15.0	15.8	17.7	18.3
19.6	21.4	21.2		23.0			17.8	20.9	22.6	24.7
15.0	16.0	17.3		16.9			15.0	15.6	18.2	19.1
19.2	21.5	21.4		21.4			17.1	20.2	22.1	24.2
19.8	22.1	22.6		22.3			16.5	22.3	22.4	26.0
19.5	19.7	23.5		21.4			16.0	21.4	21.6	26.2
15.3	15.8	16.3		17.4			14.6	15.7	16.4	18.7
					PROTEIN (%)					
	38.4			38.6				38.1		38.3
	39.5			39.2				39.3		39.7
	39.1			39.0				39.4		38.1
	42.9			44.0				41.8		42.1
	40.9			40.5				39.4		40.0
	41.8			42.2				41.2		41.7
	42.3			42.3				40.6		42.4
	43.0			44.1				42.4		42.8
	39.0			39.4				39.1		39.0
					OIL (%)					
	21.9			22.2				21.8		22.3
	21.1			21.5				21.3		21.5
	21.8			22.1				21.8		22.5
	20.6			20.9				21.1		21.4
	20.6			20.5				21.1		22.0
	21.5			21.6				21.8		22.7
	20.8			21.0				21.4		21.5
	19.6			19.5				19.9		20.5
	21.8			22.1				22.7		23.0

Strain	Parentage	Line
1. Beeson		
2. Corsoy		
3. C1510	Wayne x C1317-71(C1223[8] x Mukden)	F_3
4. C1512	(F_1 Amsoy x C1253) x (F_1 Wayne x C1317-71)	F_6
5. L69D-124	Chippewa 64 x Corsoy	F_5
6. L69D-133	" "	F_5
7. L69D-227	Hark x Disoy	F_5
8. M65-19	Anoka x Prize	F_5

With Corsoy 2 to 3 bushels ahead in regional mean yield none of these strains appear very promising. A few of the later strains were equal to or slightly above Beeson in yield. C1512 with its PR resistance, good lodging, and seed quality and germination may be worth retesting.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
No. of Tests	9	9	7	9	9	9	7	4	4
Beeson	44.8	5	+4.0	1.9	39	1.9	20.5	41.2	20.9
Corsoy	48.1	1	9-19	2.3	38	1.9	16.1	40.9	21.4
C1510	43.4	7	+2.9	1.7	41	1.9	16.8	41.8	20.2
C1512	45.3	3	+3.4	1.5	40	1.7	20.8	41.6	21.3
L69D-124	44.6	6	+3.4	2.3	38	1.8	14.9	40.5	21.2
L69D-133	45.3	3	+2.1	2.7	41	1.8	15.7	41.4	20.8
L69D-227	45.4	2	+5.7	2.5	44	2.0	22.4	43.2	20.5
M65-19	42.0	8	-0.9	2.0	34	1.9	23.8	39.8	23.0

Disease Data

Strain	BB	FE2	BSR			CR	PR			PSB	
	Ames Iowa n2	Laf. Ind. a	Laf. Ind. n %	Urb. Ill. n %	Ames Iowa n %	Laf. Ind. n %	Laf. Ind. a	Ames Iowa a	Stoneville Mississippi n	Laf., mat. n %	Ind. late n %
Beeson	1	2	28	70	67	50	R	R	1	27	47
Corsoy	3	4	54	40	68	91	S	S	3	50	72
C1510	3	1	26	70	53	89	R	R	1	19	39
C1512	3	5	13	80	50	31	R	R	1	17	36
L69D-124	4	5	20	90	60	87	S	S	2	58	82
L69D-133	3	4	17	80	43	50	R	R	1	61	79
L69D-227	3	3	32	50	53	36	S	S	1	52	68
M65-19	3	5	47	50	61	86	S	S	1	62	78

Descriptive and Other Data

Strain	Descriptive Code		Chlorosis	Shattering			Emergence	Germination	
			Ames Iowa	Stoneville Mississippi	Manhattan Kansas			Laf., mat. %	Ind. late %
					2 wk	6 wk			
Beeson	PGNBr	SYIb	2.8	1	2	3	5	50	59
Corsoy	PGNBr	DYY	3.0	1	1	1.5	1	44	74
C1510	WGN-	SYBf	3.6	3	1.5	2	2	77	37
C1512	PTN-	SYBl	2.5	1	2	2	4	88	37
L69D-124	PTN-	DYBl	3.6	1	1	1	2	34	38
L69D-133	PTN-	SYY	3.5	1	1	1.5	2	29	55
L69D-227	PGN-	DYY	3.1	3	2	4	3	32	14
M65-19	PTN-	DYBl	1.2	4	3	4	1	9	6

Strain	Mean	Ont. Harrow	Ohio Hoytville	Ind. Lafayette	Wis. Madison	Illinois Pontiac	Illinois Urbana	Iowa Kanawha	Iowa Ames	Mo. Columbia	S. Dak. Centerville	Neb. Mead I
	9 Tests		*		*							
				YIELD (bu/a)								
Beeson	44.8	46.1	46.6	44.6	40.0	44.6	53.2	41.5	50.5	41.5	31.8	49.6
Corsoy	48.1	42.6	38.8	43.3	33.4	50.6	58.9	51.3	58.2	37.1	38.2	52.4
C1510	43.4	40.7	43.1	44.6	37.5	40.3	50.5	42.0	49.9	43.9	35.3	43.8
C1512	45.3	50.0	44.9	43.9	40.5	42.3	55.6	43.2	55.2	36.4	34.0	47.5
L69D-124	44.6	40.2	36.4	44.6	31.2	38.8	55.4	45.9	59.5	35.6	35.1	46.0
L69D-133	45.3	41.0	41.6	44.6	33.0	42.2	54.5	47.6	53.4	41.5	38.0	45.3
L69D-227	45.4	39.9	40.6	46.9	18.4	42.7	52.5	48.8	53.3	42.0	34.6	47.7
M65-19	42.0	43.2	37.4	41.7	38.8	35.4	48.6	40.2	54.0	39.7	32.4	42.4
C. V. (%)		8.7		7.9	3.1	11.9	2.4	5.3	5.5	9.9	13.1	7.0
L.S.D. (5%)		n.s.		n.s.	2.5	11.9	3.0	5.6	7.1	n.s.	n.s.	7.3
Row Spacing (in.)		24	32	38	36	38	30	27	27	15	30	30
Rows/Plot		4	3	3	1	3	4	4	4	4	3	3
Reps		2	2	2	2	2	2	2	2	2	2	2
				YIELD RANK								
Beeson	5	2	1	2	2	2	5	7	7	3	8	2
Corsoy	1	4	6	7	5	1	1	1	2	6	1	1
C1510	7	6	3	2	4	6	7	6	8	1	3	7
C1512	3	1	2	6	1	4	2	5	3	7	6	4
L69D-124	6	7	8	2	7	7	3	4	1	8	4	5
L69D-133	3	5	4	2	6	5	4	3	5	3	2	6
L69D-227	2	8	5	1	8	3	6	2	6	2	5	3
L65-19	8	3	7	8	3	8	8	8	4	5	7	8
	7 Tests		*	MATURITY (relative date)	*							
Beeson	+4.0	+ 3	0	+ 3	- 1	+ 5	+ 7		+ 5	+ 3		+ 2
Corsoy	9-19	10-1	9-18	9-22	10-12	9-22	9-14		9-14	9-1		9-27
C1510	+2.9	+ 1	+ 7	+ 1	- 7	+ 2	+ 4		+ 6	+ 4		+ 2
C1512	+3.4	+ 1	+ 5	+ 2	- 2	+ 3	+ 7		+ 4	+ 5		+ 2
L69D-124	+3.4	- 1	+ 5	+ 5	+ 2	+ 4	+10		+ 1	+ 2		+ 3
L69D-133	+2.1	+ 1	+ 5	+ 4	+ 4	+ 2	+ 5		0	+ 5		- 2
L69D-227	+5.7	+ 9	+ 9	+ 8	+ 4	+ 6	+ 9		+ 3	+ 2		+ 3
M65-19	-0.9	- 3	+ 3	- 1	- 7	+ 1	0		+ 2	+ 1		- 6
Hark (I)		- 5	+ 3	- 4	-11	- 3	- 2		0			- 4
Wayne (III)	+8.6	+ 5		+11		+ 7	+11		+13	+ 8		+ 5
Date Planted		5-22	6-2	5-22	5-22	5-26	5-12	5-9	5-11	5-20	5-26	5-31

Strain	Parentage	Line	Previous Testing*
1. Calland	C1253(Blackhawk x Harosoy) x Kent	F_7	5
2. Kanrich	Kanro[2] x Richland	F_7	P III
3. Wayne	L49-4091 x Clark	F_5	11
4. SL11	Wayne-Ir Rps x (Wayne[10] x Kanrich)	3 F_4 lines	P III
5. Williams	Wayne x L57-0034(Clark x Adams)	F_6	3
6. L66L-172	"	F_6	2
7. L67U-440	Chippewa 64 x Corsoy	F_3	P II
8. L67U-1842	Provar x Disoy	F_3	P II

Williams has had a higher central regional mean yield in each of the past 4 years and an overall average about 1.5 bushels above Wayne and Calland. It has also shown superior lodging and shattering resistance and seed quality but is about 3 days later than Wayne. L66L-172, from the same cross as Williams, has been tested three years and has equalled Williams in yield and lodging resistance but is 3 days earlier, the same as Wayne and is therefore being considered for release for areas where Williams is too late.

There were three new entries in the test this year. L67U-440 showed no advantage over the check varieties but is almost 3 days earlier than Wayne. L67U-1842 is large-seeded and should be compared with Kanrich. It averaged 2 bushels higher in yield and appreciably more lodging resistant than Kanrich. Its 10% smaller seed and somewhat poorer seed quality are factors that will have to be evaluated when considering L67U-1842 as a replacement for Kanrich. SL11 is the result of adding phytophthora resistance (Rps originally from Mukden), downy mildew (Rpm from Kanrich), and brown hilum (r from T145) to Wayne by backcrossing. This 3-line bulk performed very closely to Wayne with a slightly higher mean yield but slightly later maturity in the central area.

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
				1972, Central					
No. of Tests	19	19	15	19	18	19	16	12	12
Calland	45.0	5	+2.2	2.4	43	2.5	18.3	39.8	21.8
Kanrich	37.8	8	-1.1	3.5	40	2.4	26.9	41.1	20.8
Wayne	46.2	4	9-23†	2.6	42	2.5	18.1	41.5	22.2
SL11	46.9	3	+1.0	2.6	43	2.6	18.1	41.8	22.0
Williams	49.1	1	+3.4	2.1	43	2.0	18.5	40.2	22.9
L66L-172	47.8	2	-0.2	2.1	41	2.3	16.2	39.5	22.7
L67U-440	44.2	6	-2.7	2.9	41	2.5	14.0	38.7	22.8
L67U-1842	40.2	7	-2.9	2.0	37	3.1	24.0	42.1	21.5

† 127 days after planting

				1970-72, 3-year mean, Central					
No. of Tests	64	64	54	60	62	60	52	37	37
Calland	45.2	3	+2.1	2.3	42	2.4	17.8	39.7	21.1
Wayne	44.8	4	9-22†	2.5	41	2.3	17.5	41.4	21.7
Williams	46.7	1	+3.5	1.9	42	1.9	17.6	40.5	22.4
L66L-172	46.7	1	+0.2	1.9	40	2.1	15.5	39.6	22.2

† 124 days after planting

				1969-72, 4-year mean, Central‡					
No. of Tests	94	94	78	85	90	86	78	52	52
Calland	45.5	2	+1.9	2.3	42	2.4	17.6	39.8	21.3
Wayne	45.3	3	9-22†	2.5	41	2.2	17.4	41.5	21.9
Williams	47.1	1	+3.3	1.9	42	1.9	17.7	40.7	22.5

† 123 days after planting

‡ Includes 3 East Coast tests in 1969

				1972, East Coast					
No. of Tests	4	4	4	4	4	4	4	2	2
Calland	40.7	1	+1.0	1.7	36	2.0	17.9	40.9	21.2
Kanrich	36.9	7	+0.8	2.4	32	2.6	27.6	41.0	20.2
Wayne	37.2	6	9-30†	1.5	32	2.0	16.9	42.1	21.5
SL11	38.9	4	0.0	1.5	33	1.9	17.6	41.3	21.5
Williams	38.4	5	+1.5	1.1	33	1.9	17.7	41.3	22.4
L66L-172	39.4	2	+0.8	1.3	31	1.8	15.9	40.5	22.3
L67U-440	39.4	2	+0.3	2.0	33	2.1	13.4	38.8	22.4
L67U-1842	34.6	8	-1.5	1.2	30	3.1	24.8	41.8	21.5

† 116 days after planting

Disease Data

Strain	BB Ames Iowa n1	BB Ames Iowa n2	BP Ames Iowa n	BS Ames Iowa n	FE_2 Laf. Ind. a	PM Har. Ont. a
Calland	2.0	2	2.5	4.0	5	R
Kanrich	2.5	3	4.0	3.5	1	S
Wayne	3.5	3	1.0	2.5	2	R
SL11	3.5	1	1.0	3.0	2	R
Williams	4.0	2	2.0	3.0	4	R
L66L-172	4.0	2	4.0	4.0	5	R
L67U-440	3.5	3	4.0	3.5	5	S
L67U-1842	4.0	2	4.0	3.0	4	S

Strain	BSR Laf. Ind. n %	BSR Urb. Ill. n %	BSR St. Paul Minn. n %	BSR Ames Iowa n %	CR Laf. Ind. n %	PR Laf. Ind. a	PR Ames Iowa a	PR Stoneville Mississippi n	SMV Ames Iowa n	SMV Ames Iowa a %	PSB Laf., mat. n %	PSB Ind. late n %
Calland	24	60	95	84	41	R	R	1	1	80	30	29
Kanrich	14	80	100	59	29	S	S	1	2	65	13	41
Wayne	19	60	100	57	47	S	S	1	2	67	45	68
SL11	21	90	100	60	63	R	R	1	2	74	43	38
Williams	6	50	100	33	40	S	S	1	1	65	4	32
L66L-172	17	30	100	36	57	S	S	2	1	55	30	34
L67U-440	9	20	95	50	78	S	S	1	1	58	65	67
L67U-1842	33	60	100	41	53	R	S	1	1	68	36	42

Descriptive and Other Data

Strain	Descriptive Code		Chlorosis Crkstn. Minn.	Chlorosis Lamb. Minn.	Chlorosis Ames Iowa	Fluorescent Light	Emergence	Peroxidase	Shattering Stnvle. Miss.	Shattering Lubbock Texas	Germination Laf., mat. %	Germination Ind. late %
Calland	PTNBr	DYBl	4	1.7	2.6	L	1	L	2.0	2.0	35	58
Kanrich	PGNBr	DYY	5	1.7	2.4	L	3	L	5.0	3.0	65	47
Wayne	WTNBr	SYBl	5	2.3	3.9	L	1	L	3.0	2.3	37	15
SL11	WTNBr	SYBr	1	1.7	3.5	L	1	L	3.0	2.0	32	27
Williams	WTNTn	SYLbl	1	3.0	3.2	L	1	H	1.0	1.3	91	77
L66L-172	WTNTn	DYBl	1	2.0	3.8	L	2	L	2.5	2.0	72	40
L67U-440	PT+GNBr	DYY	3	1.7	3.4	E	2	L+H	2.0	2.0	47	30
L67U-1842	PGNBr	DYBf	2	2.3	2.5	L	3	H	4.0	2.3	61	10

