

1977

# The Uniform Soybean Tests: Northern States 1977

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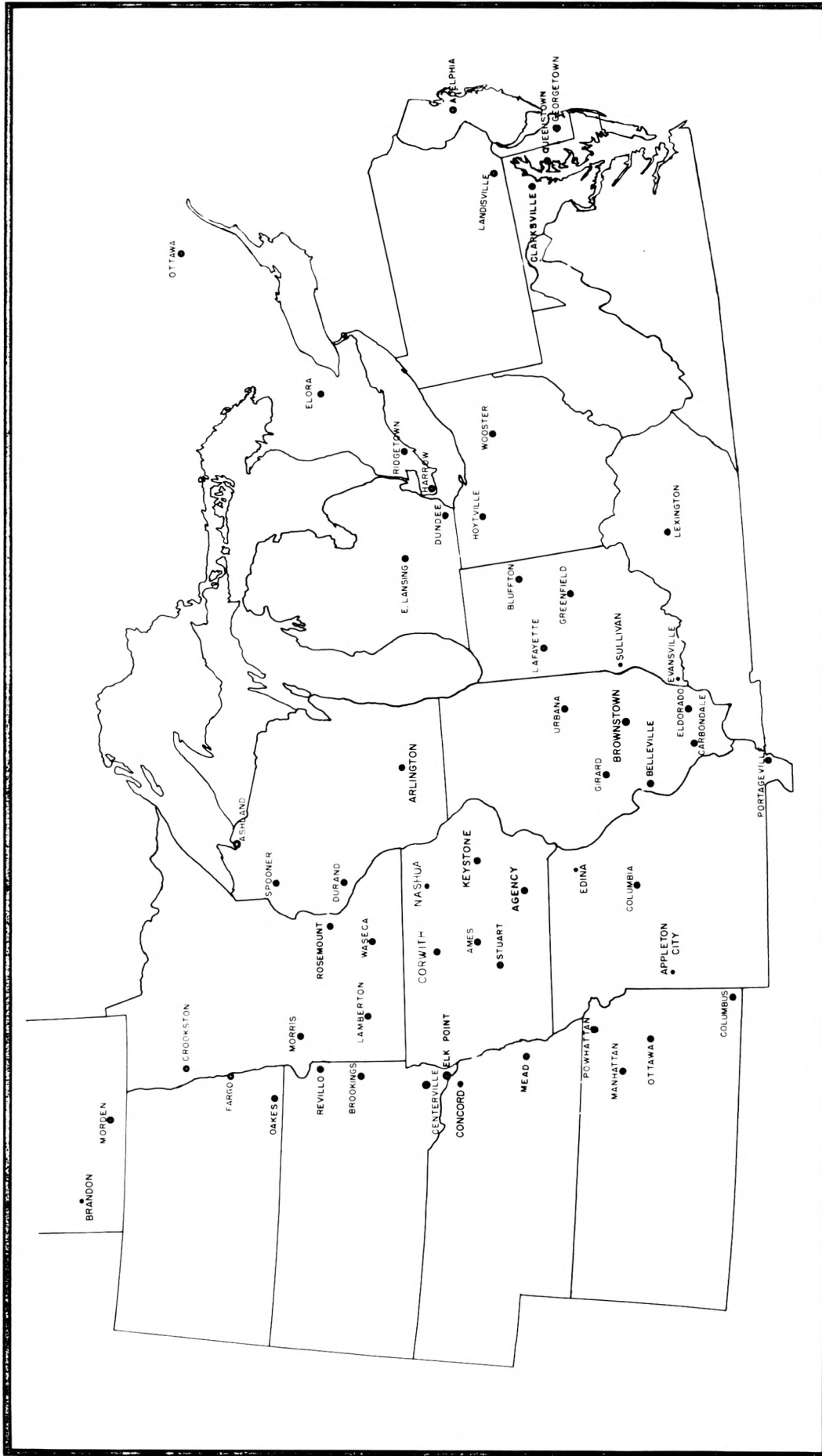
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LOCATIONS OF UNIFORM SOYBEAN TESTS, NORTHERN STATES, 1977



THE UNIFORM SOYBEAN TESTS

NORTHERN STATES

1977

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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.

Experimental lines entered in the uniform tests should be labelled "Experimental Line" and not identified by code numbers when grown in demonstration plots or when the uniform tests are shown on field days or farm tours.

Seed of experimental lines entered in the uniform tests should not be sent to non participants. Requests for seed of unreleased lines or experimental strains should be referred to the breeder or agency originating the strain listed on page 6.

The Uniform Test Report is a progress report containing statements which may or may not be verified by subsequent experiments. Statements or data in the report, therefore, should not be published unless permission has been obtained previously by those concerned.

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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.

## METHODS - 1977

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. More 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 180 viable seeds per packet for each row. At the Soybean Workers Conference in Memphis, Tennessee on February 24 and 25, 1976, the Northern breeders discussed and made the following recommendations: Only data from bordered row plots will be included in the regional means. Yield means will not be included in regional means if they do not have a CV value. We will use discretion when including values that have a high CV. If the CV value is high (greater than 15), we hope you will include the reason, such as disease or environmental conditions. Lines will be allowed to be heterogeneous the first year in the Uniform tests but must be a pure line the second year of testing. It is up to the breeder to clean up his heterogeneous line. If the breeder plans on purifying the line let us know so we can star the line so when you breeders vote on the line for further testing you know it will be purified.

Parentage. Parent strains other than named varieties are identified on page 13.

Generation Compositd is the generation after 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 .6725; 1 kg/are = 1.487 bu/acre.)

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

<u>Group</u>	<u>Reference</u>	<u>Range</u>	<u>Early Tie</u>	<u>Late Tie</u>
00	Portage	-2 to +6		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	Beeson (II)	Cutler 71 (IV)
IV	Cutler 71	-4 to +7	Williams (III)	Essex (V)

These maturity group ranges are based on long-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 ( $45^{\circ}$ ), or 25% to 50% of the plants down
- 4 All plants leaning considerably, or 50% to 80% of the plants down
- 5 Almost all plants down

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

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

- |   |           |   |      |   |      |   |      |   |           |
|---|-----------|---|------|---|------|---|------|---|-----------|
| 1 | Very Good | 2 | Good | 3 | Fair | 4 | Poor | 5 | Very Poor |
|---|-----------|---|------|---|------|---|------|---|-----------|

Seed Size (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: 123 456, abbreviated as underlined below:

- 1 = Flow Color: Purple, White
- 2 = Pubescence Color: Tawny, Gray, Light tawny
- 3 = Pod Color: Brown, Tan
- 4 = Seed Coat Luster: Dull, Shiny, Intermediate
- 5 = Seed Coat Color: Yellow, Gray, Light gray, Green
- 6 = 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.

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 4½-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 > 85%    2 = 70 - 84%    3 = 45 - 69%    4 = 20 - 44%    5 = 0 - 19%

## DISEASE

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	<u>Pseudomonas glycinea</u>
BEV	Bud blight	Tobacco ringspot virus
BP	Bacterial pustule	<u>Xanthomonas phaseoli</u> var. <u>sojensis</u>
BS	Brown spot	<u>Septoria glycines</u>
BSR	Brown stem rot	<u>Cephalosporium gregatum</u>
CN	Cyst nematode	<u>Heterodera glycines</u>
CR	Charcoal rot	<u>Macrophomina phaseoli</u>
DM	Downy mildew	<u>Peronospora manshurica</u>
FE <sub>1</sub> , FE <sub>2</sub>	Frogeye race 1, 2	<u>Cercospora soja</u>
PM	Powdery mildew	<u>Microsphaera diffusa</u>
PR	Phytophthora rot	<u>Phytophthora sojae</u>
PS	Purple stain	<u>Cercospora kikuchii</u>
PSB	Pod & stem blight	<u>Diaporthe phaseolorum</u> var. <u>sojae</u>
Pyd	Pythium root rot	<u>Pythium debaryanum</u>
Pyu	Pythium root rot	<u>Pythium ultimum</u>
RK	Root knot nematode	<u>Meloidogyne</u> spp.
RR	Rhizoctonia root rot	<u>Rhizoctonia solani</u>
SB	Sclerotial blight	<u>Sclerotium rolfsii</u>
SC	Stem canker	<u>Diaporthe phaseolorum</u> var. <u>caulivora</u>
SMV	Soybean mosaic	Soja virus 1
TS	Target spot	<u>Corynespora cassicola</u>
WF	Wildfire	<u>Pseudomonas tabaci</u>
YMV	Yellow mosaic	<u>Phaseolus virus 2</u>

Ratings for BB, BP, BS, DM, FE<sub>2</sub>, 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.

## UNIFORM TEST LOCATIONS--1977

Location*		Tests Conducted by	Uniform Tests						Preliminary Tests			
			00	0	I	II	III	IV	I	II	III	IV
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	<u>x</u>				<u>x</u>
Md.	Clarksville	W. J. Kenworthy				<u>x</u>	<u>x</u>	x			x	
	Queenstown	& P. B. Gregan						<u>x</u>				<u>x</u>
Ont.	Ottawa	J. F. Seitzer	o	o								
	Elora	W. D. Beversdorf	<u>x</u>	<u>x</u>								
	Ridgetown	J. C. Schleihauf		x	<u>x</u>	x			<u>x</u>			
	Harrow	R. I. Buzzell				<u>x</u>						
Ohio	Hoytville	A. K. Walker				x	x			x	x	
	Wooster	"				x	x					
Mich.	E. Lansing	T. J. Johnston		x	x	x			x			
	Dundee	"			x	x				x		
Ind.	Bluffton	J. R. Wilcox &				<u>x</u>	<u>x</u>					
	Lafayette	R. J. Martin			<u>x</u>	<u>x</u>	<u>x</u>	x		<u>x</u>	<u>x</u>	
	Greenfield	"				o						
	Sullivan	"					x	x				<u>x</u>
	Evansville	"						o				
Ky.	Lexington	D. A. Reicosky					<u>x</u>	<u>x</u>				x
Wisc.	Arlington	E. T. Gritton			x	x			x	x		
	Ashland	"	x									
	Spooner I	"			<u>x</u>							
	Durand	"		<u>x</u>	x							
Ill.	Urbana	R. L. Bernard				o	o			<u>x</u>		
	Girard	"				<u>x</u>	<u>x</u>				<u>x</u>	
	Brownstown	"					x	x				
	Belleville	"					<u>x</u>	<u>x</u>				
	Eldorado	"					o	o				o
	Carbondale I	O. Myers, Jr.						x				
Minn.	Crookston	J. W. Lambert	<u>x</u>									
	Morris	"	<u>x</u>	<u>x</u>								
	Rosemount I	"	x	<u>x</u>								
	Lamberton	"			x	<u>x</u>				x		
	Waseca	"			<u>x</u>	x				<u>x</u>		
Iowa	Kanawha	H. Tachibana			x					<u>x</u>		
	Corwith	W.R. Fehr, V. Weers			<u>x</u>					<u>x</u>		
	Nashua	"			x					x		
	Ames	" ,J. Bahrenfus				x					x	
	Keystone	"				<u>x</u>				<u>x</u>		
	Stuart	" ,J. Gogerty					x	x			x	x
	Agency	"					<u>x</u>	<u>x</u>			<u>x</u>	<u>x</u>
Mo.	Edina	V. D. Ludders				x	x	x				
	Columbia	"				x	x	x			x	x
	Appleton City	"						x				
	Portageville:											
	Loan I	J. G. Shannon						x				x
	Clay I	"						x				

## UNIFORM TEST LOCATIONS--1977

Location*	Tests Conducted by	Uniform Tests						Preliminary Tests					
		00	0	I	II	III	IV	I	II	III	IV		
Man.	Morden	M. D. Stauffer	<u>x</u>										
	Brandon	R. I. Hamilton	<u>x</u>										
N.D.	Fargo	D. A. Whited	<u>x</u>	<u>x</u>									
	Oakes I	"			x								
S.D.	Reville	J. J. Bonnemann		<u>x</u>	x								
	Brookings	"		<u>x</u>	x			x					
	Centerville	"			<u>x</u>				x				
	Elk Point	"				<u>x</u>					x		
Neb.	Mead I	J. H. Williams		<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>		x		x		
	Concord	"			<u>x</u>								
Kan.	Powhattan	C. D. Nickell				<u>x</u>	<u>x</u>						
	Manhattan I	"				<u>x</u>	<u>x</u>				<u>x</u>	<u>x</u>	
	Ottawa	"				x	x						
	Columbus	"										x	
Tex.	Lubbock I	R. D. Brigham										<u>x</u>	
No. Locations with agronomic data(x, <u>x</u> )			8	9	15	24	22	24	8	10	10	9	
No. with seed composition data ( <u>x</u> )			6	6	6	9	11	10	3	3	4	5	

## 1977 Disease and Shattering Tests

					U.T.	P.T.
Ind.	Lafayette	FE <sub>2</sub> , BSR, PR	K. L. Athow & F. A. Laviolette		00-IV	I-IV
	"	PSB, PS,	T. S. Abney & T. L. Richards		00-IV	I-IV
Ohio	Vickery	PR (Tolerance rating)	A.F. Schmitthenner		I-III	I-III
Minn.	Crookston	Chlorosis, BSR	J. W. Lambert		00	---
	Rosemount	" "	"		0	---
	Waseca	" "	"		I-II	---
	Lamberton	" "	"		III-IV	---
Iowa	Ames	BSR, PR	H. Tachibana		00-IV	I-IV
	"	Chlorosis	W. R. Fehr		00-IV	I-IV
	"	Emergence	"		00-IV	---
Kan.	Manhattan	Shattering	C. D. Nickell		00-IV	I-IV
Mo.	Portageville	Shattering	J. G. Shannon		IV	IV
Tex.	Lubbock	Shattering	R. D. Brigham		III-IV	---

\* I = Irrigation

+ o = No data due to environmental reasons

## IDENTIFICATION OF PARENT STRAINS

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Strain	Parentage or Source	Uniform Testing
Kent- <u>Rps</u> <u>rxp</u> (SL5)	(Kent <sup>7</sup> x L49-4196) x (Kent <sup>8</sup> x Mukden)	65 IV
Wayne <u>r</u> <u>Rpm</u> <u>Rps</u> (SL11)	Wayne <u>I</u> <u>r</u> <u>Rps</u> x (Wayne <sup>10</sup> x Kanrich)	72-74 III
Wayne <u>I</u> <u>r</u> <u>Rpm</u> <u>Rps</u> (SL12)	Wayne <u>I</u> <u>r</u> <u>Rps</u> x (Wayne <sup>10</sup> x Kanrich)	71 PIII
Wayne <u>Rps</u> (L15)	Wayne <sup>6</sup> x Clark 63	---
II-54-139	Renville x Capital	---
II-54-240	(Lincoln <sup>2</sup> x Richland) x Korean	---
II-62-101	Merit x M406	---
II-64-3	Traverse x Tokachi Nagaha (PI 196.163)	---
AP6	40 lines intermated three times	---
AP68-315	Clark <sup>5</sup> x PI 84.946-2	---
AP68-1016	Clark <sup>5</sup> x PI 84.946-2	---
AP68-1216	Clark <sup>5</sup> x PI 84.946-2	---
AX56P64-1	Amsoy	61-63 II
C143	PI70.218-2-6-7 Introduction from Manchuria	---
C799	C143 x Lincoln	50 PIV
C985	Lincoln x Ogden from same F <sub>3</sub> plant as Kent	51-56 IV
C1070	Selection from C985	53 PIV
C1079	"	54-56 IV
C1223	C1070 x Adams F <sub>3</sub> sib of Adelpia	60-61 III
C1253	Blackhawk x Harosoy, PR resistant	64 PII
C1266R	Harosoy x C1079	62-63 IV
C1317-71	C1223 <sup>8</sup> x Mukden	64 III
C1421	Adelpia <sup>8</sup> 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
C1477	Amsoy <sup>8</sup> x C1253	68 II



Strain	Parentage or Source	Uniform Testing
CX407BC7-255	Amsoy <sup>8</sup> x C1253	---
D49-2491	S100 x CNS (Sib of Lee)	52-53 VI
D64-3077	D49-2491 <sup>5</sup> x Hawkeye	66 P IVS
D64-3146	D49-2491 <sup>5</sup> x Hawkeye	66-67 IVS
FC33.243	Rogue in Lincoln	49 III, 50 IV
IVR Ex 4426	Amsoy x Wayne	
IVR Ex 4428	Corsoy x Wayne	
IVR Ex4731	Amsoy x Wayne	
IVR Ex5003	Provar x (AX56P64-1 x PI 91.110-1	
JA53-1	Pure line from mixed lot of soybeans from Mainland China, 1963	
L2	Harosoy 63 x L3 (BP + PR resistant)	62-63 II
L3	Harosoy <sup>6</sup> x S54-1207 (BP resistant)	62 II
L12	L6 x L11 (BP & PR resistant)	65 IV
L46-1503	Lincoln <sup>2</sup> x Richland	49-50 III
L49-4196	(F <sub>3</sub> Lincoln <sup>2</sup> x Richland) x F <sub>1</sub> Lincoln x CNS)	51 IV
L57-0034	Clark x Adams	60-61 IV
L62-535	Harosoy-dt <sub>1</sub> (Harosoy <sup>6</sup> x T145)	---
L63-1397	Harosoy <sup>6</sup> x T207; Dt <sub>2</sub> - Semideterminate	66 II
L65-1342	Wayne <sup>2</sup> x Clark-e <sub>2</sub> (L62-1926)	69-70 I
L66-531	Clark-dt <sub>1</sub> E <sub>1</sub> t e <sub>2</sub>	---
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 <sup>6</sup> x Higan	70 PIII
L68-4096	(L15 <sup>5</sup> x L12) x (Wayne <sup>10</sup> x Kanrich) <u>Rpm Rps</u>	---
L69-4310	L2 x (Harosoy <sup>6</sup> x T117) Dt <sub>2</sub>	---
L69-5343	L12 <sup>6</sup> x Hawkeye (Im)	71 PIV
L69L-6-1	L66-531 x L62-535	---
M10	Lincoln <sup>2</sup> x Richland	49-51 I
M319	Lincoln x Hawkeye	58-61 I

Strain	Parentage or Source	Uniform Testing
M372	M10 x PI 180.501	60 PI, 61 I
M402	Renville x Capital	63-64 II
M406	Harosoy x Norchief	64-65 0
M433	Acme x Chippewa	64 0, 64 00
M59-120	II-54-240 x II-54-139	60-70 I
M60-92	Comit x M319	68 PO, 69-70 0
M60-406	Blackhawk x Harosoy	68 PI, 69 I
M62-263	Grant x M319W	71-72 I
M62-275	Norchief x Harosoy	71 1
M63-17	M402 x M406	71 I
M64-56	Traverse x PI 257.346	
0-52-903	Strain 753-1 from Sven A. Holmberg, Norrkoping, Sweden, same as PI 194.654 from Pagoda-2 x Fiskeby III	---
OX383	Corsoy x Harosoy 63	70 PII
PI 84.946-2	Rogue in PI 84.946 introduced from Korea in 1930. Somewhat resistant to BSR	66 PIV
PI 91.110-1	From North East China in 1931	---
PI 171.442	A. K. Smith, China	---
PI 180.501	Strain No. 18 from Frankfurt, Germany, in 1949; from a Manchurian strain X PI 54.616	---
PI 227.334	Syokino No. 1 from Japan	---
S54-1207	Hawkeye x (L49-4091 x Sib of Clark)	---
T117	From AK114 x PI 65.394 (Dt <sub>2</sub> )	---
840-7-3	(Typ XX Stam X Namikawa (Sachalin)) x Muncheberg 680 + 993 + 994; introduction from Holmberg, Sweden	

Strain	Parentage	Previous Testing*	Generation Compositd
1. Altona	0-52-903 )Holmberg 753-1) x Flambeau	13	F <sub>5</sub>
2. Clay	Capital x Renville	UTO	" <sub>5</sub>
3. Maple Arrow (073-15)	Harosoy 63 x 840-7-3	UTO	F <sub>7</sub>
4. Portage	Acme x Comet	17	F <sub>5</sub>
5. M65-217	M433 (Acme x Chippewa) x Hark	4	" <sub>5</sub>
6. M68-201	Evans x Steele	1	"
7. M68-213	II-62-101 (Merit x M406) x Steele	UTO	"

\* Number of years in this test, or name of 1976 test

Regional data for the past five years shows that M65-217 is 0.5 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 new entry in the test, M68-213 shows no advantage over Altona in yield and is 10 days later in maturity.

## Disease Data

Strain	FE2		BSR			PSB	PS	Germ.	PR	
	Laf. Ind.	Laf. Ind.	Crook. Minn.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa
	a	n %	n %	n% stem	n% plants	% d	% a	*	a	a
Altona	3	80	5	42	80	18	82	38	R	R
Clay	5	80	30	74	100	55	94	33	S	S
Maple Arrow	2	20	5	52	90	33	66	70	R	R
Portage	5	60	20	45	100	36	82	28	S	S
M65-217	5	70	30	45	100	54	85	44	S	S
M68-201	5	70	10	43	80	44	84	37	R	R
M68-213	5	60	5	41	80	49	79	32	R	R

\*Petri dish germ. on potato dextros agar.

## Descriptive and Other Data

	Descriptive Code		Chlorosis		Emergence	Shattering
			Crookston Minn.	Ames Iowa	Ames Iowa	Manhattan Kansas
Altona	PTBr	SYB1	3.2	3.0	1	2
Clay	PGBr	SY Y	1.8	3.0	2	4
Maple Arrow	PTBr	SYBr	2.2	2.0	1	5
Portage	PGBr	D+SY Y	2.5	2.0	1	5
M65-217	PGBr	DYY	2.0	3.0	1	5
M68-201	PGBr	DYY	2.0	2.0	1	2
M68-213	PGBr	DYY	2.5	3.0	1	4

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
<u>1977</u>									
No. of Tests	7	7	6	8	8	7	8	4	4
Altona	35.4	2	+ 5.0	2.7	29	2.3	17.9	41.4	17.2
Clay	33.8	5	+13.3	1.8	28	2.4	16.5	41.0	18.0
Maple Arrow (075-15)	34.9	3	+ 8.7	2.1	29	1.8	17.0	39.8	19.1
Portage	31.7	7	9-0.2†	1.5	27	2.3	17.4	39.4	18.0
M65-217	37.2	1	+ 6.7	1.9	29	2.3	15.0	39.6	18.4
M68-201	34.2	4	+12.2	1.5	28	2.6	15.4	40.7	18.4
M68-213	32.6	6	+15.2	2.2	30	2.9	16.7	40.8	17.2

† 105 days after planting

<u>1976-1977, 2-YEAR MEAN</u>									
No. of Tests	15	15	14	16	15	16	17	10	10
Altona	34.9	2	+ 5.0	2.2	29	2.2	18.0	41.3	18.1
Portage	30.4	4	9-4.5†	1.4	27	2.4	17.2	39.6	18.7
M65-217	36.9	1	+ 4.8	1.6	29	2.2	15.1	39.9	19.0
M68-201	34.5	3	+10.4	1.5	28	2.4	15.3	41.0	19.1

† 107 days after planting

<u>1973-1977, 5-YEAR MEAN</u>									
No. of Tests	43	43	39	42	43	43	44	28	28
Altona	33.8	2	+ 5.3	2.2	28	2.4	18.2	41.2	19.0
Portage	30.5	3	9-5.5†	1.3	27	2.4	17.7	39.9	19.5
M65-217	36.5	1	+ 4.8	1.6	29	2.0	15.3	39.9	19.6

† 107 days after planting

Strain	Mean	Ont.	Wis.	Minnesota			Manitoba		N.D.	
		Elora	Ash-land	Crook- ston	Morris	Rose- mount I	Morden	Brandon	Fargo	
	7 Tests	1977 YIELD (bu/a)						*		
Altona	35.4	31.8	39.7	28.2	28.7	38.4	37.6	43.7	43.3	
Clay	33.8	25.1	42.5	26.7	29.8	38.2	29.7	30.5	44.5	
Maple Arrow	34.9	43.2	39.1	29.1	23.7	36.3	36.7	43.2	36.2	
Portage	31.7	36.1	35.6	20.9	17.5	36.5	34.9	41.1	40.3	
M65-217	37.2	35.4	39.8	30.6	25.7	42.5	48.4	41.9	37.9	
M68-201	34.2	26.0	43.0	28.2	30.4	43.8	28.7	11.9	39.2	
M68-213	32.6	22.9	34.2	27.0	30.3	43.1	32.4	15.7	38.2	
C.V. (%)		12.8	9.5	9.8	7.7	7.7	12.9	10.1	9.1	
L.S.D. (5%)		6.0	5.5	4.8	3.6	5.4	7.9	5.9	2.6	
Row sp. (in.)		7	24	22	30	30	12	9	30	
Rows/plot		8	3	4	4	4	3	4	3	
Reps		4	4	3	3	3	4	3	4	
		<u>YIELD RANK</u>								
Altona	2	4	4	3	4	4	2	1	2	
Clay	5	6	2	6	3	5	6	5	1	
Maple Arrow	3	1	5	2	6	7	3	2	7	
Portage	7	2	6	7	7	6	4	4	3	
M65-217	1	3	3	1	5	3	1	3	6	
M68-201	4	5	1	3	1	1	7	7	4	
M68-213	6	7	7	5	2	2	5	6	5	
	15 Tests	1976-1977, 2-YEAR MEAN YIELD								
Altona	34.9	37.6	36.8	20.2		37.6		36.0	31.2	
Portage	30.4	37.4	31.6	15.0		33.2		32.4	28.2	
M65-217	36.9	40.3	36.4	22.5		41.6		37.0	29.2	
M68-201	34.5	34.6	37.2	18.0		41.6		20.2	29.4	
		<u>YIELD RANK</u>								
Altona	2	2	2	2		2		2	1	
Portage	4	3	4	4		3		3	4	
M65-217	1	1	3	1		1		1	3	
M68-301	3	4	1	3		1		4	2	

\* Not included in the mean, frost.

## UNIFORM TEST 00, 1977

Strain	Mean	Ont.	Wis.	Minnesota			Manitoba		N.D.	
		Elora	Ash- land	Crook- ston	Morris	Rose- mount I	Morden	Brandon	Fargo	
43 Tests		1973-1977, 5-YEAR MEAN YIELD								
			<u>74-77</u>		<u>73-75,</u> <u>77</u>		<u>74-77</u>		<u>73,</u> <u>75-77</u>	
Altona	33.8	36.6	31.3	24.5	31.2	35.7		27.0	30.2	
Portage	30.5	36.4	28.3	21.0	26.8	31.9		26.2	26.6	
M65-217	36.5	40.3	33.7	27.1	32.8	39.2		29.8	29.7	
<u>YIELD RANK</u>										
Altona	2	2	2	2	2	2		2	1	
Portage	3	3	3	3	3	3		3	3	
M65-217	1	1	1	1	1	1		1	2	
6 Tests		<u>MATURITY (relative data)</u>							*	
Altona	+ 5.0	+ 6	+ 1		+ 4	+10	0	+ 4	+ 9	
Clay	+13.3	+13	+21		+14	+11	+10	---	+11	
Maple Arrow	+ 8.7	+14	+ 7		+11	+10	0	+ 6	+10	
Portage †	9-0.2	9-11	9-15		8-28	8-21	8-30	9-20	8-20	
M65-217	+ 6.7	+12	+12		+ 5	+10	0	+ 4	+ 1	
M68-201	+12.2	+18	+14		+ 9	+14	+ 8	---	+10	
M68-213	+15.2	+23	+14		+15	+19	+ 8	---	+12	
Date planted	5-18	5-19	5-20		5-24	5-16	5-17	5-25	5-11	
†Days to mat.	105	115	118		96	97	105	118	101	
8 Tests		<u>LODGING (score)</u>								
Altona	2.7	3.6	3.2	2.3	3.7	2.7	1.0	3.0	2.0	
Clay	1.8	2.6	3.2	1.3	2.7	2.0	1.0	1.0	1.0	
Maple Arrow	2.1	3.4	3.2	1.0	2.0	2.0	1.0	2.0	2.0	
Portage	1.5	2.9	3.0	1.0	1.0	1.3	1.0	1.0	1.0	
M65-217	1.9	2.4	4.2	1.0	1.3	2.0	1.0	2.0	1.0	
M68-201	1.5	2.0	2.5	1.0	2.0	1.7	1.0	1.0	1.0	
M68-213	2.2	3.3	4.2	1.0	2.7	3.0	1.0	1.0	1.0	
8 Tests		<u>PLANT HEIGHT (inches)</u>								
Altona	29	30	36	19	25	27	28	32	34	
Clay	28	27	32	20	24	29	26	29	37	
Maple Arrow	29	31	33	19	23	32	28	32	33	
Portage	27	32	37	17	23	30	25	23	31	
M65-217	29	30	40	20	21	33	27	30	34	
M68-201	28	29	35	19	24	31	26	27	37	
M68-213	30	31	37	19	26	33	27	30	40	

\* Not included in the mean

Strain	Mean	Ont.	Wis.	Minnesota			Manitoba		N.D.
		Elora	Ash- land	Crook- ston	Morris	Rose- mount I	Morden	Brandon	Fargo
	7 Tests	<u>SEED QUALITY (score)</u>							
Altona	2.3	2.5	2.2	2.3	2.7	1.7		2.0	3.0
Clay	2.4	3.5	3.0	2.0	2.3	2.0		3.0	1.0
Maple Arrow	1.8	3.0	1.8	1.7	2.0	2.0		1.0	1.0
Portage	2.3	2.5	2.2	2.7	3.0	2.0		2.0	2.0
M65-217	2.3	4.0	3.2	2.0	2.0	2.0		2.0	1.0
M68-201	2.6	4.5	3.0	1.7	1.3	2.7		4.0	1.0
M68-213	2.9	5.0	3.0	2.0	1.7	2.3		4.0	2.0
	8 Tests	<u>SEED SIZE (g/100)</u>							
Altona	17.9	19.5	19.3	17.3	15.8	18.2	19.8	15.9	17.4
Clay	16.5	17.4	16.1	16.9	15.7	18.0	18.7	14.0	15.2
Maple Arrow	17.0	19.2	18.3	15.8	16.7	15.7	18.6	16.1	15.9
Portage	17.4	18.9	17.0	18.5	14.4	17.4	21.9	13.8	17.2
M65-217	15.0	16.6	15.4	14.3	13.7	15.7	18.2	12.7	13.7
M68-201	15.4	16.9	14.5	15.0	14.7	16.5	17.4	14.5	13.6
M68-213	16.7	17.7	15.4	17.0	17.0	18.3	17.9	14.0	16.0
	4 Tests	<u>PROTEIN (%)</u>					*		*
Altona	41.4	42.2		40.9	40.4		42.2	41.9	40.7
Clay	41.0	43.3		39.9	39.1		40.6	41.5	38.5
Maple Arrow	39.8	41.0		38.3	38.8		40.1	41.0	38.6
Portage	39.4	39.6		39.0	38.8		42.0	40.4	36.5
M65-217	39.6	42.9		37.4	37.5		40.4	40.5	37.1
M68-201	40.7	43.6		39.1	39.3		41.0	40.8	39.4
M68-213	40.8	43.9		39.4	38.4		41.2	41.4	38.6
	4 Tests	<u>OIL (%)</u>					*		*
Altona	17.2	17.6		17.7	18.8		15.4	14.9	19.8
Clay	18.0	18.6		18.2	20.0		16.8	15.1	20.5
Maple Arrow	19.1	19.0		19.7	20.5		17.5	17.1	21.4
Portage	18.0	18.3		19.4	19.2		15.9	15.3	22.2
M65-217	18.4	17.9		19.5	20.5		16.0	15.8	21.4
M68-201	18.4	19.6		18.7	19.4		16.8	15.8	20.4
M68-213	17.2	18.9		16.9	19.0		15.1	14.2	20.3

\* Not included in the mean



Strain	Parentage	Previous Testing*	Generation Compositd
1. Altona	O-52-903 x Flambeau	UTOO	F <sup>5</sup>
2. Clay	Capital x Renville	10	"
3. Evans	Merit x Harosoy	7	"
4. Hodgson	Corsoy x M372 (M10 x PI 180.501)	UTI	"
5. Swift	II-54-240 x II-54-139	9	"
6. M67-65	Clay x M406 (Harosoy x Norchief)	1	"
7. M68-176	Merit x Beeson	1	"
8. M69-124	M60-406 <sup>2</sup> x M64-56	-	"
9. M69-129	Steele <sup>2</sup> x C1477	-	"
10. M69-264	M60-406 <sup>2</sup> x S.R.F. 300	-	"

\* Number of years in this test or name of 1976 test

The regional 4-year mean shows that Evans is higher yielding and has better seed quality than Clay or Swift.

The 2-year test data does not show any yield advantage for M67-67 or M68-176 over the check variety Evans. The entry M68-176 is 1 day later in maturity than Evans, has good lodging resistance and is similar to Evans in all other characteristics.

None of the 3 new entries shows any distinct yield advantage over Evans. M69-129 and M69-264 are similar in yield and approximately 7 and 8 days later in maturity than Evans. The maturity tie Hodgson is 1 bushel higher yielding than Evans and 8 days later in maturity.

## Disease Data

Strain	FE2		BSR			PSB	PS	Germ.	PR	
	Laf. Ind.	Laf. Ind.	Rose-mount Minn.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa
	a	n %	n %	n% stem	n% plants	% d	% a	% *	a	a
Altona	3	80	5	42	80	18	82	38	R	R
Clay	5	80	30	39	90	55	94	33	S	S
Evans	5	90	15	54	100	36	87	65	R	R
Hodgson	4	90	10	69	100	59	85	59	S	S
Swift	5	90	10	49	90	62	75	41	S	S
M67-65	5	60	10	73	100	45	85	68	S	S
M68-176	5	60	0	71	100	79	71	39	R	R
M69-124	4	90	35	91	100	54	59	65	R	R
M69-129	4	70	25	78	100	46	85	55	R	H
M69-264	4	100	30	77	100	51	59	74	R	R

\*Petri dish germination on potato dextros agar.

## Descriptive and Other Data

Strain	Descriptive Code		Chlorosis	Emergence	Shattering	
			Rose-mount Minn.	Ames Iowa	Ames Iowa	Manhattan Kansas
Altona	PTBr	SYB1	3.2	3.0	1	2
Clay	PGBr	SYB	1.8	3.0	2	4
Evans	WGBr	DYY	1.8	2.0	1	5
Hodgson	PGBr	DYY	2.0	2.0	5	4
Swift	WTBr	DYB1	1.2	1.0	3	5
M67-65	PGBr	DYY	3.5	5.0	1	3
M68-176	PGBr	SYB	2.8	3.0	5	1
M69-124	PGBr	DYBf	2.8	3.0	5	5
M69-129	PGBr	DYY	3.2	3.0	4	5
M69-264	WGBr	SYB	3.2	3.0	1	5

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## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
<u>1977</u>									
No. of Tests	9	9	7	9	9	9	9	5	5
Altona	32.7	10	- 9.1	2.3	28	2.4	17.2	40.5	18.5
Clay	33.5	9	- 3.3	1.7	28	2.3	16.1	39.7	20.1
Evans	36.2	4	9-15.7†	1.8	33	2.2	15.6	38.7	20.0
Hodgson	37.3	1	+ 8.0	2.2	34	2.0	16.0	38.9	19.3
Swift	35.3	7	+ 4.3	3.0	36	2.6	16.0	38.4	19.1
M67-65	36.2	4	+ 2.4	2.7	33	2.6	18.2	39.7	20.4
M68-176	36.1	6	+ 0.7	2.0	33	2.3	15.8	37.1	19.6
M69-124	34.4	8	- 4.9	1.9	37	2.1	15.7	40.5	18.4
M69-129	36.3	3	+ 7.9	2.0	34	2.4	15.7	39.9	18.8
M69-264	36.5	2	+ 6.6	2.3	31	2.2	17.8	40.7	17.8

† 118 days after planting

<u>1976-1977, 2-YEAR MEAN</u>									
No. of Tests	17	17	17	19	19	16	17	9	9
Clay	34.8	5	- 3.9	1.5	26	2.4	16.7	40.1	20.2
Evans	37.6	1	9-17.3†	1.7	32	2.3	15.4	39.4	20.0
Swift	36.6	4	+ 3.0	2.6	35	2.6	15.8	38.7	19.3
M67-65	37.1	3	+ 2.3	2.5	32	2.7	18.5	40.1	20.3
M68-176	37.3	2	+ 1.2	1.7	31	2.3	15.7	37.9	19.6

† 118 days after planting

<u>1974-1977, 4-YEAR MEAN</u>									
No. of Tests	34	34	32	35	35	28	32	20	20
Clay	33.6	3	- 5.6	1.6	24	2.2	16.2	40.4	20.8
Evans	37.6	1	9-19.1†	1.9	32	2.0	15.4	39.4	20.6
Swift	35.5	2	+ 2.3	2.6	34	2.3	15.4	38.6	19.8

† 121 days after planting

Strain	Mean	Ontario		Mich.	Wisconsin		Minnesota		N.D.	S.D.
		Elora	Ridge- town	E. Lansing	Spooner I	Dur- and	Mor- ris	Rose- mount I	Fargo	Re- villo
9 Tests		1977 YIELD (bu/a)								
Altona	32.7	32.4	53.9	28.2	28.4	16.4	29.1	35.8	43.3	27.2
Clay	33.5	30.0	46.7	28.2	34.5	18.3	30.3	39.7	44.0	29.9
Evans	36.2	36.1	49.8	28.0	36.3	21.2	37.2	41.6	42.1	33.7
Hodgson	37.3	31.7	48.6	37.5	38.3	15.7	37.3	46.7	41.8	38.5
Swift	35.3	21.7	52.3	30.2	39.5	15.1	37.7	41.4	43.4	36.6
M67-65	36.2	23.5	53.3	31.2	39.9	17.5	35.8	43.2	45.0	36.5
M68-176	36.1	40.9	39.2	30.5	39.5	16.6	36.9	44.7	38.9	37.9
M69-124	34.4	30.8	45.4	32.8	38.0	18.4	33.2	42.0	35.2	34.2
M69-129	36.3	31.6	54.6	29.1	36.4	17.5	35.9	47.0	38.9	35.6
M69-264	36.5	35.4	45.1	32.3	42.0	16.8	33.3	41.6	46.6	35.5
C.V. (%)		14.5	11.9	14.5	8.7	13.9	9.3	12.7	6.3	11.6
L.S.D. (5%)		6.6	8.4	7.2	4.6	3.4	5.5	9.2	3.8	5.7
Row sp. (in.)		7	24	30	38	38	30	30	30	38
Rows/plot		8	4	4	3	3	4	4	3	3
Reps		4	4	3	4	4	3	3	4	4

YIELD RANK										
Altona	10	4	2	8	10	8	10	10	5	10
Clay	9	8	7	8	9	3	9	9	3	9
Evans	4	2	5	10	8	1	3	6	6	8
Hodgson	1	5	6	1	5	9	2	2	7	1
Swift	7	10	4	6	3	10	1	8	4	3
M67-65	4	9	3	4	2	4	6	4	2	4
M68-176	6	1	10	5	3	7	4	3	8	2
M69-124	8	7	8	2	6	2	8	5	10	7
M69-129	3	6	1	7	7	4	5	1	8	5
M69-264	2	3	9	3	1	6	7	6	1	6

17 Tests		1976-1977, 2-YEAR MEAN								
Clay	34.8	36.8	45.4	31.3	29.8	19.9		39.5	32.8	
Evans	37.6	41.8	48.6	33.1	29.8	20.5		42.2	31.8	
Swift	36.6	31.6	51.8	34.6	31.4	17.4		42.8	31.4	
M67-65	37.1	31.8	53.6	33.8	32.6	16.9		43.6	33.4	
M68-176	37.3	41.0	45.2	35.6	30.6	16.8		47.4	28.9	

YIELD RANK										
Clay	5	3	4	5	4	2		5	2	
Evans	1	1	3	4	4	1		4	3	
Swift	4	5	2	2	2	3		3	4	
M67-65	3	4	1	3	1	4		2	1	
M68-176	2	2	5	1	3	5		1	5	

## UNIFORM TEST O, 1977

Strain	Mean	Ontario		Mich.	Wisconsin		Minnesota		N.D.	S.D.
		Elora	Ridge- town	E. Lansing	Dur- and Spooner	Mor- ris	Rose- mount I	Fargo	Re- villo	
34 Tests		1974-1977, 4-YEAR MEAN								
				<u>74, 76-77</u>						<u>74-75, 77</u>
Clay	33.6	35.8	46.2	30.5	25.8	24.8		40.8		23.1
Evans	37.6	38.8	50.3	34.6	28.7	28.0		44.6		27.8
Swift	35.5	31.4	50.7	34.5	28.7	24.8		45.0		28.1

## YIELD RANK

Clay	3	2	3	3	3	2		3		3
Evans	1	1	2	1	1	1		2		2
Swift	2	3	1	2	1	2		1		1

7 Tests

## MATURITY (relative data)

\*

Altona	- 9.1	-22	+ 5	- 5		-12	-15	-10	-12	- 5
Clay	- 3.3	-16	+ 1	- 2		+12	- 7	- 8	- 2	- 3
Evans †	9-15.7	10-8	9-13	9-13		9-3	9-16	9-10	9-10	9-17
Hodgson	+ 8.0	+ 6	0	+ 6		+16	+13	+10	---	+ 5
Swift	+ 4.3	- 1	0	0		+12	+12	+ 6	+ 5	+ 1
M67-65	+ 2.4	- 1	+ 6	0		+ 8	0	+ 3	0	+ 1
M68-176	+ 0.7	- 1	- 9	+ 6		+ 1	+ 3	+ 2	+ 3	+ 3
M69-124	+ 4.9	+ 3	- 2	+ 7		+12	+ 4	+ 8	+ 6	+ 2
M69-129	+ 7.9	+ 4	+ 1	+ 8		+17	+10	+11	---	+ 4
M69-264	+ 6.6	+ 7	- 4	+ 9		+13	+ 9	+ 9	---	+ 3
Date planted	5-21	5-19	5-17	5-19	5-16	5-24	5-24	5-16	5-11	5-26
†Days to mat.	118	142	119	117		102	115	117	122	114

9 Tests

## LODGING (score)

Altona	2.3	3.3	2.0	2.0	2.2	1.0	4.0	3.0	2.0	1.0
Clay	1.7	2.3	2.0	1.5	2.2	1.0	2.3	2.0	1.0	1.0
Evans	1.8	2.5	1.0	1.5	2.5	1.0	2.3	2.3	2.0	1.0
Hodgson	2.2	3.1	2.0	2.5	2.2	1.0	2.7	4.0	1.0	1.0
Swift	3.0	4.5	4.0	3.0	3.2	1.0	3.7	3.7	3.0	1.0
M67-65	2.7	4.3	2.0	3.5	3.5	1.0	3.0	3.7	2.0	1.0
M68-176	2.0	2.1	4.0	2.0	2.5	1.0	2.0	2.3	1.0	1.0
M69-124	1.9	2.9	2.0	1.5	2.0	1.0	2.3	3.3	1.0	1.0
M69-129	2.0	2.9	3.0	2.0	1.5	1.0	2.0	4.0	1.0	1.0
M69-264	2.3	4.5	3.0	1.5	2.5	1.0	2.3	4.0	1.0	1.0

\* Not included in the mean

Strain	Mean	Ontario		Mich.	Wisconsin		Minnesota		N.D.	S.D.
		Elora	Ridge- town	E. Lansing	Spooner I	Dur- and	Mor- ris	Rose- mount I	Fargo	Re- villo
	9 Tests	<u>PLANT HEIGHT (inches)</u>								
Altona	28	30	34	31	25	24	24	26	34	28
Clay	28	29	36	29	24	19	24	30	36	26
Evans	33	32	29	34	32	26	31	38	44	29
Hodgson	34	32	31	36	35	25	32	41	44	33
Swift	36	32	33	43	36	27	32	41	49	32
M67-65	33	31	31	38	31	24	29	37	42	32
M68-176	33	31	24	36	31	25	30	40	46	32
M69-124	37	33	32	42	33	28	34	44	50	33
M69-129	34	33	34	35	31	26	33	40	44	33
M69-264	31	31	24	36	32	21	29	37	41	30
	9 Tests	<u>SEED QUALITY (score)</u>								
Altona	2.4	2.5	2.0	1.0	2.0	2.0	3.0	2.7	3.0	3.0
Clay	2.3	3.5	2.0	2.0	2.0	2.5	2.7	2.3	1.0	3.0
Evans	2.2	3.5	2.0	2.0	2.0	2.2	2.0	1.7	2.0	2.0
Hodgson	2.0	2.0	2.0	2.0	3.0	2.8	2.0	1.3	1.0	2.0
Swift	2.6	4.0	2.0	2.0	3.5	3.0	2.7	2.0	2.0	2.0
M67-65	2.6	5.0	2.0	2.0	3.8	3.2	2.3	2.0	1.0	2.0
M68-176	2.3	2.5	3.0	2.0	3.2	3.0	2.0	1.7	1.0	2.0
M69-124	2.1	1.5	2.0	2.0	3.0	2.8	2.3	2.0	1.0	2.0
M69-129	2.4	2.0	2.0	2.0	3.2	3.2	2.3	2.7	2.0	2.0
M69-264	2.2	1.5	3.0	2.0	2.2	3.0	2.7	2.0	1.0	2.0
	9 Tests	<u>SEED SIZE (g/100)</u>								
Altona	17.2	18.7	17.3	18.6	17.1	16.0	16.1	17.2	17.4	16.3
Clay	16.1	16.6	15.5	20.0	16.0	13.7	13.9	18.1	15.2	16.1
Evans	15.6	16.4	15.1	18.6	15.8	13.3	15.8	16.9	14.2	14.0
Hodgson	16.0	16.5	16.3	18.0	18.1	13.4	16.6	18.0	12.9	14.1
Swift	16.0	15.0	19.5	17.8	17.5	13.8	14.8	17.5	13.6	14.5
M67-65	18.2	17.5	19.7	19.6	18.4	15.3	18.2	21.4	16.0	17.5
M68-176	15.8	17.9	17.7	18.8	17.2	12.8	15.8	16.8	12.5	12.4
M69-124	15.7	17.2	15.1	18.2	17.1	13.8	15.5	17.5	12.5	14.8
M69-129	15.7	15.8	16.9	18.2	16.5	14.4	16.6	15.0	12.6	15.5
M69-264	17.8	19.1	16.9	21.4	19.0	15.7	17.1	19.0	12.6	19.4

Strain	Mean	<u>Ont.</u>	<u>Wis.</u>	<u>Minnesota</u>		<u>N.D.</u>	<u>S.D.</u>
		Elora	Spooner	Morris	Rosemount I	Fargo	Revilla
	5 Tests			PROTEIN (%)		*	
Altona	40.5	41.9	38.7	40.0	40.7	40.7	41.1
Clay	39.7	42.3	39.0	38.6	39.4	36.9	39.1
Evans	38.7	42.5	36.6	37.7	39.1	38.0	37.4
Hodgson	38.9	42.1	39.6	37.9	38.2	35.4	36.8
Swift	38.4	42.1	37.8	37.3	38.7	36.4	36.1
M67-65	39.7	44.7	37.2	38.1	40.2	37.3	38.3
M68-176	37.1	41.6	35.5	35.1	37.4	35.3	35.7
M69-124	40.5	43.1	40.0	39.3	40.5	37.3	39.5
M69-129	39.9	42.7	39.5	39.9	39.1	37.0	38.4
M69-264	40.7	42.5	39.5	40.5	40.6	36.7	40.3
	5 Tests			OIL (%)		*	
Altona	18.5	17.7	18.5	18.5	19.4	19.8	18.3
Clay	20.1	20.2	18.6	20.6	20.7	21.5	20.3
Evans	20.0	19.0	19.6	20.3	20.1	20.2	20.8
Hodgson	19.3	16.6	18.0	20.4	20.6	20.9	21.1
Swift	19.1	18.1	17.9	19.8	19.7	19.9	20.0
M67-65	20.4	22.1	19.3	20.1	20.1	20.1	20.3
M68-176	19.6	17.6	19.4	20.9	19.8	19.8	20.2
M69-124	18.4	16.6	17.9	19.4	18.9	19.7	19.3
M69-129	18.8	16.6	18.8	19.2	18.9	19.8	20.3
M69-264	17.8	17.3	17.5	18.3	18.0	18.7	18.1

\* Not included in the mean

Strain	Parentage	Previous Testing*	Generation Compositd
1. Coles	Hark x (Provar x (Magna x Disoy))	2	F <sub>5</sub>
2. Corsoy	Harosoy x Capital	UTIII	F <sub>9</sub>
3. Evans	Merit x Harosoy	UTO	F <sub>5</sub>
4. Harlon	Blackhawk x Harosoy 63	4	"
5. Hodgson	Corsoy x M372 (M10 x PI 180.501)	5	"
6. Hodgson 78 (M75-1)	Hodgson <sup>6</sup> x Merit	-	59 F <sub>3</sub> 's
7. A74-101010	M63-17 (M402 x M406) x C1453	1	F <sub>4</sub>
8. A74-101035	C1426 (C1253 x Kent) x AP68-315	1	"
9. A74-102011	M62-263 (Grant x M319W) x IVR Ex4426	1	"
10. A75-101014	IVR Ex50003 x Wells <sup>2</sup>	PI	F <sub>3</sub>
11. A75-101022	"	PI	"
12. A75-102032	AP6 (40 lines intermated 3 times)	PI	F <sub>5</sub>
13. A75-103016	IVR Ex5003 x Wells <sup>2</sup>	PI	F <sub>3</sub>
14. A75-103019	AP6	PI	F <sub>4</sub>
15. M68-49	Evans x M59-120(II-54-240 x II-54-139)	2	F <sub>5</sub>
16. M69-36	Merit x Corsoy	PI	"

\* Number of years in this test or name of 1976 test

In the five year regional mean the variety Harlon, which is phytophthora root rot resistant, is 4 days earlier in maturity than Hodgson, but is 4.5 bushels lower yielding than Hodgson.

