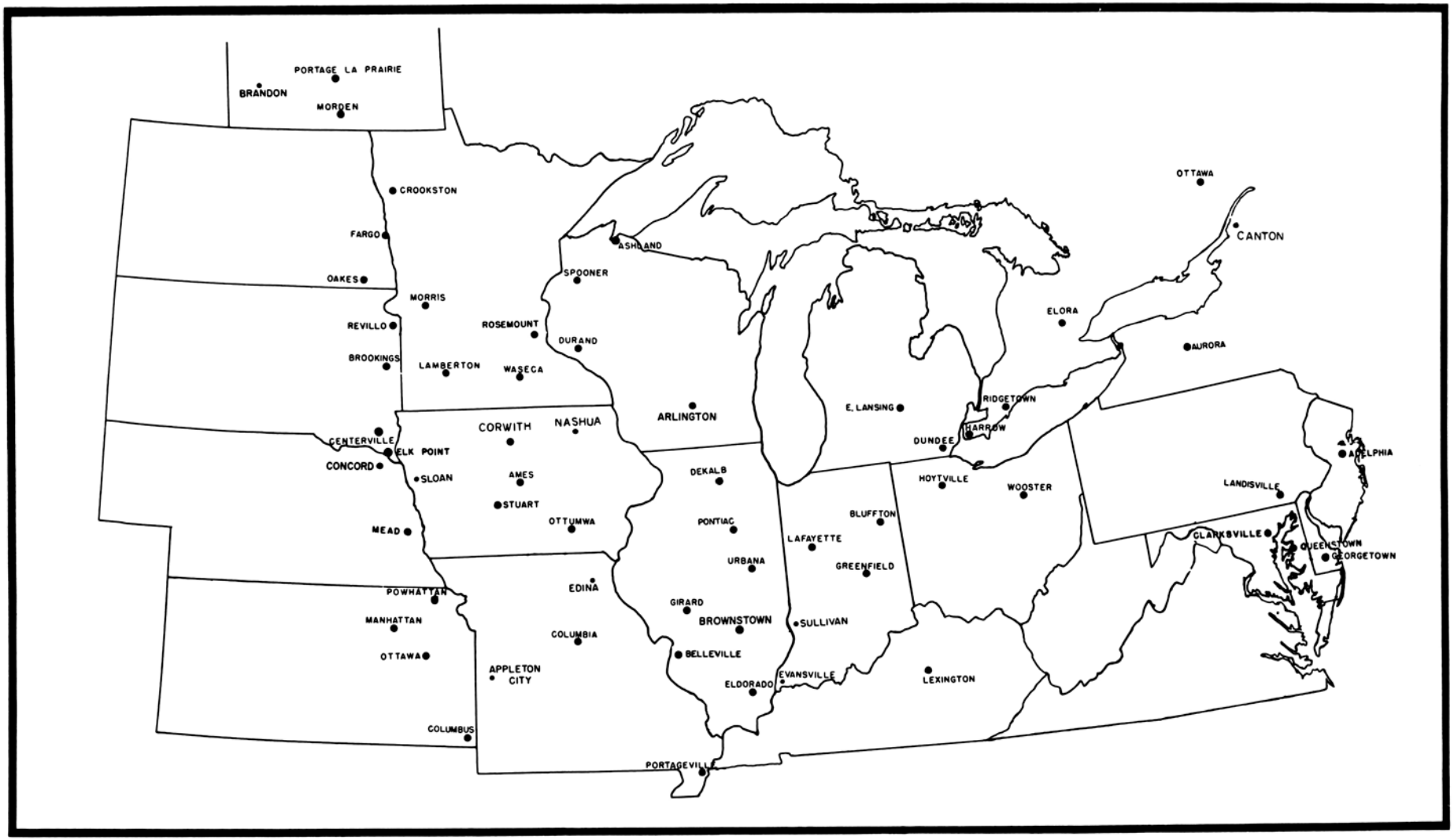

LOCATIONS OF UNIFORM SOYBEAN TESTS, NORTHERN STATES, 1976

THE UNIFORM SOYBEAN TESTS

NORTHERN STATES

1976

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INTRODUCTION

The purpose of the Uniform Soybean Tests is to critically evaluate the best of the experimental soybean lines developed by federal and state research personnel in the U.S. and Canada, for their potential as new varieties.

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 6.

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STRAIN DESIGNATION

Experimental (i.e., unreleased) strains are identified by a number with a code letter prefix. The code letters have been agreed upon in meetings of experiment station agronomists cooperating with the U.S. Regional Soybean Laboratory. They indicate the location of the originating agencies as follows:

A	Iowa A.E.S.
Ar	Arizona A.E.S.
Au	Alabama A.E.S.
B	California
C	Purdue (Indiana) A.E.S.
CM	Canada Dept. of Agriculture, Morden, Manitoba
D	Mississippi A.E.S.
E	Michigan A.E.S.
F	Florida A.E.S.
FC	Forage and Range Research Branch, U.S.D.A.
Ga	Georgia A.E.S.
H	Ohio A.R.D.C.
K	Kansas A.E.S.
L	Illinois A.E.S.
La	Louisiana A.E.S.
M	Minnesota A.E.S.
Md	Maryland A.E.S.
Me	Maine A.E.S.
N	North Carolina A.E.S.
ND	North Dakota A.E.S.
O	Central Experiment Farm, Ottawa, Ontario
O	Research Station, Harrow, Ontario
OAC	University of Guelph, Guelph, Ontario
Ok	Oklahoma A.E.S.
PI	Plant Introduction, Germplasm Resources Laboratory, U.S.D.A., Beltsville, Md.
R	Arkansas A.E.S.
S	Missouri A.E.S.
SC	South Carolina A.E.S.
SD	South Dakota A.E.S.
SL	Two or more states cooperatively
Ts	Texas A.E.S.
T	Soybean Genetic Type Collection, U.S.R.L.
U	Nebraska A.E.S.
UD	Delaware A.E.S.
UM	University of Manitoba, Winnipeg, Manitoba
UT	Tennessee A.E.S.
V	Virginia A.E.S.
W	Wisconsin A.E.S.

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. Wide rows are desirable where unusually narrow (under 30 inch) row spacing is used. Usually 18 to 20 feet of row are planted and 16 feet harvested, to eliminate end-of-row effects. Seeds are packeted at approximately [illegible] seeds per packet for each row.

Parentage. Parentage of the common varieties are identified on page 12.

Generation Composited is the generation of the final single-plant selection in which the line is composited.

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 .6795; 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 determining maturity. Maturity is expressed as days earlier (-) or later (+) than the average date of the reference variety. To aid in maturity group classification, the earlier and one later "tie" variety are given on the maturity table for each test. 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	-7 to +2		Clay (0)
0	Evans	-5 to +3	Altona (00)	Hodgson (I)
I	Hodgson	-3 to +5	Evans (0)	Corsoy (II)
II	Corsoy	-3 to +5	Hodgson (I)	Woodworth (III)
III	Woodworth	-4 to +4	Corsoy (II)	Cutler 71 (IV)
IV	Cutler 71	-4 to +7	Williams (III)	Essex (V)

These maturity group ranges are based on a part-time means over many locations. When using data from other environments, the interval between reference varieties may vary, and the division between maturity groups should 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 or 20% 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 cost (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 (i.e. weight per seed) in grams per 100 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 sample 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 and oil percentages are measured using Infrared reflectance.

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
2 1% to 10% shattered
3 10% to 25% shattered
4 25% to 50% shattered
5 Over 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 by germination at 25°C (a critical temperature for differentiating strains). Four replications of 25 seeds/entry are planted in a 5-inch plastic pot, at a 4 1/2 inch depth in sand. Only the seedlings which have emerged by 12 days after planting are counted. Emergence score in relation to % of seeds which germinate and emerge are as follows:

1 $\geq$ 85% 2 = 70 - 84% 3 = 45 - 69% 4 = 20 - 44% 5 = 0 - 19%

Disease reactions are listed according to "Soybean Disease Survey Standards", March 1960, unless otherwise specified. Disease reaction is scored from 1 (no disease) to 5 (very severe), or in some cases as percent infected or simply as + (present) or o (absent). Purple seed stain and seed mottling follow the disease severity class rating:

Disease severity class rating	1	2	3	4	5
Number of diseased seed in sample	0	1-3%	4-8%	9-19%	20-100%

An additional classification to describe the extent of seedcoat mottling as M (mild), E (extensive), or S (severe), is included. Pod and stem blight is rated as percent of infected seed on a four-week delayed harvest sample. 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 planting 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 & stem blight	Diaporthe phaseolorum var. sojae
Pyd	Pythium root rot	Pythium debaryanum
Pyu	Pythium root rot	Pythium ultimum
RK	Root knot nematode	Meloidogyne spp.
RR	Rhizoctonia root rot	Rhizoctonia solani
SB	Sclerotial blight	Sclerotium rolfsii
SC	Stem canker	Diaporthe phaseolorum var. caulivora
SMV	Soybean mosaic	Soja virus 1
TS	Target spot	Corynespora cassiicola
WF	Wildfire	Pseudomonas tabaci
YMV	Yellow mosaic	Phaseolus virus 2

Ratings for BB, BP, BS, DM, FE_2, and PM were based on leaf symptoms; those for BSR on percent of plants with stem browning, or percent of stem length browned, and those for PR on seedling rotting and/or stunting. Tolerance ratings with PR races 1 and 3 present are: 1=none-trace dead plants; 2=up to 2% dead plants, no stunting or chlorosis; 3=up to 10% dead plants, slight stunting or chlorosis; 4=up to 50% dead plants, moderate stunting and chlorosis; 5=over 50% dead plants, severe stunting and chlorosis.

Location*		Tests Conducted by	Uniform Tests						Preliminary Tests			
			00	0	I	II	III	IV	I	II	III	IV
N. Y.	Aurora	M. J. Wright		X								
	Canton	M. J. Wright		X								
Pa.	Landisville	J. O. Yocum				X	X	X				
N. J.	Adelphia	J. R. Justin				X	X	X		X		
Del.	Georgetown I	E. L. Wisk					X	X				X
Md.	Clarksville	W. J. Kenworthy &				X	X	X			X	
	Queenstown	T. E. Devine						X				X
Ont.	Ottawa	J. F. Seitzer	X	X								
	Elnora I	W. Beversdorf & D. J. Hume	X	X								
	Ridgetown	D. A. Little Johns		X	X	X			X			
	Harrow	R. I. Buzzell			X	X				X		
Ohio	Hoytville	M. H. Neihaus &				X	X			X	X	
	Wooster	P. R. Martin				X	X					
Mich.	E. Lansing	T. J. Johnston		X	X	X			X			
	Dundee	T. J. Johnston			X	X				X		
Ind.	Bluffton	J. R. Wilcox &				X	X					
	Lafayette	R. J. Martin			X	X	X	X		X	X	
	Greenfield	R. J. Martin				X						
	Sullivan	R. J. Martin					X	X				X
	Evansville	R. J. Martin						X				
Ky.	Lexington	D. A. Reicosky					X	X				X
Wisc.	Arlington	E. T. Gritton			X	X			X	X		
	Ashland	E. T. Gritton	X									
	Spooner I	E. T. Gritton		X								
	Durand	E. T. Gritton		X	X							
ILL.	DeKalb	R. L. Cooper			X	X			X			
	Pontiac	R. L. Cooper			X	X						
	Urbana	R. L. Cooper								X		
	Urbana	R. L. Bernard				X	X				X	
	Girard	R. L. Bernard				X	X					
	Brownstown	R. L. Bernard				X	X	X				
	Belleville	R. L. Bernard					X	X				
	Eldorado	R. L. Bernard					X	X				X
Minn.	Crookston	J. W. Lambert	X									
	Morris+	J. W. Lambert	O	O								
	Rosemount I	J. W. Lambert	X	X								
	Lamberton+	J. W. Lambert			O	O			O			
	Waseca	J. W. Lambert			X	X			X			
Iowa	Corwith	W. R. Fehr & R. Mqdden			X				X			
	Nashua	W. R. Fehr & R. Mqdden			X				X			
	Ames	W. R. Fehr & J. Bahrenfus				X				X		
	Sloan	W. R. Fehr & J. Bahrenfus				X				X		
	Stuart	W. R. Fehr & R. Clark					X	X			X	X
	Ottumwa	W. R. Fehr & R. Clark					X	X			X	X

Location*		Tests Conducted by	Uniform Tests 00	0	I	II	III	IV	Preliminary Tests I	II	III	IV
Mo.	Edina	V. D. Ludders				X	X	X				
	Columbia I	V. D. Ludders				X	X	X			X	X
	Appleton City	V. D. Ludders						X				
	Portageville A (Loan I)	J. G. Shannon						X				X
	Portageville B (Clay)	J. G. Shannon						X				
Man.	Portage la Prairie	J. E. Giesbrecht	X									
	Morden	J. E. Giesbrecht	X									
	Brandon	R. I. Hamilton	X									
N.D.	Fargo	D. A. Whited	X	X								
	Oakes I	D. A. Whited			0							
S.D.	Revillo	A. O. Lunden		0	0							
	Brookings	A. O. Lunden			X	X			X			
	Centerville	A. O. Lunden				X				X		
	Elk Point	A. O. Lunden					X				X	
Neb.	Mead I	J. H. Williams			X	X	X	X		X	X	
	Concord	J. H. Williams				X						
Kan.	Powhattan	C. D. Nickell					X	X				
	Manhattan I	C. D. Nickell					X	X			X	X
	Ottawa	C. D. Nickell						X				
	Columbus	C. D. Nickell						X				
Tex.	Lubbock I	R. D. Brigham						X				
No. Locations with agronomic data (X, X)			9	10	14	27	23	25	8	11	10	10
No. with seed composition data (X)			6	4	7	11	14	11	4	4	5	7

		1976 Disease and Shattering Tests		U.T.	P.T.
Ont.	Harrow	Peroxidase, Fluorescent Light	R. I. Buzzell	00-IV	---
Ind.	Lafayette	BB, FE_2, BSR, PR	F. A. Laviolette & K. L. Athow	00-IV	I-IV
	Lafayette	PSB, PS, SMV	T. S. Abney & T. L. Richards	00-IV	---
Ohio	Vickery	PR (Tolerance Rating)	A. F. Schmitthenner	I-IV	I-IV
Iowa	Ames	BSR, PR	H. Tachibana	00-IV	I-IV
		Chlorosis	W. R. Fehr	00-IV	I-IV
		Emergence	& R. Madden	00-IV	---
Kansas	Manhattan	Shattering	C. D. Nickell	00-IV	I-IV
Texas	Lubbock	Shattering	R. D. Brigham	III-IV	---

* I = Irrigation
\+ 0 = No data due to environmental reasons

Strain	Parentage or Source	Uniform Testing
A-100	Unknown	62-67 I, 62 II
Kent-Rps rxp (SL5)	(Kent[7] x L49-4196)x(Kent[8] x Mukden) BP & PR resistant	65 IV
Wayne r Rpm Rps (SL11)	Wayne I r Rps x (Wayne[10] x Kanrich)	72-74 III
Wayne I r Rpm Rps (SL12)	Wayne I r Rps x (Wayne[10] x Kanrich)	71 PIII
Wayne Rps (L15)	Wayne[6] x Clark 63	67-68 III
II-54-139	Renville x Capital	---
II-54-240	(Lincoln[2] x Richland) x Korean	---
II-61-65	Merit x (Acme x Hardome)	---
II-62-101	Merit x M406	---
A59-850	A50-6838 (Ottawa Mandrin x Kanro) x A50-7537 (Richland x Jogun)	---
AP6	40 lines intermated three times	---
AP68-315	Clark[5] x PI 84.946-2	---
AP68-1016	Clark[5] x PI 84.946-2	---
AP68-1216	Clark[5] x PI 84.946-2	---
AX56P64-1	Progenitor of Amsoy	61-63 II
C143	P170.218-2-6-7 Introduction from Manchuria	---
C799	C143 x Lincoln	50 PIV
C985	Lincoln x Ogden	51-56 IV
C1069	Lincoln x Ogden	54-58 IV
C1079	Lincoln x Ogden From same F_3 plants as Kent	54-56 IV
C1253	Blackhawk x Harosoy, PR resistant	64 PII
C1266R	Harosoy x C1079	62-63 IV
C1278	C1069 x Clark (Cutler)	63-66 IV
C1421	Adelphia[8] x Mukden	66 III
C1426	C1253 x Kent	67-69 II
C1430	C1253 x Kent	66 PII
C1432	C1253 x Kent	66 PII
C1453	C1266R x C1253	68-70 II
C1471	C1266R x C1253	69 III
C1476	C1266R x C1253	69 III
C1477	Amsoy[8] x C1253	68 II
C1488	Mukden x C1253	---
CX 198-H38	Perry x Monroe	---
CX 282-H14	Mukden x Mandarin (Ott.)	---
CX407BC7-255	Amsoy[8] x C1253	---
CX407BC7-326	Amsoy[8] x C1253	69 II
CX414-152	Cutler x SL5	---
D49-2491	S100 x CNS (Sib of Lee)	52-53 VI
D56-1185	Perry x Lee	---
D63-6100	Hill[4] x PI 171.442	---
D64-3077	D49-2491[5] x Hawkeye	66 P IVS
D64-3146	D49-2491[5] x Hawkeye	66-67 IVS
D66-12392	D63-6100 x Dyer	67 P IV
FC33.243	Rogue in Lincoln	49 III, 50 IV
Haberlandt	PI 6396 (Korea)	---
IVR Ex212	Corsoy x {Provar x (A59-850 x Magna)}	---
IVR Ex 4426	Amsoy x Wayne	

Strain	Parentage of Source	Uniform Testing
IVR Ex4731	Amsoy x Wayne	
IVR Ex5003	Provar x (AX56P64-1 x P191.110-1)	
L6	(Clark^6 x L49-4091) x (Clark^8 x Blackhawk) PR & BS Resistant	62 IV
L46-1503	Lincoln^2 x Richland	49-50 III
L49-4091	(F_3 Lincoln^2 x Richland) x (F_1 Lincoln x CNS)	51 IV 52-53 III
L49-4196	"	51 IV
L57-0034	Clark x Adams	60-61 IV
L62-344	Harosoy^6 x T117	64 PII
L62-1251	Clark^6 x T117; Dt_2 - Semideterminate	65 IV
L62-1926	Clark-e_2(early) from Clark^6 x T245	---
L63-0007-1	Harosoy^2 x PI84.946-2	
L63-0007-2	Harosoy^2 x PI84.946-2	
L63-0007-3	Harosoy^2 x PI84.946-2	
L63-0007-4	Harosoy^2 x PI84.946-2	
L63-0096-1	Clark^2 x PI84.946-2	
L63-1397	Harosoy^6 x T207; Dt_2 - Semideterminate	66II
L65-1342	Wayne^2 x Clark-e_2 (L62-1926)	69-70 I
L66-1359	Wayne x L57-0034	70-74 IV
L66L-137	Wayne x L57-0034	70 III
L66L-140	Wayne x L57-0034	69-70 III
L66L-144	Wayne x L57-0034	70-71 IV
L66L-154	Wayne x L57-0034	69-70 III
L67-533	Clark^6 x Higan	70 PIII
L69-5347	(Clark 63 Ir Im) = L12^{6}xHawkeye	
L69L-3	Clark dt_1 E_1 t e_2 x Harosoy dt_1	---
M10	Lincoln^2 x Richland	49-51 I
M59-120	II-54-240 x II-54-139	60-70 I
M61-20	Merit x Comit	74 PO
M61-96	Merit x Harosoy	70-71 O
M62-263	Grant x M319W	71-72 I
M62-275	Norchief x Harosoy	71 I
M63-17	M402 x M406	71 I
M319	Lincoln x Hawkeye	58-61 I
M402	Renville x Capital	63-64 II
M406	Harosoy x Norchief	64-65 O
M433	Acme x Chippewa	64 O, 65 OO
N44-92	Haberlandt x Ogden	---
N45-2994	Amsoy x Ogden	---
N48-1867	Roanoke x N45-745	---
N55-3818	(N45-2994 x Ogden) x (N44-92 x N48-1867)	PVI 57
N55-5931	Roanoke x D49-2491	VII 58
O-52-903	Strain 753-1 from Suan A. Holmberg, Norrkoping, Sweden, same as PII94.654 from Pagoda-2 x Fiskeby III	---

Strain	Parentage of Source	Uniform Testing
OX383	Corsoy x Harosoy 63	70 PII
PI84.946-2	Rogue in PI84.946 introduced from Korea in 1930. Somewhat resistant to BSR	66 PIV
PI91.110-1	From Manchuria, China in 1931	---
PII80.501	Strain No. 18 from Frankfurt, Germany, in 1949; from a Manchurian strain X PI54.616	---
S100	Rogue in Illini	
840-7-3	(Typ XX Stam X Namikawa (Sachalin)) x Muncheberg 680 + 993 + 994; Introduction from Holmberg, Sweden.	
827-4	Introduction from Holmberg, Sweden, Pedegree unknown.	

Strain	Parentage	Previous Testing*	Generation Composited
1. Altona	0-5[illegible]-903 (Holmberg 753-1) x Flambeau	12	F_5
2. Portage	Acme x Comet	16	F_5
3. CM147	Acme x Blackhawk	1	F_8
4. M65-217	M433 (Acme x Chippewa) x Hark	3	F_5
5. M68-201	Evans x Steele	-	F_5
6. M68-202	Evans x Steele	-	F_5
7. M69-14	Merit x Clay	-	F_5
8. 073-5	O. Mandarin x 827.4	-	F_8

*Number of years in this test.

Regional data for the past four years shows that M65-217 is 1 day earlier in maturity, more lodging resistant, and is higher yielding than Altona by 3 bushels. However, it is susceptible to phytophthora root rot.

The four new entries in the test, M68-201, M68-202, M69-14 and 073-5 show no district superiority to Altona in yield, however the three M strains have good shattering resistance.

Disease Data

Strain	BB Laf. Ind. n	FE_2 Laf. Ind. a	BSR Laf. Ind. Ames Iowa n %	BSR Ames Iowa n% Stem	BSR Ames Iowa n% Plants	PSB Laf. Ind. d	PS Laf. Ind. a	SMV Laf. Ind. a seed	PR Laf. Ind. a	PR Ames Iowa a
Altona	2	4	20	50	90	3	5	5E	R	R
Portage	2	5	40	41	60	4	4	5E	S	S
CM147	4	5	60	48	80	4	4	5	R	R
M65-217	3	4	50	40	70	4	4	5E	S	S
M68-201	4	5	10	46	90	2	4	3M	R	R
M68-202	4	5	0	47	80	4	4	3M	R	R
M69-14	5	5	60	45	100	2	5	1	R	R
073-5	5	3	10	40	90	2	4	5E	S	S

Descriptive and Other Data

Strain	Descriptive Code		Chlorosis Ames Iowa	Fluorescent Light	Emergence	Peroxidase	Shattering Manhattan Kansas
Altona	PTNBr	SYBl	3	E	1	H	3.0
Portage	PGNBr	D+SYY	3	E	1	H	5.0
CM147	PGNBr	DYG	4	E	1	H	5.0
M65-217	PGNBr	DYY	3	E	1	H	1.5
M68-201	PGNBr	DYY	5	E	1	H	1.5
M68-202	WGNBr	DYY	3	E	1	H	2.0
M69-14	WGNBr	DYY	2	E	1	L	1.5
073-5	PTNBr	DYBf	4	E	1	H	4.0

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
				1976					
No. of Tests	8	8	8	8	7	9	9	6	6
Altona	34.5	3	+5.0	1.6	28	2.2	18.1	41.3	18.7
Portage	29.2	8	9-7.8†	1.3	27	2.4	17.1	39.7	19.2
CM147	33.2	4	+5.9	1.4	27	2.3	18.9	40.2	18.8
M65-217	36.6	1	+3.4	1.3	28	2.1	15.2	40.1	19.4
M68-201	34.8	2	+9.0	1.5	29	2.3	15.3	41.2	19.5
M68-202	33.2	4	+12.1	1.8	33	2.4	13.6	39.7	20.1
M69-14	31.6	6	+9.6	1.7	30	2.5	14.3	40.0	20.2
073-5	29.6	7	-2.0	1.3	20	2.7	18.3	38.6	20.0

† 109 days after planting

1975-1976, 2-YEAR MEAN

No. of Tests	19	19	17	18	18	19	20	13	13
Altona	32.1	2	+4.3	1.7	29	2.3	17.7	40.5	19.0
Portage	28.7	4	9-6.5†	1.2	28	2.4	17.1	39.4	19.4
CM 147	31.4	3	+3.6	1.4	28	2.1	18.7	40.2	19.0
M65-217	34.5	1	+3.2	1.3	29	2.0	15.0	39.2	19.7

† 108 days after planting

1973-1976, 4-YEAR MEAN

No. of Tests	36	36	33	34	35	36	36	24	24
Altona	33.5	2	+5.3	2.1	28	2.4	18.3	41.2	19.3
Portage	30.3	3	9-6.5†	1.3	27	2.4	17.8	40.0	19.7
M65-217	36.4	1	+4.5	1.5	29	2.0	15.4	39.9	19.8

† 107 days after planting

Strain	Mean	Ontario Ottawa	Ontario Elora I	Wisconsin Ashland	Minnesota Crookston	Minnesota Rosemount I	Manitoba Portage la Prairie	Manitoba Morden	Manitoba Brandon	N. Dakota Fargo
	8 Tests				1976 YIELD (bu/A)					
Altona	34.5	55.0	43.3	33.8	12.2 *	36.9	33.6	25.6	28.4	19.2
Portage	29.2	46.6	38.8	27.7	9.2	30.0	29.5	21.7	23.7	16.0
CM147	33.2	57.1	41.3	27.7	11.3	34.5	35.1	22.3	29.6	18.1
M65-217	36.6	54.0	45.2	33.0	14.4	40.6	36.8	30.4	32.2	20.5
M68-201	34.8	56.8	43.3	31.5	7.7	39.4	38.0	21.6	28.4	19.7
M68-202	33.2	54.7	44.0	31.5	8.5	44.5	38.3	14.3	18.6	19.3
M69-14	31.6	50.9	41.5	33.7	8.2	37.3	27.8	19.1	22.4	20.3
073-5	29.6	51.7	36.2	28.1	5.7	29.0	30.2	23.9	23.1	14.8
C.V.(%)		7.8	8.3	11.5	28.5	7.7	10.1	12.3	15.1	10.1
L.S.D.(5%)		5.0	5.1	5.2	4.8	5.0	5.0	4.0	6.8	2.8
Row sp(in.)		10	12	24	22	30	30	30	9	30
Rows/plot		4	4	3	4	4	3	3	4	3
Reps		4	4	4	3	3	4	4	3	4
					YIELD RANK					
Altona	3	3	3	1	2	5	5	2	3	5
Portage	8	8	7	7	4	7	7	5	5	7
CM147	4	1	6	7	3	6	4	4	2	6
M65-217	1	5	1	3	1	2	3	1	1	1
M68-201	2	2	3	4	7	3	2	6	4	3
M68-202	4	4	2	4	5	1	1	8	8	4
M69-14	6	7	5	2	6	4	8	7	7	2
073-5	7	6	8	6	8	8	6	3	6	8
	19 Tests				1975-1976, 2-YEAR MEAN YIELD					
Altona	32.1	44.7	42.7	29.0	19.8	34.9	38.0	25.2	22.8	24.8
Portage	28.7	40.4	39.6	25.6	15.3	30.5	32.6	25.2	22.6	21.0
CM147	31.4	47.4	43.4	26.1	17.2	32.5	36.6	25.7	25.8	23.4
M65-217	34.5	44.5	45.4	30.0	22.8	36.5	41.8	30.0	27.4	25.9
					YIELD RANK					
Altona	2	2	3	2	2	2	2	2	3	2
Portage	4	4	4	4	4	4	4	3	4	4
CM 147	3	1	2	3	3	3	3	2	2	3
M65-217	1	2	1	1	1	1	1	1	1	1
	36 Tests			74-76	1973-1976 4-YEAR MEAN YIELD				74-76	73,75-76
Altona	33.5	45.8	37.8	28.5	23.6	35.0	39.8	30.8	21.5	25.8
Portage	30.3	40.8	36.5	25.9	21.0	30.7	35.2	28.8	21.2	22.1
M65-217	36.4	48.4	41.5	31.7	26.2	38.4	42.7	33.0	25.7	27.0
					YIELD RANK					
Altona	2	2	2	2	2	2	2	2	2	2
Portage	3	3	3	3	3	3	3	3	3	3
M65-217	1	1	1	1	1	1	1	1	1	1

* Not included in the mean

Strain	Mean	Ontario Ottawa	Ontario Elora I	Wisconsin Ashland	Minnesota Crookston	Minnesota Rosemount I	Manitoba Portage la Prairie	Manitoba Brandon	N. Dakota Fargo
	8 Tests			MATURITY (relative date)					
Altona	+5.0	+5	+6	+4	+4	+1	+11	+4	+5
Portage†	9-7.8	9-20	9-10	9-7	9-9	8-24	9-8	9-20	8-26
CM 147	+5.9	+6	+5	+3	+8	+6	+12	+2	+5
M65-217	+3.4	0	+5	+3	+3	+5	+1	+4	+6
M68-201	+9.0	+8	+12	+8	+9	+10	+10	+6	+9
M68-202	+12.1	+12	+16	+12	+10	+12	+13	+12	+10
M69-14	+9.6	+5	+16	+8	+7	+10	+13	+8	+10
073-5	-2.0	-5	+1	-2	+7	-3	-4	-4	-6
Clay (0)	-10	+6	+16	+14	+6	+9	-	-	+10
Date planted	5-22	5-26	5-19	5-19	5-26	5-17	5-28	5-21	5-18
† Days to Mat.	109	117	114	111	106	99	103	122	100
	8 Tests			LODGING (Score)					
Altona	1.6	1.3	1.5	2.0	1.0	2.7	1.3	2.0	1.0
Portage	1.3	1.0	1.3	1.2	1.0	2.0	1.0	2.0	1.0
CM 147	1.4	1.0	1.5	1.2	1.0	2.3	1.0	2.0	1.0
M65-217	1.3	1.0	1.5	1.2	1.0	2.0	1.0	2.0	1.0
M68-201	1.5	1.3	2.0	1.0	1.0	2.0	1.0	3.0	1.0
M68-202	1.8	1.5	2.3	1.5	1.0	2.0	1.0	4.0	1.0
M69-14	1.7	1.5	1.9	1.0	1.0	2.0	1.0	4.0	1.0
073-5	1.3	1.0	1.4	1.2	1.0	1.7	1.0	2.0	1.0
	7 Tests			PLANT HEIGHT (inches)					
Altona	28	35	29	24		29	29	27	26
Portage	27	29	27	21		25	27	29	28
CM 147	27	34	27	23		25	27	24	28
M65-217	28	34	28	23		26	28	30	30
M68-201	29	34	29	23		26	67	35	27
M68-202	33	39	34	28		30	32	37	32
M69-14	30	35	31	25		27	31	32	28
073-5	20	24	20	19		17	19	19	24

Strain	Mean	Ontario		Wisconsin	Minnesota		Manitoba		N. Dakota	
		Ottawa	Elora I	Ashland	Crookston	Rosemount I	Portage la Prairie	Morden	Brandon	Fargo
	9 Tests			SEED QUALITY (score)						
Altona	2.2	1.0	3.0	3.5	3.0	2.0	1.0	2.0	2.0	2.0
Portage	2.4	3.0	3.0	3.2	3.0	2.0	1.5	2.0	2.0	2.0
CM147	2.3	2.0	3.0	3.8	3.0	2.0	1.5	2.0	2.0	1.0
M65-217	2.1	2.0	2.5	3.0	3.0	2.0	1.0	2.0	2.0	1.0
M68-201	2.3	1.0	3.5	3.2	2.7	2.0	1.0	2.5	4.0	1.0
M68-202	2.4	1.0	3.0	3.0	3.0	1.7	1.0	3.3	5.0	1.0
M69-14	2.5	2.0	3.0	2.8	3.0	2.0	1.5	3.5	4.0	1.0
073-5	2.7	2.0	2.0	4.0	3.3	2.3	2.0	2.6	3.0	3.0
	9 Tests			SEED SIZE (g/100)						
Altona	18.1	22.0	18.6	16.7	14.4	16.7	20.7	22.4	16.7	15.1
Portage	17.1	20.3	16.6	15.2	13.9	17.4	19.0	21.3	15.2	14.6
CM147	18.9	22.0	18.6	18.2	16.5	19.6	19.9	22.3	17.2	16.1
M65-217	15.2	17.8	14.6	13.7	12.2	15.0	17.2	19.6	14.3	12.5
M68-201	15.3	20.3	14.5	12.8	10.2	15.2	17.9	20.3	14.1	12.0
M68-202	13.6	16.0	13.0	11.5	9.5	14.4	16.0	18.6	12.1	11.3
M69-14	14.3	19.0	14.0	11.8	10.6	14.7	15.9	18.7	12.4	11.6
073-5	18.3	23.8	19.8	17.8	13.6	18.1	18.7	19.6	18.1	15.6
	6 Tests			PROTEIN (%)						
Altona	41.3	43.3	40.9		43.6	41.5			39.7	38.6
Portage	39.7	41.0	38.0		42.6	38.9			40.3	37.3
CM147	40.2	42.0	39.1		42.8	41.4			39.3	36.7
M65-217	40.1	42.7	41.1		42.9	39.5			38.7	35.9
M68-201	41.2	42.5	41.7		44.5	40.0			39.6	38.9
M68-202	39.7	41.8	40.7		43.5	38.7			38.1	35.6
M69-14	40.0	41.8	40.9		43.0	40.6			37.9	35.5
073-5	38.6	41.2	37.6		40.2	38.0			38.6	36.2
	6 Tests			OIL (%)						
Altona	18.7	17.2	18.0		17.9	20.4			18.1	20.5
Portage	19.2	18.8	19.3		18.0	20.7			17.7	20.8
CM147	18.8	17.3	17.9		17.9	19.9			18.5	21.2
M65-217	19.4	17.4	18.8		18.1	20.4			19.4	22.3
M68-201	19.5	18.2	19.0		17.3	21.7			19.3	21.4
M68-202	20.1	19.1	19.9		17.4	22.5			19.2	22.7
M69-14	20.2	18.3	19.5		19.1	21.3			19.9	23.3
073-5	20.0	18.6	18.4		19.5	22.3			19.1	22.1

Strain	Parentage	Previous Testing*	Generation Composited
1. Clay	Capital x Renville	9	F_5
2. Evans	Merit x Harosoy	6	"
3. Swift	II-54-240 x II-54-139	8	"
4. Grande (M65-295)	Anoka x Magna	2	"
5. M66-18	Clay x Altona	1	"
6. M66-30	Magna x M61-20 (Merit x Comet)	1	"
7. M67-45	Merit x Rampagne	PO	"
8. M67-65	Clay x M406 (Harosoy x Norchief)	PO	"
9. M68-176	Merit x Beeson	-	"
10. M68-213	II-62-101 (Merit x M406) x Steele	-	"
11. M68-223	Steele x Amsoy 71	-	"
12. M69-20	Merit x Clay	-	"
13. O73-15	Harosoy 63 x 840-7-3	-	F_7

* Number of years in this test or name of 1975 test.

The regional 3-year mean shows that Evans is higher yielding and has better seed quality than either Clay, Swift or Grande. The large-seeded variety Grande is 2 bushels lower yielding than Evans, 3 days later in maturity and is susceptible to phytophthora root rot.

The 2-year test data does not show any yield advantage for M66-18 or M66-30 over the check varieties. The entry M66-18 is 4 days earlier than Evans and has good lodging resistance and seed quality but is 4 bushels lower yielding than Evans.

None of the 7 new entries show any yield advantage over Evans. M68-65 and M68-176 are similar in yield and approximately 2 days later in maturity than Evans. M68-213 is 5 days earlier in maturity, and only 1.5 bushels lower yielding than Evans.

UNIFORM TEST O, 1976

Disease Data

	BB	FE_2	BSR			PSB	PS	SMV	PR	
	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa
	n	a	n %	n % Stem	n % Plants	d	a	a Seed	a	a
Clay	3	5	40	53	75	4	4	5E	S	S
Evans	4	5	60	45	90	4	5	3M	R	R
Swift	2	4	80	56	90	3	5	5E	S	S
Grande	3	3	80	55	95	3	3	4M	S	S
M66-18	5	5	30	49	80	4	5	4M	H	R
M66-30	5	5	30	52	90	4	5	3M	S	S
M67-45	4	5	10	58	100	4	5	4E	S	S
M67-65	3	5	10	39	85	5	5	5E	S	S
M68-176	2	5	20	38	85	4	5	5E	R	R
M68-213	5	5	50	39	75	4	5	1	R	R
M68-223	5	5	90	29	75	2	4	4M	R	R
M69-20	4	4	100	49	95	3	5	2M	R	R
073-15	2	3	40	36	65	2	4	5E	R	R

Descriptive and Other Data

Strain	Descriptive Code		Chlorosis Ames Iowa	Fluorescent Light	Emergence	Peroxidase	Shattering Manhattan Kansas
Clay	PGNBr	SYY	2	E	1	L + H	2.0
Evans	WGNBr	DYY	3	E + L	1	H	1.5
Swift	WTNBr	DYBl	2	E	1	H	3.0
Grande	PTNBr	DYTn	3	E	1	H	2.0
M66-18	PGNBr	SYBf	4	E	1	L	3.0
M66-30	PGNBr	DYY	5	E	1	L	2.0
M67-45	PGNBr	DYG	2	E	1	L	1.5
M67-65	PGNBr	DYY	4	E	1	H	1.0
M68-176	PGNTn	SYY	3	L	4	H	1.0
M68-213	PGNBr	DYY	4	E	1	L	2.0
M68-223	PGNBr	DYY	4	E	1	L	4.0
M69-20	WGNBr	DYY	3	E	1	L	1.0
073-15	PTNBr	DYBl	3	E	1	L	5.0

UNIFORM TEST O, 1976
Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
			1976						
No. of Tests	8	8	10	10	10	7	8	4	4
Clay	36.3	10	-4.4	1.4	24	2.6	17.3	40.5	20.4
Evans	39.1	1	9-18.4†	1.7	32	2.5	15.2	40.2	20.1
Swift	38.0	4	+2.1	2.3	35	2.5	15.6	39.0	19.6
Grande	36.4	9	+6.1	2.3	29	3.1	22.4	37.6	19.0
M66-18	34.4	12	-1.7	1.4	25	2.0	16.8	40.0	19.5
M66-30	36.6	8	+5.3	1.2	28	2.9	22.6	39.6	20.0
M67-45	36.8	7	+2.7	1.9	28	2.5	16.2	41.0	19.8
M67-65	38.1	3	+2.3	2.4	31	2.9	18.9	40.6	20.1
M68-176	38.6	2	+1.6	1.5	30	2.2	15.6	39.0	19.7
M68-213	37.6	5	-5.1	1.5	28	2.0	17.9	40.1	19.6
M68-223	37.1	6	+3.3	2.1	33	2.0	16.6	39.5	19.9
M69-20	34.5	11	+7.8	2.3	35	2.2	16.2	41.1	18.6
073-15	31.2	13	-8.0	1.5	30	2.3	17.2	40.1	20.3

† 118 days after planting

1975-1976, 2-YEAR MEAN

No. of Tests	17	17	18	18	18	14	17	10	10
Clay	34.6	6	-6.7	1.5	24	2.4	16.7	40.3	21.0
Evans	40.1	1	9-20.2†	2.0	32	2.1	15.6	39.4	20.9
Swift	37.2	4	+1.6	2.6	34	2.2	15.4	38.3	20.3
Grande	37.8	3	+3.8	2.3	29	2.7	22.0	37.6	19.3
M66-18	36.2	5	-4.4	1.6	25	1.9	16.7	40.2	20.2
M66-30	38.0	2	+3.9	1.5	28	2.4	21.5	39.7	20.4

† 121 days after planting

1974-1976, 3-YEAR MEAN

No. of Tests	25	25	25	26	26	19	23	15	15
Clay	33.6	4	-6.3	1.5	23	2.2	16.3	40.6	21.0
Evans	38.1	1	9-20.1†	1.9	31	1.9	15.3	39.6	20.9
Swift	35.6	3	+1.7	2.4	33	2.2	15.2	38.7	20.0
Grande	35.8	2	+3.4	2.1	28	2.7	21.4	37.9	19.1

† 122 days after planting

Strain	Mean	New York		Ontario		
		Canton	Aurora	Ottawa	Elora I	Ridgetown
	8 Tests	*	*	1976 YIELD (bu/a)		
Clay	36.3	16.7	35.5	60.8	43.5	44.0
Evans	39.1	20.4	38.9	72.4	47.4	47.5
Swift	38.0	21.4	42.3	65.3	41.4	51.3
Grande	36.4	20.8	44.7	59.5	34.5	50.4
M66-18	34.4	15.9	36.6	60.6	36.6	45.8
M66-30	36.6	23.1	54.0	55.7	39.9	51.7
M67-45	36.8	23.7	40.4	64.8	36.9	49.3
M67-65	38.1	22.3	43.4	66.6	40.1	53.9
M68-176	38.6	21.8	42.4	68.5	41.1	51.3
M68-213	37.6	18.7	36.6	64.5	41.6	47.8
M68-223	37.1	19.0	43.8	66.9	42.0	47.6
M69-20	34.5	21.3	44.1	55.3	32.3	48.2
073-15	31.2	21.2	36.5	58.6	44.2	41.3
CV%		14.0	6.6	11.0	13.4	5.9
LSD (5%)		4.1	1.2	8.3	7.4	4.1
Row sp (in.)		30	30	10	12	24
Rows/Plot		1	1	4	4	4
Reps.		4	4	4	4	4
		YIELD RANK				
Clay	10	12	12	8	3	12
Evans	1	9	9	1	1	10
Swift	4	5	7	5	6	3
Grande	9	8	2	10	12	5
M66-18	12	13	10	9	11	11
M66-30	8	2	1	12	9	2
M67-45	7	1	8	6	10	6
M67-65	3	3	5	4	8	1
M68-176	2	4	6	2	7	3
M68-213	5	11	10	7	5	8
M68-223	6	10	4	3	4	9
M69-20	11	6	3	13	13	7
073-15	13	7	11	11	2	13

*Not included in the mean.

