UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service

State Agricultural Experiment Stations, Cooperating

2005 - 2006

UNIFORM EASTERN SOFT RED WINTER WHEAT NURSERY

Report

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This is a joint progress report of cooperative investigations underway in the State Agricultural Experiment Stations and the Agricultural Research Service of the U.S. Department of Agriculture containing preliminary data which have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. The report is primarily a tool for the use of the cooperators and their official staff and those persons having direct and special interest in the development of agricultural research programs.

This report includes data furnished by the State Agricultural Experiment Stations. The report is not intended for publication and should not be referred to in literature citations nor quoted in publicity or advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved.

USDA-ARS
National Small Grains Germplasm Research Facility
1691 S. 2700 W.
Aberdeen, ID 83210

October 2006

Table of Contents

2005-2006 UNIFORM EASTERN SOFT RED WINTER WHEAT NURSERY
LIST OF ENTRIES AND PEDIGREES

Entry No.	Cultivar/ Designation	Pedigree	Contributor	1st Year in Nursery
1	Foster	KY 83-60/Tyler//KY 83-75 (formerly KY 85C-31-6)	Check	96-97
2	Patton	SW85*94/IN82104B1-3-2 (formerly A94-1048)	Check	96-97
3	Roane	VA71-54-147(CI17449)/C68-15//IN65309C1-18-2-3-2 (formerly VA93-54-429)	Check	95-96
4	INW0411	96204A1-12//Goldfield/92823A1-11 (formerly P97397E1-11-2-4-1-1)	Check	03-04
5	MSU Line E1007	Pio2555/Pio2737W	Ward/Siler	03-04
6	MSU Line D8006-R	Pio2555/Lowell	Ward/Siler	04-05
7	AR850-1-1	Verne/Ceruga-5	Bacon	04-05
8	KY93C-0004-22-1	MO10136/T63//2510	Van Sanford	04-05
9	KY97C-0232-2	VA94-52-25/KY87C-42-8-5//2552	Van Sanford	04-05
10	OH776	OH513/OH515	Sneller	04-05
11	T154	T88/2180//T811	Wilson	05-06
12	T155	T126/T127	Wilson	05-06
13	GA951231-4A15	881130/Coker9134	Johnson	05-06
14	GA961567-4A35	Jackson/2*881130	Johnson	05-06
15	AR96077-7-2	Jackson/Pio2643	Bacon	05-06
16	MO011126	MO94-103/Pio2552	McKendry	05-06
17	Z00-3538	Y91-28A/XY90-1B	Moreno	05-06
18	Z00-3554	Y91-28A/XY90-1B	Moreno	05-06
19	GX02-138	KY86C-61-8/VA94-52-25/2540	Moreno	05-06
20	VA03W-235	USG3209/Coker9904//Pio2552	Griffey	05-06
21	VA03W-412	Roane/Pio2643//SS520	Griffey	05-06
22	VA03W-409	VA94-52-25/Coker9835//VA96-54-234(Sisson'S')	Griffey	05-06
23	P99608C1-1-3-4	P95172/P961331/4/INW9811//283-1/INW9811/3/Freedom/F201R	Ohm	05-06
24	P99840C4-8-4	P961331/INW0302//F201R/Patton	Ohm	05-06
25	P992060G1-1-5	Patterson/F201R//P92201D5	Ohm	05-06
26	KY94C-0094-11-2	L88119/2684//2510	Van Sanford	05-06
27	MD00-72-5028	Pio2552/VA97W-375=Sisson 'S'	Costa	05-06
28	MD00-72-5050	Pio2552/VA97W-375=Sisson 'S'	Costa	05-06
29	IL00-8109	P8138I1-16-5-50/Foster//IL93-2489	Kolb	05-06
30	IL01-11934	IL90-6364(P76788G2-5-4-94//Caldwell/IL77-2656)/IL94-1909(OH416/IL87-2834-1)	Kolb	05-06
31	IL01-16170	IL95-934(IL85-3132/Pio2571)/Goldfield	Kolb	05-06
32	MSU Line E1007-W	Pio2555/Pio2737W	Ward/Siler	05-06
33	SE98-1089-34	P25R57/SE1694-12	Fioritto	05-06
34	SE90-1209-9	Turda81/Cardinal	Fioritto	05-06
35	SE91-1492-4	Taishang1/GR863//Cardinal	Fioritto	05-06
36	G32401	P88288A1/Patton	Brown	05-06
37	G21104	C916/IL84-3511//86126B1-13/3/T441	Brown	05-06
38	G30433	T96/C86-33	Brown	05-06
39	OH01-7664	Hopewell/OH601	Sneller	05-06
40	OH01-7653	Hopewell/OH601	Sneller	05-06
41	B010728	Pio2643/Coker9663	Hancock	05-06
42	B010578	L910568/LX161C	Hancock	05-06
43	D02-8443	Clemens/Mason//Shiloh	Hancock	05-06
44	APCK M03-3002	W/W FHB Bulk	Fogleman	05-06
45	APCK M00-3904-9	90D-8096/89D*4763	Fogleman	05-06
46	APCK M02*2518	Bradley/Pio2552	Fogleman	05-06

LOCATION NOTES

Bay, Arkansas

Cooperators:	June Hancock, David, Richard Gray AgriPro COKER
Planted:	October 7, 2005
Harvested:	June 6, 2006
Comments:	Season was unusually dry and warm.

Stuttgart, Arkansas

Cooperators:	Robert Bacon, John Kelly University of Arkansas
Planted:	October 19, 2005
Harvested:	June 6, 2006
Fertilizer:	60 N on 2/16; 40 N on 3/7

Griffin, Georgia

Cooperators:	Jerry Johnson, James Buck, Dan Bland, John Youmans University of Georgia
Planted:	November 1, 2005
Harvested:	June 5, 2006

Aberdeen, Idaho

Cooperators:	Harold Bockelman, Charles Erickson, Scott McNeil USDA-ARS, National Small Grains Collection
Planted:	September 13, 2005
Comments:	Nursery was not harvested due to a hail storm at grainfill. The only usable notes were heading dates.

Brownstown, Illinois

Cooperators:	Fred Kolb, Norman Smith, Eric Brucker University of Illinois
Planted:	October 7, 2005
Harvested:	July 21, 2006
Fertilizer:	40 N preplant; 75 N spring topdress (urea); P and K OK
Comments:	BYDV was moderately severe – little stunting, but significant chlorosis: 0=little chlorosis, 9=most chlorosis.

St. Jacob, Illinois

Cooperators:	J. Barton Fogleman, Jen Vonderwell, Eugene Glover AgriPro COKER
Planted:	October 11, 2005
Harvested:	June 23, 2006
Fertilizer:	100 N on 4/5
Comments:	Extra checks added: Pioneer Brand 25R47 (105bu/acre) and Branson (100bu/acre).

Urbana, Illinois

Cooperators:	Fred Kolb, Norman Smith, Eric Brucker University of Illinois
Planted:	October 4, 2005
Harvested:	June 28, 2006
Fertilizer:	40 N preplant; 60 N spring topdress; P and K OK
Comments:	SBMV ratings from the SBMV nursery, not yield plots. BYDV stunting data from two reps of hills inoculated with BYDVPAV-IL compared to control hills. FHB data from misted, inoculated nursery. ISK index=(Sev.*0.3+Incid.*0.3+kernel rating*0.4).

Greensburg, Indiana

Cooperators:	Sam Brown, Katie Russler Genesis Seed Research
Planted:	October 4, 2005
Harvested:	July 6, 2006
Fertilizer:	30 N fall; 54 N spring
Comments:	This site had water problems. The extra water which ran through the plots complicated winter damage, heaving, and spring recovery. Planted into corn stubble and somewhat wet soil conditions. It was an unusually mild January and February, cold March, rains at heading, dry and warm grain fill. Then there was bird damage to the earliest and random plots.

Lafayette, Indiana

Cooperators:	Benjamin Moreno, Justin Cooley Westbred LLC
Planted:	October 13, 2005
Harvested:	June 30, 2006

West Lafayette, Indiana

Cooperators:	Herb Ohm Purdue University
Planted:	October 1, 2005
Harvested:	June 30, 2006
Fertilizer:	35-90-0 fall; 100-0-0 spring
Comments:	Very good test conditions, no winterkill, no significant diseases. FHB symptoms developed late in grain fill, moderately severe but confounded with onset of senescence, so data reported is spread of 10 point-inoculated spikes in a misted nursery.

West Lafayette, Indiana

Cooperators:	Sue Cambron
	USDA-ARS, Crop Production & Pest Control Research
Comments:	Hessian fly data. Data reported is Number of Plants Resistant - Number of Plants Susceptible.

Wichita, Kansas

Cooperators:	James A. Wilson
	Trio Research, Inc.
Planted:	October 8, 2006
Harvested:	June 26, 2006
Fertilizer:	60 N
Comments:	Irrigated, very dry early.

Winfield, Kansas

Cooperators:	Sid Perry
	Westbred LLC

Schochoh, Kentucky

Cooperators:	David Van Sanford
	University of Kentucky
Planted:	October 11, 2005
Harvested:	June 15, 2006
Fertilizer:	110 N split application; P and K according to soil test

Woodford Co., Kentucky

Cooperators:	David Van Sanford
	University of Kentucky
Comments:	Heading dates and powdery mildew ratings from this location, which was not harvested due to severe lodging.

Winnsboro, Louisiana

Cooperators:	Steve Harrison, Rick Mascagni, Boyd Padgett
	Louisiana State University
Planted:	November 3, 2005
Comments:	Very warm winter and dry spring. More vernalization problems than usual at this north Louisiana location. Relative Growth Habit: 0=very spring-like; 4-6=average for area; 9=very late/not vernalized. Relatively low disease pressure, little leaf rust and less stripe rust than normal.

Clarksville, Maryland

Cooperators:	Jose Costa, Aaron Cooper
	University of Maryland
Planted:	October 19, 2005
Harvested:	July 3, 2006

Fertilizer: 60 N on 3/20
Comments: Dry spring. Heavy rains at maturity caused sprouting.

Dundee, Michigan
Cooperators: Benjamin Moreno, Justin Cooley
Westbred LLC
Planted: October 7, 2005
Harvested: June 6, 2006

Merrill, Michigan
Cooperators: Rick Ward, Lee Siler
Michigan State University
Planted: September 24, 2005
Harvested: July 15, 2006
Fertilizer: 15-37.5-90 fall; 90-0-0 spring
Comments: FHB data from inoculated/mist-irrigated nursery. Sprouting data were obtained by picking five heads at harvest, two reps, dried for seven days, placed onto boards in the greenhouse and subjected to near continuous misting for four days. Scale: 0=no sprouting; 1=minimal sprouting (1-2 seeds begun to show signs of sprouting); 2 - 8=intermediate degrees of sprouting; 9=significant sprouting present, all seeds have roots and shoots present.

St. Paul, Minnesota
Cooperators: Yue Jin
USDA-ARS, Cereal Disease Laboratory
Comments: Stem rust seedling and field data. "/" indicates a mixture of plants, predominant type listed first; "S" indicate susceptible, including infection types 3 or 4; "low IF" denotes low infection frequency or low pustule density; "N" denotes prominent necrosis associated with pustules; "C" denotes prominent chlorosis associated with pustules.

St. Paul, Minnesota
Cooperators: Jim Kolmer
USDA-ARS, Cereal Disease Laboratory
Comments: Leaf rust field data.

Cleveland, Mississippi
Cooperators: June Hancock, David Hill, Richard Gray
AgriPro COKER
Planted: October 27, 2005
Harvested: May 30, 2006

Columbia, Missouri

Cooperators:	Anne McKendry, David Tague University of Missouri
Planted:	October 13, 2005
Harvested:	July 1, 2006
Fertilizer:	40 N fall; 80 N spring
Comments:	Very warm winter, temperatures rarely below freezing in January. Early crop development by 10 days. Rainfall low all season. BYDV confirmed by ELISA in samples taken from the field. BYDV probably had the largest impact on yield. As season progressed, BYDV really took off, so these data may underestimate susceptibility. Test weights reduced over 3 pounds by humidity, dew and very light rainfall after physiological maturity.

Lincoln, Nebraska

Cooperators:	Robert Graybosch USDA-ARS, Wheat, Sorghum, and Forage Research
Comments:	1RS data.

Lincoln, Nebraska

Cooperators:	Stephen Baenziger, Gregory Dorn University of Nebraska

Mead, Nebraska

Cooperators:	Stephen Baenziger, Gregory Dorn University of Nebraska

Ithaca, New York

Cooperators:	Mark Sorrells Cornell University
Comments:	The nursery suffered extensive damage from deer and birds resulting in nearly 20% of the plot yields being affected. After analyzing the data it appears that it is not of sufficient quality to be useful.

Plymouth, North Carolina

Cooperators:	Paul Murphy, Rene Navarro, Christina Cowger North Carolina State University and USDA-ARS
Planted:	November 4, 2005
Harvested:	June 21, 2006
Comments:	Mild, wet winter; dry, hot early spring. Mild temperatures and adequate moisture during grain filling. Stagonospora leaf and glume blotch ratings from two separate experiments (Kinston and

Plymouth, NC) inoculated with wheat straw after seedling emergence in fall.

Napoleon, Ohio

Cooperators:	J. Barton Fogleman, Jen Vonderwell, Eugene Glover AgriPro COKER
Planted:	October 6, 2005
Harvested:	July 10, 2006
Comments:	Extra checks added: Pioneer Brand 25R47 (106bu/acre) and Branson (92bu/acre).

Wooster, Ohio

Cooperators:	Ron Fioritto SunBeam Extract Co.
Planted:	October 5, 2005
Harvested:	July 10, 2006

Wooster, Ohio

Cooperators:	Clay Sneller Ohio State University, OARDC

Wooster, Ohio

Cooperators:	Edward Souza USDA-ARS, Soft Wheat Quality Laboratory
Comments:	Milling and baking quality data.

Enid, Oklahoma

Cooperators:	Brett Carver, Ella Vogle Oklahoma State University
Comments:	Readings taken at Enid, OK (pH = 4.6, 70 ppm Al, and Al saturation = 11%). Scale of 1 (highly tolerant) to 5 (highly susceptible), 0=no discernable symptoms, in which Jagger = 2.

Nairn, Ontario

Cooperators:	Mark Etienne Hyland Seeds, Nairn Research Lab
Planted:	October 14, 2005
Harvested:	August 4, 2006
Fertilizer:	200kg 6-24-24 fall; 90 units N (liquid) in spring

Ridgetown, Ontario

Cooperators:	Arend Smid Ridgetown College, University of Guelph
Planted:	October 7, 2005
Fertilizer:	180lbs 6-26-26; 55kg N topdress

Comments: No winterkill. No stripe rust this year. Good growing conditions with adequate soil moisture. Leaf rust incidence after many years of absence.

Knoxville, Tennessee

Cooperators: Dennis West
University of Tennessee
Planted: October 25, 2006
Harvested: June 14, 2006
Fertilizer: 30-30-30 fall; 60 N spring

Blacksburg, Virginia

Cooperators: Carl Griffey
Virginia Polytechnic Institute and State University
Planted: October 15, 2005
Harvested: July 2, 2006
Fertilizer: 25-80-80 preplant; 96 N on 3/27
Comments: Belgian Lodging = Area x Intensity x 0.2. Area is rated on a scale from 1 (plot unaffected) to 10 (entire plot affected). Intensity is rated on a scale from 1 (plants standing upright) to 5 (plants lying flat on the ground). Greenhouse disease screen – seedling reaction to powdery mildew composite.

Warsaw, Virginia

Cooperators: Carl Griffey, Bob Pitman, Mark Vaughn, Jason Kenner
Virginia Polytechnic Institute and State University
Planted: October 18, 2005
Harvested: June 19, 2006
Fertilizer: 27lbs 24-0-0 +S on 12/14; 30lbs 24-0-0 +S on 2/27; 60lbs 24-0-0 +S on 4/2
Comments: Belgian Lodging = Area x Intensity x 0.2. Area is rated on a scale from 1 (plot unaffected) to 10 (entire plot affected). Intensity is rated on a scale from 1 (plants standing upright) to 5 (plants lying flat on the ground).

Mt. Vernon,
Pullman, Washington

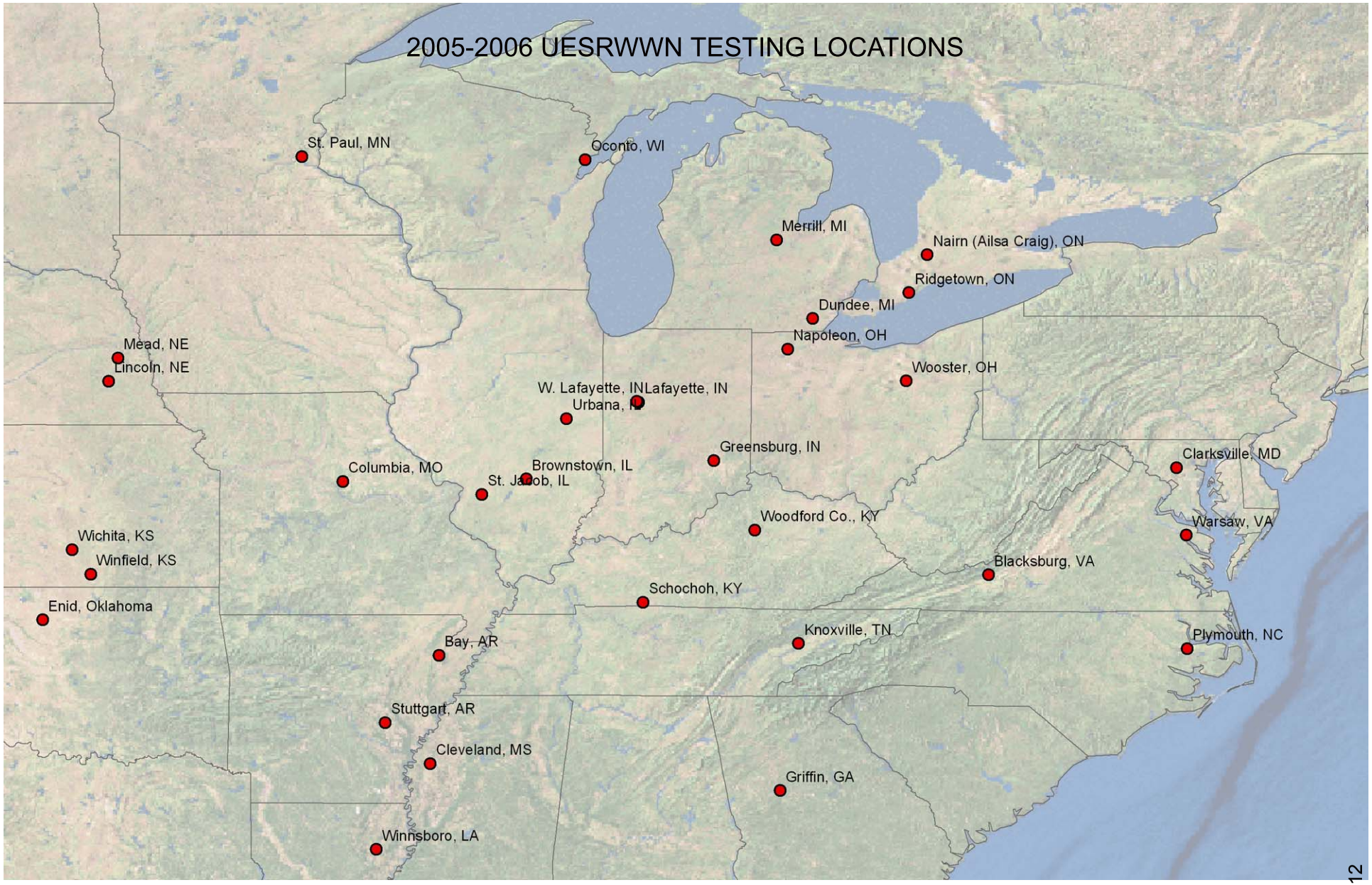
Cooperators: Xianming Chen
USDA-ARS, Wheat Genetics, Quality, Physiology, & Disease Research
Comments: Adult stripe rust data.