Strain	East Coast Mean	Penn. Landisville	N.J. Adelphia	Maryland Clarksville	Maryland Queenstown B	Maryland Quantico W	Central Mean	Ohio Hoytville *	Ohio Columbus *	Ind. Bluffton
	4 Tests	1972 YIELD (bu/a)					19 Tests			
Calland	40.7	47.0	35.2	47.5	25.1	32.9	45.0	21.8	43.8	44.0
Kanrich	36.9	40.2	33.1	41.4	24.9	32.8	37.8	18.2	31.8	37.3
Wayne	37.2	45.8	36.0	38.6	26.1	28.4	46.2	28.0	48.6	44.2
SL11	38.9	45.6	37.2	39.3	21.9	33.3	46.9	35.2	42.8	52.4
Williams	38.4	42.8	38.3	40.5	20.2	32.1	49.1	36.5	55.0	45.7
L66L-172	39.4	50.0	34.8	39.6	22.3	33.2	47.8	30.2	47.7	39.4
L67U-440	39.4	52.8	38.7	36.3	26.0	29.7	44.2	23.3	36.0	42.7
L67U-1842	34.6	43.1	34.1	36.3	14.6	24.8	40.2	24.1	44.5	31.4
C. V. (%)		9.9	7.4	8.6	19.6	6.4				11.1
L.S.D. (5%)		6.7	5.0	5.0	7.8	3.4				6.9
Row Sp. (in.)		30	30	30	30	30		32	28	30
Rows/Plot		3	3	3	3	3		3	3	3
Reps		4	4	4	4	3		4	4	4
		YIELD RANK								
Calland	1	3	5	1	3	3	5	7	5	4
Kanrich	7	8	8	2	4	4	8	8	8	7
Wayne	6	4	4	6	1	7	4	4	2	3
SL11	4	5	3	5	6	1	3	2	6	1
Williams	5	7	2	3	7	5	1	1	1	2
L66L-172	2	2	6	4	5	2	2	3	3	6
L67U-440	2	1	1	7	2	6	6	6	7	5
L67U-1842	8	6	7	7	8	8	7	5	4	8
	14 Tests	1970-72, 3-YEAR MEAN YIELD					64 Tests			
		71-72			71-72	a				
Calland	42.0	46.6	37.0	48.4	37.6	38.8	45.2	26.8	52.9	50.4
Wayne	37.7	44.8	32.4	41.4	36.5	32.8	44.8	31.2	50.8	49.2
Williams	41.5	44.6	38.2	46.4	36.3	40.3	46.7	32.8	54.1	49.0
L66L-172	38.7	44.0	33.5	44.9	33.2	36.0	46.7	29.5	47.2	50.2
		YIELD RANK								
Calland	1	1	2	1	1	2	3	4	2	1
Wayne	4	2	4	4	2	4	4	2	3	3
Williams	2	3	1	2	3	1	1	1	1	4
L66L-172	3	4	3	3	4	3	1	3	4	2

a Poplar Hill in 1970

Indiana				Ky.
Lafay-ette	Green-field	Worth-ington	Evans-ville	Hend-erson
1972 YIELD (bu/a)				
		*		
45.0	35.8	38.4	36.2	50.0
41.1	28.9	37.5	31.0	44.6
49.4	32.6	34.4	40.9	49.4
45.9	31.6	34.7	45.2	50.8
47.6	35.4	41.7	43.7	56.9
49.3	33.4	45.2	39.9	55.4
45.4	29.8	33.8	33.0	46.8
39.2	23.1	40.6	32.2	45.8
7.7	5.8	17.1	13.2	7.1
5.1	2.7	n.s.	7.3	6.2
38	38	38	38	30
3	3	3	3	4
4	4	4	4	3
YIELD RANK				
6	1	4	5	4
7	7	5	8	8
1	4	7	3	5
4	5	6	1	3
3	2	2	2	1
2	3	1	4	2
5	6	8	6	6
8	8	3	7	7
1970-72, 3-YEAR MEAN YIELD				
44.0	41.2	45.7	42.3	52.0
47.0	36.8	45.9	42.3	50.1
48.6	39.8	50.5	44.8	54.4
48.9	39.5	52.7	39.5	51.5
YIELD RANK				
4	1	4	2	2
3	4	3	2	4
2	2	2	1	1
1	3	1	4	3

Illinois				
Urbana	Girard	Edgewood	Belleville	Eldorado
1972 YIELD (bu/a)				
56.7	49.6	42.8	44.7	48.7
47.2	44.3	36.4	34.8	40.1
54.3	56.2	43.7	40.9	39.2
56.9	54.2	44.8	40.9	42.3
59.7	56.1	45.7	50.5	50.9
63.5	56.5	41.4	44.3	45.7
59.4	58.5	42.8	41.6	43.0
53.5	48.8	39.7	37.0	39.2
5.1	5.9	6.3	6.3	3.8
5.1	5.5	4.7	4.6	2.9
30	30	38	38	37
4	4	4	4	4
3	3	3	3	3
YIELD RANK				
5	6	4	2	2
8	8	8	8	6
6	3	3	5	7
4	5	2	5	5
2	4	1	1	1
1	2	6	3	3
3	1	4	4	4
7	7	7	7	7
1970-72, 3-YEAR MEAN YIELD				
53.0	44.7	46.5	47.6	53.4
50.1	50.2	47.1	46.4	47.4
55.4	49.2	47.9	50.3	54.3
56.4	49.2	46.0	49.2	51.3
YIELD RANK				
3	4	3	3	2
4	1	2	4	4
2	2	1	1	1
1	2	4	2	3

b Trenton in 1970

Illinois	Iowa		Missouri		S. D.	Neb.	Kansas				
Carbon-dale	Stuart	Ottu-mwa	Spick-ard	Mt. Vernon	Elk Point	Mead I	Pow-hattan	Man-hattan	Manhat-tan I	Ot-tawa	Col-umbus
1972 YIELD (bu/a)											
					*			*			*
36.5	37.7	41.2	41.7	40.4	30.6	45.9	53.6	22.9	65.9	39.0	21.4
32.2	34.6	34.0	38.1	35.3	33.3	40.6	34.8	21.0	43.6	39.2	22.8
33.1	37.9	44.0	45.5	52.3	35.5	47.6	52.3	21.9	62.3	51.5	25.9
34.8	40.0	41.7	49.4	49.7	32.0	48.5	50.7	22.3	62.5	49.2	24.0
46.5	40.7	44.1	45.9	49.7	31.8	46.8	54.6	29.3	64.1	48.7	30.2
42.3	42.4	43.3	44.0	50.8	40.9	46.5	52.9	24.4	67.5	49.0	21.3
34.4	43.2	44.3	38.7	38.7	39.9	48.3	45.9	24.3	59.3	44.0	24.2
31.3	36.6	34.0	40.4	40.5	34.1	43.0	44.9	23.8	60.2	43.7	24.0
6.5	8.1	9.8	12.8	10.7	16.9	4.4	5.1	17.1	12.1	10.0	16.4
4.0	4.5	5.7	8.1	7.0	n.s.	3.3	4.3	n.s.	12.9	7.9	n.s.
30	27	27	15	15	40	30	30	30	30	30	30
4	4	4	4	4	3	4	4	4	4	4	4
3	4	4	4	4	4	3	3	3	3	3	3
YIELD RANK											
3	6	6	5	6	8	6	2	5	2	8	7
7	8	7	8	8	5	8	8	8	8	7	6
6	5	3	3	1	3	3	4	7	5	1	2
4	4	5	1	3	6	1	5	6	4	2	4
1	3	2	2	3	7	4	1	1	3	4	1
2	2	4	4	2	1	5	3	2	1	3	8
5	1	1	7	7	2	2	6	3	7	5	3
8	7	7	6	5	4	7	7	4	6	6	4
1970-72, 3-YEAR MEAN YIELD											
								71-72			
47.3	39.0	45.2	36.8	39.8	32.5	45.3	43.3	25.1	73.6	41.9	18.2
41.3	38.6	47.2	38.0	44.7	33.6	48.2	40.6	26.3	65.8	44.0	20.4
49.6	40.7	48.3	39.3	43.9	29.6	43.3	44.2	26.1	71.0	44.8	22.9
45.6	40.5	49.2	37.2	46.0	35.6	46.5	42.6	26.7	73.1	45.0	18.7
YIELD RANK											
2	3	4	4	4	3	3	2	4	1	4	4
4	4	3	2	2	2	1	4	2	4	3	2
1	1	2	1	3	4	4	1	3	3	2	1
3	2	1	3	1	1	2	3	1	2	1	3

Strain	East Coast Mean	Penn. Landis-ville	N.J. Adel-phia	Maryland Clarks-ville	Queens-town	Quan-tico B W	Cen-tral Mean	Ohio Hoyt-ville	Ohio Col-umbus	Ind. Bluff-ton
	4 Tests		MATURITY (relative date)		*		15 Tests		* *	
Calland	+1.0	+ 1	+ 2	- 1	+ 3	+ 2	+2.2	0	+ 2	+ 4
Kanrich	+0.8	0	+ 2	- 1	- 1	+ 2	-1.1	0	0	+ 3
Wayne†	9-30	9-26	9-23	9-27	10-7	10-15	9-23	9-28	10-22	10-4
SL11	0.0	- 1	+ 1	- 1	+ 1	+ 1	+1.0	+ 3	- 2	+ 4
Williams	+1.5	+ 1	+ 3	0	+ 4	+ 2	+3.4	+ 5	+ 2	+ 4
L66L-172	+0.8	0	0	+ 1	+ 1	+ 2	-0.2	0	+10	- 3
L67U-440	+0.3	- 1	0	0	+ 1	+ 2	-2.7	- 3	+ 4	- 3
L67U-1842	-1.5	-10	+ 2	0	+ 1	+ 2	-2.9	- 3	+ 6	- 6
Beeson (II)		-11	- 4					- 3	-28	-12
Cutler 71 (IV)	+7.0	+ 7	+ 7	+ 4	+ 6	+10			+ 8	+11
Date Planted	6-7	5-23	6-2	5-24	6-15	7-10	5-19		5-8	5-22
†Days to Mat.	116	126	113	126	114	97	127		167	135

	4 Tests		LODGING (score)		*		19 Tests		* *	
Calland	1.7	1.5	1.8	1.8	1.6	1.5	2.4	2.0	1.0	2.6
Kanrich	2.4	2.0	2.5	3.6	2.2	1.4	3.5	2.0	2.0	2.8
Wayne	1.5	1.4	1.6	1.5	2.3	1.3	2.6	2.0	2.0	3.0
SL11	1.5	1.6	1.4	1.5	2.0	1.3	2.6	2.0	2.0	3.1
Williams	1.1	1.2	1.1	1.0	1.0	1.0	2.1	2.0	2.2	1.4
L66L-172	1.3	1.4	1.3	1.3	1.2	1.0	2.1	2.0	1.5	1.9
L67U-440	2.0	1.9	2.8	2.1	2.0	1.2	2.9	2.0	2.2	2.8
L67U-1842	1.2	1.1	1.6	1.1	2.1	1.0	2.0	1.5	2.0	1.2

	4 Tests		PLANT HEIGHT (inches)		*		18 Tests		* *	
Calland	36	41	38	36	32	28	43	38	39	43
Kanrich	32	38	35	32	26	23	40	37	34	40
Wayne	32	38	35	29	30	27	42	41	36	41
SL11	33	38	36	34	30	25	43	40	36	45
Williams	33	36	35	33	30	26	43	40	36	39
L66L-172	31	37	33	32	31	23	41	38	36	40
L67U-440	33	40	35	35	30	23	41	39	39	43
L67U-1842	30	37	33	31	29	20	37	36	34	32

UNIFORM TEST III, 1972

Illinois			
Girard	Edgewood	Belleville	Eldorado
MATURITY (relative date)			
+ 1	+ 2	+ 2	+ 4
+ 1	- 2	- 1	- 3
9-22	9-22	9-19	9-12
+ 1	0	+ 1	+ 2
+ 5	+ 2	+ 3	+ 6
+ 1	- 1	0	+ 2
- 1	- 2	- 3	- 3
0	- 2	- 1	- 4
- 4	- 4	- 2	
+ 9	+10	+10	+ 9
5-20	5-30	5-11	5-10
125	115	131	125
LODGING (score)			
3.1	2.0	2.5	3.7
3.8	3.5	4.5	4.8
2.7	1.8	2.8	3.4
3.2	2.1	2.7	3.2
3.1	1.2	2.0	2.8
3.1	1.1	2.5	2.6
3.5	2.0	3.5	4.4
3.2	1.3	1.6	3.0
PLANT HEIGHT (inches)			
48	42	43	43
43	39	39	39
48	41	41	40
51	41	40	41
48	40	43	43
45	39	41	42
47	40	40	43
43	37	40	36

UNIFORM TEST III, 1972

Indiana				K
Lafay-ette	Green-field	Worth-ington	Evans-ville	He er
	MATURITY (relative date)			
		*		
+ 2	+ 2	+ 1	+ 2	
+ 2	- 3	+ 3	- 3	
10-3	10-5	9-18	9-20	
+ 1	- 1	- 1	+ 2	
+ 3	0	0	+ 2	
0	- 1	0	0	
- 2	- 3	0	- 3	
- 5	- 5	0	- 3	
- 9	-13	- 4		
+ 7		+11	+ 7	
5-22	5-24	5-19	5-25	5-
134	134	122	118	
	LODGING (score)			
		*		
2.8	1.0	3.1	2.4	2.
3.1	1.0	4.2	3.2	4.
3.0	1.2	3.6	2.2	2.
2.8	1.2	3.6	2.8	3.
2.8	1.0	2.4	2.0	3.
2.8	1.2	2.9	2.0	3.
3.2	1.1	3.9	3.0	4.
2.0	1.0	3.4	2.9	3.
	PLANT HEIGHT (inches)			
		*		
46	31	47	42	5
44	30	41	37	4
44	31	44	39	4
45	31	48	43	5
46	31	45	40	4
44	30	42	38	5
45	30	47	40	4
45	25	42	36	4

Illinois	Iowa		Missouri		S. D.	Neb.	Kansas				
Carbon-dale	Stuart	Ottu-mwa	Spick-ard	Mt. Vernon	Elk Point	Mead I	Pow-hattan	Man-hattan	Manhat-tan I	Ot-tawa	Col-umbus
MATURITY (relative date)											
					*			*			*
+ 4		+ 1			+ 4	0	+ 3	0	+ 1	- 2	- 1
+ 4		0			+ 1	- 1	- 7	- 7	- 1	- 5	- 1
9-7		9-19			10-16	10-3	9-23	9-21	9-22	9-13	10-8
+ 2		+ 1			- 1	0	0	0	+ 1	- 1	+ 1
+ 7		+ 5			+ 5	+ 1	+ 5	+ 5	+ 2	- 3	+ 1
+ 1		- 1			- 7	- 1	0	+ 1	0	0	+ 3
- 3		- 3			- 5	- 1	- 7	- 9	- 2	- 5	- 8
- 1		- 1			- 3	- 1	- 7	+ 3	- 2	- 5	+ 3
- 5		- 8				- 5	-15	-11	-10	- 9	
+10		+ 9					+11	+12	+11	+ 9	+ 4
5-12	5-17	5-19	5-17	5-10	5-26	5-31	5-17	5-19	5-9	5-16	5-31
118		123			143	125	129	125	136	120	130
LODGING (score)											
					*			*			*
2.0	2.6	2.8	1.8	1.6	2.4	2.9	1.9	1.0	3.0	1.7	1.3
4.3	2.8	3.0	3.6	3.5	3.2	4.2	2.8	1.0	4.0	4.0	2.5
3.3	2.8	2.7	2.0	1.6	2.0	3.3	1.9	1.0	3.2	1.7	1.2
3.3	2.5	2.7	2.4	1.6	2.2	2.6	1.9	1.0	3.1	2.0	1.0
2.0	2.5	2.5	1.4	1.2	1.6	2.5	1.7	1.0	2.4	1.4	1.3
2.7	2.8	2.4	1.8	1.4	1.4	2.1	1.3	1.0	2.3	1.3	1.0
3.3	2.6	2.8	2.5	1.8	2.2	3.8	1.6	1.0	2.4	2.8	1.0
2.3	2.2	2.3	1.8	1.5	1.4	2.9	1.2	1.0	2.0	1.3	1.0
PLANT HEIGHT (inches)											
					*			*			*
40	41	46		39	40	48	40	33	46	41	27
38	42	45		33	35	44	37	32	42	39	25
39	43	48		37	42	45	41	33	47	40	26
43	45	44		38	40	46	41	33	45	42	26
40	45	45		38	43	44	40	34	47	44	25
40	42	43		36	41	43	38	31	43	41	25
35	42	46		35	41	45	37	31	44	41	25
33	40	40		28	39	40	36	31	42	37	23

Strain	East Coast Mean	Penn.	N.J.	Maryland			Central Mean	Ohio		Ind.
		Landis-ville	Adel-phia	Clarks-ville	Queens-town	Quan-B ticoW		Hoyt-ville	Col-umbus	Bluff-ton
	4 Tests			SEED QUALITY (score)			19 Tests			
					*			*	*	
Calland	2.0	2.8	2.0	2	2.0	1	2.5	1.0	2.0	1.5
Kanrich	2.6	2.8	2.5	3	1.0	2	2.4	1.0	2.2	2.0
Wayne	2.0	2.5	1.5	2	1.0	2	2.5	1.5	2.0	2.0
SL11	1.9	2.2	1.5	2	1.0	2	2.6	1.2	2.2	2.5
Williams	1.9	2.6	1.8	2	1.0	1	2.0	1.0	2.0	1.5
L66L-172	1.8	2.4	1.8	2	1.3	1	2.3	1.0	2.0	2.0
L67U-440	2.1	2.5	1.8	2	1.0	2	2.5	1.0	2.2	3.0
L67U-1842	3.1	2.5	3.0	3	1.3	4	3.1	1.0	2.5	3.0
	4 Tests			SEED SIZE (g/100)			16 Tests			
					*			*	*	
Calland	17.9	17.2	19	17.4	19.0	17.9	18.3	16.8	22.9	18.3
Kanrich	27.6	29.0	27	27.6	23.3	26.7	26.9	27.1	33.3	27.6
Wayne	16.9	19.6	18	14.6	18.3	15.4	18.1	17.6	21.0	17.6
SL11	17.6	19.6	18	15.6	18.3	17.2	18.1	18.7	20.6	18.4
Williams	17.7	19.2	19	16.0	18.9	16.4	18.5	18.6	21.8	19.7
L66L-172	15.9	17.9	17	13.8	16.9	14.7	16.2	16.1	18.4	15.5
L67U-440	13.4	13.3	14	12.1	15.3	14.0	14.0	12.6	17.7	13.8
L67U-1842	24.8	25.9	26	27.0	22.5	20.2	24.0	24.2	34.4	23.2
	2 Tests			PROTEIN (%)			12 Tests			
Calland	40.9			40.7	41.0		39.8		42.3	
Kanrich	41.0			40.8	41.2		41.1		43.1	
Wayne	42.1			42.9	41.2		41.5		43.8	
SL11	41.3			41.6	40.9		41.8		44.0	
Williams	41.3			41.9	40.6		40.2		40.9	
L66L-172	40.5			41.0	40.0		39.5		41.0	
L67U-440	38.8			38.9	38.6		38.7		41.1	
L67U-1842	41.8			42.0	41.6		42.1		44.3	
	2 Tests			OIL (%)			12 Tests			
Calland	21.2			20.8	21.6		21.8		21.3	
Kanrich	20.2			20.3	20.1		20.8		20.6	
Wayne	21.5			21.4	21.6		22.2		22.1	
SL11	21.5			21.3	21.6		22.0		21.5	
Williams	22.4			22.4	22.4		22.9		22.5	
L66L-172	22.3			22.5	22.1		22.7		22.6	
L67U-440	22.4			22.6	22.1		22.8		21.0	
L67U-1842	21.5			21.3	21.6		21.5		21.9	