Mich.	Wisconsin		Minnesota	N. Dakota
E. Lansing	Spooner I	Durand	Rose-mount I	Fargo
		1976 YIELD (bu/a)		
34.4	25.2	21.5	39.3	21.7
38.2	23.4	19.8	42.9	21.4
39.1	23.2	19.6	44.3	19.4
37.4	22.5	16.2	47.0	23.4
30.0	24.1	17.8	40.3	20.3
33.9	24.6	16.6	51.1	19.1
38.3	22.5	21.3	39.2	21.8
36.4	25.4	16.3	43.9	21.9
40.6	21.7	16.9	50.2	18.9
38.5	25.9	20.4	39.9	22.0
38.0	24.6	18.3	38.7	20.5
40.1	21.2	18.1	42.1	18.4
39.2	10.2	20.3	34.1	1.7[a]
11.5	15.5	14.5	7.6	13.8
5.7	4.8	3.9	5.4	3.8
28	38	38	30	30
4	3	3	4	3
3	4	4	3	4
		YIELD RANK		
11	3	1	10	5
7	7	5	6	6
4	8	6	4	9
9	9	13	3	1
13	6	9	8	8
12	4	11	1	10
6	9	2	11	4
10	2	12	5	3
1	11	10	2	11
5	1	3	9	2
8	4	7	12	7
2	12	8	7	12
3	13	4	13	13

a. Shattered before harvest

Strain	Mean	New York Aurora	Ontario Elora I	Ontario Ridge-town	Mich. E. Lansing	Wisconsin Spooner I	Wisconsin Durard	Minnesota Rose-mount I	N. Dakota Fargo
	17 Tests		1975-1976 2-YEAR MEAN						
Clay	34.6	34.5	43.2	46.6		20.6	25.2	41.2	27.8
Evans	40.1	43.7	45.6	51.0		24.2	30.9	45.6	30.6
Swift	37.2	37.9	39.7	50.6		22.4	30.0	46.2	28.4
Grande	37.8	45.8	37.4	48.5		22.8	28.8	50.5	29.6
M66-18	36.2	41.2	40.2	50.2		21.3	25.0	44.8	28.2
M66-30	38.0	45.8	41.4	52.4		23.5	29.8	53.2	25.4
			YIELD RANK						
Clay	6	6	2	6		6	5	6	5
Evans	1	3	1	2		1	1	4	1
Swift	4	5	5	3		4	2	3	3
Grande	3	1	6	5		3	4	2	2
M66-18	5	4	4	4		5	6	5	4
M66-30	2	1	3	1		2	3	1	6
	25 Tests		1974-1976, 3-YEAR MEAN						
Clay	33.6		37.8	46.0	31.7[a]	22.9	27.0	40.7	
Evans	38.1		39.7	50.5	37.9	26.2	30.2	44.0	
Swift	35.6		34.6	50.2	36.6	25.1	28.1	43.2	
Grande	35.8		31.8	48.4	36.6	25.4	29.1	45.1	
			YIELD RANK						
Clay	4		2	4	4	4	4	4	
Evan	1		1	1	1	1	1	2	
Swift	3		3	2	2	3	3	3	
Grande	2		4	3	2	2	2	1	

(a) 74, 76

Strain	Mean	New York		Ontario			Mich.	Wisc.		Mn.	N.D.
		Canton	Aurora	Ottawa	Elora I	Ridgetown	E.Lansing	Spooner I	Durand	Rosemnt I	Fargo
	10 Tests			MATURITY (relative date)							
Clay	- 4.4	- 5	- 3	- 3	-10	0	- 1	-10	- 5	- 5	- 2
Evans†	9-18.4	10-5	9-13	9-29	10-6	9-14	9-13	9-13	9-15	9-9	9-7
Swift	+ 2.1	- 5	+ 2	+ 1	- 1	+12	+ 2	- 3	0	+10	+ 3
Grande	+ 6.1	+ 6	+10	+14	+ 6	+ 3	+ 3	+ 1	+ 3	+ 9	+ 6
M66-18	- 1.7	- 2	0	- 2	- 4	- 1	- 1	- 7	+ 2	- 1	- 1
M66-30	+ 5.3	- 1	+11	+11	- 1	+ 5	+ 3	+ 5	+ 6	+ 7	+ 7
M67-45	+ 2.7	0	+10	+ 9	0	+ 3	+ 2	+ 2	- 1	+ 2	0
M67-65	+ 2.3	- 1	+ 6	+12	0	+ 3	+ 1	- 2	0	+ 4	0
M68- 176	+ 1.6	0	0	+10	- 1	+ 3	+ 1	- 4	0	+ 6	+ 1
M68-213	- 5.1	-16	- 3	- 1	-14	- 1	- 1	- 7	- 3	- 2	- 3
M68-223	+ 3.3	+ 1	+ 8	+12	- 1	+ 3	+ 3	0	+ 1	+ 5	+ 1
M69-20	+ 7.8	+ 6	+16	+20	+ 2	+10	+ 3	+ 4	+ 4	+12	+ 1
073-15	- 8.0	-21	- 3	-10	-19	- 3	+ 2	-12	- 3	- 5	- 6
Altona (00)	-10.3	-16		- 4	-20			-12	- 6	- 7	- 7
Hodgson (I)	+ 7.4	+ 2	+15			+13	+ 3	+ 6	+ 2	+11	
Date planted	5-24	6-3	5-25	5-26	5-19	5-21	5-25	5-18	6-2	5-17	5-18
†Days to mat.	118	124	111	126	140	116	111	118	105	115	112
	10 Tests			LODGING (score)							
Clay	1.4	1.0	1.0	2.5	1.5	1.3	1.0	2.2	1.0	2.0	1.0
Evans	1.7	1.0	1.0	2.0	2.6	1.8	1.5	2.0	1.0	2.7	1.0
Swift	2.3	1.0	2.0	4.0	3.5	2.5	2.5	2.0	1.5	3.0	1.0
Grande	2.3	1.0	1.0	3.0	5.0	1.8	2.5	3.2	1.2	3.0	1.0
M66-18	1.4	1.0	1.0	2.0	1.5	1.3	1.5	1.2	1.0	2.0	1.0
M66-30	1.2	1.0	1.0	1.5	1.4	1.0	1.0	1.2	1.0	2.3	1.0
M67-45	1.9	1.0	1.0	4.0	3.6	1.8	1.5	1.2	1.0	2.7	1.0
M67-65	2.4	1.0	2.0	4.5	4.3	2.5	2.5	2.5	1.2	3.0	1.0
M68-176	1.5	1.0	1.0	1.7	2.5	1.8	1.5	1.2	1.0	2.7	1.0
M68-213	1.5	1.0	1.0	2.2	1.8	1.8	1.5	1.5	1.0	2.0	1.0
M68-223	2.1	1.0	1.0	3.5	4.0	1.8	2.5	1.5	1.5	3.0	1.0
M69-20	2.3	1.0	1.0	4.5	4.4	1.8	3.5	2.0	1.2	3.0	1.0
073-15	1.5	1.0	1.0	2.0	1.1	1.0	2.5	1.8	2.0	2.0	1.0

Strain	Mean	New York		Ontario			Mich.	Wisconsin		MN	ND
		Canton	Aurora	Ottawa	Elora I	Ridge-town	E. Lansing	Sp. I	Dur-ard	Rose-mnt I	Fargo
	10 Tests			PLANT HEIGHT (inches)							
Clay	24	15	21	32	25	23	24	28	22	25	26
Evans	32	17	29	42	35	32	35	34	26	36	30
Swift	35	22	33	45	37	37	38	37	29	39	34
Grande	29	16	26	37	34	28	29	34	24	34	30
M66-18	25	14	21	35	28	25	25	28	22	30	26
M66-30	28	18	26	36	26	28	28	32	23	32	30
M67-45	28	18	26	37	31	30	28	32	24	31	28
M67-65	31	18	29	41	35	34	32	32	24	36	30
M68-176	30	16	27	43	31	29	32	32	25	39	31
M68-213	28	16	25	36	27	28	30	34	26	31	29
M68-223	33	17	31	42	34	30	36	38	30	37	34
M69-20	35	22	34	45	34	34	42	37	29	39	34
073-15	30	18	25	34	27	27	36	34	29	35	30
	7 Tests			SEED QUALITY (score)							
Clay	2.6			3.0	3.0	2.0		3.2	3.2	2.0	2.0
Evans	2.5			2.0	2.5	2.0		3.8	3.0	2.3	2.0
Swift	2.5			2.0	2.0	3.0		3.2	3.2	2.0	2.0
Grande	3.1			2.0	3.5	3.0		4.8	3.8	2.7	2.0
M66-18	2.0			1.0	1.0	2.0		3.2	3.5	2.0	1.0
M66-30	2.9			3.0	2.5	3.0		4.0	4.2	2.3	1.0
M67-45	2.5			2.0	2.5	2.0		3.0	3.0	2.0	3.0
M67-65	2.9			3.0	2.5	3.0		3.8	4.2	2.0	2.0
M68-176	2.2			2.0	3.0	1.0		3.5	3.2	1.7	1.0
M68-213	2.0			1.0	1.5	2.0		3.0	3.5	2.0	1.0
M68-223	2.0			1.0	1.0	2.0		3.0	2.8	2.0	1.0
M69-20	2.2			2.0	2.5	2.0		3.5	2.5	2.0	1.0
073-15	2.3			1.0	1.5	2.0		3.8	2.5	2.3	3.0
	8 Tests			SEED SIZE (g/100)							
Clay	17.3			21.7	15.9	18.7	22.0	16.4	14.5	16.9	12.4
Evans	15.2			20.2	14.5	16.2	16.7	14.7	12.8	15.3	11.1
Swift	15.6			21.0	13.3	16.9	19.0	14.4	12.4	16.7	11.3
Grande	22.4			30.5	21.6	24.2	27.7	19.9	17.5	22.1	15.7
M66-18	16.8			21.7	14.4	18.3	18.9	15.2	14.5	18.4	12.8
M66-30	22.6			27.2	20.0	23.2	28.2	22.6	19.8	22.3	17.6
M67-45	16.2			22.2	14.4	16.8	19.4	15.8	13.4	16.5	11.0
M67-65	18.9			24.7	17.4	21.2	21.7	19.2	15.3	19.0	12.9
M68-176	15.6			21.0	13.2	16.8	17.9	13.7	12.8	16.7	10.9
M68-213	17.5			21.5	15.4	18.1	21.6	16.3	15.9	18.6	12.9
M68-223	16.6			20.5	16.3	15.3	21.9	16.0	14.3	16.1	12.3
M69-20	16.2			21.0	14.8	16.4	18.8	15.8	13.7	17.3	11.5
073-15	17.2			22.0	17.4	18.5	19.9	16.7	15.1	16.1	12.0

Strain	Mean	Ontario Elora I	Wisconsin Spooner I	Minnesota Rose-mount I	N. Dakota Fargo
	4 Tests	PROTEIN (%)			
Clay	40.5	41.6	42.5	40.8	37.1
Evans	40.2	40.7	42.0	40.0	38.0
Swift	39.0	40.6	41.6	38.5	35.2
Grande	37.6	36.4	41.0	38.7	34.2
M66-18	40.0	40.9	42.6	39.2	37.4
M66-30	39.6	42.1	42.0	38.9	35.4
M67-45	41.0	42.8	43.0	41.5	36.8
M67-65	40.6	41.2	42.4	40.7	38.2
M68-176	39.0	40.1	42.4	38.6	35.1
M68-213	40.1	41.8	42.5	40.4	35.8
M68-223	39.5	40.7	42.0	39.0	36.4
M69-20	41.1	42.5	43.6	41.2	37.0
073-15	40.1	40.6	42.5	40.4	36.8
	4 Tests	OIL (%)			
Clay	20.4	19.0	19.2	20.7	22.6
Evans	20.1	19.0	18.8	21.2	21.3
Swift	19.6	17.2	18.4	20.4	22.3
Grande	19.0	16.5	17.6	20.4	21.7
M66-18	19.5	18.1	17.0	20.5	22.4
M66-30	20.0	17.8	18.2	20.5	23.6
M67-45	19.8	17.5	18.6	20.2	22.9
M67-65	20.1	17.9	19.0	20.9	22.5
M68-176	19.7	18.0	17.5	20.9	22.5
M68-213	19.6	17.5	17.8	19.7	23.3
M68-223	19.9	18.0	17.9	21.1	22.6
M69-20	18.6	16.4	16.9	18.9	22.4
073-15	20.3	19.2	18.5	20.9	22.7

Strain	Parentage	Previous Testing*	Generation Composited
1. Hark	Hawkeye x Harosoy	12	F_9
2. Harlon	Blackhawk x Harosoy 63	3	F_5
3. Hodgson	Corsoy x M372 (M10 x PI180.501)	4	"
4. Coles (A73-128)	Hark x (Provar x (Magna x Disoy))	1	"
5. A73-19068	IVR Ex5003 x Wells	1	F_4
6. A73-19084	IVR Ex5003 x Wells	1	F_4
7. A73-20059	IVR Ex5003 x L66L-144 (Wayne x L57-0034)	1	"
8. A74-101010	M63-17 (M402 x M406) x C1453	PI	"
9. A74-101035	C1426 (C1253 x Kent) x AP68-315	PI	"
10. A74-102011	M62-263 (Grant x M319W) x IVR Ex4426	PI	"
11. A74-102037	Wells x Wye	PI	"
12. A74-105021	L66L-137 (Wayne x L57-0034) x Calland	PI	"
13. A74-201006	Amsoy x (Provar x (Disoy x Magna))	PI	F_5
14. M67-68	Clay x Provar	PI	"
15. M68-48	Evans x M59-120 (II-54-240 x II-54-139)	1	"
16. M68-49	"	1	"

* Number of years in this test or name of 1975 test.

Regional data for the past four years shows that the variety Hodgson, which is 4 days earlier than Hark in maturity, is 2 bushels higher in yield. Harlon, which is phytophthora root rot resistant, is 4 days earlier in maturity than Hodgson, but is 4 bushels lower yielding than Hodgson.

During the past two years the strain A73-128 (Coles) showed a yield advantage of approximately 1 bushel over Hodgson. Coles is 4 days later than Hodgson in maturity, slightly more lodging susceptible, and has a higher protein but lower oil content than Hodgson. The strains A73-19084 and A73-20059 are similar in yield to Hodgson, and are 2 to 3 days later in maturity respectively than Hodgson. A73-19084 is resistant to phytophthora root rot. The other strains shows no advantage for any characteristic over Hodgson.

Hodgson is the highest yielding of all entries in this years regional test. The experimental strains in this years test are all very similar in yield but vary approximately 6 days in maturity. Two strains, A74-102011 and M67-68 have excellent shattering resistance.

Descriptive and Other Data

Strain	Descriptive Code		Chlorosis Ames Iowa	Fluorescent Light	Emergence	Peroxidase	Shattering Manhattan Kansas
Hark	PGNBr	DYY	5	L	1	H	4.0
Harlon	WGNBr	DYY	2	E	1	L	5.0
Hodgson	PGNBr	DYBf	4	L	5	H	5.0
Coles	PGNBr	DYY	3	L	1	H	4.0
A73-19068	PGNBr	DYDbf	4	L	5	H	3.0
A73-19084	PGNBr	DYIb	3	L	1	H	5.0
A73-20059	WTNBr	DYBl	3	L	1	H	3.0
A74-101010	WGNBr	SYY	2	L	2	H	5.0
A74-101035	PGNBr	SYY	3	L	1	H	5.0
A74-102011	PGNBr	DYBf	3	L	2	L	1.5
A74-102037	PGNBr	SYIb	4	L	1	L	4.0
A74-105021	WTNTn	DYBl	4	L	1	L	3.0
A74-201006	PGNTn	SYBf	3	E	5	H	5.0
M67-68	PGNBr	SYBf	3	L	1	L	1.0
M68-48	WGNBr	DYBf	3	E	1	L	5.0
M68-49	WGNBr	DYY	3	E + L	1	L	3.0

Disease Data

	BB	FE_2	BSR			PSB	PS	SMV	PR		
	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	n	a	n %	n % Stem	n % Plants	d	a	a Seed	a	a	n
Hark	2	2	70	38	85	3	4	5E	S	S	4
Harlon	3	5	100	52	95	4	5	1	R	R	5
Hodgson	4	5	60	39	95	4	5	2M	S	S	5
Coles	4	5	100	26	90	3	5	5E	S	S	4
A73-19068	5	5	80	37	95	4	4	5E	R	R	5
A73-19084	5	1	90	35	95	3	4	5E	R	R	5
A73-20059	5	5	100	50	90	4	3	5E	S	S	5
A74-101010	3	2	80	41	95	2	5	4M	S	S	5
A74-101035	3	4	40	16	65	2	4	5S	S	S	4
A74-102011	2	5	100	58	85	4	5	4E	S	S	4
A74-102037	2	1	80	57	100	4	4	5M	R	R	5
A74-105021	1	3	70	46	100	3	5	5E	R	R	4
A74-201006	3	4	70	49	100	3	5	5E	S	S	5
M67-68	4	5	100	54	100	4	5	4M	S	S	5
M68-48	4	5	100	50	90	3	5	1	R	R	5
M68-49	5	5	100	45	70	4	5	4E	R	R	5

UNIFORM TEST I, 1976
Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
				1976					
No. of Tests	13	13	13	13	14	11	13	7	7
Hark	39.4	14	+3.7	1.5	34	1.9	15.5	42.1	19.8
Harlon	36.9	16	-2.4	1.8	34	2.2	16.1	38.8	21.2
Hodgson	43.0	1	9-10.7†	1.6	31	1.8	15.6	39.1	21.6
Coles	40.4	7	+4.4	2.2	38	2.0	16.9	42.1	19.2
A73-19068	39.7	12	+3.9	1.6	30	2.3	14.7	40.8	20.7
A73-19084	40.3	9	+3.0	2.1	35	2.3	12.7	40.4	21.2
A73-20059	40.7	5	+3.8	1.7	29	2.1	15.2	40.2	21.1
A74-101010	41.8	2	+5.1	1.5	34	2.1	15.7	40.3	20.3
A74-101035	40.4	7	+4.1	1.6	35	2.2	17.9	40.4	20.6
A74-102011	40.9	3	+0.5	1.2	27	2.2	16.8	38.4	21.5
A74-102037	39.4	14	-0.5	1.2	27	2.2	13.8	40.5	21.1
A74-105021	40.6	6	+5.4	2.1	36	2.1	16.2	39.5	20.0
A74-201006	40.3	9	+1.5	1.5	29	2.6	20.2	39.5	20.2
M67-68	39.6	13	+1.4	1.4	27	2.4	21.1	41.5	20.9
M68-48	39.9	11	+1.9	1.4	30	2.3	18.4	39.2	21.4
M68-49	40.8	4	+0.8	1.6	29	2.2	18.4	38.8	22.1

† 113 days after planting

			1975-1976, 2-YEAR MEAN						
No. of Tests	30	30	30	30	32	25	30	15	15
Hark	40.1	6	+3.5	1.6	32	1.7	15.7	41.8	20.7
Harlon	36.1	8	-2.9	1.7	32	2.0	15.9	39.0	22.2
Hodgson	41.8	4	9-12.8†	1.5	30	1.7	15.9	39.2	22.3
Coles	42.6	1	+4.3	2.1	36	1.7	17.6	41.7	20.1
A73-19068	41.4	5	+3.4	1.6	29	2.4	15.6	40.9	21.1
A73-19084	42.2	2	+2.3	1.9	33	2.2	13.5	40.0	21.8
A73-20059	42.0	3	+3.0	1.8	28	1.9	16.1	40.4	21.6
M68-48	39.5	7	+3.4	1.5	28	2.2	18.9	39.3	21.9
M68-49	40.1	6	+0.2	1.6	27	2.0	18.9	38.9	23.1

† 117 days after planting

			1973-1976, 4-YEAR MEAN						
No. of Tests	61	61	57	63	64	51	60	32	32
Hark	39.1	2	+4.2	1.7	33	1.6	16.0	41.9	20.7
Harlon	36.7	3	-3.5	1.6	32	1.8	16.3	38.9	22.5
Hodgson	41.3	1	9-14.9†	1.6	31	1.6	16.4	39.2	22.5

† 118 days after planting

Strain	Mean	Ontario		Michigan		Indiana	Wisconsin	
		Ridge-town	Harrow	E. Lansing	Dundee	Lafay-ette	Arling-ton	Durard
	13 Tests	1976 YIELD (bu/a)						
Hark	39.4	55.8	34.1	37.5	34.5	46.4	45.0	14.7
Harlon	36.9	56.9	35.6	33.9	31.0	41.6	45.3	17.8
Hodgson	43.0	60.1	41.1	42.7	36.9	49.2	46.8	20.2
Coles	40.4	52.7	40.4	38.2	34.4	48.1	44.1	15.0
A73-19068	39.7	49.4	34.3	40.5	32.8	45.9	43.4	13.9
A73-19084	40.3	58.7	37.8	41.2	28.2	48.1	42.5	14.9
A73-20059	40.7	61.2	35.1	40.8	33.2	48.6	48.8	14.0
A74-101010	41.8	56.8	41.0	41.0	33.6	50.1	49.2	13.4
A74-101035	40.4	53.8	35.2	37.4	35.9	47.8	44.8	13.7
A74-102011	40.9	57.1	37.9	42.6	32.6	49.2	52.9	13.6
A74-102037	39.4	56.1	33.7	41.7	29.1	44.0	50.7	14.6
A74-105021	40.6	53.7	35.3	39.9	34.8	44.5	45.7	14.2
A74-201006	40.3	55.1	35.2	38.4	32.5	47.0	47.7	14.5
M67-68	39.6	56.2	36.3	41.2	32.9	46.3	46.1	14.4
M68-48	39.9	58.6	35.3	38.4	33.3	47.1	43.4	16.3
M68-49	40.8	59.9	39.1	42.6	31.6	42.9	49.9	18.1
CV%		6.8	10.5	9.6	9.4	5.0	10.2	13.2
LSD (5%)		3.8	NS	5.9	4.2	3.9	6.7	2.8
Row Sp (in.)		24	24	28	30	30	30	38
Rows/plot		4	4	4	4	3	3	3
Rep.		4	4	3	3	3	4	4
			YIELD RANK					
Hark	14	11	15	14	4	10	11	7
Harlon	16	7	8	16	14	16	10	3
Hodgson	1	2	1	1	1	2	7	1
Coles	7	15	3	13	5	5	13	5
A73-19068	12	16	14	9	10	12	14	13
A73-19084	9	4	6	5	16	5	16	6
A73-20059	5	1	13	8	8	4	5	12
A74-101010	2	8	2	7	6	1	4	16
A74-101035	7	13	11	15	2	7	12	14
A74-102011	3	6	5	2	11	2	1	15
A74-102037	14	10	16	4	15	14	2	8
A74-105021	6	14	9	10	3	13	9	11
A74-201006	9	12	11	11	12	9	6	9
M67-68	13	9	7	5	9	11	8	10
M68-48	11	5	9	11	7	8	14	4
M68-49	4	3	4	2	13	15	3	2

Illinois		Minnesota	Iowa		S. Dakota	Neb.
DeKalb	Pontiac	Waseca	Corwith	Nashua	Brookings	Mead I
		1976 YIELD (bu/a)			*	
36.2	36.2	40.8	57.1	33.5	23.2	40.3
34.5	36.9	33.2	48.2	32.0	25.1	32.4
37.7	38.5	43.2	57.3	35.3	25.8	50.3
38.0	36.6	41.6	58.6	34.6	22.3	43.1
42.3	36.0	41.7	59.2	34.6	29.4	42.7
40.3	36.0	41.4	56.2	35.2	25.2	43.8
37.4	36.1	37.7	58.4	31.8	26.8	45.9
38.1	40.6	39.3	58.5	34.1	22.4	47.2
34.0	39.2	40.4	58.4	37.9	25.8	46.6
37.4	35.9	46.2	52.8	30.7	26.4	42.4
37.1	40.0	40.4	54.9	30.4	27.8	39.3
41.7	38.3	39.9	53.6	39.0	24.4	47.5
38.5	37.4	40.3	56.4	32.0	25.3	49.0
36.0	37.0	40.9	55.3	28.1	28.2	44.3
36.2	39.4	44.8	51.7	28.9	26.4	45.2
35.3	37.8	43.0	56.0	31.3	27.8	42.9
4.3	7.5	8.8	11.3	10.0	11.2	8.1
2.7	4.9	6.0	9.1	4.8	4.1	6.0
30	38	30	27	27	30	30
4	4	4	4	4	2	4
3	3	3	4	4	4	3
			YIELD RANK			
11	12	9	7	8	14	14
15	10	16	16	9	12	16
7	5	3	6	3	8	1
6	11	6	2	5	16	10
1	14	5	1	5	1	12
3	14	7	9	4	10	9
8	13	15	4	11	5	6
5	1	14	3	7	15	4
16	4	10	4	2	8	5
8	16	1	14	13	6	13
10	2	10	12	14	3	15
2	6	13	13	1	13	3
4	8	12	8	9	11	2
13	9	8	11	16	2	8
11	3	2	15	15	6	7
14	7	4	10	12	3	11

*Not included in the mean.

Strain	Mean	Ontario		Michigan	Ind.	Wisconsin	
		Ridge-town	Harow	Dundee	Lafay-ette	Arling-ton	Durard
			1975-1976 2-YEAR MEAN				
	30 Tests						
Hark	40.1	55.5	34.8	34.4	47.4	44.8	24.6
Harlon	36.1	59.2	35.1	31.1	37.6	44.0	28.9
Hodgson	41.8	60.2	41.2	35.5	45.6	45.4	27.6
Coles	42.6	54.3	42.2	37.4	50.5	46.5	28.6
A73-19068	41.4	53.0	35.6	34.8	46.8	46.6	26.2
A73-19084	42.2	61.8	37.2	35.3	48.2	47.5	27.0
A73-20059	42.0	61.7	35.6	33.5	48.8	49.6	28.0
M68-48	39.5	56.7	35.2	32.2	44.0	44.8	27.8
M68-49	40.1	60.0	40.8	28.9	38.2	46.6	29.3
			YIELD RANK				
Hark	6	7	9	5	4	7	9
Harlon	8	5	8	8	9	9	2
Hodgson	4	3	2	2	6	6	6
Coles	1	8	1	1	1	5	3
A73-19068	5	9	5	4	5	3	8
A73-19084	2	1	4	3	3	2	7
A73-20059	3	2	5	6	2	1	4
M68-48	7	6	7	7	7	7	5
M68-49	6	4	3	9	8	3	1
			1973-1976, 4-YEAR MEAN				
	61 Tests					74-76	74-76
Hark	39.1	52.4	33.6	41.0	46.6	41.6	22.5
Harlon	36.7	55.3	34.3	36.2	39.8	40.8	26.3
Hodgson	41.3	57.2	39.2	41.2	44.6	42.7	26.9
			YIELD RANK				
Hark	2	3	3	2	1	2	3
Harlon	3	2	2	3	3	3	2
Hodgson	1	1	1	1	2	1	1

Illinois		Minnesota	Iowa		S. Dakota	Neb.
DeKalb	Pontiac	Waseca	Corwith	Nashua	Brookings	Mead I
1975-1976, 2-YEAR MEAN						
48.8	38.0	45.6	53.4[a]	44.2[b]	30.2	42.0
41.8	36.6	39.0	43.1	36.5	27.6	33.0
48.3	40.7	47.4	53.8	43.9	33.0	44.2
45.8	44.7	46.2	55.8	43.8	31.8	44.0
50.4	40.9	46.2	57.0	46.1	35.8	42.4
47.8	43.0	46.0	54.2	44.2	32.4	43.0
48.9	42.0	43.0	55.0	43.1	34.0	44.8
47.0	39.0	44.4	51.2	39.2	33.0	41.6
43.2	38.7	46.6	51.4	40.2	32.8	37.0
YIELD RANK						
3	8	6	6	2	8	6
9	9	9	9	9	9	8
4	5	1	5	4	3	2
7	1	3	2	5	7	3
1	4	3	1	1	1	5
5	2	5	4	2	6	4
2	3	8	3	6	2	1
6	6	7	8	8	3	7
8	7	2	7	7	5	7
1973-1976, 4-YEAR MEAN						
44.9	32.9	40.9		41.1	30.4	43.3
38.5	31.7	38.4		35.4	31.0	38.5
44.4	35.3	44.6		40.3	33.9	47.8
YIELD RANK						
1	2	2		1	3	2
3	3	3		3	2	3
2	1	1		2	1	1

a) Greene in 1975.
b) Kanawa in 1975.

Strain	Mean	Ontario		Michigan		Ind.	Wisconsin	
		Ridge-town	Harrow	E. Lansing	Dun-dee	Lafay-ette	Arling-ton	Durard
	13 Tests	MATURITY (relative data)						
Hark	+3.7	+3	+3	+2	0	+5	+3	+4
Harlon	-2.4	0	-3	+1	0	-3	-3	-1
Hodgson †	9-10.7	9-27	9-4	9-16	9-3	8-31	9-22	9-17
Coles	+4.4	+6	+1	+1	+8	+5	+3	+3
A73-19068	+3.9	+1	+1	+1	+8	+5	+4	+3
A73-19084	+3.0	0	+2	+1	+5	+2	+4	+4
A73-20059	+3.8	+2	0	+1	+6	+4	+2	+3
A74-101010	+5.1	+8	+4	+4	+7	+6	+6	+4
A74-101035	+4.1	+3	+3	+2	+6	+6	+7	+4
A74-102011	+0.5	-5	+1	+1	+4	-1	0	+4
A74-102037	-0.5	-3	-1	+1	+3	-2	-2	-1
A74-105021	+5.4	+3	+3	+8	+7	+5	+5	+4
A74-201006	+1.5	+1	+1	+1	+3	+1	+2	+4
M67-68	+1.4	+1	0	+1	+3	-1	+3	+3
M68-48	+1.9	+3	0	0	+4	+3	+1	+4
M68-49	+0.8	+1	-1	0	+6	0	+2	+2
Evans (O)	-4.6	-13	+4	-3	-2		-4	-2
Corsoy(II)	+6.4	+7	+7	+7	+8	+6	+6	+4
Date planted	5-21	5-21	5-21	5-25	5-25	5-12	5-21	6-2
† Days to mat.	113	129	106	114	101	111	124	107
	13 Tests	LODGING (SCORE)						
Hark	1.5	2.3	1.0	1.0	1.0	1.7	2.5	1.0
Harlon	1.8	2.3	1.8	1.0	1.0	2.2	2.8	1.5
Hodgson	1.6	1.8	1.0	1.5	1.0	2.2	2.5	1.2
Coles	2.2	3.0	1.8	1.5	1.0	2.8	4.0	1.0
A73-19068	1.6	2.3	1.0	1.0	1.0	1.8	3.2	1.0
A73-19084	2.1	3.0	2.0	1.5	1.0	3.2	3.5	1.0
A73-20059	1.7	2.3	1.0	1.5	1.0	2.0	2.8	1.0
A74-101010	1.5	2.0	1.0	1.5	1.0	1.7	2.8	1.0
A74-101035	1.6	2.5	1.0	1.5	1.0	1.7	3.2	1.0
A74-102011	1.2	1.3	1.0	1.0	1.0	1.2	1.8	1.0
A74-102037	1.2	1.5	1.0	1.0	1.0	1.5	1.2	1.0
A74-105021	2.1	2.5	1.8	3.0	1.0	2.5	3.0	1.0
A74-201006	1.5	2.3	1.0	1.5	1.0	1.8	2.5	1.0
M67-68	1.4	1.8	1.0	1.5	1.0	1.3	3.0	1.2
M68-48	1.4	1.8	1.0	1.5	1.0	1.5	2.5	1.0
M68-49	1.6	2.5	1.5	1.0	1.0	2.3	3.2	1.0

Illinois		Minnesota	Iowa		S. Dakota	Neb.
DeKalb	Pontiac	Wasea	Corwith	Nashua	Brookings	Mead I
		MATURITY (relative data)				
+3	+2	+3	+6		+5	+9
-1	-5	-4	-4		-5	-3
9-7	9-6	9-9	9-3		9-19	9-7
+4	+2	+3	+8		+8	+5
+5	+2	+3	+6		+7	+5
+3	+2	+2	+4		+5	+5
+6	+3	+3	+4		+8	+7
+3	+3	+4	+6		+6	+5
+3	+3	+2	+5		+5	+4
+1	+2	+2	0		-4	+2
0	+2	-2	0		-3	+1
+7	+4	+3	+6		+8	+7
0	+2	+1	+2		-4	+5
0	+3	+1	+2		+1	+1
+1	+2	-1	+1		+2	+5
+1	0	-1	0		+1	-1
-5	-10	-6			-5	
+6	+2	+6	+8		+6	+10
5-19	5-25	5-13	5-11	5-12	5-25	5-21
111	104	119	115		117	109
			LODGING (score)			
1.0	1.8	1.3	1.8	1.5		1.8
1.0	1.8	2.3	1.9	2.0		1.7
1.3	1.8	1.3	1.8	1.6		1.5
1.5	3.3	3.0	2.0	1.7		2.2
1.5	1.8	1.0	1.8	1.6		1.2
1.3	3.3	2.3	1.8	1.6		2.2
1.5	2.2	1.7	1.8	1.5		1.8
1.0	2.0	1.0	1.6	1.4		1.2
1.0	2.3	1.0	1.7	1.5		2.0
1.2	1.2	1.0	1.6	1.4		1.5
1.2	1.3	1.0	1.6	1.5		1.2
1.5	2.8	2.0	1.8	1.9		2.0
1.2	1.7	1.0	1.7	1.5		1.8
1.0	1.5	1.0	1.7	1.5		1.3
1.0	1.5	1.0	1.6	1.5		1.2
1.0	1.7	1.0	1.6	1.5		1.3

Strain	Mean	Ontario		Michigan		Ind.	Wisconsin	
		Ridge-town	Harrow	E. Lansing	Dundee	Lafay-ette	Arling-ton	Durard
	14 Tests	PLANT HEIGHT (inches)						
Hark	34	41	29	36	34	36	37	26
Harlon	34	44	35	40	34	35	34	29
Hodgson	31	39	31	36	33	30	34	29
Coles	38	47	38	44	40	36	42	26
A73-19068	30	34	28	32	29	29	32	22
A73-19084	35	43	35	38	30	33	40	28
A73-20059	29	33	25	32	28	27	32	20
A74-101010	34	43	32	41	33	32	38	27
A74-101035	35	44	31	38	34	35	37	26
A74-102011	27	33	25	34	29	26	29	22
A74-102037	27	35	24	33	27	26	29	22
A74-105021	36	41	34	38	36	32	39	26
A74-201006	29	35	27	38	27	29	31	24
M67-68	27	33	24	32	27	27	30	23
M68-48	30	40	29	36	31	27	32	27
M68-49	29	36	28	34	27	28	32	28
	11 Tests	SEED QUALITY (score)						
Hark	1.9	2.0	1.5			1.5	3.2	3.0
Harlon	2.2	2.0	2.0			2.0	2.8	3.5
Hodgson	1.8	2.0	1.2			1.5	2.5	2.2
Coles	2.0	2.0	1.5			1.5	3.2	3.2
A73-19068	2.3	2.0	2.0			2.0	2.5	3.8
A73-19084	2.3	2.0	1.8			2.0	3.2	3.0
A73-20059	2.1	2.0	1.0			1.5	2.8	3.0
A74-101010	2.1	2.0	1.5			2.0	2.2	3.5
A74-101035	2.2	2.0	2.0			2.0	3.2	3.5
A74-102011	2.2	2.0	1.2			2.0	2.5	3.5
A74-102037	2.2	2.0	1.2			1.5	2.5	3.5
A74-105021	2.1	2.0	1.8			2.0	2.5	3.5
A74-201006	2.6	2.0	1.8			2.0	3.5	4.0
M67-68	2.4	2.0	1.5			2.0	2.5	3.5
M68-48	2.3	2.0	1.8			2.5	2.2	3.5
M68-49	2.2	2.0	2.0			1.5	2.8	3.0

UNIFORM TEST I, 1976

Illinois		Minnesota	Iowa		S. Dakota	Neb.
DeKalb	Pontiac	Waseca	Corwith	Nashua	Brookings	Mead I
PLANT HEIGHT (inches)						
31	38	36	39	30	31	38
32	35	32	36	29	31	28
30	32	31	34	25	20	31
35	42	40	43	32	35	39
30	33	32	33	26	31	31
34	38	38	39	32	32	35
29	31	32	32	27	28	32
31	36	36	37	30	32	34
34	40	37	41	30	32	36
26	26	29	31	22	27	23
24	28	28	26	22	29	23
35	39	37	39	33	33	35
27	29	29	31	24	28	30
24	26	28	28	24	32	25
27	29	30	30	23	27	28
27	28	29	31	25	29	25
SEED QUALITY (score)						
1.8	1.7	2.0	1.1		1.0	2.2
1.5	2.2	2.3	1.5		2.0	2.0
1.8	2.3	2.0	1.5		1.0	2.0
2.2	2.2	2.0	1.3		1.0	2.2
2.2	2.3	2.0	2.3		1.0	2.8
2.2	2.5	2.3	2.0		2.0	2.5
2.0	2.7	2.3	2.7		1.0	1.7
2.3	2.5	2.3	2.5		1.0	1.7
2.0	2.7	2.0	1.3		1.0	2.0
2.3	2.7	2.0	1.7		2.0	2.0
2.2	3.0	2.0	2.0		2.0	2.0
2.2	2.7	2.0	1.4		1.0	2.2
2.3	3.2	2.7	3.0		3.0	1.5
2.5	3.2	2.7	3.0		1.0	2.3
2.2	3.2	2.3	2.6		1.0	2.2
1.8	3.0	2.3	2.5		1.0	2.2