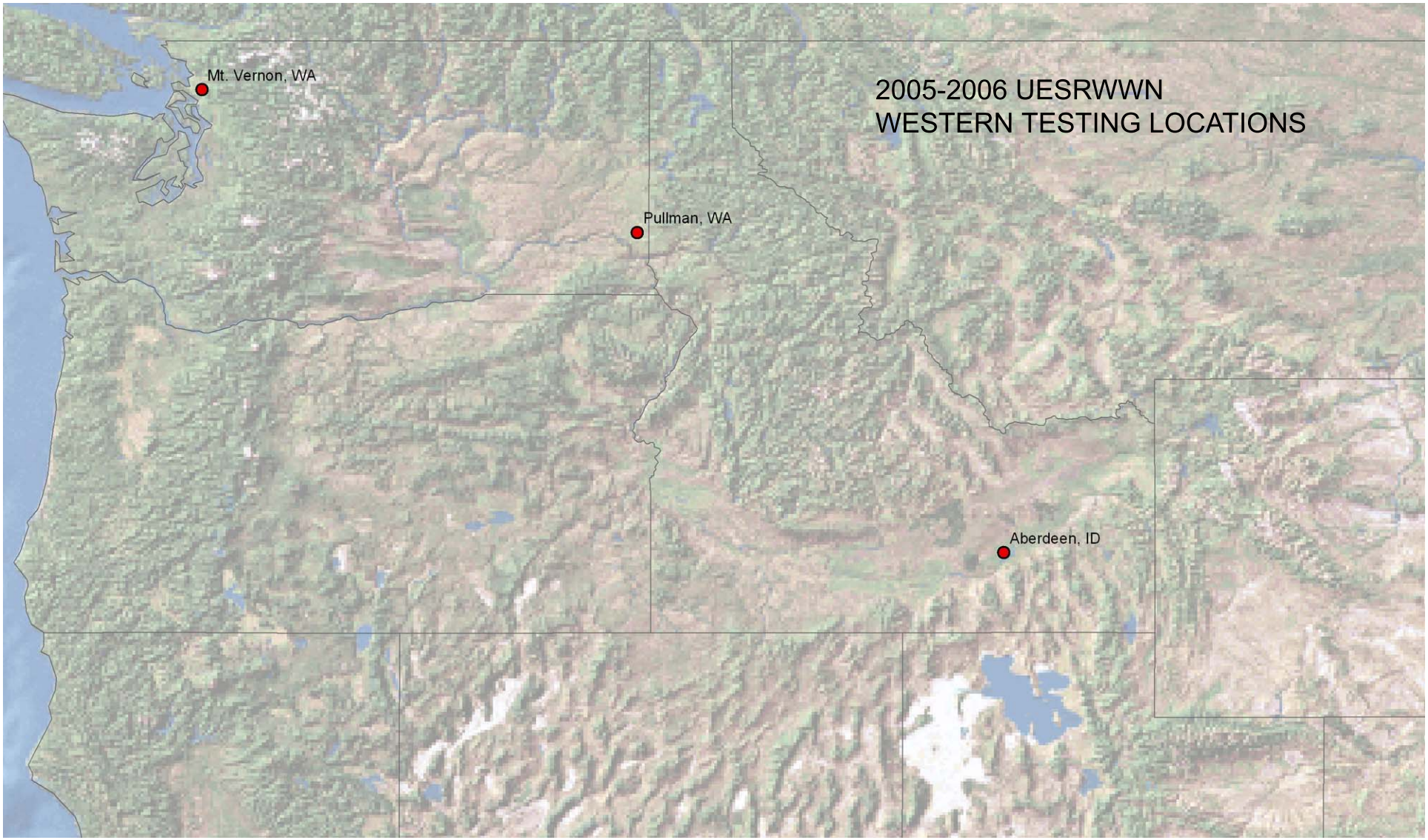
Arlington, Wisconsin

Cooperators:	Mark Martinka, Dan Undersander University of Wisconsin
Comments:	Plots were abandoned due to serious volunteer winter rye infestation.

Oconto, Wisconsin

Cooperators:	Gordon Cisar Great Lakes Cereal Grains
Planted:	September 19, 2005
Harvested:	July 27, 2006
Fertilizer:	Manure @ 2T/acre (previous crop alfalfa)
Comments:	Relatively mild winter, but with lots of snow cover. Spring triticale survived at about 60%.


2005-2006 UESRWWN TESTING LOCATIONS
St. Paul, MN
Oconto, WI
Merrill, MI
Nairn (Ailsa Craig), ON
Ridgetown, ON
Dundee, MI
Napoleon, OH
Wooster, OH
Mead, NE
Lincoln, NE
W. Lafayette, IN
Lafayette, IN
Urbana, IL
Greensburg, IN
Clarksville, MD
Columbia, MO
Brownstown, IL
St. Jacob, IL
Woodford Co., KY
Warsaw, VA
Wichita, KS
Winfield, KS
Blacksburg, VA
Schochoh, KY
Enid, Oklahoma
Knoxville, TN
Plymouth, NC
Bay, AR
Stuttgart, AR
Cleveland, MS
Griffin, GA
Winnsboro, LA



2005-2006 UESRWWN
WESTERN TESTING LOCATIONS

YIELD (bu/acre)

		Bay		Stuttgart		Griffin		Brownstown		Urbana		St. Jacob	
		AR	a	AR	a	GA		IL	ab	IL	ab	IL	ab
		Hancock	rank	Bacon	rank	Johnson	rank	Kolb	rank	Kolb	rank	Fogleman	rank
1	Foster	69.2	24	73.9	31	91.1	3	53.4	38	91.7	37	89.6	42
2	Patton	66.5	30	68.8	37	84.8	9	62.8	18	88.4	39	97.6	30
3	Roane	64.7	37	92.2	6	98.8	2	53.5	37	99.6	19	97.2	31
4	INW0411	76.3	8	87.6	13	73.8	33	50.5	44	92.6	32	86.8	45
5	MSU Line E1007	72.7	17	82.9	19	88.8	6	60.3	25	86.0	43	103.3	24
6	MSU Line D8006-R	65.3	34	70.2	34	77.0	22	72.7	2	100.3	17	108.5	13
7	AR 850-1-1	70.5	20	91.9	7	72.6	38	50.2	45	95.6	25	96.0	34
8	KY93C-0004-22-1	43.7	46	97.2	2	88.9	5	67.9	5	97.9	22	114.0	3
9	KY97C-0232-2	59.3	41	88.6	12	80.9	15	67.6	6	115.0	1	112.1	6
10	OH776	49.6	44	63.5	42	81.8	12	58.8	28	92.4	33	107.0	16
11	T154	73.5	16	76.6	27	76.7	23	54.0	36	95.1	27	95.1	36
12	T155	54.4	42	67.3	40	75.7	28	56.0	32	96.1	24	96.9	32
13	GA951231-4A15	68.2	25	74.6	30	80.8	16	59.7	26	88.0	40	107.0	15
14	GA961567-4A35	71.5	18	72.9	32	83.2	10	66.3	9	92.7	31	90.5	40
15	AR96077-7-2	75.2	10	93.3	4	71.9	39	51.5	40	85.7	44	95.0	37
16	MO011126	76.5	7	78.4	25	73.3	37	63.9	13	106.5	8	112.6	5
17	Z00-3538	70.2	21	82.4	21	67.5	42	63.7	14	106.5	8	109.2	11
18	Z00-3554	85.2	2	88.8	11	81.8	12	66.7	7	109.8	5	111.4	7
19	GX02-138	65.1	35	97.1	3	81.3	14	74.6	1	104.0	11	115.7	2
20	VA03W-235	70.1	22	84.8	18	67.2	43	61.1	22	101.2	14	104.9	20
21	VA03W-412	74.4	12	91.4	8	79.0	18	65.0	11	104.7	10	108.4	14
22	VA03W-409	78.7	5	107.0	1	68.4	40	62.4	21	109.5	6	100.7	26
23	P99608C1-1-3-4	87.1	1	87.4	14	67.1	44	62.8	18	103.9	12	111.4	8
24	P99840C4-8-4	73.6	14	87.4	14	68.2	41	56.4	31	101.8	13	93.4	38
25	P992060G1-1-5	79.3	4	46.2	46	73.7	35	70.9	4	111.2	3	116.2	1
26	KY94C-0094-11-2	73.5	15	71.2	33	64.4	45	58.1	29	97.5	23	98.0	28
27	MD00-72-5028	67.5	29	75.7	28	74.0	31	63.6	16	111.2	3	106.9	18
28	MD00-72-5050	62.4	39	82.3	22	78.7	19	71.0	3	92.3	34	107.0	16
29	IL00-8109	48.0	45	93.3	4	76.2	25	62.8	18	99.7	18	109.4	10
30	IL01-11934	75.0	11	58.1	44	86.6	7	65.4	10	114.7	2	111.3	9
31	IL01-16170	67.7	28	87.4	14	75.0	29	54.5	34	100.7	16	96.5	33
32	MSU Line E1007-W	66.4	31	61.4	43	82.2	11	50.8	42	92.3	34	108.9	12
33	SE98-1089-34	69.6	23	77.7	26	73.8	33	61.0	23	93.4	29	106.8	19
34	SE90-1209-9	50.3	43	78.6	24	78.1	20	55.7	33	91.9	36	113.6	4
35	SE91-1492-4	79.4	3	57.9	45	99.4	1	58.9	27	106.9	7	104.5	21
36	G32401	64.9	36	68.9	36	89.0	4	51.3	41	87.8	41	89.8	41
37	G21104	67.8	27	66.5	41	75.8	27	50.6	43	89.4	38	88.0	44
38	G30433	65.6	33	67.8	39	76.6	24	47.9	46	98.9	20	91.3	39
39	OH01-7664	75.6	9	68.5	38	74.8	30	54.4	35	95.3	26	102.1	25
40	OH01-7653	68.2	26	70.2	34	85.3	8	53.2	39	87.2	42	82.4	46
41	B010728	74.4	12	86.8	17	78.0	21	63.7	14	83.2	45	98.0	29
42	B010578	62.0	40	89.1	10	73.4	36	60.8	24	78.3	46	89.4	43
43	D02-8443	76.8	6	82.7	20	55.4	46	57.2	30	98.9	20	104.0	23
44	APCK M03-3002	65.7	32	89.7	9	73.9	32	66.6	8	101.0	15	95.4	35
45	APCK M00-3904-9	70.7	19	79.0	23	79.7	17	64.3	12	94.5	28	99.0	27
46	APCK M02*2518	63.7	38	75.1	29	75.9	26	63.3	17	93.0	30	104.0	22
LOCATION MEANS		68.6		79.1		77.8		60.2		97.5		101.9	
LSD (.05)				15				7.5		7.9		13.8	
CV %		18.3		11.6				7.7		5		6.7	
REPS		2		3		1		3		3		2	
Harvest Plot Area (sq.ft.)		63.43		61.25		50		34		34		45.6	

YIELD (bu/acre)

		Greensburg		Lafayette		W. Lafayette		Wichita		Winfield		Schochoh	
		IN	a	IN	a	IN	ab	KS		KS	b	KY	ab
		Brown	rank	Moreno	rank	Ohm	rank	Wilson	rank	Perry	rank	VanSanford	rank
1	Foster	76.9	42	87.1	45	90.5	41	62.6	20	57.9	14	86.1	27
2	Patton	81.6	36	103.6	13	95.2	36	62.3	22	48.3	41	94.7	10
3	Roane	100.8	6	93.5	39	96.1	34	68.5	9	53.3	30	87.3	23
4	INW0411	80.2	37	93.7	38	105.7	12	53.4	38	50.7	38	82.5	37
5	MSU Line E1007	90.4	17	106.7	6	98.4	30	67.3	12	58.3	13	95.0	8
6	MSU Line D8006-R	86.5	24	108.5	4	100.4	24	57.4	29	60.9	10	85.4	30
7	AR 850-1-1	81.9	34	97.4	28	103.0	19	68.2	11	52.9	32	85.9	28
8	KY93C-0004-22-1	89.4	19	99.6	19	100.7	23	63.8	18	44.9	43	88.4	21
9	KY97C-0232-2	95.6	14	99.3	22	105.4	13	72.3	4	54.5	25	89.1	19
10	OH776	84.9	27	98.4	25	103.3	18	62.5	21	54.2	27	82.8	36
11	T154	84.2	29	94.5	35	98.3	31	60.0	25	66.5	6	83.4	35
12	T155	79.0	38	93.1	41	96.2	33	65.0	15	53.6	28	83.7	33
13	GA951231-4A15	78.7	40	101.5	18	74.3	46	57.6	28	63.0	8	81.4	40
14	GA961567-4A35	74.6	45	96.9	30	79.2	45	61.3	23	56.2	21	78.5	43
15	AR96077-7-2	76.7	43	89.1	44	89.5	42	60.9	24	54.7	24	81.2	41
16	MO011126	96.3	12	105.8	8	107.2	9	72.7	3	59.7	11	86.6	25
17	Z00-3538	98.4	9	110.5	1	105.4	13	59.7	27	55.9	23	92.7	14
18	Z00-3554	99.7	8	105.5	9	107.4	7	68.4	10	70.4	3	86.3	26
19	GX02-138	95.7	13	94.6	34	104.5	16	81.1	1	65.0	7	97.9	4
20	VA03W-235	82.1	33	99.4	21	103.9	17	80.0	2	62.5	9	91.1	17
21	VA03W-412	92.9	15	96.5	31	107.1	10	63.9	16	57.7	15	96.4	6
22	VA03W-409	86.4	25	107.9	5	117.4	2	60.0	25	52.2	33	99.1	3
23	P99608C1-1-3-4	99.9	7	102.5	16	107.0	11	70.8	5	56.4	20	93.5	11
24	P99840C4-8-4	105.0	2	108.9	3	112.7	4	53.5	37	43.3	45	72.4	45
25	P992060G1-1-5	97.4	10	104.4	11	105.3	15	62.9	19	50.8	37	95.7	7
26	KY94C-0094-11-2	105.1	1	91.3	43	100.0	25	52.8	39	53.2	31	84.9	31
27	MD00-72-5028	75.2	44	99.6	19	97.3	32	54.5	35	57.0	16	85.9	28
28	MD00-72-5050	83.9	30	97.5	27	99.2	27	65.7	13	54.4	26	96.9	5
29	IL00-8109	100.9	5	95.5	32	99.9	26	65.4	14	67.9	5	67.4	46
30	IL01-11934	86.6	23	106.3	7	122.8	1	68.7	8	71.1	1	90.1	18
31	IL01-16170	88.7	20	95.2	33	92.6	40	51.0	42	47.0	42	77.5	44
32	MSU Line E1007-W	79.0	38	93.8	37	95.3	35	55.7	32	50.0	40	95.0	8
33	SE98-1089-34	74.0	46	103.6	13	107.2	8	47.8	44	52.1	34	91.6	16
34	SE90-1209-9	87.7	22	104.1	12	101.5	20	57.3	30	56.7	17	88.1	22
35	SE91-1492-4	101.3	4	104.7	10	114.7	3	52.0	41	50.5	39	87.1	24
36	G32401	84.3	28	97.0	29	100.8	22	45.5	45	51.7	36	84.4	32
37	G21104	81.7	35	85.6	46	94.2	37	44.6	46	44.2	44	83.7	33
38	G30433	83.9	30	98.7	24	108.8	6	55.0	33	39.6	46	101.0	2
39	OH01-7664	82.2	32	98.2	26	94.2	38	56.4	31	53.6	28	92.8	13
40	OH01-7653	77.4	41	102.2	17	94.0	39	63.9	16	56.5	18	81.8	38
41	B010728	86.3	26	91.6	42	83.8	44	50.7	43	56.2	21	88.5	20
42	B010578	89.7	18	98.9	23	89.2	43	53.6	36	68.5	4	80.0	42
43	D02-8443	90.6	16	103.3	15	98.9	28	69.6	7	71.0	2	81.6	39
44	APCK M03-3002	102.5	3	109.9	2	109.7	5	52.8	39	59.4	12	93.4	12
45	APCK M00-3904-9	97.1	11	94.5	35	98.7	29	69.9	6	52.1	34	103.3	1
46	APCK M02*2518	88.5	21	93.2	40	101.5	21	54.9	34	56.5	18	91.7	15
LOCATION MEANS		88.3		99.2		100.4		61.0		55.9		87.9	
LSD (.05)		20.2				11.7		12.7		6.85		12.8	
CV %		16.7				8.3		10.4		7.8		8.7	
REPS		2		1		4		2		2		2	
Harvest Plot Area (sq.ft.)		32						36				40	

YIELD (bu/acre)

		Clarksville		Dundee		Merrill		Columbia		Cleveland		Lincoln	
		MD	a	MI	a	MI	ab	MO	a	MS		NE	
		Costa	rank	Moreno	rank	Siler	rank	McKendry	rank	Hancock	rank	Baenziger	rank
1	Foster	67.8	39	78.8	24	86.4	40	64.0	14	76.3	30	98.8	27
2	Patton	78.8	18	78.5	26	85.1	44	58.4	25	83.5	17	84.9	45
3	Roane	80.5	14	77.7	30	88.6	36	61.6	21	76.8	29	97.6	29
4	INW0411	68.4	38	87.0	7	89.4	33	45.8	45	77.0	26	85.2	43
5	MSU Line E1007	67.1	42	88.7	5	106.1	2	55.2	32	74.2	33	104.5	18
6	MSU Line D8006-R	81.3	12	93.2	4	102.5	6	57.7	29	73.8	34	103.5	21
7	AR 850-1-1	72.1	33	88.0	6	95.2	26	55.0	34	77.9	25	100.6	25
8	KY93C-0004-22-1	79.5	16	74.1	35	100.0	11	61.9	19	84.3	14	92.7	36
9	KY97C-0232-2	92.9	1	86.5	8	99.8	12	75.1	1	83.1	18	87.8	41
10	OH776	88.5	4	85.1	10	99.6	13	58.2	27	57.7	45	103.1	23
11	T154	69.3	37	72.8	36	92.3	28	50.9	43	73.1	35	95.1	33
12	T155	75.9	26	77.9	29	90.4	31	58.8	24	69.7	38	98.3	28
13	GA951231-4A15	92.0	2	63.4	46	84.3	45	63.6	15	57.8	44	100.0	26
14	GA961567-4A35	82.1	8	72.6	38	88.3	37	68.9	7	69.0	40	95.9	32
15	AR96077-7-2	81.3	11	82.8	16	89.8	32	55.2	32	74.9	31	92.0	38
16	MO011126	81.9	10	97.8	1	101.0	8	73.8	2	81.2	22	97.4	30
17	Z00-3538	75.5	28	93.4	3	104.6	4	68.2	8	69.9	37	117.2	3
18	Z00-3554	80.4	15	81.9	18	107.9	1	72.4	3	91.1	5	109.8	8
19	GX02-138	76.9	23	84.5	12	100.3	10	70.9	6	88.5	9	115.8	4
20	VA03W-235	77.1	22	93.8	2	104.0	5	66.1	10	82.1	21	107.3	13
21	VA03W-412	85.2	6	74.3	34	95.8	25	64.3	13	92.3	4	106.3	14
22	VA03W-409	79.1	17	81.7	19	101.0	8	61.9	19	84.1	15	112.9	6
23	P99608C1-1-3-4	64.0	45	69.8	41	91.0	29	66.0	11	74.2	32	113.2	5
24	P99840C4-8-4	75.3	31	72.8	36	98.3	17	58.3	26	84.4	13	104.3	20
25	P992060G1-1-5	72.0	34	76.6	32	98.8	14	71.4	5	65.8	42	94.4	34
26	KY94C-0094-11-2	77.6	21	77.1	31	97.3	20	52.6	40	72.9	36	105.7	15
27	MD00-72-5028	75.3	30	70.8	39	96.8	23	62.8	17	82.8	19	108.5	10
28	MD00-72-5050	81.0	13	82.1	17	94.3	27	62.1	18	85.1	11	108.3	11
29	IL00-8109	75.4	29	74.5	33	85.5	43	71.5	4	80.1	23	89.8	40
30	IL01-11934	89.8	3	80.0	20	97.2	21	67.3	9	76.8	28	92.5	37
31	IL01-16170	75.6	27	83.5	14	89.1	34	51.9	41	92.5	3	90.0	39
32	MSU Line E1007-W	70.9	35	78.3	27	98.1	18	57.8	28	91.1	5	104.3	19
33	SE98-1089-34	65.5	43	84.7	11	101.6	7	49.5	44	80.0	24	103.2	22
34	SE90-1209-9	76.5	25	86.2	9	105.5	3	57.3	30	69.3	39	96.9	31
35	SE91-1492-4	70.6	36	66.8	44	98.8	14	59.6	22	77.0	27	94.4	35
36	G32401	67.3	41	83.3	15	85.8	41	55.0	34	97.5	1	86.6	42
37	G21104	65.3	44	69.6	42	88.7	35	54.3	37	67.3	41	79.9	46
38	G30433	73.6	32	78.0	28	86.5	39	53.6	39	82.7	20	105.3	17
39	OH01-7664	86.4	5	84.4	13	87.4	38	45.0	46	62.5	43	109.0	9
40	OH01-7653	67.7	40	79.3	22	96.1	24	51.4	42	56.8	46	100.9	24
41	B010728	63.1	46	70.7	40	81.9	46	53.7	38	83.8	16	85.2	43
42	B010578	78.1	19	69.2	43	90.6	30	54.6	36	90.1	8	105.3	16
43	D02-8443	76.8	24	79.6	21	98.4	16	56.0	31	90.7	7	108.0	12
44	APCK M03-3002	77.9	20	78.7	25	96.9	22	65.3	12	84.8	12	110.4	7
45	APCK M00-3904-9	83.8	7	65.7	45	85.8	41	58.9	23	95.3	2	135.9	1
46	APCK M02*2518	82.0	9	79.3	22	97.5	19	63.0	16	87.1	10	123.0	2
LOCATION MEANS		76.6		79.4		94.8		60.1		78.9		101.3	
LSD (.05)		17		10.8		6.6		10.1					
CV %		11.3		10.5		3		10.3					
REPS		2		2		2		3		1		1	
Harvest Plot Area (sq.ft.)		36						55		60.2			