In the three year regional mean the variety Coles shows a yield advantage of 1.4 bushels over Hodgson. Coles is more than 5 days later than Hodgson in maturity, more lodging susceptible, has a higher protein but lower oil content than Hodgson. The strain M68-49 is 1 day later in maturity and 1 bushel lower yielding than Hodgson, but is phytophthora root rot resistant.

During the past two years the strain A74-101010 showed a slight yield advantage over Coles. A74-101010 is similar in maturity, has better lodging resistance than Coles, and shows resistance to chlorosis. The strain A74-102011 is equal in yield to Coles, is 5 days earlier in maturity than Coles and has excellent lodging resistance. The strains A74-101010 and A74-102011 are susceptible to phytophthora root rot.

Three new strains to this year's regional test, A75-102032, A75-103016, A75-103019, are higher yielding than Coles. A75-102032 has a yield advantage of 4 bushels over Coles and is 2 days earlier maturing than Coles. A75-103016 and A75-103019 have yield advantages of 1 and 2 bushels respectively over Coles and are 4 days earlier in maturity than Coles. Hodgson 78 (M75-1), resistant to phytophthora root rot race I, is approximately 1 day later in maturity than Hodgson and 1.5 bushel higher yielding than Hodgson. The strains A74-101010 and A74-102011 are equal in yield to Coles with A74-102011 being 6 days earlier in maturity than Coles.



UNIFORM TEST I, 1977

## Disease Data

Strain	FE2		BSR			PSB	PS	Germ.	PR		
	Laf. Ind.	Laf. Ind.	Waseca Minn.	Kanawha Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	a	n %	n %	n% stem	n% plants	% d	% a	% *	a	a	n
Coles	4	90	20	68	100	26	67	81	S	S	3.5
Corsoy	5	20	25	79	98	43	89	75	S	S	3.5
Evans	5	90	15	59	83	12	88	76	R	R	4.0
Harlon	5	80	15	71	98	11	62	71	R	R	4.0
Hodgson	4	90	10	73	88	48	85	58	S	S	4.0
Hodgson 78	5	100	15	79	98	46	94	72	R	R	3.5
A74-101010	4	20	15	71	88	46	87	79	S	S	4.0
A74-101035	4	20	5	49	60	28	83	78	S	S	3.5
A74-102011	5	50	30	81	97	54	93	55	S	S	3.5
A75-101014	5	50	5	81	83	52	57	62	R	R	5.0
A75-101022	4	50	25	72	88	51	53	59	R	R	4.0
A75-102032	4	90	25	78	100	37	41	79	S	S	3.5
A75-103016	4	40	10	86	93	55	90	63	H	H	3.5
A75-103019	3	70	30	90	100	36	77	75	H	S	2.5
M68-49	5	70	5	79	93	54	92	49	R	R	4.0
M69-36	5	70	15	73	95	52	84	56	S	S	4.0

\*Petri dish germ. on potato dextros agar.

Descriptive and Other Data

Strain	Descriptive Code		Chlorosis		Emergence	Shattering
			Waseca Minn.	Ames Iowa	Ames Iowa	Manhattan Kansas
Coles	PG Br	DYY	2.5	4.0	1	5
Corsoy	PG Br	DYY	2.8	4.0	1	2
Evans	WG Br	DYY	1.8	2.0	1	5
Harlon	WG Br	DYY	1.5	2.0	1	5
Hodgson	PG Br	DYBf	2.0	2.0	5	4
Hodgson 78	PG Br	DYBf	2.0	2.0	5	3
A74-101010	WG Br	SY Y	1.5	1.0	3	4
A74-101035	PG Br	SY Y	1.8	3.0	1	3
A74-102011	PG Br	DYBf	2.5	3.0	1	2
A75-101014	PG Br	SY Y	2.2	2.0	5	2
A75-101022	PG Br	DYBf	1.5	2.0	1	3
A75-102032	WT Br	DYB1	1.5	2.0	1	4
A75-103016	PG Br	DYIb	2.5	3.0	1	5
A75-103019	PT Br	SYB1	3.0	3.0	1	4
M68-49	WG Br	DYY	2.0	2.0	1	3
M69-36	WG Br	DYY	2.5	3.0	1	2

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
<u>1977</u>									
No. of Tests	15	15	13	15	14	11	12	6	6
Coles	42.5	5	+ 8.4	2.3	40	2.1	19.0	39.9	20.2
Corsoy	44.3	3	+ 7.9	2.4	39	2.3	15.9	38.6	20.7
Evans	33.8	16	- 8.4	1.5	31	2.1	15.1	38.2	22.1
Harlon	35.9	15	- 5.1	1.9	35	2.3	16.2	37.8	21.7
Hodgson	39.9	13	9-14.4†	1.7	34	2.3	16.1	37.7	22.2
Hodgson 78	41.4	8	+ 0.8	1.9	34	2.1	16.5	37.5	21.7
A74-101010	42.0	7	+ 8.2	1.6	36	2.0	17.6	38.7	20.5
A74-101035	40.8	10	+ 4.7	1.8	36	2.4	19.3	38.6	20.8
A74-102011	42.3	6	+ 2.5	1.6	30	2.7	17.0	37.3	21.4
A75-101014	40.8	10	+ 2.3	1.4	31	2.5	15.3	39.7	20.3
A75-101022	41.4	8	+ 3.6	1.9	33	2.8	17.3	40.9	20.0
A75-102032	46.2	1	+ 6.2	2.1	36	1.9	14.2	37.8	21.4
A75-103016	43.3	4	+ 4.7	1.9	33	2.3	16.1	40.5	20.4
A75-103019	44.5	2	+ 4.2	2.0	32	2.4	17.1	38.0	21.4
M68-49	39.7	14	+ 1.8	1.9	32	2.3	19.3	37.3	23.1
M69-36	40.3	12	- 0.5	1.8	33	2.3	14.0	38.2	20.8
† 120 days after planting									
<u>1976-1977, 2-YEAR MEAN</u>									
No. of Tests	28	28	26	28	28	22	25	13	13
Coles	41.5	3	+ 6.4	2.3	39	2.0	17.9	41.1	19.7
Harlon	36.4	7	- 3.8	1.9	34	2.2	16.1	38.3	21.4
Hodgson	41.3	4	9-12.6†	1.7	32	2.0	15.8	38.5	21.9
A74-101010	41.9	1	+ 6.6	1.6	35	2.0	16.6	39.6	20.4
A74-101035	40.6	5	+ 4.4	1.7	36	2.3	18.6	39.6	20.7
A74-102011	41.6	2	+ 1.5	1.4	28	2.4	16.9	37.9	21.5
M68-49	40.2	6	+ 1.3	1.8	30	2.2	18.8	38.1	22.6
† 116 days after planting									
<u>1975-1977, 3-YEAR MEAN</u>									
No. of Tests	45	45	43	45	46	36	42	21	21
Coles	42.6	1	+ 5.5	2.2	35	1.8	18.0	41.2	20.1
Harlon	36.0	4	- 3.6	1.8	33	2.1	16.0	38.7	22.1
Hodgson	41.2	2	9-13.3†	1.6	31	1.9	16.0	38.8	22.3
M68-49	40.0	3	+ 0.7	1.7	29	2.1	19.0	38.4	23.1
† 118 days after planting									
<u>1973-1977, 5-YEAR MEAN</u>									
No. of Tests	76	76	70	78	78	62	72	38	38
Harlon	36.5	2	- 3.8	1.7	33	1.9	16.3	38.7	22.4
Hodgson	41.0	1	9-14.8†	1.6	32	1.7	16.4	39.0	22.5
† 118 days after planting									

## UNIFORM TEST I, 1977

Strain	Mean	Ont.	Michigan		Ind.	Wisconsin		Minnesota	
		Ridge- town	E. Lansing	Dun- dee	La- fayette	Dur- and	Ar- lington	Lamb- erton	Waseca
	15 Tests	1977 YIELD (bu/a)							
Coles	42.5	61.8	34.1	33.5	40.3	22.7	47.3	39.6	52.1
Corsoy	44.3	56.9	36.7	37.9	40.6	20.6	55.7	41.6	50.1
Evans	33.8	63.0	21.6	19.8	21.3	19.9	40.6	32.0	39.8
Harlon	35.9	63.4	29.4	25.8	30.4	18.2	40.3	33.9	39.7
Hodgson	39.9	58.7	31.2	27.5	32.0	18.8	47.5	39.7	50.1
Hodgson 78	41.4	53.4	33.2	38.8	34.7	18.3	47.6	41.7	54.1
A74-101010	42.0	62.2	30.7	26.9	48.5	19.4	48.6	42.3	48.4
A74-101035	40.8	44.3	35.1	33.8	46.3	18.7	50.1	37.5	47.0
A74-102011	42.3	68.2	30.9	31.2	30.8	17.6	50.4	37.7	48.9
A75-101014	40.8	60.3	31.3	34.9	27.7	19.1	49.9	36.6	46.5
A75-101022	41.4	61.5	29.7	35.0	36.5	20.0	49.3	38.4	47.1
A75-102032	46.2	69.9	37.4	41.6	33.8	21.6	49.3	41.8	52.6
A75-103016	43.3	73.2	30.4	39.2	38.2	22.0	45.9	43.2	49.5
A75-103019	44.5	70.4	26.1	40.8	42.5	20.8	50.6	42.2	50.6
M68-49	39.7	67.2	31.4	36.8	25.4	18.2	51.2	35.5	45.6
M69-36	40.3	61.9	30.7	37.3	25.2	16.4	51.9	36.8	45.4
C.V. (%)		10.7	19.2	22.4	9.7	12.8	8.5	9.9	5.8
L.S.D. (5%)		9.5	8.9	9.5	5.6	3.5	5.8	6.4	4.6
Row sp. (in.)		24	30	30	30	38	30	30	30
Rows/plot		4	4	4	3	3	3	4	4
Reps		4	3	3	3	4	4	3	3
		YIELD RANK							
Coles	5	10	4	11	5	1	13	8	3
Corsoy	3	14	2	5	4	5	1	6	5
Evans	16	7	16	16	16	7	15	16	15
Harlon	15	6	14	15	12	13	16	15	16
Hodgson	13	13	8	13	10	10	12	7	5
Hodgson 78	8	15	5	4	8	12	11	5	1
A74-101010	7	8	10	14	1	8	10	2	9
A74-101035	10	16	3	10	2	11	6	11	11
A74-102011	6	4	9	12	11	15	5	10	8
A75-101014	10	12	7	9	13	9	7	13	12
A75-101022	8	11	13	8	7	6	8	9	10
A75-102032	1	3	1	1	9	3	8	4	2
A75-103016	4	1	12	3	6	2	14	1	7
A75-103019	2	2	15	2	3	4	4	3	4
M68-49	14	5	6	7	14	13	3	14	13
M69-36	12	9	10	6	15	16	2	12	14

Strain	Iowa			N.D.	South Dakota		Neb.
	Kanawha BSR	Corwith	Nashua	Oakes I	Brookings	Reville	Mead I
<u>1977 YIELD (bu/a)</u>							
Coles	42.9	51.7	53.8	39.2	32.0	36.6	50.2
Corsoy	41.6	51.9	52.6	52.9	39.5	39.3	47.2
Evans	31.9	36.1	35.7	46.5	38.7	35.1	24.9
Harlon	35.6	38.0	41.4	38.5	38.7	33.2	32.2
Hodgson	40.3	40.9	45.1	51.2	37.0	36.6	42.5
Hodgson 78	40.3	42.1	45.5	52.1	39.7	40.5	39.3
A74-101010	43.0	48.0	48.5	41.9	34.4	37.8	49.7
A74-101035	42.3	48.6	49.9	44.4	36.6	33.7	43.8
A74-102011	41.7	53.3	52.3	47.1	43.8	40.8	39.4
A75-101014	40.7	49.9	46.6	48.8	38.0	39.1	43.1
A75-101022	41.0	48.4	49.9	46.0	39.3	36.8	41.5
A75-102032	43.7	53.5	56.7	57.3	44.6	42.5	46.6
A75-103016	39.2	50.6	50.9	39.7	42.9	37.0	47.0
A75-103019	44.2	48.8	54.8	46.7	39.1	38.8	50.7
M68-49	37.5	41.0	44.4	51.2	41.0	36.1	33.0
M69-36	37.9	40.3	49.6	52.4	42.9	36.7	39.7
C.V. (%)	5.7	12.7	4.9	15.4	13.0	12.2	10.8
L.S.D. (5%)	2.6	8.6	3.6	NS	NS	NS	7.6
Row sp (in.)	30	27	27	12	30	38	30
Rows/plot	4	4	4	4	3	3	4
Reps	6	4	4	3	4	4	3
<u>YIELD RANK</u>							
Coles	4	4	3	15	16	11	2
Corsoy	7	3	4	2	7	4	4
Evans	15	16	16	10	10	14	16
Harlon	14	15	15	16	10	16	15
Hodgson	10	13	13	5	13	12	9
Hodgson 78	10	11	12	4	6	3	13
A74-101010	3	10	10	13	15	7	3
A74-101035	5	8	7	12	14	15	7
A74-102011	6	2	5	8	2	2	12
A75-101014	9	6	11	7	12	5	8
A75-101022	8	9	7	11	8	9	10
A75-102032	2	1	1	1	1	1	6
A75-103016	11	5	6	14	3	8	5
A75-103019	1	7	2	9	9	6	1
M68-49	13	12	14	5	5	13	14
M69-36	12	14	9	3	3	10	11

## UNIFORM TEST I, 1977

Strain	Mean	Ontario	Michigan		Indiana	Wisconsin	
		Ridgetown	E. Lansing	Dundee	Lafayette	Durand	Arlington
28 Tests		<u>1976-1977, 2-YEAR MEAN</u>					
Coles	41.5	57.2	36.2	34.0	44.2	18.8	45.7
Harlon	36.4	60.2	31.6	28.4	36.0	18.0	42.9
Hodgson	41.3	59.4	37.0	32.2	40.6	19.5	47.2
A74-101010	41.9	59.5	35.8	30.2	49.3	16.4	48.9
A74-101035	40.6	49.0	36.2	34.8	47.0	16.2	47.4
A74-102011	41.6	62.6	36.8	31.9	40.0	15.6	51.6
M68-49	40.2	63.6	37.0	34.2	34.2	18.2	50.6
<u>YIELD RANK</u>							
Coles	3	6	4	3	3	2	6
Harlon	7	3	7	7	6	4	7
Hodgson	4	5	1	4	4	1	5
A74-101010	1	4	6	6	1	5	3
A74-101035	5	7	4	1	2	6	4
A74-102011	2	2	3	5	5	7	1
M68-49	6	1	1	2	7	3	2
45 Tests		<u>1975-1977, 3-YEAR MEAN</u>					
Coles	42.6	49.0		36.1	47.1	26.6	46.8
Harlon	36.0	45.2		29.3	35.2	25.3	42.8
Hodgson	41.2	47.4		32.8	41.1	24.7	46.1
M68-49	40.0	49.1		31.5	33.9	25.6	48.1
<u>YIELD RANK</u>							
Coles	1	2		1	1	1	2
Harlon	4	4		4	3	3	4
Hodgson	2	3		2	2	4	3
M68-49	3	1		3	4	2	1
76 Tests		<u>1973-1977, 5-YEAR MEAN</u>					
Harlon	36.5	56.9		34.1	37.9	<u>74-77</u> 24.3	<u>74-77</u> 40.7
Hodgson	41.0	57.5		38.5	42.1	24.9	43.9
<u>YIELD RANK</u>							
Harlon	2	2		2	2	2	2
Hodgson	1	1		1	1	1	1

Strain	Minnesota		Iowa		South Dakota		Neb.
	Lamberton	Waseca	Corwith	Nashua	Brookings	Reville	Mead I
<u>1976-1977, 2-YEAR MEAN</u>							
Coles		46.8	55.2	44.2	27.2		46.6
Harlon		36.4	43.1	36.7	31.9		32.3
Hodgson		46.6	49.1	40.2	31.4		46.4
A74-101010		43.8	53.2	41.3	28.4		48.4
A74-101035		43.7	53.5	43.9	31.2		45.2
A74-102011		47.6	53.0	41.5	35.1		40.9
M68-49		44.3	48.5	37.8	34.4		38.0
<u>YIELD RANK</u>							
Coles		2	1	1	7		2
Harlon		7	7	7	3		7
Hodgson		3	5	5	4		3
A74-101010		5	3	4	6		1
A74-101035		6	2	2	5		4
A74-102011		1	4	3	1		5
M68-49		4	6	6	2		6
<u>1975-1977, 3-YEAR MEAN</u>							
	<u>75, 77</u>					<u>75, 77</u>	
Coles	37.6	48.2	54.4	47.1	31.9	28.0	46.1
Harlon	30.4	39.2	41.4	38.1	31.3	24.1	32.7
Hodgson	38.1	48.3	49.5	44.3	34.3	29.6	43.6
M68-49	33.9	46.3	47.9	41.6	35.5	29.9	35.7
<u>YIELD RANK</u>							
Coles	2	2	1	1	3	3	1
Harlon	4	4	4	4	4	4	4
Hodgson	1	1	2	2	2	2	2
M68-49	3	3	3	3	1	1	3
<u>1973-1977, 5-YEAR MEAN</u>							
	<u>73-75, 77</u>					<u>73-75, 77</u>	
Harlon	29.7	38.7		36.6	32.5	25.9	37.2
Hodgson	35.3	45.7		41.3	34.5	30.0	46.7
<u>YIELD RANK</u>							
Harlon	2	2		2	2	2	2
Hodgson	1	1		1	1	1	1

Strain	Mean	Ont.	Michigan		Ind.	Wisconsin		Minnesota	
		Ridge- town	E. Lansing	Dun- dee	La- fayette	Dur- and	Madi- son	Lamb- erton	Waseca
13 Tests		MATURITY (relative data)							
Coles	+ 8.4	+12	+ 3	+ 3	+11	+17	+10	+ 8	+12
Corsoy	+ 7.9	- 3	+ 6	+ 6	+ 8	+21	+16	+ 3	+12
Evans	- 8.4	- 4	- 4	- 6	-10	-17	-10	-14	-12
Harlon	- 5.1	+ 4	- 1	- 3	-11	- 3	-11	-10	-10
Hodgson †	9-14.4	9-22	9-20	9-16	8-26	9-22	9-19	9-5	9-12
Hodgson 78	+ 0.8	- 5	+ 3	0	+ 2	- 1	+ 3	0	+ 2
A74-101010	+ 8.2	+ 9	+ 7	+ 4	+11	+22	+ 8	+ 5	+ 6
A74-101035	+ 4.7	-11	+ 7	+ 2	+ 7	+20	+ 8	+ 1	+ 3
A74-102011	+ 2.5	+ 9	+ 3	+ 2	+ 1	+ 5	- 2	+ 2	0
A75-101014	+ 2.3	+11	+ 3	- 2	+ 1	+11	- 2	0	- 3
A75-101022	+ 3.6	+10	+ 2	- 2	+ 4	+19	+ 1	+ 2	+ 1
A75-102032	+ 6.2	+17	+ 2	+ 3	+ 1	+22	+ 7	+ 5	+ 7
A75-103016	+ 4.7	+ 8	+ 1	+ 1	+ 7	+19	+ 2	+ 3	+ 4
A75-103019	+ 4.2	+ 2	0	+ 3	+ 4	+ 9	+ 5	+ 4	+ 7
M68-49	+ 1.8	+ 6	+ 1	+ 1	- 1	+13	+ 2	+ 1	- 1
M69-36	- 0.5	+ 2	+ 1	+ 1	- 3	+ 9	0	- 7	- 2
Date planted	5-17	5-17	5-19	5-17	5-9	5-24	5-19	5-10	5-12
†Days to mat.	120	128	124	122	109	121	123	118	123

15 Tests		LODGING (score)							
Coles	2.3	1.8	2.0	1.0	1.8	1.0	2.8	3.3	2.7
Corsoy	2.4	2.5	2.5	2.0	2.2	1.0	3.2	2.0	2.7
Evans	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.3	1.7
Harlon	1.9	1.8	1.0	1.0	1.7	1.0	2.5	2.0	2.0
Hodgson	1.7	2.5	1.5	1.0	1.7	1.0	1.8	1.3	2.0
Hodgson 78	1.9	1.3	2.5	1.5	1.8	1.0	2.0	2.0	2.0
A74-101010	1.6	3.0	2.0	1.0	1.3	1.0	1.2	1.3	1.7
A74-101035	1.8	1.0	2.5	1.0	1.3	1.0	2.2	1.0	1.7
A74-102011	1.6	3.3	2.0	1.0	1.0	1.0	1.5	1.3	1.0
A75-101014	1.4	2.0	1.5	1.0	1.0	1.0	1.0	1.0	1.3
A75-101022	1.9	3.5	2.0	1.0	1.7	1.0	1.8	2.3	1.3
A75-102032	2.1	3.3	3.0	1.5	1.5	1.0	2.5	2.0	2.0
A75-103016	1.9	3.3	3.5	1.0	2.0	1.0	1.5	1.3	2.0
A75-103019	2.0	1.8	3.5	1.5	2.0	1.0	2.2	1.3	2.0
M68-49	1.9	2.0	2.5	1.0	1.0	1.0	2.2	2.0	2.0
M69-36	1.8	1.0	2.5	1.0	1.7	1.0	2.5	1.7	2.0

Strain	Iowa			N.D.	South Dakota		Neb.
	Kanawha BSR	Corwith	Nashua	Oakes I	Brookings	Revilla	Mead I
<u>MATURITY (relative data)</u>							
Coles	+ 8	+10			+ 2	+ 5	+ 8
Corsoy	+ 6	+11			+ 3	+ 6	+ 8
Evans	- 2	- 8			- 9	- 6	- 7
Harlon	0	- 4			- 7	- 5	- 5
Hodgson †	9-4	9-6			10-8	9-22	9-6
Hodgson 78	+ 1	+ 2			0	+ 1	+ 3
A74-101010	+ 6	+ 9			+ 4	+ 6	+ 9
A74-101035	+ 5	+ 8			+ 3	+ 4	+ 4
A74-102011	+ 4	+ 6			+ 1	0	+ 1
A75-101014	+ 3	+ 4			- 1	0	+ 5
A75-101022	+ 3	+ 4			- 2	+ 1	+ 4
A75-102032	+ 4	+ 7			0	+ 5	+ 1
A75-103016	+ 4	+ 7			0	+ 3	+ 2
A75-103019	+ 3	+ 9			+ 2	+ 2	+ 4
M68-49	+ 1	+ 2			- 3	- 1	+ 2
M69-36	+ 1	0			- 4	- 2	- 3
Date planted	5-10	5-16	5-14	5-18	5-31	5-26	5-17
†Days to mat.	117	113			130	119	112
<u>LODGING (score)</u>							
Coles	3.5	3.0	4.3	3.0	1.0	1.0	2.0
Corsoy	3.2	2.9	4.1	4.0	1.0	1.0	1.6
Evans	1.6	2.3	3.5	3.0	1.0	1.0	1.0
Harlon	2.6	3.0	3.4	3.0	1.0	1.0	1.0
Hodgson	1.9	2.1	3.1	3.0	1.0	1.0	1.0
Hodgson 78	2.3	2.3	3.3	3.0	1.0	1.0	1.2
A74-101010	1.7	1.9	3.1	2.0	1.0	1.0	1.0
A74-101035	2.3	2.8	3.6	3.0	1.0	1.0	1.2
A74-102011	1.5	1.7	2.4	3.0	1.0	1.0	1.0
A75-101014	1.2	1.4	1.7	4.0	1.0	1.0	1.0
A75-101022	1.9	2.0	3.3	4.0	1.0	1.0	1.0
A75-102032	2.3	2.6	3.4	3.0	1.0	1.0	1.0
A75-103016	2.1	2.0	2.9	3.0	1.0	1.0	1.0
A75-103019	2.7	2.5	3.1	4.0	1.0	1.0	1.0
M68-49	1.6	2.2	3.7	4.0	1.0	1.0	1.0
M69-36	2.2	2.3	3.7	3.0	1.0	1.0	1.0



Strain	Mean	Ont.	Michigan		Ind.	Wisconsin		Minnesota	
		Ridge- town	E. Lansing	Dun- dee	La- fayette	Dur- and	Ar- lington	Lamb- erton	Waseca
14 Tests		<u>PLANT HEIGHT (inches)</u>							
Coles	40	39	42	34	35	27	41	40	40
Corsoy	39	35	42	34	36	27	37	36	38
Evans	31	38	30	28	23	25	32	29	28
Harlon	35	35	34	30	28	30	34	35	31
Hodgson	34	34	36	31	29	26	33	34	32
Hodgson 78	34	31	37	32	30	27	33	34	33
A74-101010	36	42	36	29	33	24	36	35	33
A74-101035	36	34	41	33	34	23	38	35	36
A74-102011	30	40	32	30	24	22	29	32	29
A75-101014	31	38	30	29	26	21	31	30	30
A75-101022	33	48	31	29	26	21	32	32	32
A75-102032	36	44	41	31	31	25	35	35	36
A75-103016	33	34	40	25	29	20	32	35	33
A75-103019	32	38	36	29	28	20	31	33	33
M68-49	32	39	37	31	24	22	32	32	29
M69-36	33	33	38	34	25	24	35	32	32
11 Tests		<u>SEED QUALITY (score)</u>							
Coles	2.1	2.0	2.0	2.0	1.5	3.5	3.2	2.0	1.3
Corsoy	2.3	4.0	2.0	2.0	2.5	3.2	2.8	2.0	2.3
Evans	2.1	2.0	2.0	2.0	2.5	3.0	1.5	2.7	2.0
Harlon	2.3	3.0	3.0	2.0	3.0	2.5	1.2	2.7	1.7
Hodgson	2.3	3.0	2.0	2.0	2.5	3.2	1.8	1.7	1.3
Hodgson 78	2.1	3.0	2.0	2.0	2.5	2.8	1.5	1.7	1.3
A74-101010	2.0	3.0	2.0	1.0	2.0	3.2	1.8	1.7	1.3
A74-101035	2.4	2.0	3.0	1.0	2.0	4.0	3.5	2.7	2.0
A74-102011	2.7	2.0	4.0	2.0	3.5	4.0	1.8	2.3	2.3
A75-101014	2.5	4.0	2.0	2.0	3.0	3.2	3.0	2.0	1.7
A75-101022	2.8	3.0	3.0	3.0	3.5	4.5	2.5	3.3	2.7
A75-102032	1.9	2.0	2.0	1.0	2.0	3.8	2.2	1.7	1.3
A75-103016	2.3	3.0	3.0	2.0	2.0	3.2	2.8	2.7	1.7
A75-103019	2.4	4.0	3.0	2.0	1.5	3.8	2.0	1.7	1.3
M68-49	2.3	4.0	3.0	2.0	3.5	3.0	1.2	2.0	1.7
M69-36	2.3	4.0	2.0	2.0	3.5	3.5	1.8	2.0	1.7

Strain	Iowa		N.D.	South Dakota		Neb.
	Corwith	Nashua	Oakes I	Brookings	Reville	Mead I
<u>PLANT HEIGHT (inches)</u>						
Coles	36	48	70	35	36	43
Corsoy	38	48	63	33	38	35
Evans	33	37	57	26	30	19
Harlon	38	44	58	30	34	27
Hodgson	34	37	54	29	34	27
Hodgson 78	37	39	56	29	32	28
A74-101010	38	41	55	34	37	32
A74-101035	34	42	54	32	35	34
A74-102011	30	34	45	27	28	25
A75-101014	30	35	46	27	30	27
A75-101022	32	38	50	27	31	32
A75-102032	34	42	58	31	33	30
A75-103016	32	39	52	29	32	32
A75-103019	30	34	50	29	29	30
M68-49	30	36	58	28	31	24
M69-36	34	38	56	27	33	27
<u>SEED QUALITY (score)</u>						
Coles	1.0			3.0		1.8
Corsoy	1.0			2.0		2.0
Evans	1.2			2.0		2.3
Harlon	1.5			2.0		2.3
Hodgson	1.1			4.0		2.3
Hodgson 78	1.3			3.0		2.2
A74-101010	1.0			3.0		2.3
A74-101035	1.1			3.0		2.2
A74-102011	1.3			3.0		3.2
A75-101014	1.3			3.0		2.8
A75-101022	1.1			2.0		2.3
A75-102032	1.2			2.0		2.0
A75-103016	1.1			3.0		2.2
A75-103019	1.0			4.0		2.2
M68-49	1.0			2.0		2.2
M69-36	1.1			2.0		2.2

Strain	Mean	Ont.	Michigan		Ind.	Wisconsin		Minnesota	
		Ridge- town	E. Lansing	Dun- dee	La- fayette	Dur- and	Ar- lington	Lamb- erton	Waseca
12 Tests		<u>SEED SIZE (g/100)</u>							
Coles	19.0	18.2	21.2	17.6	18.1	20.0	19.5	19.9	19.6
Corsoy	15.9	16.8	17.2	16.1	15.8	17.2	15.9	15.8	16.2
Evans	15.1	18.6	16.8	15.2	14.6	13.4	15.2	16.7	15.8
Harlon	16.2	20.7	20.6	15.2	13.8	14.3	16.0	17.4	15.1
Hodgson	16.1	15.8	18.8	17.2	15.4	13.8	16.4	16.8	14.7
Hodgson 78	16.5	15.6	18.8	17.2	16.0	14.2	16.5	17.1	15.9
A74-101010	17.6	22.0	19.2	18.4	17.4	17.2	17.6	18.1	16.7
A74-101035	19.3	15.7	22.4	18.6	19.2	21.2	19.1	20.5	18.7
A74-102011	17.0	15.2	18.8	17.6	15.5	16.3	18.1	17.4	15.6
A75-101014	15.3	15.0	16.8	15.8	14.7	15.7	15.5	15.8	14.1
A75-101022	17.3	19.7	19.0	17.6	15.9	17.3	17.1	18.0	16.9
A75-102032	14.2	17.7	15.0	14.2	12.7	16.0	13.7	14.6	13.7
A75-103016	16.1	19.2	18.2	15.4	14.8	16.8	15.5	15.6	14.6
A75-103019	17.1	17.9	18.4	17.6	16.0	17.2	18.1	17.3	16.2
M68-49	19.3	19.1	20.4	20.0	17.5	19.1	18.4	21.0	20.1
M69-36	14.0	18.1	15.6	14.6	13.9	12.8	13.7	14.8	12.7
6 Tests		<u>PROTEIN (%)</u>							
Coles	39.9	40.6			39.0				38.8
Corsoy	38.6	39.2			38.0				36.6
Evans	38.2	38.8			38.5				37.0
Harlon	37.8	38.3			38.1				36.8
Hodgson	37.7	39.0			35.7				35.7
Hodgson 78	37.5	38.3			35.8				36.0
A74-101010	38.7	39.8			37.7				35.6
A74-101035	38.6	40.0			38.2				36.2
A74-102011	37.3	38.0			36.0				35.0
A75-101014	39.7	40.9			39.0				38.1
A75-101022	40.9	41.6			40.2				39.5
A75-102032	37.8	39.9			36.2				36.3
A75-103016	40.5	42.2			39.6				38.3
A75-103019	38.0	40.1			36.4				35.5
M68-49	37.3	37.6			36.6				36.0
M69-36	38.2	39.4			37.2				36.5

Strain	Iowa	South Dakota		Neb.
	Corwith	Brookings	Revilla	Mead I
<u>SEED SIZE (g/100)</u>				
Coles	20.4	19.4	15.7	17.9
Corsoy	16.9	13.4	13.5	16.2
Evans	15.1	11.0	12.3	16.9
Harlon	16.0	12.4	14.7	18.7
Hodgson	16.5	16.4	13.6	17.9
Hodgson 78	17.6	16.4	14.2	18.7
A74-101010	18.6	13.9	14.9	17.6
A74-101035	21.1	19.6	17.1	18.4
A74-102011	18.0	16.6	16.1	19.1
A75-101014	15.5	15.3	12.3	16.7
A75-101022	17.9	16.1	14.3	17.9
A75-102032	15.1	10.8	11.5	15.2
A75-103016	16.5	16.0	13.5	16.6
A75-103019	19.3	13.8	14.9	18.1
M68-49	20.5	18.4	16.4	21.1
M69-36	14.1	11.1	11.3	15.5
<u>PROTEIN (%)</u>				
Coles	40.2	41.6		39.2
Corsoy	38.9	41.0		37.6
Evans	37.8	39.5		37.8
Harlon	37.3	39.3		37.1
Hodgson	37.4	40.7		37.6
Hodgson 78	37.2	40.6		37.2
A74-101010	39.5	41.8		38.0
A74-101035	39.1	39.9		38.2
A74-102011	37.0	41.0		36.7
A75-101014	39.8	41.2		39.3
A75-101022	41.0	42.1		40.8
A75-102032	37.5	39.7		37.5
A75-103016	40.6	42.0		40.5
A75-103019	39.3	40.2		36.8
M68-49	36.2	38.9		38.4
M69-36	37.4	40.8		37.7

Strain	Mean	<u>Ontario</u> Ridgetown	<u>Indiana</u> Lafayette	<u>Minn.</u> Waseca	<u>Iowa</u> Corwith	<u>S. Dakota</u> Brookings	<u>Neb.</u> Mead
	6 Tests		<u>OIL (%)</u>				
Coles	20.2	19.5	22.5	20.3	19.1	18.6	21.2
Corsoy	20.7	20.4	23.0	21.2	20.4	17.6	21.4
Evans	22.1	21.4	23.0	23.2	22.1	19.9	23.0
Harlon	21.7	20.9	23.3	21.9	21.6	19.6	22.9
Hodgson	22.2	21.6	26.5	22.6	21.8	18.0	22.4
Hodgson 78	21.7	21.9	25.3	22.0	21.7	18.5	20.8
A74-101010	20.5	20.1	23.2	21.8	19.9	17.0	21.0
A74-101035	20.8	20.2	22.3	21.6	21.0	18.7	21.3
A74-102011	21.4	21.8	23.7	21.6	20.9	17.9	22.2
A75-101014	20.3	19.1	23.1	20.2	20.5	18.8	20.3
A75-101022	20.0	19.4	22.0	20.4	19.8	18.1	20.2
A75-102032	21.4	20.6	24.1	21.7	21.0	18.9	21.8
A75-103016	20.4	19.9	21.9	21.1	20.0	18.9	20.3
A75-103019	21.4	20.7	24.3	22.8	20.5	18.5	21.8
M68-49	23.1	23.2	25.4	22.9	22.9	20.9	23.5
M69-36	30.8	19.7	24.5	20.7	20.0	17.5	22.7

Strain	Parentage	Generation Composited
1. Coles		
2. Corsoy		
3. Evans		
4. Hodgson		
5. A76-101003	Corsoy x IVR Ex5003	F <sub>4</sub>
6. A76-101004	"	" <sub>4</sub>
7. A76-101008	AP6	F <sub>6</sub>
8. A76-101013	"	" <sub>6</sub>
9. A76-101018	"	"
10. A76-101019	"	"
11. A76-101024	"	"
12. A76-101035	"	"
13. A76-102009	Corsoy <sup>3</sup> x Cutler 71	F <sub>3</sub>
14. A76-102013	AP6	F <sub>6</sub>
15. A76-102020	M59-120 x IVR Ex5003	F <sub>6</sub>
16. A76-102022	Corsoy <sup>2</sup> x (Mack x L65-1342 or Anoka)	F <sub>4</sub>
17. A76-103002	AP6	F <sub>2</sub>
18. A76-103003	"	" <sub>6</sub>
19. A76-103007	"	"
20. HW75-3080	Beeson x PI 227.334 Dt <sub>2</sub>	F <sub>5</sub>
21. M68-333	M60-406 x Beeson	F <sub>4</sub>
22. M69-122	(JA53-1 x Hark) x (M-59-120 x C1477)	F <sub>5</sub>
23. M69-128	Steele <sup>2</sup> x C1477	"
24. M69-197	Evans x Lee	"
25. M69-239	M60-406 <sup>2</sup> x C1477	"
26. M70-9	II-64-3 x Amsoy 71	"

The four strains, A76-102009, A76-102013, A76-103002 and A76-103003 have a regional mean yield higher than Coles. A76-102009 with a similar maturity as Coles, is 4 bushel higher yielding than Coles, and is resistant to phytophthora root rot. A76-102013, A76-103002 and A76-103003 are 1 to 2 days earlier maturing and from .6 to 2 bushels higher yielding than Coles.

A76-102022, which is heterogeneous for race I of phytophthora root rot, may carry resistance to races 3 and 6 of phytophthora root rot.

## PRELIMINARY TEST I, 1977

## Disease Data

Strain	FE2	BSR			PSB	PS	Germ.	PR		
	Laf. Ind.	Laf. Ind.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
		n %	n% stem	n% plants	d	% a	% *	a	a	n
Coles	4	90	29	100	77	67	42	S	S	3.5
Corsoy	5	20	72	100	67	89	63	S	S	3.5
Evans	5	90	52	100	59	88	50	R	R	3.5
Hodgson	4	90	87	100	48	85	58	S	S	4.0
A76-101003	5	60	63	100	66	81	53	S	S	4.5
A76-101004	4	80	66	100	66	71	53	S	S	5.0
A76-101008	4	40	56	100	36	15	65	S	S	4.0
A76-101013	3	70	59	100	60	88	49	S	S	4.5
A76-101018	2	60	68	100	44	84	77	S	S	4.0
A76-101019	2	40	67	100	32	82	45	S	S	4.0
A76-101024	4	90	74	100	22	94	86	S	S	4.0
A76-101035	4	100	78	100	58	90	57	R	R	3.5
A76-102009	5	20	74	100	61	89	58	R	R	3.5
A76-102013	4	50	62	100	55	83	56	S	S	3.5
A76-102020	-	50	61	100	56	91	65	S	S	4.0
A76-102022	4	50	77	100	45	68	73	H	H	3.0
A76-103002	4	80	71	100	45	89	61	S	S	3.5
A76-103003	2	70	52	100	48	91	67	S	S	3.0
A76-103007	2	50	61	90	40	71	70	S	S	3.0
HW75-3080	5	70	60	100	48	80	63	S	S	4.0
M68-333	5	90	55	90	54	81	67	R	R	3.5
M69-122	4	60	58	100	65	81	56	S	S	3.5
M69-128	5	60	61	100	54	92	52	R	R	4.5
M69-197	4	60	51	100	38	70	71	R	R	3.5
M69-239	4	60	86	100	69	84	55	R	R	4.0
M70-9	5	70	33	100	81	92	37	H	S	4.0

\*Petri dish germination on potato dextros agar.

## Descriptive and Other Data

Strain	Descriptive Code		<u>Chlorosis</u>	
			Ames Iowa	Shattering Manhattan Kansas
Coles	PGBr	DYY	4	5
Corsoy	PGBr	DYY	4	2
Evans	WGBr	DYY	2	5
Hodgson	PGBr	DYBf	2	4
A76-101003	PGBr	DYY	2	2
A76-101004	PGBr	SYY	2	1
A76-101008	PTBr	SYB1	4	3
A76-101013	WTBr	DYY	4	2
A76-101018	PGBr	SYG	3	5
A76-101019	WGBr	SYY	5	3
A76-101024	PGBr	DYB1	4	4
A76-101035	WTBr	SYB1	3	4
A76-102009	PGBr	DYY	4	2
A76-102013	PTBr	SYG	4	2
A76-102020	PGBr	SYBf	2	2
A76-102022	PGBr	DYY	2	3
A76-103002	WTBr	SYG	5	2
A76-103003	PTBr	SYB1	4	4
A76-103007	WTBr	SYG	4	2
HW75-3080	PGBr	SYIb	3	5
M68-333	WGBr	SYBf	3	2
M69-122	PGBr	DYBf	3	1
M69-128	WGBr	SYY	2	1
M69-197	PGBr	DYIb	2	3
M69-239	WGBr	DYY	2	2
M70-9	WGBr	D+SYY	2	2



## PRELIMINARY TEST I, 1977

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
No. of tests	7	7	6	8	8	6	7	3	3
Coles	48.1	6	+ 8.5	2.6	40	1.9	19.2	39.8	19.4
Corsoy	48.7	4	+11.0	2.9	40	2.1	16.4	38.5	20.2
Evans	38.7	26	- 9.7	2.1	33	2.0	16.1	37.9	22.0
Hodgson	43.7	19	9-13.8†	2.2	34	2.1	16.3	37.6	22.0
A76-101003	44.2	17	+ 1.5	2.5	37	2.5	15.6	39.8	20.0
A76-101004	43.1	21	+ 0.8	2.0	32	2.4	17.3	39.9	20.7
A76-101008	44.9	15	+ 2.8	2.4	36	2.2	18.9	39.3	20.7
A76-101013	41.1	25	+ 3.2	2.3	37	2.1	18.2	39.2	20.0
A76-101018	45.9	12	+ 7.3	2.8	41	2.4	16.6	40.1	19.0
A76-101019	45.8	14	+ 2.0	1.9	34	2.1	15.4	39.4	19.3
A76-101024	47.7	8	+ 5.0	2.3	35	1.9	18.0	39.5	20.3
A76-101035	45.1	15	+ 5.2	2.3	38	1.9	19.4	39.7	19.6
A76-102009	52.6	1	+ 8.0	2.8	40	2.0	15.9	37.7	21.3
A76-102013	50.4	2	+ 6.0	2.7	38	1.7	16.0	40.4	19.6
A76-102020	43.4	20	+ 7.2	2.2	34	2.0	16.1	39.3	20.1
A76-102022	47.6	9	+ 8.2	2.0	37	2.0	15.6	40.0	19.5
A76-103002	49.4	3	+ 6.7	2.2	39	2.3	17.1	39.7	19.9
A76-103003	48.7	4	+ 7.2	2.5	41	1.8	18.3	39.9	20.2
A76-103007	46.6	10	+ 7.0	2.2	34	3.0	20.0	40.0	19.7
HW75-3080	42.9	22	+11.3	2.8	35	1.8	18.0	41.1	19.1
M68-333	47.8	7	+ 8.0	2.4	38	2.0	18.0	39.8	19.8
M69-122	45.9	12	+ 7.5	2.4	36	2.1	18.5	39.9	20.7
M69-128	44.7	16	+ 6.2	2.0	40	2.2	16.1	37.7	20.6
M69-197	43.9	18	+ 9.7	2.8	38	2.0	18.2	38.4	20.5
M69-239	42.1	23	+ 5.3	2.1	38	2.4	17.1	38.6	20.4
M70-9	46.6	10	+10.0	1.9	38	2.7	17.4	37.0	22.4

† 121 days after planting

## PRELIMINARY TEST I, 1977

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Strain	Mean	Ont.	Mich.	Wis.	Minnesota		Iowa		S.D.
		Ridge- town	E. Lansing	Ar- lington	Lamb- erton	Waseca	Cor- with	Nashua	Brook- ings
	7 Tests	YIELD (bu/a)							*
Coles	48.1	70.4	37.9	48.2	39.4	45.2	46.5	48.8	26.8
Corsoy	48.7	61.9	32.5	57.5	47.2	42.6	46.3	52.7	33.8
Evans	38.7	68.7	21.4	42.3	33.6	33.8	31.5	39.8	37.4
Hodgson	43.7	62.0	27.2	46.2	40.6	44.1	38.7	47.2	25.9
A76-101003	44.2	66.1	25.3	46.9	40.5	43.5	43.9	43.5	33.1
A76-101004	43.1	62.1	25.1	47.8	37.0	44.8	41.7	43.4	30.8
A76-101008	44.9	60.5	29.2	52.6	38.4	44.9	39.1	49.8	28.5
A76-101013	41.1	55.2	24.9	46.8	33.9	41.3	42.8	42.9	34.0
A76-101018	45.9	58.4	30.0	53.0	41.0	44.0	46.5	48.4	34.5
A76-101019	45.8	65.8	28.5	49.5	37.6	46.6	41.5	50.9	36.7
A76-101024	47.7	72.9	30.5	50.6	42.4	46.4	42.4	48.8	27.9
A76-101035	45.1	65.5	26.8	50.0	36.9	43.8	43.1	49.5	30.4
A76-102009	52.6	72.7	40.5	53.0	45.0	46.6	53.8	56.6	31.2
A76-102013	50.4	65.2	39.9	54.4	43.4	46.5	50.8	52.8	37.3
A76-102020	43.4	56.3	24.9	45.9	38.6	44.2	46.4	47.4	40.8
A76-102022	47.6	67.1	29.1	50.2	47.8	42.9	44.7	51.7	36.1
A76-103002	49.4	60.9	31.1	54.0	44.4	46.6	55.6	53.4	41.6
A76-103003	48.7	62.7	31.3	49.8	46.2	49.1	51.4	50.7	25.4
A76-103007	46.6	50.0	30.0	56.0	41.8	46.1	45.4	56.9	31.2
HW75-3080	42.9	64.1	21.7	41.5	40.6	44.4	42.7	45.5	29.8
M68-333	47.8	64.0	32.3	50.6	45.1	44.1	45.0	53.7	30.8
M69-122	45.9	68.2	29.7	46.7	41.4	42.7	43.4	49.5	34.7
M69-128	44.7	69.7	21.9	46.2	37.6	43.1	49.9	44.6	33.2
M69-197	43.9	64.7	25.1	49.0	33.7	43.8	43.0	48.2	22.4
M69-239	42.1	59.8	26.4	48.2	37.4	40.2	39.3	43.3	30.3
M70-9	46.6	61.4	27.8	46.9	44.3	49.2	44.8	51.9	36.7
C.V. (%)		9.0	19.9	5.4	8.8	7.0	12.0	6.5	20.1
L.S.D. (5%)		11.8	8.2	3.8	7.4	6.4	11.1	6.5	NS
Row sp (in.)		24	30	30	30	30	27	27	30
Rows/plot		4	4	3	2	2	4	4	3
Reps		2	2	2	2	2	2	2	3

\* Hail damage, not included in the mean

## PRELIMINARY TEST I, 1977

Strain	Mean	Ont.	Mich.	Wis.	Minnesota		Iowa		S.D.
		Ridge- town	E. Lansing	Ar- lington	Lamb- erton	Waseca	Cor- with	Nashua	Brook- ings
	7 Tests				YIELD RANK				*
Coles	6	3	3	15	16	9	6	14	23
Corsoy	4	18	4	1	2	23	9	6	11
Evans	26	5	26	25	26	26	26	26	3
Hodgson	19	17	16	22	13	14	25	19	24
A76-101003	17	8	19	18	15	19	14	22	13
A76-101004	21	16	20	17	22	11	21	23	16
A76-101008	15	21	12	7	18	10	24	11	21
A76-101013	25	25	22	20	24	24	18	25	10
A76-101018	12	23	9	5	12	16	6	16	9
A76-101019	14	9	14	13	19	3	22	9	5
A76-101024	8	1	8	8	9	7	20	14	22
A76-101035	15	10	17	11	23	17	16	12	18
A76-102009	1	2	1	5	5	3	2	2	14
A76-102013	2	11	2	3	8	6	4	5	4
A76-102020	20	24	22	24	17	13	8	18	2
A76-102022	9	7	13	10	1	21	13	8	7
A76-103002	3	20	7	4	6	3	1	4	1
A76-103003	4	15	6	12	3	2	3	10	25
A76-103007	10	26	9	2	10	8	10	1	14
HW75-3080	22	13	25	26	13	12	19	20	20
M68-333	7	14	5	8	4	14	11	3	16
M69-122	12	6	11	21	11	22	15	12	8
M69-128	16	4	24	22	19	20	5	21	12
M69-197	18	12	20	14	25	17	17	17	26
M69-239	23	22	18	15	21	25	23	24	19
M70-9	10	19	15	18	7	1	12	7	5

PRELIMINARY TEST I, 1977

Strain	Mean	Ont.	Mich.	Wis.	Minnesota		Iowa		S.D.
		Ridge- town	E. Lansing	Ar- lington	Lamb- erton	Waseca	Cor- with	Nashua	Brook- ings
	6 Tests	<u>MATURITY (relative data)</u>							*
Coles	+ 8.5	+ 7	+ 7	+10	+ 8	+11	+ 8	+ 8	+ 4
Corsoy	+11.0	+11	+ 8	+18	+ 8	+13	+ 8	+ 8	+ 1
Evans	- 9.7	-14	- 3	- 9	-11	-11	-10	-10	-12
Hodgson†	9-13.8	9-24	9-19	9-19	9-4	9-11	9-6	9-6	10-13
A76-101003	+ 1.5	0	+ 1	+ 2	+ 2	+ 2	+ 2	+ 2	- 2
A76-101004	+ 0.8	- 1	+ 2	- 2	+ 2	0	+ 4	+ 4	0
A76-101008	+ 2.8	+ 4	+ 6	+ 2	+ 2	+ 3	0	0	0
A76-101013	+ 3.2	+ 5	+ 5	+ 4	+ 2	+ 1	+ 2	+ 2	- 2
A76-101018	+ 7.3	- 3	+ 8	+12	+ 6	+13	+ 8	+ 8	+ 6
A76-101019	+ 2.0	+ 1	+ 6	0	- 1	+ 6	0	0	- 4
A76-101024	+ 5.0	+13	+ 7	+ 2	+ 3	+ 3	+ 2	+ 2	+ 1
A76-101035	+ 5.2	+ 4	+ 5	+ 6	+ 5	+ 6	+ 5	+ 5	0
A76-102009	+ 8.0	+14	+ 5	+16	+ 2	+ 5	+ 6	+ 6	0
A76-102013	+ 6.0	+ 5	+ 5	+ 9	+ 6	+ 6	+ 5	+ 5	- 2
A76-102020	+ 7.2	+13	+ 2	+ 7	+ 6	+ 9	+ 6	+ 6	- 3
A76-102022	+ 8.2	+ 6	+ 6	+14	+ 6	+ 9	+ 8	+ 8	- 2
A76-103002	+ 6.7	+11	+ 3	+ 9	+ 4	+ 7	+ 6	+ 6	- 2
A76-103003	+ 7.2	+ 9	+ 4	+ 8	+ 5	+ 9	+ 8	+ 8	+ 1
A76-103007	+ 7.0	+14	+ 8	+ 8	+ 2	+ 6	+ 4	+ 4	+ 1
HW75-3080	+11.3	+18	+ 8	+12	+ 9	+11	+10	+10	+ 1
M68-333	+ 8.0	+17	+ 4	+ 8	+ 6	+ 9	+ 4	+ 4	- 2
M69-122	+ 7.5	+18	+ 5	+ 8	+ 5	+ 7	+ 2	+ 2	- 1
M69-128	+ 6.2	+22	+ 3	+ 5	+ 2	+ 4	+ 1	+ 1	- 2
M69-197	+ 9.7	+14	+ 5	+ 9	+10	+12	+ 8	+ 8	+ 1
M69-239	+ 5.3	+13	+ 3	+ 8	+ 2	+ 3	+ 3	+ 3	0
M70-9	+10.0	+24	+ 5	+ 8	+ 8	+ 9	+ 6	+ 6	- 2
Date planted	5-16	5-17	5-19	5-19	5-10	5-12	5-16	5-14	5-31
†Days to mat.	121	130	123	123	117	122	113		135

\* Hail damage, not included in the mean

Strain	Parentage	Previous Testing*	Generation Compositd
1. Amsoy 71	Amsoy <sup>8</sup> x C1253	8	4F <sub>3</sub>
2. Beeson	C1253 x Kent	10	F <sub>7</sub>
3. Coles	Hark x (Provar x (Magna x Disoy))	UTI	F <sub>5</sub>
4. Corsoy	Harosoy x Capital	13	F <sub>9</sub>
5. Harcor	Corsoy x OX383 (Corsoy x Harosoy 63)	3	F <sub>4</sub>
6. Wells	C1266R (Harosoy x C1079) x C1253	5	F <sub>7</sub>
7. Wells BC <sub>6</sub>	Wells <sup>8</sup> x Mack <sup>ARKSOY</sup>	-	F <sub>3</sub>
8. Woodworth	Wayne x L57-0034 (Clark x Adams)	UTIII	F <sub>6</sub>
9. A73-25050	M59-120 x IVR Ex4731	2	F <sub>4</sub>
10. A75-105019	Corsoy <sup>2</sup> x (Mack x L65-1342 or Anoka)	PI	F <sub>2</sub>
11. A75-105020	"	PII	" <sub>2</sub>
12. A75-105021	"	PI	"
13. A75-105029	"	PII	"
14. A75-105033	"	PII	"
15. A75-105034	"	PI	"
16. A75-203014	IVR Ex4731 x Wirth	PII	F <sub>4</sub>
17. A75-203036	IVR Ex4428 x Woodworth	PII	" <sub>4</sub>
18. A75-Corsoy R3	Corsoy <sup>4</sup> x (Mack x L65-1342 or Anoka)	PII	F <sub>3</sub>
19. C1545	Calland x Bogus	PII	F <sub>6</sub>
20. L73D-195	C1477 (Amsoy <sup>8</sup> x C1253) x Corsoy	1	F <sub>6</sub>
21. L73-6084	L15 (Wayne Rps) x Amsoy 71	PIII	F <sub>7</sub>
22. U10917	C1253 x Wayne	PII	F <sub>4</sub>
23. U11406	C1432 x C1430	PII	F <sub>7</sub>

\* Number of years in this test, or name of 1976 test

The nine-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 or Beeson. Corsoy is susceptible to phytophthora root rot.