Indiana				Ky.
Lafayette	Greenfield	Worthington	Evansville	Henderson
	SEED QUALITY (score) *			
2.0	4.0	2.0	3.0	2
1.5	4.0	3.5	1.5	4
2.5	4.0	2.0	2.5	3
3.0	4.0	2.5	3.0	4
1.0	4.0	1.5	2.0	2
2.0	4.0	2.5	2.5	2
2.0	4.0	3.0	2.5	3
3.0	4.0	3.0	3.0	4
	SEED SIZE (g/100) *			
17.9	19.2	15.3	17.8	19.0
28.9	23.6	27.6	24.8	29.3
18.2	17.5	13.7	16.7	20.8
19.0	17.4	14.7	17.3	20.5
18.4	19.7	14.4	18.0	20.4
16.4	16.4	14.4	15.4	17.7
13.7	13.3	12.2	12.3	14.7
25.0	23.6	23.8	22.9	26.8

	PROTEIN (%)	
40.3	40.2	38.0
40.6	42.2	39.8
41.3	41.5	41.5
42.3	41.6	42.0
40.2	40.3	40.1
39.2	39.9	40.1
39.3	40.1	38.3
42.9	42.4	42.6
	OIL (%)	
21.5	21.3	21.9
20.0	21.0	21.4
21.9	21.5	22.6
21.5	22.1	21.7
22.0	23.9	23.9
22.0	23.6	23.0
21.3	22.5	24.1
21.0	22.4	22.4

Illinois				
Urbana	Girard	Edgewood	Belleville	Eldorado
SEED QUALITY (score)				
2.2	2.1	2.5	3.7	3.4
2.0	2.2	2.4	3.1	3.2
1.7	1.8	2.7	4.0	4.0
1.4	1.8	2.5	4.3	4.0
1.4	1.4	1.9	3.3	3.2
1.3	1.8	1.8	4.5	4.4
1.7	1.4	2.2	4.1	4.1
2.3	3.5	3.3	4.4	4.3
SEED SIZE (g/100)				
19.9	17.6	16.7	16.9	18.1
29.0	28.4	24.1	25.4	25.4
19.8	17.7	15.8	16.7	16.5
19.0	17.6	16.2	16.7	17.1
19.8	19.2	16.3	16.9	16.7
17.1	16.6	14.4	15.7	15.5
14.8	13.0	13.1	14.2	13.3
26.0	25.6	21.4	20.4	21.0
PROTEIN (%)				
40.1	40.0			41.6
42.7	40.8			42.0
43.0	41.7			44.4
42.6	42.1			45.2
40.6	41.9			42.2
39.7	40.7			42.6
39.3	39.2			41.2
40.9	42.6			44.5
OIL (%)				
21.2	22.4			21.8
20.8	21.8			21.6
21.6	22.3			22.7
21.8	22.1			21.8
22.9	23.3			22.9
22.9	23.0			22.4
22.3	22.6			23.9
21.0	21.8			21.9

Illinois	Iowa		Missouri		S. D.	Neb.	Kansas				
Carbon-dale	Stuart	Ottu-mwa	Spick-ard	Mt. Vernon	Elk Point	Mead I	Pow-hattan	Man-hattan	Manhat-tan I	Ot-tawa	Col-umbus
SEED QUALITY (score)											
					*			*			*
4.7	1.0	1.4	1.8	2.5	2.0	2.7	2.1	2.9	2.0	2.4	3.7
4.3	1.0	1.2	2.3	2.0	2.6	2.5	2.1	3.6	2.5	2.4	3.5
5.0	1.0	1.0	1.5	2.0	1.8	2.5	1.9	3.3	2.5	2.1	3.2
5.0	1.0	1.1	1.5	2.0	2.2	2.0	1.8	2.8	2.3	2.0	3.0
4.3	1.0	1.0	1.2	1.8	1.4	1.8	1.2	2.3	1.8	1.7	2.8
4.3	1.0	1.2	1.2	2.5	1.4	2.3	1.5	2.8	2.1	1.9	3.9
4.7	1.0	1.0	1.3	2.5	1.7	2.7	2.2	3.3	2.8	2.1	4.0
5.0	1.6	2.5	2.0	3.0	2.6	3.0	1.9	3.0	3.0	2.1	3.6
SEED SIZE (g/100)											
					*			*			*
16.9		20.4			17.8	21.2	18.9	15.3	20.1	14.3	16.5
23.3		30.8			24.4	27.6	28.0	19.8	30.2	23.4	22.5
16.9		19.8			17.5	19.9	17.9	13.3	21.1	16.2	18.5
17.4		20.5			17.1	19.5	18.1	13.1	21.1	13.9	19.0
17.4		21.2			16.1	20.1	17.9	15.7	19.5	14.4	19.5
16.4		17.8			14.9	17.6	15.8	12.4	18.3	13.3	16.0
13.4		13.8			14.8	15.6	15.8	11.3	16.4	12.4	09.5
21.5		26.4			23.3	28.2	25.0	20.6	26.7	19.8	17.5
PROTEIN (%)											
		40.0			38.5	39.3	38.1		39.0		
		40.2			39.3	39.8	40.5		41.6		
		40.1			39.7	40.9	39.4		41.1		
		39.1			40.3	40.5	40.2		41.3		
		38.9			39.4	39.9	38.9		39.4		
		37.9			37.7	39.3	37.7		38.7		
		35.9			36.7	37.8	37.3		38.3		
		42.0			40.7	41.0	40.0		41.0		
OIL (%)											
		21.8			22.4	21.1	22.1		22.4		
		20.6			19.6	20.4	20.9		20.6		
		23.1			21.2	21.6	23.4		22.1		
		22.4			20.9	22.3	22.9		22.8		
		24.1			21.1	22.0	23.4		23.3		
		23.2			22.2	21.5	23.5		22.5		
		23.9			22.4	22.7	23.4		23.3		
		20.8			20.3	20.4	22.3		22.0		

Strain		Parentage	Line
1.	Calland		
2.	Kanrich		
3.	Wayne		
4.	Williams		
5.	C1502	C1317-71(C1223[8] x Mukden) x Amsoy	F_3
6.	C1503	" "	F_3
7.	C1504	" "	F_3
8.	C1505	" "	F_3
9.	C1506	" "	F_3
10.	C1507	C1317-71 x C1253(Blackhawk x Harosoy)	F_3
11.	C1508	" "	F_3
12.	C1509	" "	F_3
13.	C1513	(F_1 Amsoy x C1253) x (F_1 Wayne x C1317-71)	F_6
14.	L67U-1630	Provar x Magna	F_3
15.	L69-20	Hark x Wayne	F_4
16.	L69U-182	Chippewa 64 x Corsoy	F_5
17.	L69U-188	" "	F_5

Only a few of the 13 experimental strains had higher regional mean yields than Williams. C1504 averaged 2 bushels higher and 4 days earlier than Williams and had excellent lodging resistance and Phytophthora resistance. Its only apparent drawback is a tendency to shatter, which, however, was no worse than that of Wayne. L69-20 was the same maturity as Williams and yielded a bushel more. Other strains that outyield at least some of the checks were C1502, C1505, C1507, and C1508.

L67U-1603 was relatively low in yield, but since it is large-seeded it should be compared with Kanrich. It was well ahead of Kanrich in yield (7 bushels), but 2.8 days later and only slightly less lodging resistant. As with L67U-1842 in Uniform Test III, its somewhat smaller seed with poorer quality than that of Kanrich will have to be weighed in considering this strain as a substitute for Kanrich.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
No. of Tests	9	9	8	9	9	9	7	5	5
Calland	44.8	11	+1.0	2.8	45	2.2	18.4	39.9	21.9
Kanrich	35.1	17	-1.8	3.8	39	2.5	28.0	40.6	20.5
Wayne	44.9	10	9-25	2.9	44	2.2	18.3	40.9	22.5
Williams	47.7	4	+3.3	2.3	44	1.6	18.3	39.9	22.8
C1502	45.9	8	-1.3	2.0	44	1.9	18.4	39.6	22.4
C1503	42.3	16	+0.4	2.1	44	2.2	16.5	39.3	22.0
C1504	49.7	1	-1.3	2.1	44	2.4	19.0	39.7	22.7
C1505	46.3	7	+0.9	2.8	49	2.5	19.5	38.1	23.3
C1506	48.2	3	+1.9	2.4	49	2.2	17.8	38.1	23.2
C1507	46.9	6	+1.0	2.3	49	1.8	19.2	40.1	22.2
C1508	47.7	4	-0.3	1.9	42	1.9	18.7	38.8	22.5
C1509	45.1	9	+0.3	2.4	44	1.8	19.5	40.5	21.5
C1513	44.2	13	-1.1	2.7	45	2.5	18.3	39.0	23.1
L67U-1630	42.5	15	+1.0	3.1	46	3.1	24.4	42.2	21.0
L69-20	48.8	2	+3.4	3.0	43	2.0	15.3	40.6	21.9
L69U-182	43.2	14	+0.9	3.6	45	2.3	18.2	40.8	21.2
L69U-188	44.5	12	0.0	3.5	44	2.2	17.4	40.1	21.7

Disease Data

Strain	BB Ames Iowa n2	FE2 Laf. Ind. a	BSR Laf. Ind. n %	BSR Urb. Ill. n %	BSR Ames Iowa n %	CR Laf. Ind. n %	PR Laf. Ind. a	PR Ames Iowa a	PR Stoneville Mississippi n	PSB Laf. mat. n %	PSB Ind. late n %
Calland	3	5	24	70	69	41	R	R	1	30	29
Kanrich	2	1	14	80	55	29	S	S	1	13	41
Wayne	2	2	19	60	52	47	S	S	1	45	68
Williams	1	4	6	70	40	40	S	S	1	4	32
C1502	3	1	21	60	44	86	R	R	1	17	25
C1503	2	4	24	80	49	89	R	R	1	7	11
C1504	2	1	24	60	26	89	R	H	1	22	41
C1505	2	1	46	70	42	88	R	R	1	20	40
C1506	1	1	48	50	40	95	R	R	1	7	13
C1507	3	4	62	70	36	4[illegible]	R	R	1	31	18
C1508	2	5	46	90	46	45	R	R	1	30	35
C1509	3	3	24	80	46	64	R	R	1	17	8
C1513	3	3	36	90	25	89	R	R	1	64	68
L67U-1630	2	5	[illegible]	70	22	63	S	S	1	72	41
L69-20	3	5	[illegible]	20	55	17	H	S	1	10	18
L69U-182	2	4	[illegible]	90	39	60	S	S	1	51	48
L69U-188	3	5	68	100	27	61	R	H	1	46	59

Strain	Mean	Md. Clarksville	Ohio Columbus *	Indiana Lafayette	Indiana Worthington	Illinois Girard	Illinois Bellevile	Iowa Stuart	Iowa Ottumwa	Neb. Mead I	Kansas Manhattan I
	9 Tests			YIELD (bu/a)							
Calland	44.8	38.7	43.8	42.8	46.9	46.0	41.4	40.0	42.3	42.1	63.1
Kanrich	35.1	35.9	29.2	40.6	32.6	39.1	24.8	32.4	31.9	34.1	44.9
Wayne	44.9	41.6	40.5	45.6	40.4	52.9	33.5	40.8	40.6	46.3	62.4
Williams	47.7	36.4	53.5	52.1	49.2	52.3	43.1	40.0	42.4	48.6	65.4
C1502	45.9	39.9	47.0	44.4	55.7	44.0	43.9	38.8	37.7	46.0	62.5
C1503	42.3	33.7	48.2	47.5	38.1	50.6	36.1	34.7	37.6	44.3	58.2
C1504	49.7	42.3	44.4	48.5	54.8	53.1	41.0	42.5	45.4	52.6	67.2
C1505	46.3	42.9	43.3	46.2	43.7	51.7	39.3	37.4	41.2	46.7	68.0
C1506	48.2	42.7	54.6	44.8	59.6	55.4	40.8	39.2	44.9	45.4	61.1
C1507	46.9	41.5	54.9	47.6	54.7	48.5	39.7	39.6	38.7	48.5	63.2
C1508	47.7	42.3	53.3	48.4	47.4	51.7	38.0	43.5	40.4	48.6	69.4
C1509	45.1	35.3	44.5	43.9	47.4	47.8	37.1	42.0	41.8	49.4	61.4
C1513	44.2	41.9	41.2	45.2	42.0	45.8	33.8	39.6	39.0	47.7	62.5
L67U-1630	42.5	39.4	38.9	42.9	43.2	50.4	31.5	37.1	33.6	43.5	60.5
L69-20	48.8	34.4	47.5	50.6	50.4	50.6	41.6	45.9	45.0	51.1	70.0
L69U-182	43.2	40.4	48.4	44.2	40.9	47.4	36.5	40.1	38.2	45.1	56.1
L69U-188	44.5	39.3	39.9	46.4	43.5	49.0	35.5	41.6	41.2	47.3	56.4
C. V. (%)		8.9		5.5	12.1	7.3	4.1	11.4	7.1	7.0	4.2
L.S.D. (5%)		7.5		5.3	12.0	7.6	3.3	9.5	6.1	7.9	5.6
Row Sp. (in.)		30	28	38	38	30	38	27	27	30	30
Rows/Plot		3	3	3	3	4	4	4	4	3	4
Reps		2	2	2	2	2	2	2	2	2	2

Descriptive and Other Data

Strain	Descriptive Code		Chlorosis Ames Iowa	Shattering Stoneville Mississippi	Germination Lafayette, Indiana mat. %	Germination late %
Calland	PTNBr	DYBl	2.9	3.0	35	58
Kanrich	PGNBr	DYLbf	2.4	4.5	65	47
Wayne	WTNBr	SYBl	3.9	5.0	37	15
Williams	WTNTn	SYLbl	3.2	1.0	91	77
C1502	PGN-	SYBf	3.4	4.0	81	49
C1503	W+PGN-	SYY	2.9	3.5	89	67
C1504	WGN-	SYBf	2.4	4.5	83	35
C1505	WGN-	SYBf+Y	3.5	3.0	86	33
C1506	WGN-	SYBf+Y	2.4	3.0	89	78
C1507	PGN-	SYIb	3.1	2.5	76	37
C1508	PGN-	SYIb	2.2	2.5	80	28
C1509	WGN-	D+SYBf	2.9	3.0	88	39
C1513	WTN-	-YBl	2.2	3.0	34	17
L67U-1630	PGN-	DYBf	3.4	3.5	29	15
L69-20	PTN-	DYBr	3.1	2.5	95	85
L69U-182	PTN-	SYY	3.4	2.5	79	54
L69U-188	PTN-	SYBl+G	3.8	2.0	71	51