YIELD (bu/acre)

		Mead		Plymouth		Napoleon		Wooster		Wooster		Nairn	
		NE		NC	a	OH	ab	OH	ab	OH	ab	ON	a
		Baenziger	rank	Murphy	rank	Fogleman	rank	Sneller	rank	Fioritto	rank	Etienne	rank
1	Foster	75.7	20	55.5	35	88.2	26	69.0	35	84.6	26	69.6	12
2	Patton	63.7	44	68.3	17	86.5	29	67.4	39	80.9	34	77.3	2
3	Roane	81.1	8	64.1	24	88.8	25	67.4	38	85.4	24	57.6	41
4	INW0411	64.2	43	52.2	41	75.3	40	78.5	17	80.2	36	64.3	27
5	MSU Line E1007	63.3	45	69.7	12	106.1	2	84.4	6	93.7	7	60.6	33
6	MSU Line D8006-R	69.3	33	77.6	7	73.1	42	74.6	27	91.2	9	64.5	26
7	AR 850-1-1	70.1	32	67.3	19	101.2	5	77.6	19	88.5	14	72.2	8
8	KY93C-0004-22-1	69.1	35	67.1	20	97.1	8	78.9	16	79.8	38	70.9	9
9	KY97C-0232-2	88.3	2	64.5	23	98.9	7	81.6	12	89.5	12	68.9	14
10	OH776	77.2	16	69.6	13	95.2	15	79.7	14	87.0	17	58.6	40
11	T154	69.2	34	44.4	45	76.6	39	51.0	46	64.8	45	64.1	28
12	T155	75.0	22	66.0	21	84.3	34	70.2	33	82.3	33	74.6	5
13	GA951231-4A15	65.1	41	69.1	14	57.4	46	59.7	44	78.1	40	74.3	6
14	GA961567-4A35	83.6	5	56.8	33	64.4	45	58.5	45	60.3	46	57.0	42
15	AR96077-7-2	68.6	37	62.2	27	87.6	27	70.3	32	78.9	39	63.3	29
16	MO011126	82.3	7	86.5	2	84.8	33	75.8	23	87.0	17	68.5	15
17	Z00-3538	76.5	19	88.0	1	85.6	32	77.9	18	88.4	15	60.4	34
18	Z00-3554	79.7	11	80.8	4	96.2	10	82.9	9	86.7	21	59.0	38
19	GX02-138	80.2	9	79.3	6	94.7	16	75.7	24	93.9	6	65.2	23
20	VA03W-235	72.5	29	68.8	16	94.3	17	83.1	8	88.3	16	62.9	30
21	VA03W-412	84.9	4	69.8	11	89.2	23	77.0	22	83.5	29	62.0	31
22	VA03W-409	83.1	6	75.9	9	111.1	1	92.1	2	99.7	1	68.0	17
23	P99608C1-1-3-4	78.3	13	54.8	36	79.6	38	67.2	40	73.6	43	55.2	46
24	P99840C4-8-4	65.7	40	58.7	30	97.1	9	93.0	1	79.9	37	59.8	35
25	P992060G1-1-5	86.2	3	53.2	40	73.1	41	71.7	30	84.9	25	73.6	7
26	KY94C-0094-11-2	78.0	14	57.7	31	96.1	11	78.9	15	94.4	3	66.2	20
27	MD00-72-5028	73.8	25	70.6	10	93.5	18	84.7	5	83.4	31	69.3	13
28	MD00-72-5050	68.5	38	80.8	4	93.1	19	84.1	7	82.3	32	55.6	45
29	IL00-8109	73.7	26	42.4	46	79.7	37	62.1	42	80.4	35	64.7	25
30	IL01-11934	76.9	17	54.7	37	83.1	35	82.9	10	91.6	8	67.8	18
31	IL01-16170	89.3	1	61.7	28	86.2	30	73.0	29	86.1	22	55.8	44
32	MSU Line E1007-W	70.8	31	67.9	18	102.6	3	80.6	13	88.9	13	75.8	3
33	SE98-1089-34	74.6	23	51.6	42	95.2	14	84.9	4	94.0	5	75.3	4
34	SE90-1209-9	76.7	18	63.2	26	89.4	22	81.7	11	94.1	4	67.3	19
35	SE91-1492-4	78.9	12	66.0	22	95.6	13	77.1	21	97.3	2	59.7	36
36	G32401	71.3	30	60.6	29	85.8	31	69.6	34	75.2	42	65.4	21
37	G21104	64.3	42	57.0	32	89.0	24	65.0	41	77.0	41	69.6	11
38	G30433	75.2	21	82.2	3	100.4	6	70.9	31	83.7	28	65.1	24
39	OH01-7664	73.9	24	54.2	39	86.9	28	77.5	20	83.5	30	70.3	10
40	OH01-7653	68.9	36	68.9	15	66.8	44	75.7	25	90.6	11	58.9	39
41	B010728	61.3	46	63.5	25	93.0	20	67.7	37	84.2	27	80.1	1
42	B010578	66.2	39	76.3	8	92.7	21	67.8	36	86.7	20	68.4	16
43	D02-8443	77.5	15	56.1	34	82.0	36	74.1	28	90.6	10	61.1	32
44	APCK M03-3002	79.8	10	47.1	44	101.8	4	85.1	3	87.0	19	59.0	37
45	APCK M00-3904-9	73.4	28	54.5	38	70.3	43	61.2	43	70.4	44	56.1	43
46	APCK M02*2518	73.4	27	50.7	43	95.8	12	75.3	26	86.0	23	65.4	22
LOCATION MEANS		74.3		64.3		88.4		74.9		84.7		65.4	
LSD (.05)				15.1		11.6		5.9		9.5			
CV %				11.8		6.5		4.8		8.33		15.9	
REPS		1		2		2		3		3		3	
Harvest Plot Area (sq.ft.)		32		55		45.6		50		45		44.55	

YIELD (bu/acre)

		Ridgetown		Knoxville		Blacksburg		Warsaw		Oconto	
		ON	ab	TN	a	VA	ab	VA	a	WI	ab
		Smid	rank	West	rank	Griffey	rank	Griffey	rank	Cisar	rank
1	Foster	98.5	31	61.4	43	105.4	18	87.5	45	100.0	26
2	Patton	99.4	30	56.3	44	100.1	34	102.2	26	91.7	40
3	Roane	100.9	24	76.5	28	108.0	14	102.7	25	101.3	25
4	INW0411	93.2	42	77.1	26	97.5	41	98.6	37	85.4	45
5	MSU Line E1007	106.4	10	76.2	31	99.4	36	96.9	40	97.8	30
6	MSU Line D8006-R	99.9	28	81.7	16	110.4	8	102.0	27	103.4	17
7	AR 850-1-1	102.6	19	76.9	27	94.0	45	91.7	42	92.3	38
8	KY93C-0004-22-1	100.1	27	83.5	14	97.7	39	101.2	31	97.0	31
9	KY97C-0232-2	114.7	1	89.5	3	101.5	26	110.3	14	103.0	18
10	OH776	100.2	26	87.5	5	103.0	23	97.4	39	99.8	28
11	T154	87.9	46	61.7	42	94.1	43	100.8	32	100.0	27
12	T155	96.0	40	74.3	34	101.5	26	99.5	35	94.3	37
13	GA951231-4A15	93.0	43	86.4	6	107.2	16	115.0	3	104.1	16
14	GA961567-4A35	93.5	41	63.4	40	97.5	40	107.0	18	102.4	21
15	AR96077-7-2	89.0	45	73.7	35	101.2	30	103.6	24	96.9	32
16	MO011126	104.0	16	95.4	2	107.5	15	114.3	5	102.1	22
17	Z00-3538	107.5	5	79.7	19	109.8	10	114.6	4	105.1	14
18	Z00-3554	106.7	9	83.9	12	114.2	4	118.0	2	118.9	2
19	GX02-138	107.4	7	83.8	13	111.6	7	113.2	9	101.3	24
20	VA03W-235	102.6	19	85.6	7	101.5	28	113.7	7	101.6	23
21	VA03W-412	107.5	5	84.2	8	117.1	2	113.8	6	109.5	10
22	VA03W-409	110.2	3	96.5	1	112.8	5	106.4	20	130.4	1
23	P99608C1-1-3-4	89.8	44	70.3	37	101.9	24	96.1	41	113.0	6
24	P99840C4-8-4	103.1	17	70.9	36	100.2	32	110.7	13	114.3	4
25	P992060G1-1-5	99.9	28	78.4	22	105.2	19	111.3	11	113.2	5
26	KY94C-0094-11-2	108.5	4	50.3	46	100.2	33	98.8	36	90.9	41
27	MD00-72-5028	104.6	14	84.1	9	108.3	12	105.4	21	116.0	3
28	MD00-72-5050	104.2	15	75.8	32	117.3	1	108.6	15	109.4	11
29	IL00-8109	97.3	36	74.7	33	98.2	38	89.5	43	94.5	36
30	IL01-11934	98.4	32	79.6	20	103.8	22	113.3	8	110.6	8
31	IL01-16170	98.2	33	76.5	28	89.4	46	106.7	19	90.1	42
32	MSU Line E1007-W	102.2	22	84.0	10	106.5	17	104.7	22	99.5	29
33	SE98-1089-34	97.7	35	77.6	25	100.8	31	76.3	46	102.8	20
34	SE90-1209-9	106.0	12	76.4	30	109.8	9	101.9	29	111.3	7
35	SE91-1492-4	103.0	18	82.1	15	101.6	25	97.9	38	106.9	12
36	G32401	97.1	37	79.9	18	95.2	42	101.6	30	89.7	43
37	G21104	96.2	39	64.3	39	94.0	44	100.5	33	89.2	44
38	G30433	106.8	8	77.8	23	112.3	6	102.0	27	95.7	34
39	OH01-7664	106.1	11	77.7	24	98.6	37	107.2	17	103.0	18
40	OH01-7653	101.4	23	70.2	38	104.6	21	104.1	23	104.1	15
41	B010728	96.6	38	89.2	4	101.2	29	108.2	16	109.9	9
42	B010578	97.9	34	63.4	40	105.1	20	111.3	11	91.7	39
43	D02-8443	111.3	2	55.0	45	99.7	35	100.0	34	105.6	13
44	APCK M03-3002	104.9	13	84.0	10	114.8	3	111.5	10	96.3	33
45	APCK M00-3904-9	102.3	21	80.1	17	108.3	11	119.6	1	94.8	35
46	APCK M02*2518	100.9	24	79.6	20	108.0	13	89.2	44	84.7	46
LOCATION MEANS		101.2		76.9		103.9		104.1		101.6	
LSD (.05)		8.2		17.8		10.1				12.4	
CV %		5.81		14.3		6				7.5	
REPS		4		3		3		1		3	
Harvest Plot Area (sq.ft.)		48.3		39		45		45		50	

YIELD (bu/acre)

		ENTRY MEANS ALL LOCATIONS		ENTRY MEANS IN-REGION		ENTRY MEANS CV <10%	
			rank	[a]	rank	[b]	rank
1	Foster	79.2	39	79.8	43	86.9	35
2	Patton	79.9	36	82.2	34	87.5	33
3	Roane	83.5	20	84.6	25	89.5	30
4	INW0411	77.7	43	80.4	41	84.8	40
5	MSU Line E1007	84.8	12	87.1	15	94.7	17
6	MSU Line D8006-R	84.6	14	87.4	12	93.5	19
7	AR 850-1-1	82.4	26	84.6	24	90.2	28
8	KY93C-0004-22-1	83.8	18	86.4	19	93.3	21
9	KY97C-0232-2	88.8	5	91.7	4	98.2	4
10	OH776	82.3	28	84.8	22	92.4	22
11	T154	76.8	45	77.6	46	82.7	45
12	T155	79.5	37	81.2	38	87.3	34
13	GA951231-4A15	79.5	38	81.8	36	82.8	44
14	GA961567-4A35	77.4	44	78.1	44	81.0	46
15	AR96077-7-2	79.2	40	81.4	37	84.7	41
16	MO011126	89.0	4	91.9	3	94.9	14
17	Z00-3538	87.7	7	91.2	6	96.4	7
18	Z00-3554	91.4	2	93.5	2	99.6	2
19	GX02-138	90.3	3	91.6	5	98.5	3
20	VA03W-235	86.7	9	88.8	10	94.8	15
21	VA03W-412	88.1	6	90.0	7	96.8	6
22	VA03W-409	91.6	1	95.5	1	103.9	1
23	P99608C1-1-3-4	83.0	24	84.7	23	91.2	27
24	P99840C4-8-4	83.6	19	87.1	16	93.5	18
25	P992060G1-1-5	84.3	16	87.4	13	95.5	13
26	KY94C-0094-11-2	81.1	31	83.7	30	92.1	23
27	MD00-72-5028	84.8	13	87.3	14	96.0	10
28	MD00-72-5050	85.6	11	88.0	11	95.9	11
29	IL00-8109	80.0	35	81.2	39	86.4	37
30	IL01-11934	87.0	8	89.1	8	97.7	5
31	IL01-16170	80.3	34	81.9	35	86.2	38
32	MSU Line E1007-W	83.3	22	85.2	20	93.4	20
33	SE98-1089-34	81.8	29	84.4	26	94.7	16
34	SE90-1209-9	83.9	17	86.9	18	95.7	12
35	SE91-1492-4	84.5	15	86.9	17	96.0	9
36	G32401	78.7	42	80.0	42	84.4	42
37	G21104	74.6	46	77.7	45	83.7	43
38	G30433	82.3	27	84.9	21	92.0	24
39	OH01-7664	81.4	30	84.0	29	90.2	29
40	OH01-7653	78.9	41	80.7	40	86.5	36
41	B010728	80.5	33	83.4	31	87.6	32
42	B010578	81.0	32	82.2	33	85.9	39
43	D02-8443	83.2	23	84.4	27	91.9	25
44	APCK M03-3002	86.4	10	88.9	9	96.1	8
45	APCK M00-3904-9	83.4	21	83.2	32	87.7	31
46	APCK M02*2518	82.8	25	84.0	28	91.8	26
LOCATION MEANS		83.1		85.2		91.4	
LSD (.05)							
CV %							
REPS							
Harvest Plot Area (sq.ft.)							

TEST WEIGHT (lbs/bu)

		Bay AR Hancock	Stuttgart AR Bacon	Griffin GA Johnson	Brownstown IL Kolb	Urbana IL Kolb	St. Jacob IL Fogleman
1	Foster	57.0	55.0	57.5	58.1	59.6	58.0
2	Patton	59.7	53.5	59.1	58.0	58.3	57.4
3	Roane	56.0	57.7	60.4	61.6	61.8	61.0
4	INW0411	56.9	55.4	59.0	55.0	56.4	55.2
5	MSU Line E1007	57.0	51.5	59.5	57.4	58.8	57.0
6	MSU Line D8006-R	54.8	53.7	58.6	58.7	58.5	58.5
7	AR 850-1-1	56.7	55.2	57.7	57.8	59.6	58.8
8	KY93C-0004-22-1	57.0	56.3	59.2	59.5	60.3	58.9
9	KY97C-0232-2	58.6	56.3	60.0	59.4	60.7	58.9
10	OH776	57.9	55.3	59.3	58.5	59.6	58.1
11	T154	55.1	57.2	61.2	60.3	59.7	59.1
12	T155	56.4	54.4	58.3	57.0	57.6	56.6
13	GA951231-4A15	57.3	55.8	59.5	58.9	55.4	58.3
14	GA961567-4A35	56.8	54.6	57.1	57.7	56.2	57.3
15	AR96077-7-2	59.6	55.2	60.3	57.4	58.9	58.3
16	MO011126	58.1	55.2	61.1	59.8	60.1	59.4
17	Z00-3538	53.8	55.1	58.3	57.7	57.0	56.8
18	Z00-3554	53.9	52.2	58.1	56.4	57.1	55.5
19	GX02-138	58.5	52.9	58.0	55.8	56.0	54.7
20	VA03W-235	59.8	55.0	60.4	58.3	59.4	56.8
21	VA03W-412	56.7	57.3	61.3	60.2	60.1	59.7
22	VA03W-409	58.6	55.9	58.8	56.9	57.3	56.5
23	P99608C1-1-3-4	60.4	56.0	59.7	57.4	58.3	57.4
24	P99840C4-8-4	54.5	58.5	62.0	59.7	60.7	58.7
25	P992060G1-1-5	60.7	51.6	56.6	55.5	56.7	54.8
26	KY94C-0094-11-2	58.9	56.6	59.8	59.0	59.7	58.5
27	MD00-72-5028	57.2	56.8	61.3	59.3	60.4	59.1
28	MD00-72-5050	55.6	56.7	59.7	58.8	59.5	56.9
29	IL00-8109	52.0	56.4	59.7	58.2	59.5	57.9
30	IL01-11934	59.7	56.8	60.3	59.6	60.7	60.4
31	IL01-16170	56.3	56.7	61.1	57.8	58.5	57.2
32	MSU Line E1007-W	52.6	54.7	58.2	56.5	58.1	57.0
33	SE98-1089-34	56.4	51.2	57.2	55.0	55.5	55.8
34	SE90-1209-9	57.6	54.5	58.3	55.5	55.9	56.9
35	SE91-1492-4	58.7	56.8	56.9	60.5	61.7	59.8
36	G32401	48.6	54.1	59.2	57.2	58.4	56.6
37	G21104	53.8	54.5	57.8	56.6	57.5	56.2
38	G30433	60.9	53.7	59.2	57.6	59.1	58.1
39	OH01-7664	57.4	56.9	58.7	59.1	60.0	59.6
40	OH01-7653	59.1	57.2	55.1	58.8	59.6	58.4
41	B010728	54.4	58.2	59.5	59.7	60.4	59.6
42	B010578	56.4	52.5	58.4	56.7	54.7	55.4
43	D02-8443	58.9	56.3	58.4	57.4	58.2	56.8
44	APCK M03-3002	58.7	54.0	58.5	58.2	57.2	55.8
45	APCK M00-3904-9	57.0	59.0	61.8	61.0	60.4	59.8
46	APCK M02*2518	57.4	54.8	61.5	59.1	59.7	58.9
LOCATION MEANS:		56.9	55.3	59.2	58.1	58.7	57.7

TEST WEIGHT (lbs/bu)