In the four-year regional mean, Harcor is 2 bushels higher yielding than the other check varieties in the test, but lodges more severely than the other entries in the test.

The three year mean shows the strain A73-25050 to be 1 bushel lower yielding and 2.5 days later in maturity than Harcor.

In the two-year regional mean, the strain L73D-195 is approximately  $\frac{1}{2}$  bushel lower yielding and 4 days later in maturity than Harcor and is severely lodging prone.

Strains C1545 and L73D-195 are slightly higher yielding than Harcor in the 1977 test, are 2.5 and 4 days later respectively in maturity than Harcor. C1545 shows good lodging resistance and as are L73D-195 and Harcor is resistant to phytophthora root rot race 1. Wells BC<sub>6</sub> and A75-Corsoy R3 are resistant to races 1, 2, 3, 5, 6, 7, 8, 9, of phytophthora root rot. The strains A75-105019, A75-105020, A75-105021, A75-105029, and A75-105034 probably carry resistance to the same races of phytophthora root rot. These seven strains are from 2 to 4 bushels lower yielding than Harcor and up to 3 days earlier in maturity than Harcor. Wells and Wells BC<sub>6</sub> are similar for all characteristics except Wells BC<sub>6</sub> has resistance to the additional races 3, 6, 7, 8, and 9 of phytophthora root rot.

## Disease Data

Strain	DM	FE2	BSR				PSB	PS	Germ.	PR		
	Girard Ill.	Laf. Ind.	Laf. Ind.	Waseca Minn.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	n	a	n %	n %	n% stem	n% plants	% d	% a	% *	a	a	n
Amsoy 71	1	4	70	0	100	100	35	93	81	R	R	4.5
Beeson	2	1	80	20	93	100	20	75	83	R	R	3.5
Coles	3	4	90	20	91	100	30	67	83	S	S	3.5
Corsoy	1	5	20	25	90	100	36	89	81	S	S	3.5
Harcor	2	5	100	10	98	100	48	75	77	R	H	3.0
Wells	2	1	90	30	96	100	26	67	83	R	R	4.5
Wells BC6	2	1	100	40	93	100	23	86	84	R	R	2.5
Woodworth	3	4	70	25	87	100	34	56	82	S	S	3.0
A73-25050	1	2	80	35	95	100	29	71	89	S	S	4.0
A75-105019	1	4	50	0	79	100	65	64	80	R	R	3.0
A75-105020	1	5	30	5	43	100	50	78	75	R	R	3.0
A75-105021	2	5	80	10	43	100	36	75	82	R	R	4.0
A75-105029	1	5	70	15	36	100	54	64	84	R	R	3.5
A75-105033	1	4	50	0	29	100	50	53	77	H	H	3.0
A75-105034	1	4	60	10	96	100	54	81	84	R	R	3.0
A75-203014	3	3	60	30	98	100	27	68	83	S	S	3.5
A75-203036	3	-	80	15	95	100	25	94	83	S	S	4.0
A75-Corsoy R3	1	5	80	10	97	100	43	87	78	R	R	2.5
C1545	2	5	80	15	96	100	19	85	88	R	R	3.0
L73D-195	1	4	20	35	96	100	28	92	84	R	R	4.0
L73-6084	4	4	70	30	87	100	22	72	87	R	R	4.0
U10917	1	4	70	5	85	90	37	84	71	R	R	4.0
U11406	3	3	70	20	96	100	14	84	88	R	R	4.0

\*Petri dish germ. on potato dextros agar.

## Descriptive and Other Data

Strain	Descriptive Code		Chlorosis		Emergence	Shattering Manhattan Kansas
			Waseca Minn.	Ames Iowa		
Amsoy 71	PG	Tn SY	2.8	3	5	2
Beeson	PG	Br SYIb	3.5	3	4	2
Coles	PG	Br DYY	2.5	4	1	5
Corsoy	PG	Br DYY	2.8	4	1	2
Harcor	PG	Br SY	2.8	4	1	1
Wells	PG	Br DYIb	3.0	3	2	4
Wells BC <sub>6</sub>	PG	Br DYIb	2.8	2	4	5
Woodworth	WT	Tn DYB1	3.8	4	5	2
A73-25050	WT	Br SYBr	2.8	3	4	2
A75-105019	PG	Br+Tn DYY	3.5	3	1	2
A75-105020	PG	Tn DYY	2.8	4	1	2
A75-105021	PG	Br DYY+G	5.0	5	1	3
A75-105029	PG	Tn DYY	2.8	3	1	2
A75-105033	PG	Br DYY	3.0	5	1	3
A75-105034	PG	Br DYY	2.5	3	1	2
A75-203014	WT	Tn SYBr	2.0	2	3	2
A75-203036	WG	Tn DYY	3.2	5	5	2
A75-Corsoy R3	PG	Br DYY	2.8	4	1	2
C1545	PT	Br DYB1	1.8	2	4	3
L73D-195	PG	Br SY	2.0	4	1	3
L73-6084	WT	Br SYBr	3.5	4	1	2
U10917	PG	Tn DYY	2.0	2	5	2
U11406	WG	Br SYBf	4.2	5	1	3

## Regional Summary

Strain	Yield	Rank	Maturity	Lodging	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
<u>1977</u>									
No. of tests	22	22	19	22	22	21	21	9	9
Amsoy 71	43.4	20	+ 2.4	2.3	39	3.0	17.0	37.8	21.6
Beeson	44.6	13	+ 4.3	2.1	36	2.6	19.0	39.6	20.4
Coles	42.8	23	- 0.9	2.4	37	2.4	17.8	39.9	20.5
Corsoy	44.2	17	9-20.7†	2.6	37	2.5	15.5	38.7	21.2
Harcor	47.1	3	+ 2.5	2.8	39	2.4	15.0	38.4	20.8
Wells	44.6	13	- 0.8	1.9	36	2.7	15.5	39.5	21.2
Wells BC <sub>6</sub>	44.7	12	- 0.4	1.9	36	2.8	15.8	39.6	21.1
Woodworth	44.1	18	+10.7	2.2	38	2.4	14.8	39.5	20.2
A73-25050	45.6	8	+ 5.1	2.4	36	2.5	16.5	38.1	22.2
A75-105019	43.2	22	+ 0.2	2.8	36	2.6	16.2	39.1	21.5
A75-105020	45.1	11	+ 2.8	2.6	35	2.6	16.9	39.3	20.9
A75-105021	44.3	16	+ 0.1	2.6	36	2.4	14.8	38.1	21.2
A75-105029	45.5	9	+ 1.1	2.9	36	2.4	14.9	38.9	20.9
A75-105033	45.3	10	+ 4.2	2.9	37	2.6	15.5	39.3	20.9
A75-105034	43.3	21	- 0.7	2.6	35	2.3	15.1	39.1	20.8
A75-203014	46.8	6	+ 6.3	2.4	37	2.3	17.3	39.6	20.4
A75-203036	46.9	5	+ 6.8	2.3	40	2.4	13.9	37.7	21.3
A75-Corsoy R3	44.4	15	- 0.7	2.8	37	2.3	15.1	38.6	21.1
C1545	47.7	1	+ 5.1	1.9	36	2.3	18.5	40.2	20.5
L73D-195	47.3	2	+ 6.7	2.9	40	2.7	16.4	38.1	20.8
L73-6084	47.0	4	+ 6.2	2.4	40	2.6	18.2	38.9	21.3
U10917	43.5	19	+ 3.5	2.6	40	2.9	16.9	37.9	21.6
U11406	46.2	7	+ 2.3	1.6	34	2.7	17.1	38.7	20.3

† 124 days after planting

1976-1977, 2-YEAR MEAN

No. of tests	46	46	42	47	48	45	42	20	20
Amsoy 71	40.9	5	+ 2.7	2.1	38	2.6	16.2	38.7	21.0
Beeson	40.8	6	+ 4.5	1.9	35	2.5	18.2	40.3	20.2
Corsoy	41.9	4	9-17.5†	2.3	35	2.3	15.2	39.2	21.0
Harcor	43.9	1	+ 1.8	2.5	37	2.3	14.6	39.0	20.7
A73-25050	42.7	3	+ 4.6	2.3	35	2.4	16.2	39.0	22.1
L73D-195	43.5	2	+ 6.0	2.7	39	2.5	15.8	38.2	20.9

† 121 days after planting



## UNIFORM TEST II, 1977

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
<u>1975-1977, 3-YEAR MEAN</u>									
No. of tests	72	72	66	72	74	68	65	31	31
Amsoy 71	42.3	4	+ 2.6	2.1	38	2.5	16.5	38.9	21.5
Beeson	42.1	5	+ 4.3	1.8	35	2.5	18.5	40.5	20.4
Corsoy	42.5	3	9-17.3†	2.3	35	2.3	15.5	39.7	21.2
Harcor	44.3	1	+ 2.2	2.5	37	2.3	14.9	39.4	20.8
A73-25050	43.5	2	+ 4.7	2.3	35	2.4	16.5	39.0	21.2

† 121 days after planting

<u>1974-1977, 4-YEAR MEAN</u>									
No. of tests	100	100	87	99	100	92	91	43	43
Amsoy 71	41.2	2	+ 2.6	2.1	37	2.4	16.8	39.1	21.3
Beeson	40.9	4	+ 4.1	1.8	34	2.3	18.6	40.8	20.1
Corsoy	41.2	2	9-19.4†	2.3	35	2.2	15.5	39.9	21.0
Harcor	43.0	1	+ 1.8	2.5	36	2.2	15.1	39.7	20.6

† 121 days after planting

<u>1969-1977, 9-YEAR MEAN</u>									
No. of tests	237	237	199	230	236	211	199	116	116
Amsoy	43.4	2	+ 2.9	2.3	41	2.3	17.0	39.5	22.2
Beeson	43.1	3	+ 4.1	1.9	38	2.3	18.8	40.6	21.0
Corsoy	43.5	1	9-19.3†	2.5	38	2.0	15.7	40.1	21.7

† 119 days after planting

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio	
		Landis- ville	Adelphia	Clarks- ville	Ridge- town	Harrow	Hoyt- ville	Wooster
	22 Tests	1977 YIELD (bu/a)						
Amsoy 71	43.4	32.0	44.0	32.3	58.9	51.6	55.8	33.2
Beeson	44.6	32.4	45.3	37.9	63.6	53.7	48.3	47.2
Coles	42.8	30.2	44.6	30.6	70.3	51.3	52.5	35.7
Corsoy	44.2	33.0	43.5	31.9	66.3	44.0	54.2	43.0
Harcor	47.1	34.9	50.2	38.4	69.9	51.6	56.1	40.2
Wells	44.6	31.0	34.8	35.0	67.5	51.6	53.4	41.6
Wells BC <sub>6</sub>	44.7	30.9	36.8	32.7	71.1	51.6	52.5	42.0
Woodworth	44.1	34.7	45.4	37.6	65.8	52.6	53.5	46.8
A73-25050	45.6	41.7	48.3	34.5	62.7	44.2	54.0	49.3
A75-105019	43.2	35.8	44.8	34.1	63.3	49.3	52.9	41.1
A75-105020	45.1	35.5	45.4	30.9	61.7	49.4	53.8	45.4
A75-105021	44.3	32.2	45.0	35.7	67.6	46.4	52.9	38.6
A75-105029	45.5	31.6	45.8	36.4	62.1	46.1	49.1	43.6
A75-105033	45.3	36.9	51.3	37.5	70.4	51.2	54.3	35.3
A75-105034	43.3	28.2	44.1	35.8	67.3	47.0	51.6	40.8
A75-203014	46.8	34.8	45.2	41.2	66.5	51.8	52.6	46.4
A75-203036	46.9	33.4	46.5	40.1	71.4	52.2	51.6	46.4
A75-Corsoy R3	44.4	35.9	47.0	36.4	63.7	49.7	54.3	42.0
C1545	47.7	40.7	51.2	36.2	65.2	51.7	59.3	40.8
L73D-195	47.3	42.9	53.9	36.6	57.3	56.0	56.0	46.1
L73-6084	47.0	39.8	52.2	32.4	68.1	52.9	54.9	45.6
U10917	43.5	30.2	50.1	36.2	66.7	49.2	53.5	35.0
U11406	46.2	33.7	44.6	32.3	61.5	56.4	50.7	46.8
C.V. (%)		12.2	11.9	12.9	9.2	9.0	4.4	7.7
L.S.D. (5%)		6.9	7.6	NS	8.9	6.5	3.9	5.4
Row sp (in.)		30	30	30	24	24	30	30
Rows/plot		4	3	4	4	4	4	4
Reps		3	4	3	4	4	3	3

Strain	Michigan		Indiana		Wis.	Ill.	Minnesota	
	E. Lansing	Dun-dee	Bluff-ton	La-fayette	Ar-lington	Girard	Waseca	Lamb-erton
<u>1977 YIELD (bu/a)</u>								
Amsoy 71	28.5	37.0	68.1	44.4	52.5	48.9	47.0	45.3
Beeson	28.0	36.8	77.4	45.4	50.4	45.9	48.5	44.0
Coles	23.4	36.9	52.5	43.2	50.2	41.4	47.1	50.9
Corsoy	24.3	39.7	59.4	41.6	53.7	48.6	49.4	51.9
Harcor	33.4	41.1	78.1	43.5	50.4	50.5	48.9	54.3
Wells	29.7	41.4	67.5	46.8	52.1	49.2	47.5	49.2
Wells BC <sub>6</sub>	22.6	39.8	73.0	50.8	51.3	47.2	48.7	50.5
Woodworth	25.2	33.3	61.9	48.2	41.5	52.8	44.6	41.4
A73-25050	25.3	30.6	69.0	44.5	51.3	52.3	54.1	49.9
A75-105019	29.1	42.8	57.3	38.4	52.4	41.7	45.5	52.6
A75-105020	30.1	45.9	67.4	41.5	51.1	46.6	54.4	51.7
A75-105021	38.4	37.4	58.3	32.2	53.6	47.0	48.0	50.2
A75-105029	31.4	46.3	60.6	45.8	54.4	44.9	50.5	58.5
A75-105033	23.1	41.9	59.4	42.2	50.1	51.1	46.9	51.3
A75-105034	28.8	44.8	50.0	37.3	52.4	44.7	47.3	53.9
A75-203014	36.6	40.3	70.3	49.2	49.4	53.5	49.3	53.5
A75-203036	32.5	41.7	66.9	54.6	43.9	50.9	48.7	50.3
A75-Corsoy R3	30.8	42.5	62.3	40.2	54.3	43.4	49.0	50.3
C1545	35.3	42.9	70.6	52.5	53.1	54.2	52.0	51.7
L73D-195	21.7	47.8	75.0	47.7	52.5	50.2	46.1	52.3
L73-6084	31.6	46.6	75.7	46.6	49.5	51.8	49.9	48.5
U10917	29.6	39.9	67.7	42.9	47.4	47.8	46.4	42.2
U11406	26.5	43.3	66.0	49.5	53.3	51.3	45.6	51.5
C.V. (%)	21.7	16.0	16.4	9.3	7.3	6.6	6.2	7.2
L.S.D. (5%)	8.5	9.0	17.5	6.7	5.2	5.2	5.0	6.0
Row sp (in.)	30	30	30	30	30	36	30	30
Rows/plot	4	4	3	3	3	4	4	4
Reps	3	3	3	3	4	3	3	3

Iowa		Missouri		South Dakota		Nebraska	
Ames	Keystone	Edina	Columbia	Brookings	Centerville	Mead I	Concord
*		<u>1977 YIELD (bu/a)</u>					
23.5	46.6	30.5	29.4	26.2	43.0	49.2	50.9
30.6	50.5	33.5	22.2	29.5	48.4	48.9	43.8
21.9	53.1	24.5	25.8	33.6	44.0	50.0	50.0
18.6	49.5	27.1	29.4	41.3	44.1	49.6	47.9
20.2	49.7	27.9	28.6	36.3	49.0	53.3	49.5
26.5	48.7	24.1	25.0	36.8	45.4	51.2	52.8
31.8	48.7	22.1	34.7	33.7	44.7	50.4	48.2
40.4	53.3	41.9	30.3	15.6	50.4	43.8	50.4
25.9	51.6	39.1	29.6	27.0	43.9	47.3	53.5
16.8	45.0	25.0	25.4	38.7	43.4	46.7	45.9
23.4	48.9	27.5	29.2	35.5	40.9	52.9	47.0
26.8	49.8	25.2	26.2	42.7	44.3	51.1	52.6
24.9	50.7	27.7	26.7	36.1	49.5	52.0	50.9
22.8	50.6	23.9	33.7	33.8	48.8	53.3	50.6
19.4	47.3	23.4	24.7	39.7	43.0	51.9	49.3
33.9	54.4	38.3	27.7	28.3	40.5	48.1	51.2
25.3	55.1	38.4	32.8	26.5	45.9	49.3	52.2
17.4	49.2	23.0	27.9	36.2	42.3	48.3	48.9
31.6	55.1	35.1	24.4	20.3	45.9	56.2	54.4
30.4	49.0	34.8	30.6	32.7	45.3	47.0	58.8
34.6	54.0	36.9	26.7	26.0	44.9	49.0	51.2
28.8	47.8	32.0	23.0	28.2	44.8	47.7	48.9
23.0	51.5	28.8	25.6	38.4	49.0	56.8	54.0
20.9	5.4	15.0	18.2	16.3	8.8	6.8	9.8
8.2	3.8	6.3	7.5	7.4	NS	5.6	NS
27	27	30	30	30	30	30	30
4	44	4	44	3	3	4	4
4	4	4	4	4	4	3	4

\* Not included in the mean, drought

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio		
		Landis- ville	Adelphia	Clarks- ville	Ridge- town	Harrow	Hoyt- ville	Wooster	
	22 Tests			<u>YIELD RANK</u>					
Amsoy 71	20	17	20	19	22	9	4	23	
Beeson	13	15	13	4	16	3	23	2	
Coles	23	21	17	23	4	13	17	20	
Corsoy	17	14	21	21	12	23	8	11	
Harcor	3	9	5	3	5	9	2	18	
Wells	13	19	23	14	8	9	13	14	
Wells BC <sub>6</sub>	12	20	22	17	2	9	17	12	
Woodworth	18	11	11	5	13	5	11	3	
A73-25050	8	2	7	15	18	22	9	1	
A75-105019	22	7	16	16	17	17	14	15	
A75-105020	11	8	11	22	20	16	10	9	
A75-105021	16	16	15	13	7	20	14	19	
A75-105029	9	18	10	8	19	21	22	10	
A75-105033	10	5	3	6	3	14	6	21	
A75-105034	21	23	19	12	9	19	19	16	
A75-203014	6	10	14	1	11	7	16	5	
A75-203036	5	13	9	2	1	6	19	5	
A75-Corsoy R3	15	6	8	8	15	15	6	12	
C1545	1	3	4	10	14	8	1	16	
L73D-195	2	1	1	7	23	2	3	7	
L73-6084	4	4	2	18	6	4	5	8	
U10917	19	21	6	10	10	18	11	22	
U11406	7	12	17	19	21	1	21	3	

<u>Michigan</u>		<u>Indiana</u>		<u>Wisconsin</u>	<u>Ill.</u>	<u>Minnesota</u>	
<u>E. Lansing</u>	<u>Dundee</u>	<u>Bluff-</u> <u>ton</u>	<u>Lafayette</u>	<u>Arlington</u>	<u>Girard</u>	<u>Waseca</u>	<u>Lamb-</u> <u>erton</u>
<u>YIELD RANK</u>							
14	19	9	13	7	12	17	20
15	21	2	11	15	18	12	21
20	20	22	15	17	23	16	12
19	17	18	18	3	13	6	7
4	13	1	14	15	9	9	2
10	12	11	8	11	11	14	18
22	16	5	3	12	15	10	13
18	22	16	6	23	3	23	23
17	23	8	12	12	4	2	17
12	8	21	21	9	22	22	5
9	4	12	19	14	17	1	8
1	18	20	23	4	16	13	16
7	3	17	10	1	19	4	1
21	10	18	17	18	7	18	11
13	5	23	22	9	20	15	3
2	14	7	5	20	2	7	4
5	11	13	1	22	8	10	14
8	9	15	20	2	21	8	14
3	7	6	2	6	1	3	8
23	1	4	7	7	10	20	6
6	2	3	9	19	5	5	19
11	15	10	16	21	14	19	22
16	6	14	4	5	6	21	10

Strain	Iowa		Missouri		South Dakota		Nebraska	
	Ames	Key- stone	Edina	Columbia	Brook- ings	Center- ville	Mead I	Concord
	*		<u>YIELD RANK</u>					
Amsoy 71	14	22	10	7	20	19	14	10
Beeson	6	11	8	23	15	6	16	23
Coles	18	6	18	16	13	16	11	14
Corsoy	21	14	15	7	2	15	12	20
Harcor	19	13	12	10	7	3	3	15
Wells	10	18	19	19	6	9	8	5
Wells BC <sub>6</sub>	4	18	23	1	12	13	10	19
Woodworth	1	5	1	5	23	1	23	13
A73-25050	11	7	2	6	18	17	20	4
A75-105019	23	23	17	18	4	18	22	22
A75-105020	15	17	14	9	10	22	5	21
A75-105021	9	12	16	15	1	14	9	6
A75-105029	13	9	13	13	9	2	6	10
A75-105033	17	10	20	2	11	5	3	12
A75-105034	20	21	21	20	3	19	7	16
A75-203014	3	3	4	12	16	23	18	8
A75-203036	12	1	3	3	19	7	13	7
A75-Corsoy R3	22	15	22	11	8	21	17	17
C1545	5	1	6	21	22	7	2	2
L73D-195	7	16	7	4	14	10	21	1
L73-6084	2	4	5	13	21	11	15	8
U10917	8	20	9	22	17	12	19	17
U11406	16	8	11	17	5	4	1	3

\* Not included in the mean, drought

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio		
		Landis-ville	Adelphia	Clarks-ville	Ridge-town	Harrow	Hoyt-ville	Wooster	
46 Tests		<u>1976-1977, 2-YEAR MEAN</u>							
Amsoy 71	40.9	36.7	35.4	37.2	53.8	42.2	48.3	32.8	
Beeson	40.8	36.2	40.0	38.4	54.0	44.6	45.6	42.1	
Corsoy	41.9	33.4	36.7	37.2	60.9	41.6	49.2	41.1	
Harcor	43.9	37.4	40.1	40.2	61.4	44.8	50.8	41.0	
A73-25050	42.7	40.6	39.6	39.2	54.8	39.4	50.6	43.5	
L73D-195	43.5	42.2	44.2	37.4	52.9	46.8	54.7	42.2	
<u>YIELD RANK</u>									
Amsoy 71	5	4	6	5	5	4	5	6	
Beeson	6	5	3	3	4	3	6	3	
Corsoy	4	6	5	5	2	5	4	4	
Harcor	1	3	2	1	1	2	2	5	
A73-25050	3	2	4	2	3	6	3	1	
L73D-195	2	1	1	4	6	1	1	2	
72 Tests		<u>1975-1977, 3-YEAR MEAN</u>							
Amsoy 71	42.3	41.1	36.4	42.3	51.1	41.4	42.7	32.1	
Beeson	42.1	42.2	39.6	42.1	49.6	45.1	42.9	38.9	
Corsoy	42.5	37.3	36.2	40.0	59.6	42.1	44.7	32.9	
Harcor	44.3	41.6	39.4	43.9	57.6	44.3	47.0	34.7	
A73-25050	43.5	45.8	39.5	43.5	49.4	41.6	44.3	36.0	
<u>YIELD RANK</u>									
Amsoy 71	4	4	4	3	3	5	5	5	
Beeson	5	2	1	4	4	1	4	1	
Corsoy	3	5	5	5	1	3	2	4	
Harcor	1	3	3	1	2	2	1	3	
A73-25050	2	1	2	2	5	4	3	2	
100 Tests		<u>1974-1977, 4-YEAR MEAN</u>							
Amsoy 71	41.2	43.9	39.6		50.0	38.1	38.2	32.7	
Beeson	40.9	46.0	41.0		49.0	40.0	38.8	37.8	
Corsoy	41.2	40.2	37.6		57.2	40.1	39.0	32.6	
Harcor	43.0	43.8	39.8		56.5	41.2	40.4	35.7	
<u>YIELD RANK</u>									
Amsoy 71	2	2	3		3	4	4	3	
Beeson	4	1	1		4	3	3	1	
Corsoy	2	4	4		1	2	2	4	
Harcor	1	3	2		2	1	1	2	
237 Tests		<u>1969-1977, 9-YEAR MEAN</u>							
Amsoy	43.4				53.4	38.4	35.2	32.1	
Beeson	43.1				50.5	39.7	34.8	35.5	
Corsoy	43.5				57.3	40.0	33.9	30.5	
<u>YIELD RANK</u>									
Amsoy	2				2	3	1	2	
Beeson	3				3	2	2	1	
Corsoy	1				1	1	3	3	



Strain	Michigan		Indiana			Wis.	Illinois		Minnesota	
	E. Lansing	Dun-dee	Bluff-ton	La-fayette	Green-field	Ar-lington	Ur-bana	Girard	Waseca	Lamb-erton
<u>1976-1977, 2-YEAR MEAN</u>										
Amsoy 71	33.2	36.6	58.8	48.9		47.2		42.4	41.2	
Beeson	31.2	34.5	64.6	49.6		47.6		37.4	40.0	
Corsoy	32.8	38.0	54.2	46.2		47.5		40.8	43.2	
Harcor	35.8	38.4	65.4	47.2		48.8		41.0	43.9	
A73-25050	29.8	32.7	60.8	48.2		49.0		44.7	45.4	
L73D-195	28.0	42.6	66.8	49.8		47.1		44.4	39.2	
<u>YIELD RANK</u>										
Amsoy 71	2	4	5	3		5		3	4	
Beeson	4	5	3	2		3		6	5	
Corsoy	3	3	6	6		4		5	3	
Harcor	1	2	2	5		2		4	2	
A73-25050	5	6	4	4		1		1	1	
L73D-195	6	1	1	1		6		2	6	
<u>1975-1977, 3-YEAR MEAN</u>										
					<u>75-76</u>		<u>75-76</u>		<u>75, 77</u>	
Amsoy 71		38.9	57.2	52.7	53.4		50.6	41.6	45.7	40.7
Beeson		36.4	63.4	53.2	48.2		50.6	38.6	43.9	39.0
Corsoy		38.2	50.6	47.3	50.6		48.9	42.3	45.5	45.8
Harcor		39.6	60.6	50.0	50.4		51.5	43.0	46.2	47.3
A73-25050		33.5	57.3	50.8	52.6		47.0	45.3	47.4	45.6
<u>YIELD RANK</u>										
Amsoy 71		2	4	2	1		2	4	3	4
Beeson		4	1	1	5		2	5	5	5
Corsoy		3	5	5	3		4	3	4	2
Harcor		1	2	4	4		1	2	2	1
A73-25050		5	3	3	2		5	1	1	3
<u>1974-1977, 4-YEAR MEAN</u>										
					<u>74-76</u>		<u>74-76</u>		<u>74-75, 77</u>	
Amsoy 71		39.1	53.5	52.2	49.6		49.9	42.8	40.2	33.8
Beeson		38.1	58.2	51.8	45.3		49.3	40.0	38.6	31.9
Corsoy		39.0	47.7	46.4	41.0		49.3	42.0	41.9	39.6
Harcor		39.7	54.8	50.5	45.6		50.9	43.3	42.2	40.2
<u>YIELD RANK</u>										
Amsoy 71		2	3	1	1		2	2	3	3
Beeson		4	1	2	3		3	4	4	4
Corsoy		3	4	4	4		3	3	2	2
Harcor		1	2	3	2		1	1	1	1
<u>1969-1977, 9-YEAR MEAN</u>										
	<u>69, 71-77</u>				<u>69-76</u>		<u>69-76</u>		<u>69-75, 77</u>	
Amsoy	41.6	51.6	53.0	45.8		51.1	46.2	39.4	38.0	
Beeson	42.0	53.8	51.5	44.7		52.0	43.9	39.3	36.6	
Corsoy	44.0	48.0	49.4	38.4		52.8	47.5	41.9	44.0	
<u>YIELD RANK</u>										
Amsoy		3	2	1	1		3	2	2	2
Beeson		2	1	2	2		2	3	3	3
Corsoy		1	3	3	3		1	1	1	1

Iowa		Missouri		South Dakota		Nebraska	
Ames	Sloan	Edina	Columbia	Brookings	Centerville	Mead	Concord
(a)		<u>1976-1977, 2-YEAR MEAN</u>					
30.6	45.4	24.7	23.0	25.0	28.1	46.8	35.8
32.8	46.6	26.0	16.8	26.2	30.0	45.8	32.1
23.8	47.2	26.6	25.0	31.8	26.2	49.6	35.9
25.8	50.5	25.9	23.8	29.1	29.4	52.4	36.8
31.0	50.2	29.3	24.5	26.8	29.0	46.6	38.6
27.3	47.8	28.2	28.0	28.6	30.2	45.4	39.4
<u>YIELD RANK</u>							
3	6	6	5	6	5	3	5
1	5	4	6	5	2	5	6
6	4	3	2	1	6	2	4
5	1	5	4	2	3	1	3
2	2	1	3	4	4	4	2
4	3	2	1	3	1	6	1
<u>1975-1977, 3-YEAR MEAN</u>							
39.7	50.9	27.3		29.9	29.5	48.7	35.9
43.9	51.5	27.0		28.3	30.9	47.6	33.7
21.0	52.2	28.3		35.9	27.9	49.7	37.7
37.1	53.8	28.2		32.4	30.9	53.0	36.4
42.0	56.5	32.4		31.3	30.8	48.8	36.0
<u>YIELD RANK</u>							
3	5	4		4	4	4	4
1	4	5		5	1	5	5
5	3	2		1	5	2	1
4	2	3		2	1	1	2
2	1	1		3	3	3	3
<u>1974-1977, 4-YEAR MEAN</u>							
41.5	45.8	28.2		29.7	30.0	47.1	
45.4	46.2	27.0		27.4	30.2	45.1	
38.6	47.2	27.1		36.3	29.5	50.8	
40.3	47.7	29.0		30.7	31.2	52.7	
<u>YIELD RANK</u>							
2	4	2		3	3	3	
1	3	4		4	2	4	
4	2	3		1	4	2	
3	1	1		2	1	1	
<u>1969-1977, 9-YEAR MEAN</u>							
46.2				28.2	<u>70-77</u> 32.3	<u>70-77</u> 45.7	<u>69, 73, 75-77</u> 37.1
48.3				27.3	32.2	44.7	35.6
46.3				34.4	33.2	48.7	37.9
<u>YIELD RANK</u>							
3				2	2	2	2
1				3	3	3	3
2				1	1	1	1

(a) 1977 Keystone, Iowa

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio	
		Landis- ville	Adelphia	Clarks- ville	Ridge- town	Harrow	Hoyt- ville	Wooster
	19 Tests	<u>MATURITY (relative data)</u>						
Amsoy 71	+ 2.4	0	+ 1	+ 6	- 2	+ 2	+ 3	+ 2
Beeson	+ 4.3	0	+ 1	+ 3	0	+ 2	+ 4	+ 3
Coles	- 0.9	- 4	- 3	0	0	- 4	- 2	- 2
Corsoy†	9-20.7	9-19	9-18	9-8	10-7	9-27	9-27	9-19
Harcor	+ 2.5	0	+ 6	+ 5	+ 8	+ 2	+ 2	+ 2
Wells	- 0.8	- 4	- 4	+ 1	+ 1	- 3	- 3	- 4
Wells BC <sub>6</sub>	- 0.4	- 4	- 4	- 1	0	- 4	- 3	- 4
Woodworth <sup>R</sup>	+10.7	+10	+13	+12	- 2	+ 6	+ 6	+ 9
A73-25050	+ 5.1	+ 3	+ 3	+ 8	- 3	- 1	+ 4	+ 3
A75-105019	+ 0.2	0	+ 2	+ 1	0	0	+ 1	0
A75-105020	+ 2.8	+ 1	+ 6	+10	- 4	+ 1	+ 3	+ 3
A75-105021	+ 0.1	0	+ 2	+ 4	+ 2	- 1	0	+ 1
A75-105029	+ 1.1	0	+ 3	+ 2	- 3	0	+ 2	+ 1
A75-105033	+ 4.2	0	+ 7	+ 9	+ 6	0	+ 3	+ 2
A75-105034	- 0.7	- 4	- 3	0	+ 4	- 1	- 1	0
A75-203014	+ 6.3	+ 5	+ 3	+10	+ 4	+ 3	+ 3	+ 4
A75-203036	+ 6.8	+10	+ 7	+ 9	0	+ 4	+ 5	+ 5
A75-Corsoy R3	- 0.7	+ 1	- 2	+ 1	- 1	0	- 1	0
C1545	+ 5.1	+10	+ 2	+ 9	- 2	+ 3	+ 3	+ 4
L73D-195	+ 6.7	+ 5	+ 9	+ 9	- 3	+ 6	+ 6	+ 7
L73-6084	+ 6.2	+ 4	+ 6	+ 8	- 5	+ 4	+ 4	+ 5
U10917	+ 3.5	+ 1	+ 3	+ 8	- 2	+ 3	+ 4	+ 2
U11406	+ 2.3	0	- 3	+ 4	- 1	+ 3	0	- 3
Date planted	5-20	6-7	5-25	5-19	5-17	5-25	5-19	5-13
†Days to mat.	124	104	116	112	143	125	131	129

Michigan		Indiana		Wisconsin	Ill.	Minnesota	
E. Lansing	Dundee	Bluffton	Lafayette	Arlington	Girard	Waseca	Lamberton
<u>MATURITY (relative data)</u>							
+ 3	+ 2		+ 9	- 1	+ 1	+ 6	+ 1
+ 5	+ 4		+12	+ 2	+ 1	+ 7	+12
+ 2	- 2		+ 4	- 6	- 1	- 1	+ 1
10-5	9-22		8-30	10-4	8-30	9-23	9-15
+ 2	+ 3		+ 4	+ 2	+ 1	+ 3	+ 1
- 2	+ 2		+ 9	- 7	+ 1	0	+ 2
- 2	0		+10	+ 3	+ 1	0	+ 3
+ 9	+ 5		+23	+ 8	+15	+14	+20
+ 6	+ 1		+12	+ 2	+ 6	+ 8	+13
- 3	+ 2		0	+14	- 2	- 2	- 1
+ 5	+ 3		+ 7	+13	+ 1	+ 1	0
+ 2	+ 1		- 2	0	0	0	- 2
+ 3	+ 3		+ 5	0	+ 1	0	+ 2
+ 5	+ 4		+10	+ 3	+ 3	+ 7	+ 7
- 3	+ 2		- 2	0	- 1	+ 1	- 1
+ 4	+ 6		+14	+ 3	+ 7	+11	+13
+ 7	+ 4		+15	+ 5	+ 5	+ 6	+ 9
- 1	+ 2		- 1	0	- 1	- 1	- 1
+ 6	+ 7		+11	+ 2	+ 1	+ 6	+ 7
+ 6	+ 7		+11	+ 3	+ 8	+ 9	+10
+ 9	+ 4		+16	+ 5	+ 2	+10	+12
+ 8	+ 3		+11	0	+ 1	+ 5	+ 3
+ 5	+ 2		+11	- 5	+ 1	+ 5	+11
5-19	5-17	5-20	5-9	5-19	5-14	5-12	5-10
139	128		113	138	118	134	128

Strain	Iowa		Missouri		South Dakota		Nebraska	
	Ames	Key- stone	Edina	Columbia	Brook- ings	Center- ville	Mead I	Concord
	*	<u>MATURITY (relative data)</u>						
Amsoy 71	+14			- 1	+ 5	+ 4	- 1	+ 6
Beeson	+18			+ 6	+ 7	+ 6	+ 1	+ 5
Coles	+14			0	+ 1	+ 1	- 3	+ 1
Corsoy†	8-23			9-15	10-12	9-20	2-16	9-10
Harcor	+ 7			+ 1	+ 1	+ 4	- 2	+ 2
Wells	+13			- 4	+ 1	+ 2	- 3	0
Wells BC <sub>6</sub>	+11			- 4	+ 2	+ 2	- 3	0
Woodworth	+26			+11	+ 9	+13	+ 8	+14
A73-25050	+17			+ 7	+ 5	+ 7	+ 3	+10
A75-105019	- 4			- 3	0	- 1	- 3	- 1
A75-105020	+ 7			- 1	+ 2	+ 1	+ 1	+ 1
A75-105021	+ 6			- 2	0	0	- 3	0
A75-105029	+ 6			- 1	0	0	0	+ 2
A75-105033	+ 9			+ 3	+ 4	+ 1	+ 1	+ 5
A75-105034	0			- 2	0	+ 1	- 4	0
A75-203014	+19			+ 8	+ 4	+ 6	+ 5	+ 7
A75-203036	+20			+ 9	+ 6	+10	+ 5	+ 8
A75-Corsoy R3	+ 1			- 4	- 2	0	- 3	+ 1
C1545	+20			+ 6	+ 9	+ 5	+ 2	+ 5
L73D-195	+20			+ 8	+ 7	+ 6	+ 3	+11
L73-6084	+18			+ 7	+ 7	+10	+ 3	+ 7
U10917	+14			0	+ 6	+ 4	0	+ 6
U11406	+12			+ 1	+ 4	+ 4	+ 1	+ 3
Date planted	5-2	5-17	5-13	6-8	5-31	5-24	5-17	5-14
†Days to mat.	113			99	134	119	122	119

\* Not included in the mean, drought

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio		
		Landis- ville	Adelphia	Clarks- ville	Ridge- town	Harrow	Hoyt- ville	Wooster	
	22 Tests		LODGING (score)						
Amsoy 71	2.3	1.0	3.0	1.0	4.3	3.5	1.7	3.1	
Beeson	2.1	1.0	3.0	1.0	2.5	3.0	1.4	3.3	
Coles	2.4	1.0	3.5	1.0	4.3	4.0	1.7	2.7	
Corsoy	2.6	1.3	3.8	1.3	2.8	4.0	2.5	3.5	
Harcor	2.8	1.3	4.0	2.3	4.8	3.5	2.1	3.7	
Wells	1.9	1.0	2.8	1.0	3.5	3.5	1.3	1.9	
Wells BC <sub>6</sub>	1.9	1.0	2.5	1.0	4.5	2.5	1.3	1.5	
Woodworth	2.2	1.0	2.5	2.0	4.5	3.5	1.6	3.7	
A73-25050	2.4	1.3	2.8	1.0	3.3	4.0	2.1	3.5	
A75-105019	2.8	1.7	3.8	1.7	3.0	4.0	1.5	4.0	
A75-105020	2.6	1.3	3.8	1.3	1.8	4.0	2.3	4.2	
A75-105021	2.6	1.3	3.3	2.0	3.3	4.0	2.1	3.7	
A75-105029	2.9	1.3	3.5	1.7	4.8	4.5	2.0	4.3	
A75-105033	2.9	1.3	3.8	1.3	4.3	4.0	2.1	4.5	
A75-105034	2.6	1.3	3.8	2.0	3.8	4.0	1.6	3.2	
A75-203014	2.4	1.3	2.8	1.7	3.3	4.0	1.7	3.2	
A75-203036	2.3	1.7	3.0	1.3	4.0	3.0	1.6	3.0	
A75-Corsoy R3	2.8	1.7	4.0	2.0	4.3	4.0	2.0	4.1	
C1545	1.9	1.0	2.3	1.3	4.0	3.5	1.3	2.3	
L73D-195	2.9	1.3	3.8	1.3	3.5	4.0	2.4	4.4	
L73-6084	2.4	1.7	3.0	1.3	3.3	3.0	1.8	3.6	
U10917	2.6	1.0	3.5	1.0	4.8	4.0	1.7	3.8	
U11406	1.6	1.0	2.3	1.0	2.0	2.0	1.4	1.7	

Strain	Michigan		Indiana		Wis.	Ill.	Minnesota	
	E. Lansing	Dun-dee	Bluff-ton	La-fayette	Ar-lington	Girard	Waseca	Lamb-erton
	<u>LODGING (score)</u>							
Amsoy 71	3.0	1.0	3.0	2.0	1.8	3.1	2.0	3.0
Beeson	2.7	1.0	2.5	1.7	1.8	2.6	2.3	4.0
Coles	2.4	1.0	4.3	2.3	2.0	3.4	2.3	3.0
Corsoy	2.4	1.5	3.8	2.2	2.5	3.9	2.7	3.3
Harcor	2.7	1.5	4.2	2.7	2.2	4.3	3.0	3.7
Wells	1.0	1.0	2.3	1.3	1.0	2.4	1.7	3.7
Wells BC <sub>6</sub>	1.3	1.0	3.0	1.7	1.0	2.4	1.3	3.0
Woodworth	2.0	1.5	2.7	2.5	2.0	1.9	2.7	3.3
A73-25050	1.7	1.0	3.5	2.7	2.0	3.0	2.3	4.0
A75-105019	2.5	1.5	4.5	3.0	3.8	4.8	2.3	3.3
A75-105020	2.7	1.5	4.0	2.5	3.0	3.8	2.7	3.3
A75-105021	2.6	1.2	3.7	2.2	2.8	4.1	2.7	3.0
A75-105029	2.9	2.0	4.3	2.8	2.8	4.3	2.7	3.3
A75-105033	3.5	2.4	4.0	2.8	3.0	3.3	3.7	4.0
A75-105034	2.0	1.5	4.0	2.2	2.5	4.1	2.3	3.3
A75-203014	2.7	2.5	3.5	2.7	1.5	2.9	2.3	4.7
A75-203036	2.5	1.8	2.7	2.3	2.5	2.6	2.0	4.0
A75-Corsoy R3	2.3	2.8	4.2	2.5	3.0	4.3	2.7	2.7
C1545	1.5	1.5	2.7	1.5	1.2	1.8	1.3	3.3
L73D-195	3.5	2.5	3.8	2.5	2.8	3.6	3.7	4.3
L73-6084	4.3	2.0	3.3	2.5	2.5	2.2	2.3	4.0
U10917	4.5	1.6	3.2	2.8	2.0	3.1	2.0	3.7
U11406	1.5	1.2	2.0	1.5	1.0	1.9	1.0	2.7

Iowa		Missouri		South Dakota		Nebraska	
Ames	Keystone	Edina	Columbia	Brookings	Centerville	Mead I	Concord
*			<u>LODGING (score)</u>				
1.3	3.2	3.1	2.3	1.0	1.0	1.0	2.8
1.8	2.8	2.8	1.8	1.0	1.0	1.2	2.1
1.4	3.0	3.4	2.2	1.0	1.0	1.2	2.4
1.3	3.1	3.6	2.6	1.0	1.0	1.7	2.2
1.6	3.1	3.6	2.6	1.0	1.0	2.0	2.4
1.8	2.0	3.0	1.9	1.0	1.0	1.0	1.6
1.9	2.1	3.1	2.0	1.0	1.0	1.0	1.6
2.2	2.1	2.3	1.5	1.0	1.0	1.5	1.6
1.6	3.0	3.0	1.7	1.0	1.0	1.7	3.0
1.7	3.2	3.8	2.5	1.0	1.0	1.5	3.5
1.6	3.1	3.5	2.3	1.0	1.0	1.5	2.8
1.8	3.3	3.5	2.4	1.0	1.0	1.8	2.8
1.8	3.2	3.5	2.9	1.0	1.0	2.0	3.0
1.6	3.2	3.4	2.8	1.0	1.0	1.8	2.8
1.5	3.2	3.6	2.3	1.0	1.0	1.3	2.5
1.7	3.1	2.6	1.5	1.0	1.0	1.5	2.1
1.4	2.8	2.8	1.8	1.0	1.0	1.8	1.6
1.5	3.2	3.4	2.5	1.0	1.0	1.8	3.1
2.0	2.0	2.5	1.8	1.0	1.0	1.0	1.4
2.0	3.5	3.6	2.5	1.0	1.0	1.2	3.4
1.8	2.7	3.1	2.5	1.0	1.0	1.0	1.6
1.7	3.3	3.0	2.2	1.0	1.0	1.2	2.4
1.6	2.0	2.6	1.7	1.0	1.0	1.0	1.5

\* Not included in the mean, drought.



Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio	
		Landis- ville	Adelphia	Clarks- ville	Ridge- town	Harrow	Hoyt- ville	Wooster
	22 Tests	<u>PLANT HEIGHT (inches)</u>						
Amsoy 71	39	29	35	29	45	45	40	38
Beeson	36	22	35	26	47	41	36	41
Coles	37	24	34	25	47	42	42	37
Corsoy	37	26	34	27	47	39	39	41
Harcor	39	24	36	31	55	42	39	45
Wells	36	21	36	25	48	43	36	38
Wells BC <sub>6</sub>	36	23	36	24	47	39	32	33
Woodworth <sup>R</sup>	38	23	37	28	45	43	39	37
A73-25050	36	26	35	24	44	39	38	38
A75-105019	36	24	32	28	47	39	33	38
A75-105020	35	25	30	26	42	36	33	37
A75-105021	36	23	34	28	49	38	36	38
A75-105029	36	21	34	29	44	40	33	41
A75-105033	37	23	33	28	53	39	38	37
A75-105034	35	20	32	26	51	38	34	37
A75-203014	37	25	34	28	51	43	38	39
A75-203036	40	27	34	29	47	46	42	42
A75-Corsoy R3	37	27	33	29	46	40	34	42
C1545	36	26	34	27	45	42	35	37
L73D-195	40	27	37	29	44	44	42	47
L73-6084	40	26	38	28	42	46	42	43
U10917	40	23	36	29	45	47	37	43
U11406	34	22	34	24	46	37	31	36

<u>Michigan</u>		<u>Indiana</u>		<u>Wisconsin</u>	<u>Ill.</u>	<u>Minnesota</u>	
E. Lansing	Dundee	Bluffton	Lafayette	Arlington	Girard	Waseca	Lamberton
<u>PLANT HEIGHT (inches)</u>							
42	33	52	38	45	50	40	40
40	36	45	37	40	42	40	45
41	33	48	36	38	45	42	39
42	29	44	34	40	45	39	43
40	38	45	35	42	48	40	45
35	34	46	36	40	44	41	46
35	34	47	37	39	42	42	45
37	36	50	42	40	46	41	46
37	31	45	36	41	43	41	46
40	32	47	32	42	42	38	42
41	33	46	35	39	39	42	38
40	31	44	30	41	40	38	40
39	36	45	34	40	43	37	44
42	38	47	38	41	44	40	41
41	36	45	31	40	38	37	42
41	36	45	35	41	41	41	46
44	40	50	42	40	48	43	48
42	37	47	32	42	43	40	41
36	36	47	37	40	42	39	46
43	40	50	39	44	47	38	53
52	38	50	41	42	46	40	49
50	40	57	40	44	50	42	45
35	33	42	35	36	40	40	44

Strain	Iowa		Missouri		South Dakota		Nebraska	
	Ames	Key- stone	Edina	Columbia	Brook- ings	Center- ville	Mead I	Concord
	*	<u>PLANT HEIGHT (inches)</u>						
Amsoy 71	21	42	39	27	33	38	41	34
Beeson	21	40	33	24	31	34	41	27
Coles	20	41	35	26	35	38	40	32
Corsoy	19	40	36	25	35	35	38	28
Harcor	21	42	36	26	37	35	40	31
Wells	20	38	32	24	33	36	39	27
Wells BC <sub>6</sub>	22	40	31	26	32	34	38	27
Woodworth	25	42	35	28	34	37	43	28
A73-25050	18	39	34	24	36	33	38	27
A75-105019	19	40	39	25	31	33	31	27
A75-105020	22	40	30	26	34	35	35	28
A75-105021	20	38	34	26	32	35	38	28
A75-105029	21	40	34	26	34	36	37	27
A75-105033	20	41	33	29	34	36	39	29
A75-105034	19	38	30	24	33	33	34	25
A75-203014	21	38	34	26	34	32	39	28
A75-203036	18	42	38	29	35	36	43	28
A75-Corsoy R3	19	41	33	26	34	34	37	30
C1545	20	38	31	23	34	30	37	25
L73D-195	23	48	40	29	35	41	37	35
L73-6084	23	43	36	30	35	39	44	33
U10917	23	44	36	27	34	37	42	34
U11406	18	36	30	22	34	30	37	25

\* Not included in the mean, drought.

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio	
		Landis- ville	Adelphia	Clarks- ville	Ridge- town	Harrow	Hoyt- ville	Wooster
	21 Tests	<u>SEED QUALITY (score)</u>						
Amsoy 71	3.0	3.7	5.0	3.3	3.0	3.0	2.0	4.7
Beeson	2.6	2.3	5.0	3.0	4.0	1.0	2.0	3.3
Coles	2.4	3.2	4.0	3.0	3.0	2.0	1.7	3.3
Corsoy	2.5	2.3	4.0	2.3	2.0	3.0	2.0	3.3
Harcor	2.4	2.5	5.0	2.7	2.0	2.0	1.7	3.0
Wells	2.7	3.8	5.0	2.7	3.0	3.0	2.0	3.3
Wells BC <sub>6</sub>	2.8	3.7	5.0	3.0	3.0	3.0	2.0	2.7
Woodworth	2.4	2.2	4.0	2.0	3.0	2.0	1.7	3.0
A73-25050	2.5	2.7	5.0	3.0	2.0	1.0	2.0	3.3
A75-105019	2.6	2.2	5.0	2.3	2.0	3.0	2.0	3.7
A75-105020	2.6	2.3	5.0	2.7	3.0	2.0	1.3	3.7
A75-105021	2.4	2.7	5.0	2.3	3.0	2.0	2.0	3.0
A75-105029	2.4	2.6	5.0	2.7	3.0	2.0	2.0	3.7
A75-105033	2.6	2.5	5.0	2.3	4.0	3.0	2.0	3.7
A75-105034	2.3	2.6	5.0	2.7	2.0	2.0	2.0	2.7
A75-203014	2.3	2.3	5.0	3.0	3.0	1.0	2.0	3.0
A75-203036	2.4	2.7	5.0	2.0	2.0	2.0	2.0	3.3
A75-Corsoy R3	2.3	2.6	4.0	2.7	2.0	2.0	2.0	2.7
C1545	2.3	2.7	4.0	2.7	2.0	2.0	2.0	2.7
L73D-195	2.7	2.9	5.0	2.3	4.0	2.0	2.0	4.3
L73-6084	2.6	2.7	4.0	2.3	4.0	3.0	2.0	3.3
U10917	2.9	3.7	5.0	3.3	3.0	4.0	2.0	4.3
U11406	2.7	2.7	4.0	4.0	4.0	2.0	2.0	2.7

Strain	Michigan		Indiana		Wis.	Ill.	Minnesota	
	E. Lansing	Dun- dee	Bluff- ton	La- fayette	Ar- lington	Girard	Waseca	Lamb- erton
	<u>SEED QUALITY (score)</u>							
Amsoy 71	3.0	3.0	2.5	2.5	3.2	2.7	3.0	3.0
Beeson	3.0	3.0	2.0	2.5	1.5	2.8	2.0	2.7
Coles	2.0	2.0	1.5	1.5	2.0	2.5	2.0	2.7
Corsoy	3.0	3.0	2.0	2.5	2.8	2.5	2.3	3.0
Harcor	1.0	2.0	1.5	2.5	3.2	2.5	2.0	2.7
Wells	3.0	2.0	2.5	2.5	2.2	2.8	2.0	3.0
Wells BC <sub>6</sub>	3.0	3.0	2.5	2.5	2.8	2.7	1.7	2.7
Woodworth	5.0	1.0	1.5	2.0	3.0	2.0	2.7	2.3
A73-25050	3.0	3.0	2.0	2.5	2.0	2.3	2.0	2.3
A75-105019	3.0	2.0	2.5	2.5	3.2	2.7	3.0	3.0
A75-105020	2.0	3.0	2.0	2.5	2.8	2.5	3.0	3.0
A75-105021	2.0	3.0	1.5	2.0	3.2	2.3	2.0	2.7
A75-105029	2.0	2.0	1.5	2.5	2.5	2.3	2.0	2.0
A75-105033	3.0	3.0	2.0	2.0	2.5	2.3	2.3	3.0
A75-105034	2.0	2.0	1.5	2.5	3.0	2.2	2.0	2.3
A75-203014	2.0	2.0	1.5	1.5	1.8	2.2	2.0	2.3
A75-203036	3.0	2.0	1.5	2.5	3.2	2.3	2.0	2.0
A75-Corsoy R3	2.0	2.0	1.5	2.0	3.0	2.5	2.7	3.0
C1545	3.0	2.0	2.0	2.5	2.0	2.3	1.7	2.3
L73D-195	4.0	2.0	2.0	2.5	3.0	2.3	2.0	2.7
L73-6084	5.0	3.0	1.5	2.0	2.0	2.3	2.0	2.7
U10917	3.0	3.0	2.0	3.0	3.8	2.3	2.7	3.0
U11406	3.0	3.0	2.0	3.0	1.2	2.7	2.0	2.7

Iowa		Missouri		S. Dakota	Nebraska	
Ames	Keystone	Edina	Columbia	Centerville	Mead I	Concord
* SEED QUALITY (score)						
1.3	1.1	4.0	3.0	2.0	2.3	2.3
1.8	1.8	3.8	2.8	2.0	2.2	1.9
1.4	1.0	3.8	2.8	2.0	2.0	1.9
1.3	1.0	3.8	3.0	1.0	2.2	1.6
1.6	1.0	3.8	3.0	2.0	2.2	1.9
1.8	1.3	4.0	3.2	2.0	2.3	1.8
1.9	1.1	3.8	3.3	2.0	2.5	2.2
2.2	1.2	3.8	2.5	2.0	2.2	1.1
1.6	1.1	4.0	2.8	2.0	2.0	2.0
1.7	1.0	3.8	2.5	1.0	2.5	1.6
1.6	1.1	3.8	2.8	2.0	2.0	1.8
1.8	1.0	3.5	2.5	1.0	2.0	1.6
1.8	1.0	3.5	2.7	1.0	2.0	1.9
1.6	1.0	4.0	2.8	1.0	2.0	1.8
1.5	1.2	3.0	2.3	1.0	1.8	1.6
1.7	1.0	3.0	2.8	3.0	2.2	1.8
1.4	1.0	4.0	3.0	1.0	2.2	1.5
1.5	1.0	3.8	2.8	1.0	2.0	1.8
2.0	1.0	3.5	2.8	1.0	1.8	1.9
2.0	1.1	3.8	2.8	1.0	2.3	1.8
1.8	1.8	3.8	2.8	1.0	2.0	1.8
1.7	1.4	3.8	3.0	1.0	2.3	1.9
1.6	1.9	3.8	3.0	2.0	2.2	1.9

\* Not included in the mean, drought.

## UNIFORM TEST II, 1977

Strain	Mean	Pa.	N.J.	Md.	Ontario		Ohio	
		Landis- ville	Adelphia	Clarks- ville	Ridge- town	Harrow	Hoyt- ville	Wooster
	21 Tests	<u>SEED SIZE (g/100)</u>						
Amsoy 71	17.0	19.7	20.0	16.9	16.5	21.2	17.0	17.2
Beeson	19.0	21.7	21.0	19.7	18.4	22.1	18.5	21.8
Coles	17.8	19.2	20.0	17.1	19.8	20.3	18.3	20.0
Corsoy	15.5	18.9	19.0	14.5	20.5	17.6	15.7	17.5
Harcor	15.0	15.4	18.0	14.9	18.7	16.9	14.7	16.5
Wells	15.5	17.6	15.0	15.3	14.3	19.1	15.2	16.3
Wells BC <sub>6</sub>	15.8	17.9	17.0	15.1	17.9	18.4	15.1	15.4
Woodworth	14.8	15.2	18.0	15.2	17.1	18.3	14.7	16.4
A73-25050	16.5	17.0	20.0	16.1	19.7	19.7	16.0	20.2
A75-105019	16.2	17.5	20.0	14.8	20.6	18.9	16.1	18.2
A75-105020	16.9	18.0	22.0	17.0	18.2	18.9	17.5	19.0
A75-105021	14.8	14.7	20.0	14.7	17.4	16.6	14.7	16.7
A75-105029	14.9	15.5	18.0	14.9	17.3	16.6	14.5	16.8
A75-105033	15.5	15.7	20.0	15.0	20.8	18.5	15.3	17.4
A75-105034	15.1	15.2	17.0	14.8	20.2	16.6	14.7	17.5
A75-203014	17.3	17.6	18.0	17.2	20.3	20.2	16.9	19.9
A75-203036	13.9	14.1	17.0	14.6	18.3	16.2	12.6	15.6
A75-Corsoy R3	15.1	16.4	18.0	15.0	17.1	17.1	14.8	17.4
C1545	18.5	20.1	22.0	19.0	21.1	22.4	18.5	19.9
L73D-195	16.4	17.2	20.0	16.1	20.2	18.8	16.6	18.0
L73-6084	18.2	18.8	23.0	16.1	17.6	21.8	17.7	21.5
U10917	16.9	17.9	21.0	16.5	19.7	20.9	16.9	18.6
U11406	17.1	19.2	20.0	16.8	18.4	19.3	17.0	18.6

<u>Michigan</u>		<u>Indiana</u>		<u>Wisconsin</u>	<u>Ill.</u>	<u>Minnesota</u>	
E. Lansing	Dundee	Bluffton	Lafayette	Arlington	Girard	Waseca	Lamberton
<u>SEED SIZE (g/100)</u>							
19.4	17.8	19.6	16.9	17.4	20.4	17.7	19.8
23.0	21.5	21.5	20.2	18.9	18.4	19.8	20.3
22.0	17.7	21.1	17.8	17.4	15.6	18.1	20.2
18.2	16.3	16.9	15.5	15.5	14.5	15.8	17.7
17.0	16.3	16.6	15.0	14.6	14.7	15.8	17.3
18.2	18.0	18.1	16.6	15.4	15.3	16.2	18.4
20.0	17.5	17.9	17.5	14.9	14.6	15.8	19.3
15.2	16.2	16.6	17.2	14.8	15.8	15.2	15.0
18.0	16.7	19.6	17.3	16.7	16.3	17.6	18.4
17.0	17.3	19.8	15.4	16.8	15.5	17.1	18.1
17.0	19.6	20.4	17.0	17.7	16.2	18.8	19.3
17.8	15.9	17.0	13.6	14.5	14.2	15.9	16.4
16.0	16.6	17.7	15.8	15.0	13.9	15.9	17.2
17.0	16.5	17.4	15.0	15.8	14.0	16.5	16.9
17.0	16.5	18.0	14.6	15.1	13.8	16.1	18.0
20.6	18.5	19.0	18.1	17.1	16.5	18.9	19.8
14.0	16.0	14.2	15.7	12.7	13.1	14.0	15.3
20.2	16.5	17.1	14.7	15.1	13.5	15.7	16.5
22.8	21.1	21.7	19.4	18.0	17.2	17.1	18.2
19.2	18.5	18.0	17.3	15.7	16.2	16.6	18.8
20.2	19.6	19.2	21.5	17.4	16.7	19.9	20.7
19.0	17.6	19.2	18.0	16.3	15.9	18.0	19.6
20.2	18.9	19.6	19.0	16.8	15.5	17.6	18.9



Strain	Iowa	South Dakota		Nebraska	
	Keystone	Brookings	Centerville	Mead I	Concord
	<u>SEED SIZE (g/100)</u>				
Amsoy 71	17.1	12.8	17.3	17.1	15.7
Beeson	20.9	13.5	20.9	18.6	18.7
Coles	19.0	17.0	17.1	18.0	17.5
Corsoy	15.4	12.7	13.6	16.2	14.2
Harcor	14.6	12.6	16.2	16.1	13.9
Wells	17.0	12.2	15.9	16.3	15.2
Wells BC <sub>6</sub>	16.4	13.0	15.9	17.4	15.4
Woodworth	16.1	9.8	14.2	14.5	16.1
A73-25050	16.0	11.6	15.8	16.7	18.1
A75-105019	17.0	13.0	14.7	17.5	14.6
A75-105020	17.9	13.7	15.0	17.4	15.3
A75-105021	15.0	12.0	14.0	15.6	14.1
A75-105029	15.6	11.8	15.2	15.2	13.6
A75-105033	15.8	12.1	15.3	15.2	15.0
A75-105034	15.8	13.3	13.6	16.0	14.2
A75-203014	18.2	14.0	17.6	17.3	17.4
A75-203036	15.0	8.6	15.7	14.3	14.0
A75-Corsoy R3	15.0	12.6	14.5	15.8	14.1
C1545	19.8	13.7	19.8	18.5	17.8
L73D-195	15.8	12.3	15.8	15.7	16.6
L73-6084	19.8	12.6	20.5	18.6	18.0
U10917	17.4	13.2	16.2	17.1	15.6
U11406	18.9	11.7	17.6	18.4	16.4

## UNIFORM TEST II, 1977

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Strain	Mean	Md.	Ont.	Indiana		Ill.	Minn.	Iowa	S.D.	Neb.
		Clarks- ville	Har- row	Bluff- ton	La- fayette	Gir- ard	Lamb- erton	Key- stone	Center- ville	Mead
	9 Tests			PROTEIN (%)						
Amsoy 71	37.8	38.6	41.3	39.0	37.6	36.7	36.7	37.0	37.4	35.8
Beeson	39.6	39.4	42.5	40.1	39.0	38.3	38.6	40.0	39.4	38.9
Coles	39.9	40.5	42.4	41.5	38.8	39.0	39.3	39.4	39.5	38.7
Corsoy	38.7	38.0	41.5	40.4	37.2	37.7	37.7	38.8	38.8	37.8
Harcor	38.4	39.1	41.3	39.0	37.6	36.8	37.5	38.3	38.5	37.4
Wells	39.5	39.1	43.9	40.9	38.4	37.8	38.3	38.9	38.6	39.4
Wells BC <sub>6</sub>	39.6	39.5	42.7	41.4	38.4	38.7	38.5	38.7	39.1	39.3
Woodworth	39.5	39.0	42.8	40.3	39.5	37.6	38.4	39.7	39.0	39.4
A73-25050	38.1	37.4	42.0	40.0	37.0	36.5	36.8	36.9	39.0	37.7
A75-105019	39.1	37.8	42.4	40.1	37.3	38.4	38.8	39.5	38.8	38.4
A75-105020	39.3	39.8	42.8	40.4	38.2	38.1	37.2	39.6	38.6	38.7
A75-105021	38.1	39.0	40.7	39.4	36.4	37.1	36.9	37.9	37.8	38.0
A75-105029	38.9	39.8	41.5	39.6	37.5	37.5	38.0	38.9	38.6	38.5
A75-105033	39.3	38.7	42.8	40.2	38.6	38.1	38.2	39.0	39.4	38.5
A75-105034	39.1	38.8	42.4	40.2	37.4	37.8	38.4	39.3	39.3	38.7
A75-203014	39.6	40.5	43.2	40.8	37.4	38.9	38.3	39.2	39.0	38.7
A75-203036	37.7	36.6	41.2	38.5	37.2	36.4	37.4	37.9	38.0	36.3
A75-Corsoy R3	38.6	38.0	41.7	40.1	36.6	38.2	37.9	38.4	38.7	38.1
C1545	40.2	40.0	44.4	42.3	38.9	38.5	39.2	39.7	39.6	39.6
L73D-195	38.1	38.0	41.6	39.0	37.0	38.1	35.9	38.2	38.0	36.9
L73-6084	38.9	38.5	42.2	39.7	39.5	37.7	36.8	38.8	38.7	38.0
U10917	37.9	38.2	41.0	39.1	38.2	36.5	36.3	37.9	37.6	36.2
U11406	38.7	36.6	41.0	40.2	38.1	37.7	38.2	39.4	39.1	37.6

Strain	Mean	Md.	Ont.	Indiana	
		Clarksville	Harrow	Bluffton	Lafayette
	9 Tests	<u>OIL (%)</u>			
Amsoy 71	21.6	22.2	19.6	21.2	22.8
Beeson	20.4	21.7	18.7	20.1	21.4
Coles	20.5	21.8	19.6	19.5	21.7
Corsoy	21.2	23.1	19.8	20.1	22.9
Harcor	20.8	21.6	18.8	20.2	22.2
Wells	21.2	22.8	19.0	20.3	22.5
Wells BC <sub>p</sub>	21.1	22.7	19.7	20.2	22.6
Woodworth	20.2	21.5	19.1	20.0	21.2
A73-25050	22.2	24.7	20.4	20.8	23.5
A75-105019	21.5	22.8	20.0	21.2	22.8
A75-105020	20.9	21.9	19.1	20.6	22.7
A75-105021	21.2	22.2	19.9	20.4	23.4
A75-105029	20.9	21.4	19.7	20.4	22.2
A75-105033	20.9	22.1	19.4	20.5	21.7
A75-105034	20.8	22.3	19.6	20.1	22.7
A75-203014	20.4	21.3	18.8	19.3	21.5
A75-203036	21.3	23.4	20.0	21.2	22.5
A75-Corsoy R3	21.1	22.5	19.5	20.5	23.1
C1545	20.5	22.3	18.2	19.3	22.3
L73D-195	20.8	22.5	18.2	19.8	23.2
L73-6084	21.3	22.8	19.7	20.6	22.4
U10917	21.6	22.9	20.1	19.8	22.8
U11406	20.3	22.8	19.0	19.1	22.0

Strain	<u>Ill.</u> Girard	<u>Minnesota</u> Lamberton	<u>Iowa</u> Keystone	<u>S. Dakota</u> Centerville	<u>Neb.</u> Mead
	<u>OIL (%)</u>				
Amsoy 71	23.0	19.8	22.6	21.0	22.2
Beeson	21.9	19.8	20.0	19.6	20.0
Coles	21.7	19.8	20.6	19.4	20.5
Corsoy	22.1	20.5	21.0	19.9	21.0
Harcor	22.8	19.5	21.3	20.4	20.5
Wells	23.0	20.6	21.3	21.2	20.5
Wells BC <sub>6</sub>	21.8	20.5	21.3	20.8	20.7
Woodworth	21.4	19.5	20.5	19.1	19.9
A73-25050	23.7	20.8	22.9	20.6	22.6
A75-105019	22.3	20.3	20.9	20.6	22.6
A75-105020	22.1	20.4	20.2	20.3	20.9
A75-105021	21.6	20.1	21.6	20.5	21.4
A75-105029	22.3	19.6	21.2	20.2	21.4
A75-105033	22.0	19.7	20.9	20.0	21.4
A75-105034	22.7	19.3	20.4	19.3	21.0
A75-203014	22.3	19.4	20.4	19.8	21.0
A75-203036	23.3	19.4	20.5	20.3	20.9
A75-Corsoy R3	22.8	20.0	20.4	20.2	20.9
C1545	21.4	19.1	20.2	20.2	21.1
L73D-195	21.9	20.1	20.3	19.6	21.2
L73-6084	22.9	20.2	21.6	20.5	21.3
U10917	23.1	20.6	21.6	20.7	22.5
U11406	21.8	19.2	19.2	19.3	20.7

Strain	Parentage	Generation Compositd
1. Coles		
2. Corsoy		
3. Woodworth		
4. A76-105027	Corsoy <sup>2</sup> x (Mack x L65-1342 or Anoka)	F <sub>2</sub>
5. A76-201002	AP6	F <sub>6</sub>
6. A76-201004	"	" <sub>6</sub>
7. A76-201009	"	"
8. A76-201010	"	"
9. A76-201012	"	"
10. A76-201016		
11. A76-202015	"	"
12. A76-203016	"	"
13. A76-304002	"	"
14. A76-304005	"	"
15. A76-304006	"	"
16. A76-304008	"	"
17. A76-304009	"	"
18. A76-304012	"	"
19. A76-304013	"	"
20. C1550	Beeson x C1421	F <sub>7</sub>
21. C1551	C1471 x Rampage	" <sub>7</sub>
22. C1553	Williams x Beeson	F <sub>8</sub>
23. C1554	"	" <sub>8</sub>
24. C1561	Williams x L69L-6-1	"
25. HW6942-15-6	Calland x Beeson	F <sub>4</sub>
26. HW6984-20-6	Cutler x Beeson	" <sub>4</sub>
27. HW75-3025	Amsoy 71 x PI 227.334 Dt <sub>2</sub>	"
28. L73-4679	Corsoy x L66L-154	F <sub>5</sub>
29. L73-5875	Beeson x Corsoy	" <sub>5</sub>
30. L74-3157	Steele x Williams	F <sub>6</sub>
31. L74-3224	"	" <sub>6</sub>
32. L74-3516	Williams x L69-4310 (L2-Dt <sub>2</sub> )	F <sub>7</sub>
33. L75-3674	Corsoy <sup>6</sup> x Lee 68 (Arksoy PR res)	F <sub>3</sub>
34. U10426	C1432 x C1430	F <sub>7</sub>
35. U11532	Wayne x C1317-71	F <sub>4</sub>

Most of the strains in this test exceeded the yield of the group II check varieties. Three of the six highest yielding strains A76-304002, A76-304005, and A76-304006 are 8.5 to 10 days later than Corsoy and probably belong in Group III. The strain A76-202015 is the highest yielding strain in the test and is 6 days later in maturity than Corsoy. Two of the other top six yielders are A76-201010 and HW6942-15-6 which are 4 and 6 days later respectively in maturity than Corsoy. HW6942-15-6 is resistant to phytophthora root rot and has good lodging resistance.

Beeson was dropped from the test because the regional maturity data would suggest the variety used was possibly Bonus.

## Disease Data

Strain	FE2	BSR			PSB	PS	Germ.	PR		
	Laf. Ind.	Laf. Ind.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	a	n %	n% stem	n% plants	% d	% a	% *	a	a	n
Coles	4	90	94	100	45	67	79	S	S	4.0
Corsoy	5	20	99	100	49	89	72	S	S	4.0
Woodworth	4	70	44	80	30	75	77	S	S	3.0
A76-105027	5	70	86	100	55	78	78	R	R	2.5
A76-201002	3	70	87	100	34	76	63	R	R	5.0
A76-201004	4	50	94	100	39	92	86	S	S	4.0
A76-201009	4	50	100	100	27	91	82	S	S	5.0
A76-201010	4	60	90	100	56	72	80	S	S	2.5
A76-201012	3	100	98	100	34	94	79	H	S	3.5
A76-201016	1	70	98	100	30	74	78	S	S	4.0
A76-202015	3	100	83	100	33	80	80	S	S	2.5
A76-203016	4	80	100	100	24	93	93	S	S	3.0
A76-304002	3	60	90	100	15	81	96	S	S	3.5
A76-304005	4	60	67	80	51	86	74	H	S	2.5
A76-304006	2	50	84	90	42	82	70	H	S	3.0
A76-304008	5	80	93	100	23	86	81	S	S	4.0
A76-304009	3	80	95	100	13	79	96	S	S	4.0
A76-304012	1	40	96	100	27	78	74	S	S	3.5
A76-304013	1	80	81	100	40	83	58	S	S	2.5
C1550	1	70	96	100	11	43	87	R	R	3.5
C1551	4	100	94	100	28	59	89	R	R	2.5
C1553	1	80	83	100	22	96	93	H	S	3.5
C1554	1	80	78	100	18	86	96	H	R	3.0
C1561	4	60	91	100	17	90	88	S	S	3.5
HW6942-15-6	4	70	68	100	16	76	93	R	R	3.0
HW6984-20-6	5	60	83	100	24	70	88	R	R	3.5
HW75-3025	4	70	88	90	21	71	93	R	R	4.0
L73-4679	5	30	69	90	33	66	86	S	S	3.5
L73-5875	5	80	83	100	37	98	79	R	R	4.0
L74-3157	4	70	100	100	39	90	84	R	R	4.0
L74-3224	3	50	97	100	15	84	94	S	S	3.5
L74-3516	3	60	93	100	12	60	97	R	R	2.5
L75-3674	5	60	95	100	32	88	83	R	R	3.0
U10426	1	90	85	100	28	62	88	R	R	3.5
U11532	3	100	86	100	22	83	89	R	R	3.5

\*Petri dish germ. on potato dextros agar.

## PRELIMINARY TEST II, 1977

## Descriptive and Other Data

Strain	Descriptive Code		Chlorosis	
			Ames Iowa	Shattering Manhattan Kansas
Coles	PGBr	DYY	4	5
Corsoy	PGBr	DYY	4	2
Woodworth	WTTn	DYB1	4	2
A76-105027	PGTn	DYY	4	2
A76-201002	PTBr	SYG	4	1
A76-201004	PTBr	DYBr	2	3
A76-201009	PGBr	DYY	2	2
A76-201010	PTBr	SYB1	5	4
A76-201012	WGBr	DYBf	2	3
A76-201016	WGBr	SYBf	5	2
A76-202015	WTBr	DYB1	4	2
A76-203016	WGBr	SYBf+Y	4	2
A76-304002	WG+TBr	DYBr	2	4
A76-304005	PGBr	DYY	4	3
A76-304006	WGBr	DYY	3	2
A76-304008	WGBr	DYBf	5	2
A76-304009	WGTn	SYY	2	2
A76-304012	PTBr+Tn	DYB1	3	3
A76-304013	WGBr+Tn	DYBf	3	2
C1550	PGTn	SYIb	3	2
C1551	PGBr	SYIb	3	4
C1553	WGTn	DYBf	4	2
C1554	PGBr	SYIb	3	3
C1561	PTBr	SYBr	3	3
HW6942-15-6	PTBr	DYB1	3	4
HW6934-20-6	PTBr	SYB1	3	2
HW75-3025	WGTn	SYY	2	4
L73-4679	PGBr	DYIb	5	2
L73-5875	PGBr	DYY	5	2
L74-3157	PTBr	DYG	2	2
L74-3224	PGBr	DYY	3	2
L74-3516	PTBr	DYB1	4	1
L75-3674	PGBr	DYY	4	1
U10426	WGTn	SYBf	4	2
U11532	WGTn	SYBf	3	2

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition Protein	Oil
No. of tests	9	9	8	9	9	8	9	3	3
Coles	45.0	32	- 1.6	2.1	37	2.1	18.0	38.0	21.7
Corsoy	45.2	31	9-20.2†	2.3	37	2.4	15.7	38.2	21.3
Woodworth	48.6	7	+10.6	1.7	39	2.0	15.9	38.9	21.0
A76-105027	46.8	19	+ 1.8	2.1	34	2.3	17.2	38.2	22.0
A76-201002	46.6	21	+ 4.1	1.7	37	2.5	17.8	36.7	22.2
A76-201004	46.6	21	+ 3.1	1.4	33	2.2	17.1	36.8	22.2
A76-201009	48.5	8	+ 0.2	1.6	33	2.4	16.6	36.8	22.6
A76-201010	49.2	5	+ 3.9	2.4	35	2.0	17.0	37.2	20.9
A76-201012	47.9	11	+ 7.6	2.3	36	2.6	16.8	38.0	20.9
A76-201016	45.4	30	+ 4.1	1.5	37	2.4	16.3	36.3	22.8
A76-202015	52.7	1	+ 6.2	2.4	37	2.0	18.3	36.6	22.0
A76-203016	46.4	24	+ 6.5	1.9	36	1.9	17.1	37.0	22.1
A76-304002	51.4	2	+ 8.5	2.2	39	2.2	17.4	38.2	20.8
A76-304005	48.9	6	+10.2	2.3	40	2.0	16.0	41.4	20.1
A76-304006	50.9	3	+ 9.0	2.8	37	2.3	18.6	37.8	21.6
A76-304008	46.9	18	+ 7.0	1.8	37	2.2	14.8	36.3	23.2
A76-304009	45.0	32	+ 7.1	1.8	39	1.9	16.6	36.6	21.7
A76-304012	47.1	15	+ 7.1	1.2	38	2.0	18.3	39.3	21.9
A76-304013	47.0	17	+ 9.1	2.4	40	2.5	16.6	37.9	22.4
C1550	47.5	13	+ 6.6	1.4	36	2.7	18.9	37.5	22.3
C1551	47.6	12	+ 7.5	1.4	41	2.2	17.9	40.8	21.2
C1553	48.5	8	+ 3.8	1.3	33	2.2	20.8	36.3	23.9
C1554	48.3	10	+ 5.1	1.7	39	2.2	20.7	39.0	21.1
C1561	46.0	27	+ 4.6	2.0	39	2.2	18.2	38.9	21.9
HW6942-15-6	49.8	4	+ 6.6	1.6	37	2.1	19.7	38.6	21.2
HW6984-20-6	47.1	15	+ 5.6	1.7	38	2.0	19.0	41.4	19.8
HW75-3025	44.4	34	+ 4.0	1.9	36	1.8	14.8	37.9	21.9
L73-4679	46.2	26	+ 6.6	1.8	38	2.3	16.6	38.9	20.1
L73-5875	46.7	20	+ 7.6	2.3	43	2.5	15.5	38.1	21.5
L74-3157	45.6	28	+ 5.6	1.8	40	2.2	17.3	36.7	21.8
L74-3224	46.4	24	+ 8.4	1.6	38	2.0	16.3	38.5	20.7
L74-3516	46.6	21	+ 8.6	1.8	35	2.2	16.5	39.2	20.3
L75-3674	47.4	14	+ 1.2	2.1	37	2.3	15.8	36.8	22.4
U10426	43.1	35	+ 8.4	1.7	37	2.3	16.5	38.7	20.4
U11532	45.6	28	+ 4.2	1.7	37	2.3	17.7	38.7	20.6

† 122 days after planting



Strain	Mean	N.J.	Ohio	Mich.	Ind.	Wis.
		Adelphia	Hoytville	Dundee	Lafayette	Arlington
	9 Tests	<u>YIELD (bu/a)</u>				
Coles	45.0	32.1	52.1	39.4	43.1	52.5
Corsoy	45.2	38.0	53.5	36.6	42.4	53.8
Woodworth	48.6	40.3	55.1	48.9	54.9	41.0
A76-105027	46.8	32.5	54.2	40.7	41.0	53.8
A76-201002	46.6	32.8	53.5	38.9	52.1	49.4
A76-201004	46.6	30.6	51.4	36.7	48.7	47.6
A76-201009	48.5	44.7	53.6	33.5	47.4	54.2
A76-201010	49.2	45.2	50.1	46.7	50.4	48.7
A76-201012	47.9	46.7	54.1	46.4	49.2	45.6
A76-201016	45.4	35.6	47.7	41.4	47.0	44.0
A76-202015	52.7	45.0	56.0	59.2	50.4	51.6
A76-203016	46.4	43.2	53.4	40.2	48.6	48.4
A76-304002	51.4	48.7	54.0	44.3	60.3	50.6
A76-304005	48.9	42.9	47.8	54.2	57.2	45.9
A76-304006	50.9	42.2	53.6	54.4	54.6	51.0
A76-304008	46.9	41.9	49.9	46.3	50.5	49.0
A76-304009	45.0	42.5	50.2	32.2	49.6	45.8
A76-304012	47.1	39.4	52.0	43.3	54.3	47.8
A76-304013	47.0	39.9	54.3	51.2	52.5	45.3
C1550	47.5	44.4	50.4	41.4	52.1	43.8
C1551	47.6	41.2	52.4	46.2	48.7	45.3
C1553	48.5	39.8	53.0	42.2	52.7	56.1
C1554	48.3	41.2	48.8	46.5	50.1	50.2
C1561	46.0	41.3	51.2	43.0	47.5	49.5
HW6942-15-6	49.8	35.2	55.2	48.6	53.0	51.3
HW6984-20-6	47.1	35.0	53.2	42.8	49.1	50.6
HW75-3025	44.4	38.6	49.6	33.6	47.0	45.2
L73-4679	46.2	35.0	50.4	43.4	49.4	47.8
L73-5875	46.7	37.2	58.0	38.1	48.9	47.5
L74-3157	45.6	39.2	46.7	35.2	51.3	47.8
L74-3224	46.4	37.4	49.1	44.9	55.7	42.2
L74-3516	46.6	37.7	48.4	45.6	59.7	44.2
L75-3674	47.4	32.9	52.6	48.0	42.7	51.9
U10426	43.1	33.0	50.1	35.9	47.2	43.1
U11532	45.6	22.6	48.0	44.4	49.1	52.8
C.V. (%)		14.2	4.7	20.3	6.1	6.7
L.S.D. (5%)		7.9	4.9	13.0	6.2	4.6
Row sp (in.)		30	30	30	30	30
Rows/plot		3	4	4	3	3
Reps		2	2	2	2	2

<u>Ill.</u>	<u>Iowa</u>		<u>S. Dakota</u>	<u>Neb.</u>
<u>Urbana</u>	<u>Keystone</u>	<u>Ames</u>	<u>Centerville</u>	<u>Mead I</u>
<u>YIELD (bu/a)</u>				
46.6	47.9	22.2*	44.2	47.1
48.8	43.3	20.4	44.0	46.8
50.4	52.0	45.7	46.1	48.8
50.6	49.1	18.8	46.2	53.4
47.2	52.1	39.7	40.6	52.5
51.8	51.7	30.2	46.5	54.3
51.7	49.1	19.5	49.0	53.6
51.2	48.2	33.3	51.1	51.2
50.5	45.9	36.6	46.4	46.5
50.4	45.3	27.3	48.8	48.4
55.3	57.0	45.7	48.0	51.4
51.0	40.7	25.5	46.3	45.8
48.1	57.3	34.4	46.7	52.7
48.0	58.4	36.4	39.2	46.6
50.9	56.7	26.0	43.9	50.4
48.8	47.0	23.6	46.7	41.7
44.9	48.0	31.8	46.1	46.0
49.6	44.4	25.9	45.2	47.6
42.8	47.2	39.9	44.8	44.6
51.6	46.3	33.5	48.2	49.6
50.1	47.3	35.1	48.3	48.6
48.4	48.4	29.4	45.8	50.1
52.5	52.0	29.9	44.2	49.2
49.2	42.6	28.6	42.2	47.1
51.5	53.6	36.9	45.5	54.2
50.6	46.5	19.8	49.1	46.9
48.1	44.4	21.6	42.5	51.0
48.2	47.3	22.9	43.5	51.0
46.0	49.5	38.2	43.9	51.2
49.5	45.1	35.9	42.8	53.1
46.3	47.2	34.6	45.8	48.8
46.7	46.9	30.4	43.2	46.7
52.1	47.8	28.0	48.9	49.7
44.7	40.9	29.8	49.8	42.8
48.6	47.3	25.2	48.5	48.7
9.8	5.5	16.6	9.0	7.3
9.8	5.3	9.9	NS	7.3
30	27	27	30	30
4	4	4	3	4
2	2	2	3	2

\* Not included in the mean, drought.

Strain	Mean	N.J.	Ohio	Mich.	Indiana	Wis.	
		Adelphia	Hoytville	Dundee	Lafayette	Arlington	
	9 Tests		<u>YIELD RANK</u>				
Coles	32	33	18	26	32	6	
Corsoy	31	21	11	30	34	3	
Woodworth	7	15	4	5	5	35	
A76-105027	19	32	6	24	35	3	
A76-201002	21	31	11	27	11	15	
A76-201004	21	34	20	29	24	22	
A76-201009	8	5	9	34	28	2	
A76-201010	5	3	25	8	15	17	
A76-201012	11	2	7	10	20	26	
A76-201016	30	25	34	22	30	31	
A76-202015	1	4	2	1	15	8	
A76-203016	24	7	13	25	26	18	
A76-304002	2	1	8	16	1	11	
A76-304005	6	8	33	3	3	24	
A76-304006	3	10	9	2	6	10	
A76-304008	18	11	27	11	14	16	
A76-304009	32	9	24	35	18	25	
A76-304012	15	18	19	18	7	19	
A76-304013	17	16	5	4	10	27	
C1550	13	6	22	22	11	32	
C1551	12	13	17	12	24	27	
C1553	8	17	15	21	9	1	
C1554	10	13	30	9	17	13	
C1561	27	12	21	19	27	14	
HW6942-15-6	4	26	3	6	8	9	
HW6984-20-6	15	27	14	20	21	11	
HW75-3025	34	20	28	33	30	29	
L73-4679	26	27	22	17	19	19	
L73-5875	20	24	1	28	23	23	
L74-3157	28	19	35	32	13	19	
L74-3224	24	23	29	14	4	34	
L74-3516	21	22	31	13	2	30	
L75-3674	14	30	16	7	33	7	
U10426	35	29	25	31	29	33	
U11532	28	35	32	15	21	5	

<u>Ill.</u>	<u>Iowa</u>		<u>S. Dakota</u>	<u>Neb.</u>
<u>Urbana</u>	<u>Keystone</u>	<u>Ames</u>	<u>Centerville</u>	<u>Mead I</u>
		<u>YIELD RANK</u>		
31	16	30*	24	24
21	32	32	26	27
15	7	1	17	18
11	11	35	16	4
29	6	4	34	7
4	9	17	13	1
5	11	34	4	3
8	14	14	1	9
13	27	7	14	30
15	28	23	6	22
1	3	1	10	8
9	35	26	15	32
26	2	12	11	6
28	1	8	35	29
10	4	24	27	13
21	23	28	11	35
34	15	15	17	31
18	30	25	22	23
36	21	3	23	33
6	26	13	9	16
17	18	10	8	21
24	13	20	19	14
2	7	18	24	17
20	33	21	33	24
7	5	6	21	2
11	25	33	3	26
26	30	31	32	11
25	18	29	29	11
33	10	5	27	9
19	29	9	31	5
32	21	11	19	18
30	24	16	30	28
3	17	22	5	15
35	34	19	2	34
23	18	27	7	20

\* Not included in the mean

Strain	Mean	N.J.	Ohio	Mich.	Ind.	Wis.
		Adelphia	Hoytville	Dundee	Lafayette	Arlington
	8 Tests	<u>MATURITY (relative data)</u>				
Coles	- 1.6	+ 1	- 2	- 2	+ 2	-10
Corsoy†	9-20.2	9-18	9-27	9-23	9-1	10-4
Woodworth	+10.6	+15	+ 4	+ 4	+21	+ 6
A76-105027	+ 1.8	+ 9	+ 2	0	+ 1	0
A76-201002	+ 4.1	+ 7	+ 4	+ 2	+ 9	0
A76-201004	+ 3.1	+ 7	+ 2	+ 1	+ 9	- 2
A76-201009	+ 0.2	+ 1	+ 2	- 2	+ 4	- 4
A76-201010	+ 3.9	0	+ 4	0	+15	- 4
A76-201012	+ 7.6	+ 9	+ 6	+ 3	+15	+ 6
A76-201016	+ 4.1	+ 6	+ 4	0	+ 8	+ 1
A76-202015	+ 6.2	+ 9	+ 4	+ 3	+13	+ 1
A76-203016	+ 6.5	+11	+ 7	+ 4	+10	+ 3
A76-304002	+ 8.5	+12	+ 4	+ 4	+17	+ 5
A76-304005	+10.2	+11	+ 6	+ 6	+19	+ 5
A76-304006	+ 9.0	+14	+ 8	+ 5	+18	+ 5
A76-304008	+ 7.0	+12	+ 4	+ 4	+11	+ 4
A76-304009	+ 7.1	+15	+ 4	+ 3	+13	+ 1
A76-304012	+ 7.1	+13	+ 6	+ 6	+13	- 1
A76-304013	+ 9.1	+14	+ 6	+ 6	+19	+ 8
C1550	+ 6.6	+13	+ 3	+ 4	+11	+ 1
C1551	+ 7.5	+15	+ 4	+ 3	+13	+ 2
C1553	+ 3.8	+11	+ 2	+ 1	+ 9	- 4
C1554	+ 5.1	+ 7	+ 4	+ 1	+14	+ 1
C1561	+ 4.6	+ 5	+ 3	+ 2	+11	0
HW6942-15-6	+ 6.6	+15	+ 4	+ 2	+17	- 1
HW6984-20-6	+ 5.6	+15	+ 4	+ 3	+10	- 1
HW75-3025	+ 4.0	+ 6	+ 4	+ 1	+11	- 4
L73-4679	+ 6.6	+12	+ 6	+ 5	+13	+ 1
L73-5875	+ 7.6	+11	+ 7	+ 4	+15	+ 4
L74-3157	+ 5.6	+11	+ 3	+ 2	+15	0
L74-3224	+ 8.4	+10	+ 6	+ 3	+18	+ 6
L74-3516	+ 8.6	+15	+ 4	+ 5	+18	+ 2
L75-3674	+ 1.2	+ 7	0	+ 1	+ 3	0
U10426	+ 8.4	+14	+ 5	+ 2	+20	+ 6
U11532	+ 4.2	+ 5	0	+ 2	+13	- 2
Date planted	5-21	5-25	5-19	5-17	5-9	5-19
†Days to mat.	122	116	131	129	115	138

<u>Ill.</u>	<u>Iowa</u>		<u>S. Dakota</u>	<u>Neb.</u>
<u>Urbana</u>	<u>Keystone</u>	<u>Ames</u>	<u>Centerville</u>	<u>Mead I</u>
<u>MATURITY (relative data)</u>				
0		* +14	0	- 2
9-25		8-25	9-20	9-14
+ 9		+26	+15	+11
+ 1		+ 2	+ 1	0
+ 1		+14	+ 6	+ 4
+ 2		+17	+ 5	+ 1
0		+10	+ 2	- 1
+ 5		+18	+ 7	+ 4
+ 4		+18	+13	+ 5
+ 1		+12	+ 9	+ 4
+ 5		+18	+ 9	+ 6
+ 4		+14	+ 9	+ 4
+ 5		+19	+12	+ 9
+10		+20	+14	+11
+ 7		+17	+ 9	+ 6
+ 4		+14	+12	+ 5
+ 7		+15	+12	+ 2
+ 5		+16	+11	+ 4
+ 4		+19	+11	+ 5
+ 4		+19	+13	+ 4
+ 4		+20	+13	+ 6
+ 3		+15	+ 7	+ 1
0		+20	+10	+ 4
+ 4		+14	+ 9	+ 3
+ 3		+17	+ 8	+ 5
+ 6		+18	+ 7	+ 1
+ 1		+14	+ 9	+ 4
+ 6		+18	+ 5	+ 5
+ 4		+17	+10	+ 6
+ 2		+14	+11	+ 1
+ 6		+18	+13	+ 5
+ 5		+24	+14	+ 6
0		+ 4	+ 1	- 2
+ 2		+20	+13	+ 5
+ 2		+10	+10	+ 4
6-8	5-17	5-2	5-24	5-17
109		115	119	120

\* Not included in the mean

Strain	Parentage	Previous Testing*	Generation Compositd
1. Beeson	C1253 x Kent	UTII	F <sub>7</sub>
2. Calland	C1253 x Kent	10	" <sub>7</sub>
3. Cutler 71	Cutler <sup>4</sup> x SL5 (Kent <u>Rps</u> <u>rxp</u> )	UTIV	6F <sub>3</sub>
4. Elf (L74D-611)	Williams x Ransom dt <sub>1</sub>	1	F <sub>5</sub>
5. Williams	Wayne x L57-0034 (Clark x Adams)	8	F <sub>6</sub>
6. Woodworth	"	7	" <sub>6</sub>
7. A74-204028	Corsoy x Williams	1	F <sub>4</sub>
8. A74-302012	L66L-137 (Wayne x L57-0034) x Calland	1	" <sub>4</sub>
9. A74-303012	Corsoy x Williams	1	"
10. A74-303013	L66L-137 x Calland	1	"
11. A74-306008	M62-275 (Norchief x Harosoy) x L66L-144	1	"
12. A75-204018	IVR Ex4731 x Wirth	PIII	"
13. A75-302005	L15 x AP68-1016	PIII	"
14. A75-305010	AP6	PIV	"
15. A75-305022	Wye x IVR Ex4731	PIII	"
16. A75-305031	Corsoy x Williams	PIII	"
17. A75-306005	IVR Ex5003 x SL12	PIV	"
18. A75-332035	L15 x AP68-1016	PIII	"
19. C1541	Calland x L63-1397	PIII	F <sub>6</sub>
20. K1028	Williams <sup>6</sup> x Calland	PIII	F <sub>5</sub>
21. L22	Williams <sup>6</sup> x (Clark <sup>6</sup> x T117) Williams Dt <sub>2</sub>	PIII	4F <sub>3</sub>
22. L23	Williams <sup>6</sup> x Lee 68	-	10F <sub>3</sub>
23. L69U19-16-2	L15 (Wayne <u>Rps</u> ) x Beeson	2	F <sub>5</sub>
24. L69U37-17-5	Calland x Corsoy	2	" <sub>5</sub>
25. L69U40-16-4	Calland x Amsoy	PIII	F <sub>6</sub>
26. L74-1960	Clark 63 <u>Ir</u> x D64-3077	PIII	F <sub>9</sub>
27. L74D-615	Williams x Ransom dt <sub>1</sub>	PIII	F <sub>5</sub>
28. L74D-619	" " "1	PIII	" <sub>5</sub>
29. L74U-3242	Wells x York	PIII	F <sub>4</sub>

\* Number of years in this test or name of 1976 test

Central

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

In the three-year mean the strain L69U37-17-5 is similar in yield to Williams, is 3 days earlier in maturity, but does not equal Williams in lodging resistance or seed quality.