Strain	Mean	Ontario		Michigan		Ind.	Wisconsin	
		Ridgetown	Harrow	E. Lansing	Dundee	Lafayette	Arlington	Durard
	13 Tests		SEED SIZE (g/100)					
Hark	15.5	18.2	16.0	17.9	16.3	16.0	17.4	12.8
Harlon	16.5	19.6	15.1	18.0	16.3	15.1	19.7	13.6
Hodgson	15	17.7	15.7	18.7	15.5	15.9	16.9	12.0
Coles	16.1	19.0	15.6	20.5	17.8	16.9	18.5	15.0
A73-19068	14.1	16.4	14.0	17.0	16.1	15.5	15.4	10.9
A73-19084	12.7	15.1	12.7	14.9	13.3	13.2	14.0	9.9
A73-20059	15.1	18.6	15.0	17.1	16.2	15.8	16.5	12.6
A74-101010	15.7	18.4	15.4	18.1	16.4	16.2	17.1	13.4
A74-101035	17.1	20.1	16.1	22.3	19.0	17.9	21.4	14.4
A74-102011	16.8	18.1	16.6	18.2	16.3	16.6	19.8	14.6
A74-102037	13.8	15.9	13.8	15.6	14.0	13.6	17.8	11.4
A74-105021	16.9	19.3	15.7	19.1	18.0	17.8	17.8	12.6
A74-201006	20.2	21.7	19.4	22.7	20.6	20.2	24.0	15.5
M67-68	21.1	22.7	20.1	26.4	20.8	21.2	24.3	17.1
M68-48	18.4	19.9	16.5	21.3	19.3	19.4	21.3	15.4
M68-49	18.4	19.8	17.5	20.4	17.7	19.6	21.3	14.4
	7 Tests		PROTEIN (%)					
Hark	42.1	45.0				41.6		
Harlon	38.3	41.0				38.3		
Hodgson	39.1	42.0				38.9		
Coles	42.1	45.2				41.7		
A73-19068	40.1	44.3				40.5		
A73-19084	40.4	43.2				40.3		
A73-20059	40.2	42.9				40.7		
A74-101010	40.3	43.1				40.4		
A74-101035	40.4	42.4				40.6		
A74-102011	38.4	40.8				37.6		
A74-102037	40.5	43.6				40.4		
A74-105021	39.3	43.2				39.3		
A74-201006	39.5	42.1				39.7		
M67-68	41.5	43.8				42.5		
M68-48	39.2	42.3				39.3		
M68-49	38.8	40.5				39.8		

Illinois		Minnesota	Iowa	S. Dakota	Neb.
DeKalb	Pontiac	Waseca	Corwith	Brook-ings	Mead I
		SEED SIZE (g/100)			
13.9	14.0	16.0	15.2	12.4	15.5
14.2	15.0	16.9	16.8	11.5	17.8
14.8	15.8	15.7	16.0	11.5	15.3
16.0	15.3	17.9	16.8	13.4	16.5
13.9	13.0	14.8	15.3	12.4	15.9
12.2	11.9	12.0	13.5	9.4	13.3
13.9	14.6	14.6	15.7	11.5	16.8
15.4	14.9	15.6	16.4	11.5	14.9
16.9	16.9	18.3	18.3	13.7	17.0
15.6	17.8	16.2	16.6	12.7	18.8
12.6	13.8	13.5	14.3	10.4	13.6
16.3	15.7	15.7	14.7	12.5	16.6
21.0	19.7	20.8	21.8	16.5	18.6
19.6	22.1	21.1	22.4	15.9	21.2
17.6	17.4	19.0	19.0	13.8	19.9
17.9	18.4	19.6	19.6	14.6	19.0
		PROTEIN (%)			
39.8		41.2	39.9	45.6	41.3
36.0		37.9	38.0	42.6	37.7
36.3		38.2	37.6	43.0	37.8
39.1		41.2	40.3	45.6	41.6
37.5		40.1	39.2	43.2	40.6
36.6		39.9	38.6	43.9	40.0
36.9		40.0	39.1	42.5	39.3
36.1		39.6	38.5	43.6	40.8
37.2		39.5	39.1	43.0	40.7
35.0		37.8	37.5	42.3	37.7
37.2		40.7	38.7	43.7	38.9
35.7		39.5	39.0	41.5	38.4
36.6		38.9	38.1	42.6	38.7
38.5		41.1	41.2	42.2	41.3
36.3		38.7	38.4	40.8	38.3
36.2		37.8	37.1	42.3	37.6

Strain	Mean	[illegible]	[illegible]	Illinois	Minnesota	Iowa	SD	Neb.
		[illegible]	[illegible]	DeKalb	Waseca	Corwith	Brookings	Mead I
	7 tests			Oil (%)				
Hark	19.8	[illegible]	[illegible]	21.7	20.9	21.1	17.9	20.1
Harlon	21.2	[illegible]	[illegible]	22.9	22.0	21.8	19.5	22.2
Hodgson	22.6	[illegible]	[illegible]	23.7	22.8	23.1	19.1	21.7
Coles	19.2	[illegible]	[illegible]	21.6	20.0	20.8	17.2	18.6
A73-19068	20.7	[illegible]	[illegible]	23.1	21.1	21.8	19.3	20.9
A73-19084	22.2	[illegible]	[illegible]	24.1	21.4	22.4	18.4	21.4
A73-20059	21.1	[illegible]	[illegible]	23.2	21.2	21.9	19.5	21.8
A74-101010	20.3	[illegible]	[illegible]	22.6	20.8	21.7	18.2	20.2
A74-101035	20.6	[illegible]	[illegible]	22.7	21.3	21.7	19.2	20.3
A74-102011	21.5	[illegible]	[illegible]	23.4	21.7	22.6	19.2	22.4
A74-102037	21.1	[illegible]	[illegible]	23.2	20.7	22.8	19.2	21.8
A74-105021	20.0	[illegible]	[illegible]	22.4	20.2	20.0	19.4	20.4
A74-201006	20.2	[illegible]	[illegible]	22.0	20.6	20.5	19.2	20.5
M67-68	20.9	[illegible]	[illegible]	22.7	21.1	21.0	20.8	21.5
M68-48	21.4	[illegible]	[illegible]	23.1	21.8	21.7	21.4	22.3
M68-49	22.1	[illegible]	[illegible]	24.2	22.9	22.7	20.4	23.4

Strain		Parentage	Generation Composited
1.	Hark		
2.	Hodgson		
3.	A73D8	Hark x Provar	F6
4.	A73D22	Amsoy x L62-344	F3
5.	A73D24	"	"
6.	A73D28	"	"
7.	A75-101014	IVR Ex5003 x Wells[2]	"
8.	A75-101022	"	"
9.	A75-102004	"	"
10.	A75-102032	AP6 (40 lines intermated 3 times)	F5
11.	A75-103008	M63-17 x C1453	F4
12.	A75-103016	IVR Ex5003 x Wells[2]	F3
13.	A75-103019	AP6	F4
14.	A75-103028	M63-17 x C1453	F4
15.	A75-104021	M62-263 x CX407BC$_7$-326	F4
16.	A75-105007	IVR Ex5003 x Wells	F4
17.	A75-105019	Corsoy[2] x (Mack x L65-1342 or Anoka)	F2
18.	A75-105021	"	"
19.	A75-105034	"	"
20.	A75-128008	AP6	F5
21.	L69D30-7-2	Calland x A100	F6
22.	M67-42	Corsoy x Provar	F5
23.	M67-44	Wayne x Hark	"
24.	M68-254	II-61-65 Merit x (Acme x Hardome) x Steele	"
25.	M68-275	Evans x C1426	"
26.	M68-284	II-62-101 (Merit x M406) x Amsoy 71	"
27.	M69-36	Merit x Corsoy	"

The six strains, A75-102032, A75-103016, A75-103019, A75-105019, A75-105021, and A75-105034 have a regional mean yield higher than Hodgson. These six strains range from 3 to 7 days later in maturity than Hodgson and are slightly more lodging prone than Hodgson. Three of these strains A75-105019, A75-105021, and A75-105034 are resistant to races 1, 2, 3, and probably to race 6 of phytophthora root rot.

The strain M68-254 is nearly 6 days earlier in maturity than Hodgson, has excellent lodging resistance, and is resistant to iron chlorosis and to shattering.

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Ames Iowa	Shattering Manhattan Kansas
Hark	PGNBr DYY	5	4.0
Hodgson	PGNBr DYBf	4	3.0
A73D8	PGNBr DYY	5	1.5
A73D22	PGNBr DYY	3	2.0
A73D24	PGNBr DYY	3	2.0
A73D28	PGNTn DYY	3	4.0
A75-101014	PGNBr SYY	3	2.0
A75-101022	PGNBr DYBf	2	2.0
A75-102004	PGNBr DYG	3	2.0
A75-102032	WTNBr DYBl	3	5.0
A75-103008	PGNBr DYBf	2	5.0
A75-103016	PGNBr DYIb	3	4.0
A75-103019	PTNBr SYBl	3	5.0
A75-103028	WGNBr DYBf	4	5.0
A75-104021	WTNBr SYG+Y	2	3.0
A75-105007	PGNBr SYY	3	2.0
A75-105019	PGNBr DYY	5	2.0
A75-105021	PGNBr DYY	5	4.0
A75-105034	PGNBr DYY	4	5.0
A75-128008	PTNTn SYY+G	3	4.0
L69D30-7-2	PGNBr SYIb	5	5.0
M67-42	PGNBr DYY	3	4.0
M67-44	PGNBr SYY	3	5.0
M68-254	WGNBr SYBr	1	1.5
M68-275	WGNBr SYY	5	3.0
M68-284	WGNBr SYY	2	2.0
M69-36	WGNBr DYY	3	2.0

Disease Data

Strain	BB Laf. Ind. n	FE_2 Laf. Ind. a	BSR Laf. Ind. n %	BSR Ames Iowa n % stem	BSR Ames Iowa n % plants	PSB Laf. Ind. d	PS Laf. Ind. a	SMV Laf. Ind. a seed	PR Laf. Ind. a	PR Ames Iowa a	PR Vickery Ohio n
Hark	2	5	70	28	90	3	5	5E	S	S	4
Hodgson	4	5	60	34	95	3	5	1	S	S	5
A73D8	5	5	90	42	100	3	5	5E	S	S	4
A73D22	5	5	80	27	95	3	4	5E	S	S	5
A73D24	5	5	100	36	90	3	4	5E	S	S	5
A73D28	4	5	90	31	85	2	5	5E	S	S	5
A75-101014	3	4	70	40	80	3	4	5E	R	R	5
A75-101022	4	4	70	33	75	4	5	5E	R	R	5
A75-102004	2	5	80	34	60	4	5	5E	R	H	5
A75-102032	1	3	100	39	95	3	5	5E	S	S	4
A75-103008	3	5	90	44	95	4	5	3M	R	R	4
A75-103016	5	5	70	35	80	3	4	5E	H	S	4
A75-103019	4	4	100	48	100	4	5	5E	S	S	3
A75-103028	5	4	10	29	80	2	4	4M	S	S	4
A75-104021	5	4	60	33	65	4	3	5M	R	R	4
A75-105007	5	4	50	44	95	4	3	5E	R	R	5
A75-105019	5	5	30	41	90	5	5	5E	R	R	3
A75-105021	5	5	60	31	95	5	4	5E	R	R	4
A75-105034	5	4	90	33	95	5	4	5E	R	R	4
A75-128008	5	4	100	43	100	3	4	5S	S	S	4
L69D30-7-2	5	4	100	47	100	2	5	5M	S	S	5
M67-42	5	5	100	52	90	4	5	5E	S	S	5
M67-44	5	3	100	47	100	5	5	5E	S	S	4
M68-254	5	5	90	61	100	4	5	5M	H	S	5
M68-275	5	5	100	39	100	4	5	5E	R	R	4
M68-284	5	5	70	50	95	4	4	4E	R	R	5
M69-36	5	4	90	49	100	4	5	1	S	S	5

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
No. of tests	8	8	7	7	8	5	6	4	4
Hark	40.7	14	+5.3	1.7	36	1.9	16.5	40.9	20.6
Hodgson	41.9	7	9-14.9	1.7	33	1.7	16.1	38.6	22.0
A73D8	40.2	19	+7.9	2.4	40	2.2	16.6	40.5	20.8
A73D22	41.5	10	+6.3	2.2	36	2.0	16.7	40.0	20.2
A73D24	39.4	21	+6.0	2.3	36	2.1	16.2	39.6	20.2
A73D28	40.3	18	+7.6	2.1	35	1.9	16.6	38.8	21.2
A75-101014	41.1	13	-1.0	1.3	29	1.7	15.4	40.5	20.6
A75-101022	41.4	11	+3.4	1.8	31	2.4	17.7	41.6	20.4
A75-102004	40.6	15	-0.6	1.3	30	2.1	15.1	40.7	20.1
A75-102032	45.8	1	+3.1	2.1	34	2.0	13.7	38.2	21.5
A75-103008	39.3	22	+5.3	2.5	37	2.2	17.0	39.4	20.7
A75-103016	43.1	4	+4.0	1.8	31	2.1	15.1	41.4	20.3
A75-103019	43.1	4	+4.1	2.3	31	1.8	16.2	39.5	21.3
A75-103028	38.8	24	+6.0	1.8	36	2.1	15.6	40.8	19.9
A75-104021	39.6	20	+4.0	1.9	37	2.1	16.5	38.7	21.0
A75-105007	40.6	15	+6.4	1.7	34	2.3	15.4	39.3	21.2
A75-105019	42.8	6	+6.9	2.6	37	1.9	16.2	39.7	21.0
A75-105021	43.6	2	+6.6	2.7	37	2.2	14.4	39.3	20.7
A75-105034	43.3	3	+5.1	2.3	35	2.1	15.0	39.8	20.3
A75-128008	41.7	9	+6.1	2.5	36	2.6	17.5	41.6	19.8
L69D30-7-2	36.4	27	+10.3	2.6	33	1.9	18.5	39.0	20.8
M67-42	39.2	23	-0.3	1.9	32	2.1	17.4	40.6	20.4
M67-44	40.4	17	+1.1	1.7	34	1.9	15.5	40.2	20.0
M68-254	38.3	25	-5.6	1.1	25	2.0	17.2	39.6	22.0
M68-275	41.8	8	+6.4	2.5	37	2.2	17.1	39.4	21.0
M68-284	37.4	26	-4.1	1.3	27	1.8	17.4	37.8	22.4
M69-36	41.2	12	-1.1	1.9	31	1.7	14.1	38.7	20.6

Strain	Mean	Ontario Ridge-town	Michigan East Lansing	Wisc. Arling-ton	Ill. Dekalb	Minn. Waseca	Iowa Corwith	Iowa Nashua	S. Dakota Brook-ings
	8 Tests			YIELD (bu./A)					
Hark	40.7	50.1	41.5	41.2	33.9	42.5	61.1	35.2	20.4
Hodgson	41.9	58.2	40.4	38.2	35.8	42.2	57.6	36.7	25.9
A73D8	40.2	53.8	32.7	41.8	37.0	44.7	55.3	35.1	21.5
A73D22	41.5	57.3	37.3	43.5	33.2	44.8	59.1	34.3	22.5
A73D24	39.4	54.5	37.0	34.9	37.3	43.5	53.4	34.6	20.0
A73D28	40.3	51.6	37.3	38.6	39.3	47.6	50.3	34.8	22.9
A75-101014	41.1	52.8	40.2	42.8	34.4	48.0	47.2	38.0	25.4
A75-101022	41.4	46.8	32.8	46.4	33.0	49.1	61.9	35.3	25.9
A75-102004	40.6	52.2	38.7	46.3	35.8	46.2	44.5	38.2	23.0
A75-102032	45.8	55.8	40.3	51.5	37.2	51.4	63.3	40.3	26.4
A75-103008	39.3	50.3	35.6	44.6	37.9	36.5	48.2	36.3	24.8
A75-103016	43.1	51.1	39.3	42.7	38.6	46.8	63.5	37.3	25.8
A75-103019	43.1	58.6	37.8	46.2	40.2	42.6	59.1	37.9	22.5
A75-103028	38.8	49.7	37.9	41.3	31.4	39.0	48.7	39.1	23.1
A75-104021	39.6	50.2	40.0	42.6	32.5	41.0	47.4	37.5	25.2
A75-105007	40.6	51.5	36.1	44.3	41.9	40.0	52.3	37.1	21.5
A75-105019	42.8	59.2	38.9	41.1	41.8	43.8	54.4	40.7	22.2
A75-105021	43.6	55.9	37.6	41.8	40.2	46.6	65.3	38.5	22.5
A75-105034	43.3	52.8	43.3	43.7	39.0	45.2	62.6	36.3	23.5
A75-128008	41.7	53.5	39.9	42.7	36.9	41.3	59.1	36.6	23.3
L69D30-7-2	36.4	47.7	27.7	37.4	37.5	38.1	50.5	34.5	18.1
M67-42	39.2	52.2	37.0	41.0	35.5	46.5	47.3	29.0	24.7
M67-44	40.4	49.6	37.9	42.2	40.0	40.2	56.2	34.8	21.9
M68-254	38.3	58.1	38.7	38.7	31.8	36.4	46.7	27.6	28.5
M68-275	41.8	52.5	36.1	47.0	38.1	45.2	58.1	35.4	21.9
M68-284	37.4	57.4	38.0	42.5	33.1	39.2	37.8	29.0	21.9
M69-36	41.2	58.0	37.6	43.2	36.7	44.4	51.4	32.7	25.5
CV (%)		5.7	9.5	10.8	5.2	7.8	10.6	8.8	8.9
LSD (5%)		4.4	5.7	9.4	3.9	6.9	11.6	6.4	3.4
Row spacing (in.)		24	28	30	30	30	27	27	30
Rows/plot		4	4	3	4	2	4	4	2
Reps.		2	2	2	2	2	2	2	2

Strain	Mean	Ontario Ridge-town	Michigan East Lansing	Wisc. Arling-ton	Ill. Dekalb	Minn. Waseca	Iowa Corwith	Iowa Nashua	S. Dakota Brook-ings
	8 Tests			YIELD RANK					
Hark	14	23	2	20	21	17	6	17	25
Hodgson	7	3	3	25	17	18	11	11	3
A73D8	19	11	26	17	14	12	13	18	23
A73D22	10	7	18	9	22	11	7	23	16
A73D24	21	10	20	27	12	15	15	21	26
A73D28	18	18	18	24	6	4	19	19	15
A75-101014	13	13	5	11	20	3	24	6	7
A75-101022	11	27	25	3	24	2	5	16	3
A75-102004	15	16	10	4	17	8	26	5	14
A75-102032	1	9	4	1	13	1	3	2	2
A75-103008	22	21	24	6	10	26	21	13	9
A75-103016	4	20	8	12	8	5	2	9	5
A75-103019	4	2	15	5	3	16	7	7	16
A75-103028	24	24	13	19	27	24	20	3	13
A75-104021	20	22	6	14	25	20	22	8	8
A75-105007	15	19	22	7	1	22	16	10	23
A75-105019	6	1	9	21	2	14	14	1	19
A75-105021	2	8	16	17	3	6	1	4	16
A75-105034	3	13	1	8	7	9	4	13	11
A75-128008	9	12	7	12	15	19	7	12	12
L69D30-7-2	27	26	27	26	11	25	18	22	27
M67-42	23	16	20	22	19	7	23	25	10
M67-44	17	25	13	16	5	21	12	19	20
M68-254	25	4	10	23	26	27	25	27	1
M68-275	8	15	22	2	9	9	10	15	20
M68-284	26	6	12	15	23	23	27	25	20
M69-36	12	5	16	10	16	13	17	24	6

Strain	Mean	Ontario Ridge-town	Michigan East Lansing	Wisc. Arling-ton	Ill. Dekalb	Minn. Waseca	Iowa Corwith	Iowa Nashua	S Dakota Brook-ings
	7 Tests		MATURITY (relative date)						
Hark	+ 5.3	+ 1	+ 7	+ 6	+ 3	+10	+ 5		+ 5
Hodgson	9-14.9	9-30	9-18	9-19	9- 7	9- 9	9- 3		9-18
A73D8	+ 7.9	+ 8	+ 6	+ 8	+ 7	+12	+ 8		+ 6
A73D22	+ 6.3	+ 1	+ 7	+ 6	+ 6	+10	+ 8		+ 6
A73D24	+ 6.0	+ 2	+ 4	+ 6	+ 7	+12	+ 5		+ 6
A73D28	+ 7.6	+ 2	+ 7	+ 6	+ 7	+10	+15		+ 6
A75-101014	- 1.0	-11	0	+ 1	0	+ 1	+ 2		0
A75-101022	+ 3.4	+ 1	+ 5	+ 4	+ 3	+ 3	+ 4		+ 4
A75-102004	- 0.6	- 8	0	+ 2	+ 1	0	0		+ 1
A75-102032	+ 3.1	+ 1	0	+ 4	+ 3	+ 5	+ 4		+ 5
A75-103008	+ 5.3	+ 8	+ 7	+ 6	+ 4	+ 6	+ 3		+ 3
A75-103016	+ 4.0	- 6	+ 4	+ 6	+ 4	+11	+ 6		+ 3
A75-103019	+ 4.1	- 1	+ 3	+ 4	+ 5	+ 7	+ 4		+ 7
A75-103028	+ 6.0	+ 5	+ 5	+ 6	+ 5	+10	+ 4		+ 7
A75-104021	+ 4.0	+ 1	+ 3	+ 5	+ 3	+ 9	+ 4		+ 3
A75-105007	+ 6.4	+ 2	+ 6	+ 8	+ 8	+ 9	+ 6		+ 6
A75-105019	+ 6.9	+ 6	+ 6	+ 8	+ 6	+ 9	+ 6		+ 7
A75-105021	+ 6.6	+ 5	+ 2	+ 8	+ 5	+11	+ 7		+ 8
A75-105034	+ 5.1	+ 3	+ 2	+ 8	+ 4	+ 8	+ 6		+ 5
A75-128008	+ 6.1	+ 4	+ 8	+ 5	+ 2	+13	+ 5		+ 6
L69D30-7-2	+10.3	+ 9	+10	+ 8	+12	+13	+12		+ 8
M67-42	- 0.3	- 1	0	+ 2	0	+ 1	- 6		+ 2
M67-44	+ 1.1	- 2	0	+ 2	+ 1	+ 2	+ 4		+ 1
M68-254	- 5.6	- 3	- 3	-12	- 6	- 5	- 6		- 4
M68-275	+ 6.4	+ 7	+ 3	+ 7	+ 5	+11	+ 5		+ 7
M68-284	- 4.1	- 3	0	- 6	- 6	- 3	- 8		- 3
M69-36	- 1.1	- 9	0	+ 3	0	- 1	- 1		0
Evans (0)	- 6.8	-13	- 5	- 8	- 5	- 6			- 4
Corsoy (II)	+ 7.7	+ 7	+ 5	+ 8	+ 6	+ 6	+ 6		+ 8
Date planted	5-19	5-21	5-25	5-21	5-19	5-13	5-11	5-12	5-25

Strain	Parentage	Previous Testing*	Generation Composited
1. Amsoy 71	Amsoy^{8} x C1253 (Blackhawk x Harosoy)	7	4F3
2. Beeson	C1253 x Kent	9	F_7
3. Corsoy	Harosoy x Capital	12	F_9
4. Harcor	Corsoy x OX383 (Corsoy x Harosoy 63)	2	F4
5. A73-25050	M59-120 x IVR Ex4731	1	"
6. A74-104030	IVR Ex5003 x Wells	PI	"
7. A74-104034	IVR Ex5003 x Beeson	PI	"
8. A74-202019	Beeson x L66-1359 (Wayne x L57-0034)	PII	"
9. A74-203002	M59-120 (II-54-240 x II-54-139) x IVR Ex 4731	PII	"
10. A74-204033	Beeson x L66-1359	PII	"
11. A74-204034	M62-263 x CX407BC7-326	PII	"
12. C1523	Beeson x L63-1397 (Harosoy x T207)	PII	"
13. L71-2855	Beeson x SL12 (Wayne-*I r Rpm Rps*)	1	F5
14. L73D-195	C1477 (Amsoy^{8} x C1253) x Corsoy	PII	F6

* Number of years in test or name of 1975 Test

The eight-year regional mean for the three check varieties shows less than one-half bushel difference in yield, although Corsoy is 3-4 days earlier in maturity than Amsoy 71 and Beeson, and is susceptible to phytophthora root rot.

In the three-year regional mean, the variety Harcor is 1 bushel higher yielding than the other varieties in the test, but lodges more severely than the other entries in the test.

The two-year mean shows the strains A73-25050 and L71-2855 to be 1 to ½ bushel lower yielding respectively, and 2.5 to 2 days later in maturity than Harcor. L71-2855 has good lodging resistance, has moderately high protein content and is resistant to phytophthora root rot.

Harcor is the highest yielding entry in the 1976 test. All of the experimental strains except A73-25050 and A74-203002 are resistant to phytophthora root rot.

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Ames Iowa	Fluor-escent Light	Emerg-ence	Perox-idase	Shattering Manhattan Kansas
Amsoy 71	PGNTn SYY	3	L	4	H	4.0
Beeson	PGNBr SYIb	4	L	5	L	5.0
Corsoy	PGNBr DYY	5	E	1	H	3.0
Harcor	PGNBr SYY	5	E	1	H	3.0
A73-25050	WTNBr SYBr	2	L	2	L	4.0
A74-104030	PGNBr SYIb	2	L	3	H	4.0
A74-104034	PGNBr SYBf+Ib	4	L	3	L	5.0
A74-202019	PTNTn DYB1	5	L	1	L	5.0
A74-203002	WTNTn DYBr	3	L	2	L	5.0
A74-204033	PTNBr DYB1	5	L	5	L	2.0
A74-204034	PGNTn SYBf+Ib	5	L	1	L	5.0
C1523	PGNBr DYG	3	L	5	L+H	4.0
L71-2855	WTNBr DYB1	4	L	2	L	3.0
L73D-195	PGNBr SYY	4	E	1	H	3.0

Disease Data

Strain	BB	FE_2	BSR			PSB	PS	SMV	PR		
	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	n	a	n %	n % stem	n % plants	d	a	a seed	a	a	n
Amsoy 71	5	5	60	33	95	3	4	5E	R	R	4
Beeson	3	1	100	39	100	1	4	3M	R	R	4
Corsoy	5	5	50	44	100	4	4	5E	S	S	4
Harcor	5	4	0	39	95	4	5	5E	R	R	4
A73-25050	4	3	60	42	95	2	3	5S	S	S	4
A74-104030	5	4	40	41	100	3	3	5E	R	R	5
A74-104034	2	4	90	41	100	3	4	5E	R	R	3
A74-202019	3	3	100	60	100	2	3	5E	R	R	3
A74-203002	2	5	100	54	85	4	3	5E	S	S	4
A74-204033	2	4	80	41	100	3	3	5E	R	R	3
A74-204034	4	5	90	28	85	2	3	5M	R	R	4
C1523	3	5	100	36	100	2	3	5E	R	R	3
L71-2855	4	5	70	49	85	3	4	5E	R	R	3
L73D-195	5	5	100	44	90	4	4	5E	R	R	3

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
				1976					
No. of tests	24	24	23	25	26	24	21	11	11
Amsoy 71	38.7	11	+3.0	2.0	38	2.3	15.4	39.4	20.6
Beeson	37.4	13	+4.7	1.8	35	2.5	17.3	40.8	20.1
Corsoy	39.8	4	9-14.8+	2.1	34	2.2	14.9	39.7	20.9
Harcor	40.9	1	+1.3	2.3	36	2.3	14.3	39.4	20.7
A73-25050	40.1	2	+4.1	2.3	35	2.4	15.8	39.8	22.1
A74-104030	39.7	5	+0.7	1.9	32	2.7	16.8	41.0	20.5
A74-104034	39.5	6	+1.6	1.6	31	2.9	17.6	40.7	20.7
A74-202019	38.2	12	+1.5	2.2	34	2.4	16.4	39.2	20.7
A74-203002	39.5	6	+4.4	2.2	38	2.5	17.0	38.4	22.3
A74-204033	37.2	14	+2.2	1.7	34	2.3	16.5	40.4	20.7
A74-204034	39.5	6	+2.7	2.4	35	2.6	17.2	39.0	21.2
C1523	38.9	9	+4.4	1.9	37	2.4	19.7	41.6	19.8
L71-2855	38.8	10	+4.9	2.0	36	2.4	19.1	40.5	20.6
L73D-195	40.1	2	+5.5	2.5	39	2.3	15.2	38.2	20.9
+119 days after planting									
				1975-1976, 2-Year Mean					
No. of tests	50	50	47	50	52	47	44	22	22
Amsoy 71	41.8	4	+2.7	2.0	38	2.3	16.3	39.4	21.4
Beeson	41.0	6	+4.3	1.7	34	2.4	18.3	40.8	20.4
Corsoy	41.7	5	9-15.9+	2.2	34	2.2	15.5	40.1	21.2
Harcor	43.1	1	+2.1	2.3	36	2.3	14.9	39.8	20.8
A73-25050	42.6	2	+4.6	2.2	35	2.3	16.5	39.4	22.6
L71-2855	42.3	3	+4.0	1.8	35	2.3	20.1	41.4	20.8
+120 days after planting									
				1974-1976, 3-Year Mean					
No. of tests	78	78	68	77	78	71	70	34	34
Amsoy 71	40.6	2	+2.7	2.0	37	2.2	16.7	39.5	21.2
Beeson	39.8	4	+4.1	1.7	34	2.2	18.5	41.1	20.0
Corsoy	40.4	3	9-19.1+	2.2	34	2.1	15.5	40.2	21.0
Harcor	41.8	1	+1.6	2.4	35	2.1	15.1	40.1	20.6
+120 days after planting									
				1969-1976, 8-Year Mean					
No. of tests	215	215	180	208	214	190	178	107	107
Amsoy 71	43.4	1	+3.0	2.3	41	2.2	17.0	39.6	22.2
Beeson	43.0	3	+4.1	1.9	38	2.2	18.8	40.7	21.1
Corsoy	43.4	1	9-19.1+	2.5	38	2.0	15.7	40.2	21.7
+118 days after planting									

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio		Michigan	
		Landis-ville	Adel-phia	Clarks-ville	Ridge-town	Harrow	Hoyt-ville	Woos-ter	East Lansing	Dundee
	24 Tests				1976 YIELD (bu./A)					
Amsoy 71	38.7	41.4	26.8	42.2	48.7	32.8	40.8	32.4	38.0	36.2
Beeson	37.4	39.9	34.8	38.8	44.4	35.6	42.8	37.0	34.4	32.2
Corsoy	39.8	33.7	29.9	42.5	55.5	39.1	44.1	39.2	41.3	36.3
Harcor	40.9	39.9	30.0	41.9	52.8	38.0	45.4	41.7	38.3	35.7
A73-25050	40.1	39.4	30.9	43.8	47.0	34.6	47.1	37.7	34.4	34.8
A74-104030	39.7	42.8	27.6	46.4	49.6	37.1	42.8	35.4	38.5	36.3
A74-104034	39.5	40.2	29.1	38.3	53.3	37.8	46.6	38.5	40.7	40.1
A74-202019	38.2	38.6	27.7	38.6	54.2	35.3	48.6	39.2	39.8	36.4
A74-203002	39.5	37.6	31.2	37.2	51.6	34.3	50.5	40.1	31.3	36.5
A74-204033	37.2	30.7	29.0	35.3	47.1	34.8	44.0	38.2	36.8	36.4
A74-204034	39.5	37.3	31.0	39.9	49.0	38.8	45.3	33.2	34.6	36.6
C1523	38.9	46.7	24.2	42.3	49.2	37.9	45.3	35.5	31.0	36.5
L71-2855	38.8	38.6	26.4	37.3	49.8	39.0	48.4	32.2	34.4	35.3
L73D-195	40.1	41.4	34.5	38.3	48.5	37.6	53.4	38.4	34.4	37.5
CV %		9.8	9.6	8.9	5.8	7.9	11.5	7.4	11.7	7.2
LSD (5%)		5.5	5.8	6.0	4.1	N.S.	N.S.	4.0	5.7	3.6
Row spacing (in.)		30	30	30	24	24	30	30	28	30
Rows/plot		3	3	4	4	4	3	3	4	4
Reps		4	4	3	4	4	4	4	3	3
					YIELD RANK					
Amsoy 71	11	3	12	5	10	14	14	13	6	10
Beeson	13	6	1	8	14	9	12	9	9	14
Corsoy	4	13	7	3	1	1	10	3	1	8
Harcor	1	6	6	6	4	4	7	1	5	11
A73-25050	2	8	5	2	13	12	5	8	9	13
A74-104030	5	2	11	1	7	8	13	11	4	8
A74-104034	6	5	8	10	3	6	6	5	2	1
A74-202019	12	9	10	9	2	10	3	3	3	6
A74-203002	6	11	3	13	5	13	2	2	13	4
A74-204033	14	14	9	14	12	11	11	7	7	6
A74-204034	6	12	4	7	9	3	8	12	8	3
C1523	9	1	14	4	8	5	8	10	14	4
L71-2855	10	9	13	12	6	2	4	14	9	12
L73D-195	2	3	2	10	11	7	1	6	9	2

Indiana			Wisc.	Illinois				
Bluff-ton	Lafa-yette	Green-field	Arling-ton	Dekalb	Pontiac	Urbana	Girard	Browns-town
				1976 YIELD (bu./A)				
49.5	53.4	59.5	42.0	41.1	35.4	43.4	35.9	29.6
51.8	53.9	56.2	44.8	40.2	31.7	41.2	29.0	25.8
48.9	50.7	57.6	41.3	41.1	42.5	45.5	33.1	29.0
52.7	50.9	58.3	47.2	41.3	43.1	47.1	31.4	28.8
52.7	51.8	60.4	46.8	42.7	36.7	41.0	37.1	33.6
52.1	50.7	57.6	44.1	40.8	37.9	47.8	34.9	30.7
53.7	52.3	56.7	48.8	39.0	37.1	45.9	25.7	24.8
51.8	47.3	53.9	42.0	38.1	33.8	42.9	27.6	25.9
50.0	48.5	58.6	46.5	40.2	35.1	37.3	34.7	32.5
48.4	48.1	51.1	43.3	37.8	33.2	42.9	33.8	29.0
50.4	50.0	53.6	48.8	41.5	37.3	43.0	36.8	34.0
55.2	50.0	64.7	37.2	38.5	36.1	44.3	32.6	32.5
56.3	48.7	51.6	43.8	41.4	34.4	48.6	34.5	26.3
58.6	51.9	59.0	41.7	42.4	37.4	45.0	38.5	31.7
8.2	6.3	6.4	16.0	4.7	7.5	7.9	6.2	8.6
N.S.	N.S.	6.1	10.1	2.8	4.6	5.8	3.4	4.3
30	30	30	30	30	38	30	36	30
3	3	3	3	4	4	4	4	4
3	3	3	4	3	3	3	3	3
				YIELD RANK				
12	2	3	10	6	9	8	4	7
8	1	10	6	9	14	12	13	13
13	7	7	13	6	2	5	9	8
5	6	6	3	5	1	3	11	10
5	5	2	4	1	7	13	2	2
7	7	7	7	8	3	2	5	6
4	3	9	1	11	6	4	14	14
8	14	11	10	13	12	10	12	12
11	12	5	5	9	10	14	6	3
14	13	14	9	14	13	10	8	8
10	9	12	1	3	5	9	3	1
3	9	1	4	12	8	7	10	3
2	11	13	8	4	11	1	7	11
1	4	4	12	2	4	6	1	5

Strain	Minn.	Iowa		Mo.		S. Dakota		Nebraska	
	Waseca	Ames	Sloan	Edina	Columbia I	Brookings	Centerville	Mead I	Concord
				1976 YIELD (bu./A)					
		(a)		*		*	*		
Amsoy 71	35.4	37.7	44.2	18.9	16.5	23.8	13.2	44.5	20.8
Beeson	31.5	35.0	42.8	18.4	11.4	22.8	11.7	42.6	20.4
Corsoy	36.9	29.1	44.8	26.2	20.6	22.4	8.3	49.7	23.9
Harcor	38.9	31.5	51.3	23.9	19.1	21.9	9.7	51.5	24.0
A73-25050	36.6	36.1	48.8	19.5	19.4	26.7	14.2	45.8	23.8
A74-104030	38.0	26.4	49.8	24.1	17.9	27.6	13.3	44.7	23.5
A74-104034	40.8	33.0	44.5	18.7	12.9	26.9	11.1	47.7	19.5
A74-202019	34.8	27.0	46.0	17.3	14.4	25.7	9.3	47.5	24.2
A74-203002	35.1	39.4	50.0	19.4	20.6	22.6	10.7	45.9	23.3
A74-204033	34.9	35.0	44.4	20.1	13.2	23.1	12.6	44.1	22.5
A74-204034	39.3	29.0	48.2	23.4	18.9	27.5	17.2	44.0	26.5
C1523	36.9	32.2	44.4	21.0	13.6	24.1	11.8	43.3	22.6
L71-2855	36.1	32.5	48.1	20.3	16.4	24.5	11.8	45.2	25.5
L73D-195	32.4	24.2	46.5	21.5	25.4	24.6	15.2	43.7	20.0
CV %	7.2	15.1	8.9	15.1	22.5	11.4	23.4	5.8	14.0
LSD (5%)	4.4	7.0	5.6	4.5	5.5	N.S.	4.0	4.4	5.4
Row sp (in.)	30	27	27	30	15	30	30	30	30
Rows/plot	4	4	4	2	4	2	2	4	4
Reps	3	4	4	4	4	4	4	3	3
				YIELD RANK					
Amsoy 71	9	2	13	11	8	9	5	9	11
Beeson	14	4	14	13	14	11	9	14	12
Corsoy	5	10	9	1	2	13	14	2	5
Harcor	3	9	1	3	5	14	12	1	4
A73-25050	7	3	4	9	4	4	3	6	6
A74-104030	4	13	3	2	7	1	4	8	7
A74-104034	1	6	10	12	13	3	10	3	14
A74-202019	12	12	8	14	10	5	13	4	3
A74-203002	10	1	2	10	2	12	11	5	8
A74-204033	11	4	11	8	12	10	6	10	10
A74-204034	2	11	5	4	6	2	1	11	1
C1523	5	8	11	6	11	8	7	13	9
L71-2855	8	7	6	7	9	7	7	7	2
L73D-195	13	14	7	5	1	6	2	12	13

(a) Severe hail storm in early June.
*Not included in the mean.

Strain	Mean	Pa. Landisville	N.J. Adelphia	Md. Clarksville	Ontario Ridgetown	Ontario Harrow	Ohio Hoytville	Ohio Wooster	Mich. Dundee
	50 Tests		1975-1976, 2-YEAR MEAN						
Amsoy 71	41.8	45.6	32.6	47.3	47.2	36.3	36.2	31.6	39.9
Beeson	41.0	47.1	36.8	44.2	42.6	40.8	40.2	34.7	36.2
Corsoy	41.7	39.4	32.6	44.0	56.2	41.2	39.9	27.8	37.4
Harcor	43.1	45.0	34.0	46.6	51.4	40.7	42.4	32.0	38.8
A73-25050	42.6	47.9	35.1	48.0	42.8	40.3	39.4	29.4	35.0
L71-2855	42.3	47.4	33.1	43.6	49.6	42.6	40.0	31.3	39.6
				YIELD RANK					
Amsoy 71	4	4	5	2	4	6	6	3	1
Beeson	6	3	1	4	6	3	2	1	5
Corsoy	5	6	5	5	1	2	4	6	4
Harcor	1	5	3	3	2	4	1	2	3
A73-25050	2	1	2	1	5	5	5	5	6
L71-2855	3	2	4	6	3	1	3	4	2
	78 Tests		1974-1976, 3-YEAR MEAN						
Amsoy 71	40.6	47.9	38.1		47.1	33.6	32.4	32.5	39.8
Beeson	39.8	50.5	39.5		44.1	35.5	35.7	34.7	38.5
Corsoy	40.4	42.6	35.7		54.2	38.8	33.9	29.1	38.8
Harcor	41.8	46.8	36.4		52.0	37.7	35.1	34.2	39.2
				YIELD RANK					
Amsoy 71	2	2	2		3	4	4	3	1
Beeson	4	1	1		4	3	1	1	4
Corsoy	3	4	4		1	1	3	4	3
Harcor	1	3	3		2	2	2	2	2
	215 Tests		1969-1976, 8-YEAR MEAN						69,71-76
Amsoy 71	43.4				52.7	36.8	32.6	32.0	42.2
Beeson	43.0				48.9	38.0	33.1	34.0	42.7
Corsoy	43.4				56.2	39.5	31.4	28.9	44.6
				YIELD RANK					
Amsoy 71	1				2	3	2	2	3
Beeson	3				3	2	1	1	2
Corsoy	1				1	1	3	3	1

Strain	Indiana			Illinois				
	Bluff-ton	Lafa-yette	Green-field	Dekalb	Pontiac	Urbana	Girard	Browns-town
				1975-1976, 2-YEAR MEAN				
Amsoy 71	51.8	56.8	53.4	50.8	36.3	50.6	38.0	37.7
Beeson	56.4	57.1	48.2	47.4	35.1	50.6	35.0	34.1
Corsoy	46.2	50.2	50.6	49.2	44.4	48.9	39.1	35.5
Harcor	51.9	53.2	50.4	49.1	44.8	51.5	39.2	37.8
A73-25050	51.4	54.0	52.6	47.7	41.9	47.0	41.8	38.7
L71-2855	55.1	51.5	50.0	48.8	43.8	53.4	40.1	35.2
				YIELD RANK				
Amsoy 71	4	2	1	1	5	3	5	3
Beeson	1	1	6	6	6	3	6	6
Corsoy	6	6	3	2	2	4	4	4
Harcor	3	4	4	3	1	2	3	2
A73-25050	5	3	2	5	4	5	1	1
L71-2855	2	5	5	4	3	1	2	5
				1974-1976, 3-YEAR MEAN				
Amsoy 71	48.6	54.8	49.6	47.8	33.4	49.9	40.8	37.7
Beeson	51.8	54.0	45.3	45.5	32.2	49.3	38.1	35.3
Corsoy	43.8	48.0	41.0	48.4	37.8	49.3	39.8	35.8
Harcor	47.0	52.8	45.6	48.0	39.1	50.9	40.9	36.7
				YIELD RANK				
Amsoy 71	2	1	1	3	3	2	2	1
Beeson	1	2	3	4	4	3	4	4
Corsoy	4	4	4	1	2	3	3	3
Harcor	3	3	2	2	1	1	1	2
				1969-1976, 8-YEAR MEAN				(a)
Amsoy 71	49.5	54.1	45.8	50.3	37.2	51.1	45.9	41.4
Beeson	50.8	52.3	44.7	49.0	37.9	52.0	43.7	39.7
Corsoy	46.6	50.4	38.4	50.6	40.1	52.8	47.4	38.4
				YIELD RANK				
Amsoy 71	2	1	1	2	3	3	2	1
Beeson	1	2	2	3	2	2	3	2
Corsoy	3	3	3	1	1	1	1	3

(a) 1969-73 Edgewood, Ill.