		Greensburg IN	Lafayette IN	W. Lafayette IN	Schochoh KY	Clarksville MD	Dundee MI
		Brown	Moreno	Ohm	Van Sanford	Costa	Moreno
1	Foster	57.0	57.7	57.4	58.5	55.1	57.1
2	Patton	57.3	58.8	55.9	59.3	52.6	59.5
3	Roane	60.1	59.9	59.9	59.8	57.5	59.4
4	INW0411	55.4	55.4	54.7	57.2	51.9	57.2
5	MSU Line E1007	56.3	58.8	55.3	59.0	52.6	56.8
6	MSU Line D8006-R	56.4	57.2	54.2	58.1	53.9	58.0
7	AR 850-1-1	57.4	60.4	58.2	59.4	56.3	57.3
8	KY93C-0004-22-1	56.9	58.2	58.1	59.0	55.1	57.2
9	KY97C-0232-2	58.3	59.9	57.8	59.5	56.4	58.0
10	OH776	57.7	60.0	58.8	60.2	56.0	59.3
11	T154	56.6	61.4	60.1	60.0	55.9	57.5
12	T155	47.6	53.1	57.5	58.7	53.5	55.9
13	GA951231-4A15	53.0	57.6	55.5	56.9	55.1	56.8
14	GA961567-4A35	52.0	54.8	55.2	56.5	53.1	56.5
15	AR96077-7-2	57.8	58.3	56.4	58.5	54.6	59.6
16	MO011126	57.6	60.7	57.7	61.1	55.3	58.6
17	Z00-3538	57.4	57.9	57.2	59.5	53.5	58.0
18	Z00-3554	57.4	57.6	57.0	57.9	53.5	52.2
19	GX02-138	55.7	56.0	55.9	56.4	51.2	56.4
20	VA03W-235	56.8	57.5	57.9	59.6	55.9	59.2
21	VA03W-412	56.7	59.8	58.2	61.0	57.0	58.4
22	VA03W-409	54.4	55.5	55.2	58.8	53.1	54.3
23	P99608C1-1-3-4	55.5	58.8	57.7	58.5	54.2	55.9
24	P99840C4-8-4	57.5	61.1	60.5	59.8	56.9	59.5
25	P992060G1-1-5	53.5	56.0	55.1	55.9	52.0	55.6
26	KY94C-0094-11-2	59.2	60.4	56.9	59.4	57.7	59.5
27	MD00-72-5028	56.2	60.0	58.7	61.3	48.0	52.5
28	MD00-72-5050	56.3	57.5	58.9	60.2	51.5	57.0
29	IL00-8109	57.7	58.6	59.4	58.5	55.0	56.1
30	IL01-11934	59.4	60.7	61.7	61.4	57.3	56.7
31	IL01-16170	56.2	55.4	58.0	60.6	54.7	58.7
32	MSU Line E1007-W	55.5	58.0	56.7	59.0	46.4	57.0
33	SE98-1089-34	52.8	56.1	57.6	56.8	47.1	55.6
34	SE90-1209-9	54.5	58.5	55.5	58.2	52.6	54.5
35	SE91-1492-4	58.8	61.6	60.0	61.1	56.5	56.6
36	G32401	56.2	60.2	57.8	59.6	52.6	56.8
37	G21104	56.8	56.6	56.7	58.9	53.5	56.7
38	G30433	57.0	59.1	57.0	59.7	55.3	56.9
39	OH01-7664	57.6	58.9	57.0	60.5	56.0	60.5
40	OH01-7653	56.3	60.9	57.5	60.1	55.8	58.9
41	B010728	56.7	60.5	58.4	60.2	54.6	58.7
42	B010578	54.7	56.7	53.1	58.5	50.3	51.2
43	D02-8443	57.6	58.2	57.5	58.0	54.2	56.2
44	APCK M03-3002	57.5	58.5	57.2	59.4	51.8	57.3
45	APCK M00-3904-9	58.0	60.5	57.1	61.7	57.1	58.5
46	APCK M02*2518	56.9	60.5	57.7	61.2	53.6	57.7
LOCATION MEANS:		56.4	58.5	57.3	59.2	54.0	57.1

TEST WEIGHT (lbs/bu)

		Merrill MI	Columbia MO	Cleveland MS	Plymouth NC	Napoleon OH	Wooster OH
		Siler	McKendry	Hancock	Murphy	Fogleman	Fioritto
1	Foster	57.7	56.2	59.1	57.7	61.2	59.8
2	Patton	57.1	56.1	54.1	57.2	61.9	59.1
3	Roane	58.9	57.8	58.7	59.3	63.8	59.4
4	INW0411	56.5	53.0	56.6	56.8	60.5	58.2
5	MSU Line E1007	57.6	55.8	58.0	55.5	61.8	59.9
6	MSU Line D8006-R	57.4	55.6	57.2	57.0	61.0	57.8
7	AR 850-1-1	57.9	55.3	59.8	57.7	63.0	59.5
8	KY93C-0004-22-1	57.3	56.3	58.3	57.9	62.5	60.8
9	KY97C-0232-2	58.0	57.1	59.3	58.4	61.5	59.6
10	OH776	58.0	56.0	57.8	58.7	61.3	59.4
11	T154	59.1	57.6	61.0	58.1	60.1	53.4
12	T155	56.7	55.4	53.3	57.8	60.1	56.8
13	GA951231-4A15	58.0	55.7	55.7	58.7	61.3	57.3
14	GA961567-4A35	57.0	56.3	55.8	57.1	59.9	53.8
15	AR96077-7-2	56.1	55.9	57.0	57.2	62.1	58.4
16	MO011126	58.6	57.4	57.2	58.7	62.4	60.5
17	Z00-3538	56.6	54.9	56.7	57.4	61.5	57.6
18	Z00-3554	56.7	55.8	56.4	57.2	60.3	59.9
19	GX02-138	55.6	53.4	56.8	56.4	59.6	57.3
20	VA03W-235	56.8	56.9	57.7	57.8	62.1	58.8
21	VA03W-412	58.4	57.6	59.7	58.7	61.8	58.0
22	VA03W-409	56.5	53.9	57.3	57.3	60.3	56.8
23	P99608C1-1-3-4	56.2	55.0	57.3	57.9	60.7	57.6
24	P99840C4-8-4	58.6	57.2	60.2	59.3	63.8	58.8
25	P992060G1-1-5	55.6	53.6	55.6	56.1	58.6	54.0
26	KY94C-0094-11-2	59.1	55.2	58.8	58.1	63.3	59.3
27	MD00-72-5028	57.8	55.1	59.1	58.3	63.4	58.2
28	MD00-72-5050	58.2	54.7	58.6	58.3	62.2	58.9
29	IL00-8109	57.8	57.1	57.8	58.3	60.1	58.3
30	IL01-11934	57.6	57.8	58.3	58.8	61.5	59.7
31	IL01-16170	56.9	55.8	59.3	59.0	61.6	56.9
32	MSU Line E1007-W	56.8	54.0	58.3	57.4	60.9	57.0
33	SE98-1089-34	54.9	50.6	54.9	54.7	59.6	55.5
34	SE90-1209-9	56.9	53.5	56.0	57.1	61.1	55.0
35	SE91-1492-4	59.2	56.6	56.6	59.3	63.9	60.3
36	G32401	57.1	55.3	57.1	57.4	60.6	58.7
37	G21104	56.6	55.1	54.3	57.9	60.2	56.6
38	G30433	58.1	54.6	54.4	58.1	62.0	58.6
39	OH01-7664	58.6	56.6	55.4	58.1	61.7	58.9
40	OH01-7653	57.7	55.6	58.3	58.5	61.9	58.6
41	B010728	59.1	57.1	60.3	58.2	62.2	58.9
42	B010578	55.3	55.2	57.7	57.0	61.0	55.7
43	D02-8443	56.8	55.8	58.9	58.0	61.5	57.3
44	APCK M03-3002	56.5	55.6	57.9	57.7	62.4	59.6
45	APCK M00-3904-9	58.4	57.7	59.1	59.2	62.8	59.2
46	APCK M02*2518	58.5	57.1	58.2	58.3	62.6	58.3
LOCATION MEANS:		57.4	55.7	57.5	57.8	61.5	58.1

TEST WEIGHT (lbs/bu)

		Nairn ON Etienne	Ridgetown ON Smid	Knoxville TN West	Blacksburg VA Griffey	Warsaw VA Griffey	Oconto WI Cisar
1	Foster	56.1	60.0	55.4	60.9	59.0	60.3
2	Patton	56.4	61.8	50.9	58.2	59.3	59.8
3	Roane	58.1	58.7	58.1	61.0	61.9	62.3
4	INW0411	55.8	61.1	54.4	58.1	58.8	57.8
5	MSU Line E1007	56.9	62.3	57.9	59.8	59.7	60.4
6	MSU Line D8006-R	58.0	59.4	55.4	59.6	60.9	58.6
7	AR 850-1-1	57.0	60.3	56.8	60.9	60.5	58.8
8	KY93C-0004-22-1	57.5	61.2	56.2	61.0	61.3	61.2
9	KY97C-0232-2	57.8	58.6	55.1	61.0	60.3	61.5
10	OH776	56.5	60.8	56.6	61.0	60.8	62.1
11	T154	57.6	61.4	55.3	59.5	60.9	61.3
12	T155	56.2	61.4	54.2	59.6	59.7	60.9
13	GA951231-4A15	56.9	60.9	53.4	59.1	59.7	62.6
14	GA961567-4A35	55.8	59.2	49.3	58.2	58.9	61.7
15	AR96077-7-2	56.9	59.8	53.7	60.0	59.9	60.4
16	MO011126	57.4	61.1	58.9	60.6	61.2	61.8
17	Z00-3538	56.3	58.6	56.8	60.1	59.7	60.1
18	Z00-3554	55.9	60.0	55.5	59.8	58.3	59.1
19	GX02-138	54.9	58.7	52.8	57.6	57.7	58.1
20	VA03W-235	57.5	58.7	57.2	60.4	60.3	58.8
21	VA03W-412	58.3	60.8	54.8	60.5	61.4	60.6
22	VA03W-409	56.3	58.7	55.9	58.8	58.4	58.6
23	P99608C1-1-3-4	57.0	56.9	50.5	59.5	59.5	61.0
24	P99840C4-8-4	59.1	56.9	53.5	61.2	61.6	62.2
25	P992060G1-1-5	54.5	58.4	50.5	56.5	58.0	59.6
26	KY94C-0094-11-2	58.4	60.4	53.4	60.7	60.9	61.2
27	MD00-72-5028	56.6	60.8	56.1	60.5	61.3	62.4
28	MD00-72-5050	57.5	61.1	57.5	60.1	60.7	61.8
29	IL00-8109	56.9	62.3	53.3	58.4	59.6	61.5
30	IL01-11934	58.0	60.6	57.5	61.1	61.2	61.2
31	IL01-16170	57.1	61.1	56.6	58.8	60.7	61.2
32	MSU Line E1007-W	53.7	60.0	56.9	58.5	58.9	59.8
33	SE98-1089-34	52.3	60.0	54.3	57.0	57.9	57.2
34	SE90-1209-9	55.3	60.3	51.0	58.0	59.0	57.6
35	SE91-1492-4	58.1	60.4	56.2	62.6	62.0	61.7
36	G32401	56.7	58.3	55.7	59.3	60.5	60.0
37	G21104	55.7	61.1	50.9	57.7	60.1	59.0
38	G30433	56.6	58.0	54.8	59.8	60.1	60.2
39	OH01-7664	57.9	60.1	55.3	60.8	61.3	60.7
40	OH01-7653	57.6	58.9	53.4	61.2	60.9	60.7
41	B010728	57.8	60.0	58.1	60.5	60.8	61.3
42	B010578	56.3	59.5	50.8	58.5	59.6	58.9
43	D02-8443	56.5	60.9	50.7	60.1	60.1	60.0
44	APCK M03-3002	57.1	59.2	52.3	59.2	60.0	59.5
45	APCK M00-3904-9	58.9	57.6	56.2	61.0	62.1	61.0
46	APCK M02*2518	57.0	61.2	56.7	61.4	60.7	61.4
LOCATION MEANS:		56.8	59.9	54.7	59.7	60.1	60.4

TEST WEIGHT (lbs/bu)

		ENTRY MEANS ALL LOCATIONS	rank
1	Foster	58.0	23
2	Patton	57.6	28
3	Roane	59.7	1
4	INW0411	56.6	40
5	MSU Line E1007	57.7	26
6	MSU Line D8006-R	57.4	33
7	AR 850-1-1	58.4	16
8	KY93C-0004-22-1	58.6	15
9	KY97C-0232-2	58.8	10
10	OH776	58.7	12
11	T154	58.7	13
12	T155	56.6	39
13	GA951231-4A15	57.5	30
14	GA961567-4A35	56.3	42
15	AR96077-7-2	58.0	22
16	MO011126	59.2	6
17	Z00-3538	57.4	32
18	Z00-3554	56.8	36
19	GX02-138	56.1	43
20	VA03W-235	58.3	19
21	VA03W-412	59.0	7
22	VA03W-409	56.8	35
23	P99608C1-1-3-4	57.4	31
24	P99840C4-8-4	59.2	5
25	P992060G1-1-5	55.6	45
26	KY94C-0094-11-2	58.9	9
27	MD00-72-5028	58.3	18
28	MD00-72-5050	58.3	20
29	IL00-8109	57.9	24
30	IL01-11934	59.5	2
31	IL01-16170	58.2	21
32	MSU Line E1007-W	56.7	37
33	SE98-1089-34	55.3	46
34	SE90-1209-9	56.4	41
35	SE91-1492-4	59.4	3
36	G32401	57.2	34
37	G21104	56.7	38
38	G30433	57.9	25
39	OH01-7664	58.6	14
40	OH01-7653	58.4	17
41	B010728	59.0	8
42	B010578	56.0	44
43	D02-8443	57.7	27
44	APCK M03-3002	57.5	29
45	APCK M00-3904-9	59.4	4
46	APCK M02*2518	58.8	11
LOCATION MEANS:		57.8	

HEADING DATE (Julian Days)

		Bay AR Hancock	Stuttgart AR Bacon	Griffin GA Johnson	Aberdeen ID Bockelman	Urbana IL Kolb	St. Jacob IL Fogleman
1	Foster	108.0	105	100	149.5	133	123.0
2	Patton	105.0	106	98	149.5	131	120.0
3	Roane	107.0	106	107	150.5	132	124.0
4	INW0411	106.0	105	101	149.5	130	118.0
5	MSU Line E1007	106.5	105	106	147.5	135	121.0
6	MSU Line D8006-R	107.0	105	103	152.5	135	122.0
7	AR 850-1-1	109.5	105	106	152.3	138	125.0
8	KY93C-0004-22-1	106.0	105	103	147.5	133	121.5
9	KY97C-0232-2	104.5	105	96	148.0	133	120.0
10	OH776	108.0	106	107	149.5	135	122.0
11	T154	103.0	102	94	145.0	127	117.0
12	T155	107.0	105	97	151.5	133	123.0
13	GA951231-4A15	103.0	105	95	150.0	129	117.5
14	GA961567-4A35	103.5	105	95	147.5	129	118.0
15	AR96077-7-2	106.5	105	97	151.3	135	123.5
16	MO011126	106.5	105	104	151.5	134	121.5
17	Z00-3538	109.5	105	108	150.5	136	124.5
18	Z00-3554	107.5	105	99	149.0	134	124.0
19	GX02-138	108.5	105	105	151.5	135	122.0
20	VA03W-235	107.0	106	105	152.8	134	121.5
21	VA03W-412	107.0	107	98	152.0	131	120.0
22	VA03W-409	108.0	105	101	153.0	132	122.5
23	P99608C1-1-3-4	107.5	105	105	147.5	131	120.0
24	P99840C4-8-4	108.0	105	105	150.5	130	119.5
25	P992060G1-1-5	105.5	102	96	149.0	130	118.5
26	KY94C-0094-11-2	108.0	106	107	149.5	137	124.5
27	MD00-72-5028	106.0	105	105	147.5	134	120.5
28	MD00-72-5050	107.5	105	105	151.5	134	121.0
29	IL00-8109	105.5	105	97	147.5	130	118.0
30	IL01-11934	109.5	105	106	148.5	131	122.5
31	IL01-16170	106.0	105	102	147.5	130	118.0
32	MSU Line E1007-W	106.5	105	105	146.0	132	122.0
33	SE98-1089-34	110.0	105	105	153.0	136	123.0
34	SE90-1209-9	108.0	105	104	153.3	134	123.0
35	SE91-1492-4	109.5	105	106	153.0	136	123.5
36	G32401	107.0	105	99	147.0	129	119.0
37	G21104	105.5	105	98	146.0	129	119.5
38	G30433	108.5	106	105	149.0	133	123.5
39	OH01-7664	108.0	105	106	148.5	135	122.0
40	OH01-7653	108.0	105	106	146.5	136	123.0
41	B010728	105.5	102	94	148.0	131	120.0
42	B010578	107.0	105	98	150.5	133	122.5
43	D02-8443	106.0	105	98	151.3	132	120.0
44	APCK M03-3002	107.0	105	106	152.0	132	123.0
45	APCK M00-3904-9	105.5	105	102	149.0	131	119.5
46	APCK M02*2518	105.0	105	101	150.5	133	122.0
LOCATION MEANS:		106.8	105.0	101.9	149.7	132.7	121.3

HEADING DATE (Julian Days)

		Greensburg IN	Lafayette IN	W. Lafayette IN	Wichita KS	Woodford Co. KY	Clarksville MD
		Brown	Moreno	Ohm	Wilson	Van Sanford	Costa
1	Foster	126	136	133.5	109	124.5	132.5
2	Patton	126	131	132.5	112	124.5	130.0
3	Roane	128	136	133.0	112	124.0	131.5
4	INW0411	126	129	128.0	109	121.0	128.5
5	MSU Line E1007	127	132	135.0	112	124.5	132.0
6	MSU Line D8006-R	130	134	135.0	111	124.5	131.0
7	AR 850-1-1	130	139	137.0	116	127.5	135.0
8	KY93C-0004-22-1	127	132	132.5	110	122.5	130.5
9	KY97C-0232-2	127	130	131.5	110	124.5	130.0
10	OH776	129	132	135.5	110	126.0	130.5
11	T154	124	127	126.0	109	118.5	127.0
12	T155	128	137	134.5	111	124.5	132.5
13	GA951231-4A15	125	129	129.0	110	121.0	127.5
14	GA961567-4A35	126	129	130.5	110	120.5	127.5
15	AR96077-7-2	130	134	134.0	112	125.0	132.0
16	MO011126	130	132	135.5	112	124.5	131.0
17	Z00-3538	128	134	136.5	113	126.5	132.5
18	Z00-3554	128	136	135.0	112	126.5	132.0
19	GX02-138	127	131	134.5	109	125.5	129.5
20	VA03W-235	127	132	134.0	112	124.5	132.0
21	VA03W-412	127	129	129.0	110	123.5	129.5
22	VA03W-409	127	133	132.0	109	124.5	131.5
23	P99608C1-1-3-4	127	129	131.5	111	124.5	127.5
24	P99840C4-8-4	127	129	130.0	112	122.5	128.0
25	P992060G1-1-5	125	128	128.5	109	121.0	128.0
26	KY94C-0094-11-2	130	136	135.5	112	124.0	132.5
27	MD00-72-5028	128	131	133.5	110	125.0	131.0
28	MD00-72-5050	128	132	134.0	110	124.5	132.0
29	IL00-8109	126	128	131.0	111	121.0	127.0
30	IL01-11934	129	132	132.0	111	124.0	129.5
31	IL01-16170	126	128	130.0	109	121.0	128.0
32	MSU Line E1007-W	127	131	134.0	109	124.5	130.0
33	SE98-1089-34	130	134	135.5	113	126.0	132.0
34	SE90-1209-9	131	134	134.0	113	127.5	133.0
35	SE91-1492-4	131	132	134.0	110	127.0	130.0
36	G32401	126	128	129.0	110	119.0	128.0
37	G21104	125	129	132.5	108	122.5	126.5
38	G30433	128	134	134.5	109	125.0	131.5
39	OH01-7664	130	130	136.0	110	125.0	131.0
40	OH01-7653	130	131	135.5	110	125.5	132.5
41	B010728	127	130	130.0	110	121.0	128.0
42	B010578	128	132	132.5	112	125.0	130.5
43	D02-8443	128	130	131.5	113	125.0	130.5
44	APCK M03-3002	128	132	134.0	113	124.5	131.0
45	APCK M00-3904-9	125	130	134.5	111	123.5	129.0
46	APCK M02*2518	128	133	134.5	112	124.5	131.0
LOCATION MEANS:		127.6	131.7	132.9	110.8	123.9	130.3

HEADING DATE (Julian Days)