The two-year mean shows the strains A74-302012, A74-303012, and A74-306008 to be 1 to 2 bushels higher yielding than Williams. A74-302012 is 5 days earlier maturing than Williams and is resistant to race 1 of phytophthora root rot. A74-303012 and A74-206008 are 3 and 1 days earlier respectively than Williams in maturity and susceptible to race 1 of phytophthora root rot. Elf, the determinate variety, is 2 bushels lower yielding, equal in maturity and more lodging resistant than Williams.

Seven strains were equal to or exceeded the yield of the check varieties in the 1977 test. The strain A75-305022, the highest yielding entry in the test, was 2 days earlier in maturity and 2 bushels higher yielding than Williams.

East Coast

The five-year mean shows Williams with a 2 bushel yield advantage over Woodworth and Calland. Williams is also the highest yielding variety in the three-year test.

The two-year mean yields for Elf, Williams, A74-303012, A74-303013, A74-306008, and L69U19-16-2 are all similar and are 2 to 3 bushels higher than most of the other entries in the test.

The determinate variety Elf is the highest yielding entry in the 1977 test. The strain A75-305022 is ranked third in these tests and was the highest yielding entry in the central states tests.



## UNIFORM TEST III, 1977

## Disease Data

Strain	DM	FE2	BSR				PSB	PS	Germ.	PB		
	Girard Ill.	Laf. Ind.	Laf. Ind.	Crook. Minn.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa	Vickery Ohio
	n	a	n %	n %	n% stem	n% plants	% a	% a	% *	a	a	n
Beeson	2	1	80	20	84	100	22	75	68	R	R	4.0
Calland	2	4	70	65	73	100	30	38	77	R	R	3.0
Cutler 71	3	1	100	50	67	90	6	23	93	R	R	2.5
Elf	2	1	100	30	53	90	2	23	96	S	S	3.0
Williams	4	2	80	25	56	100	11	55	93	S	S	3.0
Woodworth	3	4	70	25	52	90	25	51	83	S	S	4.5
A74-204028	3	4	40	35	87	100	53	96	28	S	S	3.5
A74-302012	3	1	80	25	68	100	25	47	82	R	R	2.5
A74-303012	2	3	70	40	66	100	23	54	86	S	S	3.0
A74-303013	2	3	60	35	69	90	12	39	93	H	R	2.5
A74-306008	1	4	90	60	53	100	25	42	86	H	S	2.5
A75-204018	2	2	70	55	91	100	18	37	94	S	S	4.0
A75-302005	3	1	80	25	38	90	16	29	84	R	R	3.0
A75-305010	2	3	90	50	82	80	11	76	92	S	S	2.5
A75-305022	2	4	90	50	63	100	18	49	91	H	S	2.5
A75-305031	2	4	90	40	87	100	24	84	75	S	S	4.0
A75-306005	1	4	70	25	42	100	29	41	74	S	S	4.0
A75-332035	3	2	30	25	56	65	13	77	89	H	R	2.5
C1541	3	4	90	10	77	100	17	37	91	R	R	2.5
K1028	3	3	100	35	78	100	26	57	85	R	R	3.0
L22	4	3	60	20	56	100	12	69	94	S	S	3.0
L23	3	4	50	15	66	100	6	94	99	R	R	2.0
L69U19-16-2	3	2	100	30	53	100	10	92	91	R	R	3.0
L69U37-17-5	2	4	30	20	86	100	35	91	79	H	S	3.5
L69U40-16-4	2	4	80	10	77	100	41	93	60	R	R	3.0
L74-1960	2	2	100	45	46	90	16	64	89	R	R	3.0
L74D-615	1	1	100	15	70	100	10	41	94	S	S	2.5
L74D-619	1	1	90	30	86	100	17	62	87	S	S	3.5
L74U-3242	1	1	100	10	47	100	42	74	63	S	S	4.0

\*Petri dish germ. on potato dextros agar.

## Descriptive and Other Data

Strain	Descriptive Code	Chlorosis		Emergence	Shattering	
		Lamberton Minnesota	Ames Iowa		Manhattan Kansas	Lubbock Texas
Beeson	PGBr SYIb	*3.5	4	4	2.0	4.2
Calland	PTBr DYB1	2.0	3	1	3.0	1.5
Cutler 71	PTBr SYB1	1.5	3	5	2.0	2.0
Elf	PTTn SYB1	2.8	3	1	1.0	2.0
Williams	WTTn SYB1	2.2	3	4	2.0	2.0
Woodworth	WTTn DYB1	3.8	5	5	2.0	3.2
A74-204028	PTBr SYG	2.8	3	1	1.0	3.5
A74-302012	PTTn DYB1	3.0	5	1	2.0	1.7
A74-303012	PGBr SYIb	3.2	4	2	2.0	2.2
A74-303013	PTBr DYB1	3.8	4	2	2.0	3.3
A74-306008	WGTn DYDbf	2.0	3	2	2.0	2.8
A75-204018	WTBr DYBr	1.5	1	2	3.0	3.8
A75-302005	WTBr DYBr	3.0	3	5	1.0	2.0
A75-305010	WTBr SYBr	3.2	4	5	2.0	3.2
A75-305022	WTBr SYBr	1.2	3	5	3.0	2.3
A75-305031	WTBr SYBr	2.5	5	1	1.0	2.0
A75-306005	PTBr SYY	2.5	4	1	3.0	3.0
A75-332035	WTBr SYBr	2.8	4	5	4.0	3.8
C1541	WTTn DYB1	1.2	1	1	3.0	2.0
K1028	PTTn DYB1	2.2	5	1	2.0	1.5
L22	WTTn SYB1	2.0	4	5	1.0	2.0
L23	WTTn SYB1	2.0	4	5	3.0	2.7
L69U19-16-2	WGBr SYBf	2.2	4	1	3.0	4.5
L69U37-17-5	PGBr DYBf	2.0	3	1	3.0	2.2
L69U40-16-4	PGTn DYG	2.2	4	4	5.0	2.5
L74-1960	WTBr SYB1	2.8	3	4	2.0	2.3
L74D-615	PTTn SYB1	2.2	4	1	1.0	1.7
L74D-619	PTTn SYB1	1.8	2	1	1.0	2.0
L74U-3242	PGTn DYBf	4.2	5	1	4.0	3.2

\* Composite score of Crookston and Lamberton, Minnesota.

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
<u>1977 EAST COAST</u>									
No. of tests	3	3	4	4	4	3	2	1	1
Feeson	36.3	27	-5.0	2.0	28	3.4	20.6	40.1	21.3
Calland	40.1	7	+2.5	2.1	33	3.4	18.0	40.1	20.5
Cutler 71	38.4	21	+4.5	2.3	33	2.7	18.6	40.4	20.7
Ilf	44.1	1	+2.8	1.8	22	2.4	18.2	39.2	20.4
Williams	38.9	16	+1.8	1.7	30	2.8	17.8	40.6	21.5
Woodworth	36.8	24	10-2.2†	2.0	29	2.8	16.0	39.5	21.6
A74-204028	33.6	29	-4.0	1.7	26	2.7	16.2	38.5	22.4
A74-302012	38.5	20	+1.0	1.6	30	3.2	20.4	37.8	21.7
A74-303012	39.4	9	+0.2	1.4	28	2.9	18.4	38.1	22.5
A74-303013	39.0	13	+0.8	1.8	29	2.9	18.0	39.5	21.2
A74-306008	38.7	18	+2.0	1.5	26	3.0	16.8	40.0	20.8
A75-204018	39.2	11	+1.2	1.5	28	2.8	16.0	37.6	21.9
A75-302005	36.9	23	+1.5	1.9	30	2.9	17.8	40.5	20.0
A75-305010	38.3	22	+1.8	1.9	32	2.8	16.0	39.5	20.7
A75-305022	41.5	3	+0.2	1.8	30	2.7	15.4	38.3	22.1
A75-305031	36.7	25	+0.8	1.8	28	3.6	17.3	38.1	21.7
A75-306005	39.8	8	+1.8	2.0	28	2.8	17.0	40.7	20.2
A75-332035	36.6	26	-1.0	2.0	30	3.1	16.4	39.4	20.5
C1541	38.8	17	+2.2	1.8	30	2.8	17.6	39.8	20.1
K1028	35.4	28	+2.0	1.8	27	2.9	16.9	39.4	20.6
L22	39.0	13	+0.2	1.6	26	2.7	16.8	40.2	20.5
L23	39.3	10	+1.5	2.0	30	2.6	18.2	40.1	20.7
L69U19-16-2	41.6	2	+1.5	1.9	30	3.3	17.8	38.4	21.1
L69U37-17-5	39.1	12	+2.2	1.8	30	3.9	18.2	38.6	20.8
L69U40-16-4	39.0	13	-0.8	1.5	28	4.1	20.4	36.0	23.3
L74-1960	40.8	6	+2.0	2.0	30	2.9	16.8	38.7	21.1
L74D-615	41.4	4	+1.8	1.8	23	2.5	16.5	37.6	23.0
L74D-619	38.7	18	-1.0	2.0	23	2.5	15.9	38.6	22.0
L74U-3242	41.0	5	+0.2	1.5	30	3.3	19.1	37.3	22.7

† 129 days after planting

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	<u>Seed Composition</u>	
								Protein	Oil
<u>1976-1977, 2-YEAR MEAN, EAST COAST</u>									
No. of tests	7	7	8	8	8	7	5	3	3
Calland	38.8	8	+2.8	2.4	34	2.9	18.0	40.4	19.8
Elf	40.7	3	+3.5	2.2	24	2.3	18.0	40.7	19.6
Williams	40.3	5	+2.3	1.8	30	2.3	18.1	40.7	20.8
Woodworth	37.3	10	9-29.4†	2.0	30	2.5	16.2	39.9	20.8
A74-204028	34.5	11	+3.9	1.8	26	2.7	17.2	40.3	21.3
A74-302012	38.8	8	+1.9	1.9	32	2.6	21.2	38.9	21.0
A74-303012	40.8	2	+0.6	1.6	28	2.4	19.4	39.5	21.4
A74-303013	40.7	3	+1.8	1.9	30	2.4	18.8	40.0	20.3
A74-306008	40.2	6	+3.2	1.6	27	2.7	17.2	40.5	20.0
L69U19-16-2	40.9	1	+2.4	1.8	30	3.2	18.1	40.3	19.8
L69U37-17-5	38.9	7	+3.8	2.2	31	3.5	18.1	40.1	19.7

† 124 days after planting

<u>1975-1977, 3-YEAR MEAN, EAST COAST</u>									
No. of tests	12	12	13	13	13	12	9	5	5
Calland	43.1	4	+2.6	2.6	34	2.9	19.2	41.3	19.4
Williams	45.0	1	+2.7	2.1	30	2.3	19.0	41.1	20.9
Woodworth	41.1	5	9-27.4†	2.3	30	2.5	17.0	40.9	20.6
L69U19-16-2	44.4	2	+2.5	2.0	31	3.2	19.0	40.9	19.7
L69U37-17-5	43.3	3	+3.5	2.6	31	3.4	18.7	40.4	19.8

† 121 days after planting

<u>1973-1977, 5-YEAR MEAN, EAST COAST</u>									
No. of tests	21	21	21	22	22	21	18	9	9
Calland	43.5	3	+2.2	2.5	37	2.8	19.1	41.5	19.7
Williams	45.4	1	+2.4	1.9	34	2.2	19.1	41.8	21.2
Woodworth	43.6	2	9-27.3†	2.1	35	2.5	16.9	41.0	20.9

† 118 days after planting

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
<u>1977 Central</u>									
No. of tests	18	18	14	18	18	17	15	10	10
Beeson	39.6	29	-7.0	2.2	37	2.8	19.1	39.5	21.7
Calland	44.3	25	+0.3	2.3	42	2.5	18.0	39.5	20.4
Cutler 71	45.4	22	+5.3	2.4	44	2.2	18.5	40.1	20.9
Elf	45.0	23	+3.3	1.4	23	1.7	16.5	40.0	20.5
Williams	48.1	7	+3.2	2.1	40	2.1	18.1	39.5	21.4
Woodworth	46.5	16	9-21.6†	2.1	39	2.3	15.6	38.7	22.1
A74-204028	43.9	26	-5.7	2.5	35	2.5	16.2	38.7	22.9
A74-302012	49.1	4	-1.8	2.0	39	2.3	20.6	37.6	22.4
A74-303012	49.5	3	+1.0	2.2	38	2.2	19.0	38.6	23.0
A74-303013	47.6	13	+0.7	1.8	39	2.2	19.2	38.6	21.4
A74-306008	49.8	2	+2.9	2.4	37	2.2	17.5	39.5	21.4
A75-204018	48.3	5	+1.1	2.2	39	2.2	16.1	37.1	22.7
A75-302005	46.5	16	+1.2	2.4	41	2.4	18.4	39.6	21.3
A75-305010	48.3	5	+2.9	2.4	43	2.0	16.5	40.4	20.2
A75-305022	50.5	1	+1.0	2.1	40	2.0	15.2	38.4	22.3
A75-305031	45.6	21	-1.8	2.1	37	2.4	16.2	37.4	21.9
A75-306005	46.5	16	+0.7	2.5	36	2.4	17.0	40.5	21.5
A75-332035	44.4	24	-1.2	2.2	40	2.4	16.6	40.4	21.0
C1541	47.8	10	-0.1	2.1	39	2.1	17.2	39.0	20.7
K1028	48.1	7	-0.4	1.7	36	2.1	17.2	38.8	22.1
L22	47.7	12	-2.2	1.7	32	1.7	17.1	39.3	21.7
L23	47.9	9	+1.4	2.1	41	2.1	18.0	39.3	21.5
L69U19-16-2	46.1	20	+2.2	2.2	40	2.5	18.6	40.1	20.4
L69U37-17-5	46.8	15	+0.9	2.6	42	3.0	18.0	38.5	21.5
L69U40-16-4	46.3	19	-3.1	2.3	39	3.1	19.4	37.5	23.2
L74-1960	47.8	10	+1.7	2.2	39	2.3	16.4	38.0	21.7
L74D-615	41.5	28	+2.3	1.3	22	2.0	17.5	39.3	21.8
L74D-619	41.6	27	-1.5	1.5	22	2.0	16.7	39.4	21.7
L7UU-3242	46.9	14	-1.8	1.7	38	2.6	19.5	37.3	23.1

† 129 days after planting

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition	
								Protein	Oil
<u>1976-1977, 2-YEAR MEAN, CENTRAL</u>									
No. of tests	35	35	30	36	37	35	26	22	22
Calland	41.9	11	+0.8	2.2	39	2.4	17.2	39.9	20.3
Elf	43.3	10	+3.9	1.6	22	1.8	16.0	40.6	20.3
Williams	45.2	5	+3.7	2.0	38	1.9	17.3	40.2	21.3
Woodworth	44.6	7	9-19.6†	2.0	37	2.0	15.0	39.3	21.7
A74-204028	43.7	9	-4.8	2.2	32	2.3	16.0	39.6	22.1
A74-302012	46.6	3	-1.6	1.8	37	2.2	19.6	38.5	22.1
A74-303012	47.1	1	+0.8	2.1	35	2.1	18.3	39.5	22.3
A74-303013	45.2	5	+1.3	1.8	37	2.1	18.1	39.3	21.2
A74-306008	46.9	2	+3.0	2.3	35	2.0	16.6	39.8	21.3
L69U19-16-2	44.5	8	+1.8	2.0	38	2.4	17.9	40.5	20.3
L69U37-17-5	45.6	4	+1.0	2.4	39	2.8	17.2	39.1	21.1

† 128 days after planting

<u>1975-1977, 3-YEAR MEAN, CENTRAL</u>									
No. of tests	58	58	49	58	60	56	46	34	34
Calland	44.2	5	+0.7	2.0	39	2.4	17.6	39.9	20.4
Williams	46.9	1	+4.0	1.8	37	1.8	17.4	40.4	21.5
Woodworth	45.7	3	9-20.5†	1.9	37	2.0	15.3	39.6	21.7
L69U19-16-2	45.6	4	+2.3	1.9	37	2.4	18.4	40.6	20.6
L69U37-17-5	46.5	2	+1.2	2.3	38	2.8	17.7	39.3	21.2

† 128 days after planting

<u>1970-1977, 8-YEAR MEAN, CENTRAL</u>									
No. of tests	167	167	142	164	168	161	138	97	97
Calland	43.9	3	+1.5	2.1	40	2.2	17.7	40.0	20.7
Williams	46.0	1	+3.7	1.8	39	1.8	17.5	40.6	21.8
Woodworth	45.5	2	9-23.3†	1.8	38	1.9	15.3	39.8	21.9

† 124 days after planting

Strain	East	Pa.	N.J.	Del.	Md.	Central	Ohio		
	Coast	Landis-	Adel-	George-	Clarks-		Mean	Hoyt-	Wooster
	Mean	ville	phia	town I	ville				
	3 Tests	1977 YIELD (bu/a)				18 Tests			
			*						
Beeson	36.3	35.4		25.6	47.9	39.6	50.8	48.6	
Calland	40.1	36.7		29.3	54.3	44.3	51.5	45.2	
Cutler 71	38.4	41.0		28.1	46.2	45.4	48.0	43.3	
Elf	44.1	46.6		35.6	50.2	45.0	48.0	50.7	
Williams	38.9	35.8		33.1	47.7	48.1	48.7	51.6	
Woodworth	36.8	38.1		24.4	47.8	46.5	53.6	52.9	
A74-204028	33.6	35.3		20.0	45.4	43.9	52.1	46.4	
A74-302012	38.5	37.6		27.5	50.4	49.1	56.3	54.4	
A74-303012	39.4	35.6		32.5	50.1	49.5	54.8	53.1	
A74-303013	39.0	34.9		33.4	48.7	47.6	52.0	46.1	
A74-306008	38.7	36.6		31.0	48.5	49.8	53.3	42.8	
A75-204018	39.2	31.8		35.3	50.4	48.3	55.2	46.7	
A75-302005	36.9	35.9		28.0	46.8	46.5	53.0	46.8	
A75-305010	38.3	36.4		30.8	47.7	48.3	55.5	52.7	
A75-305022	41.5	37.7		37.8	49.0	50.5	52.5	53.9	
A75-305031	36.7	37.5		21.1	51.5	45.6	55.9	48.1	
A75-306005	39.8	36.5		32.7	50.2	46.5	52.6	48.6	
A75-332035	36.6	35.7		28.1	45.9	44.4	52.0	46.1	
C1541	38.8	35.7		32.5	48.1	47.8	52.8	49.9	
K1028	35.4	30.1		33.0	43.1	48.1	53.1	47.3	
L22	39.0	35.5		34.0	47.4	47.7	52.2	50.4	
L23	39.3	37.5		33.3	47.1	47.9	51.1	53.4	
L69U19-16-2	41.6	40.3		35.0	49.4	46.1	53.0	45.0	
L69U37-17-5	39.1	39.3		31.2	46.9	46.8	50.6	49.1	
L69U40-16-4	39.0	34.2		31.5	51.2	46.3	52.8	44.9	
L74-1960	40.8	35.1		33.6	53.6	47.8	55.3	47.1	
L74D-615	41.4	41.0		32.6	50.6	41.5	52.3	51.5	
L74D-619	38.7	36.0		30.7	49.3	41.6	55.1	55.1	
L74U-3242	41.0	43.7		28.4	51.0	46.9	52.4	54.2	
C.V. (%)		9.9		12.5	6.4		5.8	8.4	
L.S.D. (5%)		6.0		5.1	5.1		5.0	6.7	
Row sp (in.)		30		30	30		30	30	
Rows/plot		4		4	4		4	4	
Reps		3		3	3		3	3	

\* No yield data available.





Strain	Missouri		S. Dakota	Neb.	Kansas		
	Edina	Columbia	Elk Point	Mead I	Man- hattan I	Pow- hattan	Ottawa
	<u>1977 YIELD (bu/a)</u>						
Beeson	32.8	24.2	45.4	35.8	50.3	38.7	20.7
Calland	44.3	34.4	40.9	45.3	59.5	49.2	32.4
Cutler 71	45.5	35.8	38.0	48.1	62.3	48.0	39.2
Elf	45.8	24.6	47.1	47.9	37.5	56.1	31.4
Williams	46.5	35.3	41.2	49.0	66.8	57.9	39.7
Woodworth	46.5	33.9	42.4	46.3	68.5	50.0	34.1
A74-204028	35.3	31.3	47.1	50.3	53.2	41.8	27.7
A74-302012	46.2	34.7	47.4	53.7	67.9	61.5	35.3
A74-303012	48.8	39.3	51.2	48.7	65.9	54.0	35.6
A74-303013	44.8	30.8	42.5	49.1	63.3	55.4	37.0
A74-306008	46.8	39.7	49.0	50.9	63.8	55.6	39.4
A75-204018	46.7	32.2	44.3	49.3	67.2	51.9	35.8
A75-302005	43.4	31.6	38.9	48.2	63.1	48.4	37.3
A75-305010	50.0	37.2	44.3	43.0	63.1	51.3	37.3
A75-305022	47.6	42.0	48.0	49.7	69.2	53.3	39.0
A75-305031	40.1	24.6	43.4	53.1	61.5	46.6	24.8
A75-306005	41.9	30.1	45.6	53.0	64.6	52.0	18.6
A75-332035	42.4	26.9	44.7	51.0	63.8	47.8	33.2
C1541	46.2	34.2	45.3	51.6	63.1	52.9	36.3
K1028	40.5	26.3	52.4	51.6	66.6	56.5	29.2
L22	43.6	31.7	47.9	52.9	55.8	59.0	35.0
L23	38.7	37.8	38.0	49.9	64.0	57.9	39.0
L69U19-16-2	48.0	37.8	44.8	48.7	67.6	50.6	36.4
L69U37-17-5	33.8	37.8	44.1	51.8	59.0	43.1	35.2
L69U40-16-4	37.8	35.4	42.2	56.8	63.8	48.6	28.2
L74-1960	45.9	31.3	41.1	45.3	63.1	53.6	39.5
L74D-615	41.5	24.2	44.3	46.6	26.9	42.5	18.2
L74D-619	41.7	25.6	43.0	48.4	32.6	40.2	17.6
L74U-3242	43.4	30.8	51.1	51.2	67.5	47.1	25.2
C.V. (%)	8.6	14.0	12.1	9.0	5.4	7.3	13.8
L.S.D. (5%)	5.2	6.8	NS	7.2	5.3	7.6	7.3
Row sp (in.)	30	30	30	30	30	30	30
Rows/plot	4	4	3	4	4	4	4
Reps	4	4	3	3	3	3	3

Strain	East	Pa.	Del.	Md.	Central	Ohio		
	Coast	Landis-	George-	Clarks-		Mean	Hoytville	Wooster
	Mean	ville	town I	ville				
	3 Tests	YIELD RANK			18 Tests			
Beeson	27	23	26	18	29	25	15	
Calland	7	12	20	1	25	23	25	
Cutler 71	21	3	22	26	22	28	28	
Elf	1	1	2	9	23	28	11	
Williams	16	18	9	20	7	27	9	
Woodworth	24	7	27	19	16	8	7	
A74-204028	29	24	29	28	26	20	22	
A74-302012	20	9	25	7	4	1	2	
A74-303012	9	21	13	11	3	7	6	
A74-303013	13	26	7	15	13	21	23	
A74-306008	18	13	17	16	2	9	29	
A75-204018	11	28	3	7	5	5	21	
A75-302005	23	17	24	25	16	11	20	
A75-305010	22	15	18	20	5	3	8	
A75-305022	3	8	1	14	1	16	4	
A75-305031	25	10	28	3	21	2	17	
A75-306005	8	14	11	9	16	15	15	
A75-332035	26	19	22	27	24	21	23	
C1541	17	19	13	17	10	13	13	
K1028	28	29	10	29	7	10	18	
L22	13	22	5	22	12	19	12	
L23	10	10	8	23	9	24	5	
L69U19-16-2	2	5	4	12	20	11	26	
L69U37-17-5	12	6	16	24	15	26	14	
L69U40-16-4	13	27	15	4	19	13	27	
L74-1960	6	25	6	2	10	4	19	
L74D-615	4	3	12	6	28	18	10	
L74D-619	18	16	19	13	27	6	1	
L74U-3242	5	2	21	5	14	17	3	

Strain	Indiana			Ky.	Illinois			Iowa	
	Bluff- ton	La- fayette	Sul- livan	Lex- ington	Gir- ard	Browns- town	Belle- ville	Stuart	Agency
<u>1977 YIELD RANK</u>									
Beeson	21	23	29	28	26	29	29	23	24
Calland	20	28	24	8	25	23	27	9	29
Cutler 71	28	3	13	22	24	19	28	2	20
Elf	25	18	2	8	19	27	1	26	25
Williams	12	17	9	14	5	11	25	16	9
Woodworth	29	13	20	15	11	14	13	18	17
A74-204028	3	25	22	27	27	24	24	25	7
A74-302012	16	20	24	1	3	22	4	13	10
A74-303012	15	26	6	6	13	1	4	11	2
A74-303013	24	4	3	18	15	5	20	5	4
A74-306008	5	19	5	3	4	3	3	4	15
A75-204018	14	5	7	12	1	12	10	20	5
A75-302005	18	1	21	21	13	18	18	19	1
A75-305010	11	2	19	11	8	15	16	3	26
A75-305022	4	12	4	5	5	8	12	1	13
A75-305031	10	22	24	19	7	4	7	22	18
A75-306005	2	16	10	17	20	7	14	27	14
A75-332035	26	15	28	26	20	24	26	21	7
C1541	7	14	8	10	16	20	22	17	21
K1028	8	21	14	6	18	2	9	7	3
L22	22	6	1	24	23	13	15	23	6
L23	19	11	15	15	10	8	10	10	11
L69U19-16-2	26	27	23	19	22	28	8	6	22
L69U37-17-5	6	8	16	25	17	10	6	12	19
L69U40-16-4	1	9	27	29	9	20	23	15	12
L74-1960	13	7	11	13	11	6	2	7	27
L74D-615	9	29	18	2	28	17	19	28	16
L74D-619	17	24	12	23	29	26	21	29	22
L74U-3242	23	10	17	4	2	15	17	14	27

<u>Missouri</u>		<u>S. Dakota</u>	<u>Neb.</u>	<u>Kansas</u>		
Edina	Columbia	Elk Point	Mead I	Manhattan I	Powhattan	Ottawa
<u>YIELD RANK</u>						
29	28	11	29	26	29	26
15	12	26	26	24	18	19
13	8	28	22	20	21	4
12	26	8	23	27	6	20
7	10	24	17	7	3	1
7	14	22	25	2	17	17
27	18	8	12	25	27	23
9	11	7	2	3	1	14
2	3	2	19	9	9	13
14	20	21	16	15	8	9
5	2	4	11	12	7	3
6	15	15	15	6	14	12
17	17	27	21	16	20	7
1	7	15	28	16	15	7
4	1	5	14	1	11	5
24	26	19	3	21	24	25
20	22	10	4	10	13	27
19	23	14	10	12	22	18
9	13	12	7	16	12	11
23	24	1	7	8	5	21
16	16	6	5	23	2	16
25	4	28	13	11	3	5
3	4	13	18	4	16	10
28	4	18	6	22	25	15
26	9	23	1	12	9	22
11	18	25	27	16	10	2
22	28	15	24	29	26	28
21	25	20	20	28	28	29
17	20	3	9	5	23	24

Strain	East Coast	Pa. Landis-ville	N.J. Adel-phia	Del. George-town	Md. Clarks-ville	Central Mean	Ohio		
	Mean						Hoyt-ville	Wooster	
	7 Tests	<u>1976-1977, 2-YEAR MEAN</u>				35 Tests			
Calland	38.8	36.4		35.7	46.3	41.9	46.3	39.2	
Elf	40.7	39.5		37.5	45.4	43.3	41.4	48.6	
Williams	40.3	35.9		39.6	46.1	45.2	47.0	45.4	
Woodworth	37.3	37.0		32.9	43.9	44.6	49.7	45.8	
A74-204028	34.5	34.8		26.4	41.6	43.7	46.7	42.2	
A74-302012	38.8	35.4		38.2	45.4	46.6	51.0	46.3	
A74-303012	40.8	38.6		39.0	46.9	47.1	50.6	48.0	
A74-303013	40.7	38.4		39.0	46.8	45.2	51.2	43.2	
A74-306008	40.2	38.5		36.6	45.8	46.9	47.0	44.5	
L69U19-16-2	40.9	40.0		36.0	47.5	44.5	50.6	44.0	
L69U37-17-5	38.9	39.2		33.3	45.4	45.6	48.6	46.9	
		<u>YIELD RANK</u>							
Calland	8	8		8	4	11	10	11	
Elf	3	2		5	8	10	11	1	
Williams	5	9		1	5	5	7	6	
Woodworth	10	7		10	10	7	5	5	
A74-204028	11	11		11	11	9	9	10	
A74-302012	8	10		4	7	3	2	4	
A74-303012	2	4		2	2	1	3	2	
A74-303013	3	6		2	3	5	1	9	
A74-306008	6	5		6	6	2	7	7	
L69U19-16-2	1	1		7	1	8	3	8	
L69U37-17-5	7	3		9	8	4	6	3	
	12 Tests	<u>1975-1977, 3-YEAR MEAN</u>				58 Tests			
Calland	43.1	41.5			50.8	44.2	50.5	36.1	
Williams	45.0	42.4			49.5	46.9	52.2	39.3	
Woodworth	41.1	41.2			46.1	45.7	51.5	43.4	
L69U19-16-2	44.4	45.2			49.0	45.6	50.7	38.1	
L69U37-17-5	43.3	44.3			48.8	46.5	47.5	38.8	
		<u>YIELD RANK</u>							
Calland	4	4			1	5	4	5	
Williams	1	3			2	1	1	2	
Woodworth	5	5			5	3	2	1	
L69U19-16-2	2	1			3	4	3	4	
L69U37-17-5	3	2			4	2	5	3	
	21 Tests	<u>1973-1977, 5-YEAR MEAN</u>				167 Tests	<u>1970-1977</u>		
							<u>73-77</u>		
Calland	43.5	44.1	38.6			43.9	35.3	37.2	
Williams	45.4	44.4	39.4			46.0	39.2	39.6	
Woodworth	43.6	44.7	35.8			45.5	37.3	42.6	
		<u>YIELD RANK</u>							
Calland	3	3	2			3	3	3	
Williams	1	2	1			1	1	2	
Woodworth	2	1	3			2	2	1	

Strain	Indiana			Ky.	Urbana	Illinois				
	Bluff- ton	La- fayette	Sul- livan	Lex- ington		Gir- ard	Browns- town	Belle- ville	El- dorado	
<u>1976-1977, 2-YEAR MEAN</u>										
Calland	52.5	45.6	37.3	44.0		41.0	35.2	44.6		
Elf	48.3	45.6	41.0	45.8		46.1	37.6	54.6		
Williams	54.0	47.2	43.7	44.8		46.6	41.3	48.6		
Woodworth	47.2	51.0	40.0	44.4		47.1	37.6	50.9		
A74-204028	62.8	49.8	41.2	43.4		48.6	35.1	46.2		
A74-302012	56.8	51.1	38.6	47.2		48.7	36.8	52.6		
A74-303012	54.8	47.4	45.3	45.7		45.2	42.0	53.8		
A74-303013	51.7	51.2	42.7	44.0		47.3	40.8	50.4		
A74-306008	57.1	48.0	44.3	46.6		49.1	42.5	53.8		
L69U19-16-2	47.4	45.3	40.2	44.4		47.8	36.1	50.4		
L69U37-17-5	59.4	51.4	42.9	43.2		48.4	42.2	52.6		
<u>YIELD RANK</u>										
Calland	7	9	11	8		11	10	11		
Elf	9	9	7	3		9	6	1		
Williams	6	8	3	5		8	4	9		
Woodworth	11	4	9	6		7	6	6		
A74-204028	1	5	6	10		3	11	10		
A74-302012	4	3	10	1		2	8	4		
A74-303012	5	7	1	4		10	3	2		
A74-303013	8	2	5	8		6	5	7		
A74-306008	3	6	2	2		1	1	2		
L69U19-16-2	10	11	8	6		5	9	7		
L69U37-17-5	2	1	4	11		4	2	4		
<u>1975-1977, 3-YEAR MEAN</u>										
									<u>75-76</u>	
Calland	54.8	49.5	36.7			48.1	41.2	36.0	49.3	45.4
Williams	53.4	51.2	41.4			50.3	47.9	40.7	51.5	51.9
Woodworth	48.8	53.4	38.7			48.6	46.2	39.0	54.0	45.8
L69U19-16-2	51.0	49.7	38.2			54.8	47.1	38.7	53.8	46.9
L69U37-17-5	58.4	54.1	38.3			48.0	48.2	42.3	57.4	52.0
<u>YIELD RANK</u>										
Calland	2	5	5			4	5	5	5	5
Williams	3	3	1			2	2	2	4	2
Woodworth	5	2	2			3	4	3	2	4
L69U19-16-2	4	4	4			1	3	4	3	3
L69U37-17-5	1	1	3			5	1	1	1	1
<u>1970-1977, 8-YEAR MEAN</u>										
										<u>70-76</u>
Calland	51.0	46.1				49.6	42.8		48.5	47.9
Williams	51.0	49.8				52.2	48.4		51.3	50.7
Woodworth	49.3	51.0				52.1	47.0		51.7	46.1
<u>YIELD RANK</u>										
Calland	1	3				3	3		3	2
Williams	1	2				1	1		2	1
Woodworth	3	1				2	2		1	3

Strain	Iowa		Missouri		S. Dakota	Neb.	Kansas	
	Stuart	Agency	Edina	Col- umbia	Elk Point	Mead I	Man- hattan I	Pow- hattan
<u>1976-1977, 2-YEAR MEAN</u>								
Calland	33.4	56.8	32.4	28.7	34.8	37.4	57.9	33.0
Elf	33.0	58.0	33.4	25.4	40.4	43.6	42.6	37.8
Williams	32.8	59.9	34.0	32.0	36.8	38.8	59.9	38.9
Woodworth	33.4	60.8	34.6	29.0	36.2	42.6	63.6	34.0
A74-204028	32.9	63.4	27.8	26.8	39.9	46.8	55.3	28.0
A74-302012	36.6	63.4	32.6	28.5	38.8	46.4	64.8	39.2
A74-303012	37.4	62.0	35.4	32.7	39.4	44.0	62.2	37.6
A74-303013	36.5	62.0	33.1	28.2	35.2	41.1	59.5	35.0
A74-306008	37.3	62.8	34.8	31.6	40.2	45.8	60.6	36.8
L69U19-16-2	36.0	60.0	32.8	30.6	37.8	43.4	63.4	32.2
L69U37-17-5	35.0	60.9	26.8	31.5	34.2	41.1	60.4	28.2
<u>YIELD RANK</u>								
Calland	7	11	9	7	10	11	9	8
Elf	9	10	5	11	1	5	11	3
Williams	11	9	4	2	7	10	7	2
Woodworth	7	7	3	6	8	7	2	7
A74-204028	10	1	10	10	3	1	10	11
A74-302012	3	1	8	8	5	2	1	1
A74-303012	1	4	1	1	4	4	4	4
A74-303013	4	4	6	9	9	8	8	6
A74-306008	2	3	2	3	2	3	5	5
L69U19-16-2	5	8	7	5	6	6	3	9
L69U37-17-5	6	6	11	4	11	8	6	10
<u>1975-1977, 3-YEAR MEAN</u>								
Calland	39.2	54.4	32.7		33.5	38.7	63.6	32.7
Williams	39.5	56.6	33.8		34.5	40.3	65.0	36.9
Woodworth	39.7	55.2	32.0		35.7	43.7	66.3	31.7
L69U19-16-2	41.2	55.4	30.6		34.7	44.2	65.1	31.3
L69U37-17-5	40.2	54.8	33.0		35.2	45.9	64.9	29.0
<u>YIELD RANK</u>								
Calland	5	5	3		5	5	5	2
Williams	4	1	1		4	4	3	1
Woodworth	3	3	4		1	3	1	3
L69U19-16-2	1	2	5		3	2	2	4
L69U37-17-5	2	4	2		2	1	4	5
<u>1970-1977, 8-YEAR MEAN</u>								
Calland	37.7	48.5			33.0	42.0	63.8	37.0
Williams	39.6	51.4			31.8	41.4	64.6	38.0
Woodworth	39.9	51.0			35.7	45.2	65.3	35.2
<u>YIELD RANK</u>								
Calland	3	3			2	2	3	2
Williams	2	1			3	3	2	1
Woodworth	1	2			1	1	1	3

Strain	East	Pa.	N.J.	Del.	Md.	Central	Ohio		
	Coast	Landis-	Adel-	George-	Clarks-		Mean	Hoyt-	Wooster
	Mean	ville	phia	town I	ville				
	4 Tests	MATURITY (relative data)				14 Tests			
Beeson	- 5.0	-10	-10	0	0	- 7.0	- 2	- 8	
Calland	+ 2.5	+ 1	+ 4	+ 4	+ 1	+ 0.3	+ 5	+ 3	
Cutler 71	+ 4.5	+ 8	+ 5	+ 4	+ 1	+ 5.3	+10	+ 6	
Elf	+ 2.8	+ 5	+ 4	+ 1	+ 1	+ 3.3	+10	+ 4	
Williams	+ 1.8	+ 4	+ 3	0	0	+ 3.2	+ 8	+ 5	
Woodworth†	10-2.2	9-29	9-30	10-12	9-28	9-21.6	10-2	9-28	
A74-204028	- 4.0	- 5	-10	+ 1	- 2	- 5.7	- 1	- 6	
A74-302012	+ 1.0	0	+ 2	+ 2	0	- 1.8	+ 3	- 1	
A74-303012	+ 0.2	0	- 1	+ 2	0	+ 1.0	+ 6	0	
A74-303013	+ 0.8	+ 1	+ 1	+ 1	0	+ 0.7	+ 5	0	
A74-306008	+ 2.0	0	+ 3	+ 5	0	+ 2.9	+ 6	+ 3	
A75-204018	+ 1.2	+ 1	+ 2	+ 2	0	+ 1.1	+ 3	0	
A75-302005	+ 1.5	+ 2	+ 3	+ 1	0	+ 1.2	+ 6	+ 1	
A75-305010	+ 1.8	+ 1	+ 3	+ 2	+ 1	+ 2.9	+ 8	+ 2	
A75-305022	+ 0.2	0	+ 1	0	0	+ 1.0	+ 1	0	
A75-305031	+ 0.8	0	- 1	+ 4	0	- 1.8	- 1	- 2	
A75-306005	+ 1.8	+ 2	+ 3	+ 2	0	+ 0.7	+ 5	- 1	
A75-332035	- 1.0	- 3	+ 1	+ 2	- 4	- 1.2	+ 1	- 2	
C1541	+ 2.2	+ 1	+ 3	+ 5	0	- 0.1	+ 3	0	
K1028	+ 2.0	0	+ 3	+ 5	0	- 0.4	+ 3	+ 1	
L22	+ 0.2	0	0	+ 1	0	- 2.2	+ 2	0	
L23	+ 1.5	0	+ 3	+ 2	+ 1	+ 1.4	+ 5	+ 2	
L69U19-16-2	+ 1.5	0	+ 2	+ 4	0	+ 2.2	+ 6	+ 3	
L69U37-17-5	+ 2.2	+ 1	+ 3	+ 5	0	+ 0.9	+ 5	+ 3	
L69U40-16-4	- 0.8	- 6	+ 2	+ 1	0	- 3.1	+ 4	- 2	
L74-1960	+ 2.0	+ 2	+ 3	+ 3	0	+ 1.7	+ 6	+ 3	
L74D-615	+ 1.8	0	+ 3	+ 3	+ 1	+ 2.3	+ 9	+ 3	
L74D-619	- 1.0	- 9	+ 3	+ 2	0	- 1.5	+ 4	- 2	
L74U-3242	+ 0.2	- 5	+ 1	+ 5	0	- 1.8	+ 1	0	
Date planted	5-26	6-7	5-25	5-24	5-19	5-16	5-19	5-13	
†Days to mat.	129	114	128	141	132	129	136	138	



Strain	Indiana		Ky.	Illinois			Iowa		
	Bluff- ton	La- fayette	Sul- livan	Lex- ington	Gir- ard	Browns- town	Belle- ville	Stuart Agency	
	<u>MATURITY (relative date)</u>								
Beeson	- 6		0	-14	-12	-15	- 8		
Calland	0		+ 3	- 2	+ 1	0	+ 3		
Cutler 71	+ 8		+ 6	+ 8	+10	+ 6	+10		
Elf	+ 6		+ 3	+10	+ 5	+ 8	+ 4		
Williams	+ 3		+ 4	+ 4	+ 6	+ 3	+ 7		
Woodworth†	9-22		9-20	9-14	9-12	9-16	9-11		
A74-204028	- 8		0	-12	-11	-11	- 8		
A74-302012	- 4		+ 2	- 5	- 8	- 4	- 1		
A74-303012	+ 1		+ 2	+ 2	+ 5	+ 1	+ 2		
A74-303013	+ 2		+ 1	- 1	+ 2	- 2	+ 6		
A74-306008	+ 4		+ 5	+ 4	+ 6	+ 7	+ 6		
A75-204018	- 1		+ 5	0	+ 5	+ 2	0		
A75-302005	+ 5		+ 3	0	+ 1	- 1	+ 3		
A75-305010	+ 4		+ 5	+ 3	+ 4	+ 3	+ 4		
A75-305022	+ 1		+ 1	0	+ 5	+ 1	+ 3		
A75-305031	0		+ 1	- 4	+ 3	- 5	- 4		
A75-306005	0		+ 4	+ 1	+ 5	+ 2	- 1		
A75-332035	+ 1		+ 2	- 3	- 4	- 3	- 1		
C1541	+ 1		+ 4	- 1	0	- 3	0		
K1028	- 4		+ 5	- 3	+ 3	- 2	+ 3		
L22	- 3		0	- 4	- 1	- 4	- 1		
L23	+ 3		+ 3	+ 1	+ 4	- 1	+ 5		
L69U19-16-2	+ 3		+ 5	+ 4	+ 5	+ 1	+ 3		
L69U37-17-5	+ 5		+ 5	- 1	+ 7	- 1	- 1		
L69U40-16-4	- 4		+ 1	- 6	- 6	- 3	- 4		
L74-1960	+ 3		+ 3	0	+ 4	+ 2	+ 3		
L74D-615	+ 6		+ 3	+ 6	+ 5	+ 8	- 2		
L74D-619	0		0	- 2	+ 1	+ 1	- 6		
L74U-3242	+ 1		+ 2	- 6	- 4	- 4	+ 4		
Date planted	5-20	5-9	5-16	5-20	5-14	5-17	5-17	5-10	5-18
†Days to mat.		136		123	123	118	122	124	

<u>Missouri</u>		<u>S. Dakota</u>	<u>Neb.</u>	<u>Kansas</u>		
Edina	Columbia	Elk Point	Mead I	Manhattan I	Powhattan	Ottawa
<u>MATURITY (relative date)</u>						
- 6	- 7	- 9	-20	-10	- 9	- 9
0	+ 2	- 1	- 7	- 2	+ 1	+ 1
+ 5	+ 8	+ 5	+ 2	+ 5	+ 6	+ 6
+ 1	+ 3	+ 3	- 5	+ 4	+ 3	+ 3
0	+ 4	+ 4	+ 6	+ 2	+ 2	+ 2
9-26	10-1	9-26	9-15	9-26	9-24	9-24
- 3	- 5	- 7	-16	- 6	- 8	- 8
+ 2	- 1	- 4	- 7	- 4	0	0
+ 3	0	- 2	- 5	- 1	+ 4	+ 4
+ 2	+ 2	- 1	- 5	- 2	+ 4	+ 4
+ 1	0	+ 1	+ 2	+ 1	+ 6	+ 6
0	- 1	- 2	+ 5	- 2	+ 5	+ 5
+ 1	+ 2	+ 3	- 1	- 2	0	0
+ 1	+ 3	+ 2	+ 7	+ 4	+ 2	+ 2
+ 1	- 1	0	+ 7	- 1	0	0
+ 2	- 3	- 4	- 7	- 4	- 5	- 5
+ 1	+ 2	- 1	- 1	0	- 4	- 4
- 1	- 1	+ 1	- 2	- 2	- 7	- 7
+ 4	0	- 1	- 6	- 3	+ 1	+ 1
+ 2	0	- 2	- 4	- 5	- 4	- 4
0	- 2	- 4	-10	- 6	- 6	- 6
+ 1	+ 2	0	0	0	+ 1	+ 1
+ 1	+ 2	+ 2	0	0	+ 4	+ 4
+ 1	+ 2	- 1	- 7	0	- 1	- 1
0	- 4	- 6	-12	- 7	- 6	- 6
+ 2	+ 3	0	- 1	+ 2	+ 1	+ 1
+ 2	+ 1	+ 2	- 7	+ 3	+ 3	+ 3
- 1	- 3	- 4	-10	- 1	- 4	- 4
- 1	- 4	- 4	- 9	- 1	- 7	- 7
5-13	6-8	5-20	5-17	5-2	5-11	5-12
	110	134	132	136	138	135

Strain	East	Pa.	N.J.	Del.	Md.	Central	Ohio		
	Coast Mean	Landis- ville	Adel- phia	George- town I	Clarks- ville		Mean	Hoyt- ville	Woo- ster
	4 Tests	LODGING (score)				18 Tests			
Beeson	2.0	2.0	2.8	1.0	2.0	2.2	1.4	3.1	
Calland	2.1	2.7	2.5	1.0	2.3	2.3	1.7	4.6	
Cutler 71	2.3	2.5	2.3	1.3	3.0	2.4	2.4	4.6	
Elf	1.8	2.2	1.8	1.0	2.3	1.4	1.5	1.7	
Williams	1.7	1.8	2.0	1.0	2.0	2.1	1.7	4.0	
Woodworth	2.0	2.5	2.0	1.0	2.7	2.1	1.6	3.3	
A74-204028	1.7	1.7	1.8	1.0	2.3	2.5	1.6	2.3	
A74-302012	1.6	1.8	1.5	1.0	2.0	2.0	1.5	3.2	
A74-303012	1.4	1.3	1.5	1.0	2.0	2.2	1.5	3.3	
A74-303013	1.8	2.2	1.8	1.0	2.0	1.8	1.5	2.4	
A74-306008	1.5	1.8	1.3	1.0	2.0	2.4	1.6	3.9	
A75-204018	1.5	1.3	1.5	1.0	2.3	2.2	1.6	3.2	
A75-302005	1.9	2.2	2.0	1.0	2.3	2.4	1.8	4.3	
A75-305010	1.9	1.5	2.8	1.0	2.3	2.4	2.2	3.9	
A75-305022	1.8	2.0	2.0	1.0	2.0	2.1	1.6	3.2	
A75-305031	1.8	2.2	1.8	1.0	2.3	2.1	1.5	3.5	
A75-306005	2.0	2.0	2.8	1.0	2.3	2.5	2.0	3.4	
A75-332035	2.0	2.0	2.8	1.0	2.0	2.2	1.8	3.2	
C1541	1.8	2.0	2.3	1.0	2.0	2.1	1.4	4.0	
K1028	1.8	2.0	2.3	1.0	2.0	1.7	1.4	2.3	
L22	1.6	1.3	2.0	1.0	2.3	1.7	1.5	2.2	
L23	2.0	2.5	2.5	1.2	2.0	2.1	1.8	3.8	
L69U19-16-2	1.9	2.0	2.3	1.0	2.3	2.2	1.6	4.3	
L69U37-17-5	1.8	1.7	2.5	1.0	2.0	2.6	1.8	3.9	
L69U40-16-4	1.5	1.0	2.0	1.0	2.0	2.3	1.5	3.0	
L74-1960	2.0	2.3	2.3	1.0	2.3	2.2	1.9	4.1	
L74D-615	1.8	2.0	2.0	1.0	2.3	1.3	1.5	1.6	
L74D-619	2.0	1.8	2.3	1.0	3.0	1.5	1.5	1.8	
L74U-3242	1.5	1.7	1.3	1.0	2.0	1.7	1.4	3.1	