Strain	Mean	Md. Clarksville	Ohio Columbus *	Indiana Lafayette	Indiana Worthington	Illinois Girard	Illinois Belleville	Iowa Stuart	Iowa Ottumwa	Neb. Mead I	Kansas Manhattan I
	9 Tests			YIELD RANK							
Calland	11	12	11	16	9	14	4	8	5	16	7
Kanrich	17	14	17	17	17	17	17	17	17	17	17
Wayne	10	6	14	9	15	3	15	6	9	10	10
Williams	4	13	3	1	6	4	2	8	4	4	5
C1502	8	9	8	12	2	16	1	13	14	11	8
C1503	16	17	6	6	16	7	12	16	15	14	14
C1504	1	3	10	3	3	2	5	3	1	1	4
C1505	7	1	12	8	10	5	8	14	7	9	3
C1506	3	2	2	11	1	1	6	12	3	12	12
C1507	6	7	1	5	4	11	7	10	12	6	6
C1508	4	3	4	4	7	5	9	2	10	4	2
C1509	9	15	9	14	7	12	10	4	6	3	11
C1513	13	5	13	10	13	15	14	10	11	7	8
L67U-1630	15	10	16	15	12	9	16	15	16	15	13
L69-20	2	16	7	2	5	7	3	1	2	2	1
L69U-182	14	8	5	13	14	13	11	7	13	13	16
L69U-188	12	11	15	7	11	10	13	5	7	8	15
	8 Tests			MATURITY (relative date)							
Calland	+1.0	- 2	- 3	+ 1	+ 4	0	+ 2		+ 1	+ 2	0
Kanrich	-1.8	- 4	- 2	+ 3	+ 4	- 2	- 2		- 3	0	- 3
Wayne	9-25	9-27	10-27	10-3	9-18	9-23	9-21		9-19	10-2	9-23
Williams	+3.3	0	+ 5	+ 3	+ 3	+ 5	+ 4		+ 5	+ 4	+ 2
C1502	-1.3	- 2	+ 6	- 3	0	0	- 2		- 2	+ 2	- 3
C1503	+0.4	- 1	+ 1	- 1	+ 1	+ 1	- 1		+ 1	+ 3	0
C1504	-1.3	- 1	+ 2	- 1	+ 1	- 1	- 2		- 5	+ 2	- 3
C1505	+0.9	- 2	+ 3	+ 1	+ 3	+ 1	+ 1		+ 1	+ 2	0
C1506	+1.9	0	- 1	+ 3	+ 2	+ 1	- 1		+ 5	+ 4	+ 1
C1507	+1.0	+ 1	+ 1	0	+ 2	+ 1	- 1		0	+ 3	+ 2
C1508	-0.3	0	+ 5	- 3	+ 2	- 1	- 2		- 1	+ 2	+ 1
C1509	+0.3	0	+ 3	+ 1	+ 2	0	- 2		- 1	+ 2	0
C1513	-1.1	- 1	+ 6	- 2	+ 2	- 2	- 1		- 2	0	- 3
L67U-1630	+1.0	- 1	+ 7	0	+ 2	+ 2	- 1		+ 3	+ 2	+ 1
L69-20	+3.4	- 2	+ 6	+ 4	+ 4	+ 1	+ 3		+ 7	+ 2	+ 8
L69U-182	+0.9	+ 2	+ 5	+ 3	+ 3	+ 1	0		- 1	+ 1	- 2
L69U-188	0.0	0	+ 6	+ 2	+ 2	- 1	- 1		- 1	0	- 1
Beeson (II)			-33	- 9	- 4	- 5	- 4		- 8	- 3	-11
Cutler 71 (IV)			+ 3	+ 7	+11	+ 8	+ 8		+ 9		+10
Date Planted	5-19	5-24	5-8	5-22	5-19	5-20	5-11	5-17	5-19	5-31	5-9

Strain	Parentage	Line	Previous Testing*
1. Bonus	C1266R(Harosoy x C1079) x C1253(Blackhawk x Harosoy)	F_6	3
2. Cutler 71	Cutler[4] x Kent-Rps rxp(SL5)	6 F_3 lines	3
3. Kent	Lincoln x Ogden	F_7	18
4. L66-1359	Wayne x L57-0034(Clark x Adams)	F_6	2
5. Md66-1024	2nd cycle intermates	F_6	P IV
6. Md66-1258	2nd cycle intermates	F_6	1

The three check varieties may be compared in the 4-year means on pages 80 and 81. Cutler 71 shows a slight yield advantage in the East, but Bonus had a small lead in the Central mean. Bonus was distinctly ahead of other strains in this test in protein content and did not show a corresponding decrease in oil.

L66-1359 has been in this test for three years and topped the test in yield in each year in both the central region and the East. Besides its high yield, it has good lodging resistance and one of the highest oil contents in the Uniform Tests. It is early Group IV in maturity, and therefore an appendix table (see pages 114-115) has been prepared to compare it with Group III strains using data from locations where both Uniform Tests III and IV were grown. This table shows that L66-1359 is less than two days later than Williams and averaged about the same in yield performance over these locations. L66-1359 has the same parentage as Williams.

Md66-1258 has been in the test two years, but has yielded slightly below L66-1359 in both regions and no better than Bonus in the central region. Md66-1024 was advanced from last year's Preliminary IV. Because of its relatively late maturity it should be compared to Kent, and Kent has equaled or outyielded it at most locations.

Disease Data

Strain	BB Ames Iowa n1	BB Ames Iowa n2	BP Ames Iowa n	BS Ames Iowa n	FE2 Laf. Ind. a	PM Har. Ont. a	BSR Laf. Ind. n %	BSR Urb. Ill. n %	BSR St. Paul Minnesota n %	BSR Ames Iowa n %
Bonus	2.5	1	3.0	4.0	5	S	41	50	80	49
Cutler 71	2.5	1	2.5	3.0	1	R	48	50	80	21
Kent	3.0	1	4.0	5.0	1	R	88	70	90	45
L66-1359	3.0	2	3.5	4.5	4	R	13	50	95	55
Md66-1024	3.5	2	3.0	5.0	4	R	22	80	95	33
Md66-1258	3.0	3	4.0	3.5	1	R	16	50	95	39

Strain	CR Laf. Ind. n %	PR Laf. Ind. a	PR Ames Iowa a	PR Stoneville Mississippi n	SMV Ames Iowa n	SMV Ames Iowa a %	PSB Lafayette, Indiana mat. n %	PSB Lafayette, Indiana late n %
Bonus	10	R	R	1	1	44	4	26
Cutler 71	68	R	R	1	1	55	8	22
Kent	19	S	S	2	1	45	0	10
L66-1359	16	S	S	1	1	39	5	22
Md66-1024	0	S	S	2	1	44	6	15
Md66-1258	30	S	S	1	1	45	6	15

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Crkstn. Minn.	Chlorosis Lamb. Minn.	Chlorosis Ames Iowa	Fluorescent Light	Emergence	Peroxidase	Shattering Stnvl. Miss.	Shattering Lubbock Texas	Germination Laf., mat. %	Germination Ind. late %
Bonus	PGNBr DYIb	1	2.7	2.1	L	5	L	4.5	2.0	92	81
Cutler 71	PTNBr SYBl	1	1.7	2.6	L	5	L+H	4.0	1.0	93	87
Kent	PTNBr 1YBl	2	2.3	3.6	L	4	H	4.0	2.0	98	87
L66-1359	WTNTn DYBl	1	2.3	4.0	L	1	L	3.0	2.0	92	68
Md66-1024	WTNTn DYBl	2	3.0	2.9	L	5	L	1.5	1.0	95	83
Md66-1258	PTNBr SYBl	2	2.7	2.0	L	5	L	2.5	1.5	95	83

East Coast Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
				1972					
No. of Tests	7	7	7	6	7	7	7	3	3
Bonus 43.1	37.6	6	-2.0	1.5	36	2.0	17.7	43.1	21.7
Cutler 71 43.4	40.5	3	10-6†	1.6	36	2.0	19.6	40.9	22.3
Kent 42.4	40.7	2	+5.3	1.4	35	2.2	19.6	41.1	22.2
L66-1359 45.8	40.8	1	-2.0	1.4	32	1.9	19.1	40.2	22.9
Md66-1024	40.3	4	+2.4	1.5	35	2.1	17.8	39.3	23.2
Md66-1258 43.6	40.2	5	+0.4	1.5	33	2.1	19.4	40.6	21.9

†122 days after planting

				1970-72, 3-year mean					
No. of Tests	22	22	21	21	22	22	22	12	12
Bonus	39.6	4	-1.6	1.6	37	2.3	17.9	43.0	21.7
Cutler 71	41.0	2	10-5†	1.9	37	2.4	19.4	41.4	21.7
Kent	40.0	3	+3.2	1.5	36	2.3	18.7	41.2	21.7
L66-1359	43.2	1	-3.0	1.6	34	2.2	19.3	40.4	22.7

†121 days after planting

				1969-72, 4-year mean					
No. of Tests	28	28	26	27	28	28	28	15	15
Bonus	40.5	2	-1.6	1.8	39	2.3	17.7	42.7	22.0
Cutler 71	41.3	1	10-3†	1.9	39	2.3	19.1	40.9	21.9
Kent	40.5	2	+3.3	1.6	38	2.2	18.4	41.0	21.9

†121 days after planting

UNIFORM TEST IV, 1972

Central Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition: Protein	Seed Composition: Oil
				1972					
No. of Tests	18	18	15	18	18	18	16	10	10
Bonus	45.8	2	-2.9	2.1	45	2.3	17.1	42.7	22.3
Cutler 71	44.8	4	9-29†	2.1	45	2.4	18.0	40.9	22.1
Kent	43.6	5	+4.5	1.9	42	2.5	17.7	40.5	22.5
L66-1359	48.3	1	-2.9	2.1	41	2.4	18.8	39.9	23.5
Md66-1024	41.2	6	+4.0	1.8	43	2.7	16.6	39.3	23.0
Md66-1258	45.8	2	+0.7	2.0	43	2.5	18.3	41.2	22.3

†135 days after planting

				1970-72, 3-year mean					
No. of Tests	54	54	48	52	53	54	46	32	32
Bonus	44.7	2	-3.0	2.2	45	2.2	16.9	42.7	22.1
Cutler 71	44.2	3	9-27†	2.2	44	2.3	17.6	41.0	21.9
Kent	42.9	4	+5.0	2.0	41	2.4	17.5	40.6	22.3
L66-1359	46.4	1	-3.4	2.0	40	2.3	18.0	40.0	23.3

†130 days after planting

				1969-72, 4-year mean					
No. of Tests	75	75	65	71	72	75	64	41	41
Bonus	45.3	1	-3.5	2.2	46	2.2	17.0	43.0	22.3
Cutler 71	44.5	2	9-28†	2.1	44	2.3	17.7	41.0	22.0
Kent	43.5	3	+4.2	2.0	41	2.4	17.6	40.8	22.4

†130 days after planting

Strain	East Coast Mean	Penn.	N. J.	Del.	Maryland				
		Landis-ville	Center-ton	George-town I	Clarks-ville	Queens-town	Queens-town B	Link-wood	Quant-ico W
	7 Tests	1972 YIELD (bu/a)							
			*						
Bonus	37.6	42.1	31.9	50.7	34.1	36.6	28.4	39.3	31.9
Cutler 71	40.5	44.2	33.7	50.5	38.8	37.8	33.3	44.7	34.4
Kent	40.7	48.4	35.3	51.4	33.2	44.5	35.9	42.8	28.6
L66-1359	40.8	45.3	32.4	53.5	36.4	34.1	36.0	43.3	36.7
Md66-1024	40.3	45.8	26.6	49.8	37.8	41.6	28.0	42.4	**37.0**
Md66-1258	40.2	44.5	30.3	52.9	33.8	39.0	32.5	45.6	33.4
C. V. (%)		7.1	17.5	11.2	6.5	9.0	13.0	7.1	4.5
L.S.D. (5%)		n.s.	10.3	6.2	5.6	4.8	4.0	3.9	2.6
Row Sp. (in.)		30	30	36	30	30	30	30	30
Rows/Plot		3	3	3	3	4	3	4	3
Reps		4	4	4	4	3	4	3	3
		YIELD RANK							
Bonus	6	6	4	4	4	5	5	6	5
Cutler 71	3	5	2	5	1	4	3	2	3
Kent	2	1	1	3	6	1	2	4	6
L66-1359	1	3	3	1	3	6	1	3	2
Md66-1024	4	2	6	6	2	2	6	5	1
Md66-1258	5	4	5	2	5	3	4	1	4

	7 Tests	1970-72, 3-YEAR MEAN YIELD							
		71-72							a
Bonus	39.6	46.6	34.6	50.4	39.1	36.0	33.5	39.5	36.8
Cutler 71	41.0	48.5	33.1	46.9	42.4	38.1	33.3	42.5	39.7
Kent	40.0	51.3	32.6	48.8	38.2	41.3	35.9	39.5	36.8
L66-1359	43.2	48.9	34.3	51.5	43.9	37.9	36.8	41.9	41.4
		YIELD RANK							
Bonus	4	4	1	2	3	4	3	3	3
Cutler 71	2	3	3	4	2	2	4	1	2
Kent	3	1	4	3	4	1	2	3	3
L66-1359	1	2	2	1	1	3	1	2	1

a Poplar Hill in 1970

Central Mean	Ohio Columbus	Indiana Lafayette	Indiana Worthington	Indiana Evansville
18 Tests	1972 YIELD (bu/a)			
	*		*	
45.8	49.3	40.6	40.3	36.6
44.8	46.4	45.5	46.1	40.3
43.6	47.9	41.4	42.8	37.0
48.3	48.4	46.9	47.3	44.9
41.2	48.1	41.1	40.1	35.3
45.8	51.9	45.2	47.3	41.5
		6.0	15.8	9.7
		3.9	n.s.	5.7
	28	38	38	38
	3	3	3	3
	4	4	4	4
	YIELD RANK			
2	2	6	5	5
4	6	2	3	3
5	5	4	4	4
1	3	1	1	1
6	4	5	6	6
2	1	3	1	2
54 Tests	1970-72, 3- YEAR MEAN YIELD			
44.7	52.1	42.2	46.1	44.9
44.2	46.9	47.3	49.7	46.3
42.9	51.6	42.8	47.9	42.6
46.4	45.0	47.7	51.9	47.2
	YIELD RANK			
2	1	4	4	3
3	3	2	2	2
4	2	3	3	4
1	4	1	1	1

Ky.	Illinois				
Hend-erson	Ur-bana	Gir-ard	Edge-wood	Belle-ville	Eldo-rado
		1972 YIELD (bu/a)			
50.0	55.1	55.4	41.9	50.2	47.4
57.1	60.0	50.3	42.1	45.5	49.2
38.3	54.2	49.4	39.0	45.4	47.7
58.3	60.2	54.1	46.2	50.4	48.6
47.5	53.4	45.8	30.5	38.3	44.3
54.6	56.7	54.9	41.7	43.9	51.3
8.2	5.8	5.0	12.0	5.6	4.8
7.6	6.0	4.7	8.8	4.6	4.2
30	30	30	38	38	37
4	4	4	4	4	4
3	3	3	3	3	3
		YIELD RANK			
4	4	1	3	2	5
2	2	4	2	3	2
6	5	5	5	4	4
1	1	3	1	1	3
5	6	6	6	6	6
3	3	2	4	5	1
		1970-72, 3-YEAR MEAN YIELD			
				a	
49.3	53.4	49.9	47.9	49.3	50.3
49.5	54.1	44.0	45.2	48.6	51.9
46.9	52.2	41.0	44.6	48.5	53.1
50.7	55.4	49.9	46.3	50.3	52.3
		YIELD RANK			
3	3	1	1	2	4
2	2	3	3	3	3
4	4	4	4	4	1
1	1	1	2	1	2

a Trenton in 1970

Illinois	Iowa		Missouri		Kansas					Texas
Carbon-dale	Stuart	Ottumwa	Mt. Vernon	Portage-ville I	Pow-hattan	Man-hattan	Manhat-tan I	Ottawa	Col-umbus	Lub-bock I
				1972 YIELD (bu/a)						
										*
43.9	38.3	52.8	45.2	39.7	53.2	30.8	63.0	51.3	28.5	50.7
37.8	38.8	43.4	42.1	40.1	55.8	26.9	60.7	45.6	25.4	49.8
36.3	36.2	39.3	44.8	49.0	56.6	35.0	57.6	50.6	27.5	55.2
43.9	40.0	42.4	48.3	49.7	56.0	28.8	62.6	56.4	31.7	46.4
39.0	32.4	32.6	44.6	40.3	49.7	36.8	56.3	47.7	26.3	46.5
40.1	40.6	41.5	48.9	44.8	56.0	27.9	60.1	53.7	21.3	54.1
8.2	8.1	9.8	10.9	14.0	5.1	7.9	5.9	6.4	12.6	8.6
5.7	4.5	5.7	n.s.	9.3	n.s.	4.5	n.s.	5.9	n.s.	4.7
30	27	27	15	30	30	30	30	30	30	40
4	4	4	4	3	4	4	4	4	4	4
3	4	4	4	4	3	3	3	3	3	3
				YIELD RANK						
1	4	1	3	6	5	3	1	3	2	3
5	3	2	6	5	4	6	3	6	5	4
6	5	5	4	2	1	2	5	4	3	1
1	2	3	2	1	2	4	2	1	1	6
4	6	6	5	4	6	1	6	5	4	5
3	1	4	1	3	2	5	4	2	6	2
				1970-72, 3-YEAR MEAN YIELD						
	71-72	71-72				71-72				70,72
47.0	35.5	48.1	38.1	35.0	40.6	27.6	68.4	43.5	24.5	44.7
46.0	36.3	44.0	40.9	34.7	41.2	24.3	65.5	40.0	21.2	45.3
45.9	35.3	40.0	44.0	37.8	41.3	24.7	61.6	40.3	21.9	48.1
48.8	39.0	43.9	42.7	37.9	42.1	25.4	69.2	46.9	24.7	43.9
				YIELD RANK						
2	3	1	4	3	4	1	2	2	2	3
3	2	2	3	4	3	4	3	4	4	2
4	4	4	1	2	2	3	4	3	3	1
1	1	3	2	1	1	2	1	1	1	4