		Merrill MI	Columbia MO	Cleveland MS	Lincoln NE	Mead NE	Napoleon OH
		Siler	McKendry	Hancock	Baenziger	Baenziger	Fogleman
1	Foster	149.4	125.0	103	141	146	140.0
2	Patton	149.0	123.0	102	141	142	140.5
3	Roane	149.0	125.0	104	141	143	142.0
4	INW0411	149.1	123.0	102	141	142	140.0
5	MSU Line E1007	150.0	124.0	102	143	145	143.0
6	MSU Line D8006-R	150.6	125.7	102	139	147	144.5
7	AR 850-1-1	150.6	129.7	105	142	146	145.5
8	KY93C-0004-22-1	149.4	124.3	102	141	145	141.5
9	KY97C-0232-2	149.0	123.0	101	141	143	139.5
10	OH776	148.9	125.0	105	141	145	141.0
11	T154	149.0	120.7	96	141	140	135.5
12	T155	150.0	126.3	99	140	143	143.5
13	GA951231-4A15	150.1	121.7	93	141	139	137.0
14	GA961567-4A35	149.1	122.3	94	141	140	137.5
15	AR96077-7-2	149.9	125.0	98	140	144	144.0
16	MO011126	150.5	125.3	101	141	149	143.5
17	Z00-3538	149.5	126.0	105	141	145	143.0
18	Z00-3554	150.1	124.3	101	141	143	143.5
19	GX02-138	149.1	124.3	104	141	145	141.5
20	VA03W-235	149.9	125.7	103	141	143	142.5
21	VA03W-412	149.0	123.7	101	141	141	139.5
22	VA03W-409	150.1	124.7	102	141	143	143.5
23	P99608C1-1-3-4	149.0	124.0	104	141	142	139.5
24	P99840C4-8-4	148.9	122.0	104	141	142	139.5
25	P992060G1-1-5	149.0	120.0	99	141	142	138.5
26	KY94C-0094-11-2	149.9	125.3	106	142	145	143.5
27	MD00-72-5028	149.6	125.3	104	142	145	143.0
28	MD00-72-5050	149.1	124.7	105	141	143	142.5
29	IL00-8109	148.9	121.7	100	141	142	138.0
30	IL01-11934	149.1	124.0	105	141	142	139.5
31	IL01-16170	149.0	121.7	103	141	141	139.0
32	MSU Line E1007-W	149.5	125.3	103	144	143	143.0
33	SE98-1089-34	150.1	125.3	104	140	145	143.0
34	SE90-1209-9	150.0	127.3	102	140	145	145.0
35	SE91-1492-4	150.5	125.7	104	140	144	141.5
36	G32401	149.1	122.3	101	141	142	137.5
37	G21104	149.1	122.0	101	141	142	137.5
38	G30433	150.0	125.0	105	141	143	141.0
39	OH01-7664	149.0	125.0	105	141	143	142.0
40	OH01-7653	148.9	125.0	106	141	143	142.0
41	B010728	149.0	123.3	95	141	142	140.0
42	B010578	149.5	124.0	101	141	145	142.0
43	D02-8443	149.0	124.7	101	141	145	141.0
44	APCK M03-3002	150.0	124.7	103	141	143	142.5
45	APCK M00-3904-9	149.1	122.0	103	141	145	137.0
46	APCK M02*2518	150.2	125.0	102	141	145	142.5
LOCATION MEANS:		149.5	124.2	102.0	141.0	143.4	141.1

HEADING DATE (Julian Days)

		Wooster OH Sneller	Wooster OH Fioritto	Nairn ON Etienne	Ridgetown ON Smid	Knoxville TN West	Blacksburg VA Griffey
1	Foster	141	138.7	152	148	117	126.7
2	Patton	139	138.0	150	147	117	124.0
3	Roane	142	140.3	151	148	116	127.7
4	INW0411	139	137.0	151	146	116	125.0
5	MSU Line E1007	142	140.0	152	149	117	127.3
6	MSU Line D8006-R	142	140.0	150	150	117	125.0
7	AR 850-1-1	144	142.0	155	150	121	130.7
8	KY93C-0004-22-1	140	139.7	152	148	117	125.3
9	KY97C-0232-2	139	138.0	152	148	116	125.7
10	OH776	141	140.0	153	147	118	127.0
11	T154	133	134.7	150	144	113	118.0
12	T155	141	138.7	153	148	118	128.3
13	GA951231-4A15	134	135.3	150	146	111	119.3
14	GA961567-4A35	136	135.3	150	146	116	121.3
15	AR96077-7-2	142	139.3	156	150	114	127.0
16	MO011126	141	140.3	153	150	121	126.7
17	Z00-3538	142	141.0	153	149	121	129.0
18	Z00-3554	141	139.3	152	149	119	128.3
19	GX02-138	140	139.7	151	148	118	126.3
20	VA03W-235	141	140.0	153	149	119	127.0
21	VA03W-412	140	139.3	152	148	114	122.7
22	VA03W-409	142	139.3	154	149	118	126.3
23	P99608C1-1-3-4	140	138.3	151	147	117	126.0
24	P99840C4-8-4	140	138.0	152	147	117	125.0
25	P992060G1-1-5	138	136.3	149	146	115	124.0
26	KY94C-0094-11-2	143	141.0	152	149	122	128.0
27	MD00-72-5028	141	140.0	154	149	122	127.7
28	MD00-72-5050	141	140.3	153	148	118	128.0
29	IL00-8109	138	136.7	150	146	114	120.0
30	IL01-11934	140	138.3	151	147	117	125.0
31	IL01-16170	138	135.7	149	146	114	122.7
32	MSU Line E1007-W	141	139.0	151	148	118	127.7
33	SE98-1089-34	143	141.3	153	150	118	129.0
34	SE90-1209-9	143	142.0	152	150	116	129.3
35	SE91-1492-4	143	141.7	152	149	118	127.0
36	G32401	137	136.0	150	146	115	124.7
37	G21104	139	136.3	149	146	114	123.0
38	G30433	142	138.3	152	147	117	127.0
39	OH01-7664	140	139.3	151	148	122	126.7
40	OH01-7653	140	139.0	152	148	121	127.3
41	B010728	137	135.7	151	147	114	121.3
42	B010578	141	137.7	152	148	115	127.0
43	D02-8443	139	138.3	152	149	117	128.0
44	APCK M03-3002	141	139.7	151	148	118	128.7
45	APCK M00-3904-9	138	136.7	150	146	114	123.3
46	APCK M02*2518	141	139.7	152	148	118	127.3
LOCATION MEANS:		140.1	138.7	151.7	147.8	117.1	125.8

HEADING DATE (Julian Days)

		Warsaw VA	Oconto WI	ENTRY MEANS ALL LOCATIONS	
		Griffey	Cisar		rank
1	Foster	114	149.7	129.7	22
2	Patton	111	147.3	128.3	14
3	Roane	114	149.7	130.1	35
4	INW0411	111	148.0	127.7	10
5	MSU Line E1007	114	150.7	130.1	33
6	MSU Line D8006-R	113	152.0	130.3	39
7	AR 850-1-1	117	153.3	132.8	46
8	KY93C-0004-22-1	113	149.3	129.2	18
9	KY97C-0232-2	111	150.0	128.3	13
10	OH776	114	148.7	130.2	37
11	T154	110	146.7	125.0	1
12	T155	112	149.7	129.8	24
13	GA951231-4A15	108	146.0	125.9	2
14	GA961567-4A35	109	145.7	126.3	3
15	AR96077-7-2	112	152.0	129.9	28
16	MO011126	113	150.0	130.5	40
17	Z00-3538	115	150.3	131.3	45
18	Z00-3554	113	150.0	130.1	34
19	GX02-138	114	150.7	129.8	26
20	VA03W-235	112	151.3	130.2	38
21	VA03W-412	109	148.0	128.1	12
22	VA03W-409	113	150.7	129.8	25
23	P99608C1-1-3-4	114	147.3	128.7	16
24	P99840C4-8-4	113	149.0	128.7	15
25	P992060G1-1-5	108	147.3	126.7	4
26	KY94C-0094-11-2	114	150.3	131.3	44
27	MD00-72-5028	113	149.0	130.0	31
28	MD00-72-5050	114	149.3	130.1	32
29	IL00-8109	110	147.0	126.9	6
30	IL01-11934	113	148.3	129.2	19
31	IL01-16170	111	146.3	127.2	9
32	MSU Line E1007-W	113	150.0	129.5	21
33	SE98-1089-34	115	151.7	131.2	43
34	SE90-1209-9	115	151.7	131.1	42
35	SE91-1492-4	114	149.7	130.7	41
36	G32401	110	147.0	127.1	8
37	G21104	109	147.0	127.0	7
38	G30433	113	148.0	129.9	27
39	OH01-7664	113	148.7	130.0	29
40	OH01-7653	114	148.0	130.2	36
41	B010728	110	146.7	126.9	5
42	B010578	113	149.3	129.3	20
43	D02-8443	112	149.3	129.1	17
44	APCK M03-3002	114	148.3	130.0	30
45	APCK M00-3904-9	112	148.0	128.1	11
46	APCK M02*2518	113	149.7	129.8	23
LOCATION MEANS:		112.4	149.1	129.2	

HEIGHT (inches)

		Stuttgart AR	Griffin GA	Brownstown IL	Urbana IL	St. Jacob IL	Greensburg IN
		Bacon	Johnson	Kolb	Kolb	Fogleman	Brown
1	Foster	40	34	34	44	35.4	33
2	Patton	39	37	37	44	37.2	35
3	Roane	41	32	33	42	35.4	34
4	INW0411	37	32	32	40	31.9	32
5	MSU Line E1007	39	33	36	44	37.6	39
6	MSU Line D8006-R	38	33	38	43	38.4	39
7	AR 850-1-1	41	34	37	45	37.8	40
8	KY93C-0004-22-1	40	33	33	43	37.2	38
9	KY97C-0232-2	36	33	35	44	33.7	38
10	OH776	40	33	34	43	36.6	38
11	T154	35	32	33	39	32.7	31
12	T155	33	31	34	41	35.6	34
13	GA951231-4A15	30	32	31	37	35.2	32
14	GA961567-4A35	31	33	31	37	32.3	32
15	AR96077-7-2	31	30	31	37	30.5	31
16	MO011126	39	33	35	44	36.8	32
17	Z00-3538	36	29	35	41	36.0	33
18	Z00-3554	38	34	37	45	36.2	38
19	GX02-138	35	29	33	40	33.3	34
20	VA03W-235	39	31	33	42	34.6	38
21	VA03W-412	36	32	32	39	32.7	36
22	VA03W-409	36	29	31	40	31.9	35
23	P99608C1-1-3-4	38	31	33	41	34.1	36
24	P99840C4-8-4	39	30	32	42	34.1	35
25	P992060G1-1-5	34	28	30	38	31.1	33
26	KY94C-0094-11-2	33	30	34	43	34.4	38
27	MD00-72-5028	36	31	33	40	33.5	33
28	MD00-72-5050	39	32	34	40	34.4	36
29	IL00-8109	38	32	34	42	36.0	34
30	IL01-11934	38	33	36	43	37.4	35
31	IL01-16170	37	34	34	41	35.0	34
32	MSU Line E1007-W	38	34	35	44	38.2	33
33	SE98-1089-34	35	28	29	38	29.5	29
34	SE90-1209-9	34	29	33	38	32.5	32
35	SE91-1492-4	36	31	30	39	32.1	32
36	G32401	38	32	33	43	34.6	36
37	G21104	39	37	35	46	38.4	36
38	G30433	38	31	33	44	34.8	36
39	OH01-7664	41	34	38	46	39.2	41
40	OH01-7653	40	34	38	46	39.8	41
41	B010728	39	34	37	43	39.0	40
42	B010578	39	33	38	43	38.4	42
43	D02-8443	34	29	32	43	35.0	35
44	APCK M03-3002	36	28	35	42	35.4	35
45	APCK M00-3904-9	36	32	33	38	33.1	34
46	APCK M02*2518	34	32	32	41	31.5	35
LOCATION MEANS:		36.9	31.9	33.8	41.7	35.0	35.3

HEIGHT (inches)

		Lafayette IN	W. Lafayette IN	Wichita KS	Schochoh KY	Clarksville MD	Merrill MI
		Moreno	Ohm	Wilson	Van Sanford	Costa	Siler
1	Foster	37	38.5	30	39.0	33.0	41.7
2	Patton	41	37.5	30	40.0	38.5	40.5
3	Roane	37	37.5	30	39.5	34.5	36.6
4	INW0411	36	36.8	32	36.5	31.5	37.7
5	MSU Line E1007	41	38.8	28	40.0	33.5	42.0
6	MSU Line D8006-R	41	38.0	30	40.5	35.5	42.2
7	AR 850-1-1	43	42.8	36	41.0	33.0	43.4
8	KY93C-0004-22-1	40	38.8	34	37.5	31.0	40.0
9	KY97C-0232-2	38	37.0	30	35.0	33.5	40.0
10	OH776	40	39.0	36	38.0	37.5	40.6
11	T154	36	34.8	28	33.0	30.0	39.7
12	T155	36	35.8	28	35.5	31.5	39.1
13	GA951231-4A15	35	31.0	28	33.0	31.0	37.5
14	GA961567-4A35	35	31.3	30	34.5	29.5	36.9
15	AR96077-7-2	35	33.8	28	32.3	31.5	35.1
16	MO011126	40	37.8	32	36.5	34.0	41.6
17	Z00-3538	39	35.0	28	39.5	34.0	40.8
18	Z00-3554	40	36.5	34	38.0	35.5	41.4
19	GX02-138	36	34.3	28	35.5	29.5	37.6
20	VA03W-235	39	38.0	32	37.5	32.0	40.8
21	VA03W-412	37	35.3	28	34.0	32.5	39.1
22	VA03W-409	34	34.3	26	35.5	31.0	35.4
23	P99608C1-1-3-4	37	34.8	30	36.0	31.5	38.9
24	P99840C4-8-4	36	36.3	26	36.5	32.5	39.6
25	P992060G1-1-5	33	32.8	22	32.0	27.5	36.0
26	KY94C-0094-11-2	37	38.1	26	39.0	33.5	40.2
27	MD00-72-5028	36	34.5	28	33.5	31.5	37.6
28	MD00-72-5050	35	36.0	30	37.5	32.5	39.1
29	IL00-8109	38	36.5	32	33.0	35.0	40.2
30	IL01-11934	40	38.5	28	37.0	32.0	41.0
31	IL01-16170	36	36.5	28	35.0	33.0	37.9
32	MSU Line E1007-W	40	38.0	32	37.5	34.0	42.1
33	SE98-1089-34	34	34.5	22	35.5	27.5	35.5
34	SE90-1209-9	36	34.0	26	35.0	31.5	38.4
35	SE91-1492-4	34	36.3	24	34.0	28.0	36.9
36	G32401	39	37.8	32	36.0	34.5	41.6
37	G21104	40	39.3	26	39.0	34.0	41.0
38	G30433	37	38.5	30	38.0	35.0	39.6
39	OH01-7664	41	39.3	30	39.5	38.0	42.0
40	OH01-7653	42	39.5	32	42.0	36.5	42.6
41	B010728	42	34.3	30	39.5	37.5	45.5
42	B010578	41	38.8	32	40.0	38.5	43.0
43	D02-8443	38	37.0	32	36.5	33.0	40.1
44	APCK M03-3002	38	38.3	32	38.0	36.0	40.4
45	APCK M00-3904-9	36	36.8	28	35.0	32.0	38.5
46	APCK M02*2518	37	36.0	28	35.0	33.0	38.9
LOCATION MEANS:		37.8	36.6	29.4	36.8	33.1	39.7

HEIGHT (inches)

		Columbia MO	Cleveland MS	Lincoln NE	Mead NE	Wooster OH	Wooster OH
		McKendry	Hancock	Baenziger	Baenziger	Sneller	Fioritto
1	Foster	36	40	42	38	41	37.3
2	Patton	35	43	42	41	42	39.3
3	Roane	34	40	41	39	40	36.3
4	INW0411	32	38	38	39	40	35.0
5	MSU Line E1007	37	44	43	41	43	40.3
6	MSU Line D8006-R	37	41	43	41	43	38.7
7	AR 850-1-1	36	39	45	39	45	39.3
8	KY93C-0004-22-1	35	39	42	38	39	37.0
9	KY97C-0232-2	36	40	41	41	41	38.0
10	OH776	36	40	42	43	40	39.7
11	T154	32	37	39	37	36	34.7
12	T155	34	38	41	41	39	33.0
13	GA951231-4A15	31	36	37	37	33	32.0
14	GA961567-4A35	33	39	36	37	34	34.3
15	AR96077-7-2	33	36	36	38	35	33.7
16	MO011126	35	43	39	39	40	38.0
17	Z00-3538	36	43	39	37	40	38.7
18	Z00-3554	37	43	43	40	42	39.7
19	GX02-138	34	40	36	37	37	35.3
20	VA03W-235	35	40	40	38	41	36.3
21	VA03W-412	32	38	40	38	39	37.0
22	VA03W-409	32	36	36	36	37	35.0
23	P99608C1-1-3-4	34	42	39	39	39	34.7
24	P99840C4-8-4	33	42	40	37	39	35.0
25	P992060G1-1-5	32	39	35	36	35	33.0
26	KY94C-0094-11-2	36	37	41	38	40	37.3
27	MD00-72-5028	35	37	41	37	39	35.0
28	MD00-72-5050	33	39	40	39	39	33.0
29	IL00-8109	36	39	40	41	37	35.3
30	IL01-11934	35	42	40	39	41	39.3
31	IL01-16170	35	38	39	40	41	37.3
32	MSU Line E1007-W	36	42	40	41	43	39.0
33	SE98-1089-34	30	42	39	39	37	34.3
34	SE90-1209-9	33	37	39	37	38	33.0
35	SE91-1492-4	33	35	36	38	37	34.3
36	G32401	37	37	41	41	41	37.0
37	G21104	34	44	41	40	41	39.7
38	G30433	35	41	40	40	39	37.3
39	OH01-7664	39	43	43	42	44	40.3
40	OH01-7653	38	41	44	42	44	40.3
41	B010728	36	41	43	46	42	38.0
42	B010578	37	42	43	41	41	40.0
43	D02-8443	34	39	39	40	38	37.0
44	APCK M03-3002	35	42	40	40	39	38.7
45	APCK M00-3904-9	31	38	40	38	38	36.3
46	APCK M02*2518	34	38	38	37	39	36.7
LOCATION MEANS:		34.5	39.8	40.0	39.2	39.5	36.8

HEIGHT (inches)

		Nairn ON	Ridgetown ON	Blacksburg VA	Warsaw VA	ENTRY MEANS ALL LOCATIONS	
		Etienne	Smid	Griffey	Griffey		rank
1	Foster	30.1	40	35.3	31	36.8	13
2	Patton	27.4	41	36.3	31	37.9	9
3	Roane	24.2	38	33.7	29	35.8	23
4	INW0411	24.8	36	35.0	30	34.7	32
5	MSU Line E1007	29.0	39	36.0	33	38.1	7
6	MSU Line D8006-R	26.8	40	36.7	34	38.1	6
7	AR 850-1-1	29.7	41	39.7	34	39.2	3
8	KY93C-0004-22-1	27.4	38	34.0	31	36.6	16
9	KY97C-0232-2	25.8	38	33.3	32	36.3	20
10	OH776	28.6	38	36.7	33	37.8	10
11	T154	23.0	35	30.7	31	33.6	38
12	T155	24.0	36	36.0	31	34.9	31
13	GA951231-4A15	24.2	32	31.3	29	32.5	44
14	GA961567-4A35	24.0	35	31.0	30	33.0	41
15	AR96077-7-2	25.2	33	31.7	30	32.6	43
16	MO011126	28.0	39	34.7	33	36.8	14
17	Z00-3538	27.0	36	36.0	33	36.0	22
18	Z00-3554	28.8	39	37.0	34	38.0	8
19	GX02-138	23.4	34	32.0	28	33.7	37
20	VA03W-235	26.6	36	34.0	31	36.1	21
21	VA03W-412	23.6	35	33.0	30	34.5	34
22	VA03W-409	23.6	34	31.0	29	33.1	40
23	P99608C1-1-3-4	25.4	36	33.3	29	35.1	29
24	P99840C4-8-4	27.8	33	33.0	30	34.9	30
25	P992060G1-1-5	21.1	33	29.3	25	31.6	46
26	KY94C-0094-11-2	25.0	37	34.0	30	35.5	25
27	MD00-72-5028	25.0	35	34.0	29	34.3	36
28	MD00-72-5050	25.4	36	32.7	30	35.1	28
29	IL00-8109	25.6	38	32.3	29	35.6	24
30	IL01-11934	27.0	38	34.0	33	36.7	15
31	IL01-16170	25.6	38	33.0	30	35.4	27
32	MSU Line E1007-W	26.8	38	38.0	34	37.4	12
33	SE98-1089-34	24.8	32	29.7	28	32.4	45
34	SE90-1209-9	25.6	36	31.7	29	33.6	39
35	SE91-1492-4	24.0	34	31.3	29	33.0	42
36	G32401	27.0	38	36.3	32	36.6	17
37	G21104	27.0	38	35.7	34	37.5	11
38	G30433	28.8	37	35.3	31	36.3	19
39	OH01-7664	29.4	39	38.0	36	39.2	2
40	OH01-7653	28.2	40	38.3	36	39.3	1
41	B010728	31.5	42	39.3	35	38.8	4
42	B010578	27.2	39	38.7	35	38.7	5
43	D02-8443	25.6	37	34.3	30	35.4	26
44	APCK M03-3002	27.0	38	36.0	32	36.4	18
45	APCK M00-3904-9	25.6	35	33.0	31	34.5	35
46	APCK M02*2518	25.6	36	32.7	31	34.6	33
LOCATION MEANS:		26.2	36.9	34.3	31.2	35.8	