Minnesota		Iowa		Mo.	S. Dakota		Nebraska	
Lamber-ton	Waseca	Ames	Sloan	Edina	Brook-ings	Center-ville	Mead I	Concord
			1975-1976, 2-YEAR MEAN					
	45.1	47.8	53.1	25.7	31.8	22.8	48.5	28.4
	41.6	50.6	52.0	23.8	27.7	22.2	46.9	28.6
	43.5	44.4	53.5	28.9	33.2	19.8	49.7	32.6
	44.8	45.5	55.8	28.4	30.4	21.8	52.9	29.8
	44.0	50.1	59.0	29.0	33.4	24.3	49.6	27.2
	44.2	47.2	54.1	25.0	31.6	19.4	47.6	30.6
				YIELD RANK				
	1	3	5	4	3	2	4	5
	6	1	6	6	6	3	6	4
	5	6	4	2	2	5	2	1
	2	5	2	3	5	4	1	3
	4	2	1	1	1	1	3	6
	3	4	3	5	4	6	5	2
74-75			1974-1976, 3-YEAR MEAN					
28.0	38.0	47.5	45.5	27.4	30.9	25.7	46.4	
25.8	35.3	50.4	44.8	24.9	26.7	24.1	43.8	
33.4	39.4	45.3	46.5	27.1	34.6	24.6	51.2	
33.2	40.0	47.0	47.0	29.3	31.9	25.2	52.5	
				YIELD RANK				
3	3	2	3	2	3	1	3	
4	4	1	4	4	4	4	4	
1	2	4	2	3	1	3	2	
2	1	3	1	1	2	2	1	
			1969-1976, 8-YEAR MEAN					
69-75						70-76	70-76	69,73,75-76
37.0	38.4	49.0			28.4	30.8	45.2	33.6
35.6	38.2	50.5			27.0	29.9	44.1	33.6
42.9	41.0	49.8			33.5	31.7	48.6	35.4
				YIELD RANK				
2	2	3			2	2	2	2
3	3	1			3	3	3	2
1	1	2			1	1	1	1

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio		Michigan	
		Landis-ville	Adel-phia	Clarks-ville	Ridge-town	Harrow	Hoyt-ville	Woos-ter	East Lansing	Dundee
	23 Tests			MATURITY (relative date)						
Amsoy 71	+3.0	+ 4	+ 3	+ 5	- 1	+ 3	*	+ 8	+ 4	+ 3
Beeson	+4.7	+ 8	+ 2	+ 1	+ 4	+ 5		+ 6	+ 5	+ 3
Corsoy +	9-14.8	9-13	9-17	9-25	10-4	9-9		9-17	9-23	9-11
Harcor	+1.3	+ 1	0	0	- 1	+ 2		+ 2	+ 2	+ 1
A73-25050	+4.1	+ 8	+ 1	+ 2	+ 2	+ 3		+ 3	+ 6	+ 5
A74-104030	+0.7	+ 1	+ 1	- 2	- 5	+ 1		- 2	- 1	- 1
A74-104034	+1.6	+ 4	+ 1	+ 1	- 1	0		+ 3	+ 4	- 1
A74-202019	+1.5	+ 8	0	- 2	+ 3	0		+ 3	+ 3	0
A74-203002	+4.4	+10	+ 1	+ 7	+ 3	+ 4		+ 7	+ 5	+ 2
A74-204033	+2.2	+ 5	0	- 6	+ 2	+ 1		+ 3	+ 3	+ 2
A74-204034	+2.7	+ 5	- 1	+ 3	- 1	+ 3		+ 3	+ 4	+ 2
C1523	+4.4	+ 9	+ 2	+ 2	+ 4	+ 5		+ 7	+ 9	+ 4
L71-2855	+4.9	+ 5	+ 1	0	+ 3	+ 4		+ 3	+ 6	+ 5
L73D-195	+5.5	+ 8	+ 5	+ 3	+ 3	+ 6		+ 9	+ 6	+ 4
Hodgson (I)	-4.8				- 7	+ 5			- 5	- 8
Woodworth (III)	+11.3	+11	+10	+12		+10		+11		
Date planted		5-19	5-28	5-24	6-9	5-21	5-21	5-13	5-10	5-25	5-25
+Days to mat.		119	108	116	108	136	111		130	121	109

*Not included in the mean.

Indiana			Wisc.	Illinois				
Bluff-ton	Lafa-yette	Green-field	Arling-ton	Dekalb	Pontiac	Urbana	Girard	Browns-town
			MATURITY (relative date)					
+ 5	+ 3	+ 4	0	+ 3	+ 2	+ 4	+ 5	- 2
+ 5	+ 4	+ 4	+ 1	+ 7	+ 6	+ 8	+ 8	+ 4
9-12	9-6	9-11	10-2	9-13	9-8	9-7	8-28	9-3
+ 2	+ 1	+ 2	0	+ 1	+ 2	+ 5	+ 2	+ 1
+ 6	+ 7	+ 5	- 2	+ 4	+ 4	+ 6	+ 8	+ 5
+ 3	+ 1	+ 1	- 1	+ 1	+ 1	+ 3	+ 4	+ 2
+ 4	0	+ 2	- 1	+ 2	+ 2	+ 1	+ 4	+ 2
+ 4	0	0	- 2	+ 2	+ 2	+ 3	+ 5	+ 1
+ 7	+ 5	+ 5	- 1	+ 4	+ 4	+ 6	+ 5	+ 6
+ 4	+ 1	+ 2	0	+ 2	+ 4	+ 4	+ 6	+ 3
+ 8	+ 4	+ 4	0	+ 3	+ 3	+ 4	+ 8	+ 4
+10	+ 5	+ 9	+ 1	+ 2	+ 4	+ 6	+ 7	+ 3
+13	+ 5	+ 6	0	+ 4	+ 6	+ 9	+ 8	+ 4
+11	+ 5	+ 9	+ 2	+ 5	+ 6	+ 8	+ 7	+ 6
	- 6		- 9	- 6	- 2	- 4	- 5	- 4
+13	+ 8	+12		+10	+14	+15	+17	+ 9
5-19	5-12	5-13	5-21	5-19	5-25	5-11	5-8	5-19
116	117	121	134	117	106	119	112	107

Strain	Minn.	Iowa		Mo.		S. Dakota		Nebraska	
	Waseca	Ames	Sloan	Edina	Columbia I	Brookings	Centerville	Mead I	Concord
			MATURITY (relative date)						
		*		*	*				
Amsoy 71	+ 4		+ 6			0	+ 2	+ 1	+ 2
Beeson	+ 6		+ 9			+ 4	+ 5	0	+ 4
Corsoy +	9-16		9-5			9-27	9-22	9-17	9-15
Harcor	+ 2		+ 1			+ 1	+ 2	+ 1	0
A73-25050	+ 2		+ 6			+ 5	+ 3	+ 2	+ 3
A74-104030	0		+ 5			- 1	+ 2	0	+ 2
A74-104034	+ 1		+ 6			- 2	+ 4	- 1	+ 2
A74-202019	+ 1		+ 1			+ 1	+ 2	- 2	+ 2
A74-203002	+ 4		+ 5			+ 3	+ 4	+ 3	+ 2
A74-204033	+ 1		+ 4			+ 3	+ 4	- 1	+ 3
A74-204034	+ 2		+ 4			- 2	+ 2	0	+ 1
C1523	+ 1		+ 5			+ 2	+ 2	0	+ 3
L71-2855	+10		+ 7			+ 4	+ 4	+ 2	+ 4
L73D-195	+ 4		+ 6			+ 3	+ 4	+ 3	+ 3
Hodgson (I)	- 2					- 7	- 2	-10	
Woodworth (III)			+15				+ 9	+ 5	
Date planted	5-13	5-7	5-4	5-28	5-24	5-25	5-20	5-21	5-18
+Days to mat.	126		124			125	125	119	120

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio		Michigan	
		Landis-ville	Adel-phia	Clarks-ville	Ridge-town	Harrow	Hoyt-ville	Woos-ter	East Lansing	Dundee
	25 Tests			LODGING (score)						
Amsoy 71	2.0	1.8	4.0	2.0	3.2	1.0	1.0	2.0	2.0	1.0
Beeson	1.8	1.6	4.0	1.0	3.0	1.0	1.0	1.8	1.5	1.0
Corsoy	2.1	2.6	4.0	2.0	1.7	1.0	1.0	2.0	1.5	1.0
Harcor	2.3	3.0	4.0	2.0	2.5	1.2	1.0	2.2	2.0	1.0
A73-25050	2.3	2.9	4.0	2.0	3.2	1.2	1.0	3.0	2.5	1.0
A74-104030	1.9	1.4	4.0	2.0	2.0	1.0	1.0	1.5	1.5	1.0
A74-104034	1.6	1.8	4.0	1.0	2.0	1.0	1.0	1.5	1.5	1.0
A74-202019	2.2	2.2	4.0	2.0	2.7	1.0	1.0	2.5	2.5	1.0
A74-203002	2.2	2.1	4.0	2.0	3.0	1.2	1.0	2.0	3.5	1.0
A74-204033	1.7	1.8	3.0	1.0	2.7	1.0	1.0	1.5	2.0	1.0
A74-204034	2.4	2.1	4.0	3.0	2.5	1.0	1.0	2.0	3.0	1.0
C1523	1.9	1.6	3.0	2.0	2.5	1.0	1.0	1.2	4.0	1.0
L71-2855	2.0	2.2	4.0	2.0	3.2	1.0	1.0	2.0	3.5	1.0
L73D-195	2.5	2.8	4.0	3.0	2.7	1.0	1.2	3.0	4.0	1.0
	26 Tests			PLANT HEIGHT (inches)						
Amsoy 71	38	34	28	36	47	42	31	32	42	43
Beeson	35	31	28	33	44	36	31	31	45	34
Corsoy	34	32	33	33	43	36	26	34	42	35
Harcor	36	32	30	34	43	40	29	35	40	34
A73-25050	35	35	31	36	46	37	30	36	40	32
A74-104030	32	28	26	33	38	34	29	28	34	30
A74-104034	31	29	28	30	38	31	28	30	35	28
A74-202019	34	30	31	33	42	36	32	31	42	36
A74-203002	38	36	34	36	50	42	31	36	44	40
A74-204033	34	30	30	33	39	35	30	32	42	32
A74-204034	35	31	30	34	41	39	28	32	43	36
C1523	37	36	30	41	45	40	31	35	46	38
L71-2855	36	31	31	33	43	39	33	32	44	36
L73D-195	39	37	31	39	51	42	34	36	48	40

Strain	Indiana			Wisc.	Illinois				
	Bluff-ton	Lafa-yette	Green-field	Arling-ton	Dekalb	Pontiac	Urbana	Girard	Browns-town
				LODGING (score)					
Amsoy 71	1.8	2.0	3.2	2.8	1.5	2.0	3.7	1.3	1.0
Beeson	2.2	2.0	2.8	3.0	1.3	2.0	3.0	1.2	1.0
Corsoy	1.5	2.5	3.0	3.8	1.8	2.5	3.6	1.2	1.5
Harcor	2.5	3.2	3.3	4.0	2.0	3.2	3.8	1.5	1.2
A73-25050	2.2	3.8	3.5	2.8	1.8	2.3	4.5	1.7	1.0
A74-104030	2.2	2.3	3.5	2.8	1.2	2.0	3.8	1.3	1.0
A74-104034	1.7	1.8	2.7	2.0	1.0	1.5	2.1	1.0	1.0
A74-202019	2.3	2.8	4.0	3.5	1.5	2.5	3.7	2.5	1.2
A74-203002	1.8	3.2	3.2	3.2	1.5	2.5	4.2	1.7	1.2
A74-204033	1.7	2.0	2.5	2.8	1.3	1.7	2.3	1.0	1.0
A74-204034	2.8	4.3	4.2	2.8	1.5	2.5	4.7	2.7	1.2
C1523	1.8	2.3	2.3	3.0	1.5	2.0	3.2	1.0	1.2
L71-2855	1.8	2.2	2.3	3.0	1.5	2.0	2.3	1.5	1.0
L73D-195	2.2	3.0	3.3	3.8	2.0	2.7	4.5	2.5	1.3
				PLANT HEIGHT (inches)					
Amsoy 71	44	40	37	41	39	46	48	38	25
Beeson	39	38	36	37	36	42	46	34	22
Corsoy	34	34	35	43	36	38	44	31	22
Harcor	39	36	36	44	38	43	45	32	22
A73-25050	38	38	36	39	37	39	44	30	23
A74-104030	35	35	33	36	34	38	39	29	21
A74-104034	37	34	33	35	32	36	39	28	21
A74-202019	37	35	32	39	35	40	41	32	21
A74-203002	40	39	37	41	41	45	48	38	24
A74-204033	40	38	34	38	36	41	42	32	21
A74-204034	39	39	35	37	37	40	43	35	23
C1523	39	39	39	39	39	46	46	34	26
L71-2855	40	39	36	39	37	42	45	34	22
L73D-195	46	40	39	46	41	45	47	37	23

Minn.	Iowa		Missouri		S. Dakota		Nebraska	
Waseca	Ames	Sloan	Edina	Columbia I	Brookings	Centerville	Mead I	Concord
				LODGING (score)				
1.0	1.5	1.6	3.6	1.0			1.8	1.0
1.7	1.4	1.5	3.4	1.0			1.8	1.0
2.0	1.6	1.6	3.4	1.0			2.7	1.0
2.0	1.5	1.8	3.7	1.0			3.0	1.2
2.0	1.4	1.8	3.3	1.0			3.0	1.2
2.0	1.5	1.4	3.1	1.0			1.8	1.0
1.3	1.2	1.3	2.8	1.0			1.2	1.0
2.0	1.6	1.7	3.5	1.0			2.0	1.0
2.0	1.5	1.5	3.1	1.0			1.8	1.0
1.3	1.3	1.5	2.9	1.0			1.5	1.0
2.0	1.7	1.5	3.6	1.0			2.7	1.2
2.0	1.3	1.6	2.8	1.0			2.3	1.0
2.0	1.7	1.7	3.3	1.0			2.0	1.3
2.0	1.7	1.6	3.7	1.0			2.7	1.5
	*			PLANT HEIGHT (inches)				
41	26	39	33	24	38	37	42	30
40	24	37	30	21	33	33	44	28
37	22	32	31	23	36	36	41	27
39	24	35	34	23	37	37	42	30
40	23	36	27	22	33	33	39	28
37	16	36	27	20	34	34	36	25
35	16	32	26	20	34	33	35	22
37	18	36	30	21	35	34	36	26
40	27	36	32	23	37	36	41	34
38	22	36	28	21	33	32	38	27
39	22	33	33	22	37	37	41	27
38	23	37	31	22	35	35	42	29
40	24	38	30	22	35	35	38	30
38	27	41	33	25	40	39	46	34

*Severe hail storm in early June, not included in the mean.

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio		Michigan	
		Landis-ville	Adel-phia	Clarks-ville	Ridge-town	Harrow	Hoyt-ville	Woos-ter	East Lansing	Dundee
	24 Tests			SEED QUALITY (score)						
Amsoy 71	2.3	2.8	3.0	2.0	2.0	2.5	2.0	3.5		
Beeson	2.5	3.2	2.0	3.0	2.0	2.0	2.8	2.8		
Corsoy	2.2	2.1	2.0	2.0	2.0	1.8	2.8	3.0		
Harcor	2.3	2.0	2.0	2.0	2.0	1.5	2.2	2.8		
A73-25050	2.4	2.3	2.0	3.0	3.0	1.8	2.5	2.0		
A74-104030	2.7	3.0	4.0	2.0	2.0	2.5	2.8	3.5		
A74-104034	2.9	3.7	2.0	4.0	2.0	2.5	3.2	4.8		
A74-202019	2.4	2.6	2.0	3.0	2.0	2.0	3.0	2.2		
A74-203002	2.5	2.7	2.0	2.0	2.0	2.5	2.5	2.5		
A74-204033	2.3	2.6	3.0	2.0	2.0	1.5	2.0	2.5		
A74-204034	2.6	2.7	2.0	3.0	3.0	2.0	2.8	2.2		
C1523	2.4	2.4	2.0	2.0	2.0	2.0	2.8	4.0		
L71-2855	2.4	2.5	2.0	3.0	2.0	1.5	2.0	2.8		
L73D-195	2.3	2.7	2.0	3.0	2.0	1.8	2.8	3.2		
	21 Tests			SEED SIZE (g/100)						
Amsoy 71	15.4	17.0	18.0	17.1	17.6	13.6	17.4	13.7	18.4	16.3
Beeson	17.3	19.7	22.0	18.3	17.1	15.0	19.5	17.3	19.8	18.0
Corsoy	14.9	15.4	18.0	15.1	17.3	13.6	16.8	13.4	16.2	15.8
Harcor	14.3	16.5	18.0	15.0	15.9	13.0	16.1	13.0	16.3	15.0
A73-25050	15.8	16.0	19.0	16.9	17.9	13.6	16.4	14.5	17.1	16.2
A74-104030	16.8	18.4	20.0	17.5	19.6	14.7	18.8	14.2	19.0	18.0
A74-104034	17.6	19.1	22.0	17.6	18.6	16.1	19.4	16.7	20.5	19.7
A74-202019	16.4	19.1	22.0	17.9	19.3	14.0	18.0	16.4	20.2	15.3
A74-203002	17.0	18.5	22.0	17.7	18.7	14.8	18.4	15.8	18.8	17.0
A74-204033	16.5	18.2	19.0	17.3	18.1	14.9	18.0	15.9	18.9	18.0
A74-204034	17.2	19.5	20.0	18.7	18.1	14.9	18.0	13.9	20.6	16.5
C1523	19.7	23.1	22.0	22.3	23.0	18.7	22.1	18.0	24.8	18.6
L71-2855	19.1	21.1	24.0	19.5	20.7	16.8	21.4	16.9	21.1	18.9
L73D-195	15.2	15.4	18.0	15.7	17.1	15.2	17.8	14.2	17.8	16.1

Indiana			Wisc.	Illinois				
Bluff-ton	Lafa-yette	Green-field	Arling-ton	Dekalb	Pontiac	Urbana	Girard	Browns-town
			SEED QUALITY (score)					
1.5	2.0	1.5	3.2	2.0	1.8	2.5	2.5	2.2
1.5	2.0	2.0	2.5	2.2	2.3	3.3	3.2	3.2
1.5	1.5	1.5	2.5	1.5	1.3	1.5	2.0	1.3
1.5	2.0	1.5	2.8	1.7	2.0	1.7	2.0	1.5
1.5	2.0	1.5	2.5	1.8	2.0	2.2	3.5	2.2
1.5	2.0	2.0	3.0	2.7	2.3	2.3	3.2	3.3
2.0	2.5	1.5	3.2	2.7	2.8	2.7	3.2	3.3
2.0	2.0	2.0	2.2	1.8	2.0	2.7	2.7	3.0
2.0	2.0	1.5	2.0	1.8	2.0	2.8	2.8	3.3
1.5	2.0	1.5	2.5	1.5	2.3	2.7	2.5	2.5
2.0	2.0	2.0	3.2	2.0	2.7	3.0	3.2	2.8
2.0	2.0	1.5	4.5	1.8	2.3	2.5	2.7	2.3
1.5	1.5	1.5	2.2	1.7	2.5	2.5	2.7	3.2
1.5	1.5	1.5	3.2	1.7	2.5	1.8	2.0	2.0
			SEED SIZE (g/100)					
14.2	17.1	17.9	16.7	14.3	13.3			
16.4	18.8	19.4	18.4	17.9	13.8			
14.1	15.4	15.7	17.9	13.3	13.6			
12.9	14.9	14.6	14.8	12.9	13.2			
20.4	17.7	17.6	16.5	13.5	13.6			
16.9	16.9	18.0	18.6	14.7	14.7			
17.6	18.2	20.0	19.0	17.0	14.9			
16.1	16.7	16.9	18.1	15.7	13.8			
16.1	17.7	18.1	19.5	16.8	13.3			
16.6	18.0	18.5	17.2	16.1	14.9			
17.5	18.4	19.0	20.0	15.7	15.3			
20.0	20.6	21.9	19.4	19.8	17.2			
19.2	20.9	21.2	20.4	18.9	17.1			
15.7	16.3	17.1	14.7	14.1	12.5			

Strain	Minn.	Iowa	Mo.		S. Dakota		Nebraska	
	Waseca	Sloan	Edina	Columbia I	Brookings	Centerville	Mead I	Concord
				SEED QUALITY (score)				
Amsoy 71	2.0	1.4	3.5	3.0	1.0	2.0	2.3	3.8
Beeson	2.0	1.7	3.5	4.2	3.0	1.0	2.2	3.2
Corsoy	1.7	1.8	3.5	3.0	3.0	3.0	2.3	4.4
Harcor	2.0	1.4	3.5	3.0	3.0	3.0	2.5	4.5
A73-25050	2.3	2.0	3.5	4.0	1.0	4.0	2.0	3.3
A74-104030	2.3	2.3	3.5	3.5	2.0	2.0	2.8	3.7
A74-104034	2.0	1.8	3.5	3.5	4.0	2.0	2.8	4.0
A74-202019	2.0	2.0	3.5	3.5	1.0	2.0	2.2	3.2
A74-203002	2.3	2.3	3.5	4.0	3.0	3.0	2.2	4.0
A74-204033	2.0	2.7	3.5	3.8	2.0	2.0	2.0	3.0
A74-204034	2.0	2.7	3.5	3.8	3.0	2.0	2.3	3.7
C1523	2.0	2.6	3.5	3.0	1.0	2.0	2.7	3.2
L71-2855	2.0	2.3	3.5	3.8	1.0	4.0	2.2	2.8
L73D-195	1.7	1.9	3.5	3.0	3.0	2.0	2.0	3.5
				SEED SIZE (g/100)				
Amsoy 71	14.9	13.6			11.3	13.7	15.3	11.9
Beeson	16.1	14.5			14.8	15.7	16.8	13.4
Corsoy	14.2	14.6			11.0	13.3	15.3	12.2
Harcor	14.4	14.8			10.5	12.0	14.9	11.2
A73-25050	15.0	14.1			12.7	14.2	16.2	12.5
A74-104030	16.5	16.3			14.2	15.4	17.2	13.7
A74-104034	17.3	16.2			13.8	15.6	17.4	13.4
A74-202019	15.3	13.9			12.4	14.5	15.9	13.1
A74-203002	16.4	16.2			14.8	15.6	17.2	14.2
A74-204033	15.8	15.4			13.7	13.7	15.7	12.8
A74-204034	16.1	17.1			13.5	17.1	16.6	13.8
C1523	20.0	16.7			16.3	16.9	17.6	14.8
L71-2855	18.6	16.3			14.6	17.7	19.2	15.7
L73D-195	14.5	14.1			12.3	14.6	14.2	12.2

Strain	Mean	Md.	Ontario	Indiana	
		Clarksville	Harrow	Bluffton	Lafayette
11 Tests		PROTEIN (%)			
Amsoy 71	39.4	38.7	40.3	40.9	39.2
Beeson	40.8	41.2	41.2	43.1	40.7
Corsoy	39.7	39.3	40.3	41.2	39.9
Harcor	39.4	39.4	40.6	41.9	40.2
A73-25050	39.8	39.7	41.3	41.6	39.7
A74-104030	41.0	41.1	41.5	42.5	41.5
A74-104034	40.7	41.1	40.0	42.9	40.9
A74-202019	39.2	38.9	40.7	40.4	40.0
A74-203002	38.4	38.6	40.2	39.2	38.3
A74-204033	40.4	39.9	41.2	42.0	41.6
A74-204034	39.0	38.2	42.3	39.7	39.1
C1523	41.6	41.4	41.6	42.9	42.0
L71-2855	40.5	40.4	41.1	41.7	39.9
L73D-195	38.2	38.0	39.8	39.7	38.7
11 Tests		OIL (%)			
Amsoy 71	20.6	21.1	18.8	19.1	20.5
Beeson	20.1	19.9	19.6	18.3	20.1
Corsoy	20.9	21.3	19.8	19.0	20.7
Harcor	20.7	21.1	18.8	18.6	20.4
A73-25050	22.1	21.6	19.9	20.3	21.5
A74-104030	20.5	20.5	19.1	19.0	20.1
A74-104034	20.7	20.9	19.6	18.9	20.2
A74-202019	20.7	21.3	19.2	19.3	20.2
A74-203002	22.3	22.4	20.2	20.7	21.1
A74-204033	20.7	20.9	19.1	19.6	19.7
A74-204034	21.2	22.0	19.0	19.6	20.5
C1523	19.8	20.3	18.8	18.3	19.6
L71-2855	20.6	20.6	19.4	19.4	20.1
L73D-195	20.9	21.5	19.2	19.1	19.7

Strain	Illinois Dekalb	Illinois Urbana	Minn. Waseca	Iowa Sloan	Mo. Columbia I	S Dakota Centerville	Neb. Mead I
			PROTEIN (%)				
Amsoy 71	37.0	40.5	40.2	37.5	38.9	41.3	39.4
Beeson	37.8	41.8	41.4	38.6	40.6	42.3	40.5
Corsoy	36.6	40.9	39.9	36.8	41.3	40.9	39.9
Harcor	36.7	40.4	39.0	35.5	41.0	41.2	37.8
A73-25050	35.1	40.0	40.5	37.0	39.5	42.7	40.8
A74-104030	39.8	42.6	40.3	37.8	40.7	41.9	41.7
A74-104034	38.7	42.7	40.4	37.9	41.8	42.7	38.7
A74-202019	36.2	40.1	39.7	36.3	38.8	41.9	38.6
A74-203002	35.1	39.2	38.8	34.6	38.8	42.2	37.8
A74-204033	38.4	42.1	40.2	37.5	40.3	41.6	39.7
A74-204034	36.2	40.0	39.7	35.4	37.3	40.9	40.2
C1523	40.1	42.9	42.3	38.6	42.1	43.0	41.0
L71-2855	38.5	41.5	40.7	38.5	39.7	43.0	40.7
L73D-195	34.0	40.2	39.0	35.7	37.8	40.3	36.8
			OIL (%)				
Amsoy 71	22.3	20.1	20.0	22.4	22.2	19.8	20.8
Beeson	22.0	20.2	19.5	21.4	21.1	18.9	19.9
Corsoy	22.7	20.7	20.9	23.0	21.2	20.3	20.1
Harcor	22.1	20.5	20.8	23.1	20.8	19.6	21.7
A73-25050	24.2	22.7	21.6	23.8	25.8	21.1	20.8
A74-104030	21.7	20.2	20.8	22.5	21.4	19.9	20.1
A74-104034	22.5	20.6	21.1	22.7	21.2	18.8	20.8
A74-202019	22.3	21.1	20.4	22.3	21.6	19.3	20.8
A74-203002	24.0	22.4	22.1	25.1	24.0	20.4	22.5
A74-204033	22.3	20.2	20.7	22.6	21.3	19.7	21.1
A74-204034	22.9	20.7	21.0	23.1	23.8	20.0	20.8
C1523	21.2	19.4	19.3	21.6	20.0	19.0	19.8
L71-2855	22.2	20.2	20.7	22.5	22.1	19.5	20.4
L73D-195	23.1	20.1	21.0	22.6	22.6	19.8	21.0

Strain		Parentage	Generation Composited
1.	Beeson		
2.	Corsoy		
3.	A75-104031	IVR Ex5003 x Wells[2]	F3
4.	A75-105020	Corsoy[2] x (Mack x L65-1342 or Anoka)	F2
5.	A75-105029	"	"
6.	A75-105033	"	"
7.	A75-128027	AP6	F5
8.	A75-128035	AP6	F4
9.	A75-201033	IVR Ex5003 x Wells	F4
10.	A75-203005	L65-1342 x C1488	"
11.	A75-203011	Harosoy Dt_2 Phyt. x Calland	"
12.	A75-203014	IVR Ex4731 x Wirth	"
13.	A75-203032	IVR Ex212 x C1453	"
14.	A75-203036	IVR Ex4428 x Woodworth	"
15.	A75-204034	M59-120 x IVR Ex4731	"
16.	A75-204035	M62-275 x IVR Ex4428	"
17.	A75-205006	Corsoy x IVR Ex4426	"
18.	A75-Corsoy R3	Corsoy[4] x (Mack or L65-1342 or Anoka)	F3
19.	C1531	L63-0007-1 x Cx407BC7-255 (BSR resis.)	F5
20.	C1533	L63-0007-2 x CX407BC7-255 "	"
21.	C1534	"	"
22.	C1535	L63-0007-4 x CX407BC_7-255	"
23.	C1539	C1421 x L63-1397	F6
24.	C1544	Beeson x Bonus	"
25.	C1545	Calland x Bonus	"
26.	C1546	"	"
27.	C1547	C1471 x Beeson	F5
28.	HX176-2-8	CX198-H38 x CX282-H14	F5
29.	L73-4572	Corsoy x C1476	F5
30.	L73-6409	Lindarin Rps rxp x Custer (CN resis)	F7
31.	L73D-76	C1426 x C1477	F6
32.	L74D-618	Williams x Ransom (Semidwarf)	F5
33.	L74D-670	Amsoy 71 x Ransom	"
34.	L74D-679	"	"
35.	U10917	C1253 x Wayne	F4
36.	U11406	C1432 x C1430	F7

Five strains in this test exceeded the yield of the check varieties, A75-105020, A75-105029, A75-105033, A75-203036, and C1545. The first three of these are resistant to races 1, 2, 3, and probably 6 of phytophthora root rot. Four strains, C1531, C1533, C1534 and C1535, supposedly have brown stem rot resistance; they showed no yield advantage over the check varieties. None of these strains appeared to have higher levels of resistance than the checks to brown stem rot in tests in Indiana and Iowa. The cyst nematode resistant strain, L73-6409, was somewhat lower in yield and had poorer resistance to lodging than the check varieties. The semidwarf strain,L74D-618, did not yield as well as the check varieties, but did have excellent lodging resistance. In these tests it averaged 22 inches in height compared to 34 and 35 inches for the check varieties.

Disease Data

Strain	BB	FE_2	BSR			PSB	PS	SMV	PR		
	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	n	a	n %	n % stem	n % plants	d	a	a seed	a	a	n
Beeson	3	1	100	39	95	1	4	4M	R	R	3
Corsoy	5	5	50	37	95	5	4	5E	S	S	4
A75-104031	5	4	90	35	85	4	4	5E	R	R	4
A75-105020	5	5	40	33	80	5	4	5E	R	R	3
A75-105029	4	5	30	42	100	5	4	5E	R	R	3
A75-105033	4	5	60	39	75	4	4	5E	H	S	3
A75-128027	1	4	50	26	80	2	3	5E	S	S	4
A75-128035	2	1	60	24	75	4	3	5E	S	S	3
A75-201033	2	3	50	33	95	3	4	5E	S	S	5
A75-203005	3	2	70	34	100	1	2	5E	S	S	3
A75-203011	2	5	30	29	85	4	2	5S	R	H	4
A75-203014	2	4	90	37	90	2	2	5E	S	S	4
A75-203032	3	5	100	30	90	3	2	5E	R	R	4
A75-203036	3	5	90	39	90	2	4	5E	S	S	4
A75-204034	4	3	90	40	75	2	1	5E	S	S	4
A75-204035	4	5	80	34	90	2	1	5E	S	S	4
A75-205006	5	5	70	30	85	3	5	5E	S	S	5
A75-Corsoy R3	4	5	10	36	95	5	4	5E	R	R	3
C1531	3	5	100	26	80	3	4	5E	S	S	5
C1533	4	4	100	21	70	4	4	5E	R	R	5
C1534	5	4	80	21	50	4	4	5E	R	R	4
C1535	5	5	90	23	80	2	1	5E	S	S	5
C1539	5	5	100	32	90	3	3	5E	R	R	5
C1544	5	3	60	37	100	1	5	3M	R	R	4
C1545	3	5	80	43	95	2	3	5E	R	R	3
C1546	3	2	80	39	100	1	2	5E	R	R	3
C1547	1	4	90	41	100	3	2	5E	R	R	3
HX176-2-8	3	2	50	55	100	2	3	2E	R	R	5
L73-4572	2	5	70	50	100	3	4	5E	S	S	4
L73-6409	4	5	100	53	100	2	4	5E	R	H	3
L73D-76	5	4	90	41	90	2	4	5E	R	R	3
L74D-618	4	3	90	72	100	1	2	2M	S	S	4
L74D-670	5	1	100	49	100	1	1	3M	S	S	4
L74D-679	5	1	90	46	90	1	1	3M	S	S	4
U10917	5	5	90	38	100	2	4	5E	R	R	4
U11406	4	4	100	50	90	1	3	5M	R	R	4

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Ames Iowa	Shattering Manhattan Kansas
Beeson	PGNBr SYIb	4	5.0
Corsoy	PGNBr DYY	5	3.0
A75-104031	PGNBr DYG	2	5.0
A75-105020	PGNTn DYY	5	2.0
A75-105029	PGNTn DYY	4	3.0
A75-105033	PGNBr DYY	5	4.0
A75-128027	PGNBr SYIb	3	5.0
A75-128035	PTNBr DYB1	5	5.0
A75-201033	PGNBr SYBf	4	5.0
A75-203005	PGNBr DYG	4	1.0
A75-203011	PTNBr DYG	2	5.0
A75-203014	WTNTn SYBr	1	5.0
A75-203032	PGNBr DYG	5	1.0
A75-203036	WGNTn DYY	4	5.0
A75-204034	P+WTNTn SYB1	2	1.0
A75-204035	WGNBr DYY	3	3.0
A75-205006	PGNBr DYY	4	3.0
A75-Corsoy R3	PGNBr DYY	5	5.0
C1531	PGNBr DYY	4	4.0
C1533	PGNBr SYY	3	5.0
C1534	PGNBr SYY	4	5.0
C1535	PGNBr DYY	3	5.0
C1539	W+PGNBr DYY+Bf	4	3.0
C1544	P GNBr DYIb	3	4.0
C1545	PTNBr DYB1	3	3.0
C1546	W+PTNBr SYB1	1	2.0
C1547	PGNBr SYIb	2	3.0
HX176-2-8	PGNBr DYIb	2	4.0
L73-4572	PGNBr DYBf	5	5.0
L73-6409	PGNBr SYBf	3	5.0
L73D-76	PGNTn SYY	5	5.0
L74D-618	PTNTn SYB1	3	2.0
L74D-670	PTNTn SYG	3	1.5
L74D-679	PTNTn SYG	2	1.0
U10917	PGNTn SYY	3	5.0
U11406	WGNTn SYB1	5	5.0

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
No. of tests	11	11	10	9	9	9	9	4	4
Beeson	36.6	28	+ 3.7	2.0	35	2.2	18.0	39.1	19.8
Corsoy	41.1	6	9-13.8	2.0	34	2.0	15.4	38.4	21.3
A75-104031	37.3	22	+ 1.6	1.8	30	2.6	14.6	39.3	20.8
A75-105020	41.7	4	+ 0.7	2.1	32	2.2	17.9	39.3	20.6
A75-105029	41.4	5	+ 0.3	2.3	35	2.1	15.5	39.0	20.6
A75-105033	42.1	3	+ 2.3	2.4	39	2.1	15.4	39.0	21.0
A75-128027	37.9	18	- 0.7	1.6	29	2.9	17.8	39.3	20.4
A75-128035	36.9	25	+ 0.8	2.2	36	2.8	17.7	37.1	20.5
A75-201033	39.5	10	+ 0.6	1.8	30	3.0	15.1	39.5	21.4
A75-203005	38.5	15	+ 4.9	1.6	31	2.4	16.7	41.4	19.1
A75-203011	36.2	29	+ 5.8	2.4	36	2.6	15.9	39.8	20.2
A75-203014	40.7	7	+ 2.4	2.2	35	2.1	16.7	39.5	20.5
A75-203032	36.7	26	+ 6.9	2.9	39	2.5	15.1	41.1	19.7
A75-203036	42.3	2	+ 3.2	2.1	39	2.0	14.0	38.1	21.6
A75-204034	37.6	21	+ 4.8	1.7	38	2.0	15.6	39.4	20.9
A75-204035	40.0	8	+ 7.2	3.4	41	2.2	17.5	38.4	21.0
A75-205006	38.9	13	+ 2.7	2.1	34	2.2	14.6	38.8	21.0
A75-Corsoy R3	40.0	8	- 0.5	2.3	34	2.2	15.3	39.4	20.7
C1531	38.0	17	+ 0.8	2.0	37	2.3	17.5	38.7	21.1
C1533	35.7	32	+ 1.2	2.0	38	2.9	18.4	39.4	20.9
C1534	37.7	19	+ 0.8	2.0	37	2.2	18.9	39.0	20.6
C1535	35.7	32	+ 3.1	2.4	41	3.2	18.2	39.0	20.2
C1539	36.1	30	+ 6.6	2.1	37	2.4	17.5	41.5	19.8
C1544	39.2	11	+ 1.8	1.8	37	2.3	20.1	42.3	19.4
C1545	42.6	1	+ 3.8	1.7	37	2.2	17.5	40.8	20.2
C1546	37.1	24	+ 4.8	2.3	40	2.4	15.8	40.0	19.9
C1547	38.7	14	+ 5.6	1.8	39	2.4	17.3	41.0	20.4
HX176-2-8	31.1	36	+ 5.8	2.4	40	2.3	16.6	42.6	19.3
L73-4572	38.4	16	+ 3.2	2.2	36	2.7	16.5	40.0	20.1
L73-6409	34.2	35	+ 2.4	2.6	39	2.5	14.5	39.1	20.1
L73D-76	37.7	19	+ 2.0	2.0	37	2.7	17.3	39.4	20.3
L74D-618	34.5	34	+ 4.7	1.6	22	1.9	15.1	40.8	20.2
L74D-670	36.0	31	+10.5	1.9	31	2.4	13.3	38.9	20.8
L74D-679	36.7	26	+ 9.6	1.9	35	2.4	13.6	40.2	20.2
U10917	37.2	23	+ 4.2	1.9	38	2.8	15.9	38.5	20.9
U11406	39.0	12	+ 2.4	1.4	33	2.3	17.0	39.7	20.0

Strain	Mean	N.J. Adel-phia	Ontario Harrow	Ohio Hoyt-ville	Mich. Dundee	Ind. Lafa-yette
	11 Tests	YIELD (bu./A)				
Beeson	36.6	31.8	37.3	27.3	31.8	50.8
Corsoy	41.1	32.4	44.6	37.6	39.5	50.8
A75-104031	37.3	30.8	39.4	25.6	36.1	54.7
A75-105020	41.7	32.9	33.8	49.5	36.6	53.5
A75-105029	41.4	31.3	38.3	46.6	35.5	53.2
A75-105033	42.1	32.2	46.7	46.4	36.9	54.9
A75-128027	37.9	30.5	41.4	33.0	34.7	49.8
A75-128035	36.9	34.0	38.1	40.9	34.0	52.3
A75-201033	39.5	30.4	36.3	23.3	36.0	56.7
A75-203005	38.5	36.3	32.9	46.0	35.7	53.3
A75-203011	36.2	30.9	33.9	44.5	32.3	53.9
A75-203014	40.7	33.1	34.1	41.4	37.4	57.2
A75-203032	36.7	34.8	41.5	46.8	32.8	50.1
A75-203036	42.3	35.0	32.1	43.3	35.7	57.0
A75-204034	37.6	34.8	37.6	38.2	34.0	53.8
A75-204035	40.0	37.6	37.8	46.2	29.6	51.0
A75-205006	38.9	28.6	40.8	30.6	38.4	54.8
A75-Corsoy R3	40.0	26.4	36.2	46.0	36.9	52.9
C1531	38.0	33.4	35.1	31.6	33.6	52.5
C1533	35.7	33.2	34.7	24.6	34.8	53.3
C1534	37.7	35.2	39.5	28.4	35.3	54.1
C1535	35.7	31.4	41.1	31.2	31.8	50.1
C1539	36.1	31.4	38.0	37.4	30.5	49.1
C1544	39.2	31.2	40.9	43.0	33.6	52.9
C1545	42.6	32.6	41.9	49.1	33.6	56.1
C1546	37.1	26.7	33.2	48.7	35.4	52.0
C1547	38.7	36.0	36.3	42.7	35.3	54.3
HX176-2-8	31.1	23.4	31.3	35.4	28.4	46.4
L73-4572	38.4	32.8	37.1	37.4	34.1	54.1
L73-6409	34.2	22.8	25.9	38.0	27.1	47.4
L73D-76	37.7	29.0	31.3	44.0	33.6	49.5
L74D-618	34.5	25.4	30.2	38.8	30.3	47.0
L74D-670	36.0	33.6	35.7	40.6		42.6
L74D-679	36.7	31.2	25.4	47.8		47.8
U10917	37.2	28.1	37.6	35.5	35.2	55.5
U11406	39.0	28.8	36.1	35.1	35.2	54.3
CV (%)		14.6	16.5	20.3(a)	9.2	7.1
LSD (5%)		9.3	N.S.	16.1	4.2	7.6
Row Sp. (in.)		30	24	30	30	30
Rows/plot		3	4	3	4	3
Rep.		2	2	2	2	2

(a) High CV may have been caused by a light infection of phytophthora root rot.