Indiana			Ky.	Illinois			Iowa	
Bluffton	Lafayette	Sullivan	Lexing- ton	Girard	Browns- town	Belle- ville	Stuart	Agency
<u>LODGING (score)</u>								
3.0	2.0	3.0	2.5	2.6	1.8	4.0	1.5	3.8
3.0	2.5	2.5	1.7	2.4	2.4	3.2	2.0	3.6
2.8	2.8	2.5	2.0	2.2	2.0	3.0	2.5	4.0
1.7	1.3	1.2	1.3	1.5	1.5	1.5	1.7	2.2
2.7	2.2	2.0	1.5	2.4	1.9	2.7	1.9	3.3
2.8	2.5	2.0	1.8	1.9	1.9	3.3	1.9	3.3
3.3	2.2	4.0	2.8	2.6	2.7	4.5	1.7	4.1
2.7	2.0	2.8	1.7	1.8	1.5	2.8	2.0	3.2
3.2	2.5	2.8	1.5	2.5	2.6	3.8	1.8	3.7
2.5	1.8	2.0	1.2	1.5	1.6	2.0	2.2	3.2
2.8	3.7	2.0	1.7	3.0	2.3	3.7	1.9	4.1
3.2	3.3	2.3	1.2	2.5	2.1	3.6	1.7	3.8
3.7	2.5	2.7	2.0	2.3	2.1	3.5	2.0	3.5
3.5	2.8	3.3	2.3	2.4	2.3	3.8	1.7	3.7
3.3	3.0	2.2	1.2	2.2	1.9	3.3	1.9	3.6
2.7	2.3	2.2	1.8	2.2	1.7	3.5	1.9	3.5
3.0	3.2	3.0	1.8	2.8	2.8	4.2	1.8	3.9
3.0	2.8	2.7	1.5	2.2	1.9	3.8	1.8	3.4
2.8	2.2	1.7	2.3	1.7	2.0	3.3	1.9	3.6
1.8	1.5	1.3	1.7	1.5	1.7	1.6	1.9	2.9
2.0	1.8	1.5	1.7	1.6	1.9	2.7	1.7	3.4
2.3	2.3	1.8	1.7	1.9	1.6	3.0	1.9	3.5
2.5	2.5	2.7	1.2	2.4	2.4	3.3	1.8	3.3
3.0	3.2	4.0	2.2	3.1	3.2	4.0	2.0	3.6
3.0	3.2	4.0	1.3	2.9	2.3	3.3	1.9	3.9
2.8	2.8	1.8	1.8	1.9	2.3	2.7	1.7	3.5
1.7	1.2	1.0	1.5	1.5	1.5	1.5	1.6	2.3
1.8	1.5	1.3	1.5	1.5	1.5	1.6	1.5	2.6
2.3	2.3	1.3	1.2	1.7	1.7	2.0	2.0	2.4

Strain	Missouri		S. Dakota	Neb.	Kansas		
	Edina	Columbia	Elk Point	Mead I	Manhattan I	Powhattan	Ottawa
<u>LODGING (score)</u>							
Beeson	2.6	2.3	1.0	1.3	1.7	1.5	1.0
Calland	2.9	2.5	1.0	1.2	1.6	1.9	1.0
Cutler 71	2.7	2.3	1.0	1.3	1.8	1.8	1.0
Elf	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Williams	2.5	2.1	1.0	1.0	1.4	1.8	1.0
Woodworth	2.3	1.8	1.0	1.2	1.7	1.9	1.0
A74-204028	3.0	2.6	1.0	1.5	1.6	1.8	1.0
A74-302012	2.3	1.9	1.0	1.0	1.4	1.7	1.0
A74-303012	2.3	2.3	1.0	1.0	1.6	1.9	1.0
A74-303013	2.2	2.0	1.0	1.0	1.6	1.5	1.0
A74-306008	2.5	2.0	1.0	1.8	2.0	2.0	1.0
A75-204018	2.0	1.5	1.0	1.2	1.9	1.7	1.0
A75-302005	2.7	2.3	1.0	1.5	1.6	1.8	1.0
A75-305010	2.3	2.1	1.0	1.5	1.8	1.7	1.0
A75-305022	2.3	1.8	1.0	1.2	1.9	1.7	1.0
A75-305031	2.3	2.1	1.0	1.0	1.4	1.7	1.0
A75-306005	2.6	2.2	1.0	1.7	1.8	2.0	1.0
A75-332035	2.8	2.3	1.0	1.5	1.7	1.9	1.0
C1541	2.3	1.9	1.0	1.0	1.6	1.7	1.0
K1028	2.3	1.8	1.0	1.3	1.5	1.3	1.0
L22	2.3	1.6	1.0	1.0	1.0	1.5	1.0
L23	2.6	2.3	1.0	1.2	1.5	1.8	1.0
L69U19-16-2	2.5	2.3	1.0	1.2	1.5	1.7	1.0
L69U37-17-5	3.1	2.6	1.0	1.7	2.3	1.9	1.0
L69U40-16-4	2.6	2.1	1.0	1.0	1.4	1.7	1.0
L74-1960	2.3	2.5	1.0	1.7	1.8	1.8	1.0
L74D-615	2.1	1.5	1.0	1.0	1.0	1.0	1.0
L74D-619	2.0	1.0	1.0	1.0	1.0	1.0	1.0
L74U-3242	2.2	1.8	1.0	1.0	1.2	1.5	1.0

Strain	East	Pa.	N.J.	Del.	Md.	Central	Ohio		
	Coast Mean	Landis- ville	Adel- phia	George- town I	Clarks- ville	Mean	Hoyt- ville	Wooster	
	4 Tests	<u>PLANT HEIGHT (inches)</u>				18 Tests			
Beeson	28	27	36	19	32	37	35	40	
Calland	33	30	39	22	41	42	41	45	
Cutler 71	33	32	39	22	39	44	43	46	
Elf	22	19	29	17	24	23	25	24	
Williams	30	26	39	20	35	40	39	39	
Woodworth	29	27	36	18	36	39	38	38	
A74-204028	26	23	33	18	30	35	32	33	
A74-302012	30	27	37	25	33	39	36	37	
A74-303012	28	25	37	18	32	38	34	37	
A74-303013	29	27	35	21	33	39	38	37	
A74-306008	26	23	33	18	30	37	36	36	
A75-204018	28	24	35	20	34	39	38	41	
A75-302005	30	26	36	20	36	41	40	42	
A75-305010	32	28	40	23	36	43	42	46	
A75-305022	30	28	37	19	34	40	37	42	
A75-305031	28	26	37	19	31	37	36	39	
A75-306005	28	24	35	19	35	36	35	38	
A75-332035	30	28	38	22	34	40	38	41	
C1541	30	27	36	21	34	39	36	37	
K1028	27	25	37	18	29	36	34	36	
L22	26	23	34	19	30	32	35	31	
L23	30	26	36	21	35	41	37	39	
L69U19-16-2	30	24	37	24	36	40	37	46	
L69U37-17-5	30	25	38	23	36	42	38	45	
L69U40-16-4	28	24	37	19	32	39	36	38	
L74-1960	30	25	38	22	34	39	36	38	
L74D-615	23	19	30	18	25	22	23	25	
L74D-619	23	19	28	17	26	22	24	26	
L74U-3242	30	28	38	20	34	38	35	42	

Strain	Indiana			Ky.	Illinois			Iowa	
	Bluff- ton	Lafay- ette	Sulli- van	Lexing- ton	Girard	Browns- town	Belle- ville	Stuart	Agency
	<u>PLANT HEIGHT (inches)</u>								
Beeson	45	40	36	34	42	44	44	27	44
Calland	52	42	42	42	48	48	50	28	48
Cutler 71	55	49	44	41	51	45	52	29	50
Elf	28	22	21	23	22	24	23	20	26
Williams	49	44	43	35	48	45	46	27	47
Woodworth	50	42	47	36	46	44	46	26	46
A74-204028	46	33	42	33	39	40	41	24	43
A74-302012	50	33	44	37	46	43	47	26	46
A74-303012	48	39	45	34	43	46	44	26	43
A74-303013	47	42	43	38	45	46	45	27	45
A74-306008	46	38	40	33	45	40	43	24	40
A75-204018	46	39	46	35	46	44	49	25	44
A75-302005	51	41	46	36	46	47	51	25	48
A75-305010	53	45	45	42	48	47	52	27	52
A75-305022	47	42	46	37	46	46	47	27	46
A75-305031	48	39	42	32	41	43	43	26	42
A75-306005	45	40	44	35	41	42	45	25	46
A75-332035	51	44	43	35	47	46	49	26	48
C1541	48	39	44	39	45	43	45	26	46
K1028	47	35	41	35	43	45	40	24	43
L22	42	33	33	32	33	40	35	23	38
L23	52	44	48	38	47	44	48	28	46
L69U19-16-2	49	44	46	38	46	46	48	26	47
L69U37-17-5	51	43	46	43	45	46	50	29	46
L69U40-16-4	48	41	45	34	45	45	48	27	48
L74-1960	50	40	43	41	46	46	49	27	48
L74D-615	30	17	18	30	19	21	23	20	24
L74D-619	27	19	19	23	19	21	24	20	26
L74U-3242	50	40	44	35	45	44	45	26	44

Missouri		S. Dakota	Neb.	Kansas		
Edina	Columbia	Elk Point	Mead I	Manhattan I	Powhattan	Ottawa
<u>PLANT HEIGHT (inches)</u>						
34	26	41	42	34	34	30
37	31	44	45	39	39	33
37	34	48	46	42	42	39
21	15	34	22	16	21	21
34	28	44	43	43	37	33
35	30	42	39	37	36	32
31	26	38	36	31	31	27
35	29	42	40	38	32	31
33	30	41	39	37	32	30
33	27	42	41	37	35	30
33	26	39	41	38	36	32
34	27	39	39	38	35	32
36	31	44	44	42	37	33
35	30	44	49	43	40	34
35	27	44	41	42	35	31
34	26	40	38	36	35	27
33	28	42	42	37	36	28
36	29	43	37	40	37	31
34	29	42	41	36	34	32
32	26	37	38	36	35	27
35	22	36	30	24	29	27
34	30	44	43	40	39	34
34	27	44	43	37	36	30
36	31	45	44	39	38	34
34	29	41	40	35	32	30
34	29	41	42	39	37	21
23	19	31	21	16	22	17
23	14	28	23	15	21	19
34	26	43	42	37	32	29



Strain	East	Pa.	Del.	Md.	Central	Ohio	
	Coast Mean	Landis- ville	George- town I	Clarks- ville	Mean	Hoytville	Moorestown
	3 Tests	SEED QUALITY (score)			17 Tests		
Beeson	3.4	2.5	4.8	3.0	2.8	2.0	2.9
Calland	3.4	2.4	5.0	2.7	2.5	2.0	3.0
Cutler 71	2.7	2.1	4.0	2.0	2.2	2.0	3.0
Elf	2.4	2.1	3.0	2.0	1.7	1.0	2.3
Williams	2.8	2.6	3.5	2.3	2.1	2.0	2.3
Woodworth	2.8	2.5	4.0	2.0	2.3	1.3	3.0
A74-204026	2.7	2.6	3.5	2.0	2.5	2.0	3.0
A74-302012	3.2	2.7	4.7	2.3	2.3	2.0	3.0
A74-303012	2.9	2.8	3.8	2.0	2.2	1.7	2.3
A74-303013	2.9	2.6	3.7	2.3	2.2	2.0	2.3
A74-306008	3.0	3.2	3.8	2.0	2.2	2.0	3.0
A75-204018	2.8	2.7	3.8	2.0	2.2	2.0	2.3
A75-302005	2.9	2.8	4.0	2.0	2.4	1.3	3.0
A75-305010	2.8	2.6	3.8	2.0	2.0	1.7	2.0
A75-305022	2.7	2.7	3.3	2.0	2.0	1.0	2.3
A75-305031	3.6	3.0	4.8	3.0	2.4	2.0	3.0
A75-306005	2.8	2.7	3.8	2.0	2.4	1.0	3.0
A75-332035	3.1	2.9	4.0	2.3	2.4	1.7	3.0
C1541	2.8	2.3	4.2	2.0	2.1	2.0	2.0
K1028	2.9	2.6	4.0	2.0	2.1	2.0	2.3
L22	2.7	2.3	3.7	2.0	1.7	1.7	2.0
L23	2.6	2.2	3.7	2.0	2.1	2.0	2.0
L69U19-16-2	3.3	2.7	4.5	2.7	2.5	1.3	2.3
L69U37 17-5	3.9	4.0	4.8	3.0	3.0	2.0	4.0
L69U40-16-4	4.1	4.0	4.7	3.7	3.1	2.0	4.0
L74-1960	2.9	2.6	3.7	2.3	2.3	2.0	2.3
L74D-615	2.5	2.1	3.5	2.0	2.0	1.7	2.3
L74D-619	2.5	2.0	3.5	2.0	2.0	1.3	2.3
L74U-3242	3.3	2.4	4.8	2.7	2.6	1.7	3.0

Indiana			Ky.	Illinois		Iowa	
Bluffton	Lafayette	Sullivan	Lexing- ton	Girard	Browns- town	Belle- ville	Agency
2.5	3.0	5.0	2.0	2.8	3.0	3.0	2.1
1.5	2.0	5.0	3.0	2.5	2.7	2.7	1.8
1.5	1.5	5.0	3.0	2.0	3.0	2.7	1.4
1.0	1.5	2.5	1.0	1.5	2.3	1.8	1.1
1.5	1.5	5.0	2.0	2.0	2.5	2.5	1.5
1.0	2.0	5.0	3.0	2.0	2.2	2.8	1.3
2.0	2.5	5.0	2.0	2.2	2.0	2.5	2.4
1.5	3.0	5.0	2.0	2.3	2.2	2.5	1.2
1.5	2.5	5.0	3.0	2.0	2.3	2.5	1.2
2.0	2.5	5.0	2.0	2.0	2.5	2.3	1.5
1.5	3.0	5.0	2.0	1.8	2.5	2.7	1.3
1.5	2.0	5.0	3.0	1.7	2.5	2.3	1.6
1.5	2.5	5.0	3.0	2.2	2.5	2.8	1.7
1.5	2.0	5.0	2.0	1.7	2.5	2.3	1.4
1.5	2.0	5.0	1.0	1.7	2.5	2.5	1.3
1.5	3.0	5.0	3.0	2.3	2.7	2.5	1.7
1.5	2.5	5.0	3.0	2.2	2.5	3.2	1.1
1.5	2.5	5.0	3.0	2.2	2.3	2.8	1.3
1.5	2.5	5.0	2.0	2.0	2.5	2.5	1.4
1.5	2.0	5.0	2.1	2.0	2.5	2.2	1.3
1.5	1.5	2.0	1.0	1.8	2.0	2.0	1.4
1.5	2.0	5.0	2.0	1.8	2.3	2.2	1.4
1.5	2.5	5.0	4.0	2.3	2.7	3.0	1.6
2.0	4.5	5.0	4.0	2.7	2.7	3.0	1.8
2.5	4.5	5.0	4.0	2.8	2.5	3.5	2.4
1.5	2.0	5.0	2.0	2.3	2.5	3.2	2.0
1.0	2.0	3.5	2.0	2.2	2.7	1.8	1.6
1.0	2.0	3.0	2.0	2.2	2.5	2.2	1.2
2.0	4.0	5.0	3.0	2.5	2.7	3.0	1.4

Strain	Missouri		S. Dakota	Neb.	Kansas		
	Edina	Columbia	Elk Point	Mead I	Manhattan I	Powhattan	Ottawa
<u>SEED QUALITY (score)</u>							
Beeson	2.8	3.0	2.0	1.7	2.6	4.0	3.5
Calland	3.0	2.5	2.0	1.5	1.9	2.3	3.3
Cutler 71	2.5	2.5	1.0	1.0	2.0	1.7	2.4
Elf	3.0	2.5	1.0	1.3	1.8	1.8	3.0
Williams	2.8	2.3	1.0	1.2	1.7	1.6	3.0
Woodworth	2.8	2.8	3.0	1.5	1.7	1.9	1.5
A74-204028	4.0	2.8	1.0	1.7	2.1	3.4	2.5
A74-302012	2.8	2.8	1.0	1.7	2.0	1.9	2.4
A74-303012	3.0	2.0	1.0	1.3	1.9	2.1	2.5
A74-303013	2.8	2.5	2.0	1.3	1.9	1.7	2.7
A74-306008	2.8	2.5	1.0	1.7	1.7	1.3	2.7
A75-204018	2.8	2.8	1.0	1.5	1.9	1.9	2.7
A75-302005	2.8	2.5	2.0	1.5	1.9	1.6	2.7
A75-305010	2.8	2.0	1.0	1.0	1.5	1.4	1.8
A75-305022	2.5	2.3	1.0	1.5	1.9	1.7	1.7
A75-305031	3.5	3.0	1.0	1.3	2.3	2.2	1.7
A75-306005	3.0	3.0	2.0	1.3	2.0	1.6	2.4
A75-332035	3.0	2.8	1.0	1.5	1.7	2.6	2.4
C1541	2.8	2.3	1.0	1.3	1.7	1.6	2.7
K1028	2.8	2.3	1.0	1.6	1.7	2.3	1.7
L22	2.8	2.3	1.0	1.3	1.7	2.0	1.7
L23	2.8	2.5	1.0	1.2	1.6	1.6	1.7
L69U19-16-2	2.8	3.0	2.0	1.7	2.1	2.4	2.5
L69U37-17-5	4.0	3.0	3.0	1.8	2.1	3.0	3.1
L69U40-16-4	3.0	3.0	2.0	2.0	2.3	3.2	3.4
L74-1960	2.8	3.0	1.0	1.5	1.9	1.8	2.7
L74D-615	2.8	2.3	1.0	1.3	2.0	2.2	1.8
L74D-619	2.8	2.3	1.0	1.7	2.1	2.5	1.7
L74U-3242	4.0	2.5	1.0	1.5	2.1	2.7	2.7

Strain	East Coast Mean	Pa. Landis- ville	Md. Clarks- ville	Central Mean	Ohio Hoytville      Wooster	
	2 Tests	SEED SIZE (g/100)		15 Tests		
Beeson	20.6	20.2	21.1	19.1	18.2	21.0
Calland	18.0	17.7	18.3	18.0	17.1	18.8
Cutler 71	18.6	20.3	16.8	18.5	18.4	19.9
Elf	18.2	17.9	18.5	16.5	17.5	19.7
Williams	17.8	18.1	17.6	18.1	17.3	20.3
Woodworth	16.0	15.8	16.3	15.6	14.5	17.4
A74-204028	16.2	15.8	16.5	16.2	16.2	18.9
A74-302012	20.4	19.7	21.2	20.6	20.1	22.7
A74-303012	18.4	18.2	18.5	19.0	17.9	20.1
A74-303013	18.0	17.1	18.9	19.2	18.1	19.2
A74-306008	16.8	16.0	17.6	17.5	15.9	17.9
A75-204018	16.0	15.3	16.8	16.1	14.5	16.7
A75-302005	17.8	17.8	17.8	18.4	17.1	20.0
A75-305010	16.0	15.5	16.5	16.5	16.9	19.1
A75-305022	15.4	15.0	15.9	15.2	14.8	18.0
A75-305031	17.3	16.3	18.3	16.2	15.3	18.7
A75-306005	17.0	16.6	17.3	17.0	17.0	18.4
A75-332035	16.4	16.3	16.4	16.6	15.0	19.3
C1541	17.6	17.5	17.8	17.2	17.2	20.3
K1028	16.9	16.2	17.6	17.2	16.3	18.3
L22	16.8	16.7	17.0	17.1	16.5	18.8
L23	18.2	18.4	17.9	18.0	17.6	20.1
L69U19-16-2	17.8	17.0	18.7	18.6	15.7	19.9
L69U37-17-5	18.2	18.1	18.2	18.0	16.6	19.2
L69U40-16-4	20.4	19.3	21.5	19.4	18.2	20.5
L74-1960	16.8	16.2	17.5	16.4	16.1	17.4
L74D-615	16.5	15.8	17.2	17.5	18.0	20.1
L74D-619	15.9	14.5	17.3	16.7	16.6	19.7
L74U-3242	19.1	18.5	19.7	19.5	17.2	21.4

Strain	Indiana			Ky.	Illinois			Iowa
	Bluff- ton	Lafay- ette	Sulli- van	Lexing- ton	Girard	Browns- town	Belle- ville	Agency
<u>SEED SIZE (g/100)</u>								
Beeson	22.0	20.3	12.6	19.5	18.5	19.1	19.2	22.6
Calland	19.4	20.6	17.8	18.0	16.0	17.8	18.6	19.1
Cutler 71	17.8	22.1	17.8	20.5	18.6	20.7	18.2	18.8
Elf	16.8	17.5	17.4	16.3	15.1	15.2	17.8	16.5
Williams	18.1	20.4	17.2	20.0	16.8	20.2	18.8	18.8
Woodworth	16.8	18.4	12.7	17.0	15.5	14.5	15.3	15.5
A74-204028	18.9	18.1	12.6	15.3	15.2	14.1	15.3	17.8
A74-302012	23.2	22.6	17.1	21.3	21.0	18.3	20.7	22.0
A74-303012	19.7	20.5	16.4	20.9	18.5	20.8	20.0	20.4
A74-303013	19.5	23.0	19.1	18.8	19.1	19.0	19.3	20.8
A74-306008	18.7	20.8	15.8	19.7	17.1	19.2	19.6	17.2
A75-204018	17.9	18.6	15.3	17.0	16.7	17.0	17.0	17.8
A75-302005	18.1	23.5	15.9	19.7	18.0	17.7	18.7	18.8
A75-305010	18.2	19.5	15.1	17.3	16.4	16.3	16.4	17.0
A75-305022	16.6	17.9	12.8	14.9	15.0	16.4	16.0	15.5
A75-305031	17.4	19.0	14.1	18.1	15.4	16.2	15.7	17.8
A75-306005	18.3	18.4	16.3	17.2	16.7	18.4	16.5	17.7
A75-332035	15.3	19.6	14.7	17.5	17.0	15.7	16.5	17.2
C1541	19.0	19.5	15.5	17.4	17.2	17.2	16.4	18.8
F1028	18.5	19.7	16.6	17.5	16.7	17.9	15.4	18.5
L22	18.4	18.9	16.4	16.9	15.8	15.4	16.6	18.7
L23	18.8	20.5	17.3	18.3	17.2	19.5	18.2	19.5
L69U19-16-2	17.7	20.2	16.2	18.5	19.7	17.5	19.0	20.5
L69U37-17-5	18.5	20.9	15.9	18.3	16.5	19.3	18.4	18.3
L69U40-16-4	21.7	22.6	15.8	20.9	18.9	19.2	18.3	19.0
L74-1960	16.3	19.5	15.4	17.1	15.8	17.8	15.8	16.4
L74D-615	18.2	18.6	18.6	17.1	17.5	17.3	17.8	17.4
L74D-619	18.3	18.0	17.4	16.4	17.1	17.0	17.1	16.7
L74U-3242	19.9	22.7	17.4	19.2	20.1	19.0	19.8	20.8

S. Dakota Elk Point	Neb. Mead I	Kansas		
		Manhattan I	Powhattan	Ottawa
<u>SEED SIZE (g/100)</u>				
17.6	18.9	17.9	21.3	17.7
17.1	17.6	15.9	18.8	17.9
15.4	18.9	16.9	16.1	17.3
15.2	17.2	15.2	15.5	15.0
15.8	19.0	15.5	17.5	16.1
13.6	15.6	15.6	15.0	14.0
14.3	16.8	17.8	17.0	14.3
17.1	20.5	19.8	22.5	20.0
16.3	18.9	17.2	20.8	16.7
16.2	17.6	18.2	20.7	19.8
14.9	18.7	15.6	15.9	15.0
13.2	15.3	15.1	17.0	14.7
17.7	18.2	16.6	19.6	16.3
13.4	16.2	15.9	17.0	13.2
13.7	15.0	13.9	14.1	13.0
14.1	16.1	16.2	16.0	14.4
15.6	17.2	15.4	18.7	13.7
13.9	17.8	16.4	17.0	15.4
16.2	15.9	15.4	16.6	15.8
16.0	17.0	15.8	18.7	15.8
15.9	17.2	16.4	18.6	15.5
16.3	18.0	15.9	17.6	15.9
16.4	20.5	18.5	19.8	19.2
17.6	18.8	16.5	18.2	16.3
17.4	19.5	19.2	21.0	17.1
13.4	15.7	15.6	17.4	16.2
14.8	17.8	16.5	17.7	15.8
13.8	16.2	15.2	16.7	14.3
16.6	20.1	18.8	21.5	18.0

Strain	Md. Clarks- ville	Central	Indiana		Ky.	Illinois		
		Mean	Bluffton	Lafayette	Lexing- ton	Girard	Belle- ville	
		10 Tests	<u>PROTEIN (%)</u>					
Beeson	40.1	39.5	41.3	39.1	40.9	38.4	39.6	
Calland	40.1	39.5	40.2	39.3	40.8	38.9	40.5	
Cutler 71	40.4	40.1	39.7	42.2	42.5	40.2	41.7	
Elf	39.2	40.0	40.1	40.0	40.8	39.8	41.7	
Williams	40.6	39.5	40.0	40.2	42.2	38.6	40.2	
Woodworth	39.5	38.7	39.6	39.7	41.0	37.6	40.0	
A74-204028	38.5	38.7	40.1	38.3	39.4	37.1	39.6	
A74-302012	37.8	37.6	39.0	37.5	38.9	38.0	37.0	
A74-303012	38.1	38.6	39.4	39.4	40.6	38.2	39.3	
A74-303013	39.5	38.6	39.6	39.2	40.2	38.0	38.7	
A74-306008	40.0	39.5	40.5	40.3	41.1	38.5	41.2	
A75-204018	37.6	37.1	39.4	36.6	39.4	35.6	38.0	
A75-302005	40.5	39.6	39.7	40.9	41.6	39.1	40.3	
A75-305010	39.5	40.4	41.4	41.0	41.4	40.1	41.6	
A75-305022	38.3	38.4	40.0	39.7	38.3	37.8	38.9	
A75-305031	38.1	37.4	39.9	38.3	38.8	36.6	37.7	
A75-306005	40.7	40.5	42.1	40.4	43.1	39.3	40.7	
A75-332035	39.4	40.4	41.3	41.3	42.8	39.5	42.0	
C1541	39.8	39.0	40.1	40.0	40.1	39.0	40.2	
K1028	39.4	38.8	40.6	40.0	40.1	37.5	38.9	
L22	40.2	39.3	40.7	38.6	41.2	38.5	40.2	
L23	40.1	39.3	40.5	40.3	41.0	39.4	39.8	
L69U19-16-2	38.4	40.1	41.0	40.7	42.0	40.1	40.6	
L69U37-17-5	38.6	38.5	39.9	39.9	39.2	37.2	39.0	
L69U40-16-4	36.0	37.5	39.4	37.5	38.5	37.6	38.3	
L74-1960	38.7	38.0	39.7	39.6	39.8	37.4	38.0	
L74D-615	37.6	39.3	39.8	38.9	40.4	38.6	41.0	
L74D-619	38.6	39.4	40.3	38.8	38.7	39.2	41.6	
L74U-3242	37.3	37.3	38.1	37.7	38.0	36.9	37.5	

<u>Iowa</u>	<u>S. Dakota</u>	<u>Neb.</u>	<u>Kansas</u>	
Agency	Elk Point	Mead I	Manhattan I	Powhattan
<u>PROTEIN (%)</u>				
39.8	37.5	39.1	38.5	41.0
40.2	37.3	39.5	39.2	39.3
40.2	37.2	40.1	39.6	37.9
41.1	39.4	39.7	39.6	38.2
39.0	37.2	39.4	39.7	38.8
39.6	35.4	38.6	37.8	37.9
38.6	37.9	37.9	39.3	38.9
37.6	35.4	36.8	38.1	37.9
37.8	36.2	38.4	38.6	38.5
39.2	35.7	39.1	38.3	37.5
39.7	36.2	38.5	40.0	38.5
36.2	34.6	36.5	38.0	36.2
40.3	37.0	38.8	39.0	39.5
40.0	37.2	40.7	41.2	39.5
39.0	36.7	38.1	38.5	37.3
36.3	36.2	36.8	37.5	36.1
40.5	38.7	40.4	40.6	39.1
40.2	38.0	39.6	39.8	39.7
39.0	36.9	38.4	38.4	37.8
38.1	37.2	38.9	39.4	37.2
39.5	37.5	38.7	39.2	39.1
39.7	37.0	38.0	39.3	38.0
40.6	38.1	39.7	39.2	39.4
38.4	35.7	38.1	39.2	38.0
36.6	35.2	36.8	37.9	37.3
37.3	35.8	37.8	37.8	37.0
39.4	38.3	38.6	39.5	38.6
39.3	38.2	39.1	39.6	39.3
37.4	35.6	37.3	37.6	37.1



Strain	Md. Clarks- ville	Central	Indiana		Ky.	Illinois	
		Mean	Bluffton	Lafayette	Lexing- ton	Girard	Belle- ville
		10 Tests			OIL (%)		
Beeson	21.3	21.7	19.2	21.3	21.2	21.9	22.1
Calland	20.5	20.4	18.9	20.9	20.3	21.1	20.8
Cutler 71	20.7	20.9	19.9	19.5	21.7	20.9	21.5
Elf	20.4	20.5	19.8	20.0	21.0	20.9	21.1
Williams	21.5	21.4	19.9	21.0	20.4	22.4	22.9
Woodworth	21.6	22.1	20.4	22.0	22.9	22.8	23.0
A74-204028	22.4	22.9	20.8	22.7	22.5	23.7	24.4
A74-302012	21.7	22.4	20.8	22.6	23.3	22.4	24.3
A74-303012	22.5	23.0	21.7	22.6	24.1	22.8	24.3
A74-303013	21.2	21.4	20.8	20.9	20.7	21.8	22.7
A74-306008	20.8	21.4	19.7	21.1	21.2	22.1	22.5
A75-204018	21.9	22.7	20.1	23.0	22.2	23.9	23.3
A75-302005	20.0	21.3	20.2	20.4	22.5	22.1	21.8
A75-305010	20.7	20.2	19.6	20.3	20.3	20.5	20.1
A75-305022	22.1	22.3	20.2	21.3	23.1	22.8	24.3
A75-305031	21.7	21.9	19.7	21.2	22.3	22.7	23.0
A75-306005	20.2	21.5	19.2	20.8	22.4	22.7	23.2
A75-332035	20.5	21.0	19.4	19.7	21.6	21.4	20.8
C1541	20.1	20.7	19.8	20.1	20.7	20.9	21.3
K1028	20.6	22.1	20.4	21.5	22.2	23.4	22.3
L22	20.5	21.7	19.7	22.0	21.4	22.8	22.2
L23	20.7	21.5	20.1	20.7	21.9	21.8	22.7
L69U19-16-2	21.1	20.4	18.7	20.0	21.7	20.5	21.6
L69U37-17-5	20.8	21.5	19.4	20.2	23.6	22.3	22.2
L69U40-16-4	23.3	23.2	21.1	22.3	26.1	23.2	24.1
L74-1960	21.1	21.7	20.1	20.8	22.3	22.1	23.6
L74D-615	23.0	21.8	20.7	22.2	21.5	22.3	21.8
L74D-619	22.0	21.7	20.4	21.7	23.0	22.0	21.7
L74U-3242	22.7	23.1	21.4	22.3	24.5	23.0	24.3

<u>Iowa</u>	<u>S. Dakota</u>	<u>Neb.</u>	<u>Kansas</u>	
Agency	Elk Point	Mead I	Manhattan I	Powhattan
		<u>OIL (%)</u>		
20.4	21.4	20.1	23.4	25.7
20.1	20.4	19.4	21.4	21.1
20.6	20.5	20.2	21.4	22.4
19.7	19.6	19.0	22.4	21.6
21.1	21.4	20.3	21.9	22.6
20.5	22.3	20.8	23.4	22.9
23.0	21.1	21.8	23.9	25.3
22.1	22.6	21.0	22.1	22.7
22.5	22.4	21.4	23.6	24.2
20.7	21.8	20.4	21.9	22.7
20.6	21.0	20.7	22.3	22.4
23.0	22.3	21.8	22.8	24.9
20.3	21.6	20.0	21.9	21.9
20.0	20.3	19.0	20.6	20.9
21.9	21.4	21.4	22.6	24.0
21.4	20.4	20.8	23.6	24.2
20.4	20.8	19.9	22.2	22.9
20.2	21.1	20.5	22.0	23.2
20.8	20.7	20.0	21.1	21.3
21.9	22.3	21.3	22.4	23.4
21.3	20.9	20.5	22.9	23.0
20.6	21.0	21.0	22.8	22.7
19.4	19.7	19.1	21.6	21.4
20.5	20.9	20.0	22.1	23.7
23.5	21.6	22.0	23.3	24.3
21.1	21.8	20.5	22.6	22.5
20.7	20.7	21.0	22.7	24.0
21.3	20.5	20.3	22.8	23.5
21.2	22.2	21.9	23.9	26.3

Strain	Parentage	Generation Compositid
1. Beeson		
2. Calland		
3. Cutler 71		
4. Williams		
5. Woodworth		
6. A76-302010	AP68-1216 x L15	F <sup>4</sup>
7. A76-302014	AP6	F <sup>6</sup>
8. A76-303035	M60-92 x IVR Ex4428	F <sup>4</sup>
9. A76-304019	(Beeson x AP68-1016) x (L15 x Calland)	" <sup>4</sup>
10. A76-304020	"	"
11. A76-304030	AP6	F <sup>6</sup>
12. A76-305002	AP68-1216 x Calland	F <sup>4</sup>
13. A76-305016	AP6	F <sup>6</sup>
14. C1548	Calland x L63-1397	" <sup>6</sup>
15. C1549	Beeson x C1421	F <sup>7</sup>
16. C1552	C1471 x CX407BC <sub>7</sub> -255	" <sup>7</sup>
17. C1556	Williams x Beeson	"
18. C1558	Williams x L69L-6-1	F <sup>8</sup>
19. C1559	"	" <sup>8</sup>
20. C1563	"	"
21. HW7501	Harosoy x Higan (PR res. 1, 3, 6)	F <sup>5</sup>
22. HW73-336	L67-533 x L66L-140	F <sup>4</sup>
23. HW74-618	Williams x Ransom (determinate, dt <sub>1</sub> )	" <sup>4</sup>
24. HW74-3354	" "	"
25. HW74-3362	" "	"
26. HW74-3384	" "	"
27. HW74-3385	" "	"
28. HW74-3394	" "	"
29. HW74-3400	" "	"
30. K1029	Adelphia x Cutler	F <sup>5</sup>
31. K1030	Williams x Calland	" <sup>5</sup>
32. L74-4093	Williams x Beeson	F <sup>6</sup>
33. L74L-71	Calland x Williams	" <sup>6</sup>
34. L75-6857	Williams <sup>6</sup> x L69-5343 (Clark <u>Im</u> )	F <sup>3</sup>
35. U10727	Wayne x C1317-71	F <sup>4</sup>
36. U20249	C1317-71 x Amsoy	F <sup>5</sup>

This test has several strains outyielding the checks. Of these, A76-303035, A76-304019, and A76-304020 were 4 bushels higher yielding and 1 to 5 days later in maturity than Woodworth. The strains A76-304019 and A76-304020 are resistant to race 1 of phytophthora root rot and supposedly have brown stem rot resistance and show a lower incidence of the disease in Indiana and Iowa disease rating tests, but are fairly lodging susceptible.

The strains L71L-71, C1558, and C1559 are 2 bushels higher yielding, equal to or 1 day later in maturity than Woodworth and are susceptible to phytophthora root rot. L71L-71 has good lodging resistance. The determinate strain HW74-3385 has excellent lodging resistance and good seed quality, and was 1 day later in maturity than Woodworth. Although HW74-3385 averaged 22 inches in height, it yielded equal to Woodworth in these tests. Four of the determinate strains that had Ransom as one parent had exceptionally high oil contents.

## Disease Data

Strain	DM	FE2	BSR			PSB	PS	Germ.	PR		
	Girard	Laf.	Laf.	Ames		Laf.	Laf.	Laf.	Laf.	Ames	Vickery
	Ill.	Ind.	Ind.	Iowa		Ind.	Ind.	Ind.	Ind.	Iowa	Ohio
	n	a	n %	n% stem	n% plants	% d	% a	% *	a	a	n
Beeson	2	1	80	93	100	26	75	77	R	R	4.0
Calland	2	4	70	100	100	27	38	79	R	R	3.5
Cutler 71	3	1	100	83	100	2	23	98	R	R	3.0
Williams	4	2	80	96	100	14	55	84	S	S	2.5
Woodworth	3	4	70	100	100	23	51	95	S	S	3.5
A76-302010	4	3	90	67	100	19	47	90	R	R	4.0
A76-302014	3	4	90	100	100	17	61	91	S	S	3.5
A76-303035	2	4	100	97	100	25	53	83	S	S	3.5
A76-304019	2	4	70	60	90	2	48	98	R	R	3.0
A76-304020	2	4	20	52	90	7	68	96	R	R	3.0
A76-304030	3	4	60	92	100	11	60	97	S	S	2.5
A76-305002	2	3	100	44	80	8	31	93	R	R	4.0
A76-305016	2	3	90	99	100	17	52	88	S	S	3.0
C1548	2	5	100	100	100	19	30	95	R	R	3.0
C1549	2	4	70	99	100	20	57	90	R	R	3.0
C1552	2	4	100	99	100	22	48	92	R	R	2.5
C1556	3	1	70	93	100	9	52	97	H	S	2.5
C1558	2	3	80	96	100	8	77	96	S	S	4.0
C1559	3	3	90	100	100	19	66	96	S	S	3.5
C1563	2	3	100	100	100	10	77	94	H	S	3.5
HW7501	1	2	50	81	100	34	57	78	R	R	2.5
HW73-336	3	1	100	100	100	10	34	95	S	S	3.0
HW74-618	1	1	100	96	100	12	37	95	S	S	3.5
HW74-3354	1	1	100	99	100	3	28	99	S	S	3.5
HW74-3362	1	1	70	100	100	15	41	95	S	S	3.5
HW74-3384	1	2	100	100	100	18	32	96	S	S	3.0
HW74-3385	2	3	90	100	100	26	50	98	S	S	4.0
HW74-3394	1	2	90	96	100	19	39	89	S	S	4.0
HW74-3400	1	3	80	97	100	13	49	90	S	S	3.5
K1029	3	4	60	100	100	12	46	98	S	S	3.5
K1030	2	5	80	95	100	19	47	86	S	S	4.5
L74-4093	3	1	60	97	100	4	91	97	S	S	3.5
L74L-71	3	5	80	100	100	29	73	85	S	S	5.0
L75-6857	4	4	80	99	100	3	67	97	S	S	2.5
U10727	3	4	90	99	100	20	77	89	R	R	3.0
U20249	2	5	100	83	100	18	62	91	R	S	2.5

\*Petri dish germ. on potato dextrose agar.

## Descriptive and Other Data

Strain	Descriptive Code		<u>Chlorosis</u>	<u>Shattering</u>
			Ames Iowa	Manhattan Kansas
Beeson	PGBr	SYIb	4	2
Calland	PTBr	DYB1	3	3
Cutler 71	PTBr	SYB1	3	2
Williams	WTTn	SYB1	3	2
Woodworth	WTTn	DYB1	5	2
A76-302010	WTBr	DYBr	4	1
A76-302014	P+WGBr	DYBf	3	2
A76-303035	PGBr	DYY	3	1
A76-304019	PTBr	DYB1	3	3
A76-304020	PTBr	DYB1	2	3
A76-304030	PTBr	SYBr	2	2
A76-305002	PTBr	DYBr	4	1
A76-305016	WTBr	DYBr	4	3
C1548	PGBr	DYIb	3	1
C1549	PGBr	SYIb	2	2
C1552	PGBr	DYIb	2	5
C1556	PTBr	SYB1	4	3
C1558	PTTn	DYB1	4	2
C1559	WTBr	DYBr	5	2
C1563	PTBr	DYB1	5	3
HW7501	PGTn	DYY	2	5
HW73-336	PTBr	DYB1	5	1
HW74-618	PTTn	SYB1	4	1
HW74-3354	PTTn	SYB1	3	1
HW74-3362	PTTn	DYB1	4	1
HW74-3384	WTBr	SYB1	4	2
HW74-3385	P+WTBr	SYB1	3	1
HW74-3394	PTBr	SYB1	3	2
HW74-3400	WTBr	SYB1	2	1
K1029	PTTn	DYB1	3	2
K1030	WTTn	DYB1	3	2
L74-4093	P+WTTn	SYB1	3	4
L74L-71	PTBr	DYB1	3	2
L75-6857	WTTn	DYB1	4	3
U10 727	WGTn	SYBf	4	2
U20249	WGTn	SYBf	4	2

## Regional Summary

Strain	Yield	Rank	Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition Protein	Oil
No. of Tests	10	10	9	10	10	8	8	4	4
Beeson	42.3	26	-8.7	2.0	35	2.5	19.4	38.9	21.4
Calland	43.1	24	-0.2	2.3	40	2.1	17.8	39.2	20.9
Cutler 71	45.0	12	+6.8	2.4	43	1.8	18.3	40.7	20.5
Williams	44.6	16	+4.0	2.0	39	1.8	17.6	39.9	21.5
Woodworth	45.0	12	9-22.2+	2.1	39	2.0	15.3	38.6	22.0
A76-302010	42.2	27	-0.2	3.2	40	2.1	17.5	40.4	20.8
A76-302014	44.5	17	0	2.6	40	2.1	14.4	39.5	20.4
A76-303035	48.7	2	+1.4	2.9	36	2.2	15.8	38.4	21.1
A76-304019	48.6	3	+3.4	2.9	41	2.1	17.5	40.3	19.4
A76-304020	48.9	1	+4.9	2.8	41	2.1	17.4	39.8	20.0
A76-304030	43.2	23	+1.1	3.1	38	2.0	17.7	38.5	21.0
A76-305002	44.9	14	+7.9	3.0	40	2.2	20.8	41.0	20.0
A76-305016	46.1	9	+2.2	2.3	36	1.8	17.4	38.2	21.9
C1548	46.2	8	+0.8	1.8	36	1.8	16.9	38.9	20.9
C1549	44.4	18	-2.0	2.1	38	1.8	17.9	37.1	21.9
C1552	43.9	21	+3.3	2.0	45	2.0	18.4	40.5	21.0
C1556	46.0	10	+2.8	2.3	39	1.9	18.4	40.8	20.4
C1558	46.6	6	+1.4	2.3	38	2.2	18.0	39.2	21.6
C1559	46.8	5	+0.9	2.1	42	1.8	17.2	39.1	22.0
C1563	43.6	22	+0.8	1.9	36	2.0	17.7	39.5	21.7
HW7501	34.3	36	-7.7	2.8	38	2.8	23.1	39.6	20.9
HW73-336	44.4	18	+2.9	2.0	37	2.1	18.2	39.2	21.3
HW74-618	40.4	33	-4.0	1.3	22	1.8	16.2	39.1	21.8
HW74-3354	37.9	34	+2.2	1.4	22	1.8	16.8	40.3	20.8
HW74-3362	34.4	35	+0.6	1.3	19	2.1	18.4	40.4	21.3
HW74-3384	42.7	25	+1.1	1.4	22	1.7	18.6	37.5	24.0
HW74-3385	44.9	14	+1.4	1.3	22	1.8	16.2	36.4	23.9
HW74-3394	41.8	30	+2.0	1.3	21	1.7	19.3	38.6	23.4
HW74-3400	40.7	32	+2.1	1.4	20	1.7	18.2	38.5	23.0
K1029	41.2	31	-0.7	1.6	36	2.0	17.0	40.1	21.1
K1030	45.8	11	+7.1	2.2	40	2.2	18.4	38.1	22.3
L74-4093	44.4	18	+0.6	1.9	37	1.9	18.4	38.8	21.6
L74L-71	47.0	4	+0.1	1.7	39	2.2	19.2	38.3	22.7
L75-6857	46.4	7	+3.9	2.1	41	1.7	17.8	39.4	21.4
U10727	41.9	29	-3.7	1.9	35	2.4	16.9	38.9	20.8
U20249	42.0	28	-1.0	2.0	40	2.6	16.4	38.2	22.0

+ 128 days after planting

Strain	Mean	Md.	Ohio	Indiana	Ill.
		Clarks- ville	Hoyt- ville	Lafayette	Girard
	10 Tests		YIELD (bu/a)		
Beeson	42.3	49.9	48.6	51.7	47.2
Calland	43.1	41.1	48.2	47.6	52.2
Cutler 71	45.0	53.1	45.6	56.9	50.2
Williams	44.6	49.8	50.1	55.0	57.4
Woodworth	45.0	48.9	53.2	50.2	52.1
A76-302010	42.2	46.2	46.1	50.1	45.0
A76-302014	44.5	50.2	48.0	50.8	52.7
A76-303035	48.7	50.6	49.7	56.7	57.0
A76-304019	48.6	41.9	54.5	65.6	52.0
A76-304020	48.9	51.7	53.5	63.7	54.4
A76-304030	43.2	47.3	43.8	53.5	42.8
A76-305002	44.9	42.3	44.0	60.7	54.5
A76-305016	46.1	52.3	49.5	44.7	54.8
C1548	46.2	50.4	51.0	53.6	54.7
C1549	44.4	50.4	51.8	52.5	49.6
C1552	43.9	47.3	50.7	42.9	49.9
C1556	46.0	48.3	52.6	46.0	53.8
C1558	46.6	50.9	53.3	53.3	53.0
C1559	46.8	49.0	53.6	54.0	52.1
C1563	43.6	34.7	49.0	51.9	55.7
HW7501	34.3	37.7	44.9	40.5	38.8
HW73-336	44.4	37.8	50.7	48.1	52.2
HW74-618	40.4	46.3	55.8	43.8	45.4
HW74-3354	37.9	36.9	56.5	45.9	44.4
HW74-3362	34.4	43.0	51.3	36.1	35.7
HW74-3384	42.7	49.5	53.4	45.9	50.0
HW74-3385	44.9	46.9	55.3	54.1	53.0
HW74-3394	41.8	50.2	50.2	42.7	47.2
HW74-3400	40.7	48.8	48.6	44.1	49.0
K1029	41.2	41.8	50.7	48.7	49.2
K1030	45.8	54.3	41.2	55.1	52.4
L74-4093	44.4	43.0	47.5	55.7	53.6
L74L-71	47.0	50.8	54.6	59.1	53.4
L75-6857	46.4	52.5	50.8	57.2	51.0
U10727	41.9	36.6	50.8	46.0	49.4
U20249	42.0	41.1	50.6	46.7	55.2
C.V. (%)		12.9	6.3	9.3	5.2
L.S.D. (5%)		NS	6.4	9.6	5.3
Row Sp. (in.)		30	30	30	36
Rows/Plot		4	4	3	4
Reps.		3	2	2	2