LODGING

		Stuttgart AR	W. Lafayette IN	Merrill MI	Columbia MO	Cleveland MS	Napoleon OH
		Bacon	Ohm	Siler	McKendry	Hancock	Fogleman
		0-9	0-9	0-9	0-9	1-9	0-9
1	Foster	2	5.0	2.0	2.0	1	1.0
2	Patton	3	7.0	2.1	1.7	1	1.0
3	Roane	5	5.0	1.8	1.3	2	3.0
4	INW0411	3	3.0	2.0	0.1	1	1.0
5	MSU Line E1007	3	6.0	2.6	1.3	1	1.0
6	MSU Line D8006-R	6	6.5	3.5	0.7	2	5.0
7	AR 850-1-1	1	5.0	1.4	1.0	1	1.0
8	KY93C-0004-22-1	2	5.0	2.6	1.3	1	1.0
9	KY97C-0232-2	5	4.5	2.6	1.0	1	1.0
10	OH776	6	6.5	3.2	1.7	4	2.0
11	T154	4	8.0	2.4	1.0	2	1.0
12	T155	3	4.0	1.9	0.4	3	1.0
13	GA951231-4A15	7	3.0	3.5	1.0	6	1.0
14	GA961567-4A35	7	3.0	6.1	1.0	4	1.0
15	AR96077-7-2	5	3.0	1.8	0.1	3	1.0
16	MO011126	5	6.0	3.0	2.0	4	5.5
17	Z00-3538	4	7.0	3.9	1.7	4	3.5
18	Z00-3554	4	7.0	3.1	1.7	2	1.0
19	GX02-138	4	6.0	3.5	1.7	1	3.0
20	VA03W-235	3	6.5	3.2	1.4	2	2.0
21	VA03W-412	4	3.5	1.0	0.4	1	1.0
22	VA03W-409	0	4.5	1.9	0.7	1	1.0
23	P99608C1-1-3-4	3	4.0	2.4	0.7	1	2.5
24	P99840C4-8-4	5	3.0	1.5	0.1	1	1.0
25	P992060G1-1-5	3	1.5	1.5	0.4	1	1.0
26	KY94C-0094-11-2	1	5.5	3.0	2.7	1	2.5
27	MD00-72-5028	2	5.5	2.4	1.0	1	1.0
28	MD00-72-5050	4	4.5	2.7	0.1	1	1.0
29	IL00-8109	2	4.0	3.1	2.7	1	1.0
30	IL01-11934	6	6.0	2.1	1.7	2	2.5
31	IL01-16170	5	4.0	1.8	1.0	1	1.0
32	MSU Line E1007-W	3	6.0	1.9	1.3	1	1.0
33	SE98-1089-34	4	3.0	0.9	0.0	1	1.0
34	SE90-1209-9	7	4.0	4.1	1.0	5	1.0
35	SE91-1492-4	0	5.0	1.8	1.3	1	1.0
36	G32401	3	5.0	2.1	1.0	1	1.0
37	G21104	4	4.5	3.1	2.0	4	1.0
38	G30433	2	4.5	1.6	1.0	1	1.0
39	OH01-7664	6	6.0	1.5	2.0	5	2.0
40	OH01-7653	5	7.0	1.8	2.3	6	5.5
41	B010728	3	7.0	1.8	1.7	2	1.5
42	B010578	2	6.5	3.1	1.3	3	4.0
43	D02-8443	7	5.5	2.4	1.3	2	4.5
44	APCK M03-3002	7	5.5	3.0	1.7	1	1.0
45	APCK M00-3904-9	8	8.0	7.5	1.3	1	5.5
46	APCK M02*2518	4	4.0	3.1	1.0	1	1.0
LOCATION MEANS:		4.0	5.1	2.6	1.2	2.0	1.8

LODGING

		Wooster OH Sneller 0-9	Nairn ON Etienne 0-9	Ridgetown ON Smid 0-9	Blacksburg VA Griffey 0.2-10	Warsaw VA Griffey 0.2-10	Oconto WI Cisar 0-9
1	Foster	0.0	0.5	0	0.6	0.2	1.7
2	Patton	1.3	0.2	1	0.9	0.2	2.7
3	Roane	0.0	0.0	0	0.2	0.2	4.0
4	INW0411	0.0	0.3	0	0.4	0.2	0.0
5	MSU Line E1007	0.0	0.2	0	0.2	0.2	1.7
6	MSU Line D8006-R	0.0	0.7	0	0.4	0.2	2.7
7	AR 850-1-1	0.0	0.2	0	0.2	0.2	2.3
8	KY93C-0004-22-1	0.0	0.0	0	0.2	0.2	1.0
9	KY97C-0232-2	0.0	0.0	0	0.4	0.2	0.0
10	OH776	0.0	0.0	0	0.8	0.4	2.3
11	T154	5.3	0.5	0	0.4	0.2	1.7
12	T155	0.0	0.0	0	0.2	0.2	0.0
13	GA951231-4A15	0.0	0.0	0	0.5	0.4	1.3
14	GA961567-4A35	0.0	0.0	1	0.6	0.4	1.7
15	AR96077-7-2	0.0	0.0	0	0.2	0.2	0.0
16	MO011126	0.0	0.2	0	0.8	0.2	1.0
17	Z00-3538	0.0	0.3	1	0.8	0.2	2.3
18	Z00-3554	0.0	0.3	0	0.2	0.2	3.7
19	GX02-138	0.0	0.2	0	0.6	0.2	4.3
20	VA03W-235	0.0	0.2	0	0.6	0.2	4.0
21	VA03W-412	0.0	0.0	0	0.2	0.2	0.0
22	VA03W-409	0.0	0.0	0	0.2	0.2	1.7
23	P99608C1-1-3-4	0.0	0.3	0	0.6	0.2	4.0
24	P99840C4-8-4	0.0	0.0	0	0.2	0.2	0.0
25	P992060G1-1-5	0.0	0.0	0	0.2	0.2	0.0
26	KY94C-0094-11-2	0.0	0.7	0	0.4	0.2	2.3
27	MD00-72-5028	0.0	0.2	0	0.2	0.2	1.0
28	MD00-72-5050	0.0	0.0	0	0.4	0.2	2.0
29	IL00-8109	0.0	0.3	1	1.4	0.4	3.3
30	IL01-11934	0.7	0.8	2	1.2	0.4	1.0
31	IL01-16170	0.0	0.3	0	0.6	0.4	0.0
32	MSU Line E1007-W	0.3	0.2	0	0.4	0.2	0.7
33	SE98-1089-34	0.0	0.2	0	0.2	0.2	0.0
34	SE90-1209-9	0.0	0.3	0	0.8	0.4	3.3
35	SE91-1492-4	0.0	0.0	0	0.5	0.2	2.0
36	G32401	0.0	0.0	0	0.4	0.2	0.7
37	G21104	0.0	0.5	0	1.1	0.4	0.7
38	G30433	0.0	0.2	0	0.6	0.2	0.3
39	OH01-7664	1.3	1.2	0	0.2	0.2	3.0
40	OH01-7653	0.0	0.8	0	0.2	0.2	2.0
41	B010728	0.0	0.0	0	0.2	0.2	0.0
42	B010578	1.0	0.0	0	0.9	0.2	1.3
43	D02-8443	0.0	0.0	0	0.4	0.2	0.0
44	APCK M03-3002	0.0	0.5	0	1.1	0.2	0.7
45	APCK M00-3904-9	0.7	0.5	4	2.1	0.8	6.7
46	APCK M02*2518	1.7	0.2	0	0.4	0.4	0.0
LOCATION MEANS:		0.3	0.2	0.2	0.5	0.3	1.6

WINTER DAMAGE

		Nairn ON Etienne Survival %	Oconto WI Cisar Winter Kill 0-9
1	Foster	80.3	0.3
2	Patton	83.0	0.3
3	Roane	77.3	0.0
4	INW0411	76.3	0.0
5	MSU Line E1007	73.3	0.0
6	MSU Line D8006-R	80.7	0.3
7	AR 850-1-1	81.0	0.3
8	KY93C-0004-22-1	79.3	1.0
9	KY97C-0232-2	76.0	1.7
10	OH776	74.0	0.3
11	T154	79.0	0.0
12	T155	81.0	1.0
13	GA951231-4A15	60.7	1.0
14	GA961567-4A35	68.7	2.0
15	AR96077-7-2	63.3	1.0
16	MO011126	69.3	1.3
17	Z00-3538	79.0	1.0
18	Z00-3554	82.3	0.3
19	GX02-138	71.0	1.3
20	VA03W-235	78.7	0.0
21	VA03W-412	81.7	0.0
22	VA03W-409	67.3	0.0
23	P99608C1-1-3-4	81.0	0.0
24	P99840C4-8-4	78.7	0.0
25	P992060G1-1-5	72.0	0.0
26	KY94C-0094-11-2	74.7	0.3
27	MD00-72-5028	74.0	0.0
28	MD00-72-5050	76.3	1.0
29	IL00-8109	77.0	0.7
30	IL01-11934	76.7	0.3
31	IL01-16170	80.0	0.3
32	MSU Line E1007-W	83.7	0.0
33	SE98-1089-34	75.7	0.0
34	SE90-1209-9	79.7	0.0
35	SE91-1492-4	81.0	0.7
36	G32401	80.3	0.0
37	G21104	77.3	0.0
38	G30433	79.0	0.7
39	OH01-7664	86.3	0.7
40	OH01-7653	78.7	0.0
41	B010728	81.0	1.0
42	B010578	79.3	0.7
43	D02-8443	77.3	0.7
44	APCK M03-3002	84.7	0.7
45	APCK M00-3904-9	79.7	0.0
46	APCK M02*2518	75.7	1.0
LOCATION MEANS:		77.2	0.5

LEAF RUST

		Bay AR Hancock 1-9	Urbana IL Kolb 0-9	St. Jacob IL Fogleman	Winnsboro LA Harrison %	Merrill MI Siler 0-9	St. Paul MN Kolmer % severity / IT
1	Foster	6.0	4.7	5	0	6.0	20 MS
2	Patton	3.5	1.7	3	1	6.0	20 MS
3	Roane	1.0	1.0	5	0	2.5	50 MS
4	INW0411	1.5	1.0	no leaves	0	3.5	10 R-MR
5	MSU Line E1007	2.5	5.0	5	0	5.0	20 MS
6	MSU Line D8006-R	4.0	1.3	5	0	2.0	20 MS
7	AR 850-1-1	1.5	1.3	3	0	3.0	30 MS
8	KY93C-0004-22-1	3.0	3.3	6	0	4.5	40 MS
9	KY97C-0232-2	5.0	1.7	4	0	3.0	50 S
10	OH776	4.0	3.0	5	0	7.0	50 MS
11	T154	4.5	1.0	no leaves	3	5.0	40 S
12	T155	4.5	1.7	no leaves	0	4.6	50 MS
13	GA951231-4A15	1.0	1.0	3	0	2.0	10 R-MR
14	GA961567-4A35	1.5	1.0	no leaves	0	1.0	TR
15	AR96077-7-2	1.0	0.7	4	0	2.0	40 S
16	MO011126	3.5	1.0	3	0	5.0	20 MS
17	Z00-3538	3.0	1.0	5	0	2.0	20 MS
18	Z00-3554	2.5	1.7	5	0	3.5	10 MS
19	GX02-138	1.5	1.0	no leaves	0	2.0	10 MR-MS
20	VA03W-235	2.0	1.3	4	0	4.1	20 R-MR
21	VA03W-412	3.5	1.7	3	1	0.0	30 MS
22	VA03W-409	1.0	0.0	2	0	0.0	5 R
23	P99608C1-1-3-4	2.0	1.0	5	0	3.0	40 S
24	P99840C4-8-4	1.0	1.0	no leaves	0	1.9	TR
25	P992060G1-1-5	6.5	2.7	7	3	3.0	30 MS-S
26	KY94C-0094-11-2	2.0	1.0	3	1	2.0	30 MS
27	MD00-72-5028	2.5	1.3	3	0	1.0	10 R-MR
28	MD00-72-5050	1.0	1.0	2	0	1.1	10 R-MR
29	IL00-8109	6.5	1.3	6	1	6.0	20 MS
30	IL01-11934	8.5	7.0	6	5	5.0	30 MS-S
31	IL01-16170	3.0	1.3	no leaves	0	1.0	30 MS-S
32	MSU Line E1007-W	3.5	6.7	7	2	6.9	40 S
33	SE98-1089-34	3.5	3.0	7	0	6.0	50 S
34	SE90-1209-9	4.0	1.0	6	0	2.0	50 MS-S
35	SE91-1492-4	7.0	1.3	6	5	2.0	30 MS
36	G32401	2.0	1.0	no leaves	0	3.1	40 S
37	G21104	9.0	4.3	no leaves	0	4.0	40 S
38	G30433	8.0	2.7	6	20	5.0	30 MS
39	OH01-7664	5.0	6.0	6	3	7.0	20 MS
40	OH01-7653	2.5	6.3	no leaves	3	4.5	40 MS-S
41	B010728	1.5	1.0	4	0	1.0	5 MS
42	B010578	1.0	2.3	5	0	3.0	10 MR-MS
43	D02-8443	2.0	1.3	no leaves	0	2.0	30 MS-S
44	APCK M03-3002	1.5	1.0	4	0	2.1	20 MR-MS
45	APCK M00-3904-9	1.0	1.0	no leaves	0	0.0	10 MR-MS
46	APCK M02*2518	6.0	7.3	8	0	8.0	20 MR-MS
LOCATION MEANS:		3.3	2.2		1.0	3.4	
GROWTH STAGE / DATE				June 6			

LEAF RUST

		Napoleon OH	Ridgetown ON	Warsaw VA	Oconto WI	
		Fogleman	Smid	Griffey	Cisar	
			0-9	0-9		
1	Foster		4.5	8	1.0	7.7
2	Patton		2.5	4	3.7	6.7
3	Roane		1.0	3	1.3	5.3
4	INW0411		2.5	2	0.0	3.0
5	MSU Line E1007		5.0	7	1.7	7.3
6	MSU Line D8006-R		1.5	2	2.3	4.0
7	AR 850-1-1		2.0	2	0.0	6.0
8	KY93C-0004-22-1		2.5	4	0.0	4.0
9	KY97C-0232-2		2.0	3	0.0	6.0
10	OH776		2.0	7	2.7	7.0
11	T154		1.0	1	0.7	5.3
12	T155		1.5	3	0.0	4.3
13	GA951231-4A15		1.0	0	0.0	1.0
14	GA961567-4A35		0.0	1	0.0	0.0
15	AR96077-7-2		0.5	0	0.0	0.7
16	MO011126		1.5	1	0.0	3.7
17	Z00-3538		1.0	1	0.0	3.7
18	Z00-3554		2.0	2	0.7	6.0
19	GX02-138		0.5	2	0.0	0.3
20	VA03W-235		3.0	2	0.0	3.0
21	VA03W-412		1.0	1	0.7	4.7
22	VA03W-409		0.0	0	0.0	0.0
23	P99608C1-1-3-4		1.0	1	0.0	3.7
24	P99840C4-8-4		1.0	1	0.0	0.3
25	P992060G1-1-5	7	0.5	1	0.3	5.3
26	KY94C-0094-11-2		0.0	0	0.0	2.3
27	MD00-72-5028		1.0	4	0.3	1.3
28	MD00-72-5050		1.0	2	0.0	0.3
29	IL00-8109	5	4.0	6	0.0	7.0
30	IL01-11934		6.5	8	2.3	6.3
31	IL01-16170		0.5	4	0.0	4.7
32	MSU Line E1007-W	5	6.0	9	5.0	8.3
33	SE98-1089-34	5	5.0	8	2.3	8.0
34	SE90-1209-9		1.5	3	0.0	7.0
35	SE91-1492-4	4	3.0	4	0.0	6.3
36	G32401		2.5	2	0.0	4.3
37	G21104		1.5	2	0.3	6.0
38	G30433		2.0	1	1.0	5.7
39	OH01-7664		3.0	8	5.0	7.7
40	OH01-7653		3.5	8	4.7	7.3
41	B010728		0.0	1	0.0	0.7
42	B010578		2.0	6	0.0	7.0
43	D02-8443		1.0	5	0.7	4.3
44	APCK M03-3002		1.5	3	0.0	3.3
45	APCK M00-3904-9		0.0	1	0.0	1.3
46	APCK M02*2518		7.0	9	6.3	7.3
LOCATION MEANS:			2.0	3.3	0.9	4.5
GROWTH STAGE / DATE		June 27			early	late

STEM RUST

St. Paul
MN
Yue Jin

		Adult	Seedling Reaction						
		Field Reaction	QFCS	MCCF	RKQQ	TPMK	QTHJ	TTTT	TTKS
		% severity / IT	03ND76C	59KS19	99KS76A-1	74MN1409	75ND717C	01MN84A-1-2	04KEN1562/15/06
1	Foster	30 MR-MS	S/2	1	;/S	2+	;2/S	2-	23-C low IF
2	Patton	60 MS-S	1/S	2/S	2/S	S	S	;/2	S
3	Roane	100 S	S	S	0?	S	S	S	S
4	INW0411	0	;1	;	;	2	0	0;	0;
5	MSU Line E1007	70 S	S	S	;1/S	S	S	S	S
6	MSU Line D8006-R	70 S	S	S	;2	S	S	S	S
7	AR 850-1-1	80 S	S	2+	0	S	S	S	S
8	KY93C-0004-22-1	100 S	S	S	S	S	S	0	S
9	KY97C-0232-2	90 S	0/S	S	2	S/;	S	S	S
10	OH776	80 S	S	S	S	S	1	S	S
11	T154	T R	2-	;1	0	2	1	;2	2-
12	T155	80 S	0/S	S/2	;1	S	S	S	S
13	GA951231-4A15	20 S	S	0;	;	S	0	0/S	S
14	GA961567-4A35	20 MR-MS	S	S	-	S	;	S	S
15	AR96077-7-2	30 MS-S	0	0	0	-	0	S low IF	0;
16	MO011126	80 S	S	S	S low IF	S	0	S	S
17	Z00-3538	40 MS-S	1/S	;1	;	S	2/S	2/S	S
18	Z00-3554	60 S	2	2	S	S	S	S	S
19	GX02-138	50 MS-S	S	S	S	S	S	S	S
20	VA03W-235	40 MS	2	;/2	0;	2	-	-	S
21	VA03W-412	70 MS	S	S	S/;	S/0	2	2-	S
22	VA03W-409	10 MR	0	0	2	0;	0/2	1	0;
23	P99608C1-1-3-4	70 S	S	S	S/;	S	S low IF	S	S
24	P99840C4-8-4	T MS	;	0	0;	0;	0	;	S
25	P992060G1-1-5	30 MS	;/2	;1	S/;	2 low IF	S	S	S
26	KY94C-0094-11-2	70 S	S	S	S	S	S	S	S
27	MD00-72-5028	30 MS	2	0/S	S	S	S	S	S
28	MD00-72-5050	20 MR-MS	2	2	2	2-	2	;2 low IF	23- low IF
29	IL00-8109	50 S	S	S	S	S	S/2	S	S
30	IL01-11934	20 R-MR	2-	;1	;2	2	2-	2	2
31	IL01-16170	60 S	S	S	S	S	S	S	S
32	MSU Line E1007-W	80 S	S	S	2+	S	S	S	S
33	SE98-1089-34	100 S	S	S	2-	S	-	S	S
34	SE90-1209-9	100 S	S	S	S	S	S	S	S
35	SE91-1492-4	40 MR	2	1	2	2	2	2	2-
36	G32401	60 MS-S	S	S	S	S	S	-	S
37	G21104	70 S	2+	2	S	S	S	S	S
38	G30433	80 S	2+	2	0;1	2+	S	S	S
39	OH01-7664	60 MS-S	;	0	S	0	2	S	S
40	OH01-7653	70 MS-S	;	0	S	0	1N	S	S
41	B010728	10 MR-MS	;	0;	0;3	S	0	S	0;
42	B010578	20 MR	2-	1/S	2-	2-	2-	2-	S
43	D02-8443	50 MS-S	S	S	S	S	S	S	S
44	APCK M03-3002	30 MR-MS	1	2-	2	2	2	;	S
45	APCK M00-3904-9	30 MR	2	2	;	2-	2	2-	S
46	APCK M02*2518	30 MR	2+	2	2	2	2	2-	S