Strain	East Coast Mean	Penn. Landisville	N. J. Centerton	Del. Georgetown I	Maryland Clarksville	Maryland Queenstown	Maryland Queenstown B	Maryland Linkwood	Maryland Quantico W
	7 Tests			MATURITY (relative date)					
Bonus	-2.0	- 2		- 3	- 2	- 3	- 1	- 2	- 1
Cutler 71†	10-6	10-3		10-5	9-30	9-27	10-13	10-2	10-25
Kent	+5.3	+10		+ 4	+ 6	+ 9	+ 2	+ 6	0
L66-1359	-2.0	- 2		- 2	+ 1	- 3	- 5	- 1	- 2
Md66-1024	+2.4	+ 2		0	+ 5	+ 6	0	+ 3	+ 1
Md66-1258	+0.4	0		+ 1	+ 3	- 1	0	+ 1	- 1
Calland (III)		- 6			- 4		- 3		- 8
Hill (V)				+19		+15	+ 9	+14	
Date Planted	6-7	5-23	6-5	6-2	5-24	5-26	6-15	6-9	7-10
†Days to mat.	122	133		125	129	124	120	115	107
	6 Tests			LODGING (score) *					
Bonus	1.5		1.3	1.8	1.2	1.3	1.5	2.2	1.0
Cutler 71	1.6		1.6	2.1	1.8	1.5	1.2	1.5	1.5
Kent	1.4		1.5	1.9	1.2	1.2	1.4	1.5	1.0
L66-1359	1.4		1.8	1.8	1.3	1.3	1.0	2.2	1.0
Md66-1024	1.5		1.1	2.0	1.4	1.3	2.0	1.5	1.0
Md66-1258	1.5		1.4	1.9	1.4	1.3	1.7	1.8	1.0
	7 Tests			PLANT HEIGHT (inches) *					
Bonus	36	45	33	34	38	36	30	39	31
Cutler 71	36	42	31	35	38	37	31	37	29
Kent	35	38	30	35	36	34	32	39	29
L66-1359	32	39	28	32	34	33	29	33	27
Md66-1024	35	40	27	33	38	36	30	37	28
Md66-1258	33	37	27	33	35	33	30	35	29

Central Mean	Ohio Columbus	Indiana Lafayette	Indiana Worthington	Indiana Evansville
15 Tests	MATURITY (relative date)			
	*		*	
-2.9	+ 2	- 3	- 4	- 3
9-29	10-30	10-10	9-29	9-27
+4.5	+ 2	+ 4	+ 7	+ 7
-2.9	+ 5	- 4	- 6	- 4
+4.0	+ 4	0	+ 5	+ 9
+0.7	+ 3	0	+ 2	+ 1
	- 6	- 5	-10	- 5
5-18	5-8	5-22	5-19	5-25
135	175	141	133	125
18 Tests	LODGING (score)			
	*		*	
2.1	1	2.9	3.0	2.6
2.1	1	2.8	3.1	2.0
1.9	1	1.9	2.0	1.8
2.1	1	2.4	3.6	2.0
1.8	1	2.0	1.5	1.5
2.0	1	2.0	2.2	2.2
18 Tests	PLANT HEIGHT (inches)			
	*		*	
45	39	51	50	42
45	40	50	48	43
42	39	45	48	41
41	39	46	46	40
43	40	46	51	38
43	38	46	49	41

Ky.	Illinois				
Hend-erson	Ur-bana	Gir-ard	Edge-wood	Belle-ville	Eld rad
	MATURITY (relative date)				
	- 2	- 2	- 9	- 8	- 1
	10-7	10-1	10-2	9-29	9-2
	+ 1	+ 6	+ 5	+ 5	+ 7
	- 5	- 3	-10	- 6	- 2
	+ 3	+ 5	+ 2	+ 4	+ 6
	+ 1	+ 2	+ 1	+ 1	+ 2
	- 5	- 8	- 8	- 8	- 5
	+21				+13
5-17	5-12	5-20	5-30	5-11	5-1
	148	134	125	141	134
	LODGING (score)				
2.0	2.0	2.7	1.6	2.0	2.4
2.8	2.2	2.8	1.5	2.5	2.2
3.3	1.4	3.0	1.3	1.7	2.1
3.2	2.1	3.3	1.3	2.4	2.9
2.8	1.5	2.8	1.2	1.7	2.0
4.3	1.8	3.2	1.3	1.8	2.3
	PLANT HEIGHT (inches)				
53	48	54	48	47	46
52	47	51	44	46	47
50	44	47	41	44	43
50	43	48	41	42	42
52	47	50	41	45	44
48	44	49	43	44	46

Illinois	Iowa		Missouri		Kansas					Texas
Carbon-dale	Stuart	Ottumwa	Mt. Vernon	Portage-ville I	Pow-hattan	Man-hattan	Manhat-tan I	Ottawa	Col-umbus	Lub-bock I
				MATURITY (relative date)						
										*
+ 1		0		- 1	- 3	- 5	- 3	- 2	- 3	- 6
9-17		9-18		9-13	10-4	10-3	10-3	9-22	10-12	9-17
+ 4		+ 4		- 1	+ 4	+ 5	+ 3	+ 7	+ 6	+ 2
0		- 4		- 1	- 1	+ 1	- 1	- 2	- 2	0
+ 5		+ 4		- 2	+ 3	+ 5	+ 5	+ 9	+ 2	+ 1
0		0		- 3	+ 1	+ 2	+ 1	0	+ 1	0
- 6		- 8			- 8	-12	-10	-11	- 5	- 1
				+17						+21
5-12	5-17	5-19	5-10	5-10	5-17	5-19	5-9	5-16	5-31	5-20
128		132		126	140	137	147	129	134	120
				LODGING (score)						
										*
3.7	2.7	2.6	1.6	1.5	1.2	1	1.8	2.1	1.3	2.0
2.7	2.6	2.6	1.5	1.8	1.7	1	1.8	1.6	1.8	2.0
2.7	2.2	2.5	1.5	2.1	1.8	1	1.5	1.7	1.5	2.0
2.3	2.6	2.6	1.4	1.4	1.9	1	1.6	2.0	1.5	1.5
2.3	2.4	2.4	1.5	1.6	1.2	1	1.9	1.6	1.3	1.3
2.3	2.5	2.6	1.5	1.9	1.5	1	1.7	1.5	1.3	2.0
				PLANT HEIGHT (inches)						
										*
48	45	47	39	35	45	35	50	46	28	30
47	47	50	44	37	45	35	49	47	28	27
40	46	46	40	37	43	33	45	45	27	28
40	45	45	36	35	41	34	45	44	27	26
43	45	47	42	38	44	36	51	46	27	27
41	49	46	41	38	44	34	48	46	25	27

Strain	East Coast Mean	Penn. Landis-ville	N. J. Center-ton	Del. George-town I	Maryland Clarks-ville	Queens-town	Queens-town B	Link-wood	Quant-ico W
	7 Tests		SEED QUALITY (score) *						
Bonus	2.0	2.0	2.3	2.3	1	3	2	3	1.0
Cutler 71	2.0	2.0	2.0	2.3	1	3	2	3	1.0
Kent	2.2	2.4	2.0	2.1	2	3	2	3	1.0
L66-1359	1.9	2.1	2.0	2.1	1	3	2	2	1.0
Md66-1024	2.1	2.1	2.5	2.4	1	3	2	3	1.4
Md66-1258	2.1	2.2	2.3	2.5	1	3	2	3	1.0
	7 Tests		SEED SIZE (g/100) *						
Bonus	17.7	17.7	20	19.2	14.9	18.5	18.4	19.2	16.0
Cutler 71	19.6	18.8	23	21.5	17.2	20.0	19.7	21.3	18.5
Kent	19.6	19.2	24	19.1	16.3	21.4	21.3	22.2	17.4
L66-1359	19.1	19.5	20	20.7	15.6	18.3	19.7	20.6	19.0
Md66-1024	17.8	18.2	22	17.0	15.6	19.1	17.8	20.1	16.7
Md66-1258	19.4	18.2	23	20.0	17.1	20.0	20.4	21.6	18.4
	3 Tests		PROTEIN (%)						
Bonus	43.1		43.6	42.2	43.5				
Cutler 71	40.9		40.5	41.2	41.1				
Kent	41.1		40.3	41.7	41.2				
L66-1359	40.2		40.2	40.1	40.2				
Md66-1024	39.3		39.4	39.4	39.2				
Md66-1258	40.6		40.7	41.0	40.2				
	3 Tests		OIL (%)						
Bonus	21.7		22.5	21.5	21.0				
Cutler 71	22.3		23.0	22.0	22.0				
Kent	22.2		22.6	21.6	22.4				
L66-1359	22.9		22.9	23.5	22.3				
Md66-1024	23.2		23.5	23.0	23.0				
Md66-1258	21.9		22.4	21.8	21.6				

Central Mean	Ohio Columbus	Indiana Lafayette	Indiana Worthington	Indiana Evansville
18 Tests	SEED QUALITY (score)			
	*		*	
2.3	1.7	1.5	3.5	3.0
2.4	2.0	1.0	4.0	3.5
2.5	2.0	1.0	4.0	4.0
2.4	2.0	1.5	3.0	2.5
2.7	2.0	1.5	3.5	4.0
2.5	2.0	1.5	3.5	3.0
16 Tests	SEED SIZE (g/100)			
	*		*	
17.1	21.5	18.4	17.6	15.5
18.0	21.6	19.4	18.6	17.4
17.7	22.7	19.4	17.8	16.1
18.8	21.7	19.9	17.1	16.9
16.6	19.2	18.2	15.5	15.4
18.3	23.0	20.0	18.2	17.4
10 Tests	PROTEIN (%)			
42.7	43.6			44.2
40.9	41.7			41.4
40.5	40.8			41.4
39.9	40.5			39.4
39.3	38.4			40.8
41.2	42.1			41.3
10 Tests	OIL (%)			
22.3	21.8			22.1
22.1	21.6			22.3
22.5	22.4			22.1
23.5	22.3			24.0
23.0	23.4			23.4
22.3	21.4			22.9

Strain	East Coast Mean	Penn. Landis-ville	N. J. Center-ton	Del Geor town
	7 Tests			SEED QUAI
Bonus	2.0	2.0	2.3	2.
Cutler 71	2.0	2.0	2.0	2.
Kent	2.2	2.4	2.0	2.
L66-1359	1.9	2.1	2.0	2.
Md66-1024	2.1	2.1	2.5	2.
Md66-1258	2.1	2.2	2.3	2.
	7 Tests			SEED SI
Bonus	17.7	17.7	20	19.
Cutler 71	19.6	18.8	23	21.
Kent	19.6	19.2	24	19.
L66-1359	19.1	19.5	20	20.
Md66-1024	17.8	18.2	22	17.
Md66-1258	19.4	18.2	23	20.
	3 Tests			PROT
Bonus	43.1		43.6	42.
Cutler 71	40.9		40.5	41.
Kent	41.1		40.3	41.
L66-1359	40.2		40.2	40.
Md66-1024	39.3		39.4	39.
Md66-1258	40.6		40.7	41.
	3 Tests			OI
Bonus	21.7		22.5	21.
Cutler 71	22.3		23.0	22.
Kent	22.2		22.6	21.
L66-1359	22.9		22.9	23.
Md66-1024	23.2		23.5	23.
Md66-1258	21.9		22.4	21.

Ky.	Illinois				
Hend-erson	Ur-bana	Gir-ard	Edge-wood	Belle-ville	Eldo-rado
			SEED QUALITY (score)		
3	1.8	1.4	2.4	2.2	3.5
2	1.7	1.6	3.5	3.1	3.3
2	1.6	1.7	3.7	2.8	3.0
3	1.6	1.5	2.1	2.6	3.9
3	2.1	2.0	3.9	3.8	4.3
3	1.8	1.5	3.1	3.7	3.8
			SEED SIZE (g/100)		
18.6	18.4	17.4	15.3	15.3	16.2
19.5	20.0	17.7	16.1	17.2	18.1
19.2	18.6	17.6	16.0	17.4	18.7
23.1	20.3	18.9	17.0	17.6	17.2
16.5	16.8	16.0	14.1	15.1	15.6
20.8	19.8	18.0	17.0	17.8	17.7
			PROTEIN (%)		
42.1	43.6	43.4			44.3
39.9	42.0	40.4			42.2
39.0	40.4	40.8			43.2
39.6	40.8	39.6			41.8
38.1	39.3	39.4			41.8
39.5	42.0	41.8			43.4
			OIL (%)		
22.9	21.2	21.9			21.8
22.5	21.5	22.2			21.9
23.6	21.9	22.7			22.3
23.0	22.7	24.4			23.5
24.1	23.3	23.4			22.8
22.9	21.4	21.9			21.8

Illinois	Iowa		Missouri		Kansas					Texas
Carbon-dale	Stuart	Ottumwa	Mt. Vernon	Portage-ville I	Pow-hattan	Man-hattan	Manhat-tan I	Ottawa	Col-umbus	Lub-bock I
SEED QUALITY (score)										
										*
5.0	1.0	1.3	2.0	3.3	1.4	2.9	2.3	1.3	2.0	3.0
4.3	1.0	1.2	1.7	4.0	1.4	2.7	1.9	1.5	3.3	2.0
5.0	1.5	2.3	2.3	2.9	1.4	2.2	1.8	1.7	3.7	3.0
4.7	1.0	1.0	2.5	3.8	1.3	3.5	1.8	1.6	3.5	3.0
4.0	1.0	3.0	1.6	2.6	1.4	2.2	2.0	1.8	4.0	3.0
4.7	1.0	1.4	1.8	3.8	1.4	2.8	2.0	1.6	3.7	2.5
SEED SIZE (g/100)										
										*
16.1		20.7		16.1	17.6	15.8	20.2	14.9	17.0	21.6
17.6		20.4		15.7	19.0	16.2	19.7	15.9	18.5	23.2
15.1		19.5		16.5	18.6	20.7	18.2	16.1	16.0	23.4
17.1		21.4		19.9	18.7	16.0	22.5	16.4	17.5	24.5
15.8		18.0		15.8	17.0	20.5	20.2	14.3	17.0	22.4
17.7		21.4		16.7	18.3	16.4	19.9	17.3	16.5	23.7
PROTEIN (%)										
		41.8		42.6	40.1		41.5			
		40.0		42.2	38.6		40.6			
		40.2		40.8	38.4		39.6			
		39.3		41.1	37.2		39.5			
		41.6		38.9	37.2		37.8			
		41.1		41.5	39.3		40.0			
OIL (%)										
		22.8		22.5	22.9		22.9			
		22.4		21.3	22.4		22.5			
		22.6		21.9	22.9		22.5			
		23.6		24.0	24.0		23.8			
		21.8		21.1	23.3		23.7			
		22.3		22.3	22.6		23.0			

Strain	Parentage	Line
1. Cutler 71		
2. Kent		
3. C1511	Wayne x C1317-71($C1223^{8}$ x Mukden)	F_3
4. K1001	"	F_6
5. K1002	"	F_6
6. K1003	C1266(Harosoy x C1079) x C1264(Harosoy x C1079)	F_4
7. K1004	C1266 x C1265(Harosoy x C1079)	F_4
8. K1005	Cutler x CX405B(Lincoln x Ogden)	F_4
9. K1006	"	F_4
10. K1007	Bonus x Cutler	F_4
11. L69L-208	L66-531($Clark\text{-}dt_1E_1t\ e_2$) x L66-1322-1(Hawkeye x Lee)	F_4
12. Clark 63	($Clark^{5}$ x L49-4091) x ($Clark^{6}$ x Blackhawk)	13 F_3 lines
13. L70-4170	Clark-Ir Rps rxp(L12) x ($Clark\ 63^{7}$ x Kanrich)	F_4
14. L70-4180	"	F_4
15. SL13	"	10 F_4 lines
16. SL14	"	12 F_4 lines

Several strains in this test outperformed the check varieties. K1007 was highest in mean yield, was among the highest in protein and oil content, and carries Phytophthora resistance. K1003 and K1004 also yielded well and were almost as late as Kent. They had excellent lodging resistance but were susceptible to Phytophthora rot. K1003 appeared to be segregating for hilum color. K1005 and K1006 were very late IV and yielded well in a few of the environments. They were reported as having Phytophthora resistance, but the source of this is not apparent from the listed parentage. C1511 was only slightly above the checks in mean yield.

L69L-208 represents an attempt to develop a determinate (dt_1) variety of Group IV maturity. It was almost as early as Cutler 71 and had the best lodging resistance and seed quality in the test. Although it had a higher mean yield than Clark 63, it was somewhat below both Cutler 71 and Kent.

The four Clark isolines, L70-4170, L70-4180, SL13, and SL14, were developed cooperatively by Missouri and Illinois by backcross downy mildew resistance (Rpm) from Kanrich to Clark 63. The final cross was made to L12 ("yellow hilum Clark 63"), and SL13 and SL14 are composites of lines with yellow hilum (genes I and r) whereas L70-4170 and 4180 are black hilum lines selected for yield and similarity to Clark from a test of many such lines. In this test the strains tended to be higher in yield and later in maturity than Clark (this was also true for the L12 parent line, see 1965-66 UT IV). The higher yield may be partly due to downy mildew resistance but is more likely associated with the late maturity and other genetic differences transferred from the donor parents. L70-4180 is the highest in yield and closest to Clark 63 in maturity and therefore represents the best of the group although its isogenicity to Clark may not be as close as desired.