Strain	Wisc. Arlington	Ill. Urbana	Iowa Ames	Iowa Sloan	S. Dakota Centerville	Neb. Mead I
			YIELD (bu./A)			
					(b)	
Beeson	40.9	54.0	32.0	47.6	11.7	37.1
Corsoy	41.5	48.3	39.9	58.8	10.4	48.6
A75-104031	30.8	52.9	33.7	53.0	13.7	39.7
A75-105020	40.8	61.2	37.0	53.3	11.9	48.1
A75-105029	46.6	59.0	28.2	55.9	10.9	49.6
A75-105033	43.3	55.4	34.1	53.5	11.0	48.6
A75-128027	48.7	51.5	37.9	41.4	7.1	41.0
A75-128035	43.5	52.7	21.3	41.4	10.4	37.0
A75-201033	47.2	53.8	38.5	53.0	13.8	45.3
A75-203005	42.2	56.9	32.0	38.4	10.4	39.2
A75-203011	27.1	51.9	30.5	43.6	11.8	38.3
A75-203014	51.3	57.8	38.5	45.9	11.3	39.9
A75-203032	33.6	49.0	35.8	34.0	12.1	33.4
A75-203036	48.3	58.3	33.3	57.2	21.8	43.4
A75-204034	27.5	54.3	33.8	43.9	14.5	40.9
A75-204035	35.7	51.9	36.3	52.6	17.7	43.1
A75-205006	39.3	52.9	27.7	51.5	13.3	49.9
A75-Corsoy R3	45.0	55.9	27.8	53.2	11.0	48.3
C1531	44.1	57.4	28.9	46.4	10.4	44.8
C1533	43.4	56.8	19.8	39.6	9.1	43.9
C1534	41.0	57.4	30.8	36.8	9.5	46.4
C1535	26.2	57.6	29.4	43.5	9.9	40.8
C1539	37.0	49.2	32.3	41.6	12.8	37.5
C1544	39.7	58.3	33.9	44.2	12.9	40.8
C1545	41.0	59.5	44.0	48.5	15.6	46.2
C1546	34.3	51.4	26.9	46.3	15.9	36.9
C1547	37.4	59.0	36.6	46.7	14.4	27.0
HX176-2-8	24.0	44.6	25.8	38.2	10.9	34.1
L73-4572	45.3	56.2	22.9	49.4	11.0	41.8
L73-6409	31.9	48.1	33.5	45.9	13.7	42.3
L73D-76	42.7	59.1	24.2	48.6	14.6	38.1
L74D-618	34.3	62.3	21.1	39.6	10.7	40.3
L74D-670	22.9	56.1	26.5	44.7	19.6	38.0
L74D-679	25.6	56.9	34.2	41.7	13.9	42.3
U10917	30.6	58.1	26.4	49.4	12.9	39.7
U11406	47.0	56.2	26.4	43.8	16.7	49.2
CV (%)	19.2	5.5	16.3	5.9	19.5	10.2
LSD (5%)	15.0	6.1	10.2	5.5	5.0	8.7
Row Sp. (in.)	30	30	27	27	30	30
Rows/plot	3	4	4	4	2	4
Rep.	2	2	2	2	2	2

(b) drought

Strain	Mean	N.J. Adelphia	Ont. Harrow	Ohio Hoytville	Mich. Dundee	Ind. Lafayette	Wisc. Arlington	Ill. Urbana	Iowa Ames	Iowa Sloan	S.D. Centerville	Neb. Mead I
	11 tests			YIELD RANK								
Beeson	28	18	16	33	28	25	18	23	18	15	21	31
Corsoy	6	16	2	22	1	25	15	34	2	1	29	4
A75-104031	22	25	10	34	7	8	29	25	14	7	12	24
A75-105020	4	13	26	1	6	15	19	2	6	5	19	7
A75-105029	5	21	11	6	11	18	6	5	24	3	26	2
A75-105033	3	17	1	7	4	6	12	21	11	4	23	4
A75-128027	18	26	5	28	17	29	2	30	5	29	36	18
A75-128035	25	8	12	17	20	22	10	27	34	29	29	32
A75-201033	10	27	18	36	8	3	4	24	3	7	11	10
A75-203005	15	2	28	9	9	16	14	14	18	33	29	26
A75-203011	29	24	25	11	27	13	32	28	21	25	20	27
A75-203014	7	12	24	16	3	1	1	10	3	19	22	23
A75-203032	26	6	4	5	26	27	27	33	9	36	18	35
A75-203036	2	5	29	13	9	2	3	7	16	2	1	13
A75-204034	21	6	15	20	20	14	31	22	13	23	8	19
A75-204035	8	1	14	8	32	24	24	28	8	9	3	14
A75-205006	13	30	8	31	2	7	21	25	26	10	14	1
A75-Corsoy R3	8	33	19	9	4	19	8	20	25	6	23	6
C1531	17	10	22	29	22	21	9	12	23	17	29	11
C1533	32	11	23	35	18	16	11	16	36	31	35	12
C1534	19	4	9	32	13	11	16	12	20	35	34	8
C1535	32	19	6	30	28	27	33	11	22	26	33	20
C1539	30	19	13	23	30	31	23	32	17	28	17	30
C1544	11	22	7	14	22	19	20	7	12	22	15	20
C1545	1	15	3	2	22	4	16	3	1	14	6	9
C1546	24	32	27	3	12	23	25	31	27	18	5	33
C1547	14	3	18	15	13	9	22	5	7	16	9	36
HX176-2-8	36	35	30	26	33	35	35	36	31	34	26	34
L73-4572	16	14	17	23	19	11	7	17	33	11	23	17
L73-6409	35	36	32	21	34	33	28	35	15	19	12	15
L73D-76	19	28	30	12	22	30	13	4	32	13	7	28
L74D-618	34	34	31	19	31	34	25	1	35	31	28	22
L74D-670	31	9	21	18		36	36	19	28	21	2	29
L74D-679	26	22	33	4		32	34	14	10	27	10	15
U10917	23	31	15	25	15	5	30	9	29	11	15	24
U11406	12	29	20	27	15	9	5	17	29	24	4	3

Strain	Mean	N.J. Adelphia	Ontario Harrow	Ohio Hoytville	Mich. Dundee	Ind. Lafayette
	10 Tests	MATURITY (relative date)				
Beeson	+ 3.7	+ 1	+ 1	+ 3	+ 3	+ 4
Corsoy	9-13.8	9-17	9-11	9-10	9-11	9- 6
A75-104031	+ 1.6	+ 4	+ 1	0	0	+ 2
A75-105020	+ 0.7	+ 1	+ 1	- 3	0	+ 1
A75-105029	+ 0.3	0	+ 1	- 1	- 1	0
A75-105033	+ 2.3	+ 1	+ 1	- 1	- 1	+ 4
A75-128027	- 0.7	- 1	0	- 2	0	+ 2
A75-128035	+ 0.8	- 1	- 1	0	0	+ 1
A75-201033	+ 0.6	- 1	- 1	- 2	0	0
A75-203005	+ 4.9	+ 3	+ 3	+ 4	+ 5	+ 5
A75-203011	+ 5.8	+ 5	+ 6	+ 1	+ 7	+ 5
A75-203014	+ 2.4	+ 3	+ 1	- 2	+ 3	+ 4
A75-203032	+ 6.9	+ 3	+10	+ 1	+ 7	+ 8
A75-203036	+ 3.2	+ 2	+ 1	- 2	+ 4	+ 4
A75-204034	+ 4.8	+ 2	+ 5	0	+ 6	+ 8
A75-204035	+ 7.2	+ 5	+ 8	+ 2	+ 7	+10
A75-205006	+ 2.7	+ 1	+ 1	+ 2	+ 3	+ 3
A75-Corsoy R3	- 0.5	- 1	- 3	- 1	0	0
C1531	+ 0.8	0	0	- 2	0	+ 3
C1533	+ 1.2	+ 1	0	0	+ 2	+ 2
C1534	+ 0.8	- 1	0	- 2	+ 2	+ 1
C1535	+ 3.1	+ 1	+ 1	+ 3	+ 5	+ 4
C1539	+ 6.6	+ 2	+ 5	+ 5	+ 7	+ 9
C1544	+ 1.8	0	+ 1	- 3	+ 2	+ 3
C1545	+ 3.8	+ 3	+ 4	- 2	+ 4	+ 4
C1546	+ 4.8	+ 2	+ 3	+ 1	+ 5	+ 6
C1547	+ 5.6	+ 3	+ 3	+ 4	+ 6	+ 6
HX176-2-8	+ 5.8	+ 1	+ 7	+ 4	+ 7	+ 5
L73-4572	+ 3.2	+ 1	+ 1	+ 1	+ 3	+ 4
L73-6409	+ 2.4	+ 1	+ 1	- 1	+ 4	+ 3
L73D-76	+ 2.0	+ 1	+ 1	- 2	+ 3	+ 2
L74D-618	+ 4.7	+ 1	+ 4	+ 2	+ 4	+ 5
L74D-670	+10.5	+ 7	+18	+ 8	+ 9	+ 8
L74D-679	+ 9.6	+ 3	+13	+ 8	+ 9	+10
U10917	+ 4.2	+ 2	+ 2	+ 2	+ 5	+ 4
U11406	+ 2.4	+ 1	+ 1	0	+ 3	+ 3
Hodgson (I)	- 5.6		- 7		- 8	- 6
Woodworth (III)	+ 9.8	+10	+ 5	+10		+ 8
Date planted	5-18	5-24	5-21	5-13	5-25	5-12

Wisc. Arlington	Ill. Urbana	Iowa Ames	Iowa Sloan	S.D. Centerville	Neb. Mead I
		MATURITY (relative date)			
+ 2	+11	*	+ 7	+ 5	0
10- 1	9- 8		9- 7	9-21	9-16
0	+ 5		+ 3	+ 1	0
+ 2	+ 3		- 1	+ 1	+ 2
+ 2	0		- 1	+ 2	+ 1
+ 2	+ 7		+ 4	+ 2	+ 4
0	- 2		- 1	0	- 3
+ 2	+ 4		+ 3	0	0
+ 1	+ 1		+ 5	+ 3	0
+ 3	+ 9		+ 9	+ 4	+ 4
+ 2	+11		+ 8	+ 8	+ 5
+ 1	+ 6		+ 2	+ 2	+ 4
+ 3	+11		+14	+ 6	+ 6
+ 3	+ 6		+ 5	+ 3	+ 6
+ 1	+ 8		+10	+ 4	+ 4
+ 3	+16		+11	+ 2	+ 8
+ 2	+ 3		+ 5	+ 3	+ 4
+ 2	- 2		- 1	+ 1	0
+ 2	+ 4		+ 1	0	0
0	+ 3		+ 1	+ 2	+ 1
0	+ 6		+ 1	0	+ 1
+ 2	+ 7		+ 5	+ 1	+ 2
+ 2	+12		+11	+ 7	+ 6
+ 1	+ 9		+ 3	+ 1	+ 1
+ 2	+10		+ 5	+ 5	+ 3
+ 2	+14		+ 7	+ 4	+ 4
+ 3	+14		+ 8	+ 5	+ 4
+ 2	+12		+ 9	+ 5	+ 6
+ 2	+11		+ 6	+ 1	+ 2
+ 3	+ 7		+ 3	+ 3	0
+ 2	+ 7		+ 4	+ 2	0
+ 1	+14		+ 9	+ 3	+ 4
+ 4	+16		+15	+10	+10
+ 3	+17		+15	+10	+ 8
+ 2	+12		+ 5	+ 4	+ 4
+ 2	+ 5		+ 4	+ 3	+ 2
- 5	- 3			- 1	- 9
	+15		+12	+10	+ 8
5-21	5-11	5-7	5-4	5-20	5-25

Strain	Parentage	Previous Testing*	Generation Composited
1. Calland	C1523 (Blackhawk x Harosoy) x Kent	9	F7
2. Williams	Wayne x L57-0034 (Clark x Adams)	7	F6
3. Woodworth	"	6	F6
4. A74-204028	Corsoy x Williams	PIII	F4
5. A74-302012	L66L-137 (Wayne x L57-0034) x Calland	PII	F4
6. A74-302030	M62-263 (Grant x M319W) x IVR Ex4426	PIII	F4
7. A74-303012	Corsoy x Williams	PIV	F4
8. A74-303013	L66L-137 x Calland	PIII	F4
9. A74-304009	IVR Ex5003 x L66L-144 (Wayne x 157-0034)	PIII	F4
10. A74-306002	M61-96 (Merit x Harosoy)x Williams	PIII	F4
11. A74-306008	M62-275 (Norchief x Harosoy^6) x L66L-144	PIV	F4
12. C1528	Calland x L63-1397 (Harosoy^6 x T207)	PIII	F4
13. C1529	"	PIII	F4
14. L69U19-16-2	L15 (Wayne - Rps) x Beeson	1	F5
15. L69U37-17-5	Calland x Corsoy	1	F5
16. L69U40-19-1	Calland x Amsoy	1	F5
17. L73U-332	L67-533 x L66L-154 (Wayne x L57-0034)	PIII	F5
18. L74D-611	Williams x Ransom (dt_1, Semidwarf)	-	F5

*Number of years in this test or name of 1975 test.

Central

The 7-year mean shows that Williams and Woodworth are similar in yield, averaging about two bushels higher than Calland. Woodworth averaged 3.7 earlier in maturity, has smaller seed, but in other characteristics is similar to Williams.

Of the experimental strains evaluated the past two years, only L69U37-17-5 is equal in yield to Williams. This strain matures three days earlier than Williams and does not equal Williams in either lodging resistance or seed quality.

Seven strains exceeded the yield of the check variety in the 1976 test. The semidwarf strain L74D-611, though only 22 inches tall, was nearly equal in yield to the check varieties Woodworth and Williams.

East Coast

The 4- year mean shows Williams with about a 1 bushel yield advantage over Woodworth and Calland. Williams is also the highest yielding entry in the 2-year test.

Only four entries exceeded the yield of Williams in the 1976 test. The strain A74-303012 is ranked third in these tests and was the highest yielding entry in the tests in the central states. The semidwarf strain L74D-611 was intermediate in yield to the check varieties.

Disease Data

Strain	BB	FE_2	BSR			PSB	PS	SMV	PR		
	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	n	a	n %	n % stem	n % plants	d	a	a seed	a	a	n
Calland	3	5	90	46	100	1	2	5E	R	R	3
Williams	2	4	100	50	100	1	2	4E	S	S	3
Woodworth	4	4	100	47	100	1	2	5E	S	S	3
A74-204028	5	5	60	45	100	1	3	5E	S	S	4
A74-302012	3	4	30	48	100	1	2	5E	R	R	3
A74-302030	5	5	70	46	100	1	2	3M	S	S	3
A74-303012	5	4	80	42	100	2	2	5E	S	S	3
A74-303013	3	4	100	51	100	1	2	5E	R	R	2
A74-304009	2	5	40	59	100	1	3	5E	S	S	4
A74-306002	1	5	80	54	100	1	4	5M	R	R	3
A74-306008	1	5	100	36	100	1	1	5E	S	S	3
C1528	3	5	100	42	100	1	3	5E	R	R	3
C1529	3	5	90	50	100	2	2	5E	R	R	5
L69U19-16-2	3	1	70	51	100	1	3	3M	R	R	4
L69U37-17-5	5	5	60	28	90	1	3	5E	S	S	4
L69U40-19-1	3	4	90	26	100	2	2	5E	R	R	3
L73U-332	4	4	90	44	100	1	2	5E	S	S	3
L74D-611	4	2	80	61	60	1	1	5M	S	S	4

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Ames Icwa	Fluor-escent Light	Emerg-ence	Perox-idase	Shattering Manhat. Kan.	Shattering Lubb. Tex.
Calland	PTNBr DYB1	3	L	1	L	3.0	2.2
Williams	WTNTn SYB1	3	L	1	H	2.0	2.0
Woodworth	WTNTn DYB1	5	L	5	L	4.0	2.2
A74-204028	PTNBr SYG	4	L	1	H	3.0	2.0
A74-302012	PTNTn DYB1	5	L	3	L	2.0	2.0
A74-302030	PGNBr DYIb	3	L	1	L	1.5	1.5
A74-303012	PGNBr SYIb	5	L	2	H	3.0	2.2
A74-303013	PTNTn+Br DYB1	5	L	1	L	2.0	2.7
A74-304009	WGNBr DYIb	3	L	1	L	2.0	2.0
A74-306002	WTNBr SYIb	3	L	1	H	3.0	2.2
A74-306008	WGNTn DYBr	3	L	1	H	2.0	2.2
C1528	PGNBr DYIb	2	L	2	L	5.0	2.5
C1529	PGNBr DYY+G	3	L	4	L	3.0	2.3
L69U19-16-2	WGNBr SYBf	4	L	2	L	5.0	4.0
L69U37-17-5	PGNBr DYBf	4	E	1	H	5.0	2.2
L69U40-19-1	PTNBr SYG	4	L	1	H	4.0	2.0
L73U-332	PTNTn SYB1	5	L	1	L	3.0	2.0
L74D-611	PTNTn SYB1	4	L	1	L	1.0	2.0

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
1976, EAST COAST									
No. of tests	4	4	4	4	4	4	3	2	2
Calland	37.8	15	+3.2	2.6	35	2.6	18.0	40.6	19.4
Williams	41.4	5	+2.8	2.0	30	2.0	18.3	40.8	20.5
Woodworth	37.6	16	9-26.5+	2.1	31	2.2	16.4	40.1	20.4
A74-204028	35.2	18	-3.8	2.0	25	2.7	17.9	41.2	20.7
A74-302012	39.0	12	+2.8	2.2	33	2.2	21.7	39.5	20.6
A74-302030	37.6	17	+2.8	1.9	30	2.3	18.5	41.0	19.4
A74-303012	41.8	3	+1.0	1.9	27	2.1	20.0	40.2	20.8
A74-303013	41.9	2	+2.8	2.0	31	2.1	19.4	40.2	19.8
A74-304009	40.2	8	+4.0	2.4	28	2.3	18.1	41.1	20.2
A74-306002	40.0	9	+2.0	2.0	32	2.3	17.1	41.0	20.0
A74-306008	41.4	5	+4.5	1.7	28	2.4	17.5	40.8	19.6
C1528	43.0	1	+5.5	2.3	37	3.2	20.1	41.0	19.8
C1529	40.0	9	+5.0	2.3	34	3.1	19.5	41.3	19.9
L69U19-16-2	40.3	7	+3.2	1.8	31	3.1	18.3	41.2	19.1
L69U37-17-5	38.8	13	+5.5	2.6	32	3.2	18.1	40.9	19.2
L69U40-19-1	41.6	4	+2.5	2.7	34	2.6	19.0	39.8	19.6
L73U-332	39.8	11	0	1.9	28	2.4	19.1	40.4	20.6
L74D-611	38.2	14	+4.2	2.7	26	2.3	17.9	41.4	19.2
+120 days after planting									
1975-1976, 2-YEAR MEAN, EAST COAST									
No. of tests	9	9	9	9	9	9	7	4	4
Calland	44.1	5	+2.6	2.8	39	2.7	19.5	41.6	19.1
Williams	47.1	1	+3.1	2.3	35	2.1	19.4	41.2	20.8
Woodworth	42.5	6	9-25.3+	2.4	35	2.4	17.3	41.2	20.4
L69U19-16-2	45.4	3	+2.9	2.1	37	3.1	19.4	41.5	19.4
L69U37-17-5	44.7	4	+4.1	2.9	37	3.2	18.8	40.8	19.6
L69U40-19-1	46.4	2	+2.7	2.9	39	2.7	19.6	40.4	20.0
+118 days after planting									
1973-1976, 4-YEAR MEAN, EAST COAST									
No. of tests	18	18	17	18	18	18	16	8	8
Calland	44.1	3	+2.1	2.6	38	2.7	19.2	41.7	19.6
Williams	46.5	1	+2.6	2.0	35	2.1	19.3	42.0	21.2
Woodworth	44.7	2	9-26.1+	2.1	36	2.4	17.0	41.2	20.8
+116 days after planting									

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
1976 CENTRAL									
No. of tests	17	17	16	18	19	18	11	12	12
Calland	39.3	18	+1.3	2.1	37	2.4	16.2	40.2	20.3
Williams	42.1	11	+4.1	1.9	37	1.7	16.2	40.7	21.2
Woodworth	42.5	8	9-17.9+	1.9	35	1.8	14.2	39.8	21.4
A74-204028	43.5	5	-4.0	1.9	30	2.1	15.8	40.3	21.5
A74-302012	44.0	3	-1.5	1.7	35	2.2	18.3	39.2	21.8
A74-302030	39.6	17	0	2.2	33	2.4	16.3	40.0	20.6
A74-303012	44.3	1	+0.7	2.0	33	2.0	17.4	40.2	21.7
A74-303013	42.7	7	+1.8	1.8	35	2.1	16.5	39.9	21.0
A74-304009	41.5	14	+0.8	2.2	29	1.9	15.2	40.2	21.3
A74-306002	42.0	12	-1.2	2.0	36	2.2	14.7	40.4	21.5
A74-306008	43.8	4	+3.0	2.2	33	1.9	15.3	40.1	21.3
C1528	41.4	15	-0.4	2.2	38	2.7	16.5	39.7	21.3
C1529	42.4	9	+1.9	2.2	38	2.7	16.3	39.4	21.7
L69U19-16-2	42.8	6	+1.5	1.9	36	2.3	16.9	40.8	20.3
L69U37-17-5	44.3	1	+1.0	2.3	37	2.6	16.1	39.6	20.8
L69U40-19-1	40.4	16	+0.6	2.5	40	2.6	16.1	40.6	20.1
L73U-332	42.3	10	+1.4	2.0	33	1.9	16.1	40.0	21.4
L74D-611	41.6	13	+4.5	1.7	22	1.8	15.4	41.1	20.2

+127 days after planting

1975-1976, 2-YEAR MEAN, CENTRAL									
No. of tests	40	40	35	40	42	39	31	24	24
Calland	44.1	6	+0.9	1.9	38	2.3	17.4	40.0	20.4
Williams	46.4	1	+4.3	1.7	36	1.6	17.0	40.8	21.5
Woodworth	45.3	4	9-20.1+	1.8	36	1.8	15.2	40.0	21.6
L69U19-16-2	45.4	3	+2.4	1.7	36	2.4	18.3	40.8	20.7
L69U37-17-5	46.4	1	+1.3	2.2	37	2.7	17.5	39.6	21.1
L69U40-19-1	44.7	5	+0.9	2.1	40	2.4	17.4	40.4	20.4

+128 days after planting

1970-1976, 7-YEAR MEAN, CENTRAL									
No. of tests	149	149	128	146	150	144	123	87	87
Calland	43.8	3	+1.6	2.1	40	2.2	17.7	40.1	20.7
Williams	45.7	1	+3.7	1.8	39	1.8	17.4	40.7	21.9
Woodworth	45.4	2	9-23.5+	1.8	38	1.9	15.3	39.9	21.9

+124 days after planting

Strain	East Coast Mean	Pa. Landis-ville	N.J. Adel-phia	Del. George-town I	Md. Clarks-ville	Cen-tral Mean	Ohio Hoyt-ville	Ohio Wooster
	4 Tests		1976 YIELD (bu./A)			17 tests		
Calland	37.8	36.0	34.8	42.1	38.3	39.3	41.1	33.2
Williams	41.4	36.0	39.2	46.0	44.5	42.1	45.4	39.1
Woodworth	37.6	35.9	33.2	41.4	40.0	42.5	45.8	38.6
A74-204028	35.2	34.4	35.8	32.9	37.8	43.5	41.3	38.0
A74-302012	39.0	33.2	33.5	49.0	40.3	44.0	45.6	38.2
A74-302030	37.6	34.7	37.8	39.9	38.2	39.6	40.6	39.7
A74-303012	41.8	41.6	36.3	45.5	43.7	44.3	46.3	42.9
A74-303013	41.9	41.8	36.2	44.5	45.0	42.7	50.4	40.4
A74-304009	40.2	43.2	37.2	39.9	40.4	41.5	34.4	42.7
A74-306002	40.0	39.1	39.4	42.4	39.3	42.0	44.0	38.8
A74-306008	41.4	40.4	39.6	42.3	43.1	43.8	40.8	46.2
C1528	43.0	41.1	38.5	47.0	45.5	41.4	43.0	35.9
C1529	40.0	37.7	36.1	43.4	42.7	42.4	40.4	36.0
L69U19-16-2	40.3	39.8	38.8	37.1	45.6	42.8	48.3	43.1
L69U37-17-5	38.8	39.1	37.0	35.4	43.9	44.3	46.5	44.7
L69U40-19-1	41.6	39.0	37.6	50.5	39.2	40.4	48.5	40.5
L73U-332	39.8	37.0	37.6	40.7	43.8	42.3	46.4	47.0
L74D-611	38.2	32.4	40.3	39.4	40.5	41.6	34.8	46.6
CV (%)		12.8	7.9	9.2	7.7		14.9	10.5
LSD (5%)		N.S.	5.7	5.2	5.3		9.2	6.1
Row Sp. (in.)		30	30	30	30		30	30
Row/plot		3	3	4	4		3	3
Reps		4	4	3	3		4	4

Strain	Indiana			Ky.	Illinois				
	Bluff-ton	Lafa-yette	Sulli-van	Lexing-ton	Urbana	Girard	Browns-town	Belle-ville	Eldor-ado
				1976 YIELD (bu./A)					
Calland	46.9	48.4	50.3	39.1	39.0	35.6	30.8	38.7	43.3
Williams	44.2	45.5	55.7	42.4	43.8	39.2	38.0	46.0	48.5
Woodworth	45.6	52.1	53.3	42.1	41.4	38.9	32.9	44.9	44.5
A74-204028	54.2	55.0	56.8	44.8	52.2	37.8	30.7	41.1	41.2
A74-302012	52.0	54.1	52.8	43.3	42.3	39.8	33.7	46.1	48.2
A74-302030	43.2	44.1	50.3	40.3	29.6	40.9	31.8	39.3	41.3
A74-303012	47.9	50.7	57.7	42.4	37.7	41.2	35.5	48.5	49.1
A74-303013	49.0	47.2	50.9	42.2	42.0	41.3	35.3	46.3	47.6
A74-304009	45.1	48.2	55.0	40.1	42.0	35.1	30.3	40.5	42.9
A74-306002	48.2	47.8	48.0	46.1	43.3	41.0	29.2	47.0	46.2
A74-306008	43.1	47.7	55.0	42.7	43.4	41.4	38.1	48.0	48.5
C1528	51.6	49.5	52.2	43.7	38.3	38.7	31.2	40.9	47.0
C1529	52.2	50.5	50.4	41.5	44.5	38.2	30.2	44.3	46.4
L69U19-16-2	44.2	47.1	54.9	43.5	45.2	40.8	33.2	43.0	44.8
L69U37-17-5	49.5	49.8	56.1	42.1	44.6	40.0	39.6	46.1	49.6
L69U40-19-1	51.2	42.3	44.8	40.8	39.4	36.0	34.5	36.6	45.4
L73U-332	52.1	40.7	46.9	42.2	38.8	37.7	35.8	41.8	42.9
L74D-611	42.5	42.7	46.5	42.6	45.1	40.3	36.0	45.0	48.9
CV (%)	10.2	7.0	9.8	10.3	8.0	6.7	9.3	8.3	4.0
LSD (5%)	N.S.	5.5	N.S.	6.2	5.6	4.4	5.2	6.0	3.0
Row Sp. (in.)	30	30	30	30	30	36	30	30	30
Row/plot	3	3	3	3	4	4	4	4	4
Reps	3	3	3	4	3	3	3	3	3

Iowa		Missouri		S.D.	Neb.	Kansas	
Stuart	Ottumwa	Edina	Columbia I	Elk Point	Mead I	Manhattan I	Powhattan
			1976 YIELD (bu./A)				
33.0	63.3	*20.6	23.0	*28.6	29.5	56.3	16.9
34.1	64.1	21.5	28.8	32.5	28.5	53.0	19.9
35.6	68.2	22.6	24.2	30.1	38.8	58.8	17.9
37.3	71.1	20.3	22.3	32.7	43.2	57.4	14.3
41.1	71.4	18.9	22.3	30.2	39.0	61.6	17.0
36.1	67.8	22.1	21.7	31.5	35.3	52.7	19.2
41.5	66.1	22.1	26.1	27.5	39.4	58.6	21.1
37.4	67.0	21.4	25.5	28.0	33.1	55.7	14.7
39.0	70.8	18.3	19.0	34.5	41.6	59.5	19.3
33.6	65.4	19.5	22.0	31.5	34.8	60.9	18.3
38.9	71.3	22.9	23.5	31.4	40.6	57.4	18.1
35.4	64.5	19.2	26.0	31.3	34.3	53.7	17.9
39.0	63.3	21.2	25.1	30.4	40.8	56.5	20.7
37.4	68.0	17.6	23.3	30.8	37.4	59.3	13.8
37.2	68.7	19.9	25.2	24.3	38.1	61.9	13.3
33.3	67.3	21.2	26.0	32.6	30.4	56.7	12.5
35.5	70.0	20.8	25.2	27.5	40.0	59.8	17.0
38.4	64.3	21.0	26.1	33.8	39.3	47.8	19.5
7.0	6.0	17.8	13.0	12.2	13.0	6.0	10.2
3.5	5.5	N.S.	4.4	N.S.	7.7	5.6	2.9
27	27	30	15	30	30	30	30
4	4	2	4	2	4	4	4
4	4	4	4	3	3	3	3

*Not included in the mean.

Strain	East Coast Mean	Pa. Landis-ville	N.J. Adel-phia	Del. George-town I	Md. Clarks-ville	Cen-tral Mean	Ohio Hoyt-ville	Ohio Wooster
	4 Tests		YIELD RANK			17 Tests		
Calland	15	12	16	10	16	18	13	18
Williams	5	12	4	4	4	11	9	11
Woodworth	16	14	18	11	13	8	7	13
A74-204028	18	16	15	18	18	5	12	15
A74- 302012	12	17	17	2	7	3	8	14
A74-302030	16	15	7	13	17	17	15	10
A74-303012	3	3	12	5	12	1	6	6
A74-303013	2	2	13	6	3	7	1	9
A74-304009	8	1	10	13	11	14	18	7
A74-306002	9	7	3	8	14	12	10	12
A74-306008	5	5	2	9	8	4	14	3
C1528	1	4	6	3	2	15	11	17
C1529	9	10	14	7	9	9	16	16
L69U19-16-2	7	6	5	16	1	6	3	5
L69U37-17-5	13	7	11	17	5	1	4	4
L69U40-19-1	4	9	8	1	15	16	2	8
L73U-332	11	11	8	12	6	10	5	1
L74D-611	14	18	1	15	10	13	17	2
	9 Tests		1975-1976, 2-YEAR MEAN YIELD			40 Tests		
Calland	44.1	43.9	39.2		49.0	44.1	50.0	31.5
Williams	47.1	45.7	41.0		50.4	46.1	53.9	33.2
Woodworth	42.5	42.8	35.0		45.3	45.3	50.5	38.6
L69U19-16-2	45.4	47.6	38.3		48.8	45.4	49.6	34.7
L69U37-17-5	44.7	46.8	40.6		49.8	46.4	45.9	33.6
L69U40-19-1	46.4	42.6	40.8		48.2	44.7	47.0	34.8
			YIELD RANK					
Calland	5	4	4		3	6	3	6
Williams	1	3	1		1	2	1	5
Woodworth	6	5	6		6	4	2	1
L69U19-16-2	3	1	5		4	3	4	3
L69U37-17-5	4	2	3		2	1	6	4
L69U40-19-1	2	6	2		5	5	5	2
	18 Tests		1973-1976, 4-YEAR MEAN YIELD			149 Tests		73-76
Calland	44.1	46.0	38.6			43.8	33.0	35.2
Williams	46.5	46.5	39.4			45.7	37.8	36.6
Woodworth	44.7	46.4	35.8			45.4	35.0	40.0
			YIELD RANK					
Calland	3	3	2			3	3	3
Williams	1	1	1			1	1	2
Woodworth	2	2	3			2	2	1

Indiana			Ky.	Illinois				
Bluff-ton	Lafa-yette	Sulli-van	Lexing-ton	Urbana	Girard	Browns-town	Belle-ville	Eldor-ado
				YIELD RANK				
11	8	13	18	14	17	14	17	14
14	14	4	9	6	10	3	7	4
12	3	8	12	12	11	11	9	13
1	1	2	2	1	14	15	13	18
4	2	9	5	9	9	9	5	6
16	15	13	16	18	5	12	16	17
10	4	1	8	17	3	6	1	2
8	12	11	10	10	2	7	4	7
13	9	5	17	10	18	16	15	15
9	10	15	1	8	4	18	3	10
17	11	5	6	7	1	2	2	4
5	7	10	3	16	12	13	14	8
2	5	12	14	5	13	17	10	9
14	13	7	4	2	6	10	11	12
7	6	3	13	4	8	1	5	1
6	17	18	15	13	16	8	18	11
3	18	16	11	15	15	5	12	15
18	16	17	7	3	7	4	8	3
				1975-1976, 2-YEAR MEAN YIELD				
53.2	52.9	42.9		48.1	38.7	34.2	48.6	45.4
48.2	52.4	46.3		50.3	44.8	38.8	51.6	51.9
48.8	55.2	44.8		48.6	42.9	37.4	52.6	45.8
51.2	52.8	44.6		54.8	45.4	38.5	51.8	46.9
53.0	54.6	42.6		48.0	46.2	41.1	56.6	52.0
58.2	52.4	40.2		50.7	40.3	37.0	49.6	45.0
				YIELD RANK				
2	3	4		5	6	6	6	5
6	5	1		3	3	2	4	2
5	1	2		4	4	4	2	4
4	4	3		1	2	3	3	3
3	2	5		6	1	1	1	1
1	5	6		2	5	5	5	6
				1970-1976, 7-YEAR MEAN YIELD				
50.0	46.6			49.6	42.3		48.2	47.9
49.2	49.9			52.2	47.6		51.3	50.7
49.4	51.2			52.1	46.2		51.0	46.1
				YIELD RANK				
1	3			3	3		3	2
3	2			1	1		1	1
2	1			2	2		2	3

Strain	Iowa		Missouri		S.D.	Neb.	Kansas	
	Stuart	Ottumwa	Edina	Columbia I	Elk Point	Mead I	Manhattan I	Powhattan
				YIELD RANK				
Calland	18	17	11	13	14	17	13	13
Williams	15	16	5	1	5	18	16	3
Woodworth	12	7	2	10	13	9	7	10
A74-204028	9	3	12	14	3	1	9	15
A74-302012	2	1	16	14	12	8	2	11
A74-302030	11	9	3	17	6	12	17	6
A74-303012	1	12	3	2	16	6	8	1
A74-303013	7	11	6	6	15	15	14	14
A74-304009	3	4	17	18	1	2	5	5
A74-306002	16	13	14	16	6	13	3	7
A74-306008	5	2	1	11	8	4	9	8
C1528	14	14	15	4	9	14	15	9
C1529	3	17	7	9	11	3	12	2
L69U19-16-2	7	8	18	12	10	11	6	16
L69U37-17-5	10	6	13	7	18	10	1	17
L69U40-19-1	17	10	7	4	4	16	11	18
L73U-332	13	5	10	7	16	5	4	11
L74D-611	6	15	9	2	2	7	18	4
				1975-1976, 2-YEAR MEAN YIELD				
Calland	41.9	56.4	31.8		29.8		65.6	24.4
Williams	43.5	57.0	33.0		31.2		64.1	26.4
Woodworth	44.0	56.1	31.0		32.4		65.2	22.6
L69U19-16-2	44.6	57.1	27.0		29.6		63.8	21.6
L69U37-17-5	44.0	55.6	30.6		30.8		67.9	22.0
L69U40-19-1	42.2	56.0	30.0		30.6		65.3	22.2
				YIELD RANK				
Calland	6	3	2		5		2	2
Williams	4	2	1		2		5	1
Woodworth	2	4	3		1		4	3
L69U19-16-2	1	1	6		6		6	6
L69U37-17-5	2	6	4		3		1	5
L69U40-19-1	5	5	5		4		3	4
				1970-1976, 7-YEAR MEAN YIELD				
Calland	38.2	48.2			31.9		64.4	35.2
Williams	40.7	50.8			30.5		64.3	37.7
Woodworth	41.2	50.7			34.7		64.8	35.3
				YIELD RANK				
Calland	3	3			2		2	3
Williams	2	1			3		3	1
Woodworth	1	2			1		1	2