GROWTH STAGE / DATE July 3

STRIPE RUST

		Greensburg IN	Winnsboro LA	Pullman WA	
		Brown	Harrison	Chen	
		1-9	%	IT	%
1	Foster	1	30	8	90
2	Patton	1	15	8	100
3	Roane	1	5	8	90
4	INW0411	1	15	8	100
5	MSU Line E1007	1	25	8	100
6	MSU Line D8006-R	1	5	8	90
7	AR 850-1-1	1	0	5	50
8	KY93C-0004-22-1	1	0	3,8	20
9	KY97C-0232-2	1	0	5	5
10	OH776	1	5	8	90
11	T154	1	0	2	2
12	T155	1	3	8	90
13	GA951231-4A15	1	0	2	2
14	GA961567-4A35	1	0	2	2
15	AR96077-7-2	1	3	8	60
16	MO011126	1	3	8	30
17	Z00-3538	1	0	8	30
18	Z00-3554	1	2	8	15
19	GX02-138	1	0	8	15
20	VA03W-235	1	0	8	20
21	VA03W-412	1	1	8	20
22	VA03W-409	1	35	8	90
23	P99608C1-1-3-4	1	15	8	100
24	P99840C4-8-4	1	0	2	2
25	P992060G1-1-5	1	0	2,8	10
26	KY94C-0094-11-2	1	5	8	80
27	MD00-72-5028	1	10	8	100
28	MD00-72-5050	1	15	8	100
29	IL00-8109	1	2	8	90
30	IL01-11934	1	0	8	80
31	IL01-16170	1	10	8	100
32	MSU Line E1007-W	1	10	8	90
33	SE98-1089-34	1	0	8	80
34	SE90-1209-9	1	10	8	100
35	SE91-1492-4	1	0	2	5
36	G32401	1	0	8	100
37	G21104	1	0	5	20
38	G30433	1	0	8	90
39	OH01-7664	3	10	8	100
40	OH01-7653	3	10	8	100
41	B010728	1	0	8	70
42	B010578	1	0	2,8	5
43	D02-8443	1	0	2,8	5
44	APCK M03-3002	1	0	8	30
45	APCK M00-3904-9	1	0	2	2
46	APCK M02*2518	1	0	8	80
LOCATION MEANS:		1.1	5.3		57.6
GROWTH STAGE / DATE		June 6		June 28 / soft dough	

STRIPE RUST

		Mt. Vernon WA Chen			
		IT	%	IT	%
1	Foster	8	70	8	100
2	Patton	8	40	8	80
3	Roane	8	40	8	80
4	INW0411	8	40	8	80
5	MSU Line E1007	8	40	8	100
6	MSU Line D8006-R	8	40	8	80
7	AR 850-1-1	2	5	2	20
8	KY93C-0004-22-1	2	5	2	20
9	KY97C-0232-2	2	5	2	20
10	OH776	8	40	8	60
11	T154	8	20	2.8	10
12	T155	5	20	8	60
13	GA951231-4A15	8	20	5	40
14	GA961567-4A35	8	20	2	20
15	AR96077-7-2	5	10	2	20
16	MO011126	2	5	2	20
17	Z00-3538	8	40	8	60
18	Z00-3554	8	20	8	60
19	GX02-138	2,8	20	2	20
20	VA03W-235	2	5	2	10
21	VA03W-412	8	30	8	60
22	VA03W-409	8	30	8	100
23	P99608C1-1-3-4	8	30	8	80
24	P99840C4-8-4	5	20	2	20
25	P992060G1-1-5	5,8	30	5	40
26	KY94C-0094-11-2	8	50	8	90
27	MD00-72-5028	8	50	8	100
28	MD00-72-5050	8	70	8	100
29	IL00-8109	8	50	8	100
30	IL01-11934	8	50	8	90
31	IL01-16170	8	50	8	100
32	MSU Line E1007-W	8	70	2.8	10
33	SE98-1089-34	8	40	8	80
34	SE90-1209-9	8	50	8	100
35	SE91-1492-4	5	20	5	60
36	G32401	8	40	8	90
37	G21104	8	40	8	90
38	G30433	8	40	8	90
39	OH01-7664	8	70	8	90
40	OH01-7653	8	70	8	100
41	B010728	8	30	8	80
42	B010578	2	5	2	2
43	D02-8443	2	5	2	2
44	APCK M03-3002	2,8	10	8	60
45	APCK M00-3904-9	2	5	2	2
46	APCK M02*2518	8	20	2	10
LOCATION MEANS:			32.2		58.8
GROWTH STAGE / DATE		April 19 / stem elongation		June 6 / flowering	

SEPTORIA

		Greensburg IN	Merrill MI	Plymouth NC		Wooster OH	
		Brown	Siler	Murphy		Sneller	
			Leaf Blotch Comp.	Leaf Blotch	Glume Blotch	Leaf Blotch	Glume Blotch
		1-9	0-9			0-9	0-9
1	Foster	2	2.0	3.5	6.0	3.3	0.0
2	Patton	4	1.0	4.5	4.5	3.3	1.7
3	Roane	2	2.0	2.5	3.0	4.0	0.7
4	INW0411	2	1.0	6.5	6.5	2.7	2.3
5	MSU Line E1007	1	1.0	3.5	1.5	2.7	1.3
6	MSU Line D8006-R	4	1.5	5.5	1.0	4.3	0.3
7	AR 850-1-1	4	2.5	4.0	2.5	3.7	1.7
8	KY93C-0004-22-1	4	1.0	4.0	1.5	3.0	2.7
9	KY97C-0232-2	4	1.0	5.5	3.0	4.7	2.7
10	OH776	2	1.0	3.5	2.0	4.3	1.3
11	T154	3	1.5	8.0	4.0	2.7	3.7
12	T155	3	3.0	4.5	5.5	4.0	3.7
13	GA951231-4A15	3	1.0	5.5	3.5	3.7	3.0
14	GA961567-4A35	4	2.5	6.5	4.5	3.3	2.3
15	AR96077-7-2	4	1.5	6.0	3.5	4.0	0.7
16	MO011126	2	1.0	4.5	2.0	4.0	2.7
17	Z00-3538	2	2.0	3.0	1.0	4.0	0.0
18	Z00-3554	2	2.0	3.5	1.0	3.7	0.0
19	GX02-138	1	1.0	6.5	4.5	4.3	2.3
20	VA03W-235	1	1.0	4.0	2.5	1.7	0.3
21	VA03W-412	2	1.5	5.5	2.5	4.3	0.0
22	VA03W-409	1	0.0	4.0	3.0	2.0	0.0
23	P99608C1-1-3-4	2	1.5	4.5	4.0	3.3	2.7
24	P99840C4-8-4	2	1.5	4.0	5.0	2.0	0.0
25	P992060G1-1-5	2	1.0	7.0	7.0	3.0	2.0
26	KY94C-0094-11-2	1	2.0	2.5	1.5	2.7	0.0
27	MD00-72-5028	2	1.0	5.0	1.5	4.3	0.0
28	MD00-72-5050	2	1.0	4.5	2.5	3.7	0.3
29	IL00-8109	4	3.0	7.0	5.0	3.7	2.0
30	IL01-11934	2	2.5	3.0	1.0	3.7	0.0
31	IL01-16170	2	1.5	4.0	5.5	4.0	5.3
32	MSU Line E1007-W	2	1.0	3.5	2.0	3.7	0.7
33	SE98-1089-34	2	1.5	4.0	4.5	4.7	0.0
34	SE90-1209-9	2	1.5	5.0	4.5	4.0	0.0
35	SE91-1492-4	2	3.0	3.5	2.0	4.0	0.0
36	G32401	3	1.5	4.5	3.0	4.0	4.0
37	G21104	4	4.0	5.5	5.0	3.7	3.0
38	G30433	4	1.5	4.0	2.5	5.0	0.7
39	OH01-7664	2	1.5	4.5	2.0	5.0	1.0
40	OH01-7653	2	2.0	5.5	4.0	5.0	2.3
41	B010728	1	0.0	7.0	3.5	4.7	6.0
42	B010578	2	1.5	3.5	3.5	4.0	4.0
43	D02-8443	2	1.0	6.5	5.5	4.0	3.7
44	APCK M03-3002	4	1.5	5.0	3.0	3.7	0.0
45	APCK M00-3904-9	2	0.5	4.0	2.0	4.7	0.7
46	APCK M02*2518	2	1.0	5.0	3.5	5.0	1.7
LOCATION MEANS:		2.4	1.5	4.7	3.3	3.8	1.6
GROWTH STAGE / DATE		June 6					

SEPTORIA

		Oconto WI Cisar Leaf Blotch	Glume Blotch
1	Foster	2.0	2.0
2	Patton	4.0	2.7
3	Roane	2.3	2.3
4	INW0411	2.0	7.7
5	MSU Line E1007	2.0	3.0
6	MSU Line D8006-R	3.0	2.0
7	AR 850-1-1	3.0	3.7
8	KY93C-0004-22-1	1.7	2.3
9	KY97C-0232-2	1.7	2.0
10	OH776	3.7	4.3
11	T154	3.3	5.0
12	T155	3.3	3.7
13	GA951231-4A15	1.3	4.7
14	GA961567-4A35	2.7	1.7
15	AR96077-7-2	3.3	2.3
16	MO011126	2.3	2.7
17	Z00-3538	2.7	2.7
18	Z00-3554	3.0	2.3
19	GX02-138	1.3	2.3
20	VA03W-235	1.7	2.7
21	VA03W-412	2.0	2.3
22	VA03W-409	0.0	1.3
23	P99608C1-1-3-4	3.0	1.3
24	P99840C4-8-4	2.0	6.0
25	P992060G1-1-5	2.3	2.3
26	KY94C-0094-11-2	3.0	1.3
27	MD00-72-5028	2.0	1.0
28	MD00-72-5050	2.3	3.3
29	IL00-8109	3.3	1.7
30	IL01-11934	3.0	3.3
31	IL01-16170	3.0	3.7
32	MSU Line E1007-W	3.0	2.7
33	SE98-1089-34	2.3	6.3
34	SE90-1209-9	2.7	5.3
35	SE91-1492-4	3.0	4.3
36	G32401	4.3	4.7
37	G21104	4.0	2.3
38	G30433	3.3	2.3
39	OH01-7664	3.7	1.3
40	OH01-7653	4.0	1.7
41	B010728	1.0	3.0
42	B010578	2.7	3.7
43	D02-8443	3.0	3.7
44	APCK M03-3002	2.7	3.0
45	APCK M00-3904-9	2.0	3.7
46	APCK M02*2518	3.0	3.7
LOCATION MEANS:		2.6	3.1
GROWTH STAGE / DATE			

FUSARIUM HEAD BLIGHT (SCAB)

		Urbana IL					Greensburg IN
		Kolb					Brown
		Incidence	Severity	FHB Index	Kernel Rating	ISK Index	
		%	%	0-100	% FDK	0-100	1-9
1	Foster	85	53	45	37	56	1
2	Patton	83	56	47	40	58	2
3	Roane	53	38	20	23	37	1
4	INW0411	67	33	21	30	42	1
5	MSU Line E1007	92	54	50	57	66	2
6	MSU Line D8006-R	93	72	67	73	79	3
7	AR 850-1-1	85	73	61	67	74	3
8	KY93C-0004-22-1	90	49	44	50	62	2
9	KY97C-0232-2	75	51	38	47	56	5
10	OH776	88	79	70	67	77	2
11	T154	63	29	18	40	44	4
12	T155	93	76	71	77	81	5
13	GA951231-4A15	100	86	86	95	94	7
14	GA961567-4A35	100	95	95	95	97	7
15	AR96077-7-2	98	62	61	63	73	3
16	MO011126	70	51	35	40	52	2
17	Z00-3538	83	62	51	57	66	2
18	Z00-3554	88	76	68	70	77	3
19	GX02-138	93	73	69	63	75	3
20	VA03W-235	85	70	60	57	69	2
21	VA03W-412	93	70	65	67	76	4
22	VA03W-409	95	57	54	63	71	4
23	P99608C1-1-3-4	73	53	39	47	57	3
24	P99840C4-8-4	67	57	38	47	56	3
25	P992060G1-1-5	78	62	48	53	63	4
26	KY94C-0094-11-2	80	38	31	37	50	4
27	MD00-72-5028	95	62	58	53	68	2
28	MD00-72-5050	88	60	52	57	67	5
29	IL00-8109	52	36	18	20	34	2
30	IL01-11934	63	31	20	17	35	1
31	IL01-16170	35	26	10	23	28	2
32	MSU Line E1007-W	80	49	41	47	58	2
33	SE98-1089-34	95	87	83	87	89	2
34	SE90-1209-9	95	55	52	77	76	2
35	SE91-1492-4	92	52	47	50	63	1
36	G32401	73	72	53	60	68	4
37	G21104	50	68	34	37	50	3
38	G30433	67	47	31	27	45	3
39	OH01-7664	83	61	50	60	67	6
40	OH01-7653	83	63	52	57	66	5
41	B010728	82	55	45	53	62	6
42	B010578	87	59	51	67	70	3
43	D02-8443	73	72	53	60	68	3
44	APCK M03-3002	65	49	33	43	52	2
45	APCK M00-3904-9	93	66	62	57	71	6
46	APCK M02*2518	85	52	44	50	61	3
LOCATION MEANS:		81	59	49	54	63	3
GROWTH STAGE / DATE							June 6

FUSARIUM HEAD BLIGHT (SCAB)

		Lafayette IN	W. Lafayette IN	Merrill MI			Wooster OH
		Moreno	Ohm	Siler			Fioritto
			Point Inoculation	Incidence	Severity	FHB	
		1-9	% severity	%	%	Index	1-9
1	Foster	3	31	25	35	9	2
2	Patton	3	20	46	35	17	2
3	Roane	3	19	37	35	13	3
4	INW0411	2	11	29	25	8	1
5	MSU Line E1007	3	50	41	35	16	2
6	MSU Line D8006-R	5	78	49	55	28	3
7	AR 850-1-1	3	69	39	40	17	2
8	KY93C-0004-22-1	4	50	72	65	48	2
9	KY97C-0232-2	4	49	39	30	13	3
10	OH776	5	44	42	55	23	3
11	T154	3	15	56	35	19	1
12	T155	5	32	39	50	20	4
13	GA951231-4A15	5	44	76	75	56	5
14	GA961567-4A35	5	33	55	65	36	6
15	AR96077-7-2	3	25	25	25	6	2
16	MO011126	3	50	44	45	20	3
17	Z00-3538	4	73	29	35	11	3
18	Z00-3554	4	58	49	50	25	4
19	GX02-138	3	23	47	45	23	4
20	VA03W-235	4	38	44	50	23	2
21	VA03W-412	6	55	58	45	25	5
22	VA03W-409	6	58	44	50	23	4
23	P99608C1-1-3-4	2	33	39	35	13	4
24	P99840C4-8-4	3	17	28	30	9	2
25	P992060G1-1-5	2	27	59	55	31	3
26	KY94C-0094-11-2	5	24	24	35	8	2
27	MD00-72-5028	6	25	55	40	23	3
28	MD00-72-5050	3	28	48	50	25	3
29	IL00-8109	3	33	66	50	30	1
30	IL01-11934	3	24	27	30	8	1
31	IL01-16170	3	12	39	50	21	2
32	MSU Line E1007-W	4	22	51	40	22	3
33	SE98-1089-34	5	86	54	55	31	2
34	SE90-1209-9	4	27	54	45	25	2
35	SE91-1492-4	3	41	50	45	23	1
36	G32401	4	69	69	65	47	3
37	G21104	3	67	48	65	33	5
38	G30433	3	56	24	35	9	2
39	OH01-7664	6	91	56	35	20	3
40	OH01-7653	6	77	51	40	20	2
41	B010728	4	37	44	45	19	5
42	B010578	4	41	40	40	16	1
43	D02-8443	5	74	37	55	22	5
44	APCK M03-3002	3	38	35	45	16	1
45	APCK M00-3904-9	4	73	64	55	34	4
46	APCK M02*2518	5	53	40	30	12	2
LOCATION MEANS:		4	43	45	45	21	3
GROWTH STAGE / DATE							

POWDERY MILDEW

		Urbana IL	Lafayette IN	Woodford Co. KY	Merrill MI	Wooster OH	Nairn ON
		Kolb	Moreno	Van Sanford	Siler	Sneller	Etienne
		0-9	1-9	0-9	0-9	0-9	
1	Foster	3.0	2	5.5	3.2	2	2.0
2	Patton	3.0	4	5.0	3.2	3	1.0
3	Roane	2.0	1	4.5	2.8	2	0.3
4	INW0411	1.0	2	3.0	0.5	0	0.7
5	MSU Line E1007	1.7	2	4.5	1.9	1	0.7
6	MSU Line D8006-R	0.7	1	2.0	1.0	0	1.3
7	AR 850-1-1	2.0	2	5.5	3.2	1	0.7
8	KY93C-0004-22-1	1.0	1	7.0	1.6	1	0.0
9	KY97C-0232-2	1.0	2	3.5	0.9	0	0.7
10	OH776	1.0	2	5.0	1.9	1	1.7
11	T154	0.7	1	0.0	0.0	0	0.3
12	T155	1.7	1	4.5	1.0	0	0.3
13	GA951231-4A15	1.3	1	3.5	2.9	1	2.0
14	GA961567-4A35	1.7	1	5.0	2.9	4	0.7
15	AR96077-7-2	1.0	1	3.5	0.1	0	0.3
16	MO011126	2.0	2	3.0	2.0	1	1.0
17	Z00-3538	2.0	2	4.5	3.2	3	1.7
18	Z00-3554	1.7	2	3.5	0.9	2	0.7
19	GX02-138	1.3	1	4.5	1.2	1	1.7
20	VA03W-235	1.0	1	2.5	0.6	0	1.7
21	VA03W-412	0.7	1	1.5	0.4	0	1.0
22	VA03W-409	0.7	1	0.5	0.0	0	0.3
23	P99608C1-1-3-4	2.3	3	4.5	4.0	2	1.7
24	P99840C4-8-4	1.0	1	5.0	1.3	0	1.3
25	P992060G1-1-5	1.3	1	3.0	2.6	1	0.7
26	KY94C-0094-11-2	2.0	3	5.5	2.3	2	1.3
27	MD00-72-5028	1.3	1	2.5	0.5	0	0.0
28	MD00-72-5050	1.3	2	4.5	2.9	2	1.7
29	IL00-8109	3.3	5	5.5	4.0	3	1.7
30	IL01-11934	0.7	1	2.0	0.0	0	1.3
31	IL01-16170	2.7	3	5.0	4.0	3	2.3
32	MSU Line E1007-W	2.0	2	5.0	1.3	2	2.3
33	SE98-1089-34	1.0	1	1.5	2.1	0	1.3
34	SE90-1209-9	1.3	2	4.0	0.8	0	0.7
35	SE91-1492-4	0.7	1	1.5	0.0	0	1.3
36	G32401	2.3	5	5.0	4.7	1	2.0
37	G21104	3.3	6	6.0	4.8	3	1.7
38	G30433	3.3	2	4.5	2.5	0	1.7
39	OH01-7664	1.0	2	3.0	0.5	0	2.0
40	OH01-7653	1.3	2	4.0	0.8	0	0.7
41	B010728	0.7	1	2.5	0.1	0	1.3
42	B010578	1.7	3	4.0	1.2	5	2.3
43	D02-8443	1.0	1	3.0	0.3	0	2.0
44	APCK M03-3002	2.3	5	6.0	3.1	3	1.3
45	APCK M00-3904-9	1.3	1	4.0	0.1	0	1.3
46	APCK M02*2518	1.7	3	4.5	3.7	2	1.7
LOCATION MEANS:		1.6	2.0	3.9	1.8	1.1	1.2
GROWTH STAGE / DATE							