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
No. of Tests	9	9	9	9	9	9	7	5	5
Cutler 71	43.9	8	9-27	2.1	43	2.8	18.1	41.1	22.1
Kent	43.6	10	+6.0	1.9	40	2.7	17.6	40.6	22.0
C1511	44.4	5	+0.7	2.3	44	2.6	17.1	41.0	22.4
K1001	40.1	16	+5.1	2.4	45	3.1	15.4	40.1	21.8
K1002	43.5	11	+6.0	2.5	48	2.6	17.0	41.1	21.4
K1003	46.2	2	+4.9	1.9	44	3.1	16.3	41.8	21.0
K1004	45.5	3	+5.0	1.6	40	2.9	17.8	41.0	22.3
K1005	43.8	9	+7.9	2.6	44	2.9	17.1	40.7	22.2
K1006	44.3	6	+7.7	2.1	47	3.0	18.4	40.9	21.8
K1007	46.4	1	+2.9	2.2	43	2.8	16.6	41.2	22.7
L69L-208	42.9	12	+1.1	1.4	29	2.3	15.3	40.9	21.1
Clark 63	40.9	14	-0.1	2.1	41	3.4	16.3	41.1	22.0
L70-4170	44.1	7	+2.2	2.3	41	3.1	17.5	41.1	22.3
L70-4180	45.2	4	+1.6	2.2	41	3.3	17.5	40.9	22.2
SL13	41.7	13	+4.4	2.8	45	3.4	17.7	42.2	21.3
SL14	40.9	14	+3.4	2.7	43	3.5	17.5	41.7	21.4

Disease Data

Strain	BB	FE_2	BSR			CR	PR			PSB	
	Ames Iowa	Laf. Ind.	Laf. Ind.	Urb. Ill.	Ames Iowa	Laf. Ind.	Laf. Ind.	Ames Iowa	Stoneville Mississippi	Laf., mat.	Ind. late
	n2	a	n %	n %	n %	n %	a	a	n	n %	n %
Cutler 71	2	1	48	60	28	68	R	R	1	8	22
Kent	3	1	88	40	53	79	S	S	2	0	10
C1511	2	2	29	70	28	52	R	S	1	9	15
K1001	2	1	48	50	71	11	R	H	1	9	14
K1002	3	1	26	50	48	44	R	R	1	2	4
K1003	4	1	10	60	58	11	S	S	2	1	23
K1004	2	1	17	80	49	35	S	S	3	5	16
K1005	2	1	49	50	37	85	R	R	1	2	17
K1006	3	1	16	100	57	33	H	H	1	1	19
K1007	3	5	15	80	56	83	R	R	1	13	23
L69L-208	3	4	36	90	67	77	R	S	1	1	16
Clark 63	4	5	26	100	62	100	R	R	1	25	42
L70-4170	3	5	63	80	45	82	H	S	1	22	45
L70-4180	2	5	29	100	54	84	H	H	1	24	48
SL13	3	5	21	90	59	73	R	R	1	14	40
SL14	3	5	59	80	55	23	R	R	1	24	44

Strain	Mean	Del.	Maryland		Indiana		Illinois		Missouri	Kansas	
		George-town I	Clarks-ville	Link-wood	Worth-ington	Evans-ville	Belle-ville	Eldo-rado	Portage-ville I	Manhat-tan I	Ot-tawa
	9 Tests				YIELD (bu/a) *						
Cutler 71	43.9	44.3	34.4	40.6	37.5	38.2	41.5	51.8	39.1	61.6	43.6
Kent	43.6	37.8	33.7	43.4	42.1	37.0	38.5	46.8	40.2	66.9	48.2
C1511	44.4	46.7	41.3	45.0	49.9	39.3	41.2	46.1	39.1	57.0	44.3
K1001	40.1	39.5	34.5	46.2	44.7	40.1	34.1	42.6	27.2	55.0	41.3
K1002	43.5	40.0	42.5	41.4	29.2	38.0	37.7	45.1	38.8	57.7	50.7
K1003	46.2	41.1	34.5	48.6	24.9	42.8	39.5	46.6	39.2	66.6	56.8
K1004	45.5	46.6	35.2	45.6	36.3	36.4	41.0	47.4	44.0	57.0	56.6
K1005	43.8	38.4	28.9	45.4	34.2	41.3	40.8	48.6	37.3	61.5	52.4
K1006	44.3	41.5	33.4	42.9	30.7	49.7	36.2	44.0	36.4	66.1	48.1
K1007	46.4	44.7	31.0	41.6	37.3	43.7	40.5	48.4	41.0	61.3	65.3
L69L-208	42.9	43.5	40.3	41.8	45.4	37.1	35.1	45.4	38.4	52.1	52.1
Clark 63	40.9	44.5	29.5	41.0	28.5	35.9	31.2	42.6	42.7	57.3	43.8
L70-4170	44.1	47.5	39.3	42.0	36.9	38.0	38.6	47.9	37.2	60.2	45.8
L70-4180	45.2	45.2	43.8	42.8	36.7	39.3	37.5	49.7	40.1	62.2	46.2
SL13	41.7	40.1	33.3	40.2	23.4	35.6	35.6	45.1	45.6	54.9	44.5
SL14	40.9	44.4	41.4	38.4	28.7	37.2	34.1	41.9	37.7	55.2	38.2
C.V. (%)		9.2	14.2	8.6	24.2	12.5	7.6	3.6	13.8	7.8	12.4
L.S.D. (5%)		8.4	10.9	3.7	n.s.	n.s.	6.1	3.5	11.4	n.s.	12.9
Row Sp. (in.)		36	30	30	38	38	38	37	30	30	30
Rows/Plot		3	3	3	3	3	4	4	3	4	4
Reps		2	2	2	2	2	2	2	2	2	2

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Ames Iowa	Shattering Stoneville Mississippi	Germination Laf., mat. %	Germination Ind. late %
Cutler 71	PTNBr SYBl	2.6	3.0	93	87
Kent	PTNBr IYBl	3.6	4.0	98	87
C1511	WGN- SYBf	3.2	4.5	91	62
K1001	WGN- SYBf+Ib	3.9	1.5	79	84
K1002	WGN- SYBf	3.9	1.5	94	94
K1003	PGN- DYBf+Ib	2.5	2.0	94	89
K1004	PTN- DYBl	2.9	3.5	98	86
K1005	PTN- SYBl	3.0	2.0	96	90
K1006	PTN- SYBl	2.9	2.0	96	83
K1007	PTN- DYBl	2.1	3.0	88	82
L69L-208	PGN- SYIb	3.1	3.0	98	85
Clark 63	PTNBr DYBl	2.4	1.0	51	68
L70-4170	PTNBr DYBl	3.1	1.5	64	56
L70-4180	PTNBr DYBl	3.0	1.5	68	50
SL13	PTNBr DYY	3.7	1.0	74	67
SL14	PTNBr DYY	2.5	1.0	50	68

Strain	Mean	Del.	Maryland		Indiana		Illinois		Missouri	Kansas	
		George-town I	Clarks-ville	Link-wood	Worth-ington	Evans-ville	Belle-ville	Eldo-rado	Portage-ville I	Manhat-tan I	Ot-tawa
	9 Tests				YIELD RANK *						
Cutler 71	8	8	10	14	5	8	1	1	9	5	14
Kent	10	16	11	6	4	13	8	7	5	1	7
C1511	5	2	4	5	1	6	2	9	8	11	12
K1001	16	14	8	2	3	5	14	14	16	14	15
K1002	11	13	2	12	12	9	9	11	10	9	6
K1003	2	11	8	1	15	3	6	8	7	2	2
K1004	3	3	7	3	9	14	3	6	2	11	3
K1005	9	15	16	4	10	4	4	3	13	6	4
K1006	6	10	12	7	11	1	11	13	15	3	8
K1007	1	5	14	11	6	2	5	4	4	7	1
L69L-208	12	9	5	10	2	12	13	10	11	16	5
Clark 63	14	6	15	13	14	15	16	14	3	10	13
L70-4170	7	1	6	9	7	9	7	5	14	8	10
L70-4180	4	4	1	8	8	6	10	2	6	4	9
SL13	13	12	13	15	16	16	12	11	1	15	11
SL14	14	7	3	16	13	11	14	16	12	13	16
	9 Tests				MATURITY (relative date) *						
Cutler 71	9-27	10-4	9-30	10-2	9-28	9-26	9-28	9-23	9-13	10-3	9-22
Kent	+6.0	+ 3	+ 8	+ 8	+ 7	+11	+ 6	+ 6	- 1	+ 4	+ 9
C1511	+0.7	+ 1	+ 4	+ 2	- 2	- 4	+ 1	- 2	- 2	+ 4	+ 2
K1001	+5.1	+ 4	+ 5	+ 6	+ 6	+ 3	+ 3	+ 2	- 2	+ 9	+16
K1002	+6.0	+ 3	+ 5	+ 6	+ 8	+ 4	+ 8	+ 4	+ 1	+ 7	+16
K1003	+4.9	+ 4	+ 2	+ 6	+ 6	+ 6	+ 7	+ 5	- 1	+ 3	+12
K1004	+5.0	+ 4	+ 8	+ 8	+ 4	+ 8	+ 5	+ 2	- 1	+ 4	+ 7
K1005	+7.9	+ 7	+10	+ 8	+ 8	+10	+ 7	+ 8	+ 2	+ 6	+13
K1006	+7.7	+ 6	+ 5	+ 9	+ 8	+10	+ 8	+ 9	+ 1	+ 7	+14
K1007	+2.9	+ 1	+ 8	+ 3	- 1	+ 4	+ 2	+ 2	- 2	+ 2	+ 6
L69L-208	+1.1	+ 3	0	+ 4	+ 2	+ 2	+ 1	- 2	- 2	+ 1	+ 3
Clark 63	-0.1	+ 1	+ 1	0	0	+ 1	0	- 2	- 2	0	0
L70-4170	+2.2	+ 3	+ 6	0	+ 3	+ 6	+ 3	+ 2	- 1	0	+ 1
L70-4180	+1.6	+ 3	+ 4	+ 2	0	+ 6	+ 2	+ 1	- 2	- 1	- 1
SL13	+4.4	+ 5	+ 7	+ 4	+ 2	+ 8	+ 4	+ 4	- 1	+ 2	+ 7
SL14	+3.4	+ 5	+ 6	+ 2	0	+ 6	+ 4	+ 2	0	+ 3	+ 3
Calland (III)			- 5		- 9	- 4	- 7	- 7		-10	
Hill (V)		+20		+15				+11	+17	0	
Date Plnt.	5-20	6-2	5-24	6-9	5-19	5-25	5-11	5-10	5-10	5-9	5-16

GROWING CONDITIONS AT TEST LOCATIONS IN 1972

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

University Park, Pennsylvania. Wet, cold, cloudy weather was common through mid-July. The remainder of the season was warm and dry with cool nights. Early plant growth was reduced but soybeans matured on the expected dates. The Uniform III Test was destroyed by the June flood. In adjacent tests only the later maturing Group III varieties were adversely affected by the first killing frost.

Cooperator: Rock Springs Research Center, L. D. Hoffman, Superintendent
Soil Type: Duffield Silt Loam
Fertilizer: 0-100-100/A
Herbicide: Alachlor 1#/A preemergence
Soil Analysis: pH, 6.3; P, Medium; K, Medium; Mg, Low; Ca, Medium.

Landisville, Pennsylvania. Plant growth was excellent the early part of the growing season, although temperatures during June were below normal and rainfall was 10.69 inches above normal. Temperatures the rest of the growing season were slightly above normal, but rainfall after July 18 was only 21 percent of normal. This prolonged drought restricted pod filling.

Cooperator: Southeastern Field Research Laboratory, J. O. Yocum, Superintendent
Soil Type: Hagerstown Silt Loam
Fertilizer: None for the past two years
Herbicide: Vernolate plus trifluralin 3+3/4#/A. preplant incorporated
Soil Analysis: pH, 6.8; P, High; K, Very high; Ca, Medium; Mg, High.

Hopewell, New Jersey. This trial was destroyed by ground hogs and deer.

Cooperator: James R. Justin

Adelphia, New Jersey. The trial was planted on June 2 with good soil moisture, followed by 0.31 inches of rain within 24 hours. Rainfall during the rest of June and early July was much over average with temperatures below normal, however, growth was good. Rainfall during the latter half of July, August and September was deficient by more than 8 inches. Harvest was delayed until November 13 by excessive and continued rains through October and November. Even with the extremes in weather, growth was good, and yields were quite good. Diseases and insects were not problems in the field.

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

Centerton, New Jersey. The trial was planted on June 5 in soil a little drier than optimum. Little rain fell for nearly two weeks, but the rest of June and early July were very wet with nearly 11 inches in six weeks. August and September were very dry with the exception of two rains which totaled over 2.5 inches (August 28 and September 2). Growth was quite good despite the extremes in precipitation. Harvest was delayed until November 17 due to wet soil in October and November. Insects were not a factor at this location, but pod and stem blight (Diaporthe phaseolorum var. sojae) was apparent in nearly all plots.

Cooperator: South Jersey Research Center, Stanton Sheppard, Farm Supervisor

Soil Type: Sassafrass Sandy Loam
Fertilizer: 15-60-60
Herbicide: 1.5# Lasso a.i. + 0.75# Lorox a.i. pre-emergence.

Georgetown, Delaware. An extremely wet and cool June with 9.24" of rain was followed by only 1.50" of rain in July with 12 days in succession of 90° weather from the 15th through the 26th. The beans were irrigated July 20 and August 2; each application about 2". September also was cool and growth throughout the season was good. Mexican bean beetles were a severe problem very early in the season and again, but less severe, during late September. Sevin was applied at each time. October was also cool with a freeze of 23° occurring on October 21 which killed the Group V maturity lines. Most varieties, however, were fairly well mature. October and most of November remained damp and harvesting was severely delayed.

Cooperator:
Soil Type: Norfolk Sandy Loam
Fertilizer: 400#/A 10-10-10 topdress on cover crop and plowed down
Herbicide: Treflan 3/4#/A
Soil Analysis: pH, 6.5; OM, 1.0; P, VH; K, M.

Upperco, Maryland. Growing conditions were good for early growth, however a drought reduced growth and adversely affected pod set during August. Rainfall was above normal for September and enhanced pod filling. Mexican bean beetles were controlled with an application of Sevin before severe damage occurred. Lodging was not severe and weed control was generally very good.

Cooperator: Sparks & Hare
Soil Type: Glenelg Loam
Fertilizer: 0-80-80
Herbicide: 1 1/2 quarts Vernam
Soil Analysis: pH, 6.6; P, 75 M; K, 72 L; Mg, 200 H.

Reistertown, Maryland. This test was demolished by hail.

Cooperator: J. A. Schillinger

Clarksville, Maryland. After a successful establishment, the plot area was deluged with rainfall as Hurricane Agnes dominated the weather from June 18-20. Some 8 inches of rain fell during the three-day period. July and August turned very dry with below normal rainfall during these months. A heavy freeze hit these plots on October 13. Weed control was only fair with smartweed infesting the area.

Cooperator:
Soil Type: Manor Silt Loam
Fertilizer: 500#/A 5-20-20
Herbicide: Treflan 1 qt./A
Soil Analysis: pH, 6.5; P, 125 M; K, 213 H; Mg, 188 H.

Queenstown-B, Maryland. Early growing conditions were excellent and all plots were off to a good start. However, July and August turned very dry and the plots suffered from lack of water. The rains of August 30 salvaged some of the yield. Weed control was excellent throughout the season. A killing frost on October 13 cut short the pod-filling process on late maturing varieties.

Cooperator: Perry Blades
Soil Type: Sassafras Sandy Loam

Fertilizer: 300#/A 0-15-30
Herbicide: Treflan 1#/A
Soil Analysis: pH, 6.0; P, 195 H; K, 153 M; Mg, 86 M.

Quantico, Maryland--After Wheat. Despite the very late date of planting, the soybean growth was excellent up until October 13 when the first frost stopped growth. A second frost on October 20 completely killed the soybean plants. An excellent rainfall distribution kept the soybeans growing steadily. Later maturing varieties (Group V) were seriously hurt by the early frost. Most group V lines had green colored seeds at harvest. Mexican bean beetles had to be controlled by two sprayings of Guthion and Sevin. They still caused some damage to late genotypes.

Cooperator: Ron Mulford
Soil Type: Downer Fine Sandy Loam
Fertilizer: 500#/A 10-20-20
Soil Analysis: pH, 5.6; P, 295 H; K, 126 M; Mg, 48 L.

Queenstown, Maryland. Conditions were excellent for germination. Soon after germination excessive rainfall left water standing in the field for 1 to 2 weeks depending on the contours of the land. Plant growth was retarded until the excess moisture was removed. Normal growth was resumed and plants progressed well until a dry spell in August placed the plants under water stress. Rainfall on August 30 salvaged some of the yield. A killing frost on October 13 affected pod filling on later maturing lines.

Cooperator: John Schillinger
Soil Type: Sandy Loam
Fertilizer: 500#/A 0-15-30
Herbicide: Treflan 1#/A
Soil Analysis: pH, 5.7; P, 140 H; K, 207 H; Mg, 150 H.

Linkwood, Maryland. The seeding was made on June 9, 1972, in warm moist soil. Stands were good. Growth during the season was good. Temperatures were normal and rainfall was above normal for the growing season, with especially heavy rainfall during June and heavy rainfall during August. An infestation of Mexican bean beetles was controlled by spraying during August. A light frost occurred on October 11; a killing frost on October 20. Harvest season was excessively wet and humid, but cool temperatures prevented germination of seed in pods.

Cooperator: Dr. James C. Johnson
Soil Type: Sassafras Silt Loam
Fertilizer: 300#/A 0-15-30
Soil Analysis: pH, 6.0; P_2O5, N 185 (H); K_2O, 222 (H); Mg 104 (M).