Strain	East Coast Mean	Pa. Landisville	N.J. Adelphia	Del. Georgetown I	Md. Clarksville	Central Mean	Ohio Hoytville	Ohio Wooster
	4 Tests		MATURITY (relative date)			16 Tests		
Calland	+3.2	+ 1	+ 3	+ 2	+ 7	+1.3	+ 2	+ 4
Williams	+2.8	+ 4	+ 2	+ 2	+ 3	+4.1	+ 5	+ 8
Woodworth+	9-26.5	9-24	9-27	9-18	10-7	9-17.9	9-18	9-28
A74-204028	-3.8	- 6	- 8	0	- 1	-4.0	- 4	- 9
A74-302012	+2.8	+ 1	0	+ 3	+ 7	-1.5	- 3	- 3
A74-302030	+2.8	+ 1	+ 5	0	+ 5	0	+ 1	+ 3
A74-303012	+1.0	+ 1	- 2	0	+ 5	+0.7	+ 1	+ 5
A74-303013	+2.8	+ 5	0	+ 3	+ 3	+1.8	+ 2	+ 3
A74-304009	+4.0	+ 8	- 1	+ 2	+ 7	+0.8	+ 4	+ 4
A74-306002	+2.0	+ 5	- 2	+ 2	+ 3	-1.2	- 2	- 5
A74-306008	+4.5	+10	0	+ 3	+ 5	+3.0	+ 2	+ 7
C1528	+5.5	+10	+ 1	+ 2	+ 9	-0.4	0	+ 1
C1529	+5.0	+ 8	+ 2	+ 3	+ 7	+1.9	+ 1	+ 5
L69U19-16-2	+3.2	+ 5	+ 2	+ 2	+ 4	+1.5	+ 3	+ 5
L69U37-17-5	+5.5	+ 5	+ 5	+ 3	+ 9	+1.0	+ 1	+ 4
L69U40-19-1	+2.5	0	+ 1	+ 2	+ 7	+0.6	- 2	+ 3
L73U-332	0	0	- 1	+ 2	- 1	+1.4	+ 1	+ 6
L74D-611	+4.2	+ 4	+ 3	+ 3	+ 7	+4.5	+ 4	+ 4
Beeson (II)	-8.3	- 3	- 9		-13		- 8	- 7
Cutler 71(IV)	+6.5	+11	+ 6	+ 2	+ 7		+ 6	+ 9
Date planted	5-29	5-28	5-24	5-24	6-9	5-14	5-13	5-10
+Days to mat.	120	119	126	117	120	127	128	141
	4 Tests		LODGING (score)			18 Tests		
Calland	2.6	1.6	3.0	1.7	4.0	2.1	1.2	2.0
Williams	2.0	1.2	2.0	1.7	3.0	1.9	1.0	2.2
Woodworth	2.1	1.5	2.0	1.8	3.0	1.9	1.2	1.8
A74-204028	2.0	1.4	3.0	1.7	2.0	1.9	1.2	1.0
A74-302012	2.2	1.2	2.0	1.8	4.0	1.7	1.0	1.5
A74-302030	1.9	1.0	2.0	1.7	3.0	2.2	1.0	2.2
A74-303012	1.9	1.0	2.0	1.7	3.0	2.0	1.0	2.0
A74-303013	2.0	1.1	2.0	1.8	3.0	1.8	1.0	1.5
A74-304009	2.4	1.2	3.0	1.5	4.0	2.2	1.0	2.5
A74-306002	2.0	1.2	2.0	1.7	3.0	2.0	1.2	1.8
A74-306008	1.7	1.2	2.0	1.7	2.0	2.2	1.2	2.0
C1528	2.3	1.6	2.0	1.7	4.0	2.2	1.0	1.8
C1529	2.3	1.6	3.0	1.7	3.0	2.2	1.2	2.2
L69U19-16-2	1.8	1.1	2.0	1.3	3.0	1.9	1.0	2.2
L69U37-17-5	2.6	1.8	3.0	1.7	4.0	2.3	1.0	3.0
L69U40-19-1	2.7	1.6	3.0	2.2	4.0	2.5	2.0	2.2
L73U-332	1.9	1.0	3.0	1.5	2.0	2.0	1.0	3.0
L74D-611	2.7	1.0	4.0	1.8	4.0	1.7	1.2	2.2

Strain	Indiana			Ky.	Illinois				
	Bluff-ton	Lafa-yette	Sulli-van	Lexing-ton	Urbana	Girard	Browns-town	Belle-ville	Eldor-ado
				MATURITY (relative date)					
Calland	+4	0	-2	+5	0	+1	+2	+1	+1
Williams	+6	+5	+2	+7	+5	+3	+3	+2	+4
Woodworth+	9-25	9-14	9-10	9-16	9-22	9-14	9-12	9-11	9-9
A74-204028	-3	-4	-3	-5	-12	-5	-2	-1	-5
A74-302012	-1	-1	-3	-2	-5	-2	-1	0	0
A74-302030	+1	0	-2	+2	-4	-1	0	0	0
A74-303012	+1	+1	-3	+5	-2	0	0	+2	0
A74-303013	-1	+3	0	+5	+1	+2	+2	+3	+2
A74-304009	-3	+2	-3	+5	-1	-2	+1	+1	-1
A74-306002	-1	-1	-4	-4	-1	-4	-1	+2	0
A74-306008	+2	+4	+1	+6	+5	0	+3	+2	+2
C1528	+4	0	-1	+6	-2	-2	+1	+1	+3
C1529	+5	+3	-1	+5	0	0	+1	+3	+3
L69U19-16-2	+3	+4	+1	0	+3	+1	-1	+1	-1
L69U37-17-5	+2	0	-1	+3	-4	+1	+1	+3	+3
L69U40-19-1	+4	-1	-2	+2	-1	0	-1	+2	+1
L73U-332	+1	+3	0	+4	-1	+1	+1	0	+2
L74D-611	+5	+6	+2	+5	+8	+2	+4	+4	+7
Beeson (II)	-8	-4			-7	-9	-5	-2	-7
Cutler 71 (IV)		+9	+3	+8	+13	+3	+7	+5	+24
Date planted	5-19	5-12	5-5	5-21	5-11	5-8	5-19	5-12	5-10
+Days to mat.	129	125	128	118	134	129	116	122	122
				LODGING (score)					
Calland	2.2	2.8	1.5	1.9	3.8	1.2	1.0	1.7	4.5
Williams	2.0	2.7	1.3	2.0	3.5	1.0	1.0	1.1	4.3
Woodworth	1.7	2.0	1.7	1.8	4.0	1.3	1.0	1.3	4.5
A74-204028	1.8	3.0	1.2	1.0	3.4	1.0	1.0	1.3	4.7
A74-302012	1.3	2.3	1.0	1.5	3.1	1.0	1.0	1.1	3.7
A74-302030	2.0	3.0	1.3	2.0	4.3	1.3	1.0	1.4	4.8
A74-303012	1.7	3.2	1.3	1.9	4.1	1.2	1.0	1.1	4.9
A74-303013	1.8	3.2	1.2	1.4	3.1	1.2	1.0	1.2	3.9
A74-304009	1.5	3.8	1.5	2.0	4.3	1.5	1.2	1.2	5.0
A74-306002	2.0	2.8	1.3	1.4	4.0	1.0	1.0	1.2	4.5
A74-306008	2.0	3.5	1.7	1.9	4.7	1.5	1.0	1.2	4.4
C1528	2.2	3.2	2.0	1.8	3.9	1.7	1.2	1.8	4.5
C1529	2.7	3.2	1.3	2.0	3.8	1.3	1.0	1.4	4.7
L69U19-16-2	1.7	2.8	1.0	1.4	3.1	1.0	1.0	1.2	4.5
L69U37-17-5	2.3	3.7	2.0	2.4	3.9	1.3	1.3	2.1	3.9
L69U40-19-1	2.3	3.5	1.8	2.1	4.4	1.7	1.0	1.9	4.5
L73U-332	1.7	3.5	1.2	2.1	3.7	1.0	1.0	1.4	4.3
L74D-611	1.2	3.3	1.2	1.3	1.9	1.3	1.2	2.2	3.5

Iowa		Missouri		S.D.	Neb.	Kansas	
Stuart	Ottumwa	Edina	Columbia I	Elk Point	Mead I	Manhattan I	Powhattan
			MATURITY (relative date)				
-1	*	*	*	+2	+5	-3	0
+2				+2	+8	+1	+2
9-13				10-4	9-22	9-21	9-18
-5				-5	+2	-3	0
-3				+1	0	-1	0
-1				0	+2	-1	0
+1				0	0	0	0
+1				+2	+3	0	+1
0				+1	+4	-2	+2
-2				-1	+1	+2	+2
+1				+1	+6	+4	+2
-3				-1	+2	-2	-1
0				-1	+7	0	0
-1				0	+3	+2	+1
+1				-2	+4	0	0
-3				+3	+3	+1	0
0				+1	+4	0	0
+3				+2	+7	+4	+5
-7				-5	-5		
+4					+11	+5	+5
5-6	5-20	5-28	5-24	5-20	5-25	5-5	5-21
130				137	120	139	120
			LODGING (score)				
1.5	2.4	3.4	1.0		1.8	2.2	1.0
1.5	2.0	2.6	1.0		1.3	2.3	1.0
1.6	2.2	3.0	1.0		1.7	2.2	1.0
1.4	2.5	3.4	1.0		1.8	2.8	1.0
1.5	1.7	2.8	1.0		1.8	1.5	1.0
1.5	3.0	3.1	1.0		2.0	3.0	1.0
1.4	2.5	3.1	1.0		1.5	2.7	1.0
1.4	2.0	2.4	1.0		1.7	1.5	1.0
1.6	3.3	3.0	1.0		1.7	3.3	1.0
1.4	2.7	2.9	1.0		1.3	3.0	1.0
1.5	3.0	2.8	1.0		1.3	4.0	1.0
1.5	2.6	3.3	1.0		2.0	2.8	1.0
1.6	2.8	3.4	1.0		1.8	2.8	1.0
1.4	2.4	3.2	1.0		1.8	2.0	1.0
1.5	2.5	3.4	1.0		2.7	3.0	1.0
1.7	3.5	3.6	1.0		2.7	3.3	1.0
1.5	2.0	3.0	1.0		1.5	2.0	1.0
1.4	1.6	2.9	1.0		1.0	1.0	1.0

Strain	East Coast Mean	Pa. Landis-ville	N.J. Adel-phia	Del. George-town I	Md. Clarks-ville	Cen-tral Mean	Ohio Hoyt-ville	Ohio Wooster
	4 Tests		PLANT HEIGHT (inches)			19 Tests		
Calland	35	32	32	29	48	37	34	32
Williams	30	32	31	24	35	37	34	32
Woodworth	31	32	29	25	38	35	34	32
A74-204028	25	25	27	18	31	30	28	26
A74-302012	33	32	30	25	45	35	32	31
A74-302030	30	32	30	21	38	33	29	32
A74-303012	27	27	27	22	32	33	32	30
A74-303013	31	32	30	22	40	35	34	32
A74-304009	28	27	35	19	31	29	27	28
A74-306002	32	34	30	23	40	36	37	30
A74-306008	28	30	28	20	34	33	30	30
C1528	37	36	35	28	48	38	35	32
C1529	34	33	32	27	44	38	38	34
L69U19-16-2	31	32	30	22	40	36	34	34
L69U34-17-5	32	34	31	22	43	37	34	34
L69U40-19-1	34	37	32	30	39	40	40	34
L73U-332	28	30	29	22	33	33	31	31
L74D-611	26	17	36	18	33	22	21	23
	4 Tests		SEED QUALITY (score)			18 Tests		
Calland	2.6	2.4	3.0	3.2	2.0	2.4	2.2	3.8
Williams	2.0	1.9	2.0	2.2	2.0	1.7	1.8	1.8
Woodworth	2.2	1.8	2.0	3.2	2.0	1.8	1.8	1.5
A74-204028	2.7	2.0	2.0	3.8	3.0	2.1	2.2	2.0
A74-302012	2.2	2.0	2.0	2.8	2.0	2.2	2.5	2.0
A74-302030	2.3	2.4	2.0	2.8	2.0	2.4	2.8	2.8
A74-303012	2.1	1.8	2.0	2.7	2.0	2.0	1.5	2.5
A74-303013	2.1	2.0	2.0	2.3	2.0	2.1	2.2	2.2
A74-304009	2.3	2.2	2.0	3.0	2.0	1.9	2.0	1.5
A74-306002	2.3	2.0	2.0	3.3	2.0	2.2	2.2	2.0
A74-306008	2.4	2.1	2.0	3.3	2.0	1.9	2.0	2.5
C1528	3.2	2.9	3.0	3.8	3.0	2.7	3.0	3.5
C1529	3.1	2.6	3.0	3.7	3.0	2.7	3.2	5.0
L69U19-16-2	3.1	2.4	3.0	4.0	3.0	2.3	2.0	2.5
L69U37-17-5	3.2	2.4	3.0	4.2	3.0	2.6	3.2	3.5
L69U40-19-1	2.6	2.6	3.0	3.0	2.0	2.6	3.5	2.8
L73U-332	2.4	2.0	3.0	2.5	2.0	1.9	1.5	2.0
L74D-611	2.3	2.1	2.0	2.0	3.0	1.8	2.0	2.0

Indiana			Ky.	Illinois				
Bluff-ton	Lafa-yette	Sulli-van	Lexing-ton	Urbana	Girard	Browns-town	Belle-ville	Eldor-ado
			PLANT HEIGHT (inches)					
45	41	38	42	50	39	28	36	43
44	43	39	36	51	36	28	33	43
42	42	39	35	48	38	27	35	39
36	33	28	33	39	26	20	26	34
43	39	34	39	48	34	25	34	42
38	36	32	37	44	32	23	29	39
39	38	33	35	44	32	25	31	36
43	38	36	37	47	34	26	34	42
32	33	29	30	39	28	22	26	33
45	43	35	42	51	34	23	31	42
36	40	33	34	45	30	23	28	34
44	43	39	40	50	41	29	39	45
45	43	38	40	49	39	28	36	44
43	42	39	38	50	36	24	33	44
42	38	41	38	48	36	28	37	42
46	42	38	42	48	44	30	40	49
41	38	34	36	46	34	24	31	40
22	25	20	25	26	24	16	25	25
			SEED QUALITY (score)					
1.5	2.0	1.5	2.0	3.2	2.7	2.5	3.2	3.8
1.0	1.5	1.5	2.0	1.2	2.0	1.2	1.5	2.3
1.0	1.5	1.5	2.0	1.5	2.5	1.5	1.8	1.8
1.0	1.5	1.5	2.0	2.0	2.3	2.2	2.3	2.7
1.5	1.5	1.5	3.0	2.5	2.8	2.5	2.8	3.0
1.5	1.5	2.0	2.0	2.8	2.7	2.5	3.2	2.8
1.0	1.5	1.5	2.0	2.5	2.7	2.3	2.3	3.0
1.5	2.0	2.0	1.0	2.2	2.5	2.2	2.3	2.8
1.0	1.5	1.5	1.0	2.2	2.5	2.3	2.2	2.0
1.5	2.0	1.5	1.0	2.7	2.5	2.0	2.5	3.0
1.0	1.5	1.5	1.0	2.0	2.3	1.8	2.3	2.5
1.5	2.0	2.5	3.0	3.2	2.8	2.5	3.2	3.5
1.5	2.5	2.0	3.0	2.7	2.8	1.8	3.2	3.8
1.0	1.5	2.0	2.0	2.5	3.0	2.7	3.3	3.0
1.5	1.5	2.5	2.0	2.7	2.8	2.2	3.7	3.3
1.5	2.0	2.5	2.0	3.3	2.3	2.3	3.2	3.5
1.0	1.5	1.5	1.0	2.0	2.5	1.7	1.7	2.3
1.0	1.5	1.5	3.0	2.0	2.0	1.7	1.5	1.7

Strain	Iowa		Missouri		S.D.	Neb.	Kansas	
	Stuart	Ottumwa	Edina	Columbia I	Elk Point	Mead I	Manhattan	Powhattan
				PLANT HEIGHT (inches)				
Calland	35	48	28	22	32	44	43	31
Williams	32	47	30	23	34	41	44	31
Woodworth	32	44	30	19	31	38	40	29
A74-204028	26	39	27	20	27	35	33	25
A74-302012	33	44	28	22	30	41	41	30
A74-302030	31	42	26	20	31	41	38	26
A74-303012	31	42	25	22	28	37	38	29
A74-303013	34	45	27	22	30	39	38	31
A74-304009	28	36	22	19	28	32	36	25
A74-306002	31	48	28	21	34	42	45	31
A74-306008	30	43	24	28	29	34	40	30
C1528	36	50	30	25	34	42	42	34
C1529	36	50	36	24	31	43	43	34
L69U19-16-2	33	46	29	22	29	41	41	30
L69U37-17-5	33	45	27	24	30	42	43	32
L69U40-19-1	36	50	32	24	39	45	48	35
L73U-332	32	42	26	22	27	37	37	27
L74D-611	25	26	22	18	18	19	22	23
				SEED QUALITY (score)				
Calland		1.0	3.5	3.2	1.0	2.3	2.3	1.9
Williams		1.0	2.8	2.8	1.0	1.8	1.7	1.6
Woodworth		1.0	3.5	3.2	1.0	1.7	1.9	1.7
A74-204028		1.0	3.0	3.5	3.0	2.0	2.3	2.1
A74-302012		1.0	3.0	3.2	2.0	1.8	2.1	1.8
A74-302030		1.2	3.0	3.5	2.0	2.0	2.2	1.9
A74-303012		1.0	3.2	3.2	1.0	1.8	1.8	1.7
A74-303013		1.2	3.2	3.0	1.0	2.0	2.1	1.9
A74-304009		1.0	3.5	3.2	1.0	1.7	2.1	1.9
A74-306002		1.0	3.5	3.2	2.0	2.0	2.1	2.3
A74-306008		1.0	3.0	2.0	1.0	1.8	2.1	2.1
C1528		1.0	3.5	3.5	2.0	2.7	2.3	2.3
C1529		1.3	3.5	3.5	1.0	2.7	2.4	2.2
L69U19-16-2		1.3	3.5	3.8	1.0	2.3	2.3	2.1
L69U37-17-5		1.3	3.0	3.5	3.0	3.0	2.4	2.5
L69U40-19-1		1.2	3.0	3.8	2.0	3.5	2.3	2.1
L73U-332		1.1	3.5	3.5	1.0	1.8	2.1	1.8
L74D-611		1.1	2.8	2.8	1.0	2.2	1.8	1.5

Strain	East Coast Mean	Pa. Landis-ville	N.J. Adel-phia	Md. Clarks-ville	Cen-tral Mean	Ohio Hoyt-ville	Ohio Wooster
	3 Tests	SEED SIZE (g/100)			11 Tests		
Calland	18.0	16.1	19.0	18.8	16.2	17.6	14.4
Williams	18.3	15.3	21.0	18.5	16.2	16.8	14.8
Woodworth	16.4	13.8	19.0	16.3	14.2	14.2	13.6
A74-204028	17.9	16.0	20.0	17.7	15.8	16.2	14.6
A74-302012	21.7	20.0	25.0	20.1	18.3	19.5	15.8
A74-302030	18.5	15.9	21.0	18.6	16.3	16.8	15.6
A74-303012	20.0	16.7	24.0	19.4	17.4	17.0	16.6
A74-303013	19.4	16.3	23.0	18.9	16.5	18.4	15.0
A74-304009	18.1	15.5	21.0	17.8	15.2	15.6	13.8
A74-306002	17.1	14.2	20.0	17.0	14.7	16.4	13.8
A74-306008	17.5	15.5	20.0	17.1	15.3	16.3	15.5
C1528	20.1	18.2	22.0	20.0	16.5	18.5	13.7
C1529	19.5	17.0	22.0	19.5	16.3	17.4	14.6
L69U19-16-2	18.3	16.1	21.0	17.9	16.9	18.1	15.6
L69U37-17-5	18.1	16.0	20.0	18.2	16.1	18.0	14.9
L69U40-19-1	19.0	16.5	22.0	18.6	16.1	17.3	15.1
L73U-332	19.1	16.7	22.0	18.5	16.1	17.2	15.9
L74D-611	17.9	15.3	20.0	18.3	15.4	15.7	15.8
	2 Tests	PROTEIN (%)			12 Tests		
Calland	40.6		41.4	39.9	40.2		
Williams	40.8		41.9	39.6	40.7		
Woodworth	40.1		41.1	39.1	39.8		
A74-204028	41.2		42.1	40.4	40.3		
A74-302012	39.5		40.5	38.5	39.2		
A74-302030	41.0		41.6	40.4	40.0		
A74-303012	40.2		41.0	39.3	40.2		
A74-303013	40.2		40.4	40.0	39.9		
A74-304009	41.1		42.8	39.4	40.2		
A74-306002	41.0		41.7	40.2	40.4		
A74-306008	40.8		42.1	39.5	40.1		
C1528	41.0		41.3	40.7	39.7		
C1529	41.3		42.4	40.2	39.4		
L69U-19-16-2	41.2		42.4	39.9	40.8		
L69U37-17-5	40.9		42.0	39.8	39.6		
L69U40-19-1	39.8		40.6	39.1	40.6		
L73U-332	40.4		41.8	39.0	40.0		
L74D-611	41.4		41.7	41.1	41.1		

Strain	Indiana			Ky.	Illinois		
	Bluff-ton	Lafa-yette	Sulli-van	Lexing-ton	Urbana	Belle-ville	Eldor-ado
			SEED SIZE (g/100)				
Calland	17.0	17.2	16.5	13.4			
Williams	16.3	17.4	16.1	16.9			
Woodworth	14.1	14.0	14.1	14.1			
A74-204028	16.1	17.0	16.5	14.1			
A74-302012	18.6	19.4	18.0	18.7			
A74-302030	16.4	17.0	16.4	15.2			
A74-303012	17.0	18.6	17.1	19.2			
A74-303013	16.0	17.9	16.3	14.8			
A74-304009	13.7	16.9	14.6	14.5			
A74-306002	14.1	15.8	14.8	14.1			
A74-306008	13.1	16.6	15.3	14.4			
C1528	17.5	18.4	16.0	16.1			
C1529	17.6	18.2	16.0	14.3			
L69U19-16-2	15.8	18.1	17.0	16.2			
L69U37-17-5	16.0	16.6	16.9	14.0			
L69U40-19-1	16.1	16.8	15.8	15.7			
L73U-332	15.9	16.5	14.4	15.3			
L74D-611	15.4	15.8	13.9	14.3			
			PROTEIN (%)				
Calland		41.0	41.0	37.8	42.4	41.3	40.5
Williams		40.7	41.2	37.8	41.7	40.4	40.9
Woodworth		40.6	40.4	37.7	40.7	39.2	39.8
A74-204028		41.4	41.4	38.1	41.0	40.5	40.0
A74-302012		39.5	40.0	36.0	39.7	39.2	39.8
A74-302030		40.6	41.4	36.0	42.8	38.8	41.1
A74-303012		39.5	41.1	37.0	42.3	40.2	40.3
A74-303013		40.2	40.5	35.6	41.5	40.0	40.5
A74-304009		40.6	41.5	37.4	41.3	40.8	40.9
A74-306002		40.2	41.2	36.7	41.4	41.0	41.3
A74-306008		40.6	41.3	37.5	41.8	40.8	41.5
C1528		40.6	40.4	35.8	42.8	40.2	40.8
C1529		40.1	40.9	36.5	41.3	40.0	40.0
L69U19-16-2		41.3	40.4	39.1	41.7	40.7	43.0
L69U37-17-5		40.3	40.2	38.5	41.7	40.3	39.6
L69U40-19-1		41.8	41.2	38.1	41.9	41.1	40.6
L73U-332		40.4	41.0	36.7	41.6	41.4	40.6
L74D-611		41.6	42.2	37.4	42.8	41.3	41.0

Iowa	Mo.	S.D.	Neb.	Kansas	
Ottumwa	Columbia I	Elk Point	Mead I	Manhattan I	Powhattan
		SEED SIZE (g/100)			
17.3		17.1	14.8	17.6	15.2
17.7		16.4	14.8	16.0	14.5
14.5		13.9	15.9	15.5	12.1
18.0		15.1	15.6	17.8	12.5
20.9		18.6	15.7	19.5	16.6
18.1		16.4	16.1	17.2	14.4
19.2		18.1	15.8	18.0	15.2
17.6		17.7	14.3	18.1	15.5
17.5		15.3	14.2	17.4	13.2
15.4		14.6	12.5	16.2	13.5
17.2		15.2	15.2	16.4	13.3
18.2		17.3	14.9	16.4	14.9
17.2		16.7	15.3	17.2	14.7
19.2		16.0	15.9	19.2	14.7
17.8		15.8	14.5	17.7	14.5
17.3		16.7	13.9	18.0	14.9
18.9		15.2	15.4	18.5	13.8
16.5		15.7	16.1	17.6	12.2
		PROTEIN (%)			
39.3	41.4	38.2	40.6	39.8	39.7
40.5	42.9	39.3	40.9	40.3	42.0
38.9	41.0	38.2	41.4	39.2	40.7
39.9	41.3	39.4	40.5	39.9	39.9
38.2	41.8	36.9	41.3	39.0	38.9
39.6	40.8	38.8	41.5	39.1	39.2
39.5	40.5	38.9	43.2	39.6	40.8
39.2	40.6	36.8	42.6	40.0	40.9
39.7	40.9	38.4	41.6	40.6	39.1
40.5	39.6	39.3	42.8	40.2	40.3
39.9	40.6	37.6	39.5	40.4	40.2
39.1	40.6	37.4	41.0	39.8	38.3
38.0	40.2	37.8	39.8	39.0	39.2
40.4	41.0	38.4	42.3	41.2	40.3
39.2	39.1	37.2	40.7	39.7	38.3
38.9	42.6	37.1	42.7	40.7	40.7
39.8	40.7	38.0	40.6	39.9	39.0
41.6	42.5	38.4	42.7	42.0	39.9

Strain	East Coast Mean	N.J. Adel-phia	Md. Clarks-ville	Cen-tral Mean	Indiana Lafa-yette	Indiana Sulli-van	Ky. Lexing-ton
	2 Tests	OIL (%)		12 Tests		OIL (%)	
Calland	19.4	19.2	19.7	20.3	19.8	20.0	19.5
Williams	20.5	20.2	20.8	21.2	19.9	21.1	21.1
Woodworth	20.4	20.0	20.9	21.4	20.8	20.6	20.9
A74-204028	20.7	20.7	20.7	21.5	20.3	21.1	21.1
A74-302012	20.6	20.5	20.8	21.8	20.6	21.7	21.5
A74-302030	19.4	19.6	19.3	20.6	19.2	19.6	21.5
A74-303012	20.8	20.3	21.2	21.7	20.8	21.0	21.9
A74-303013	19.8	19.9	19.8	21.0	19.9	20.9	21.4
A74-304009	20.2	19.5	21.0	21.3	20.7	20.4	21.4
A74-306002	20.0	19.7	20.2	21.5	20.1	20.9	21.3
A74-306008	19.6	18.9	20.4	21.3	19.8	20.4	21.4
C1528	19.8	20.4	19.2	21.3	20.3	20.5	21.6
C1529	19.9	19.7	20.1	21.7	20.6	20.8	21.7
L69U19-16-2	19.1	18.8	19.4	20.3	18.9	20.2	20.3
L69U37-17-5	19.2	18.9	19.4	20.8	19.6	20.2	17.8
L69U40-19-1	19.6	19.2	20.1	20.1	18.6	19.4	19.8
L73U-332	20.6	20.0	21.2	21.4	20.7	20.4	21.8
L74D-611	19.2	19.2	19.1	20.2	18.6	19.5	20.6

Illinois			Iowa	Mo.	S.D.	Neb.	Kansas	
Urbana	Belle-ville	Eldor-ado	Ottu-mwa	Colum-bia I	Elk Point	Mead I	Man-hattan I	Pow-hattan
				OIL (%)				
19.4	20.5	20.5	20.1	20.1	20.8	18.9	21.9	21.9
20.7	22.7	22.1	20.4	21.8	21.5	19.8	22.2	21.0
20.9	22.1	22.0	20.7	21.8	21.8	19.2	23.7	21.8
21.4	22.3	22.7	20.9	21.8	21.4	20.7	23.2	21.5
21.5	22.0	21.9	20.9	23.1	22.5	19.0	23.9	22.7
19.2	22.3	20.5	19.7	21.1	20.8	18.7	22.5	21.7
20.8	22.9	23.2	20.6	22.1	22.4	18.3	24.1	22.0
19.4	21.4	21.4	20.0	22.0	22.5	17.9	23.3	21.5
20.4	21.8	21.5	20.3	21.6	21.9	19.5	23.3	22.8
20.5	21.8	22.2	19.7	24.6	21.9	19.1	23.2	22.5
20.0	21.9	21.3	19.3	22.5	22.6	20.9	22.6	22.7
19.6	21.6	22.1	20.1	21.7	22.4	19.8	23.1	23.1
20.2	21.9	22.0	20.6	22.3	22.7	20.9	24.0	23.0
19.1	21.0	20.0	19.6	21.4	21.3	19.0	21.1	21.3
19.4	20.8	21.4	19.9	22.1	22.2	19.7	22.8	23.1
19.0	20.8	20.9	19.9	20.6	21.9	17.8	21.4	20.9
20.6	21.5	22.4	20.4	22.6	21.1	20.9	22.8	21.8
19.4	20.2	21.4	19.3	20.2	21.6	18.7	21.2	21.4

Strain		Parentage	Generation Composited
1.	Calland		
2.	Williams		
3.	Woodworth		
4.	A75-204018	IVR Ex4731 x Wirth	F4
5.	A75-302005	L15 x AP68-1016	F4
6.	A75-305005	AP6	F4
7.	A75-305022	Wye x IVR Ex4731	F4
8.	A75-305023	Corsoy x IVR Ex4731	F4
9.	A75-305031	Corsoy x Williams	F4
10.	A75-306007	Wells x Wye	F4
11.	A75-306015	AP6	F4
12.	A75-306018	AP6	F4
13.	A75-306019	AP6	F4
14.	A75-332007	AP6	F5
15.	A75-332027	AP6	F5
16.	A75-332035	L15 x AP68-1016	F4
17.	C1532	L63-0007-1 x CX407BC_7-255 (BSR Resis.)	F5
18.	C1540	Calland x L63-1397	F6
19.	C1541	C1421 x Calland	F6
20.	C1542	C1421 x Calland	F6
21.	C1543	C1421 x Calland	F6
22.	K1028	Williams x Calland	F5
23.	L22	Williams^6 x(Clark^6 x T117) "Williams Dt_2"	4F3
24.	L69U40-16-4	Calland x Amsoy	F6
25.	L70U-2173	Provar x Disoy	F6
26.	L70U30A-4-3	C1426 x L15	F5
27.	L73-827	L6 x (clark^6 x Higan) x (Clark^6 x T117) "Clark 63-Dt_2S"	F3
28.	L73-6084	L15 (Wayne Rps) x Amsoy 71	F7
29.	L73U-117	Amsoy x L62-1251	F5
30.	L73U-352	L67-533 x L66L-140	F5
31.	L74-1960	Clark 63-Ir x D64-3077 (D49-2491^5 x Hawkeye)	F9
32.	L74D-615	Williams x Ransom (dt_1, semidwarf)	F5
33.	L74D-619	Williams x Ransom (dt_1, semidwarf)	F5
34.	L74D-673	Amsoy 71 x Ransom	F5
35.	L74D-911	Amsoy 71 x Ransom	F5
36.	L74U-3242	Wells x York	F4

This test has several lines which yielded better than the check varieties. Of these, L69U40-16-4 and L73-6084 are 4 and 2 bushels higher yielding, 5.5 and 8.5 days earlier maturing than Williams, and are both phytophthora root rot resistant. The strain A75-302005 is 3 bushel higher yielding and 0.5 days later maturing than Williams. The strains A75-204018, A75-332035, K1028, and L22 are all 1 bushel higher yielding and from 2 to 5.5 days earlier maturing that Williams. The strain L22, a semi-determinate Williams, is 5.4 days earlier in maturity than Williams. C1532, selected for resistance to brown stem rot, had the lowest incidence of this disease of the strains evaluated in the Iowa BSR test. The two semidwarf strains, L74D-615 and L74D-619 did not yield as well as the check varieties but did have excellent lodging resistance.

Disease Data

Strain	BB	FE_2	BSR			PSB	PS	SMV	PR		
	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	n	a	n %	n % stem	n % plants	d	a	a seed	a	a	n
Calland	3	5	90	38	100	2	2	5E	R	R	3
Williams	2	4	100	51	80	2	2	5M	S	S	4
Woodworth	4	4	100	49	80	2	2	5E	S	S	4
A75-204018	4	4	90	48	80	2	2	5E	S	S	5
A75-302005	5	3	80	24	80	2	2	5E	H	R	3
A75-305005	1	5	90	39	100	2	3	5E	S	S	5
A75-305022	5	5	90	45	100	2	3	2M	S	S	3
A75-305023	5	5	80	37	80	3	2	5E	S	S	4
A75-305031	4	5	90	38	100	3	3	5E	S	S	4
A75-306007	5	2	90	40	90	1	3	4M	R	R	3
A75-306015	4	3	90	48	100	3	3	5E	R	R	3
A75-306018	3	2	80	56	90	2	3	5E	R	R	3
A75-306019	4	5	100	46	90	2	2	5E	S	S	3
A75-332007	3	4	100	36	100	1	2	5E	R	R	3
A75-332027	3	5	90	43	100	3	3	5M	S	S	3
A75-332035	5	4	50	29	70	1	2	5E	R	R	4
C1532	5	5	80	11	30	3	2	5E	R	R	5
C1540	4	5	60	28	70	1	2	5E	R	R	5
C1541	4	5	60	47	100	1	3	5E	R	R	4
C1542	4	5	90	51	80	1	3	5M	R	R	3
C1543	4	5	70	55	100	1	2	5E	R	R	2
K1028	4	5	90	50	90	2	2	5E	R	R	5
L22	3	5	70	56	100	1	2	5E	S	S	3
L69U40-16-4	5	5	80	42	100	3	2	5S	R	R	3
L70U-2173	5	1	80	49	100	2	3	2M	S	S	5
L70U30A-4-3	4	4	90	59	100	1	3	4M	R	R	3
L73-827	5	5	90	47	100	1	1	2M	H	S	2
L73-6084	5	5	50	45	100	1	2	5E	R	R	4
L73U-117	5	4	100	59	100	1	3	5E	S	S	4
L73U-352	5	4	100	63	100	1	1	5E	S	S	4
L74-1960	5	3	100	63	90	2	2	5M	R	H	3
L74D-615	2	3	100	64	100	1	1	5E	S	S	5
L74D-619	3	2	90	70	100	1	2	3M	S	S	5
L74D-673	2	1	100	30	100	1	2	3M	S	S	3
L74D-911	4	1	60	33	100	2	1	5E	S	S	4
L74U-3242	3	2	100	39	100	2	2	5E	S	S	5

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Ames Iowa	Shattering Manhattan Kansas
Calland	PTNBr DYB1	3	3.0
Williams	WTNTn SYB1	3	3.0
Woodworth	WTNTn DYB1	5	4.0
A75-204018	WTNBr DYBr	2	5.0
A75-302005	WTNBr DYBr	5	1.0
A75-305005	WTNBr DYG+Ib	5	4.0
A75-305022	WTNBr SYBf	3	3.0
A75-305023	WTNTn SYBr	2	2.0
A75-305031	WTNBr SYIb	5	1.0
A75-306007	WTNBr SYB1	2	2.0
A75-306015	PGNBr SYB1+Bf	5	1.0
A75-306018	WGNBr DYY+Bf	5	1.5
A75-306019	WGNBr DYY+Bf	5	3.0
A75-332007	PGNBr SYIb	4	1.0
A75-332027	PGNBr DYG	3	1.5
A75-332035	WTNBr DYIb	5	4.0
C1532	PGNTn SYY	3	5.0
C1540	PTNBr DYB1	3	5.0
C1541	WTNTn DYB1	2	5.0
C1542	WTNTn DYB1	3	5.0
C1543	P+WTNTn DYB1	3	3.0
K1028	PTNTn DYB1	5	4.0
L22	WTNTn SYIb	4	2.0
L69U40-16-4	PGNTn DYG	4	5.0
L70U-2173	PGNBr DYY	3	2.0
L70U30A-4-3	WGNBr SYBf	5	5.0
L73-827	PTNBr DYB1	5	1.5
L73-6084	WTNBr SYBr	5	5.0
L73U-117	PGNBr SYIb	3	2.0
L73U-352	WTNTn DYB1	4	5.0
L74-1960	WTNBr SYB1	4	2.0
L74D-615	PTNTn DYB1	2	2.0
L74D-619	PTNTn SYB1	3	3.0
L74D-673	PTNTn SYY	3	1.0
L74D-911	PTNTn SYY	2	1.0
L74U-3242	PGNTn DYBf	5	4.0

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
No. of tests	10	10	8	8	10	8	6	5	5
Calland	42.4	16	+1.0	2.4	39	2.4	16.8	41.6	20.2
Williams	42.3	17	+3.9	2.0	38	1.8	16.4	41.5	21.1
Woodworth	41.6	21	9/22.5	2.0	37	1.9	13.7	40.4	21.3
A75-204018	44.4	4	-0.8	2.4	35	2.0	14.9	38.6	22.0
A75-302005	45.4	2	+4.4	2.2	39	2.0	17.0	40.5	21.0
A75-305005	40.8	24	-0.1	1.6	35	2.2	17.1	41.3	20.0
A75-305022	43.5	9	+2.5	2.2	38	2.0	14.0	40.9	21.3
A75-305023	42.3	17	+3.2	2.7	44	2.1	14.8	39.7	21.3
A75-305031	42.9	15	+0.1	2.0	37	2.3	15.2	39.0	21.3
A75-306007	39.8	32	+1.2	3.6	45	2.1	13.0	41.7	20.1
A75-306015	38.4	34	+3.4	2.9	39	2.4	14.2	41.8	19.4
A75-306018	40.9	23	+4.5	3.0	39	2.3	13.9	42.1	19.5
A75-306019	40.8	24	+2.0	3.0	36	2.4	16.3	41.4	20.3
A75-332007	39.3	33	+1.5	2.7	37	2.2	14.0	41.6	19.4
A75-332027	43.0	14	+1.0	3.3	40	2.1	14.0	42.3	20.8
A75-332035	44.3	6	+2.1	2.0	39	2.2	15.4	41.8	20.2
C1532	37.8	35	-7.0	2.6	39	3.0	17.0	41.5	20.1
C1540	42.0	19	+1.1	2.3	36	2.4	16.9	40.5	21.1
C1541	43.7	8	+0.9	2.1	36	2.3	16.4	41.2	19.9
C1542	43.1	12	-1.0	1.9	35	2.1	16.3	40.4	20.2
C1543	43.1	12	+1.6	2.0	38	2.2	16.5	40.3	20.9
K1028	44.4	4	+0.8	1.8	34	2.0	16.6	40.9	20.7
L22	44.0	7	-1.5	1.6	31	1.8	16.0	41.2	21.1
L69U40-16-4	46.2	1	-1.6	2.2	36	2.8	18.5	39.3	21.2
L70U-2173	34.8	36	+1.1	2.3	38	2.2	22.8	42.1	20.8
L70U30A-4-3	40.7	26	+4.2	1.7	38	2.2	14.2	41.4	20.6
L73-827	40.5	28	+3.6	2.6	30	1.8	14.6	41.2	21.2
L73-6084	44.5	3	-4.6	2.0	39	2.3	17.8	40.4	21.3
L73U-117	40.7	26	+0.2	1.7	33	2.2	15.2	39.7	21.7
L73U-352	40.1	30	+3.6	2.1	36	1.9	15.7	41.5	20.7
L74-1960	43.4	10	+3.9	2.2	40	2.2	14.8	40.1	20.9
L74D-615	40.4	29	+4.1	1.5	21	1.8	16.8	41.8	20.5
L74D-619	39.9	31	-2.0	1.7	23	1.8	16.4	41.6	20.5
L74D-673	41.7	20	+3.9	2.4	34	2.3	14.3	39.6	21.2
L74D-911	41.2	22	+4.8	2.6	34	2.1	13.8	41.3	21.0
L74U-3242	43.4	10	-0.6	1.4	37	2.3	17.7	38.7	22.0

Strain	Mean	Md. Clarksville	Ohio Hoytville	Ind. Lafayette	Ill. Urbana
	10 Tests	YIELD (bu./A)			
Calland	42.4	35.1	48.5	48.8	39.9
Williams	42.3	41.5	41.6	49.7	47.8
Woodworth	41.6	30.2	42.9	48.3	47.3
A75-204018	44.4	40.1	38.5	52.2	41.9
A75-302005	45.4	38.3	43.3	56.8	53.0
A75-305005	40.8	35.6	41.7	50.3	41.6
A75-305022	43.5	43.8	41.0	48.5	40.6
A75-305023	42.3	41.7	41.4	51.6	42.6
A75-305031	42.9	37.7	18.1	53.4	48.3
A75-306007	39.8	35.8	43.7	43.9	36.5
A75-306015	38.4	40.8	37.2	42.6	37.3
A75-306018	40.9	37.3	48.3	51.3	38.6
A75-306019	40.8	36.3	40.1	45.2	32.9
A75-332007	39.3	30.8	42.7	41.7	36.7
A75-332027	43.0	29.1	42.8	50.3	44.3
A75-332035	44.3	38.7	43.7	54.1	53.2
C1532	37.8	33.1	32.0	51.8	45.2
C1540	42.0	43.0	29.0	48.1	44.4
C1541	43.7	35.1	48.8	51.7	41.0
C1542	43.1	36.4	48.7	46.9	49.1
C1543	43.1	37.9	55.2	51.4	49.0
K1028	44.4	40.0	39.5	49.3	48.6
L22	44.0	38.7	47.4	49.2	48.9
L69U40-16-4	46.2	38.4	54.1	52.6	48.2
L70U-2173	34.8	31.2	29.1	40.2	30.9
L70U30A-4-3	40.7	36.3	47.7	43.3	36.1
L73-827	40.5	32.7	43.6	46.5	31.4
L73-6084	44.5	46.0	45.7	54.1	48.0
L73U-117	40.7	37.4	34.3	45.3	42.9
L73U-352	40.1	34.6	45.6	41.8	39.0
L74-1960	43.4	38.2	49.3	48.3	37.8
L74D-615	40.4	39.3	44.5	48.9	47.3
L74D-619	39.9	40.1	39.9	47.8	45.2
L74D-673	41.7	37.8	36.2	45.7	43.7
L74D-911	41.2	37.1	40.2	46.8	40.0
L74U-3242	43.4	40.1	43.7	48.7	46.2
CV (%)		10.9	18.2[a]	7.1	7.4
LSD (5%)		N.S.	15.5	7.0	6.4
Row Sp. (in.)		30	30	30	30
Rows/plot		4	3	3	4
Reps.		2	2	2	2