<u>Iowa</u>		<u>Mo.</u>	<u>S. Dakota</u>	<u>Neb.</u>	<u>Kansas</u>
Stuart	Agency	Columbia	Elk Point	Mead I	Manhattan I
<u>YIELD (bu/a)</u>					
23.9	49.2	23.2	40.2	47.8	41.0
27.8	51.8	32.7	44.1	43.5	42.4
27.3	58.2	33.5	37.4	42.8	45.2
26.6	50.5	35.0	31.3	40.5	49.6
28.6	51.6	30.0	40.3	50.5	45.1
28.2	55.7	30.3	39.8	43.4	37.2
27.9	53.2	35.4	41.4	43.2	42.0
30.3	64.4	37.7	40.8	52.7	47.0
28.9	66.2	34.8	41.9	47.4	52.3
32.0	63.5	28.0	46.3	43.4	52.2
30.1	56.0	31.5	38.6	43.0	45.9
32.4	62.1	24.5	39.4	42.1	46.8
28.3	58.9	30.2	37.9	46.2	57.8
30.5	52.6	34.9	42.3	53.9	38.1
27.4	46.5	28.2	45.8	42.4	49.1
27.2	52.0	38.4	36.9	40.3	53.4
28.3	55.0	35.6	42.0	41.9	56.3
26.9	54.1	37.4	39.3	47.9	49.9
27.9	56.0	39.3	40.6	44.4	51.2
25.9	56.9	33.2	35.2	46.6	46.8
19.6	41.0	16.6	41.5	40.0	22.0
31.0	53.3	37.3	41.9	46.9	45.2
19.5	57.5	29.8	36.9	50.7	18.8
20.3	47.1	27.1	35.8	49.9	15.4
11.3	51.3	9.8	45.9	48.4	10.9
25.5	65.2	27.6	36.4	53.5	19.9
27.4	63.1	25.2	39.3	57.7	26.7
22.1	57.2	35.0	43.8	54.8	15.3
22.9	57.6	26.0	38.1	51.4	20.3
26.2	45.4	23.6	42.7	44.1	39.3
31.2	55.6	26.0	46.7	48.3	47.2
24.8	51.1	31.9	40.2	44.5	52.2
27.3	52.6	34.1	38.1	46.0	54.1
27.8	52.6	34.6	40.4	42.9	53.9
27.6	53.1	21.8	45.3	46.0	42.3
25.8	45.1	29.8	41.5	46.1	38.2
8.9	7.1	15.8	14.5	7.8	8.7
4.8	7.9	9.7	NS	7.4	7.2
27	27	30	30	30	30
4	4	4	3	4	4
2	2	2	3	2	2



## PRELIMINARY TEST III, 1977

Strain	Mean	Md.	Ohio	Indiana	Ill.
		Clarks- ville	Hoyt- ville	Lafayette	Girard
10 Tests		YIELD RANK			
Beeson	26	13	26	18	29
Calland	24	30	28	24	16
Cutler 71	12	2	32	6	22
Williams	16	14	22	10	1
Woodworth	12	17	10	20	18
A76-302010	27	24	31	21	32
A76-302014	17	11	29	19	14
A76-303035	2	8	23	7	2
A76-304019	3	28	5	1	20
A76-304020	1	5	7	2	8
A76-304030	23	20	35	14	34
A76-305002	14	27	34	3	7
A76-305016	9	4	24	30	5
C1548	8	9	14	13	6
C1549	18	9	12	16	25
C1552	21	20	17	33	24
C1556	10	19	11	27	9
C1558	6	6	9	15	12
C1559	5	16	6	12	18
C1563	22	36	25	17	3
HW7501	36	33	33	35	35
HW73-336	18	32	17	23	16
HW74-618	33	23	2	32	31
HW74-3354	34	34	1	29	33
HW74-3362	35	25	13	36	36
HW74-3384	25	15	8	28	23
HW74-3385	14	22	3	11	12
HW74-3394	30	11	21	34	29
HW74-3400	32	18	26	31	28
K1029	31	29	17	22	27
K1030	11	1	36	9	15
L74-4093	18	25	30	8	10
L74L-71	4	7	4	4	11
L75-6857	7	3	15	5	21
U10727	29	35	15	26	26
U20249	28	30	20	25	4

<u>Iowa</u>		<u>Mo.</u>	<u>S. Dakota</u>	<u>Neb.</u>	<u>Kansas</u>
Stuart	Agency	Columbia	Elk Point	Mead I	Manhattan I
<u>YIELD RANK</u>					
30	31	33	20	13	24
15	26	16	6	24	21
20	8	14	30	30	18
24	30	8	36	34	11
9	27	21	19	8	20
12	15	19	22	25	28
13	20	7	15	27	23
6	3	3	16	5	14
8	1	11	11	14	6
2	4	25	2	25	7
7	13	18	26	28	17
1	6	31	23	32	15
10	7	20	29	17	1
5	22	10	9	3	27
18	33	24	4	31	12
22	25	2	31	35	5
10	17	6	10	33	2
23	18	4	24	12	10
13	13	1	18	22	9
26	12	15	35	16	15
34	36	35	13	36	30
4	19	5	11	15	18
35	10	22	32	7	33
33	32	27	34	9	34
36	28	36	3	10	36
28	2	26	33	4	32
18	5	30	24	1	29
32	11	8	7	2	35
31	9	28	27	6	31
25	34	32	8	23	25
3	16	28	1	11	13
29	29	17	20	21	7
20	22	13	27	19	3
15	22	12	17	29	4
17	21	34	5	20	22
27	35	22	13	18	26

Strain	Mean	Md.	Ohio	Indiana	Ill.
		Clarks- ville	Hoyt- ville	Lafayette	Girard
	9 Tests	MATURITY (relative date)			
Beeson	-8.7	-7	-2	-7	-13
Calland	-0.2	0	+5	+1	-1
Cutler 71	+6.8	+4	+8	+9	+8
Williams	+4.0	+4	+7	+6	+3
Woodworth †	9-22.2	9-24	10-2	9-20	9-15
A76-302010	-0.2	+3	+4	+3	-6
A76-302014	0	-4	+5	0	+2
A76-303035	+1.4	0	+3	+4	0
A76-304019	+3.4	0	+8	+8	-1
A76-304020	+4.9	+4	+8	+7	+2
A76-304030	+1.1	0	+5	+2	-1
A76-305002	+7.9	+4	+10	+14	+8
A76-305016	+2.2	+4	+5	0	+2
C1548	+0.8	+4	+6	+2	-2
C1549	-2.0	-5	+2	0	-5
C1552	+3.3	+4	+8	0	+2
C1556	+2.8	+4	+6	+2	+3
C1558	+1.4	0	+6	+4	+2
C1559	+0.9	+4	+4	+1	0
C1563	+0.8	-4	+5	0	+1
HW7501	-7.7	-8	-2	-4	-13
HW73-336	+2.9	+4	+6	+2	+1
HW74-618	-4.0	-8	+2	0	-3
HW74-3354	+2.2	+4	+6	+6	+10
HW74-3362	+0.6	+2	+5	+6	+7
HW74-3384	+1.1	+4	+5	+6	+7
HW74-3385	+1.4	+6	+4	+6	+2
HW74-3394	+2.0	+4	+6	+5	+9
HW74-3400	+2.1	+5	+6	+6	+9
K1029	-0.7	+5	+6	-4	-6
K1030	+7.1	+6	+12	+8	+11
L74-4093	+0.6	-4	+3	+2	+1
L74L-71	+0.1	0	+6	+2	0
L75-6857	+3.9	0	+8	+6	+3
U10727	-3.7	-4	+1	-3	-8
U20249	-1.0	+1	+6	0	-3
Date planted	5-17	5-19	5-19	5-9	5-14
† Days to mat.	128	128	136	134	124

<u>Iowa</u>		<u>Mo.</u>	<u>S. Dakota</u>	<u>Neb.</u>	<u>Kansas</u>
Stuart	Agency	Columbia	Elk Point	Mead I	Manhattan I
<u>MATURITY (relative date)</u>					
-10		-4	-8	-14	-13
+1		+4	0	-7	-5
+9		+5	+6	+2	+10
+6		+3	+2	-1	+6
9-12		9-26	10-3	9-30	9-8
0		0	0	-4	-2
-2		0	-1	-5	+5
+3		0	+1	-2	+4
+6		+2	+5	-1	+4
+6		+5	+8	0	+4
0		0	+4	-4	+4
+10		+1	+10	+5	+9
+3		+4	-1	-4	+7
+4		+3	+1	-8	-3
0		+1	0	-8	-3
+7		+6	+3	-6	+6
+4		-1	+2	-1	+6
0		0	+4	-4	+1
0		+1	-1	-5	+4
0		0	+1	-2	+6
-10		+1	-7	-13	-13
+4		+2	+4	-2	+5
-4		-2	-3	-8	-10
-2		+1	+2	-4	-3
-4		-2	0	-4	-5
-2		0	-1	-4	-5
+3		0	+2	-5	-5
+3		0	+1	-4	-6
0		+1	0	-3	-5
-2		+4	+1	-6	-4
+8		+8	+6	0	+5
+2		+1	0	-5	+5
+1		+2	-2	-8	0
+6		+3	+2	0	+7
-2		-1	+1	-10	-7
+2		-1	-1	-9	-4
5-10	5-18	6-8	5-20	5-17	5-2
125		110	136	136	129

Strain	Parentage	Previous Testing*	Generation Compositd
1. Cutler 71	Cutler <sup>4</sup> x SL5 (Kent <u>Rps</u> <u>rxp</u> )	8	6F <sub>3</sub>
2. Essex	Lee x S5-7075	-	F <sub>6</sub>
3. Union (L21)	Williams <sup>5</sup> x SL11 (Wayne <u>Rpm</u> <u>Rps</u> )	1	F <sub>3</sub>
4. Williams	Wayne x L57-0034	UTIII	F <sub>6</sub>
5. A75-302003	L15 x AP68-1016	PIV	F <sub>6</sub>
6. A75-302017	Woodworth x Calland	PIV	" <sub>4</sub>
7. K1022	Williams x Columbus	PIV	"
8. K1024	L66L-140 x Columbus	PIV	"
9. L70L-3048	L15 x D64-3146	2	F <sub>7</sub>
10. L73-5038	Clark 63 - <u>I</u> <u>r</u> <u>Im</u> x L66L-154	PIV	F <sub>5</sub>
11. L74D-609	Williams x Ransom (dt <sub>1</sub> determinate)	PIV	" <sub>5</sub>
12. L74D-634	"	PIV	"
13. L74D-674	Amsoy 71 x Ransom	PIV	"
14. Md71-407	Clark x D64-4731	1	F <sub>6</sub>

\* Number of years in this test or name of 1976 test.

The three-year East Coast and Central means show L70L-3048 having a mean yield of 1 and 3 bushels higher and maturing 2 days later than Cutler 71, but it is not resistant to phytophthora root rot.

The strain L70L-3048 is highest yielding in the two-year Central mean, while Union, 3 days earlier in maturity, is 0.6 bushel lower yielding than L70L-3048. Union is the highest yielding entry in the East Coast test, and is resistant to race 1 of phytophthora root rot and to downy mildew.

In the 1977 Central tests L70L-3048 and K1024 are the highest yielding lines. L70L-3048 is similar in maturity to Cutler 71 while K1024 is 2 days later than Cutler 71. In the 1977 East Coast test the determinate strain L74D-634 is the highest yielding entry in the test, is 6 days later than Cutler 71 in maturity and has excellent lodging resistance. The determinate strains L74D-609 and L74D-674 are 3 bushel higher yielding and 0.4 to 1.4 days respectively earlier maturing than Cutler 71. L74D-674 is resistant to Frog-eye leaf spot, moderately resistant to chlorosis and is shattering resistant.

## Disease Data

Strain	FE2	BSR				PSB	PS	Germ.	PR	
	Laf. Ind.	Laf. Ind.	Lamber- ton Minn.	Ames Iowa		Laf. Ind.	Laf. Ind.	Laf. Ind.	Laf. Ind.	Ames Iowa
	a	n %	n %	n% stem	n% plants	% d	% a	% *	a	a
Cutler 71	1	100	50	97	100	35	49	75	R	R
Essex	4	-	5	88	100	31	0	87	S	S
Williams	2	80	25	96	100	57	39	74	S	S
Union	3	80	40	95	100	46	47	79	R	R
A75-302003	2	70	10	59	100	49	43	82	R	R
A75-302017	5	100	15	89	100	57	22	79	H	S
K1022	5	90	20	94	100	55	10	84	S	S
K1024	3	100	25	99	100	51	10	80	S	S
L70L-3048	3	100	15	92	100	59	58	80	S	S
L73-5038	5	80	35	100	100	59	28	78	S	S
L74D-609	3	80	10	100	100	43	19	93	S	S
L74D-634	3	70	5	100	100	36	8	83	S	S
L74D-674	1	100	15	97	100	52	5	74	S	S
Md71-407	4	100	20	85	100	45	4	93	S	S

\*Petri dish germ. on potato dextros agar.

## Descriptive and Other Data

Strain	Descriptive Code	Chlorosis			Shattering			
		Lamber- ton Minn.	Ames Iowa	Emer- gence	Portage- ville Mo.	Man- hattan Kansas	Lubbock Texas	
Cutler 71	PTBr	SYB1	1.5	2.0	5	2	2	3.2
Essex	PGBr	SYBf	3.0	3.0	1	1	1	1.7
Williams	WTTn	SYB1	2.2	3.0	2	2	2	2.0
Union	WTTn	SYB1	3.8	4.0	3	2	2	2.0
A75-302003	PTBr	DYB1	3.2	4.0	5	2	1	1.5
A75-302017	WTTn	DYB1	2.5	3.0	1	2	1	1.7
K1022	WTTn	SYB1	2.2	3.0	5	1	1	1.5
K1024	PTBr	DYB1	3.5	5.0	3	2	1	2.0
L70L-3048	WGTn	SYBf	3.0	3.0	5	2	2	2.5
L73-5038	PTBr+Tn	DYB1	3.2	4.0	5	2	1	1.7
L74D-609	PTTn	SYB1	2.2	4.0	1	2	1	2.2
L74D-634	WTBr	SYB1	3.8	3.0	1	1	1	2.0
L74D-674	PTTn	SYG	1.8	2.0	1	1	1	1.0
Md71-407	PTBr	DYB1	1.5	3.0	2	1	1	1.5

UNIFORM TEST IV, 1977  
Regional Summary

Strain	Yield	Rank	Matur- ity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Comp. Protein	Oil
<u>1977 EAST COAST</u>									
No. of Tests	4	4	5	5	5	4	3	2	2
Cutler 71	35.7	7	10-5.4†	2.2	36	3.2	17.4	42.4	20.5
Essex	34.0	10	+14.8	2.4	33	2.4	12.9	41.5	21.4
Williams	34.0	10	-4.0	1.6	32	3.0	16.6	42.6	20.9
Union (L21)	36.4	6	-2.6	2.2	34	3.1	17.6	42.3	20.9
A75-302003	31.9	14	-3.0	1.8	31	2.9	15.0	41.4	21.6
A75-302017	34.4	9	-1.4	1.7	34	3.9	15.5	41.2	20.3
K1022	35.2	8	+3.8	1.9	32	2.9	15.2	41.4	21.1
K1024	38.3	4	+2.2	1.9	33	2.9	15.9	40.0	21.2
L70L-3048	33.5	12	+1.4	2.0	32	3.4	14.3	41.2	21.5
L73-5038	33.5	12	-2.4	1.8	33	2.8	14.0	41.0	21.4
L74D-609	38.4	3	-0.4	1.6	23	2.6	16.0	41.5	21.5
L74D-634	39.9	1	+6.2	1.4	23	2.5	18.1	41.2	21.9
L74D-674	38.8	2	-1.4	1.5	29	3.0	15.0	39.5	22.8
Md71-407	36.6	5	+5.2	2.1	33	2.6	14.5	41.7	20.3

† 132 days after planting

1976-1977, 2-YEAR MEAN, EAST COAST

No. of Tests	9	9	10	10	10	9	8	4	4
Cutler 71	38.3	3	10-2.4†	2.6	36	2.6	18.6	42.0	20.1
Union	39.8	1	-1.1	2.6	34	2.6	19.5	42.0	20.4
L70L-3048	37.1	4	+2.3	2.2	33	3.0	15.9	41.2	20.6
Md71-407	38.4	2	+5.5	2.3	33	2.2	14.9	41.6	20.0

† 128 days after planting

1975-1977, 3-YEAR MEAN, EAST COAST

No. of Tests	16	16	17	17	17	16	14	6	6
Cutler 71	39.3	2	10-3.2†	2.5	38	2.5	19.0	42.1	20.2
L70L-3048	40.1	1	+2.0	2.4	36	2.9	16.4	42.1	20.6

† 126 days after planting

UNIFORM TEST IV, 1977  
Regional Summary

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Strain	Yield	Rank	Matur- ity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Comp. Protein	Oil
<u>1977 CENTRAL</u>									
No. of Tests	16	16	14	18	18	17	15	8	8
Cutler 71	40.9	10	9-23.7†	2.1	40	2.7	18.7	40.7	20.9
Essex	42.2	8	+16.7	2.2	32	2.2	13.9	41.0	20.6
Williams	43.0	6	-3.4	1.8	37	2.4	18.1	40.1	21.7
Union (L21)	43.2	4	-1.3	2.3	40	2.5	19.5	40.8	20.9
A75-302003	40.4	11	-3.0	2.1	38	2.6	16.9	40.6	20.9
A75-302017	40.2	13	-1.1	1.6	38	2.8	17.2	39.9	20.5
K1022	43.2	4	+2.6	1.9	38	2.3	16.2	40.7	20.9
K1024	44.7	2	+1.8	1.8	38	2.4	18.0	40.0	20.5
L70L-3048	44.8	1	+0.3	2.1	38	2.8	16.6	40.2	21.8
L73-5038	41.3	9	0	2.1	38	2.4	16.1	40.3	20.7
L74D-609	40.3	12	-1.4	1.2	19	1.9	17.4	40.4	21.7
L74D-634	39.2	14	+9.4	1.2	18	2.4	19.5	40.4	21.5
L74D-674	42.3	7	-4.8	1.6	26	2.5	16.8	38.6	22.9
Md71-407	43.7	3	+5.6	2.2	39	2.2	15.7	40.4	20.8

† 131 days after planting

1976-1977, 2-YEAR MEAN, CENTRAL

No. of Tests	34	34	30	37	38	36	28	17	17
Cutler 71	38.4	4	9-21.0†	2.0	38	2.4	17.3	40.8	20.8
Union	41.0	2	-1.5	2.1	38	2.2	18.2	40.7	20.8
L70L-3048	41.6	1	+1.5	1.9	37	2.5	15.4	40.5	21.3
Md71-407	39.5	3	+5.6	2.1	37	1.9	14.8	40.7	20.6

† 129 days after planting

1975-1977, 3-YEAR MEAN, CENTRAL

No. of Tests	54	54	46	57	58	55	45	26	26
Cutler 71	40.3	2	9-22.7†	2.0	37	2.4	17.6	40.9	21.0
L70L-3048	43.4	1	+2.0	2.0	37	2.5	15.5	40.5	21.5

† 130 days after planting



## UNIFORM TEST IV, 1977

Strain	East	Pa.	N.J.	Del.	Md.		Central Mean	Indiana		
	Coast Mean	Landis- ville	Adel- phia	George- town I	Clarks- ville	Queens- town		Lafay- ette	Sulli- van	
	4 Tests						YIELD (bu/a)			
Cutler 71	35.7	40.8	*	23.2	36.7	42.0	40.9	50.1	30.9	
Essex	34.0	32.2		32.6	29.7	41.3	42.2	33.4	43.3	
Williams	34.0	33.8		28.3	33.8	40.2	43.0	42.9	35.3	
Union	36.4	38.0		25.2	37.8	44.4	43.2	44.5	31.3	
A75-302003	31.9	37.2		21.8	30.4	38.1	40.4	48.6	25.8	
A75-302017	34.4	35.9		24.0	35.0	42.6	40.2	47.9	31.2	
K1022	35.2	32.0		29.9	37.5	41.4	43.2	40.2	36.0	
K1024	38.3	36.3		33.9	41.9	41.1	44.7	44.2	35.1	
L70L-3048	33.5	33.3		23.9	37.6	39.3	44.8	41.9	37.4	
L73-5038	33.5	33.0		23.1	38.2	39.6	41.3	40.0	27.7	
L74D-609	38.4	39.7		26.9	44.3	42.8	40.3	52.0	43.5	
L74D-634	39.9	38.8		34.5	42.1	44.2	39.2	50.1	39.9	
L74D-674	38.8	40.3		24.1	47.3	43.4	42.3	43.8	39.0	
Md71-407	36.6	37.8		27.0	36.8	44.6	43.7	41.3	32.8	
C.V. (%)		8.7		15.7	15.9	6.8		10.0	11.1	
L.S.D. (5%)		5.3		5.8	NS	NS		7.4	6.3	
Row Sp. (in.)		30		30	30	30		30	30	
Rows/plot		4		4	4	4		3	3	
Reps.		3		3	2	3		3	3	
	4 Tests						YIELD RANK			
Cutler 71	7	1		12	10	7	9	2	12	
Essex	10	13		3	14	9	7	14	2	
Williams	10	10		5	12	11	4	9	7	
Union	6	5		8	6	2	3	6	10	
A75-302003	14	7		14	13	14	13	4	14	
A75-302017	9	9		10	11	6	11	5	11	
K1022	8	14		4	8	8	5	12	6	
K1024	4	8		2	4	10	1	7	8	
L70L-3048	12	11		11	7	13	2	10	5	
L73-5038	12	12		13	5	12	8	13	13	
L74D-609	3	3		7	2	5	10	1	1	
L74D-634	1	4		1	3	3	14	2	3	
L74D-674	2	2		9	1	4	6	8	4	
Md71-407	5	6		6	9	1	11	11	9	
	4 Tests						17 Tests			
Cutler 71	7	1		12	10	7	9	2	12	
Essex	10	13		3	14	9	7	14	2	
Williams	10	10		5	12	11	4	9	7	
Union	6	5		8	6	2	3	6	10	
A75-302003	14	7		14	13	14	13	4	14	
A75-302017	9	9		10	11	6	11	5	11	
K1022	8	14		4	8	8	5	12	6	
K1024	4	8		2	4	10	1	7	8	
L70L-3048	12	11		11	7	13	2	10	5	
L73-5038	12	12		13	5	12	8	13	13	
L74D-609	3	3		7	2	5	10	1	1	
L74D-634	1	4		1	3	3	14	2	3	
L74D-674	2	2		9	1	4	6	8	4	
Md71-407	5	6		6	9	1	11	11	9	

\* No yield data available

Ky. Lexing- ton	Illinois			Iowa		Missouri	
	Brows- town	Belle- ville	Carbon- dale I	Stuart	Agency	Columbia	Appleton City
<u>YIELD (bu/a)</u>							
*							
46.8	40.6	49.8	30.7	35.1	54.8	33.5	30.1
45.2	54.7	51.2	48.3	26.9	42.0	36.7	34.5
48.5	44.6	51.2	38.8	32.3	54.1	36.3	33.0
48.5	44.6	55.3	41.6	33.3	54.0	40.8	33.1
38.7	41.9	49.7	35.4	32.6	58.2	32.3	30.9
50.7	42.5	50.6	19.8	35.7	49.2	26.4	33.2
39.7	49.7	55.4	37.6	34.7	48.7	29.3	33.7
52.5	49.9	54.8	44.3	37.3	49.7	35.9	35.1
48.5	46.5	53.6	40.5	34.6	54.0	36.0	33.5
49.7	42.9	48.5	36.5	31.2	51.4	35.9	32.2
52.2	48.0	58.5	26.6	34.5	54.0	28.2	28.1
51.0	53.3	55.0	23.3	34.4	56.8	31.6	29.3
50.4	44.7	50.7	35.2	32.7	48.3	33.0	36.0
--	47.2	43.1	33.1	37.6	51.7	34.2	33.6
14.5	5.2	9.5	25.2	7.4	6.0	13.2	8.6
NS	4.1	8.4	14.0	3.6	4.6	6.3	4.0
30	30	30	30	27	27	30	30
4	4	4	4	4	4	4	4
3	3	3	3	4	4	4	4
<u>YIELD RANK</u>							
10	14	11	11	4	3	8	12
11	1	7	1	14	14	2	3
7	9	7	5	12	4	3	9
7	9	3	3	9	5	1	8
13	13	12	8	11	1	10	11
4	12	10	14	3	11	14	7
12	4	2	6	5	12	12	4
1	3	5	2	2	10	5	2
7	7	6	4	6	5	4	6
6	11	13	7	13	9	5	10
2	5	1	12	7	5	13	14
3	2	4	13	8	2	11	13
5	8	9	9	10	13	9	1
-	6	14	10	1	8	7	5

\*Not included in the mean.

Strain	Missouri		Neb.		Kansas		Texas	
	Portage- ville I (A)	Portage- ville I (B)	Mead I	Man- hattan I	Ottawa I	Pow- hattan	Colum- bus	Lub- bock
	<u>YIELD (bu/a)</u>							
	*							
Cutler 71	37.0	30.2	42.8	62.9	31.6	46.8	31.8	52.0
Essex	45.1	40.1	28.7	53.8	46.1	41.0	40.4	53.5
Williams	37.8	35.4	43.9	63.9	33.7	53.7	35.4	53.4
Union	36.9	31.1	41.7	65.4	34.4	52.9	32.8	53.7
A75-302003	37.4	31.2	46.3	63.7	27.6	42.5	31.7	48.3
A75-302017	33.5	29.7	41.1	68.2	29.7	51.6	32.9	53.7
K1022	43.9	29.3	37.3	64.8	41.2	57.5	37.6	58.7
K1024	42.7	34.9	42.0	69.2	38.6	55.0	35.2	54.7
L70L-3048	42.8	38.0	43.1	74.6	43.9	50.7	34.9	53.9
L73-5038	36.7	37.3	39.6	67.7	32.2	51.4	33.8	52.9
L74D-609	22.2	24.2	45.3	38.3	28.7	52.6	35.1	46.5
L74D-634	14.5	15.9	46.5	32.4	28.7	56.0	31.6	42.1
L74D-674	30.0	29.9	46.0	65.9	31.7	48.7	35.5	55.2
Md71-407	46.7	31.5	37.7	64.2	37.1	39.4	30.8	57.5
C.V. (%)	19.0	12.8	7.7	5.1	13.0	4.7	6.8	4.9
L.S.D. (5%)	11.5	6.7	5.4	5.2	7.6	5.1	3.9	4.3
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

<u>YIELD RANK</u>								
Cutler 71	8	9	7	11	10	11	11	11
Essex	2	1	14	12	1	13	1	8
Williams	6	4	5	9	7	4	4	9
Union	9	8	9	6	6	5	10	6
A75-302003	7	7	2	10	14	12	12	12
A75-302017	11	11	10	3	11	7	9	6
K1022	3	12	13	7	3	1	2	1
K1024	5	5	8	2	4	3	5	4
L70L-3048	4	2	6	1	2	9	7	5
L73-5038	10	3	11	4	8	8	8	10
L74D-609	13	13	4	13	12	6	6	13
L74D-634	14	14	1	14	12	2	13	14
L74D-674	12	10	3	5	9	10	3	3
Md71-407	1	6	12	8	5	14	14	2

\* Not included in the mean.

Strain	East	Pa.	N.J.	Del.	Md.		Central	Indiana		
	Coast	Landis-	Adel-	George-	Clarks-	Queens-		Mean	Lafay-	Sulli-
	Mean	ville	phia	town	I	ville	town	ette	van	
	9 Tests						<u>1976-1977, 2-YEAR MEAN</u>			
Cutler 71	38.3	40.4		31.9	39.1	41.0	38.4	45.9	37.2	
Union	39.8	41.8		36.6	40.2	42.6	41.0	46.6	41.1	
L70L-3048	37.1	38.7		33.6	39.0	39.4	41.6	44.2	41.2	
Md71-407	38.4	39.8		36.6	39.8	40.1	39.5	42.0	38.9	
	<u>YIELD RANK</u>									
Cutler 71	3	2		4	3	2	4	2	4	
Union	1	1		1	1	1	2	1	2	
L70L-3048	4	4		3	4	4	1	3	1	
Md71-407	2	3		1	2	3	3	4	3	
	16 Tests						<u>1975-1977, 3-YEAR MEAN</u>			
							<u>75,77</u>			
Cutler 71	39.3	43.8		36.8	42.9	40.8	40.3	48.8	37.2	
L70L-3048	40.1	42.3		38.8	43.9	43.5	43.4	48.8	41.4	
	<u>YIELD RANK</u>						<u>YIELD RANK</u>			
Cutler 71	2	1		2	2	2	2	1	2	
L70L-3048	1	2		1	1	1	1	1	1	
	5 Tests						<u>MATURITY (relative date)</u>			
Cutler 71	† 10-5.4	10-7	10-5	10-14	10-4	9-27	9-23.7	9-29		
Essex	+14.8	+14	+14	+5	+23	+18	+16.7	--		
Williams	-4.0	-4	-2	-2	-5	-7	-3.4	-4		
Union	-2.6	-3	0	-2	-5	-3	-1.3	-2		
A75-302003	-3.0	-2	-1	-2	-5	-5	-3.0	-1		
A75-302017	-1.4	-2	+2	-2	-5	0	-1.1	-2		
K1022	+3.8	+3	+10	-2	+2	+6	+2.6	-1		
K1024	+2.2	+3	+5	-2	-1	+6	+1.8	-3		
L70L-3048	+1.4	0	+11	-2	0	-2	+0.3	-2		
L73-5038	-2.4	-2	0	-2	-5	-3	0	-1		
L74D-609	-0.4	0	+5	-2	-2	-3	-1.4	+1		
L74D-634	+6.2	+3	+15	0	+5	+8	+9.4	+8		
L74D-674	-1.4	-4	+4	-2	-1	-4	-4.8	-5		
Md71-407	+5.2	+7	+8	-2	+7	+6	+5.6	+4		
Date planted	5-27	6-7	5-25	5-24	5-19	5-27	5-16	5-9	5-16	
† Days to mat.	132	122	133	143	138	123	131	143		

## UNIFORM TEST IV, 1977

Strain	Ky.	Illinois			Iowa		Missouri	
	Lexing- ton	Browns- town	Belle- ville	Carbon- dale I	Stuart	Agency	Columbia	Appleton City
<u>1976-1977, 2-YEAR MEAN</u>								
(a.)								
Cutler 71	42.2	40.0	46.6		34.6	57.8	28.7	19.8
Union	45.8	41.2	50.2		35.2	59.0	33.2	22.6
L70L-3048	44.9	44.4	49.2		34.9	59.7	33.0	22.0
Md71-407	--	43.3	42.4		35.0	54.0	30.1	23.0
<u>YIELD RANK</u>								
Cutler 71	3	4	3		4	3	4	4
Union	1	3	1		1	2	1	2
L70L-3048	2	1	2		3	1	2	3
Md71-407	-	2	4		2	4	3	1
<u>1975-1977, 3-YEAR MEAN</u>								
Cutler 71		41.1	51.3		39.0	54.1		24.0
L70L-3048		43.9	53.3		39.6	56.3		28.2
<u>YIELD RANK</u>								
Cutler 71		2	2		2	2		2
L70L-3048		1	1		1	1		1
<u>MATURITY (relative date)</u>								
	*							
Cutler 71	† 8-26	9-22	9-22	9-20	9-22		9-29	
Essex	+17	+28	+21	+20	+12		--	
Williams	0	-4	-3	-1	-5		-2	
Union	0	0	+1	+2	-4		-1	
A75-302003	-1	-4	-5	-7	-4		0	
A75-302017	0	+1	+1	+1	-3		-1	
K1022	0	+6	+5	+1	0		+7	
K1024	0	+3	+4	0	0		+5	
L70L-3048	0	-2	+1	0	-2		+2	
L73-5038	0	-1	0	+1	-3		+3	
L74D-609	0	+5	+5	-9	-3		+1	
L74D-634	+8	+16	+14	+7	+6		+7	
L74D-674	-4	-7	-7	-12	-3		-2	
Md71-407	--	+9	+8	+4	+6		+7	
Date planted	5-20	5-17	5-17	5-5	5-10	5-18	6-8	5-24
†Days to mat.	99	128	128	138	135		113	

(a.) Ottamwa 1975-76

UNIFORM TEST IV, 1977

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<u>Missouri</u>		<u>Neb.</u>	<u>Kansas</u>			<u>Texas</u>	
<u>Portage-</u> <u>ville I (A)</u>	<u>Portage-</u> <u>ville I (B)</u>	<u>Mead</u> <u>I</u>	<u>Man-</u> <u>hattan I</u>	<u>Ottawa</u>	<u>Pow-</u> <u>hattan</u>	<u>Columbus</u> <u>Lubbock</u>	
<u>1976-1977, 2-YEAR MEAN</u>							
36.2	30.8	36.1	56.2	18.8	31.4	29.7	46.2
37.0	29.0	34.8	58.1	22.6	37.0	31.7	47.0
37.4	31.6	37.6	61.8	27.6	34.6	33.9	49.7
38.6	26.0	35.4	54.2	23.6	28.0	29.8	52.4
<u>YIELD RANK</u>							
4	2	2	3	4	3	4	4
3	3	4	2	3	1	2	3
2	1	1	1	1	2	1	2
1	4	3	4	2	4	3	1
<u>1975-1977, 3-YEAR MEAN</u>							
38.2	31.5		58.8		31.1	21.7	44.9
41.2	34.5		63.9		34.6	27.4	49.4
<u>YIELD RANK</u>							
2	2		2		2	2	2
1	1		1		1	1	1
<u>MATURITY (relative date)</u>							
9-13	9-18	10-2	9-23	9-29	9-29	9-28	9-16
+16	+13	+17	+13	+10	+18	+9	+23
-6	0	-4	+1	-4	-1	-5	-9
-2	+1	-2	+1	-1	-1	-4	-6
-3	-1	-1	+2	-4	0	-7	-7
-1	+1	-4	+1	-1	0	-5	-4
+5	0	+4	+2	0	+9	0	-1
+3	0	+1	+5	+2	+7	0	-2
+2	+1	0	+5	+1	+4	-4	-2
+2	+1	-2	+6	-1	+6	-5	-6
-1	-3	0	-9	-1	+2	-3	-5
+14	+7	+11	+6	+6	+14	+8	+7
-10	0	-4	-8	0	-2	-7	0
+6	+2	+11	+6	+3	+12	-1	+1
5-11	5-13	5-17	5-2	5-12	5-11	6-6	5-21
125	128	138	144	140	141	114	118

Strain	East	Pa.	N.J.	Del.	Md.		Central	Indiana	
	Coast Mean	Landis- ville	Adel- phia	George- town I	Clarks- ville	Queens- town	Mean	Lafay- ette	Sulli- van
	5 Tests						18 Tests		
	<u>LODGING (score)</u>								
Cutler 71	2.2	2.5	2.5	1.2	2.7	2.0	2.1	2.5	2.7
Essex	2.4	3.3	2.5	1.0	3.0	2.0	2.2	3.5	2.5
Williams	1.6	2.0	1.5	1.0	2.0	1.3	1.8	2.2	2.2
Union	2.2	2.1	3.0	1.0	3.0	2.0	2.3	3.3	3.2
A75-302003	1.8	2.2	2.5	1.0	2.3	1.0	2.1	2.8	2.3
A75-302017	1.7	1.7	1.7	1.0	2.3	2.0	1.6	2.3	2.0
K1022	1.9	2.2	2.2	1.0	2.0	2.0	1.9	3.2	2.0
K1024	1.9	2.7	1.7	1.0	2.0	2.0	1.8	2.3	1.5
L70L-3048	2.0	2.5	2.2	1.0	2.3	2.0	2.1	3.0	2.5
L73-5038	1.8	2.2	2.2	1.0	2.3	1.3	2.1	3.0	2.3
L74D-609	1.6	2.2	1.7	1.0	2.3	1.0	1.2	1.5	1.5
L74D-634	1.4	1.0	1.0	1.0	2.0	2.0	1.2	1.0	1.2
L74D-674	1.5	1.7	1.7	1.0	2.3	1.0	1.6	3.0	1.3
Md71-407	2.1	2.6	2.2	1.0	2.7	2.0	2.2	3.5	2.2
	5 Tests						18 Tests		
	<u>PLANT HEIGHT (inches)</u>								
Cutler 71	36	35	40	23	39	44	40	47	46
Essex	33	31	38	23	35	36	32	42	40
Williams	32	28	38	22	33	37	37	42	48
Union	34	29	39	22	39	42	40	48	48
A75-302003	31	28	38	20	36	34	38	48	46
A75-302017	34	31	41	22	36	40	38	46	50
K1022	32	27	39	22	33	40	38	47	49
K1024	33	28	40	22	35	39	38	47	48
L70L-3048	32	26	37	20	37	40	38	43	46
L73-5038	33	29	39	23	36	37	38	45	47
L74D-609	23	21	28	18	25	23	19	22	22
L74D-634	23	22	34	15	22	21	18	23	22
L74D-674	29	25	37	19	34	31	26	40	35
Md71-407	33	31	41	20	36	37	39	49	46

Ky. Lexing- ton	Illinois			Iowa		Missouri	
	Browns- town	Belle- ville	Carbon- dale I	Stuart	Agency	Columbia	Appleton City
<u>LODGING (score)</u>							
1.8	2.0	3.0	2.3	2.2	4.0	2.3	2.2
2.8	2.8	2.5	2.7	2.0	4.2	2.5	2.0
1.5	1.9	2.7	1.7	1.6	3.5	2.2	1.7
1.7	2.6	3.7	2.7	1.9	4.1	2.6	2.5
1.5	2.5	3.7	2.0	1.8	4.0	2.3	2.1
1.2	1.5	2.2	1.0	1.7	3.0	1.9	2.0
1.3	2.2	3.2	1.7	1.8	3.7	2.1	2.0
1.2	1.7	2.3	1.7	1.7	3.8	2.1	1.9
1.8	2.3	3.2	1.7	1.8	4.0	2.5	2.4
1.8	2.5	3.4	1.7	1.7	4.3	2.0	1.9
1.0	1.5	1.4	1.0	1.5	2.1	1.0	1.0
1.0	1.5	1.4	1.0	1.5	2.2	1.1	1.0
1.3	2.6	2.6	1.0	1.8	3.4	1.2	1.1
--	2.3	3.0	1.0	2.3	4.2	2.4	2.9

<u>PLANT HEIGHT (inches)</u>							
40	45	52	35	30	52	32	38
35	41	36	31	31	38	30	32
34	45	46	35	26	47	30	33
40	46	52	41	28	47	36	38
36	44	50	36	28	47	29	36
40	47	55	30	28	48	28	34
35	44	50	34	28	46	28	36
35	46	51	36	28	48	29	35
36	47	52	32	30	49	33	37
35	43	47	33	28	50	30	36
23	24	24	13	20	27	16	20
23	22	20	10	20	26	15	20
30	39	33	18	26	36	20	27
--	46	49	31	30	48	34	38



Strain	Missouri		Neb.		Kansas		Texas	
	Portage- ville I (A)	Portage- ville I (B)	Mead I	Man- hattan I	Ottawa I	Pow- hattan	Colum- bus	Lub- bock I
<u>LODGING (score)</u>								
Cutler 71	1.7	1.2	1.7	1.9	1.0	2.0	1.0	2.5
Essex	1.3	1.3	2.2	1.9	1.0	2.0	1.0	1.7
Williams	1.3	1.2	1.0	2.0	1.0	1.9	1.0	2.3
Union	1.7	1.3	1.3	2.2	1.0	2.0	1.0	2.2
A75-302003	1.5	1.2	1.7	3.2	1.0	2.0	1.0	2.2
A75-302017	1.2	1.2	1.0	1.9	1.0	1.5	1.0	1.5
K1022	1.2	1.2	1.5	2.5	1.0	1.8	1.0	1.5
K1024	1.3	1.0	1.7	2.0	1.0	1.8	1.0	2.0
L70L-3048	1.8	1.3	1.3	1.9	1.0	2.0	1.0	2.2
L73-5038	1.8	1.0	1.3	2.9	1.0	2.3	1.0	2.0
L74D-609	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.0
L74D-634	1.0	1.0	1.0	1.0	1.0	1.3	1.0	1.0
L74D-674	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.0
Md71-407	1.3	1.5	1.7	2.4	1.0	2.5	1.0	1.5
<u>PLANT HEIGHT (inches)</u>								
Cutler 71	37	39	46	42	35	39	31	33
Essex	27	30	33	31	28	32	27	27
Williams	35	37	44	42	33	39	30	30
Union	33	38	45	46	37	40	30	33
A75-302003	37	37	43	44	36	39	30	31
A75-302017	32	33	44	42	34	38	30	31
K1022	35	33	45	43	34	38	30	32
K1024	33	35	47	41	32	39	29	32
L70L-3048	35	37	43	45	33	36	31	35
L73-5038	34	35	42	43	33	37	30	33
L74D-609	11	15	23	12	21	23	20	14
L74D-634	12	15	23	12	18	22	19	14
L74D-674	17	23	29	22	21	24	25	22
Md71-407	35	38	48	47	32	38	28	34

Strain	East	Pa.	Del.	Md.		Central	Indiana		
	Coast Mean	Landis- ville	George- town I	Clarks- ville	Queens- town	Mean	Lafayette	Sullivan	
	4 Tests					SEED QUALITY (score)			17 Tests
Cutler 71	3.2	2.4	4.2	4.0	2.0	2.7	2.5	5.0	
Essex	2.4	1.7	2.0	3.7	2.0	2.2	1.0	5.0	
Williams	3.0	2.1	3.8	4.0	2.0	2.4	2.0	5.0	
Union	3.1	2.3	3.8	4.3	2.0	2.5	2.5	5.0	
A75-302003	2.9	2.1	3.8	3.7	2.0	2.6	1.5	5.0	
A75-302017	3.9	2.8	4.8	5.0	3.0	2.8	2.5	5.0	
K1022	2.9	2.0	3.5	3.3	2.7	2.3	2.5	5.0	
K1024	2.9	2.1	3.5	3.0	3.0	2.4	2.5	5.0	
L70L-3048	3.4	2.6	4.3	4.7	2.0	2.8	2.5	5.0	
L73-5038	2.8	2.0	4.0	3.3	2.0	2.4	1.5	5.0	
L74D-609	2.6	2.3	2.8	3.3	2.0	1.9	2.0	2.0	
L74D-634	2.5	1.5	3.0	3.3	2.0	2.4	1.5	2.5	
L74D-674	3.0	1.9	3.5	4.3	2.3	2.5	2.0	4.0	
Md71-407	2.6	1.9	3.5	3.0	2.0	2.2	1.5	5.0	
	3 Tests					SEED SIZE (g/100)			15 Tests
Cutler 71	17.4	19.4		16.8	16.0	18.7	21.9	17.8	
Essex	12.9	14.3		11.4	13.1	13.9	15.6	16.8	
Williams	16.6	17.8		16.3	15.7	18.1	20.0	18.1	
Union	17.6	18.0		17.5	17.3	19.5	22.0	17.9	
A75-302003	15.0	16.8		13.6	14.6	16.9	19.8	15.6	
A75-302017	15.5	16.4		15.4	14.6	17.2	18.4	16.7	
K1022	15.2	16.9		14.2	14.5	16.2	18.9	15.0	
K1024	15.9	17.0		15.1	15.5	18.0	18.9	16.9	
L70L-3048	14.3	14.6		14.0	14.4	16.6	17.6	16.3	
L73-5038	14.0	15.2		13.2	13.5	16.1	17.9	15.2	
L74D-609	16.0	16.6		15.7	15.8	17.4	19.1	18.8	
L74D-634	18.1	18.5		18.2	17.5	19.5	21.1	21.3	
L74D-674	15.0	15.4		14.5	15.0	16.8	18.4	17.6	
Md71-407	14.5	16.3		13.3	13.9	15.7	16.6	17.2	

Strain	Ky.	Illinois		Iowa	Missouri		
	Lexing- ton	Browns- town	Belle- ville	Carbon- dale I	Agency	Columbia	Appleton City
<u>SEED QUALITY (score)</u>							
Cutler 71	3.0	3.0	2.5	4.0	1.7	2.5	2.5
Essex	1.0	2.3	1.5	3.0	4.8	1.5	2.8
Williams	2.0	2.5	2.5	3.0	1.7	2.3	2.0
Union	2.0	3.0	2.2	4.0	1.4	2.3	2.5
A75-302003	3.0	3.0	2.7	4.0	1.3	3.0	2.5
A75-302017	3.0	3.0	2.7	4.0	1.3	2.8	2.5
K1022	2.0	2.8	2.3	3.0	1.4	2.3	3.0
K1024	2.0	2.7	2.3	3.0	1.7	2.5	1.8
L70L-3048	3.0	2.7	2.8	4.0	2.0	2.5	3.3
L73-5038	2.0	2.5	2.8	3.0	1.8	2.3	3.0
L74D-609	1.0	2.5	1.7	3.0	2.2	2.0	2.5
L74D-634	2.0	2.5	1.7	5.0	4.0	1.5	2.0
L74D-674	2.0	2.7	2.5	3.0	1.8	2.5	3.0
Md71-407	--	2.3	1.7	3.0	2.2	2.5	2.5
<u>SEED SIZE (g/100)</u>							
Cutler 71	19.5	21.3	19.2	15.6	19.0		
Essex	12.7	17.0	15.0	12.9	12.0		
Williams	19.1	19.0	18.5	15.6	18.5		
Union	21.1	21.7	19.7	17.4	20.0		
A75-302003	17.8	18.3	16.7	14.0	16.8		
A75-302017	17.3	19.2	18.0	14.1	16.8		
K1022	16.8	18.3	17.5	13.8	16.6		
K1024	18.5	19.1	18.2	15.4	16.4		
L70L-3048	17.5	18.5	17.0	14.1	15.8		
L73-5038	16.8	17.4	18.0	13.4	14.7		
L74D-609	17.5	20.0	18.0	13.5	16.8		
L74D-634	18.3	22.0	20.6	16.6	20.4		
L74D-674	16.7	16.8	17.5	14.3	16.0		
Md71-407	--	20.0	14.7	15.3	14.1		

Missouri		Neb.	Kansas			Texas	
Portage- ville I (A)	Portage- ville I (B)	Mead I	Man- hattan I	Ottawa	Pow- hattan	Columbus	Lubbock I
SEED QUALITY (score)							
3.8	4.0	2.0	1.8	2.0	1.5	2.4	2.5
1.8	1.5	3.5	1.4	2.0	1.2	1.3	1.7
3.3	2.5	1.8	1.6	2.3	1.5	2.5	2.0
3.5	3.5	1.7	1.8	2.1	1.5	2.6	2.0
3.5	2.7	1.7	1.9	2.0	1.4	2.3	3.0
4.0	4.0	1.8	1.9	2.2	1.8	2.5	3.0
2.8	2.5	1.8	1.7	1.7	1.3	2.0	2.2
3.3	2.5	1.5	1.7	1.9	1.4	2.0	3.0
3.3	3.5	2.0	1.7	2.0	1.9	3.3	2.5
2.7	3.0	2.0	1.5	2.1	1.4	2.5	1.5
1.7	1.5	1.5	1.7	1.9	1.5	1.7	1.7
2.7	4.0	2.0	1.8	2.0	1.5	1.9	1.5
3.5	2.5	1.8	2.1	1.8	1.7	2.3	3.5
2.0	2.0	2.3	1.7	1.5	1.2	1.7	1.5
SEED SIZE (g/100)							
16.2	15.5	18.0	17.4	16.9	18.5	21.7	21.8
14.5	13.2	10.9	12.6	13.2	13.3	12.7	16.1
16.5	15.5	17.3	16.6	15.0	18.7	21.1	22.1
17.0	18.0	17.6	17.5	17.3	19.2	21.8	23.1
16.0	15.5	16.5	16.8	14.8	16.6	18.2	20.0
16.0	16.0	14.7	16.0	15.9	18.4	19.8	21.8
15.5	14.5	14.1	15.4	14.2	15.1	17.2	19.9
17.5	17.0	16.9	17.2	17.4	18.1	19.7	22.5
16.2	15.0	15.6	15.4	14.6	17.1	18.7	19.6
15.5	15.5	15.1	15.5	13.2	15.7	17.4	19.6
14.5	16.5	18.1	15.7	15.7	16.4	18.8	21.2
15.0	16.0	19.7	19.8	18.7	20.2	19.1	23.6
16.0	15.2	18.2	16.4	14.5	18.0	18.7	18.0
15.0	15.0	14.7	15.7	13.6	13.5	15.6	19.1

Strain	East Coast Mean	<u>Del.</u> George- town	<u>Md.</u> Queens- town	Central Mean	<u>Indiana</u> Lafayette
		2 Tests	<u>PROTEIN (%)</u>		8 Tests
Cutler 71	42.4	44.6	40.1	40.7	41.6
Essex	41.5	43.0	40.0	41.0	42.5
Williams	42.6	43.6	41.6	40.1	40.3
Union	42.3	44.3	40.2	40.8	41.1
A75-302003	41.4	42.1	40.6	40.6	41.9
A75-302017	41.2	42.5	39.9	39.9	40.7
K1022	41.4	42.7	40.0	40.7	41.6
K1024	40.0	40.8	39.2	40.0	40.9
L70L-3048	41.2	41.6	40.7	40.2	40.8
L73-5038	41.0	42.2	39.7	40.3	41.4
L74D-609	41.5	42.1	40.9	40.4	40.9
L74D-634	41.2	42.7	39.7	40.4	40.5
L74D-674	39.5	40.9	38.0	38.6	39.0
Md71-407	41.7	44.3	39.1	40.4	41.3
	2 Tests	<u>OIL (%)</u>		8 Tests	
Cutler 71	20.5	20.9	20.1	20.9	20.4
Essex	21.4	21.0	21.7	20.6	20.2
Williams	20.9	21.3	20.4	21.7	21.9
Union	20.9	21.3	20.5	20.9	20.4
A75-302003	21.6	23.0	20.1	20.9	20.1
A75-302017	20.3	20.8	19.8	20.5	20.0
K1022	21.1	20.6	21.5	20.9	20.5
K1024	21.2	21.7	20.6	20.5	19.5
L70L-3048	21.5	22.2	20.8	21.8	21.2
L73-5038	21.4	22.2	20.6	20.7	19.4
L74D-609	21.5	22.2	20.8	21.7	21.2
L74D-634	21.9	21.9	21.8	21.5	21.4
L74D-674	22.8	22.4	23.1	22.9	21.8
Md71-407	20.3	19.6	20.9	20.8	20.0

Strain	<u>Ky.</u>	<u>Ill.</u>	<u>Iowa</u>	<u>Neb.</u>	<u>Iowa</u>		<u>Texas</u>
	<u>Lexing-</u> <u>ton</u>	<u>Belle-</u> <u>ville</u>	<u>Agency</u>	<u>Mead</u> <u>I</u>	<u>Man-</u> <u>hattan I</u>	<u>Pow-</u> <u>hattan</u>	<u>Lubbock</u>
<u>PROTEIN (%)</u>							
Cutler 71	41.2	41.3	40.3	40.1	39.3	40.6	41.2
Essex	42.7	42.9	39.3	39.6	39.7	40.5	40.9
Williams	41.9	40.6	39.7	38.6	39.3	40.3	40.2
Union	42.1	41.0	40.4	39.7	40.0	40.2	42.2
A75-302003	41.1	40.8	41.2	38.4	40.1	40.9	40.4
A75-302017	40.7	40.7	39.6	38.4	39.6	39.3	40.2
K1022	42.6	42.0	39.8	39.5	39.9	39.2	40.7
K1024	41.0	41.1	38.5	39.9	38.5	39.8	40.0
L70L-3048	40.9	40.5	40.0	40.0	39.4	39.5	40.3
L73-5038	41.0	42.0	40.1	39.7	38.8	39.7	39.7
L74D-609	40.7	42.1	40.0	39.4	39.6	39.3	41.4
L74D-634	40.6	40.6	40.0	40.1	40.7	39.6	41.4
L74D-674	37.5	39.4	39.3	38.4	38.4	37.9	38.7
Md71-407	--	40.7	38.5	38.7	41.2	40.1	42.6
<u>OIL (%)</u>							
Cutler 71	21.5	21.4	20.0	19.8	20.9	20.4	23.0
Essex	18.6	20.2	21.9	19.9	20.9	20.5	22.2
Williams	21.3	22.7	21.3	20.6	20.9	21.9	22.8
Union	20.5	21.8	20.2	20.0	21.2	21.6	21.7
A75-302003	21.6	21.9	19.4	20.5	20.8	20.1	22.4
A75-302017	21.0	20.6	20.1	19.9	20.5	21.0	20.5
K1022	19.7	21.3	20.8	20.1	21.4	20.9	22.4
K1024	19.9	21.3	20.7	19.7	22.0	20.2	20.8
L70L-3048	23.2	23.1	20.8	20.0	22.2	21.6	22.4
L73-5038	20.5	21.4	19.7	20.1	22.1	20.7	21.4
L74D-609	22.2	20.7	21.2	20.6	23.3	21.5	22.5
L74D-634	22.0	22.8	20.5	19.8	22.2	21.9	21.1
L74D-674	23.5	23.4	21.7	20.9	24.2	24.2	23.8
Md71-407	--	20.6	21.2	20.7	21.6	20.9	20.4

Strain	Parentage	Generation Composited
1. Cutler 71		
2. Essex		
3. Union (L21)		
4. Williams		
5. A76-304022	AP6	F <sub>6</sub>
6. A76-304034	"	F <sub>5</sub>
7. A76-304035	"	"
8. A76-305004	"	F <sub>6</sub>
9. A76-305006	"	" <sub>6</sub>
10. A76-305007	"	"
11. C1555	Williams x Beeson	F <sub>8</sub>
12. C1557	Williams x Bonus	" <sub>8</sub>
13. C1560	Williams x L69L-6-1	"
14. C1562	"	"
15. C1564	"	"
16. C1565	"	"
17. HW74-678	Amsoy 71 x Ransom	F <sub>4</sub>
18. HW74-3365	Williams x Ransom (determinate dt <sub>1</sub> )	" <sub>4</sub>
19. HW74-3366	"	"
20. HW74-3375	"	"
21. HW74-3386	"	"
22. K1031	Williams x Calland	F <sub>5</sub>
23. K1032	"	" <sub>5</sub>
24. K1033	"	"
25. K1034	"	"
26. K1035	"	"
27. K1036	"	"
28. L74-3682	Williams x Beeson	F <sub>6</sub>
29. L74-3735	"	" <sub>6</sub>
30. L74-4043	"	"
31. L74-4261	"	"
32. L74-4372	"	"
33. L74-8350	"	"
34. L74L-125	Calland x Williams	"
35. L74L-132	"	"
36. L74L-228	L68-4096 (Wayne <u>Rpm</u> <u>Rps</u> ) x Williams	"

The strain K1033 is 3 bushels higher yielding than any other group IV entry in the test and is 9.6 days later maturing than Cutler 71. The strains K1031, K1034, K1035, K1036, C1562, and L74L-228 are very similar in yield to Union but are 2 to 10 days later maturing than Union. No other entries show any distinct advantage over the check varieties for any other characteristics.