Ottawa, Ontario. The test was planted on May 26 and harvested November 2 - both dates being 7-10 days later than normal. Germination, emergence and early season growth was normal. However, beginning in late June there began a prolonged period of below normal temperatures and above normal rainfall that essentially lasted until the end of the season.

Soil Type: **Grenville Loam**
Fertilizer: 300# 0-15-30 and 300# of amonium nitrate
Herbicide: Lasso and Linuron mix
Soil Analysis: pH, 6.0

Kemptville, Ontario. Planting was on June 8. There was a killing frost on September 23.

Cooperator: Kemptville College of Agricultural Technology
Soil Type: Grenville Loam
Fertilizer: 100#N plus 500#/A 0-15-30.

Elora Research Farm, Ontario. Soybeans were planted May 19, 1972. Emergence was uneven because of lack of moisture at planting time. During the growing season normal amounts of precipitation were received. Temperatures were below normal during June, the first two weeks of July, and during all but the last two weeks of August. A frost occurred on June 11. There were cloudy weather conditions during much of the growing season, but particularly during June where less than 4 hours of bright sunshine occurred in 12 of 30 days. Maturity was slightly delayed, however, yields were nearly normal. No irrigation was applied.

Cooperator: University of Guelph
Soil Type: Tile drained silty clay loam
Fertilizer: 400#/A 5-20-20 applied in the fall of 1971. Also in the spring of 1971 200#/N, 320 of P and 136# of K/A as liquid manure were applied.
Herbicide: $\frac{1}{2}$# (active)/A Treflan preplant incorporate $\frac{1}{2}$# (active)/A Patoran preem
Soil Analysis: pH, 7.5; OM, Medium; P, High; K, High; Mg, High.

Ridgetown, Ontario, Canada. Good stands were established even though emergence was slow because of the cool damp spring. Most of the tests were frozen back to the cotyledons by the June 10th frost. However, the plots recovered but there was a high incidence of two-stemmed plants. No variety differences were found in frost damage. Temperature was below normal but moisture was abundant throughout the growing season causing excessive vegetative growth and severe lodging. A frost on October 10 affected the maturities of some varieties. Yields were below normal for the maturity groups I and II.

Cooperator: Ridgetown College of Agricultural Technology
Soil Type: Brookston Clay Loam
Fertilizer: 900# 3-11-11/A
Herbicide: Amiben, 3#/A.

Harrow, Ontario. Stands were good. Precipitation, temperature and growth during June and July were slightly below average. Precipitation in August was almost three times the normal and caused severe lodging. This in combination with lower than average temperatures during September resulted in delayed maturity. All plants had matured before the first killing frost on October 18. Variability in tests was low and yields were normal.

Cooperator: C. D. A. Research Station
Soil Type: Brady Sandy Loam
Fertilizer: 500#/A 5-10-15
Herbicide: Amiben, 2#/A.

Hoytville, Ohio. Adequate soil moisture and below normal temperatures prevailed throughout the growing season. Excessive wet fall delayed harvest considerably.

Soil Analysis: pH, 7.0; P, 56#/A; K, 347#/A.

Wooster, Ohio. Adequate soil moisture and below normal temperatures prevailed throughout the growing season. Excessive wet fall delayed harvest considerably.

Soil Analysis: pH, 7.3; P, 94#/A; K, 267#/A.

Columbus, Ohio. Adequate soil moisture and below normal temperatures prevailed throughout the growing season. Excessive wet fall delayed harvest considerably.

Soil Analysis: pH, 7.1; P, 41#/A; K, 253#/A.

East Lansing, Michigan. Harvest of Groups I and II was delayed about two weeks due to a wet fall. Temperatures throughout the growing season averaged about three degrees below normal, but seemed to have little effect on yield when compared to previous seasons. Rainfall was normal during June and July but 4" above normal during late July and August.

Cooperator: Dept. of Crop and Soil Sciences (Michigan State University)
Soil Type: Conover Clayloam
Fertilizer: 200#/A 10-20-20
Herbicide: Amiben
Soil Analysis: pH, 6.4; P, 35#; K, 210.

Dundee, Michigan. Temperatures throughout the growing season averaged about three degrees below normal. Rainfall in late July and August was about 3" above normal. Because of rain, harvest was delayed about two weeks.

Cooperator: Mr. Anthony Ivan (Ivan Brothers Farms)
Soil Type: Loamy Clay
Fertilizer: 200#/A 10-20-20
Soil Analysis: pH, 6.6; P, 40#; K, 230#.

Knox, Indiana. This test location was lost because of flooding.

Bluffton, Indiana. Planting on May 22 was normal for the location. Rainfall was 2.65, 3.04, and 2.34 inches for June, July, and August, which was below normal for each month. Adverse weather delayed harvest until November 6. Yields were variable and below average for this location.

Cooperator: Gerald and Larry Bayless
Soil Type: Nappanee Silt Loam
Fertilizer: 100#/A 5-27-9
Herbicide: 6 qts. Amiben/A
Soil Analysis: pH, 6.7; P, 62#/A; K 300#/A.

Lafayette, Indiana. Planting on May 22 was normal for this location. There were 5.32, 4.83, and 2.75 inches of rain in June, July, and August. Plant growth was about average and there was very little lodging in the plots. Harvest of uniform tests was completed October 19. Yields were below average for the location.

Cooperator: O. W. Luetkemeier
Soil Type: Chalmers Silty Clay Loam
Fertilizer: 800#/A 0-26-26 plowdown. 175#/A 5-20-20 + 5% mn in row.
Herbicide: 1 qt. Treflan/A
Soil Analysis: pH, 6.7; P, 87#/A; K, 240#/A.

Greenfield, Indiana. Planting May 24 was normal for this location. Rainfall averaged 5.02, 2.63, and 2.43 inches for June, July, and August. Plants were very short and yields were much below average for this location.

Cooperator: Mrs. Raymond Roney
Soil Type: Brookston - Crosby complex
Fertilizer: 165#/A 6-24-24
Soil Analysis: pH, 5.6; P, 20#/A; K, 128#/A.

Worthington, Indiana. Planting May 19 was normal for this location. There were 3.48, 1.41, and 5.66 inches of rain in June, July, and August. Extremely adverse weather delayed harvest and resulted in excessive lodging of all plots. Yields were extremely variable and below average for the location.

Cooperator: William Hinricksen
Soil Type: Genesee Silt Loam
Fertilizer: 100#/A 6-24-24
Herbicide: 1 qt. Treflan/A
Soil Analysis: pH, 7.8; P, 101#/A; K, 195#/A.

Evansville, Indiana. Planting May 25 was average for this location. Rainfall averaged 3.98, 3.39, and 3.88 inches for June, July, and August. Plants were shorter than normal and yields were below average for this location.

Cooperator: Bernard Wagner
Soil Type: Montgomery Silty Clay Loam
Fertilizer: 400#/A 3-10-10 plow down, 150#/A 7-27-7 in row
Herbicide: 1 qt. Treflan/A; 1 gal. Dynap/A overspray
Soil Analysis: pH, 5.5; P, 69#/A; K, 425#/A.

Henderson, Kentucky. The test was planted on May 17, 1972 in an excellent seed bed. Emergence and early growth were rapid and excellent stands were obtained. Weed control was nearly perfect and there was no evidence of disease or insect infestations. Temperatures and precipitation were slightly below normal, but the precipitation was well distributed and probably was not limiting. The soybeans made excellent vegetative growth, and early lodging may have limited the yields on some varieties.

Cooperator: William Hendrick and Huston Ginger
Soil Type: Patton Silt Loam
Herbicide: Lasso (2# A.I./acre preemergence.

Ashland, Wisconsin. The growing season was cool as temperatures averaged below normal for every month except May and August. The last killing frost in the spring (28° or lower) occurred on June 10 and caused considerable damage to the gardens. Most corn was not far enough along to be severely affected by the frost. Rainfall was below normal for the first three months of the growing season and this resulted in uneven germination and short first crop hay. Because hay growth was slow and short, some people delayed first crop hay making and had harvest problems as July and August were above normal in rainfall, August being the second wettest on record. This also made it almost impossible to harvest oats and second crop hay. September was again slightly below normal in rainfall. The first killing frost occurred on September 22, which was very close to the normal date of September 20. However, with the early months dry and the cool temperatures during the season, many of the crops were behind in maturity for this time of year. Not harvested because it was too immature at frost.

Cooperator: University of Wisconsin Experimental Farm Ashland
Soil Type: Clay Loam
Fertilizer: 400#/A 6-24-24.

Spooner, Wisconsin. Planted on May 25. There was a killing frost of 25° on September 30.

Cooperator: C. O. Rydberg
Soil Type: Pence Loamy Sand.

Durand, Wisconsin. Durand test planted May 25. Emergence good. Temperatures below normal during entire growing season. Moisture below normal in May but near or above normal during rest of growing season. Disease or insects not a factor.

Cooperator: Anton Sam
Soil Type: Sandy Silt Loam.

Madison, Wisconsin. Madison test planted May 22. Emergence somewhat irregular due to dry soil. As a result of rain a week after planting, final stands were satisfactory. Temperatures during the growing season averaged slightly below normal. From planting to July 15, rain about one-third of normal. Plants wilted daily during first two weeks of July. Rain during the remainder of growing season averaged 50% above normal with excellent distribution. Yields reduced due to early drought. No disease or insect problems.

Cooperator: University of Wisconsin, Charmany Farm
Soil Type: Miami Silt Loam
Fertilizer: 200-0-20-20
Herbicide: 2# Amiben.

DeKalb, Illinois. Planting was on May 23 in a good seedbed. The plants showed considerable yellowing and were held back due to the cool, wet weather during June. Rainfall on May, June, July, August, and September was .78, 7.85, 5.91, 7.89, and 4.00 inches. There was phytophthora rot in some plots due to the excess moisture throughout the growing season. The yields were down because of the large amounts of rainfall this year. Plots were harvested in good conditions on October 22.

Cooperator: R. R. Bell, Northern Illinois Research Center
Soil Type: Flanagan Silt Loam
Herbicide: Amiben - Sprayed on after planting.

Pontiac, Illinois. Planting was May 24 in a good seedbed. The plots showed some herbicide damage during June but disappeared later in the season. Moisture was good throughout the growing season. Plots were harvested October 4 in good condition.

Cooperator: Donald Alltop
Soil Type: Dodgeville Silt Loam
Fertilizer: 500#/A of 3-9-9 applied in spring
Herbicide: 2½ qt/A Lasso preplant
Soil Analysis: pH, 6.2; P_1, 13; P_2, 23; K, 234.

Urbana, Illinois. Planting was on May 12 in a good seedbed with moisture to the surface. Moisture was inadequate during May, June, and July. Lodging was not too severe. Powdery mildew was moderate to severe on some strains late in the growing season. Harvest was timely.

Cooperator: M. G. Oldham, Illinois Agricultural Experiment Station
Soil Type: Flanagan Silt Loam
Fertilizer: 0-117-117
Herbicide: 15#/A granular treflan, broadcast incorporated
Soil Analysis: pH, 6.7; P_1, 111; P_2, 204; K, 340.

Girard, Illinois. Planting was on May 20, about average for this location. Emergence and stands were good to excellent. There were a few phytophthora killed plants. Growth and yields were very good. Harvest was timely.

Cooperator: Lloyd Bros.
Soil Type: Harrison silt loam
Herbicide: Amiben
Soil Analysis: pH, 6.4; P_1, 40; P_2, 107; K, 260.

Edgewood, Illinois. Planting was on May 30 in a mellow and moist seedbed. Emergence and stands were excellent. Growth was good with lodging differentials between strains. There were small areas showing potassium deficiency. Harvest was a little late for U. T. II, but timely for U. T. III and IV.

Cooperator: John Wilson and Ed and Ron York
Soil Type: Cisne Silt Loam
Fertilizer: P. & K.
Herbicide: Amiben banded, 8#/A
Soil Analysis: pH, 6.7; P_1, 38; P_2, 117; K, 146.

Belleville, Illinois. Planting was a little earlier than average for this location on May 11 in a rough seedbed. Emergence and stands varied from poor to good. It was very dry through mid-July. Downy mildew was moderate and scattered. Virus was prevalent. There was severe pod mottling before maturity on some strains from unknown causes. Seed quality was poor. Most of the Uniform Test strains were harvested timely. The Preliminary Test strains were harvested later than optimum.

Cooperator: George Kapusta, Belleville Research Center
Soil Type: Ebbert Silt Loam
Fertilizer: None
Herbicide: Treflan
Soil Analysis: pH, 6.0; P_1, 35; P_2, 108; K, 178.

Eldorado, Illinois. Planting was a little earlier than average for this location on May 10 in a good seedbed. There was never enough rain early in the season to set the herbicide and weeds were a problem. Stands were good to excellent. There was slight hail damage the end of June. Moisture was adequate to surplus from mid-July through harvest. There was slight downy mildew and scattered stem canker. Rugose leaf, stem stunting, and duddiness were very prevalent. Harvest of Uniform and Preliminary Tests was timely.

Cooperator: Marshall Grisham
Soil Type: Harco Silt Loam
Fertilizer: 600#/A 5-15-20
Herbicide: $1\frac{1}{3}$#/A Planovin
Soil Analysis: pH, 6.5; P_1, 74; P_2, 148; K, 272.

Carbondale, Illinois. Planting was on May 12 in a good seedbed. Emergence was quite good and growth excellent. Above average rainfall during the late part of the growing season no doubt reduced seed quality. Excess rainfall delayed harvest of the Group II and III varieties. Yields were fair.

Cooperator: D. R. Browning
Soil Type: Weir Silt Loam
Fertilizer: 0-75-145
Herbicide: Treflan - 1 qt/A - broadcast - incorporated
Soil Analysis: pH, 6.5; OM, 1.3%; P_1, 66; K, 175.

Crookston, Minnesota. A generally favorable year at this location. Good seedbed, good stands, good weed control, adequate rainfall, and a later than average killing frost date. Yield levels were not especially high but typical for this far northern location.

Cooperator: Dr. L. J. Smith
Soil Type: Beardon Silty Clay
Fertilizer: 50#P
Herbicide: Treflan 2/3 qt/A preplant; Amiben 2#/A preemergence
Soil Analysis: pH, 7.8; OM, High; P, 45; K, 200.

Morris, Minnesota. Excessive soil moisture in May delayed land preparation. Planting was June 1, about two weeks later than normal for this location. Emergence was good. Weed control was satisfactory and growing conditions were near optimum for most of the summer. All varieties ripened before frost.

Cooperator: Dr. D. D. Warnes
Soil Type: La Prairie Silty Clay
Herbicide: 3# Amiben preemergence
Soil Analysis: pH, 7.8; OM, High, P 18; K, 170.

Rosemount, Minnesota. Earlier than average planting (May 10). Good seedbed. Good stands. Excellent weed control. Adequate moisture. Wide range in summer temperatures but generally favorable. Good plant development with only moderate lodging. Varieties all ripened ahead of frost.

Soil Type: Waukegan Silt Loam
Herbicide: 2/3 qt/A Treflan preplant; 2#/A Amiben preemergence; Bas 3512 at second trifoliolate stage for velvet leaf
Soil Analysis: pH, 6.5; OM, Medium; P, 100; K, 370.

Lamberton, Minnesota. Planted at normal date (May 15) in good seedbed. Good stands. Good weed control. Generally good growing conditions throughout the summer. Considerable lodging. Yields good. Some Group II varieties slightly immature at frost.

Cooperator: Dr. W. W. Nelson
Soil Type: Nicollet Silty Clay
Herbicide: 2/3 qt/A treflan preplant; 2#/A amiben preemergence
Soil Analysis: pH, 6.7; OM, High; P, 24; K, 220.

Waseca, Minnesota. Planting on May 9 was earlier than normal at this location. Stands were good, weed control was good. Growth was luxuriant. Slight drought stress in mid-August. Brown stem rot was unusually heavy in the Uniform Tests at this location, probably affecting yield and seed quality. Some Group II varieties slightly immature at frost.

Cooperator: Dr. W. E. Lueschen
Soil Type: LeSeuer Silt Loam
Herbicide: 2/3 qt/A Treflan preplant; 2#/A Amiben preemergence
Soil Analysis: pH, 6.4; OM, High; P, 42.

Sutherland, Iowa. This nursery was planted May 10, with good soil moisture. Precipitation was above average in June and nearly average during the rest of the growing season. Temperatures were above average in June but July and August were well below 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
Herbicide: Treflan
Soil Analysis: pH, 6.6; P, 12; K, 112.

Kanawha, Iowa. The nursery was planted May 9 with good soil moisture. May was below average for precipitation with normal temperatures while June had above average temperatures and near average rainfall. July and August were cool and August was rather dry. Plots were kept weed free and growth was good. 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, 5.9; P, 60; K, 144.

Ames, Iowa. Soil moisture was good at planting time, May 11. June was above average for temperature and the remainder of the growing season was below average with July averaging 7° below normal. August was rather dry averaging 4 inches below normal. 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
Soil Analysis: pH, 7.0; P, 51; K, 130.

Stuart, Iowa. This nursery is located in south central Iowa. Planting was completed on May 17. Moisture for the growing season was slightly below average to dry. Temperatures were below normal throughout the growing season. The location was considered adequate for making strain comparisons.