(a) The high CV may have been caused by a light infection of Phytophthora root rot

Iowa		Mo.	S.D.	Neb.	Kansas
Stuart	Ottumwa	Columbia I	Elk Point	Mead I	Manhattan I
		YIELD (bu./A)			
32.9	70.3	20.7	35.6	37.3	54.5
34.0	64.1	21.3	33.8	38.1	51.5
37.3	62.5	20.6	34.2	40.4	52.2
41.6	74.6	19.0	37.5	41.9	57.1
40.5	61.7	27.5	31.6	44.3	56.7
34.6	63.8	20.2	28.0	40.4	52.1
35.4	68.0	26.1	38.6	40.3	52.6
36.8	66.3	21.0	34.7	35.1	51.4
37.8	72.7	26.1	32.4	42.1	60.1
32.7	64.6	26.1	30.3	33.3	50.8
30.0	61.5	17.3	35.3	29.1	53.3
38.6	61.4	23.7	31.5	33.1	45.3
39.4	68.0	23.2	33.4	39.4	50.1
33.0	63.2	23.4	32.8	35.4	53.7
37.5	65.2	29.1	36.2	38.5	57.2
37.4	65.4	26.1	34.8	37.2	52.2
31.5	54.4	17.8	24.8	36.6	51.0
34.4	65.8	21.8	32.7	40.8	59.8
34.2	65.4	23.0	38.4	40.7	58.5
31.7	68.8	20.7	36.2	40.6	51.6
35.6	64.1	19.9	34.0	36.6	46.9
34.4	68.8	22.6	38.9	45.4	56.2
35.0	67.1	24.1	34.2	42.0	53.6
36.6	68.0	21.1	36.7	47.1	58.9
29.1	49.0	20.3	28.1	39.0	51.2
32.8	64.2	22.1	36.3	37.3	50.9
32.1	65.2	25.7	35.5	39.6	52.3
36.8	65.8	19.0	34.2	40.7	55.1
34.8	65.0	19.7	32.3	40.3	55.2
27.8	64.2	26.1	31.4	37.2	52.9
35.7	62.6	26.0	38.6	42.1	55.0
35.9	64.8	25.3	29.4	42.9	25.9
34.9	68.7	23.0	32.9	33.2	32.9
32.5	65.7	30.9	30.9	43.3	49.9
30.5	66.5	30.0	32.3	38.7	49.9
37.9	62.2	23.7	33.9	41.3	56.3
6.1	7.1	11.0	9.9	9.9	5.8
4.3	9.2	5.1	6.6	7.9	6.1
27	27	15	30	30	30
4	4	4	2	4	4
2	2	2	2	2	2

Strain	Mean	Md. Clarksville	Ohio Hoytville	Ind. Lafayette	Ill. Urbana	Iowa Stuart	Iowa Ottumwa	Mo. Columbia I	S.D. Elk Point	Neb. Mead I	Kansas Manhattan I
	10 Tests				YIELD RANK						
Calland	16	28	6	18	26	26	3	26	10	25	13
Williams	17	5	22	14	10	24	25	23	20	24	24
Woodworth	21	35	18	21	11	9	30	28	15	15	20
A75-204018	4	7	29	6	21	1	1	33	5	9	6
A75-302005	2	15	17	1	2	2	32	4	28	3	7
A75-305005	24	27	21	12	22	20	27	30	35	15	22
A75-305022	9	2	24	20	24	16	7	5	2	17	18
A75-305023	17	4	23	9	20	10	12	25	14	32	25
A75-305031	15	19	36	4	7	6	2	5	25	6	1
A75-306007	32	26	13	31	32	28	22	5	32	33	30
A75-306015	34	6	30	33	30	34	33	36	12	36	16
A75-306018	23	21	7	11	28	4	34	14	29	35	34
A75-306019	24	24	26	30	34	3	7	17	21	20	28
A75-332007	33	34	20	34	31	25	28	16	23	31	14
A75-332027	14	36	19	12	17	7	18	3	8	23	5
A75-332035	6	12	13	3	1	8	16	5	13	27	20
C1532	35	31	33	7	14	32	35	35	36	29	27
C1540	19	3	35	23	16	21	13	22	24	11	2
C1541	8	28	4	8	23	23	16	18	4	12	4
C1542	12	23	5	25	3	31	4	26	8	14	23
C1543	12	17	1	10	4	15	25	31	18	29	33
K1028	4	10	28	15	6	21	4	20	1	2	9
L22	7	12	9	16	5	17	16	13	15	8	13
L69U40-16-4	1	14	2	5	8	12	7	24	6	1	3
L70U-2173	36	33	34	36	36	35	36	29	34	21	26
L70U30A-4-3	26	24	8	32	33	27	23	21	7	25	29
L73-827	28	32	16	27	35	30	18	11	11	19	19
L73-6084	3	1	10	2	9	10	13	33	15	12	11
L73U-117	26	20	32	29	19	19	20	32	26	17	10
L73U-352	30	30	11	35	27	36	23	5	30	27	17
L74-1960	10	16	3	21	29	14	29	10	2	6	12
L74D-615	29	11	12	17	11	13	21	12	33	5	36
L74D-619	31	7	27	24	14	18	6	18	22	34	35
L74D-673	20	18	31	28	18	29	15	1	31	4	31
L74D-911	22	22	25	26	25	33	11	2	26	22	31
L74U-3242	10	7	13	19	13	5	31	14	19	10	8

Strain	Mean	Md. Clarksville	Ohio Hoytville	Ind. Lafayette	Ill. Urbana	Iowa Stuart	Iowa Ottumwa	Mo. Columbia I	S.D. Elk Point	Neb. Mead I	Kansas Manhattan I
	8 Tests			MATURITY (relative date)							
Calland	+1.0	+ 3	-3	+1	-1	-1	*	*	+3	+6	0
Williams	+3.9	- 1	+2	+6	+7	+3			+6	+5	+ 3
Woodworth	9-22.5	10-7	9-20	9-14	9-22	9-13			10-2	9-24	9-18
A75-204018	-0.8	-11	-6	+2	0	+1			0	+4	+ 4
A75-302005	+4.4	+ 1	+2	+8	+8	+1			+4	+6	+ 5
A75-305005	-0.1	- 1	-4	+1	-2	-1			0	+2	+ 4
A75-305022	+2.5	+ 3	-3	+3	+2	+2			+2	+1	+10
A75-305023	+3.2	+ 3	-3	+6	+4	+3			+3	+4	+ 6
A75-305031	+0.1	+ 3	-2	0	-1	-2			-1	+3	+ 1
A75-306007	+1.2	+ 3	-4	+1	-1	+1			+2	+4	+ 4
A75-306015	+3.4	- 2	+3	+8	+6	+1			+6	+1	+ 4
A75-306018	+4.5	+ 9	+1	+8	+6	+1			+1	+4	+ 6
A75-306019	+2.0	+ 7	0	+1	-1	0			+1	+5	+ 3
A75-332007	+1.5	- 1	0	+1	+3	+2			+5	+2	0
A75-332027	+1.0	0	-2	+3	-2	+2			+3	+6	- 2
A75-332035	+2.1	+ 2	-2	+2	+7	0			+1	+1	+ 6
C1532	-7.0	-11	-9	-4	-7	-8			-8	+1	-10
C1540	+1.1	+ 2	-5	+3	-1	+3			+1	+4	+ 2
C1541	+0.9	+ 1	-5	0	-1	-1			+4	+6	+ 3
C1542	-1.0	- 1	-3	-2	-1	-3			+2	+2	- 2
C1543	+1.6	+ 4	-4	+1	+3	+1			+4	+4	0
K1028	+0.8	- 1	+1	0	-1	-1			+3	+5	0
L22	-1.5	- 1	-4	0	-2	-3			+2	0	- 4
L69U40-16- 4	-1.6	+ 5	-8	-2	-4	-5			+1	+3	- 3
L70U-2173	+1.1	+ 3	-3	-2	-6	+1			+4	+6	+ 6
L70U30A-4-3	+4.2	+ 2	+4	+4	+4	+3			+5	+4	+ 8
L73-827	+3.6	+ 7	+2	+6	+1	+2			+6	+3	+ 2
L73-6084	-4.6	-12	-6	-2	-6	-7			-2	0	- 2
L73U-117	+0.2	- 1	-3	+1	0	+1			+3	+2	- 1
L73U-352	+3.6	- 1	+4	+6	+5	+1			+5	+6	+ 3
L74-1960	+3.9	+ 3	+1	+5	+5	+1			+5	+5	+ 6
L74D-615	+4.1	+ 9	-5	+6	+6	-3			0	+6	+14
L74D-619	-2.0	0	-7	-4	-3	-5			-1	-4	+ 8
L74D-673	+3.9	+ 1	+3	+6	+2	+1			+4	+6	+ 8
L74D-911	+4.8	+ 3	+5	+6	+1	+2			+6	+6	+ 9
L74U-3242	-0.6	- 1	-3	-1	-4	+1			+2	-1	+ 2
Beeson (II)	-6.0	-11	-8	-4	-7	-5			-3	-4	
Cutler 71(IV)	+8.0	+ 7	+6	+9	+13					+13	+ 8
Date planted	9-17	6-9	5-13	5-12	5-11	5-6	5-20	5-26	5-20	5-25	5-6

Strain	Parentage	Previous Testing*	Generation Composited
1. Cutler 71	Cutler[4] x SL5 (Kent Rps rxp)	7	6F3
2. Kent	Lincoln x Ogden	22	F7
3. L21	Williams[5] x SL11 (Wayne-Rpm Rps)	UTIII	F3
4. A72-512	Amsoy x Wayne	2	F5
5. A74-304031	Wells x Wye	PIV	F4
6. L69U84-19-1	Cutler x Beeson	PIV	F5
7. L70L-3048	L15 (Wayne-Rps) x D64-3146	1	F7
8. L71L-556	Cutler x SL12 (Wayne I r Rpm Rps)	1	F7
9. L73-4124	D66-12392 x L69L-3	PIV	F5
10. Md70-2221	3rd cycle intercross, 8-parent diallel[+]	PIV	F4
11. Md71-407	Clark x D64-4731	-	F6

* Number of years in this test or name of 1975 test.
[+] Adams, Lincoln, Perry, Wabash, C799, C985, L46-1503, FC33.243.

The mean yields of Cutler 71 and Kent were the same after 7 years of testing in the Central states. Kent averaged 5 days later in maturity than Cutler 71.

The 3-year Central and East Coast means show A72-512 having a mean yield 3 and 5 bushels higher and maturity 5 and 4 days earlier than Kent. However, A72-512 is somewhat lodging susceptible and, like Kent, is susceptible to phytophthora root rot.

The 2-year Central and East Coast means show A72-512, L70L-3048, and L71L-556 all higher yielding than the checks. The strain L71L-556 is 2 days earlier maturing than Kent, has a moderately high protein content, and is resistant to race 1 of phytophthora root rot.

The strain L21 is the highest yielding line in both the Central and East Coast tests in 1976. L21 is a Williams backcross with resistance to downy mildew and race 1 of phytophthora root rot. It is 1.6 days earlier maturing than Cutler 71 in the Central states and 0.4 days later than Cutler 71 in the East Coast states.

Disease Data

Strain	BB Laf. Ind. n	FE_2 Laf. Ind. a	BSR Laf. Ind. n %	BSR Ames Iowa n % stem	BSR Ames Iowa n % plants	PSB Laf. Ind. d	PS Laf. Ind. a	SMV Laf. Ind. a seed	PR Laf. Ind. a	PR Ames Iowa a	PR Vickery Ohio n
Cutler 71	4	1	70	23	60	2	2	5E	R	R	4
Kent	5	1	100	16	70	2	3	5E	S	S	3
L21	4	1	80	24	40	2	2	5E	R	R	3
A72-512	3	4	90	28	70	4	1	4M	S	S	3
A74-304031	5	3	100	41	80	1	1	2M	H	S	4
L69U84-19-1	3	1	80	29	50	2	1	5E	S	S	3
L70L-3048	3	3	100	31	70	2	2	4M	S	S	3
L71L-556	1	3	100	42	80	1	1	5E	R	R	4
L73-4124	3	4	30	37	100	2	1	4M	S	S	4
Md70-2221	5	1	100	56	100	1	1	2M	S	S	4
Md71-407	2	4	90	54	90	1	1	5M	S	S	4

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Descriptive and Other Data

Strain	Descriptive Code	Chlorosis Ames Iowa	Fluorescent Light	Emergence	Peroxidase	Shattering Manhat. Kan.	Shattering Lubb. Tex.
Cutler 71	PTNBr SYB1	3	L	5	L+H	3.0	1.8
Kent	PTNBr IYB1	4	H	1	L	4.0	1.7
L21	WTNTn SYB1	4	L	1	H	2.0	2.0
A72-512	WGNTn SYBf	4	L	5	L	4.0	2.5
A74-304031	WTNBr S+DYB1	4	L	2	L	3.0	1.8
L69U84-19-1	PTNBr SYB1	3	L	3	L	5.0	2.8
L70L-3048	WGNTn SYBf	5	L	3	L	3.0	2.0
L71L-556	P+WTNBr SYB1	5	L	1	L	2.0	2.0
L73-4124	PGNBr DYIb	4	L	3	L	1.0	1.3
Md70-2221	PTNBr SYB1	5	L	1	L	2.0	2.5
Md71-407	PTNBr DYB1	4	L	1	L	1.0	1.2

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
1976 CENTRAL									
No. of Tests	18	18	16	19	20	19	13	9	9
Cutler 71	36.2	6	9-18.6†	2.0	36	2.2	15.7	40.8	20.8
Kent	35.2	11	+4.4	1.8	34	2.1	15.6	41.4	20.3
L21	39.1	1	-1.6	2.0	36	1.9	16.6	40.7	20.8
A72-512	38.6	3	-1.9	2.4	35	1.9	13.5	39.1	21.4
A74-304031	37.0	4	-0.1	2.0	32	2.3	14.6	40.7	21.8
L69U84-19-1	35.4	9	-1.6	1.8	32	2.3	16.1	41.7	20.3
L70L-3048	38.7	2	+2.6	1.8	36	2.2	14.1	40.7	20.8
L71L-556	36.3	5	+1.2	2.0	35	2.1	15.5	42.2	19.9
L73-4124	36.0	7	+1.9	1.4	30	2.0	13.4	39.8	20.7
Md70-2221	35.3	10	+4.2	1.6	34	2.2	14.6	39.8	21.3
Md71-407	35.8	8	+5.6	2.0	36	1.7	13.8	40.9	20.5

†127 days after planting

1975-1976, 2-YEAR MEAN, CENTRAL

Strain	Yield		Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
No. of Tests	38	38		32	39	40	38	30	18	18
Cutler 71	39.9	40.0	5	9-22.2†	1.9	36	2.2	17.0	41.0	21.0
Kent	40.4	40.2	4	+4.4	1.7	35	2.2	16.8	41.2	20.6
A72-512	43.9	43.6	1	-0.2	2.8	38	2.2	14.4	39.8	21.6
L70L-3048	42.7	42.6	2	+2.7	2.0	36	2.3	15.0	40.7	21.3
L71L- 556	42.1	42.4	3	+2.2	2.1	36	2.2	16.4	42.6	20.0

†129 days after planting

1974-1976, 3-YEAR MEAN, CENTRAL

No. of Tests	58	58	46	60	61	58	46	27	27
Cutler 71	38.5	3	9-26.2†	2.0	36	2.2	17.3	41.1	20.7
Kent	38.6	2	+4.1	1.8	35	2.1	17.0	41.1	20.5
A72-512	41.8	1	-0.7	2.7	37	2.1	14.6	39.8	21.3

†129 days after planting

1970-1976, 7-YEAR MEAN, CENTRAL

No. of Tests	125	125	105	125	127	125	103	69	69
Cutler 71	41.3	1	9-27.1†	2.1	40	2.2	17.4	41.0	21.5
Kent	41.3	1	+4.7	1.9	38	2.2	17.2	40.8	21.6

†129 days after planting

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition Protein	Seed Composition Oil
1976, EAST COAST									
No. of Tests	5	5	5	5	5	5	5	2	2
Cutler 71	40.4	5	9-29.4+	3.0	37	2.2	19.3	41.7	19.7
Kent	38.2	11	+5.2	2.4	35	2.2	18.9	42.2	19.5
L21	42.5	1	+0.4	2.9	35	2.2	20.7	41.7	20.0
A72-512	41.7	2	-1.2	2.7	35	2.5	16.1	40.2	20.3
A74-304031	41.7	2	-1.2	2.4	33	2.9	17.5	41.4	20.6
L69U84-19-1	38.9	9	-0.4	2.6	31	2.2	19.9	43.0	19.2
L70L- 3048	39.9	6	+3.2	2.5	34	2.6	16.9	41.2	19.8
L71L-556	41.4	4	+2.0	2.6	34	2.0	18.5	43.0	18.9
L73-4124	39.1	8	+3.2	2.1	29	2.2	14.9	41.2	18.8
Md70- 2221	38.6	10	+1.8	2.0	34	2.0	16.3	41.6	19.8
Md71-407	39.8	7	+5.8	2.5	33	1.9	15.2	41.4	19.7

+124 days after planting

1975-1976, 2-YEAR MEAN, EAST COAST

No. of Tests	12	12	12	12	12	12	11	4	4
Cutler 71	40.5	4	10-2.3+	2.6	39	2.3	19.4	42.0	20.0
Kent	39.4	5	+4.7	2.3	37	2.2	19.3	42.2	20.0
A72-512	42.6	2	+0.4	3.2	39	2.7	16.0	40.9	20.6
L70L-3048	42.3	3	+2.3	2.5	37	2.7	17.0	42.0	20.2
L71L-556	43.3	1	+2.4	2.5	38	2.1	18.7	43.6	19.1

+123 days after planting

1974-1976, 3-YEAR MEAN, EAST COAST

No. of Tests	18	18	16	18	18	18	18	6	6
Cutler 71	42.4	2	10-1.7+	2.4	39	2.2	19.7	42.6	20.1
Kent	40.7	3	+3.8	2.1	37	2.1	19.4	42.5	20.2
A72-512	45.6	1	-0.4	3.1	39	2.6	16.7	41.4	20.8

+124 days after planting

Strain	East Coast Mean	Pa. Landis-ville	N.J. Adel-phia	Del. George-town I	Maryland Clarks-ville	Maryland Queens-town	Cen-tral Mean	Indiana Lafa-yette	Indiana Sulli-van
	5 Tests			1976 YIELD (bu./A)			18 Tests		
Cutler 71	40.4	40.0	39.8	40.6	41.5	40.0	36.2	41.8	43.4
Kent	38.2	41.3	36.0	36.7	39.6	37.3	35.2	43.1	36.8
L21	42.5	45.7	35.2	48.1	42.5	40.8	39.1	48.8	50.9
A72-512	41.7	43.3	38.2	46.0	43.3	37.8	38.6	49.2	48.7
A74-304031	41.7	44.9	38.6	43.5	43.3	38.1	37.0	43.5	41.5
L69U84-19-1	38.9	43.3	35.0	41.7	39.5	35.1	35.4	48.3	46.1
L70L-3048	39.9	44.1	32.2	43.3	40.5	39.6	38.7	46.4	44.9
L71L-556	41.4	46.6	36.0	46.4	41.0	37.1	36.3	41.9	42.9
L73-4124	39.1	40.4	38.2	40.1	40.8	36.1	36.0	38.4	42.1
Md70-2221	38.6	37.7	37.8	38.6	41.2	37.7	35.3	41.5	39.9
Md71-407	39.8	41.9	32.4	46.3	42.9	35.6	35.8	42.6	45.0
CV (%)		9.6	9.8	5.9	8.1	9.1		7.2	7.2
LSD (5%)		N.S.	6.8	2.8	N.S.	N.S.		5.4	5.4
Row Sp. (in.)		30	30	30	30	30		30	30
Rows/plot		3	3	4	4	4		3	3
Reps.		4	4	3	3	3		3	3
	5 Tests			YIELD RANK			18 Tests		
Cutler 71	5	10	1	8	5	2	6	9	6
Kent	11	8	6	11	10	7	11	6	11
L21	1	2	8	1	4	1	1	2	1
A72-512	2	5	3	4	1	5	3	1	2
A74-304031	2	3	2	5	1	4	4	5	9
L69U84-19-1	9	5	9	7	11	11	9	3	3
L70L-3048	6	4	11	6	9	3	2	4	5
L71L-556	4	1	6	2	7	8	5	8	7
L73-4124	8	9	3	9	8	9	7	11	8
Md70-2221	10	11	5	10	6	6	10	10	10
Md71-407	7	7	10	3	3	10	8	7	4

Ind.	Ky.	Illinois			Iowa		Missouri		
Evans-ville	Lexing-ton	Browns-town	Belle-ville	Eldor-ado	Ottu-mwa	Stuart	Edina	Colum-bia I	Appleton City
				1976 YIELD (bu./A)					
47.9	37.6	39.5	43.4	42.8	60.8	34.1	19.2*	23.9	9.6*
41.0	40.2	41.2	41.3	43.1	60.8	35.0	20.8	24.8	10.1
55.7	43.2	37.9	45.0	50.1	64.1	37.2	17.5	25.6	12.1
47.3	46.8	37.4	46.1	48.3	67.7	36.9	17.4	26.5	7.8
56.3	45.6	39.4	43.6	42.9	68.2	32.5	16.4	24.5	6.4
50.3	43.1	35.9	41.7	40.9	63.7	31.7	18.7	22.8	5.1
50.9	41.3	42.4	44.7	48.4	65.4	35.2	19.6	30.0	10.4
52.4	41.4	38.7	41.7	45.2	61.3	34.0	18.1	23.8	9.4
52.2	41.6	36.3	44.3	50.1	57.8	31.8	19.4	23.9	12.8
56.5	43.9	40.9	40.6	43.5	58.0	31.7	18.5	23.8	9.9
47.7	39.9	39.4	41.8	42.7	56.4	32.4	18.6	26.0	12.3
21.2	8.2	6.1	7.0	6.0	6.0	7.0	13.0	6.6	17.6
N.S.	5.0	4.1	5.2	4.7	5.5	3.5	N.S.	2.4	2.4
30	30	30	30	30	27	27	30	15	30
3	3	4	4	4	4	4	2	4	2
3	4	3	3	3	4	4	4	4	4
				YIELD RANK					
8	11	4	6	9	7	5	4	7	7
11	9	2	10	7	7	4	1	5	5
3	4	8	2	1	4	1	9	4	3
10	1	9	1	4	2	2	10	2	9
2	2	5	5	8	1	7	11	6	10
7	5	11	8	11	5	10	5	11	11
6	8	1	3	3	3	3	2	1	4
4	7	7	8	5	6	6	8	9	8
5	6	10	4	1	10	9	3	7	1
1	3	3	11	6	9	10	7	9	6
9	10	5	7	10	11	8	6	3	2

*Not included in the mean

Strain	Missouri		Neb.	Kansas				Texas
	Portage-ville A I	Portage-ville B	Mead I	Manhat-tan I	Ottawa	Pow-hattan	Colum-bus	Lubbock I
				1976 YIELD (bu./A)				
Cutler 71	35.5	31.4	29.4	49.5	5.9[a]	16.1	27.6	40.3
Kent	32.1	33.0	28.6	41.9	5.4	15.6	26.8	43.6
L21	37.0	27.0	28.0	50.8	10.8	21.1	30.6	40.4
A72-512	30.6	26.0	36.5	55.6	5.1	16.7	31.4	38.0
A74-304031	26.9	23.8	31.9	51.3	5.9	14.7	28.3	44.4
L69U84-19-1	32.2	26.1	30.5	47.0	2.0	11.6	24.4	39.4
L70L-3048	32.0	25.3	32.1	49.1	11.3	18.4	32.9	45.5
L71L-556	35.8	30.3	30.3	45.2	6.0	16.5	27.0	38.2
L73-4124	25.4	22.2	36.8	46.3	9.2	18.8	29.0	41.6
Md70-2221	25.7	23.0	30.0	40.6	8.7	15.4	28.3	43.6
Md71-407	30.4	20.6	33.1	44.2	10.0	16.6	28.7	47.4
CV (%)	14.5	12.0	7.3	5.9	15.3	9.8	3.9	6.4
LSD (5%)	8.3	5.3	3.9	4.8	1.9	2.7	1.9	4.6
Row sp. (in.)	38	38	30	30	30	30	30	40
Rows/plot	3	3	4	4	4	4	4	4
Reps.	3	3	3	3	3	3	3	3
				YIELD RANK				
Cutler 71	3	2	9	4	7	7	8	8
Kent	5	1	10	10	9	8	10	4
L21	1	4	11	3	2	1	3	7
A72-512	7	6	2	1	10	4	2	11
A74-304031	9	8	5	2	7	10	6	3
L69U84-19-1	4	5	6	6	11	11	11	9
L70L-3048	6	7	4	5	1	3	1	2
L71L-556	2	3	7	8	6	6	9	10
L73-4124	11	10	1	7	4	2	4	6
Md70-2221	10	9	8	11	5	9	6	5
Md71-407	8	11	3	9	3	5	5	1

(a) drought

Strain	East Coast Mean	Pa. Landis-ville	N.J. Adel-phia	Del. George-town I	Maryland Clarks-ville	Maryland Queens-town	Cen-tral Mean	Indiana Lafa-yette	Indiana Sulli-van
	12 Tests	1975-1976, 2-YEAR MEAN YIELD					38 Tests		
								1975-1976	
Cutler 71	40.5	45.3	39.0		46.0	40.2	39.9	48.1	40.4
Kent	39.4	46.8	36.0		45.8	37.6	40.4	47.6	37.0
A72-512	42.6	43.6	35.7		48.9	42.4	43.9	54.8	46.4
L70L-3048	42.3	46.8	32.4		47.0	45.6	42.7	52.2	43.4
L71L-556	43.3	47.3	36.6		50.4	41.7	42.1	48.8	42.6
			YIELD RANK				Tests		
Cutler 71	4	4	1		4	4	5	4	4
Kent	5	2	3		5	5	4	5	5
A72-512	2	5	4		2	2	1	1	1
L70L-3048	3	2	5		3	1	2	2	2
L71L-556	1	1	2		1	3	3	3	3
	18 Tests	1974-1976, 3-YEAR MEAN YIELD					58 Tests		
								1970-1976	
Cutler 71	42.4	44.3					41.3	46.5	
Kent	40.7	43.8					41.3	42.3	
			YIELD RANK				Tests		
Cutler 71	1	1					1	1	
Kent	2	2					1	2	
	5 Tests	MATURITY (relative date)					16 Tests		
Cutler 71†	9-29.4	10-5	10-3	9-20	10-14	9-15	9-18.6	9-23	9-13
Kent	+5.2	+7	+5	+4	0	+10	+4.4	+7	+9
L21	+0.4	+2	-1	+1	0	0	-1.6	0	+2
A72-512	-1.2	+1	-3	+1	-4	- 1	-1.9	-3	-4
A74-304031	-1.2	-1	-2	0	-4	+ 1	-0.1	0	-1
L69U84-19-1	-0.4	-1	0	0	-1	0	-1.6	-3	-2
L70L-3048	+3.2	+7	+3	+2	+3	+ 1	+2.6	+6	+5
L71L-556	+2.0	+6	+5	+2	-4	+ 1	+1.2	+1	+4
L73-4124	+3.2	+3	+4	+2	+3	+ 4	+1.9	+8	+6
Md70-2221	+1.8	+1	-2	+4	-1	+ 7	+4.2	+4	+6
Md71-407	+5.8	+8	+6	+7	+3	+ 5	+5.6	+7	+9
Williams (III)	-4.8	-7	-4	0	-8		-2.4	-4	-1
Essex (V)	+29.5			+29		+30	+22.8		
Date planted	5-28	5-28	5-24	5-24	6-9	5-24	5-14	5-12	5-5
†Days to mat.	124	130	132	119	127	114	127	134	131

Strain	Ind. Evans-ville	Ky. Lexing-ton	Illinois Browns-town	Belle-ville	Eldor-ado	Iowa Ottu-mwa	Stuart	Missouri Edina	Columbia I
			1975-1976, 2-YEAR MEAN YIELD						
Cutler 71	55.5		41.4	52.1	47.2	53.8	41.0	30.4	
Kent	60.1		42.4	48.6	49.1	54.2	42.4	32.4	
A72-512	58.6		45.4	55.8	52.8	60.2	44.4	32.9	
L70L-3048	55.2		42.6	53.1	52.4	57.4	42.1	31.1	
L71-556	58.4		42.2	52.2	50.2	55.4	41.4	30.6	
			YIELD RANK						
Cutler 71	4		5	4	5	5	5	5	
Kent	1		3	5	4	4	2	2	
A72-512	2		1	1	1	1	1	1	
L70L-3048	5		2	2	2	2	3	3	
L71-556	3		4	3	3	3	4	4	
			1970-1976, 7-YEAR MEAN YIELD						
						71-76	71-76		
Cutler 71	48.0			49.9	47.6	46.4	37.9		
Kent	45.5			48.8	49.7	45.1	37.1		
			YIELD RANK						
Cutler 71	1			1	2	1	1		
Kent	2			2	1	2	2		
			MATURITY (relative date)						
Cutler 71†	9-14	9-24	9-19	9-16	9-15	*	9-17	*	*
Kent	0	+5	+6	+2	+2		+3		
L21	0	0	-3	-3	0		-2		
A72-512	+3	0	-5	-2	-1		-1		
A74-304031	+4	0	-1	-1	0		-1		
L69U84-19-1	+3	0	-2	-2	-2		-3		
L70L-3048	+4	+5	+3	+1	+2		+3		
L71L-556	+4	0	0	0	+2		0		
L73-4124	+1	+5	+3	+2	+2		+4		
Md70-2221	+4	+5	+4	+2	+4		0		
Md71-407	+6	+5	+6	+6	+6		+5		
Williams(III)	+1	-1	-4	-3	-2		-2		
Essex (V)			+24	+25	+28				
Date planted	5-4	5-21	5-19	5-12	5-10	5-20	5-6	5-28	5-24
†Days to mat.	133	126	123	127	128		134		

Missouri			Neb.	Kansas			Texas
Appleton City	Portageville A	Portageville B	Mead I	Manhattan I	Ottawa	Powhattan	Columbus	Lubbock I
1975-1976, 2-YEAR MEAN YIELD							
21.0	38.8	32.2		56.7	23.2	16.6	41.4
27.8	41.8	34.4		51.1	22.9	19.8	45.2
22.3	38.8	31.2		60.7	25.2	23.1	42.8
25.6	40.4	32.8		58.6	26.6	23.6	47.2
28.5	43.7	37.5		50.3	24.0	20.6	42.2
YIELD RANK							
5	4	4		3	4	5	5
2	2	2		4	5	4	2
4	4	5		1	2	2	3
3	3	3		2	1	1	1
1	1	1		5	3	3	4
1970-1976, 7-YEAR MEAN YIELD							
				57.9	34.4	19.5	45.0
				54.7	34.8	21.3	48.3
YIELD RANK							
				1	2	2	2
				2	1	1	1
MATURITY (relative date)							
*	9-10	9-15	10-3	9-26	9-17	9-20	9-16	9-20
	+3	+5	0	+6	+6	+10	+2	+4
	-2	-3	-1	-1	-1	-2	-5	-5
	-4	-2	-1	0	0	-2	-3	-6
	-2	-1	-2	+1	+4	+3	-3	-2
	-6	-1	-4	+4	-1	0	-3	-4
	0	-1	0	+7	+4	+1	0	+1
	+2	+1	+1	+3	+3	-1	0	0
	-4	-1	+1	-1	+3	-2	+1	+2
	+3	+3	-1	+6	+16	+9	+1	+1
	+5	+2	+1	+6	+12	+9	+4	+1
			-3	-4	-7	+2	-1	-5
	+23	+18			+21		+16	+27
6-3	5-11	5-12	5-21	5-6	5-20	5-21	6-3	5-18
	122	126	135	143	120	122	105	125

Strain	East Coast Mean	Pa. Landis-ville	N.J. Adel phia	Del. George-town I	Maryland Clarks-ville	Maryland Queens-town	Cen-tral Mean	Indiana Lafa-yette	Indiana Sulli-van
	5 Tests			LODGING (score)			19 Tests		
Cutler 71	3.0	3.0	4.0	2.0	4.0	2.0	2.0	2.8	2.2
Kent	2.4	2.2	3.0	2.0	3.0	2.0	1.8	2.5	1.5
L21	2.9	2.9	4.0	1.8	4.0	2.0	2.0	3.0	1.7
A72-512	2.7	2.9	4.0	1.8	3.0	2.0	2.4	3.8	2.7
A74-304031	2.4	2.2	3.0	2.0	3.0	2.0	2.0	3.5	1.7
L69U84-19-1	2.6	2.1	3.0	1.8	4.0	2.0	1.8	2.0	1.2
L70L-3048	2.5	2.9	3.0	1.7	3.0	2.0	1.8	2.8	1.8
L71L-556	2.6	2.8	3.0	2.2	3.0	2.0	2.0	3.0	1.5
L73-4124	2.1	1.8	3.0	1.7	3.0	1.0	1.4	2.5	1.7
Md70-2221	2.0	2.1	3.0	2.0	2.0	1.0	1.6	2.2	1.2
Md71-407	2.5	2.8	4.0	1.8	3.0	1.0	2.0	3.3	2.3
	5 Tests			PLANT HEIGHT (inches)			20 Tests		
Cutler 71	37	39	34	30	45	36	36	45	42
Kent	35	37	34	30	38	34	34	43	39
L21	35	39	34	27	39	36	36	45	42
A72-512	35	36	34	26	43	34	35	44	38
A74-304031	33	38	32	26	36	31	32	43	39
L69U84-19-1	31	35	30	24	37	28	32	41	38
L70L-3048	34	37	31	28	39	36	36	45	42
L71L-556	34	37	34	29	39	33	35	44	41
L73-4124	29	29	32	25	35	22	30	42	35
Md70-2221	34	39	34	28	39	29	34	43	39
Md71-407	33	36	35	29	36	31	36	45	41
	5 Tests			SEED QUALITY (score)			19 Tests		
Cutler 71	2.2	2.6	2.0	2.3	2.0	2.0	2.2	1.5	1.5
Kent	2.2	2.4	2.0	2.7	2.0	2.0	2.1	1.0	2.0
L21	2.2	2.5	2.0	2.3	2.0	2.0	1.9	1.0	1.5
A72-512	2.5	3.1	2.0	2.5	3.0	2.0	1.9	1.5	1.5
A74-304031	2.9	3.3	2.0	3.0	3.0	3.0	2.3	1.5	1.5
L69U84-19-1	2.2	2.7	1.0	2.5	3.0	2.0	2.3	1.5	1.5
L70L-3048	2.6	3.2	2.0	3.7	2.0	2.0	2.2	1.5	1.5
L71L- 556	2.0	2.5	1.0	2.3	2.0	2.0	2.1	1.5	1.5
L73-4124	2.2	2.2	2.0	2.8	2.0	2.0	2.0	1.5	1.5
Md70- 2221	2.0	2.7	1.0	2.3	2.0	2.0	2.2	1.5	2.0
Md71-407	1.9	2.4	1.0	2.2	2.0	2.0	1.7	1.5	2.0

Ind.	Ky.	Illinois			Iowa		Missouri		
Evans-ville	Lexing-ton	Browns-town	Belle-ville	Eldor-ado	Ottu-mwa	Stuart	Edina	Colum-bia I	Appleton City
				LODGING (score)					
2.7	1.3	1.6	3.8	2.3	3.2	1.6	3.1		1.9
2.0	1.3	1.7	4.0	1.5	2.6	1.6	3.0		1.5
2.3	1.3	1.9	4.3	2.0	2.8	1.6	2.7		2.4
3.2	1.2	2.7	4.7	2.3	4.2	2.0	3.1		1.8
3.7	1.2	1.3	5.0	2.5	3.0	1.6	2.7		1.5
3.0	1.1	1.3	3.8	2.3	2.6	1.5	2.8		1.3
2.2	1.3	2.1	3.4	1.5	2.8	1.7	3.0		1.5
2.8	1.3	1.7	4.2	2.1	2.7	1.7	3.0		1.5
1.3	1.2	1.7	2.5	1.5	1.8	1.5	2.6		1.1
2.0	1.1	1.3	4.3	1.0	1.9	1.5	2.6		1.4
2.7	1.2	2.0	4.6	2.1	2.9	1.7	2.9		1.9
				PLANT HEIGHT (inches)					
39	33	39	45	40	52	37	32	24	23
34	30	37	42	40	45	36	27	22	22
43	31	38	49	38	51	37	28	24	23
39	29	40	44	36	51	40	29	24	23
38	28	32	40	36	46	34	24	20	21
36	27	34	42	34	44	32	26	21	20
38	33	41	46	34	52	38	28	24	22
41	31	38	45	38	47	38	28	23	23
35	25	34	39	37	42	38	28	24	21
43	30	35	39	39	47	34	28	21	23
38	33	43	41	39	48	37	32	24	23
				SEED QUALITY (score)					
2.0	2.5	2.8	3.2	2.0	1.1		3.0	3.2	3.5
1.5	2.0	2.7	3.7	2.0	1.3		3.5	2.8	3.2
1.5	1.7	1.7	2.8	2.0	1.0		3.2	3.4	3.5
1.5	2.0	1.7	2.3	1.0	1.0		2.4	3.0	3.5
2.0	2.5	2.5	4.0	2.0	1.3		3.5	3.2	3.5
2.0	2.7	2.5	3.5	3.0	1.1		3.5	3.5	3.8
1.5	2.5	2.3	2.7	2.0	1.4		3.5	3.8	3.5
1.5	3.0	2.5	2.7	2.0	1.2		2.5	3.2	3.2
1.5	2.7	2.3	2.0	2.0	1.2		3.5	3.0	3.0
2.0	2.5	3.0	3.2	1.0	1.3		3.5	2.8	3.8
1.5	1.2	1.5	1.5	1.0	1.4		2.5	2.5	3.4

Strain	Missouri		Neb.	Kansas				Texas
	Portage-ville A	Portage-ville B	Mead I	Manhat-tan I	Ottawa	Powhat-tan	Colum-bus	Lubbock I
				LODGING (score)				
Cutler 71	1.5	1.3	1.7	1.8	1.0	1.0	1.0	2.3
Kent	1.2	1.8	1.7	2.2	1.0	1.0	1.0	2.0
L21	1.5	1.7	1.8	2.0	1.0	1.0	1.0	2.0
A72-512	2.2	2.0	2.3	3.2	1.0	1.0	1.0	2.0
A74-304031	1.0	1.3	1.8	1.8	1.0	1.0	1.0	1.5
L69U84-19-1	1.0	1.0	1.7	1.8	1.0	1.0	1.0	2.0
L70L-3048	1.0	1.3	1.5	2.0	1.0	1.0	1.0	1.7
L71L-556	1.5	1.5	1.5	2.2	1.0	1.0	1.0	2.0
L73-4124	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Md70-2221	1.0	1.2	1.3	1.5	1.0	1.0	1.0	1.2
Md71-407	1.2	1.5	1.5	2.5	1.0	1.0	1.0	1.2
				PLANT HEIGHT (inches)				
Cutler 71	35	27	47	46	28	33	28	31
Kent	30	24	43	41	26	30	29	32
L21	32	26	46	44	28	33	31	28
A72-512	32	25	45	45	26	35	31	29
A74-304031	28	22	41	41	25	28	27	29
L69U84-19-1	27	22	42	41	22	31	26	29
L70L-3048	31	23	44	42	28	34	33	33
L71L-556	31	25	43	42	26	31	29	32
L73-4124	19	13	35	26	24	33	28	20
Md70-2221	28	25	43	41	25	32	27	32
Md71-407	32	23	44	45	28	32	33	32
				SEED QUALITY (score)				
Cutler 71	1.5	2.0	2.3	1.9	1.9	1.9	1.2	2.7
Kent	1.5	1.5	2.2	1.8	2.1	1.9	1.4	2.5
L21	1.5	2.0	2.0	1.7	1.6	1.6	1.2	2.0
A72-512	1.5	1.5	2.2	1.8	2.1	1.9	1.3	2.7
A74-304031	1.5	1.5	2.0	1.9	2.1	1.7	1.5	3.7
L69U84-19-1	1.5	2.0	2.0	1.7	2.0	1.6	1.4	3.0
L70L-3048	1.5	2.0	2.2	1.7	1.8	1.8	1.3	2.5
L71L-556	1.5	1.5	2.3	1.9	2.0	1.9	1.2	2.5
L73-4124	1.5	1.5	2.0	1.6	1.9	1.4	1.3	2.0
Md70-2221	1.5	1.5	2.2	1.6	2.1	1.8	1.4	2.7
Md71-407	1.5	1.5	2.2	1.7	1.5	1.4	1.3	1.5