## Disease Data

Strain	FE2	BSR			PSB	PS	Germ.	PR	
	Laf. Ind.	Laf. Ind.	Ames Iowa		Sull. Ind.	Laf. Ind.	Sull. Ind.	Laf. Ind.	Ames Iowa
		n	n%	n%	%	%	%		
	a	%	stem	plants	d	a	*	a	a
Curler 71	1	100	97	100	52	49	36	R	R
Essex	4	-	89	100	24	0	88	S	S
Williams	2	80	99	100	45	39	56	S	S
Union (L21)	3	80	100	100	39	47	46	R	R
A76-304022	4	100	100	100	55	35	26	S	S
A76-304034	3	90	99	100	65	10	21	S	H
A76-304035	4	90	100	100	62	63	27	R	R
A76-305004	5	50	100	100	48	31	32	R	R
A76-305006	-	-	97	100	49	59	44	-	H
A76-305007	4	80	98	100	42	-	51	S	S
C1555	5	100	100	100	46	94	48	H	S
C1557	5	90	100	100	53	85	33	S	S
C1560	5	100	93	100	52	30	31	S	S
C1562	5	90	97	100	58	20	33	S	S
C1564	5	70	91	100	37	57	40	S	S
C1565	5	100	87	100	61	50	27	S	S
HW74-678	4	80	79	100	35	34	46	H	S
HW74-3365	1	100	97	100	32	24	52	S	S
HW74-3366	1	100	99	100	27	21	59	S	S
HW74-3375	3	90	85	100	46	23	31	S	S
HW74-3386	4	90	98	100	58	13	23	S	S
K1031	4	90	100	100	69	21	20	S	S
K1032	4	80	100	100	41	18	46	S	S
K1033	4	90	99	100	63	15	23	R	R
K1034	4	80	100	100	44	22	34	R	R
K1035	4	90	100	100	67	23	21	R	R
K1036	5	100	97	100	55	4	29	R	R
L74-3682	3	60	100	100	33	50	36	S	S
L74-3735	4	100	100	100	31	49	44	S	S
L74-4043	5	100	100	100	61	50	20	H	S
L74-4261	4	90	88	100	29	21	57	S	S
L74-4372	4	90	98	100	47	31	38	R	R
L74-8350	4	80	94	100	39	38	35	R	R
L74L-125	4	80	100	100	56	48	33	S	S
L74L-132	4	100	96	100	43	22	45	S	S
L74L-228	4	80	94	100	34	31	36	R	R

\*Petri dish germ. on potato dextros agar.



## Descriptive and Other Data

Strain	Descriptive Code		Chlorosis	Shattering	
			Ames Iowa	Portageville Mo.	Manhattan Kan.
Cutler 71	PTBr	SYB1	2	3	2
Essex	PGBr	SYBf	3	1	1
Williams	WTTn	SYB1	3	3	2
Union (L21)	WTTn	SYB1	4	2	2
A76-304022	PGBr	SYG	3	3	4
A76-304034	PGBr	SYIb	4	1	1
A76-304035	WTTn	DYY+G	3	3	3
A76-305004	PTBr	DYY+G	4	1	1
A76-305006	PTBr	SYB1	4	2	2
A76-305007	PGBr	SYG	2	3	5
C1555	WGTn	SYBf	3	2	2
C1557	WGBr	DYBf	3	3	2
C1560	WTTn	DYB1	2	2	1
C1562	PTBr	DYB1	4	2	1
C1564	WGTn	DYBf	3	1	1
C1565	WTTn	DYBr	4	2	1
HW74-678	PTTn	SYG	3	1	1
HW74-3365	PTTn	SYB1	3	2	1
HW74-3366	PTTn	SYB1	3	3	1
HW74-3375	PTBr	SYB1	3	4	1
HW74-3386	WTBr	SYB1	3	4	1
K1031	WTBr	SYB1	3	2	2
K1032	WTTn	SYB1	3	2	1
K1033	WTBr	DYB1	2	1	1
K1034	WTBr	DYB1	3	1	2
K1035	WTBr	DYB1	4	2	1
K1036	WTBr	DYB1	3	1	1
L74-3682	PGBr	DYIb	5	1	3
L74-3735	PGTn	SYBf	2	3	1
L74-4043	PGTn	SYBf	3	1	1
L74-4261	WTTn	SYB1	3	2	2
L74-4372	WGBr	SYBf	3	1	1
L74-8350	WGBr	SYBf	2	1	1
L74L-125	PTTn+Br	DYB1	2	2	2
L74L-132	PTTn	SYB1	4	2	1
L74L-228	WTBr	DYG	5	2	1

## Regional Summary

Strain	Yield Rank		Matu- rity	Lodg- ing	Height	Seed Quality	Seed Size	Seed Composition	
	8	8	7	9	9	6	5	Protein	Oil
No. of Tests	8	8	7	9	9	6	5	5	5
Cutler 71	40.7	20	9-25.3†	2.2	38	3.3	16.6	41.2	21.4
Essex	44.6	2	+13.2	2.3	34	2.7	13.6	41.0	21.0
Williams	41.5	16	-0.7	1.8	33	2.9	16.8	41.0	21.3
Union (L21)	43.4	6	-0.3	2.1	38	3.0	17.7	41.6	21.0
A76-304022	40.1	21	-1.7	1.9	33	3.2	18.3	42.3	21.1
A76-304034	42.2	14	+3.0	2.0	36	3.0	15.5	41.8	20.6
A76-304035	38.7	30	+4.0	2.2	40	3.4	16.2	39.0	22.5
A76-305004	42.8	13	-0.7	2.2	35	3.3	16.9	40.6	21.4
A76-305006	39.8	23	+1.1	2.4	37	3.3	12.8	42.4	19.7
A76-305007	38.3	31	-1.0	2.8	33	3.0	15.9	42.1	20.6
C1555	41.2	17	+2.7	1.7	35	3.2	18.4	41.0	21.0
C1557	39.1	27	+2.0	2.1	38	3.4	16.0	41.0	21.8
C1560	43.0	11	+3.0	2.2	39	2.9	16.3	41.1	20.7
C1562	43.3	8	+1.6	2.1	38	2.7	16.5	40.8	21.7
C1564	36.9	34	+0.3	2.0	37	2.7	16.8	40.3	22.3
C1565	39.1	27	+2.0	2.0	38	3.0	17.8	41.8	20.7
HW74-678	40.0	22	-5.0	1.5	25	3.3	13.9	38.8	23.3
HW74-3365	28.8	36	-5.1	1.1	16	3.0	15.7	41.3	21.9
HW74-3366	33.3	35	-4.4	1.2	18	2.6	15.5	41.4	21.5
HW74-3375	39.6	25	+1.1	1.3	21	3.0	17.9	40.7	22.9
HW74-3386	37.2	33	-1.7	1.1	18	3.0	16.4	39.2	23.1
K1031	43.9	3	+4.0	1.9	36	2.9	16.8	39.6	21.6
K1032	39.1	27	+5.1	1.6	34	2.9	16.4	41.8	20.4
K1033	46.8	1	+9.6	2.0	34	3.4	18.9	40.8	21.6
K1034	43.1	9	+7.3	1.9	36	3.1	16.5	40.2	20.6
K1035	43.7	4	+6.4	1.9	36	3.4	16.7	39.7	20.9
K1036	43.6	5	+9.9	1.8	37	3.5	16.8	39.0	21.2
L74-3682	38.0	32	+3.1	1.6	35	3.4	17.8	39.0	22.5
L74-3735	39.2	26	+5.4	1.7	37	3.1	15.8	41.0	20.8
L74-4043	39.8	23	+6.0	1.8	36	3.1	16.6	40.1	21.4
L74-4261	42.9	12	+7.4	1.9	36	3.0	16.7	40.1	20.6
L74-4372	41.8	15	+6.4	1.8	38	3.0	15.7	40.0	20.8
L74-8350	41.0	18	+8.7	2.1	41	3.1	16.2	40.4	21.1
L74L-125	43.1	9	+5.1	1.6	35	3.2	16.7	41.1	21.5
L74L-132	40.8	19	+1.1	1.8	36	3.0	16.9	40.8	20.7
L74L-228	43.4	6	+3.6	1.8	35	3.0	17.8	41.6	20.6

† 129 days after planting

Strain	Mean	Del.	Md.	Indiana	Ky.
		George- town I	Queens- town	Sullivan	Lexington
8 Tests		YIELD (bu/a)			
Cutler 71	40.7	26.7	40.6	32.5	48.9
Essex	44.6	46.4	42.1	42.3	59.2
Williams	41.5	31.4	40.8	26.8	47.2
Union (L21)	43.4	29.1	47.5	29.9	52.1
A76-304022	40.1	24.3	41.6	24.9	48.1
A76-304034	42.2	31.8	45.7	26.1	44.2
A76-304035	38.7	21.2	43.3	21.5	45.3
A76-305004	42.8	22.4	46.6	31.7	53.3
A76-305006	39.8	30.2	41.0	26.0	45.4
A76-305007	38.3	33.7	39.8	31.4	48.0
C1555	41.2	32.3	43.7	27.2	51.5
C1557	39.1	23.0	44.8	23.3	49.1
C1560	43.0	33.0	50.4	26.3	45.7
C1562	43.3	43.7	47.0	30.4	57.2
C1564	36.9	23.9	41.9	22.9	39.9
C1565	39.1	33.1	39.6	22.1	49.7
HW74-678	40.0	33.1	39.4	37.9	49.4
HW74-3365	28.8	29.2	43.2	15.2	43.9
HW74-3366	33.3	33.5	46.1	24.9	41.9
HW74-3375	39.6	30.5	41.5	26.0	50.5
HW74-3386	37.2	23.9	44.7	26.2	48.3
K1031	43.9	29.9	42.6	29.6	51.1
K1032	39.1	28.2	42.2	30.5	51.8
K1033	46.8	32.9	46.8	27.8	52.1
K1034	43.1	29.2	47.1	27.2	50.8
K1035	43.7	30.5	44.1	33.2	51.3
K1036	43.6	33.8	45.7	35.1	55.6
L74-3682	38.0	23.0	48.5	20.5	51.1
L74-3735	39.2	26.0	40.4	27.9	48.1
L74-4043	39.8	27.7	39.4	28.5	52.0
L74-4261	42.9	28.5	43.6	31.0	52.0
L74-4372	41.8	34.3	41.0	29.9	54.3
L74-8350	41.0	34.0	38.9	27.8	55.4
L74L-125	43.1	36.9	46.0	30.1	50.3
L74L-132	40.8	41.5	43.7	28.0	45.5
L74L-228	43.4	33.8	42.5	28.5	44.6
C.V. (%)		12.3	7.9	11.2	10.3
L.S.D. (5%)		7.7	NS	6.4	NS
Row sp. (in.)		30	30	30	30
Rows/plot		4	4	3	4
Reps		2	2	2	3

Iowa		Missouri		Kansas
Stuart	Agency	Columbia	Portageville I (A)	Manhattan I
<u>YIELD (bu/a)</u>				
*				
37.5	51.7	34.7	35.5	52.7
24.1	49.3	43.7	45.7	49.7
32.0	57.6	37.3	35.4	58.9
35.7	55.0	41.7	46.6	55.9
32.1	54.8	35.3	28.3	59.4
41.5	56.9	39.9	32.6	51.7
33.3	53.5	39.8	24.5	51.5
33.9	59.3	40.5	41.0	54.6
41.1	53.9	34.9	21.0	46.2
34.8	52.1	22.8	33.6	44.1
32.9	49.4	38.2	36.7	54.1
31.4	51.3	36.1	28.8	53.7
34.9	57.6	35.8	36.9	60.4
33.2	50.4	37.8	35.0	46.9
31.7	44.2	39.4	17.3	51.4
33.3	51.3	34.9	32.6	49.1
34.9	46.7	36.2	9.8	42.0
16.6	47.4	19.1	7.6	15.8
20.2	50.8	24.2	4.4	24.6
29.5	62.1	40.5	11.8	36.0
28.0	63.3	31.9	5.0	31.1
40.2	54.4	37.0	37.3	66.7
30.6	43.9	37.5	26.2	48.3
42.4	63.3	41.0	32.5	68.3
36.7	54.8	38.7	40.2	60.1
41.9	55.3	34.7	39.8	58.5
35.8	54.3	32.1	35.5	56.7
30.2	47.6	33.6	25.8	49.5
29.8	45.1	41.5	34.8	54.7
32.3	48.5	36.3	31.2	53.9
39.9	51.5	39.0	40.1	57.4
34.9	46.7	35.6	40.4	57.7
31.7	53.9	31.0	39.9	55.1
38.4	48.6	37.8	27.4	56.5
32.6	41.8	39.3	33.6	53.8
37.8	60.9	43.5	27.4	55.6
7.0	6.8	10.8	20.0	7.1
4.8	7.2	7.9	12.2	7.4
27	27	30	38	30
4	4	4	3	4
2	2	2	3	2

\* Not included in the mean.

## PRELIMINARY TEST IV, 1977

Strain	Mean	Del.	Md.	Ind.	Ky.	Iowa		Missouri		Kansas
		George-	Queens-	Sulli-	Lexing-	Stu-Agen-	Colum-	Portage-	Manhat-	
		town I	town	van	ton	art	cy	bia	ville I	(A) tan I
	8 Tests		YIELD RANK							
Cutler 71	20	28	30	5	22	9	19	28	12	21
Essex	2	1	23	1	1	34	26	1	2	25
Williams	16	17	29	23	27	25	6	18	14	6
Union (L21)	6	24	3	12	8	12	10	3	1	12
A76-304022	21	30	25	30	20	24	11	25	24	5
A76-304034	14	16	10	26	32	3	8	8	19	22
A76-304035	30	36	18	34	30	18	17	9	29	23
A76-305004	13	35	7	6	6	17	5	6	3	16
A76-305006	23	20	27	27	29	4	15	26	30	30
A76-305007	31	9	32	7	26	16	18	35	17	31
C1555	17	15	15	21	12	21	25	14	11	17
C1557	27	33	12	31	21	28	21	22	23	20
C1560	11	13	1	24	27	13	6	23	10	3
C1562	8	2	5	10	2	20	24	15	15	29
C1564	34	31	24	32	35	26	34	10	31	24
C1565	27	11	33	33	19	18	21	26	19	27
HW74-678	22	11	34	2	20	13	31	21	33	32
HW74-3365	36	22	19	36	33	36	30	36	34	36
HW74-3366	35	10	8	29	34	35	23	34	36	35
HW74-3375	25	18	26	27	17	32	3	6	32	33
HW74-3386	33	31	13	25	23	33	1	32	35	34
K1031	3	21	20	14	15	5	13	19	9	2
K1032	27	26	22	9	11	29	35	17	27	28
K1033	1	14	6	19	7	1	1	5	21	1
K1034	9	22	4	21	16	10	11	13	5	4
K1035	4	18	14	4	13	2	9	28	8	7
K1036	5	7	10	3	3	11	14	31	12	10
L74-3682	32	33	2	35	14	30	29	30	28	26
L74-3735	26	29	31	18	24	31	33	4	16	15
L74-4043	23	27	34	15	10	23	28	20	22	18
L74-4261	12	25	17	8	9	6	20	12	6	9
L74-4372	15	5	27	12	5	13	31	24	4	8
L74-8350	18	6	36	19	4	26	15	33	7	14
L74L-125	9	4	9	11	18	7	27	15	25	11
L74L-132	19	3	15	17	28	22	36	11	17	19
L74L-228	6	7	21	16	31	8	4	2	25	13

Strain	Del.	Md.	Ind.	Ky.	Iowa	Missouri	Kansas			
	George- town I	Queens- town	Sulli- van	Lexing- ton	Stu-Agen- art cy	Colum- bia	Portage- ville I (A)	Manhat- tan I		
	7 Tests			MATURITY (relative date)						
Cutler 71	+9-25.3	10-12	9-22	9-26	9-21	10-2	9-11	9-23		
Essex	+13.2	+8	+23	+14	+15	--	+15	+4		
Williams	-0.7	0	-2	0	-3	-3	+2	+1		
Union (L21)	-0.3	0	0	0	-4	-1	+2	+1		
A76-304022	-1.7	0	-2	0	-1	-2	-5	-2		
A76-304034	+3.0	+2	+5	+7	+5	+3	-3	+2		
A76-304035	+4.0	+6	+12	0	0	+2	+4	+4		
A76-305004	-0.7	+5	0	0	+2	-5	-4	-3		
A76-305006	+1.1	+3	+2	0	+1	-2	+3	+1		
A76-305007	-1.0	0	-2	-3	-4	-2	0	+4		
C1555	+2.7	+6	+4	+4	-2	-1	+4	+4		
C1557	+2.0	+6	+7	+10	-6	-2	+1	-2		
C1560	+3.0	+6	+6	+4	+2	0	+3	0		
C1562	+1.6	0	+6	+4	+2	-1	+4	-4		
C1564	+0.3	+2	0	0	-1	-2	+1	+2		
C1565	+2.0	+2	+3	0	+2	+1	+5	+1		
HW74-678	-5.0	+2	-2	-6	-5	-4	-10	-10		
HW74-3365	-5.1	0	-2	-3	-12	-3	-8	-8		
HW74-3366	-4.4	0	-1	0	-10	-3	-9	-8		
HW74-3375	+1.1	+6	+5	+2	-3	-1	+1	-2		
HW74-3386	-1.7	+5	-2	0	-1	0	-5	-9		
K1031	+4.0	+2	+11	0	-2	+4	+7	+6		
K1032	+5.1	+5	+11	+4	+3	+3	+10	0		
K1033	+9.6	+5	+12	+9	+11	+12	+10	+8		
K1034	+7.3	+6	+12	+7	+6	+4	+9	+7		
K1035	+6.4	+6	+11	+4	+7	+2	+9	+6		
K1036	+9.9	+7	+12	+6	+10	+13	+12	+9		
L74-3682	+3.1	+5	+5	0	+2	+1	+7	+2		
L74-3735	+5.4	+5	+11	0	0	+10	+7	+5		
L74-4043	+6.0	+5	+11	+2	+2	+10	+6	+6		
L74-4261	+7.4	+6	+11	+3	+8	+10	+8	+6		
L74-4372	+6.4	+5	+11	+4	+5	+10	+7	+3		
L74-8350	+8.7	+5	+11	+11	+6	+14	+7	+7		
L74L-125	+5.1	+5	+11	+9	+2	0	+5	+4		
L74L-132	+1.1	0	+8	0	-3	+1	+4	-2		
L74L-228	+3.6	+2	+8	0	+2	+1	+8	+4		
Date Planted:	5-19	5-24	5-27	5-11	5-20	5-10	5-18	6-8	5-11	5-2
†Days to mat:	129	141	118		129	134		116	123	144

## TOLERANCE OF SOYBEAN GENOTYPES TO APPLICATIONS OF SEVERAL HERBICIDES

Wax, Loyd M. and Richard L. Bernard. Postemergence applications of various herbicides were applied to triplicate plots of selected soybean genotypes on a silt loam soil of 4% organic matter near Urbana, Illinois. Trifluralin at 1.0 lb/A was applied to the entire area on June 10 and incorporated into the soil by two passes with the tandem disk set to cut to a depth of 4 inches. Soybean genotypes were planted on July 5 in 30-inch rows at a seeding rate of 8 seeds per foot. The postemergence treatments were applied on July 22 when the soybeans were in or near the second trifoliolate leaf stage. All treatments were applied as broadcast sprays at 25 gpa with a tractor mounted sprayer. Visual ratings of soybean injury were made 2 and 4 weeks after treatments were applied. The data, averaged over replications, are summarized in the following table. (Cooperative investigations of the Agricultural Research Service, U. S. Department of Agriculture, and the Department of Agronomy, University of Illinois.)

Tolerance of soybean genotypes to applications of several herbicides--Urbana, Illinois, 1977.

Cultivar	Soybean injury <sup>a</sup>											
	Bentazon <sup>b</sup> 3 lb/A		HOE 29152 1 1/2 lb/A		BAS 9021 3 lb/A		RH 6201 3 lb/A		Dinoseb 2 lb/A		Dinoseb + Naphtalam 1 1/3 + 2 2/3 lb/A	
	2 wk	4 wk	2 wk	4 wk	2 wk	4 wk	2 wk	4 wk	2 wk	4 wk	2 wk	4 wk
Maturity Group 00												
Altona	37	27	27	20	20	17	30	27	20	10	20	7
Maple Arrow	37	23	27	17	13	3	30	13	27	3	23	7
Portage	37	30	27	23	20	7	30	20	27	10	27	20
M65-217	40	37	27	10	27	13	30	10	20	10	23	10
M68-201	37	30	23	10	17	10	30	10	27	13	27	7
M68-213	40	27	27	13	17	10	30	10	27	3	30	13
Ada	40	33	20	13	20	10	30	10	23	0	20	7
Morsoy	43	35	20	13	23	7	30	7	30	10	27	10
Norman	37	27	23	3	23	10	30	7	33	10	23	7
Maturity Group 0												
Clay	33	20	27	20	20	7	40	17	33	13	30	13
Evans	27	17	27	17	17	3	37	17	33	10	30	10
Swift	37	27	20	10	20	7	30	7	27	7	30	13
M67-65	47	40	27	13	20	10	33	13	27	20	30	17
M68-176	30	23	23	17	13	3	30	7	27	13	23	13
M69-124	40	30	27	20	20	10	30	20	23	13	33	20
M69-129	47	20	30	17	23	17	27	7	27	17	27	13
M69-264	33	20	30	13	17	7	30	7	27	13	30	10
Merit	33	20	27	20	10	3	33	10	20	3	30	13
Traverse	40	27	30	10	27	7	33	13	23	10	27	17
Vansoy	33	20	27	10	20	7	30	7	23	10	23	10
Wilfin	37	23	27	3	27	3	30	10	23	10	23	13
Maturity Group I												
Coles	27	17	20	7	13	0	30	10	20	7	27	13
Harlon	27	13	20	10	13	0	30	7	20	0	20	3
Hodgson	33	20	20	3	17	0	30	3	23	13	20	10
A74-101010	23	10	20	3	13	0	30	7	27	13	30	10



Continued. (Wax)

Cultivar	Soybean injury <sup>a</sup>											
	Bentazon <sup>b</sup> 3 lb/A		HOE 29152 1 1/2 lb/A		BAS 9021 3 lb/A		RH 6201 3 lb/A		Dinoseb 2 lb/A		Dinoseb + Naptalam 1 1/3 + 2 2/3 lb/A	
	2 wk	4 wk	2 wk	4 wk	2 wk	4 wk	2 wk	4 wk	2 wk	4 wk	2 wk	4 wk

Maturity Group I  
(Continued)

A74-101035	23	7	20	7	13	0	30	7	23	10	30	10
A74-102011	23	13	20	3	13	0	30	10	23	0	30	13
A75-101014	33	27	20	3	17	3	30	3	27	10	20	7
A75-101022	27	17	20	3	17	3	27	3	23	10	23	7
A75-102032	23	10	27	10	17	3	33	13	20	7	30	13
A75-103016	27	7	23	7	10	0	37	17	20	0	27	7
A75-103019	30	10	17	3	13	0	30	0	20	0	23	7
M68-49	27	20	23	7	10	3	30	7	27	3	23	10
M69-36	23	10	20	3	13	3	27	10	23	3	30	13
M75-1	30	17	20	3	13	0	27	10	23	7	30	13
Anoka	30	13	17	0	20	7	30	10	27	7	27	10
Chippewa 64	30	17	20	10	20	3	30	10	23	7	20	7
Dunn	27	10	20	7	17	3	30	10	20	3	27	13
Rampage	23	7	20	7	13	0	27	10	23	7	27	10
Steele	67	40	27	13	17	10	33	13	30	17	30	13
Wirth	27	7	17	0	13	0	30	3	23	10	23	0

Maturity Group II

Amsoy 71	33	10	27	17	17	0	30	7	27	3	23	7
Beeson	27	7	27	13	13	0	30	10	30	10	27	10
Corsoy	33	17	23	3	13	3	30	7	30	10	27	7
Harcor	37	33	20	3	13	3	30	7	33	10	27	7
Wells	23	10	27	10	13	3	30	13	23	3	27	13
Wells BC6	20	7	27	13	13	3	30	10	27	7	23	10
A73-25050	43	30	33	17	20	17	30	10	30	10	27	10
A75-105019	33	23	23	7	20	7	30	7	33	13	33	13
A75-105020	33	23	27	13	13	0	37	17	30	13	37	13
A75-105021	33	20	27	17	20	0	37	23	27	7	23	10
A75-105029	37	20	23	13	17	0	30	13	30	7	27	13

Continued. (Max)

Cultivar	Soybean injury <sup>a</sup>													
	Bentazon <sup>b</sup>		HOE 29152		BAS 9021		RH 6201		Dinoseb		Dinoseb + Naptalam			
	3 lb/A	1 1/2 lb/A	4 wk	2 wk	3 lb/A	4 wk	2 wk	3 lb/A	4 wk	2 lb/A	4 wk	1 1/3 + 2 2/3 lb/A	2 wk	4 wk
<b>Maturity Group II</b>														
(Continued)														
A75-105033	37	23	30	13	20	3	33	13	27	10	33	17		
A75-105034	30	17	30	13	17	3	37	20	27	10	30	13		
A75-203014	23	7	23	7	13	0	33	10	27	3	30	7		
A75-203036	37	23	27	13	20	3	33	10	27	7	30	17		
A75-Corsoy R3	30	10	23	7	17	0	30	10	30	7	27	13		
C1545	23	7	23	10	13	0	33	10	27	3	20	3		
L73D-195	30	17	27	7	13	-	30	10	27	0	27	10		
L73-6084	27	10	23	3	13	-	30	7	27	0	17	0		
U10917	33	20	27	10	17	0	30	3	27	7	27	0		
U11406	27	3	30	13	20	3	30	3	27	3	27	7		
Harosoy 63	37	23	33	20	20	0	27	7	33	13	27	10		
Harwood	30	17	27	17	17	0	30	10	27	7	23	0		
Protana	30	13	40	27	23	7	40	23	27	7	27	5		
Provar	23	7	20	10	10	0	33	13	27	0	17	3		
Wells	23	7	23	10	7	0	30	3	23	3	27	3		
L75-6631	97	97	30	10	20	0	33	23	33	20	47	37		
<b>Maturity Group III</b>														
Calland	27	17	17	10	13	0	30	10	27	7	20	3		
Williams	27	7	17	7	20	7	37	10	27	3	27	7		
Woodworth	33	20	23	13	13	3	30	7	23	7	20	7		
A74-204028	33	17	30	13	17	0	37	13	30	3	27	17		
A74-302012	33	13	17	7	13	3	30	10	30	0	27	3		
A74-303012	30	13	23	13	17	3	33	10	30	7	30	13		
A74-303013	33	17	27	13	17	0	30	10	27	10	23	7		
A74-306008	27	7	27	10	20	0	33	10	20	3	30	7		
A75-204018	33	20	23	10	17	3	33	17	27	7	23	7		
A75-302005	27	7	20	10	13	0	33	17	23	3	23	3		

Continued. (Wax)

Cultivar	Soybean injury <sup>a</sup>												
	Bentazon <sup>b</sup>			HOE 29152			BAS 9021			RH 6201			
	3 lb/A 2 wk	4 wk	1 1/2 lb/A 2 wk	4 wk	3 lb/A 2 wk	4 wk	3 lb/A 2 wk	4 wk	3 lb/A 2 wk	4 wk	Dinoseb 2 lb/A 2 wk	Dinoseb + Naptalam 1 1/3 + 2 2/3 lb/A 2 wk	4 wk
<b>Maturity Group III</b>													
(Continued)													
A75-305010	37	20	20	10	20	3	37	13	27	7	23	10	
A75-305022	30	13	27	17	20	0	33	20	27	3	27	13	
A75-305031	27	17	30	13	23	7	37	20	30	10	30	13	
A75-306005	30	12	23	10	13	0	33	20	27	10	20	10	
A75-332035	27	20	23	10	20	3	33	17	27	10	20	10	
C1541	37	23	23	7	20	0	33	17	23	10	17	7	
K1028	30	20	23	13	17	3	33	20	23	0	23	10	
L22	23	7	27	13	20	3	30	7	27	0	27	13	
L23	27	7	20	7	20	3	30	7	27	7	23	3	
L69U19-16-2	23	7	20	10	10	0	27	3	20	0	20	3	
L69U37-17-5	30	17	27	13	13	0	27	13	27	13	27	10	
L69U40-16-4	37	27	20	7	13	3	30	17	23	13	23	10	
L74-1960	33	27	20	10	20	7	30	13	20	7	23	13	
L74D-611	17	7	20	10	13	0	30	10	23	7	23	7	
L74D-615	23	10	23	7	13	0	27	7	13	0	17	3	
L74D-619	23	17	20	3	17	3	27	13	20	10	23	7	
L74U-3242	30	13	20	10	20	3	27	3	20	10	23	7	
Kanrich	33	23	20	0	20	3	27	7	20	3	23	10	
Verde	23	3	23	0	17	0	30	7	27	7	23	3	
Wayne	30	13	27	7	20	3	33	10	20	3	23	7	
<b>Maturity Group IV</b>													
Kent	27	10	20	7	17	0	30	10	20	3	20	3	
Cutler 71	20	3	17	7	20	0	27	7	17	3	20	7	
L21 (Union)	33	20	20	3	20	0	30	7	20	0	23	3	
A75-302003	27	17	23	3	17	3	30	10	23	10	23	3	
A75-302017	37	30	20	3	13	3	30	7	20	10	23	10	
K1022	30	20	20	10	20	7	30	13	23	10	27	17	

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Continued. (Wax)

Cultivar	Soybean injury <sup>a</sup>											
	Bentazon <sup>b</sup>		HOE 29152		BAS 9021		RH 6201		Dinoseb		Dinoseb + Naptalam	
	3 lb/A 2 wk	4 wk	1 1/2 lb/A 2 wk	4 wk	3 lb/A 2 wk	4 wk	3 lb/A 2 wk	4 wk	2 lb/A 2 wk	4 wk	1 1/3 + 2 2 wk	2/3 lb/A 4 wk
Maturity Group IV (continued)												
K1024	27	10	23	7	23	13	30	23	23	10	27	17
L70L-3048	43	33	20	7	20	3	23	13	23	13	27	13
L73-5038	30	20	17	10	17	3	30	13	23	7	23	10
L74D-609	37	27	23	13	17	0	27	17	20	10	23	10
L74D-634	27	10	17	5	20	0	23	10	17	3	20	7
L74D-674	37	27	17	17	13	0	23	10	23	10	20	0
Mo1 71-407	37	33	23	15	17	10	27	13	27	17	27	7
Bonus	37	23	23	5	20	0	30	10	23	10	20	3
Columbus	27	13	17	5	13	0	23	5	20	0	20	7
Clark 63	27	13	20	3	20	7	23	7	27	10	17	3
Custer	30	17	27	10	20	5	30	20	30	17	27	10
Delmar	37	17	20	10	13	5	27	10	23	10	23	7
Hurrelbrink	100	98	50	40	27	5	27	7	27	20	37	23
Oksoy	33	23	17	10	17	0	27	13	27	13	20	10
Pomona	20	10	13	3	17	0	30	10	13	3	20	3
Wilson-6	37	17	20	13	20	3	30	13	23	7	27	10
Wye	37	23	23	13	17	3	27	13	33	20	27	10
L71L-436	27	20	20	7	17	3	30	7	27	10	20	7
PI229.342	98	98	40	30	40	20	33	23	33	20	37	17
L76-1179	100	100	30	20	30	20	27	7	27	17	33	17
L76-1181	98	98	30	10	23	3	30	10	27	13	23	13
L76-1185	100	100	30	30	23	7	27	3	40	23	23	10
L76-1194	98	98	37	27	27	7	30	10	30	13	23	10
L76-1197	98	98	30	30	27	10	30	13	30	10	30	23

Continued. (Wax)

Cultivar	Soybean injury <sup>a</sup>											
	Bentazon <sup>b</sup>		HOE 29152		BAS 9021		RH 6201		Dinoseb		Dinoseb + Naptalam	
	3 lb/A 2 wk	4 wk	1 1/2 lb/A 2 wk	1b/A 4 wk	3 lb/A 2 wk	4 wk	3 lb/A 2 wk	4 wk	2 lb/A 2 wk	4 wk	1 1/3 + 2 2 wk	2/3 lb/A 4 wk
Dare	47	23	27	20	17	0	30	10	30	7	30	17
Dyer	37	20	23	13	23	7	30	17	27	10	30	10
Essex	30	13	20	3	17	7	30	10	23	7	30	7
Forrest	30	13	27	13	20	3	30	20	23	7	27	10
Hill	33	13	27	3	20	0	30	13	20	10	27	7
Mack	30	17	30	17	20	7	30	13	27	20	33	20

<sup>a</sup> Soybean injury data based on visual ratings made 2 or 4 weeks after spray applications, where 0 = no injury, 100 = all plants killed.

<sup>b</sup> All treatments applied as broadcast aqueous sprays at 25 gpa when soybeans were in or near the second trifoliolate leaf stage.

Bentazon = Basagran (4 EC)  
 HOE 29152 = HOE 29152 (3 EC)  
 BAS 9021 = BAS 9021 (75 SP)  
 RH 6201 = RH 6201 (2 LC)  
 Dinoseb = Premerge (3 EC)  
 Dinoseb + Naptalam = Dyanap (1 + 2 EC)

Surfactant WK at 0.5% was added to spray mixtures of Bentazon, HOE 29152, BAS 9021, and RH 6201.

## ORIGIN AND DEVELOPMENT OF RECENTLY RELEASED VARIETIES

Franklin (L71L-436) - Group IV

Franklin was selected in a cooperative program with ARS and the Illinois and Missouri stations with selection for cyst nematode resistance at the University of Missouri Delta Center, Portageville, and the agronomic selection at the University of Illinois. Franklin is an F<sub>5</sub> line (from a single F<sub>4</sub> plant) from the cross L12 x Custer. L12 is a backcross isolate of Clark 63 with two genes (I and r) added to give it a yellow hilum (neither occur in Franklin). Custer is of Group IV maturity with resistance to race 3 of cyst nematode obtained from its parental variety Peking. Franklin was selected in 1971 in a test field near Eldorado, Illinois, and yield-tested from 1972 on in Illinois under the designation L71L-436. Sublines selected from it did not prove superior and were abandoned. Franklin was tested in Illinois and Missouri in 1974 and in the cooperative regional Uniform Test IVs in 1975 in Maryland, Delaware, Virginia, Georgia, Illinois, Kentucky, Indiana, Missouri, Tennessee, Arkansas, Mississippi, Kansas, Oklahoma, Texas, and New Mexico. In 1976 it was tested in a special cooperative test in Illinois, Indiana, Kentucky and Missouri.

Franklin is in maturity Group IV and has purple flowers, gray pubescence, brown pods, and dull yellow seeds with imperfect black hilum. It has erect pubescence similar to most varieties but contrasting with the semi-appressed pubescence of Custer, and therefore does not show the susceptibility to leaf-hopper damage that Custer has. Franklin's main advantage is in its resistance to race 3 of soybean cyst nematode. In comparison with Custer, the only other cyst resistant (race 3) variety in Group IV, it is superior in yield, lodging resistance, shattering resistance, and seed composition.

The Agricultural Research Service will not increase and distribute seeds to growers. Seeds are being increased by the foundation seed organizations in 1977 and will be distributed to certified seed growers in participating states in 1978. Each agency will be responsible for its own publicity with the understanding that the date for simultaneous release will be July 31, 1977.

Maple Arrow (073-15) - Group 00

Origin: Maple Arrow, tested as strain 073-15, originated from the cross of Harosoy 63 x 840-7-3 made by Dr. R. I. Buzzell at the Harrow Research Station in 1967. Strain 840-7-3 is a very early selection of Dr. Sven A. Holmberg, Sweden. Single plant selection in the F<sub>2</sub> to F<sub>6</sub> generations was carried out at Ottawa by Dr. L. S. Donovan. Seed of a single plant progeny row was bulked in the F<sub>7</sub> generation to give strain 073-15.

Varietal Characteristics: Maple Arrow averages 17.5 grams per 100 seeds (2600 seeds per pound), slightly more than Altona and considerably more than Vansoy. Seed coat colour is yellow, with a shiny lustre. Hila, pubescence and pods are brown, and flowers purple.

Performance: In the Ontario Soybean Variety Trial, Maple Arrow out-yielded both Altona and Vansoy. Maple Arrow generally matures a few days earlier than Altona and a week earlier than Vansoy, and possesses slightly improved stalk strength and seed quality. The seed contains significantly more oil, but slightly less protein.

Maple Arrow is adapted to those areas of eastern Canada with a Corn Heat Unit rating of 2500 to 2700. It is not suitable for southern Manitoba and Alberta when it matures after Altona.

Disease Reaction: In greenhouse inoculation tests Maple Arrow has shown resistance to races 1, 2, 3, and 4 of phytophthora root rot, but not to races 5 and 6. However, when grown in a field heavily infested with race 6 only 18-19 percent of the plants were killed by the disease, and the variety is rated as tolerant (0-30 percent stand loss) by the Ontario Oil and Protein Seed Crops Committee.

Maintenance of Breeder Seed: Agriculture Canada Research Station, Ottawa, Ontario.

Seed Distribution: Distribution of breeder and select seed will be made by the Ontario Pedigreed Stock Seed Distribution Committee to select seed growers.

#### Union (L21) - Group IV

Union was selected in Illinois from the backcross Williams<sup>5</sup> x SL11. SL11 is from a Wayne backcross with phytophthora race 1 resistance (gene Rps1) from Clark 63 and downy mildew resistance (gene Rpm) from Kanrich. SL11 was in Uniform Test III in 1972 to 74. After making the fourth backcross to Williams nine F<sub>3</sub> lines designated L73-365 to 455 (each from one F<sub>2</sub> plant) were selected for resistance to phytophthora rot (race 1) and resistance to downy mildew and were tested at four locations in Illinois in 1974. A bulk of these lines was designated L21 and tested in the cooperative regional Uniform Soybean Tests in 1975 (uniform Test III) and 1976 (Uniform Test IV) in Pennsylvania, New Jersey, Delaware, Maryland, Ohio, Indiana, Kentucky, Illinois, Iowa, Missouri, South Dakota, Nebraska, Kansas, and Texas.

Union is early Group IV maturity, earlier than Cutler 71 and later than Williams. It has white flowers, brown pubescence, and tan pods at maturity. Seeds are slightly larger than Williams with a shiny yellow seed coat and black hilum. In plant appearance it is similar to Williams and Woodworth except for its later time of maturity and the concomitant increased growth. Where phytophthora rot occurs, its growth and yield may be very much greater than Williams or Woodworth. At times the leaves of Williams and Woodworth are heavily covered with downy mildew to which these varieties are unusually susceptible while Union is nearly immune. Union like the other 2 varieties is resistant to bacterial pustule. Union's advantage over other varieties is in its disease resistance and its high yield in its area of adaptation.

The Agricultural Research Service will not increase and distribute seeds to growers. Seeds are being increased by foundation seed organizations and registered seed growers in 1977 and will be further distributed to certified seed growers in 1978 in the participating states. Each agency will be responsible for its own publicity with the understanding that the date for simultaneous release will be July 31, 1977.

#### Elf (L74D611) -- Group III

Elf is the first semidwarf soybean variety to be released from the semidwarf variety development program initiated at Urbana, Illinois in 1969 and conducted by R. L. Cooper, R. L. Warsaw, G. L. Sprau, M. Zimmerman and F. McCoppin. High yield environments for evaluation of semidwarf lines were provided by farmer cooperators, G. Fluegel, LeRoy, Illinois and H. Warsaw, Saybrook, Illinois.

- 1970: Cross of Williams (an indeterminate Group III) X Ransom (a determinate Group VII) made in the field at Urbana. A photoperiod chamber was used in the field to bring Ransom into flower. This was one of some 150 North X South variety crosses made each year in an attempt to use the determinate characteristics of southern varieties to produce a short, lodging resistant, and high yielding semidwarf plant type adapted to the midwest.
- 1970-71: F<sub>1</sub>'s grown in Federal Puerto Rico Winter Nursery at Isabella through the cooperation of C. A. Brim and Eric Stone.
- 1971: 300 F<sub>2</sub> seed planted at Urbana. Only homozygous determinate (dt<sub>1</sub>dt<sub>1</sub>) plants which matured were selected.
- 1972: F<sub>3</sub> yield test of F<sub>2</sub> derived lines in 1-row, 10-foot plots, 40-inch row spacing and one replication. Three superior yielding heterogeneous lines identified.
- 1973: F<sub>4</sub> yield test of F<sub>2</sub> derived lines in 4-row, 20-foot plots, 30-inch row spacing and two replications. Thirty plants pulled out of the top yielding heterogeneous line, L72U-2567.



- 1974: F<sub>5</sub> yield test of heterogeneous F<sub>2</sub> derived line L72U-2567 in 30-inch and 7-inch rows, over a range of seeding rates and F<sub>5</sub> yield test of 11 F<sub>4</sub> derived lines out of L72U-2567 in 1-row, 10-foot plots, 40-inch row spacing and one replication. L74D611 identified as the highest yielding F<sub>4</sub> derived line.
- 1975: F<sub>6</sub> yield test of 11 F<sub>4</sub> derived lines from L72U2567 in 30-inch and 7-inch rows at Urbana and Saybrook, IL. L74D611 ranked highest in yield (70.7 bu/A compared to 61.5 bu/A for Williams) in 7-inch rows for the two-location mean.
- 1975-76: With cooperation of C. A. Brim and Eric Stone, increased L74D611 at Federal Puerto Rico Winter Nursery. Five pounds of seed increased on 1/6th A (planted in unlighted area Oct. 24 at 30#/s/A), rouged for off types and harvested Jan. 26, 1976 to produce 160 pounds of clean seed. Replanted 15 pounds on 1/2 acre, January 28, 1976, and returned 145 pounds to Urbana for 1976 yield tests, including URT III tests. An additional 180 pounds harvested off the second cycle in Puerto Rico, June 1, and returned to Urbana for combine plot yield tests and breeder's seed increase.
- 1976: Because of previous extensive testing in Illinois of L74D611 and its heterogeneous parent line, L72U2567, in both 30-inch and 7-inch rows, permission was granted to enter L74D611 directly into URT III. Also, additional seed was provided to Indiana, Iowa, Kansas, Nebraska, Kentucky and Pennsylvania for special studies with emphasis on performance in narrow rows. Also evaluated in 1/20th acre combine harvested plots (both 30-inch and drill seed 7-inch rows) in Illinois. Illinois Foundation Seeds planted 3 acres of increase at 30 pounds per acre in June to produce 135 bushels (45 bu/A) of breeder's seed. This provided 121 bushels of clean seed.
- 1977: L74D611 grown in URT III. Seventeen bushels of the 121 bushels of breeder's seed was used for research purposes in Illinois, Indiana, Kentucky, North Carolina, Kansas, Nebraska, and Missouri. The remaining 104 bushels of breeder's seed was divided among the states electing to participate in the increase and/or release of L74D611 as follows:

<u>State</u>	<u>Seed Allocated</u> (bu)
Ohio	20
Kentucky	4*
Illinois	50
Iowa	25*
<u>Nebraska</u>	<u>5*</u>

\*Participated in increase only

L74D611 was named Elf and jointly released by the Illinois Agricultural Experiment Station, the Ohio Agricultural Research and Development Center and the U. S. Department of Agriculture, Agricultural Research Service on July 15, 1977.