Cooperator: Eugene Kading
Soil Type: Sharpsburg Silt Loam
Herbicide: Treflan
Soil Analysis: pH, 6.0; P, 26; K, 326.

Ottumwa, Iowa. This nursery is in southeastern Iowa on flat, productive Haig silty clay loam. The nursery was planted May 19. Temperatures throughout the growing season were below normal with the exception of June where temperatures averaged nearly 5° above normal. July temperatures averaged 5° below normal. The location was below normal for precipitation during the growing season. Weed control in Uniform Test III was spotty causing concern for the making of adequate strain comparisons.

Cooperator: Phillip Newquist
Soil Type: Haig Silty Clay Loam
Herbicide: Treflan
Soil Analysis: pH, 6.2; P, 45; K, 188.

Spickard, Missouri. Planting was perhaps slightly late but in a good seedbed. Weed control was good. Summer rainfall was much better than 1971 but still less than optimum.

Cooperator: University of Missouri
Soil Type: Seymour Silt Loam
Herbicide: Treflan-Lorox.

Columbia, Missouri. Stands and weed control were good. The late summer and fall drouth was the severest in years. Temperatures during the drouth were slightly above average.

Cooperator: University of Missouri
Soil Type: Mexico Silt Loam
Herbicide: Amiben

Mt. Vernon, Missouri. Stands from May 10 planting were good. Weed control was good. Late summer rainfall was slightly less than sufficient.

Cooperator: University of Missouri
Soil Type: Huntington Silt Loam
Herbicide: Treflan-Lorox.

Portageville, Missouri. Adverse factors affecting the 1972 Uniform Tests at Portageville, Missouri were almost non-existing. Seedbed preparation and planting were normal. Early in the growing season, a few weeds and volunteer grain sorghum had to be removed from the tests. Supplementary water was added twice and plants did not suffer from drouth stress. No disease or insect incidence was noticed. Uniform Group IV was harvested at a normal date, however later tests received excessive rainfall delaying harvest two to four weeks. Delayed harvest and excessive moisture probably caused seed qualities poorer than normal.

Cooperator: University of Missouri
Soil Type: Tiptonville Silt Loam
Soil Analysis: pH, 4.8; OM, Low; N, Low; P, Very High; K, Medium; Ca, Medium; Mg, High.

Portage la Prairie, Manitoba. Warm weather conditions during May and June got this crop off to a good start with good plant development. July, however, was cooler than normal, but high temperatures during August and early September got this crop well matured before frost. Moisture conditions appeared to be adequate all summer.

Cooperator: Tom Chesney, Portage la Prairie, Substation, C.D.A.
Soil Type: Riverdale Silty Clay Loam.

Morden, Manitoba. The warm weather during May and June got the soybeans off to a good start. Plant growth was good until July when the crop suffered from drouth. For the period June and July only 2.9 inches of rain fell compared to a long-term average of 6.1 inches for these two months. The crop was saved from serious damage by relatively cool weather for most of July. The daily mean for this month was 4 degrees below average. Adequate rains and warmer weather in August helped the crop to recover and give fairly good yields.

Cooperator: Research Station, Canada Department of Agriculture, Morden, Manitoba.
Soil Type: Medium Heavy Clay Loam
Fertilizer: 500# 27-14-0 ammonium phosphate.

Fargo, North Dakota. An abnormally wet spring delayed planting 2 to 4 weeks. Fortunately, a warm June and plentiful moisture in August (along with nine days of 90° temperatures) allowed varieties to partially compensate for delayed planting. Heavy selection pressure was placed on resulting lodging susceptibility. Yields in the 40-50 bu/A range were frequent despite a killing frost on September 29 which probably prevented higher yields of varieties normally grown in this area. Weed control with liquid and granule Ramrod was excellent.

Soil Type: Fargo Clay
Herbicide: Ramrod (4#/A - broadcast)
Soil Analysis: pH, 7.2; N, 14; P, 26; K, 410.

Oakes, North Dakota. No data.

Revillo, South Dakota. Severe hail and windstorm damage in late June and late planting caused some stand loss and extremely high variability in the field. Yields were about 20 to 40% less than normal and severe lodging was caused from hail induced stem breakage.

Cooperator: James Street, Revillo, South Dakota
Soil Type: Forman Clay Loam
Fertilizer: 10-40-0
Herbicide: Lasso granules
Soil Analysis: pH, 6.7; OM, 3.3; P, 6; K, 297.

Brookings, South Dakota. Heavy spring rainfall and cold weather delayed planting two weeks and very cool summer temperature caused slow plant growth but early varieties yielded well because of favorable moisture throughout the summer. Delayed maturity caused poor seed quality and severe lodging.

Cooperator: A. O. Lunden
Soil Type: Vienna Loam
Fertilizer: 0-30-0
Herbicide: Lasso
Soil Analysis: pH, 6.9; OM, 3.9; P, 22; K, 254.

Centerville, South Dakota. Moisture and growing conditions near normal after wet weather caused a one week delay in planting.

Cooperator: A. O. Lunden
Soil Type: Poinsett Silty Clay Loam
Herbicide: Lasso
Soil Analysis: pH, 6.6; OM, 3.0; P, 105; K, 682+.

Elk Point, South Dakota. Yields were limited from dry conditions in late spring to early summer which also caused high field variability and poor seed quality.

Cooperator: Forrest Fennel, Elk Point, South Dakota
Soil Type: Haynie Silty Loam
Herbicide: Lasso granules
Soil Analysis: pH, 7.6; OM, 1.7; P, 62; K, 682+.

Concord, Nebraska. Soil moisture was good when the soybeans were planted. June was an abnormally dry month but the condition was reversed in July when rainfall was 4 inches above normal. July and August were cooler than normal. Disease and insect infestations were not a factor. Weed control was excellent. No supplemental irrigation was applied. Because of the favorable moisture and temperature conditions, soybeans grew quite tall. Lodging scores were higher than usual.

Cooperator: University of Nebraska Northeast Station
Soil Type: Judson Silt Loam
Herbicide: Amiben 1.5#/A + Sencor 0.33#/A
Soil Analysis: pH, 6.3; OM, 2.5; N, Medium; P, Medium; K, Very High.

Mead, Nebraska. Planting was delayed until May 30 by cool wet weather. Excellent seedbed conditions at planting resulted in rapid emergence and good stands. Good weed control was obtained. Rainfall was about normal for June but was below normal in July and August. Tests were irrigated in late July and early August. September rainfall was above normal. Temperatures were cooler than normal during entire growing season. Light frost occurred on September 30 and freeze on October 6. Good yields were obtained but lodging appeared more than usually expected, especially for the full season varieties.

Cooperator: University of Nebraska, Mead Field Laboratory
Soil Type: Sharpsburg Silty Clay Loam
Fertilizer: 60#/A P_2O_5
Herbicide: Amiben 2#/A
Soil Analysis: pH, 6.3; N, Medium; P, Medium; K, Very High

Powhattan, Kansas. Even emergence gave good plant stands. Moisture supply was below normal, but well distributed throughout the growing season. Rains during September, and October delayed harvest. Pests were not a problem during 1972.

Cooperator: R. Sloan
Soil Type: Grundy Silt Clay Loam
Fertilizer: 16#N, 64# P_2O_5, 32# K_2O
Herbicide: Treflan 1#/A (A.I.) Amiben 2.5#/A (A.I.)
Soil Analysis: pH, 5.9; OM, 3.3; P, 39; K, 413.

Manhattan, Kansas. Rainfall during June, July, and early August was approximately 3 inches below normal. Early varieties (Group III) were lower yielding than the later varieties (Group IV). September, October, and November were extremely wet, causing late harvest. Pests were not a problem.

Cooperator: C. Swallow
Soil Type: Smolan Silt Loam
Herbicide: Treflan 1#/A, Amiben 2.5#/A.

Manhattan (Irrigated), Kansas. Seedling growth was slow during mid-May because of wet, cool weather. Water was applied through trenches at 4 inches/acre on 7/5, 7/17, and 8/14. Pests were not a factor during 1972.

Cooperator: C. Swallow
Soil Type: Eudora Silt Loam
Fertilizer: 32# N, 96# P_2O_5/A
Herbicide: Treflan 1#/A (A.I.) Amiben 2.5#/A (A.I.)
Soil Analysis: pH, 7.8; OM, 1.17; P, 46; K, 418.

Ottawa, Kansas. Seedling emergence was uniform. Dry and hot weather during late August caused yields to be low for early group III varieties (Calland). Late season rains delayed harvest of group IV varieties until December 1, 1972. Pests were not a problem.

Cooperator: C. Gruver
Soil Type: Woodson Silt Loam
Fertilizer: 32#N, 96# P_2O_5/A
Herbicide: Treflan 1#/A, Amiben 2.5#/A
Soil Analysis: pH, 5.7; OM, 2.6; P, 74; K, 338.

Columbus, Kansas. Seedbed was dry at planting, giving only fair stands. Adequate rainfall during June provided good early season growth. August was dry causing late maturity varieties to yield better than early maturity varieties.

Cooperator: Southeast Kansas Experiment Station
Soil Type: Cherokee Silt Loam
Fertilizer: 20# N/A, 50# P_2O_5/A, 40# K_2O/A
Herbicide: 1#/A Trifluralin
Soil Analysis: pH, 6.1; OM, 1.0%; P, 20; K, 100.

Lubbock, Texas. Tests were planted on May 20, 1972 in warm moist soil (Field 207). Stands were excellent. Temperatures during the season were near normal to slightly below normal. Rainfall in May and June totaled 7.50 inches. Rainfall the first 21 days of July totaled 5.23. Plots were irrigated on August 2 with approximately 4 acre inches of water. Seasonal rainfall was above normal with 18.45 inches total at the end of August. Rain and cloudy weather during the first 8 days of September delayed maturity on some entries. Bacterial blight caused moderate leaf drop on nearly all entries. Insects were of no major problem. Seed quality was lowered by humid conditions after maturity. Some purple stain present.

Cooperator: Raymond D. Brigham
Soil Type: Amarillo Loam
Soil Analysis: pH, 8.2; N, 14#/A, P, 55#/A, K, 1200#/A; Ca, 11900#/A; Mg, 250 ppm.

Ontario, Oregon. Plant stand, emergence, and growth throughout the season were good. Excellent weed control was achieved with a pre-plant incorporated broadcast application of 1/2#/A Treflan plus 2#/A Lasso. Spider mites were not a problem this season -- apparently being effectively controlled by an early July application of Kelthane applied to the soil and the under-sides of the bottom foliage. Group 00 varieties received 5 irrigations between June 2 and August 20 plus a pre-plant irrigation to fill the soil reservoir. Approximate useable water added would be 24". Group 0 varieties received one extra irrigation on August 26 to total approximately 28" of useable water applied to this maturity group. Tests were considered very good for making strain comparisons at this location this year.

Cooperator: Luther A. Fitch, Malheur Experiment Station
Soil Type: Owyhee Silt Loam
Fertilizer: 100# P_2O_5 applied in fall, 1971
Herbicide: 1/2#/a.i./A Treflan + 2# a.i./A Lasso
Soil Analysis: pH, 7.6; OM, 2.1%; N, adequate; P, 35; K, 400+; Ca, adequate, Mg, adequate.

WELLS (C1470) -- Group II

1962 -- The Cross CX403 which was C1266R (sel. from Harosoy x C1079) x C1253 (sel. from Blackhawk x Harosoy) made by A. H. Probst, D. T. Cooper, and K. Edmondson in the spring greenhouse at the Purdue Agricultural Experiment Station. C1079 is a selection from Lincoln x Ogden.

F_1 - five plants grown at the Purdue Agronomy Farm.

F_2 - 1330 plants were grown in the fall greenhouse with 9 plants per 6-inch pot. The population was advanced from F_2 to F_6 by single seed descent (i.e. one seed per plant produced the next generation).

1963 -- F_3 - 860 plants grown in the spring greenhouse with 5 plants per 6-inch pot.

F_4 - 840 plants grown at the Purdue Agronomy Farm.

F_5 - 837 plants grown in the fall greenhouse with 9 plants per 6-inch pot and inoculated with Phytophthora megasperma var. sojae by K. L. Athow and F. A. Laviolette. 451 resistant plants retained.

1964 -- F_6 - 451 plants grown in the spring greenhouse with 2 plants per 6-inch pot.

F_7 - Seed from 364 resistant plants grown in 3-foot rows at the Purdue Agronomy Farms.

1965 -- F_8 - grown in CX403 High Protein Yield Trial at the Purdue Agronomy Farm. This was a two-replicate test with 357 entries in 21 blocks. CX403-141 ranked second in yield among 38 of the early maturing strains retained for further testing.

1966 -- F_9 - grown in CX403IIA High Protein Test at the Purdue Agronomy Farm. This was a four-replicate test with 40 entries. CX403-141 ranked third in yield.

1967 -- F_{10} - 20 selections grown in CX403IIB, a four-replicate test at Bluffton and Lafayette, Indiana. CX403-141 ranked fourth in yield at Bluffton and second in yield at Lafayette.

1968 -- F_{11} - 14 selections grown in CX403IIC, a four-replicate test at Bluffton and Lafayette, Indiana. CX403-141 ranked ninth at Bluffton and second at Lafayette in yield. Also entered in regional Preliminary Test II as C1470.

1969 -- C1470 entered in Uniform Test II. 44 single plant selections grown at the Purdue Agronomy Farm to produce 136 pounds of breeders seed.

1970 -- C1470 grown in Uniform Test II.

1971 -- C1470 grown in Uniform Test II. The 136 pounds of 1969 breeders seed was divided among the states electing to participate in its release as follows:

State	Pounds Allotted
Illinois	47
Indiana	24
Iowa	55
Ontario	5
South Dakota	3
Wisconsin	2

1972 -- C1470 grown in Uniform Test II. The variety was named WELLS and released to seed producers August 1, 1972.

1970-72, 3-year mean of locations growing both tests

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
No. of Tests	50	50	42	48	49	50	43	24	24
Calland	46.3	4	+2.0	2.4	42	2.4	17.7	39.7	21.5
Wayne	45.7	7	9-19	2.5	41	2.3	17.6	41.6	22.2
Williams	48.4	1	+3.8	1.9	41	1.9	17.6	40.6	22.9
L66L-172	47.8	3	+0.3	1.9	39	2.1	15.6	39.6	22.6
Bonus	46.2	5	+6.2	2.3	46	2.3	17.2	42.6	22.1
Cutler 71	45.9	6	+9.1	2.3	45	2.3	17.9	40.7	22.0
L66-1359	48.0	2	+5.5	2.1	41	2.3	18.2	39.9	23.3

1970-72, 3 YEAR MEAN YIELD

	Mean	Indiana			Kentucky	Illinois		
		Lafayette	Worthington	Evansville	Henderson	Urbana	Girard	Edgewood
	50 Tests							
Calland	46.3	44.0	45.7	42.3	52.0	53.0	44.7	46.5
Wayne	45.7	47.0	45.9	42.3	50.1	50.1	50.2	47.1
Williams	48.4	48.6	50.5	44.8	54.4	55.4	49.2	47.9
L66L-172	47.8	48.9	52.7	39.5	51.5	56.4	49.2	46.0
Bonus	46.2	42.2	46.1	44.9	49.3	53.4	49.9	47.9
Cutler 71	45.9	47.3	49.7	46.3	49.5	54.1	44.0	45.2
L66-1359	48.0	47.7	51.9	47.2	50.7	55.4	49.9	46.3
				YIELD RANK				
Calland	4	6	7	5	2	6	6	4
Wayne	7	5	6	5	5	7	1	3
Williams	1	2	3	4	1	2	4	1
L66L-172	3	1	1	7	3	1	4	6
Bonus	5	7	5	3	7	5	2	1
Cutler 71	6	4	4	2	6	4	7	7
L66-1359	2	3	2	1	4	2	2	5

a Trenton in 1970

1970-72, 3 YEAR MEAN YIELD

Illinois			Iowa		Missouri		Neb.	Kansas		
Belle-ville a	Eldo-rado	Carbon-dale	Stuart 71-72	Ottu-mwa 71-72	Colum-bia 70-71	Mt. Vernon	Mead I 70-71	Pow-hattan	Man-hattan I	Ott-awa
47.6	53.4	47.3	36.9	42.7	40.9	39.8	45.0	43.3	73.6	41.9
46.4	47.4	41.3	37.0	46.1	38.7	44.7	48.5	40.6	65.8	44.0
50.3	53.4	49.6	39.0	45.1	41.2	43.9	41.5	44.2	71.0	44.8
49.2	51.3	45.6	38.6	44.9	40.1	46.0	46.5	42.6	73.1	45.0
49.3	50.3	47.0	35.5	48.1	40.2	38.1	37.5	40.6	68.4	43.5
48.6	51.9	46.0	36.3	44.0	40.2	40.9	36.6	41.2	65.5	40.0
50.3	52.3	48.8	39.0	43.9	41.3	42.7	38.8	42.1	69.2	46.9

YIELD RANK

6	1	3	5	7	3	6	3	2	1	6
7	7	7	4	2	7	2	1	6	6	4
1	1	1	1	3	2	3	4	1	3	3
4	5	6	3	4	6	1	2	3	2	2
3	6	4	7	1	4	7	6	6	5	5
5	4	5	6	5	4	5	7	5	7	7
1	3	2	1	6	1	4	5	4	4	1