Strain	East Coast Mean	Pa. Landis-ville	N.J. Adel-phia	Del. George-town I	Maryland Clarks-ville	Maryland Queens-town
	5 Tests	SEED SIZE (g/100)				
Cutler 71	19.3	16.7	21.0	20.3	20.8	17.6
Kent	18.9	17.2	22.0	18.7	19.7	17.1
L21	20.7	18.2	23.0	23.2	21.4	17.9
A72-512	16.1	14.8	17.0	18.1	16.7	14.1
A74-304031	17.5	15.9	20.0	18.6	17.7	15.5
L69U84-19-1	19.9	18.4	22.0	21.0	21.4	16.8
L70L-3048	16.9	16.7	16.0	18.8	17.7	15.3
L71L-556	18.5	16.5	20.0	20.3	18.8	17.0
L73- 4124	14.9	14.1	16.0	15.5	14.8	14.2
Md70-2221	16.3	13.9	17.0	17.0	17.7	15.9
Md71-407	15.2	14.2	16.0	16.2	15.4	14.0
	2 Tests	PROTEIN (%)				
Cutler 71	41.7			43.8	39.6	
Kent	42.2			43.3	41.1	
L21	41.7			43.7	39.7	
A72-512	40.2			40.8	39.7	
A74-304031	41.4			42.9	39.8	
L69U84-19-1	43.0			44.2	41.8	
L70L-3048	41.2			41.4	40.9	
L71L-556	43.0			44.5	41.6	
L73-4124	41.2			42.8	39.6	
Md70-2221	41.6			42.5	40.8	
Md71-407	41.4			43.0	39.7	
	2 Tests	OIL (%)				
Cutler 71	19.7			18.9	20.5	
Kent	19.5			19.2	19.8	
L21	20.0			19.4	20.5	
A72-512	20.3			20.6	20.0	
A74-304031	20.6			20.4	20.8	
L69U84-19-1	19.2			18.8	19.6	
L70L-3048	19.8			20.0	19.6	
L71L-556	18.9			18.3	19.5	
L73-4124	18.8			18.5	19.0	
Md70-2221	19.8			19.8	19.9	
Md71-407	19.7			18.6	20.8	

Strain	Central Mean	Indiana			Ky.	Illinois		Iowa
		Lafayette	Sullivan	Evansville	Lexington	Belleville	Eldorado	Ottumwa
	13 Tests		SEED SIZE (g/100)					
Cutler 71	15.7	17.3	14.3	15.3	17.0			16.8
Kent	15.6	18.6	14.6	15.0	16.7			16.3
L21	16.6	19.2	16.7	18.9	17.8			17.7
A72-512	13.5	14.0	11.8	14.9	12.6			14.6
A74-304031	14.6	16.8	13.4	16.8	13.7			15.2
L69U84-19-1	16.1	17.8	15.6	18.8	17.5			17.4
L70L-3048	14.1	14.3	13.3	17.0	14.2			14.1
L71L-556	15.5	17.1	14.9	17.8	15.6			16.0
L73-4124	13.4	13.9	12.8	15.1	13.0			13.5
Md70-2221	14.6	15.7	13.9	16.6	13.4			15.0
Md71-407	13.8	14.3	13.9	15.2	13.7			13.5
	9 Tests		PROTEIN (%)					
Cutler 71	40.8			41.6	35.4	42.4	40.2	40.4
Kent	41.4			43.0	37.5	40.7	40.0	40.1
L21	40.7			41.3	37.9	41.8	41.6	36.1
A72-512	39.1			41.6	34.1	40.6	40.1	35.5
A74-304031	40.7			40.1	37.0	41.7	40.0	40.7
L69U84-19-1	41.7			41.6	38.4	43.4	41.6	41.4
L70L-3048	40.7			40.8	37.6	41.8	40.2	40.0
L71L-556	42.2			42.3	39.4	43.9	42.3	41.9
L73-4124	39.8			40.7	35.7	42.4	40.0	39.0
Md-2221	39.8			40.5	35.3	41.8	40.2	37.2
Md71-407	40.9			42.0	34.8	42.9	40.9	39.0
	9 Tests		OIL (%)					
Cutler 71	20.8			20.3	22.6	20.1	21.6	19.8
Kent	20.3			20.4	21.4	20.9	22.1	20.2
L21	20.8			20.6	21.3	20.9	21.5	19.8
A72-512	21.4			20.2	22.7	20.6	22.0	19.5
A74-304031	21.8			21.8	22.3	21.8	22.6	20.6
L69U84-19-1	20.3			20.0	20.9	20.0	21.2	19.5
L70L-3048	20.8			20.7	21.0	20.4	21.8	20.0
L71L-556	19.9			19.7	20.4	19.0	20.6	19.1
L73-4124	20.7			20.0	21.3	19.3	21.3	19.6
Md70-2221	21.3			20.6	22.3	20.4	21.9	19.7
Md71-407	20.5			19.9	22.1	19.9	21.2	20.1

Missouri			Neb.	Kansas				Texas
Columbia I	Portageville A-I	Portageville B	Mead I	Manhattan I	Ottawa	Powhattan	Columbus	Lubbock I
				SEED SIZE (g/100)				
15.2	14.9		15.4	15.2	13.3	14.0	14.6	20.6
14.3	14.8		15.0	13.7	14.6	14.5	14.3	21.0
15.8	15.3		15.8	16.1	12.9	14.8	14.0	21.2
13.7	13.4		13.5	13.7	11.9	12.1	11.9	17.1
13.7	13.7		13.9	13.9	13.4	12.8	12.0	20.1
14.1	14.3		15.5	15.3	14.5	13.7	14.0	20.5
13.3	13.9		14.1	12.8	12.5	12.4	13.0	18.3
14.6	14.7		15.1	14.8	13.7	14.0	12.5	20.1
13.0	12.3		13.3	13.1	11.3	11.8	12.0	18.9
13.9	13.9		14.4	12.6	14.6	12.9	13.9	18.8
12.0	13.2		13.9	12.5	13.4	12.7	12.1	18.6
				PROTEIN (%)				
43.6			38.4	41.4		43.6		
43.7			39.4	44.5		43.4		
43.6			39.8	41.6		43.0		
40.4			39.1	40.6		40.3		
42.7			40.9	41.1		42.1		
43.8			39.7	42.2		43.4		
42.3			39.4	41.5		42.8		
44.2			39.7	43.5		42.8		
41.9			37.2	41.7		39.3		
42.1			38.1	41.7		41.1		
44.6			38.1	42.7		43.0		
				OIL (%)				
20.3			21.8	21.3		19.0		
20.4			21.3	16.9		19.5		
20.1			21.1	21.2		20.7		
21.7			21.8	22.4		22.0		
21.7			21.0	22.6		21.5		
19.3			20.9	20.4		20.5		
20.8			20.9	21.3		20.0		
19.6			20.7	19.5		20.9		
20.6			21.4	21.0		21.6		
20.9			22.3	21.5		21.9		
20.3			21.5	20.1		19.4		

Strain		Parentage	Generation Composited
1.	Cutler 71		
2.	Kent		
3.	A75-302002	AP68-1216 x Calland	F4
4.	A75-302003	L15 x AP68-1016	F4
5.	A75-302017	Woodworth x Calland	F4
6.	A75-302019	AP68-1016 x Calland	F4
7.	A75-305010	AP6	F4
8.	A75-305017	AP6	F4
9.	A75-306005	IVR Ex5003 x SL12	F4
10.	A75-306033	Hark x Cutler 71	F4
11.	A75-332002	AP6	F5
12.	C1536	L63-0096-1 x CX414-152 (BSR Resis.)	F5
13.	C1537	L63-0096-1 x CX414-152 (BSR Resis.)	F5
14.	C1538	L63-0096-1 x CX414-152 (BSR Resis.)	F5
15.	K1020	Williams x Columbus	F4
16.	K1021	Williams x Columbus	F4
17.	K1022	Williams x Columbus	F4
18.	K1023	L15 x C1476	F4
19.	K1024	L66L-140 x Columbus	F4
20.	K1026	Williams x Columbus	F4
21.	K1027	Williams x Columbus	F4
22.	L73-5038	Clark 63 -I r Im x L66L-154	F5
23.	L73-5073	C1476 x L66L-154	F5
24.	L74-1968	Clark 63 -I r x D64-3077 (D49-2491^5 x Hawkeye)	F9
25.	L74D-609	Williams x Ransom (dt_1, semidwarf)	F5
26.	L74D-634	Williams x Ransom (dt_1, semidwarf)	F5
27.	L74D-674	Amsoy 71 x Ransom	F5
28.	L74D-914	Amsoy 71 x Ransom	F5

Most of the strains in this test exceeded the yield of the check varieties. The 4 strains, A75-302017, A75-305010, A75-306005, and K1024 have the highest yields of the test.

Six strains, A75-302002, A75-302003, A75-302019, C1536, C1537, and C1538 supposedly have brown stem rot resistance and show lower incidence of the disease in Indiana and Iowa disease rating tests. Of these, A75-302003, and C1536 are only 2 bushels lower yielding than the highest yielding entry in the test.

The semidwarf strains L74D-609 and L74D-634 did not yield as well as the best strains, but did have excellent lodging resistance. In these tests they averaged 20 and 22 inches in height, compared to 36 and 38 inches for the check varieties.

Disease Data

Strain	BB	FE_2	BSR			PSB	PS	SMV	PR		
	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	n	a	n %	n % stem	n % plants	d	a	a seed	a	a	n
Cutler 71	4	1	70	35	90	2	2	5M	R	R	3
Kent	5	1	100	35	100	2	3	5M	S	S	3
A75-302002	3	5	70	14	30	2	3	4M	R	R	3
A75-302003	5	4	100	23	80	1	2	5E	R	H	3
A75-302017	5	5	80	58	50	1	1	5E	H	S	3
A75-302019	4	5	80	16	50	2	1	5E	H	H	3
A75-305010	3	5	100	41	90	1	2	5E	S	S	3
A75-305017	1	5	100	27	90	3	1	5E	R	R	4
A75-306005	2	5	90	45	90	2	2	5E	S	R	4
A75-306033	3	4	80	29	70	2	1	5M	R	R	4
A75-332002	3	3	90	33	60	1	1	5E	H	S	5
C1536	2	4	50	24	90	2	1	5M	S	S	3
C1537	4	5	60	34	80	3	1	5M	S	S	4
C1538	5	2	50	32	40	1	1	5E	R	R	3
K1020	4	4	100	59	100	2	1	5M	S	S	4
K1021	5	5	90	47	100	1	1	5M	S	S	4
K1022	5	5	70	52	100	1	1	5M	S	S	4
K1023	3	4	100	65	100	2	2	5E	R	R	3
K1024	5	4	100	63	100	2	2	5E	S	S	3
K1026	3	5	100	49	100	2	2	5M	S	S	4
K1027	3	4	100	49	90	1	2	5M	S	S	4
L73-5038	4	5	90	52	100	3	1	5M	S	S	4
L73-5073	5	4	80	57	100	2	2	5E	R	R	3
L74-1968	5	5	60	53	100	2	1	5M	R	R	3
L74D-609	4	2	70	63	100	2	1	5E	S	S	4
L74D-634	5	4	80	62	100	2	1	5M	S	S	4
L74D-674	5	1	70	40	90	2	1	4M	S	S	4
L74D-914	5	1	90	53	100	1	1	5M	H	S	4

Descriptive and Other Data

Strain	Descriptive Code	Chlorosis	Shattering	
		Ames Iowa	Manhattan Kansas	Portageville Missouri I
Cutler 71	PTNBr SYB1	3	2.0	2.5
Kent	PTNBr IYB1	4	4.0	2.0
A75-302002	PTNBr DYB1+Bf	5	3.0	1.5
A75-302003	PTNBr DYB1	5	2.0	1.0
A75-302017	WTNTn DYB1	4	2.0	2.0
A75-302019	PTNTn DYG	4	2.0	1.5
A75-305010	WTNBr SYBr	5	4.0	3.0
A75-305017	WTNBr DYG	3	3.0	3.0
A75-306005	PTNBr SYY	4	5.0	4.0
A75-306033	PTNBr DYB1	5	3.0	1.5
A75-332002	PTNBr DYIb	2	4.0	2.0
C1536	PTNBr DYB1	4	1.5	1.0
C1537	PTNBr DYB1	3	1.0	1.0
C1538	PTNBr DYB1	3	2.0	1.0
K1020	PTNBr SYB1	3	1.0	1.0
K1021	PTNBr SYB1	5	1.5	1.0
K1022	WTNBr SYB1	3	1.5	1.0
K1023	WGNBr SYBf	5	4.0	2.0
K1024	PTNBr DYB1	5	3.0	1.0
K1026	WTNBr SYB1	4	1.5	1.0
K1027	WTNBr SYB1+G	4	1.0	1.0
L73-5038	PTNBr+Tn DYIb	5	1.5	1.0
L73-5073	PGNBr SYIb	5	1.0	1.0
L74-1968	PTNTn SYB1	2	3.0	2.0
L74D-609	PTNTn S+DYB1	2	1.0	1.0
L74D-634	WTNTn S+DYB1	4	1.0	1.0
L74D-674	PTNTn SYY	2	1.0	1.0
L74D-914	PTNTn SYG	2	1.0	1.5

Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
No. of tests	10	10	8	9	10	8	6	7	7
Cutler 71	39.3	25	9-18.1	2.2	38	2.1	16.2	42.0	20.3
Kent	38.0	26	+3.6	2.1	36	2.1	15.6	42.2	20.4
A75-302002	37.7	27	+0.2	2.5	36	2.1	15.7	42.3	20.2
A75-302003	41.7	9	+2.5	2.3	37	2.1	14.8	41.6	20.3
A75-302017	43.8	1	-0.5	1.8	37	2.2	15.6	40.8	20.0
A75-302019	39.4	23	-3.4	2.5	33	2.5	15.8	41.8	19.6
A75-305010	43.2	3	-2.0	2.4	36	2.0	15.3	42.3	19.7
A75-305017	41.9	7	-0.8	2.5	36	2.3	15.2	41.4	19.8
A75-306005	43.2	3	-2.9	2.4	33	2.4	15.8	42.2	20.5
A75-306033	39.4	23	+0.6	2.4	38	2.0	14.6	42.0	20.2
A75-332002	40.2	22	+0.1	2.4	38	2.3	13.4	41.5	20.6
C1536	41.4	10	-1.0	2.3	37	2.2	15.4	42.3	20.0
C1537	41.2	14	-3.4	2.3	34	2.2	16.8	42.2	20.4
C1538	37.4	28	-1.9	2.8	36	2.1	14.6	42.9	19.5
K1020	40.5	20	+6.9	2.2	38	1.9	14.9	41.4	20.4
K1021	41.4	10	+7.1	2.2	36	2.0	14.2	41.6	20.0
K1022	41.9	7	+2.9	2.1	36	2.0	14.3	41.7	20.2
K1023	42.2	5	+2.4	2.0	38	2.2	14.8	41.9	20.2
K1024	43.7	2	+1.4	2.1	36	1.9	15.8	40.9	20.8
K1026	41.4	10	+12.0	2.8	39	2.3	15.5	42.8	19.6
K1027	41.0	15	+12.1	2.3	38	2.2	15.1	42.0	20.4
L73-5038	41.4	10	+0.4	2.3	35	2.0	13.8	41.2	20.2
L73-5073	40.4	21	+9.1	2.2	40	2.5	16.1	40.0	20.3
L74-1968	40.7	18	+0.9	2.5	40	2.1	12.8	41.8	20.0
L74D-609	41.0	15	-0.8	1.7	22	1.8	15.8	42.2	19.9
L74D-634	40.9	17	+7.0	1.3	20	1.9	18.3	42.1	20.5
L74D-674	42.0	6	-1.8	1.6	27	2.0	14.9	39.8	21.3
L74D-914	40.7	18	-1.6	2.0	33	2.3	14.0	39.4	21.7

Strain	Mean	Del. Georgetown I	Md. Queenstown	Indiana Sullivan	Ky. Lexington
	10 Tests	YIELD (bu./A)			
Cutler 71	39.3	37.7	40.9	31.5	40.0
Kent	38.0	36.1	37.6	30.9	41.9
A75-302002	37.7	36.8	37.1	27.9	38.6
A75-302003	41.7	41.8	44.2	38.7	36.0
A75-302017	43.8	39.5	45.8	38.0	42.6
A75-302019	39.4	37.4	35.8	36.0	34.2
A75-305010	43.2	38.6	42.0	38.1	49.0
A75-305017	41.9	39.5	44.2	33.6	39.0
A75-306005	43.2	38.9	43.0	37.6	40.3
A75-306033	39.4	36.8	38.4	30.4	44.7
A75-332002	40.2	40.8	40.4	30.8	38.4
C1536	41.4	42.6	37.9	31.4	41.9
C1537	41.2	37.3	40.7	34.2	42.8
C1538	37.4	37.1	39.8	32.7	34.2
K1020	40.5	45.1	42.0	32.0	41.5
K1021	41.4	40.6	43.3	28.2	45.3
K1022	41.9	44.2	40.8	36.2	39.8
K1023	42.2	42.5	48.7	32.0	43.0
K1024	43.7	45.9	45.8	34.5	42.9
K1026	41.4	43.7	41.0	32.4	42.1
K1027	41.0	42.3	38.4	33.6	40.5
L73-5038	41.4	40.0	44.9	28.7	42.4
L73-5073	40.4	46.3	39.7	30.3	44.4
L74-1968	40.7	43.7	38.2	32.1	39.5
L74D-609	41.0	41.5	35.0	31.8	43.6
L74D-634	40.9	43.1	43.4	25.7	53.0
L74D-674	42.0	37.5	42.6	34.2	42.8
L74D-914	40.7	37.2	43.0	30.8	40.5
CV (%)		7.8	8.8	8.1	7.2
LSD (5%)		N.S.	N.S.	5.4	6.1
Row Sp. (in.)		30	30	30	30
Rows/plot		4	4	3	3
Reps.		3	2	2	2

Ill.	Iowa		Missouri		Kansas
Eldor-ado	Stuart	Ottu-mwa	Colum-bia I	Portage-ville I	Manhat-tan I
		YIELD (bu./A)			
44.9	34.5	61.9	20.9	34.5	46.1
45.3	34.0	59.5	18.2	37.1	39.8
42.4	33.0	59.1	19.5	35.8	47.0
45.8	34.2	61.5	27.9	38.6	48.5
48.6	36.7	63.1	28.1	38.6	57.0
43.2	36.3	60.9	18.0	37.7	54.7
49.8	35.4	63.2	22.2	41.8	51.7
45.8	32.1	68.7	26.2	42.2	47.9
51.1	36.9	63.5	26.7	41.8	52.5
42.3	32.8	60.4	20.6	41.1	46.0
41.9	30.6	62.3	27.4	43.3	46.4
44.5	35.8	62.9	33.0	36.3	47.7
40.4	38.7	64.3	24.0	38.4	50.9
39.3	33.1	60.1	18.2	35.5	43.9
52.0	29.3	56.3	23.0	45.8	37.8
50.6	34.1	58.6	22.7	47.2	43.3
48.2	35.2	60.4	24.0	47.3	42.8
49.0	31.8	58.5	29.1	40.8	47.0
48.4	35.2	63.3	24.0	45.0	51.7
53.6	33.6	62.1	25.7	43.1	36.6
52.2	33.5	63.9	23.1	46.6	35.7
50.8	32.0	61.2	23.9	45.8	43.8
54.0	30.2	55.7	22.6	43.9	37.2
47.6	28.6	66.1	25.7	39.4	46.2
49.6	40.5	60.8	26.4	38.2	42.5
49.3	41.5	65.4	25.3	39.0	23.4
45.6	34.1	64.0	28.9	40.7	49.6
49.4	25.0	67.1	27.5	41.2	45.0
4.8	5.4	5.1	18.0	7.5	7.3
4.7	3.7	6.5	8.8	6.3	6.8
30	27	27	15	38	30
4	4	4	4	3	4
2	2	2	2	2	2

Strain	Mean	Del. George-town I	Md. Queens-town	Ind. Sulli-van	Ky. Lexing-ton	Ill. Eldor-ado	Iowa Stu-art	Iowa Ottu-mwa	Missouri Colum-bia I	Missouri Portage-ville I	Kansas Manhat-tan I
10 Tests					YIELD RANK						
Cutler 71	25	20	15	18	20	21	11	15	23	28	15
Kent	26	28	25	20	15	20	15	23	26	24	23
A75-302002	27	26	26	27	24	24	19	24	25	26	11
A75-302003	9	11	5	1	26	17	12	16	5	19	8
A75-302017	1	16	2	3	11	13	5	11	4	19	1
A75-302019	23	22	27	6	28	23	6	18	28	23	2
A75-305010	3	19	12	2	5	8	8	10	22	11	4
A75-305017	7	16	5	10	23	17	21	1	10	10	9
A75-306005	3	18	9	4	19	5	4	8	8	11	3
A75-306033	23	26	21	23	3	25	20	20	24	13	16
A75-332002	22	13	18	21	25	26	24	13	7	8	13
C1536	10	8	24	19	14	22	7	12	1	25	10
C1537	14	23	17	8	9	27	3	5	14	21	6
C1538	28	25	19	12	27	28	18	22	26	27	18
K1020	20	3	12	15	16	4	26	27	19	4	24
K1021	10	14	8	26	2	7	13	25	20	2	20
K1022	7	4	16	5	21	15	9	20	14	1	21
K1023	5	9	1	15	7	12	23	26	2	15	11
K1024	2	2	2	7	8	14	9	9	14	6	4
K1026	10	5	14	13	13	2	16	14	11	9	26
K1027	15	10	21	10	18	3	17	7	18	3	27
L73-5038	10	15	4	25	12	6	22	17	17	4	19
L73-5073	21	1	20	24	4	1	25	28	21	7	25
L74-1968	18	5	23	14	21	16	27	3	11	17	14
L74D-609	15	12	28	17	6	9	2	19	9	22	22
L74D-634	17	7	7	28	1	11	1	4	13	18	28
L74D-674	6	21	11	8	10	19	13	6	3	16	7
L74D-914	18	24	9	21	17	10	28	2	6	14	17

Strain	Mean	Del. George-town I	Md. Queens-town	Ind. Sulli-van	Ky. Lexing-ton	Ill. Eldor-ado	Iowa Stu-art	Iowa Ottu-mwa	Missouri Colum-bia I	Missouri Portage-ville I	Kansas Manhat-tan I
8 Tests					MATURITY (relative date)						
Cutler 71	9-18.1	9-20	9-18	9-10	9-24	9-17	9-17	*	*	9-12	9-27
Kent	+ 3.6	+ 2	+ 4	+ 3	+ 5	+ 4	+ 3			+ 3	+ 5
A75-302002	+ 0.2	+ 1	0	- 1	0	+ 3	+ 1			0	- 2
A75-302003	+ 2.5	0	- 2	- 1	- 4	- 2	- 1			- 4	- 6
A75-302017	- 0.5	0	- 2	0	0	+ 1	+ 1			0	- 4
A75-302019	- 3.4	0	- 2	- 4	- 2	- 4	- 2			- 5	- 8
A75-305010	- 2.0	0	0	- 2	- 2	- 2	- 5			- 2	- 3
A75-305017	- 0.8	0	- 1	- 3	0	- 1	- 2			- 1	+ 2
A75-306005	- 2.9	0	- 2	- 4	- 4	- 2	- 3			- 2	- 6
A75-306033	+ 0.6	0	0	+ 2	- 2	+ 2	0			0	+ 3
A75-332002	+ 0.1	0	0	+ 2	- 6	+ 1	- 3			+ 2	+ 5
C1536	- 1.0	0	0	0	- 2	- 1	- 1			0	- 4
C1537	- 3.4	0	- 2	- 2	- 9	- 3	- 2			- 2	- 7
C1538	- 1.9	0	0	- 1	- 4	- 2	- 1			0	- 7
K1020	+ 6.9	+ 7	+ 6	+ 8	+ 8	+12	+ 5			+ 7	+ 2
K1021	+ 7.1	+ 7	+ 6	+ 8	+10	+10	+ 7			+ 7	+ 2
K1022	+ 2.9	+ 1	+ 4	+ 3	+ 5	+ 4	+ 3			+ 4	- 1
K1023	+ 2.4	0	+ 2	+ 2	+ 5	+ 3	+ 1			+ 3	+ 3
K1024	+ 1.4	+ 2	+ 2	+ 1	+ 5	+ 3	0			+ 2	- 4
K1026	+12.0	+16	+10	+11	+19	+15	+ 7			+10	+ 8
K1027	+12.1	+14	+10	+11	+19	+16	+ 9			+10	+ 8
L73-5038	+ 0.4	0	0	+ 2	+ 2	+ 2	+ 1			0	- 4
L73-5073	+ 9.1	+10	+ 7	+ 8	+12	+12	+ 7			+ 9	+ 8
L74-1968	+ 0.9	0	- 2	+ 3	+ 2	+ 3	+ 3			+ 1	- 3
L74D-609	- 0.8	0	- 2	+ 0	- 6	+ 4	+ 1			0	- 3
L74D-634	+ 7.0	+10	+10	+ 3	0	+11	+ 5			+ 8	+ 9
L74D-674	- 1.8	0	0	- 2	- 6	- 3	+ 1			- 1	- 3
L74D-914	- 1.6	0	+ 2	- 2	- 2	- 3	- 3			- 4	- 1
Williams (III)	- 1.5	0		+ 2	- 1	- 4	- 1				- 5
Essex V	+25.8	+29	+27			+26				+21	
Date planted		5-13	5-24	5-24	5-5	5-21	5-10	5-6	5-20	5-26	5-11	5-6

Evans (M61-96) - Group 0

1961- Cross, Merit x Harosoy (C.B.1 x C.B.8) made by J. W. Lambert at the Minnesota Agricultural Experiment Station, St. Paul.

1961-62 F_1 culture 93 in greenhouse, St. Paul.

1962- F_2 culture 167 at St. Paul.

1963- F_3 plant row 366 at Rosemount.

1964- F_4 plant row 3711 at Rosemount.

1965- F_5 plant row 4439 at Rosemount and Morris, seed bulked.

1966- Designated II-61-96, tested in replicated single-row plots at Rosemount and Morris.

1967 & 1968 Tested in replicated single-row plots at Rosemount and Morris.

1969- Designated M61-96, tested in Preliminary Test 0, in replicated combine plots at Rosemount and Morris and in multiple, short-row, irrigated plots at Clear Lake. Thirty plant progeny rows grown at Rosemount to initiate purification. Twenty-six rows bulked for further increase.

1970- Tested as in 1969, also in Uniform Test 0 and in additional combine test at Moorhead. Purified seed increased to about 75 pounds.

1971- Tested as in 1970. Purified seed increased to 50 bushels.

1972- Tested as in 1969 and 1970. Seed renewed (31 bushels). Approved by Experiment Station Committee for major increase in 1973. Seed shared with Michigan, North Dakota, South Dakota, and Ontario.

1973- Tested as in three previous years. Major increases in several states. Approved by Experiment Station Committee for release to seed growers in the spring of 1974; given the name 'Evans' in honor of J. W. Evans, soybean farmer, seedsman and civic leader at Montevideo, Minnesota.

1974- Released April 1 to registered seed growers.

Grande (M65-295) - Group 0

1965- Cross, Anoka x Magna (C.B.28 x C.B.51) made by J. W. Lambert and R. L. Cooper at the Minnesota Agricultural Experiment Station, St. Paul.

1965-66 F_1 row 167 in Chile.

1966- F_2 culture 176 at St. Paul.

1967- F_3 plant row 3897 at Rosemount.

1968- F_4 plant row 2098 at Rosemount.

1969- F_5 plant row 2985 at Rosemount and Morris, seed bulked.

1970- Designated II-65-295, tested in replicated single-row plots at Waseca and Lamberton.

1971 & 1972 Tested in replicated single-row plots at Rosemount and Morris.

1973- Designated M65-295, tested in Preliminary Test 0, in replicated combine tests at Rosemount and Morris, and in replicated multiple, short-row plots at Elk River. Twenty-nine plant progeny rows grown at Rosemount to initiate purification; bulked for future increase. Original bulk increased to about 10 bushels. One bushel supplied to Malt-O-Meal Company for preliminary tests in snack-food products. Initial increases approved by Experiment Station Committee.

1974- Tested in Group 0 test, in replicated combine tests at Rosemount, Morris, Moorhead, Waseca, and Lamberton, and in multiple short-row plots at Elk River and Fairmont. Purified seed increased to 17 bushels. Original bulk increased for a plant scale test by Malt-O-Meal and for additional production in 1975. Purified seed increased. Major increases approved.

1975- Tested as in 1974. Original bulk grown in quantity for continued plant scale testing. Purified increase made. Approved by Experiment Station Committee for release to seed growers in the spring of 1976. Named 'Grande' because of its large seed.

1976- Released April 1, 1976 to registered seed growers.

Harcor Soybeans

The Harcor cultivar of soybean (Glycine max (L.) Merr.) was developed by the Agriculture Canada Research Station, Harrow, Ontario. Its name was derived from Harosoy and Corsoy.

PEDIGREE AND BREEDING METHODS

Harcor originated at the Harrow Station in 1970 as an F_3 plant selection from the cross of Corsoy x OX383; the strain OX383 is an F_5 selection from Corsoy x Harosoy 63. In each cross, selection was for a plant type similar to Corsoy with resistance (Rps_1) to race 1 of Phytophthora megasperma Drechs. var. sojae Hildeb. (Pms). Harcor was designated as OX271 prior to release and was entered in the Ontario Soybean Variety Tests with the Ridgetown College of Agricultural Technology co-operating. It was entered in the USDA Regional Soybean Tests with Ontario,

Illinois, Indiana, Iowa, Maryland, Michigan, Minnesota, Missouri, Nebraska, New Jersey, Ohio, Pennsylvania, South Dakota, and Wisconsin co-operating. License No. 1594 was issued for Harcor, March 7, 1975, by the Plant Products Division, Production and Marketing Branch, Agriculture Canada. Licensing was supported by the Ontario Oil and Protein Seed Crop Committee.

PERFORMANCE

Harcor was significantly higher ($P = 0.05$) in yield than Harosoy 63 in Ontario but was three days later maturing. In comparison to Amsoy 71, Harcor was equal in yield but was one day earlier in maturity. Harcor was equal to Harosoy 63, but poorer than Harwood and Amsoy 71, in lodging resistance. Averaged over 50 tests in the U.S.A. during 1974 and 1975, Harcor compared with Amsoy 71 as follows: 2810 vs. 2780 kg/ha at 121 vs. 122 days. Harcor is adapted to the 3100-3500 heat-unit area of Ontario and to those areas in the U.S.A. requiring a cultivar of Maturity Group II.

OTHER CHARACTERISTICS

Harcor is resistant ($\underline{Rps}_1$) to races 1 and 2 of Pms but is susceptible to races 3, 4, 5, and 6. In two years of field testing, Harcor was fairly tolerant of race 6 - Harcor had only 17% stand loss from emergence to maturity compared to 41% for Amsoy 71, 56% for Harosoy 63, and 78% for Harwood.

The seed composition of Harcor (on a dry matter basis averaged over 12 tests for 1974 in Canada and the U.S.A.) was 40.4% protein and 20.1% oil compared to 39.6 and 20.8% for Amsoy 71. There is an average of 6580 seeds per kilogram. The seeds are a shiny yellow with yellow hila.

Harcor has purple flowers and hypocotyls, gray pubescence, and brown pods. Harcor has high peroxidase activity (Ep) in the seedcoats, is susceptible to powdery mildew caused by Microsphaera diffusa Cke & Pk., is in leaf flavonol class 2t ($\underline{Fg}_1\underline{Fg}_2\underline{Fg}_3\underline{Fg}_4$), and gives an insensitive response ($\underline{e}_3$) to fluorescent-daylength conditions.

PEDIGREED SEED STOCKS

Seed was distributed to Select seed growers in Ontario by the Ontario Pedigreed Stock Seed Distribution Committee for increase in accordance with the Canadian Seed Growers' Association regulations covering soybeans. The Harrow Research Station will maintain breeder seed. Also, seed was distributed to Illinois, Indiana, Iowa, Minnesota, Nebraska, Ohio and South Dakota for increase under the regulations of the respective state seed-certification agency.

HARLON SOYBEANS

The Harlon cultivar of soybean (Glycine max (L.) Merr.) was developed by the Agriculture Canada Research Station, Harrow, Ontario, Its name was derived from Harrow and London, Ontario.

PEDIGREE AND BREEDING METHODS

Harlon originated in 1969 as an F_4 plant selection from the cross of Blackhawk x Harosoy 63 at the Harrow Station. Harlon was designated as OX643 prior to release and was entered in the Ontario Soybean Variety Tests with the Ridgetown College of Agricultural Technology co-operating. It was entered in the USDA Regional Soybean Tests with Ontario, Illinois, Indiana, Iowa, Michigan, Minnesota, Nebraska, Ohio, South Dakota, and Wisconsin co-operating. License No. 1536 was issued for Harlon, April 9, 1974, by the Plant Products Division, Production and Marketing Branch, Agriculture Canada. Licensing was supported by the Ontario Oil and Protein Seed Crop Committee.

PERFORMANCE

Harlon is similar in maturity and significantly higher ($P = 0.05$) in yield than Chippewa 64 in Ontario. Harlon matures three days earlier than Steele, but its yield is equal to Steele in Ontario. Averaged over 31 tests in 1973 and 1974 in the U.S.A., the yield of Harlon was similar to that of Steele (2502 vs. 2556 kg/ha). Harlon is similar to Steele in lodging tolerance and plant height. It is adapted to the 2800 heat-unit area in Ontario and to those areas in the U.S.A. requiring an early-maturing cultivar of Maturity Group I.

OTHER CHARACTERISTICS

Harlon is resistant (*Rps*$_1$) to races 1 and 2 of *Phytophthora megasperma* Drechs. var. *sojae* Hildeb. but is susceptible to races 3, 4, 5 and 6. Harlon is not field tolerant to race 6 which is the predominant pathotype in Ontario; over two years of testing, Harlon averaged 65% stand loss from emergence to maturity compared to 70% for Steele and only 36% for Hardome.

The seed composition of Harlon was 28.8% protein and 22.8% oil compared to 40.3 and 21.2% for Steele (on a dry matter basis averaged over 17 tests for 1973 and 1974 in Canada and the U.S.A.). There is an average of 5950 seeds per kilogram. The seeds are a dull yellow with yellow hila.

Harlon has white flowers, green hypocotyls, gray pubescence, and brown pods. Harlon has low peroxidase activity (*ep*) in the seedcoats, is resistant to powdery mildew caused by *Microsphaera diffusa* Cke & Pk., is in leaf-flavonol class 8t (*fg*$_1$ *fg*$_2$ *fg*$_3$ *Fg*$_4$), and gives an insensitive response (*e*$_3$) to fluorescent-daylength conditions.

PEDIGREED SEED STOCKS

Seed was distributed to Select seed growers in Ontario by the Ontario Pedigreed Stock Seed Distribution Committee for increase in accordance with the Canadian Seed Growers' Association regulations covering soybeans. The Harrow Research Station will maintain breeder seed. Also, seed was distributed to Minnesota and South Dakota for increase under the regulations of the respective state seed-certification agency.

Hodgson (M63-217) - Group I

1963- Cross, Corsoy x M372 (C.B.39 x C.B.42), made by J. W. Lambert and R. L. Cooper at the Minnesota Agricultural Experiment Station in St. Paul.

1963-64 F_1 culture 90 in greenhouse, St. Paul.

1964- F_2 culture 224 at Rosemount.

1965- F_3 plant row 6269 at Rosemount.

1966- F_4 plant row 2366 at Rosemount.

1967- F_5 plant row 7421 at Rosemount and Waseca; heterogeneous buff and yellow hilum seed bulked.

1968 & 1969 Designated II-63-217, tested in replicated single-row plots at Waseca and Lamberton.

1969-70 Hand-picked lots of yellow hilum and buff hilum seed planted in Chile, seed of individual plants of both types returned.

1970- Two bulks (pure buff and heterogeneous yellow hilum) tested in 2-row, replicated plots at Waseca and Lamberton. Thirty plant progeny rows of each hilum type grown at Rosemount to initiate purification. Nine homozygous yellow hilum rows and 11 buff hilum rows harvested individually.

1970-71 One 10-meter row of each of the 9 yellow hilum lines and the 11 buff hilum lines grown in Chile. Six of the yellow hilum rows combined for a yellow bulk; 9 of buff hilum rows combined for buff bulk.

1971- Original yellow-buff mixture designated M63-217 and tested in combine plots at Waseca and Lamberton and in Preliminary I test; original, pure yellow, and pure buff lots tested in short-row plots at 4 locations; small increases of pure yellow and pure buff at St. Paul; 150 yellow and 150 buff hilum plants taken from border rows of mixture tested in combine plots at Waseca.

1971-72 One hundred 2-meter plant rows of the yellow hilum and 100 of the buff hilum selections grown in Chile. Rows harvested individually and pure-breeding line, returned to Minnesota.

1972- Original mixture tested in combine tests at St. Paul, Morris and in Group I test; original mixture and pure buff tested in combine plots at Waseca and Lamberton; pure yellow, pure buff, and original mixture tested in multiple short-row plots at Fairmont and Elk River. One-acre increase of buff bulk of previous year grown at St. Paul; 70 pure yellow lines and 70 pure buff lines from Chile

nursery grown individually in 200-foot rows at Rosemount and checked for hilum purity. Decision made by Experiment Station to proceed with major increase of buff hilum type. The earlier buff bulk (made in Chile in 1970-71) would be increased for release as registered seed. The bulk of the 70 buff lines grown at Rosemount would be the basis for foundation seed. This seed was shared with Iowa, Michigan, North Dakota, South Dakota, and Wisconsin.

1973- The buff type designated M63-217 Bf and tested at the same locations as in 1972. Major increase by several states. Approved by Experiment Station Committee for release to seed growers in the spring of 1974; given the name 'Hodgson' in honor of R. E. Hodgson, long-time superintendent of the Southern Experiment Station, Waseca, Minnesota.

1974- Released April 1 to registered and certified seed growers.

Pomona Soybean

"Pomona" soybeans originated as an F_4 plant selection at the Kansas Agriculture Experiment Station from a cross made at the Purdue Agriculture Experiment Station, C1266, 'Harosoy' x ('Lincoln' x 'Ogden') x C1265, Harosoy x (Lincoln x Ogden).

1968- Received F_3 seed of CX395 from Dr. A. Probst

1969- Grew as bulk population

1969- Selected individual plants

1970- Grew as plant rows

1971- Yield tested

1972- Entered in Uniform Preliminary Test IV

1973-74 Entered in Uniform Test IV

1974 Distributed seed to co-operating states

Illinois	4.5 bu.
Kansas	5.9 bu.
Missouri	1.5 bu.
	11.9 Bu.

1975- Distributed 330 bushels of seed to certified growers in Kansas.

Pomona is of Group IV maturity, averaging 5 days later in 'Cutler 71' and the same as 'Kent'. It is similar to Cutler 71 and Kent in growth type, seed appearance, and chemical composition. Seeds are yellow with a dull coat luster. Pomona yields more than Cutler 71 and Kent, and shatters less than Kent.

Pomona resists frog eye (race 2), leaf spot, and powdery mildew. It has a high level of tolerance to metribuzin.