POWDERY MILDEW

		Ridgetown ON Smid 0-9	Oconto WI Cisar	
1	Foster	2.0	2.3	2.3
2	Patton	3.0	4.7	5.0
3	Roane	3.5	1.0	1.7
4	INW0411	0.5	0.3	0.3
5	MSU Line E1007	1.0	1.0	1.7
6	MSU Line D8006-R	0.5	0.0	0.0
7	AR 850-1-1	2.5	2.7	3.7
8	KY93C-0004-22-1	1.5	1.3	1.3
9	KY97C-0232-2	0.5	0.0	0.0
10	OH776	0.5	0.7	2.0
11	T154	1.0	0.3	0.0
12	T155	0.5	0.3	0.7
13	GA951231-4A15	1.5	0.7	0.0
14	GA961567-4A35	1.5	2.3	2.3
15	AR96077-7-2	0.0	0.3	0.3
16	MO011126	2.5	2.0	2.3
17	Z00-3538	1.5	2.3	1.7
18	Z00-3554	0.5	0.0	0.0
19	GX02-138	0.5	0.3	0.0
20	VA03W-235	1.0	0.3	0.3
21	VA03W-412	0.0	0.0	0.0
22	VA03W-409	0.0	0.0	0.0
23	P99608C1-1-3-4	3.0	2.7	4.3
24	P99840C4-8-4	0.5	1.0	0.3
25	P992060G1-1-5	2.0	1.0	0.7
26	KY94C-0094-11-2	2.5	2.3	2.7
27	MD00-72-5028	0.0	0.0	0.0
28	MD00-72-5050	2.0	0.0	1.3
29	IL00-8109	4.5	4.0	4.7
30	IL01-11934	1.0	0.0	0.0
31	IL01-16170	4.0	3.3	3.3
32	MSU Line E1007-W	1.5	1.0	1.3
33	SE98-1089-34	0.0	1.3	1.0
34	SE90-1209-9	0.0	1.0	1.3
35	SE91-1492-4	0.0	0.3	0.7
36	G32401	3.0	2.7	4.0
37	G21104	4.0	5.7	6.0
38	G30433	1.0	1.0	2.0
39	OH01-7664	0.0	0.0	0.7
40	OH01-7653	0.0	0.3	0.7
41	B010728	0.0	0.0	0.0
42	B010578	1.5	2.0	2.0
43	D02-8443	0.0	0.0	0.0
44	APCK M03-3002	2.5	3.0	3.7
45	APCK M00-3904-9	0.0	0.7	0.3
46	APCK M02*2518	1.5	2.3	3.0
LOCATION MEANS:		1.3	1.3	1.5
GROWTH STAGE / DATE			early	late

POWDERY MILDEW

Blacksburg
VA
Griffey
seedling / greenhouse

		PM 06
1	Foster	0
2	Patton	23
3	Roane	3
4	INW0411	34
5	MSU Line E1007	34
6	MSU Line D8006-R	12
7	AR 850-1-1	34
8	KY93C-0004-22-1	0/TR3
9	KY97C-0232-2	3
10	OH776	4
11	T154	0/TR3
12	T155	3
13	GA951231-4A15	3
14	GA961567-4A35	3
15	AR96077-7-2	23
16	MO011126	0
17	Z00-3538	3
18	Z00-3554	01/TR3
19	GX02-138	12/TR3
20	VA03W-235	0
21	VA03W-412	3
22	VA03W-409	0
23	P99608C1-1-3-4	4
24	P99840C4-8-4	4
25	P992060G1-1-5	3
26	KY94C-0094-11-2	34
27	MD00-72-5028	0
28	MD00-72-5050	0
29	IL00-8109	4
30	IL01-11934	0
31	IL01-16170	4
32	MSU Line E1007-W	3
33	SE98-1089-34	34
34	SE90-1209-9	01
35	SE91-1492-4	0
36	G32401	4
37	G21104	3
38	G30433	12
39	OH01-7664	12C
40	OH01-7653	12C
41	B010728	01
42	B010578	3
43	D02-8443	23
44	APCK M03-3002	0/3
45	APCK M00-3904-9	3
46	APCK M02*2518	3

		Pm gene	PM 06
Pm differential	Chancellor	Susc	4
Pm differential	Axminster	Pm 1	34
Pm differential	C68-15*7/CI 13836	Pm 1	3
Pm differential	Ulka	Pm 2	4
Pm differential	Asosan	Pm 3a	4
Pm differential	Chul	Pm 3b	01-
Pm differential	Sonora*	Pm 3c	3
Pm differential	C68-15*6/Sonora	Pm 3c	34
Pm differential	C68-15*6/Trit	Pm 3c	34
Pm differential	Michigan Amber	Pm 3f	4
Pm differential	Yuma	Pm 4a	4
Pm differential	C68-15*5/Yuma	Pm 4a	4/0
Pm differential	C68-15*5/Kapli	Pm 4a	4/TR0
Pm differential	Ronos	Pm 4b	4
Pm differential	Hope	Pm 5	34
Pm differential	C747*	Pm 6	4
Pm differential	Transec*	Pm 7	4
Pm differential	C68-15*7/Transec	Pm 7	4
Pm differential	Federation/Kavkaz	Pm 8	23
Pm differential	Amigo	Pm 17	N/A
Pm differential	C68-15*5//747/Amigo	Pm 17	N/A

VIRUSES

		Bay AR	Brownstown IL	Urbana IL		Merrill MI
		Hancock	Kolb	Kolb		Siler
		WSSMV	BYDV	BYDV	SBMV	WSSMV
			0-9	% stunting	0-9	0-9
1	Foster	2	2.7	6	8.0	2.5
2	Patton	2	4.7	6	6.0	0.5
3	Roane	3	2.7	5	9.0	4.0
4	INW0411	3	4.7	11	4.5	0.5
5	MSU Line E1007	2	3.3	4	7.0	0.0
6	MSU Line D8006-R	2	1.7	3	9.0	0.0
7	AR 850-1-1	2	3.3	3	7.0	0.0
8	KY93C-0004-22-1	2	4.3	1	6.5	1.0
9	KY97C-0232-2	2	3.3	0	9.0	0.0
10	OH776	3	5.7	2	7.0	2.5
11	T154	2	6.3	0	6.5	0.5
12	T155	2	4.0	8	8.5	1.5
13	GA951231-4A15	2	1.7	0	9.0	5.0
14	GA961567-4A35	2	2.0	5	9.0	8.0
15	AR96077-7-2	3	3.7	5	9.0	2.0
16	MO011126	2	2.3	0	7.5	1.0
17	Z00-3538	3	2.3	2	6.5	0.5
18	Z00-3554	2	2.0	0	8.0	2.0
19	GX02-138	2	1.7	5	3.0	0.0
20	VA03W-235	2	2.3	4	6.0	0.0
21	VA03W-412	3	3.7	2	8.5	4.0
22	VA03W-409	2	1.7	11	7.5	0.0
23	P99608C1-1-3-4	2	2.7	2	8.5	0.0
24	P99840C4-8-4	2	3.7	8	9.0	0.0
25	P992060G1-1-5	2	1.3	4	9.0	0.0
26	KY94C-0094-11-2	2	4.0	6	6.0	0.0
27	MD00-72-5028	2	3.0	0	8.0	0.5
28	MD00-72-5050	2	1.3	5	7.0	2.0
29	IL00-8109	2	3.0	4	5.5	1.0
30	IL01-11934	3	4.3	3	6.0	0.0
31	IL01-16170	2	6.3	0	4.5	0.5
32	MSU Line E1007-W	2	4.7	6	4.5	0.0
33	SE98-1089-34	2	4.3	18	9.0	1.0
34	SE90-1209-9	2	5.3	0	8.5	1.5
35	SE91-1492-4	2	1.7	25	9.0	0.5
36	G32401	2	7.0	5	5.5	1.0
37	G21104	2	4.7	1	7.5	4.5
38	G30433	3	4.7	6	7.5	7.0
39	OH01-7664	2	5.7	7	5.5	0.5
40	OH01-7653	2	5.0	4	5.0	1.0
41	B010728	3	3.3	0	9.0	0.0
42	B010578	2	2.0	2	6.5	0.5
43	D02-8443	3	4.0	3	8.0	5.0
44	APCK M03-3002	2	3.3	3	7.5	1.0
45	APCK M00-3904-9	3	3.3	10	8.5	3.0
46	APCK M02*2518	3	3.0	3	7.5	0.5
LOCATION MEANS:		2.3	3.5	4.5	7.3	1.4

VIRUSES

		Columbia MO McKendry BYDV % flag	Plymouth NC Murphy BYDV
1	Foster	18	4.0
2	Patton	19	4.0
3	Roane	9	3.5
4	INW0411	25	2.5
5	MSU Line E1007	19	2.5
6	MSU Line D8006-R	10	3.0
7	AR 850-1-1	10	2.5
8	KY93C-0004-22-1	8	3.5
9	KY97C-0232-2	11	3.0
10	OH776	24	2.5
11	T154	31	4.5
12	T155	16	2.5
13	GA951231-4A15	11	2.0
14	GA961567-4A35	7	3.5
15	AR96077-7-2	9	4.0
16	MO011126	3	3.0
17	Z00-3538	10	2.5
18	Z00-3554	7	2.0
19	GX02-138	17	4.0
20	VA03W-235	7	2.0
21	VA03W-412	23	2.0
22	VA03W-409	8	1.5
23	P99608C1-1-3-4	14	3.0
24	P99840C4-8-4	35	3.5
25	P992060G1-1-5	7	1.5
26	KY94C-0094-11-2	29	4.0
27	MD00-72-5028	17	2.5
28	MD00-72-5050	15	3.0
29	IL00-8109	7	2.5
30	IL01-11934	23	3.0
31	IL01-16170	31	2.0
32	MSU Line E1007-W	15	2.5
33	SE98-1089-34	30	3.0
34	SE90-1209-9	21	3.5
35	SE91-1492-4	24	3.0
36	G32401	36	2.5
37	G21104	26	3.0
38	G30433	38	3.5
39	OH01-7664	27	5.0
40	OH01-7653	25	2.5
41	B010728	3	2.0
42	B010578	25	2.5
43	D02-8443	26	3.5
44	APCK M03-3002	18	2.5
45	APCK M00-3904-9	16	2.5
46	APCK M02*2518	18	2.5
LOCATION MEANS:		18.0	2.9

HESSIAN FLY

W. Lafayette
IN
Cambron

		B	C	D	L
1	Foster	0-16	0-16	0-15	0-17
2	Patton	7-9	6-10	0-14	0-16
3	Roane	14-1	9-4	0-17	0-19
4	INW0411	14-2	16-0	0-12	0-16
5	MSU Line E1007	0-16	14-1	0-16	0-16
6	MSU Line D8006-R	0-14	0-15	0-14	0-16
7	AR 850-1-1	0-15	0-17	0-13	0-16
8	KY93C-0004-22-1	0-18	0-14	0-12	0-13
9	KY97C-0232-2	0-15	0-13	0-13	0-20
10	OH776	0-18	0-15	0-15	0-19
11	T154	12-4	0-15	0-14	0-11
12	T155	5-10	0-16	0-18	0-16
13	GA951231-4A15	14-0	15-0	18-0	18-0
14	GA961567-4A35	12-0	15-0	13-0	16-0
15	AR96077-7-2	0-14	0-12	0-15	0-17
16	MO011126	0-16	0-15	0-14	0-13
17	Z00-3538	16-0	16-0	0-14	0-13
18	Z00-3554	13-1	11-1	0-13	0-16
19	GX02-138	7-9	0-15	0-16	0-18
20	VA03W-235	6-8	7-7	0-13	0-19
21	VA03W-412	0-15	0-19	0-14	0-15
22	VA03W-409	7-4	9-3	0-11	0-15
23	P99608C1-1-3-4	0-15	0-13	0-19	0-16
24	P99840C4-8-4	0-13	0-17	0-17	0-18
25	P992060G1-1-5	0-16	0-14	0-10	0-20
26	KY94C-0094-11-2	0-12	0-13	0-13	0-17
27	MD00-72-5028	0-12	0-15	0-12	0-14
28	MD00-72-5050	0-17	0-14	0-16	0-14
29	IL00-8109	0-15	0-16	0-16	0-19
30	IL01-11934	0-18	0-13	0-15	0-17
31	IL01-16170	14-0	0-15	0-14	0-14
32	MSU Line E1007-W	0-12	0-18	0-20	0-16
33	SE98-1089-34	8-6	8-4	0-10	0-11
34	SE90-1209-9	0-11	8-9	0-18	0-20
35	SE91-1492-4	0-12	0-12	0-17	0-15
36	G32401	13-1	13-0	0-17	0-18
37	G21104	16-0	0-15	0-16	0-19
38	G30433	0-15	0-17	0-15	0-17
39	OH01-7664	0-16	6-5	0-16	0-16
40	OH01-7653	0-17	10-4	0-15	0-19
41	B010728	0-12	0-15	0-14	0-17
42	B010578	17-0	12-0	0-14	0-17
43	D02-8443	0-18	0-15	0-13	0-20
44	APCK M03-3002	18-1	16-0	0-14	0-18
45	APCK M00-3904-9	0-13	0-16	0-14	0-18
46	APCK M02*2518	0-15	2-11	0-16	0-17

ACID SOIL TOLERANCE

			Enid OK Carver	
		0-5	0-5	0-5
1	Foster	3	3	3
2	Patton	4	3	3
3	Roane	2	2	3
4	INW0411	3	3	3
5	MSU Line E1007	2	1	2
6	MSU Line D8006-R	2	0	0
7	AR 850-1-1	2	2	2
8	KY93C-0004-22-1	3	3	3
9	KY97C-0232-2	3	3	2
10	OH776	2	3	3
11	T154	3	3	2
12	T155	2	2	2
13	GA951231-4A15	1	2	2
14	GA961567-4A35	2	3	3
15	AR96077-7-2	1	4	3
16	MO011126	2	2	2
17	Z00-3538	2	2	3
18	Z00-3554	2	3	3
19	GX02-138	1	1	2
20	VA03W-235	3	1	2
21	VA03W-412	2	3	4
22	VA03W-409	4	4	3
23	P99608C1-1-3-4	3	4	4
24	P99840C4-8-4	3	2	2
25	P992060G1-1-5	4	5	5
26	KY94C-0094-11-2	3	3	3
27	MD00-72-5028	3	2	2
28	MD00-72-5050	3	3	3
29	IL00-8109	2	3	3
30	IL01-11934	3	2	2
31	IL01-16170	1	2	2
32	MSU Line E1007-W	1	3	2
33	SE98-1089-34	3	3	3
34	SE90-1209-9	1	2	3
35	SE91-1492-4	3	3	3
36	G32401	3	4	4
37	G21104	2	1	1
38	G30433	2	2	3
39	OH01-7664	3	2	2
40	OH01-7653	1	2	1
41	B010728	2	3	3
42	B010578	1	1	2
43	D02-8443	2	1	1
44	APCK M03-3002	1	1	1
45	APCK M00-3904-9	1	3	3
46	APCK M02*2518	0	1	1
LOCATION MEANS:		2.2	2.4	2.5
GROWTH STAGE / DATE		October 28	April 11	May 31

1RS STATUS

		Lincoln NE Graybosch
1	Foster	1BL.1RS
2	Patton	1BL.1RS
3	Roane	non-1RS
4	INW0411	1BL.1RS
5	MSU Line E1007	non-1RS
6	MSU Line D8006-R	non-1RS
7	AR 850-1-1	non-1RS
8	KY93C-0004-22-1	non-1RS
9	KY97C-0232-2	non-1RS
10	OH776	non-1RS
11	T154	1AL.1RS
12	T155	non-1RS
13	GA951231-4A15	non-1RS
14	GA961567-4A35	non-1RS
15	AR96077-7-2	non-1RS
16	MO011126	non-1RS
17	Z00-3538	1BL.1RS
18	Z00-3554	non-1RS
19	GX02-138	non-1RS
20	VA03W-235	1BL.1RS
21	VA03W-412	1BL.1RS
22	VA03W-409	1BL.1RS
23	P99608C1-1-3-4	non-1RS
24	P99840C4-8-4	1BL.1RS
25	P992060G1-1-5	non-1RS
26	KY94C-0094-11-2	non-1RS
27	MD00-72-5028	1BL.1RS
28	MD00-72-5050	1BL.1RS
29	IL00-8109	non-1RS
30	IL01-11934	1AL.1RS
31	IL01-16170	non-1RS
32	MSU Line E1007-W	non-1RS
33	SE98-1089-34	non-1RS
34	SE90-1209-9	non-1RS
35	SE91-1492-4	1BL.1RS
36	G32401	non-1RS
37	G21104	non-1RS
38	G30433	non-1RS
39	OH01-7664	non-1RS
40	OH01-7653	non-1RS
41	B010728	non-1RS
42	B010578	1BL.1RS
43	D02-8443	non-1RS
44	APCK M03-3002	1BL.1RS
45	APCK M00-3904-9	1BL.1RS
46	APCK M02*2518	1BL.1RS

PHENOTYPE

		Bay AR Hancock Growth Habit 1-5	Winnsboro LA Harrison Relative Growth Habit 0-9
1	Foster	3	8
2	Patton	2	7
3	Roane	3	7
4	INW0411	2	6
5	MSU Line E1007	2	7
6	MSU Line D8006-R	3	5
7	AR 850-1-1	3	6
8	KY93C-0004-22-1	2	6
9	KY97C-0232-2	3	4
10	OH776	3	7
11	T154	2	3
12	T155	3	4
13	GA951231-4A15	3	4
14	GA961567-4A35	3	4
15	AR96077-7-2	3	5
16	MO011126	2	4
17	Z00-3538	3	7
18	Z00-3554	3	5
19	GX02-138	2	6
20	VA03W-235	2	7
21	VA03W-412	3	6
22	VA03W-409	2	8
23	P99608C1-1-3-4	3	7
24	P99840C4-8-4	3	7
25	P992060G1-1-5	3	6
26	KY94C-0094-11-2	3	7
27	MD00-72-5028	2	7
28	MD00-72-5050	3	7
29	IL00-8109	3	6
30	IL01-11934	3	7
31	IL01-16170	2	6
32	MSU Line E1007-W	2	6
33	SE98-1089-34	2	6
34	SE90-1209-9	3	6
35	SE91-1492-4	2	7
36	G32401	2	6
37	G21104	2	6
38	G30433	2	7
39	OH01-7664	3	7
40	OH01-7653	2	7
41	B010728	3	4
42	B010578	3	5
43	D02-8443	3	4
44	APCK M03-3002	3	6
45	APCK M00-3904-9	4	7
46	APCK M02*2518	3	7
LOCATION MEANS:		2.6	6.0
GROWTH STAGE / DATE		juvenile	

MATURITY

		Ridgetown ON Smid Ripe Date Julian
1	Foster	191
2	Patton	190
3	Roane	193
4	INW0411	190
5	MSU Line E1007	192
6	MSU Line D8006-R	193
7	AR 850-1-1	196
8	KY93C-0004-22-1	192
9	KY97C-0232-2	191
10	OH776	190
11	T154	190
12	T155	191
13	GA951231-4A15	190
14	GA961567-4A35	190
15	AR96077-7-2	190
16	MO011126	190
17	Z00-3538	190
18	Z00-3554	190
19	GX02-138	191
20	VA03W-235	192
21	VA03W-412	190
22	VA03W-409	197
23	P99608C1-1-3-4	194
24	P99840C4-8-4	191
25	P992060G1-1-5	190
26	KY94C-0094-11-2	193
27	MD00-72-5028	193
28	MD00-72-5050	192
29	IL00-8109	190
30	IL01-11934	190
31	IL01-16170	190
32	MSU Line E1007-W	190
33	SE98-1089-34	190
34	SE90-1209-9	190
35	SE91-1492-4	191
36	G32401	190
37	G21104	190
38	G30433	192
39	OH01-7664	191
40	OH01-7653	191
41	B010728	194
42	B010578	191
43	D02-8443	190
44	APCK M03-3002	193
45	APCK M00-3904-9	190
46	APCK M02*2518	190
LOCATION MEANS:		191.2

SHATTERING

		Wichita KS Wilson 0-5
1	Foster	2
2	Patton	2
3	Roane	1
4	INW0411	1
5	MSU Line E1007	1
6	MSU Line D8006-R	1
7	AR 850-1-1	1
8	KY93C-0004-22-1	2
9	KY97C-0232-2	2
10	OH776	2
11	T154	1
12	T155	1
13	GA951231-4A15	3
14	GA961567-4A35	2
15	AR96077-7-2	1
16	MO011126	5
17	Z00-3538	1
18	Z00-3554	1
19	GX02-138	1
20	VA03W-235	1
21	VA03W-412	4
22	VA03W-409	1
23	P99608C1-1-3-4	1
24	P99840C4-8-4	1
25	P992060G1-1-5	1
26	KY94C-0094-11-2	1
27	MD00-72-5028	3
28	MD00-72-5050	2
29	IL00-8109	5
30	IL01-11934	2
31	IL01-16170	2
32	MSU Line E1007-W	1
33	SE98-1089-34	1
34	SE90-1209-9	2
35	SE91-1492-4	1
36	G32401	2
37	G21104	1
38	G30433	1
39	OH01-7664	1
40	OH01-7653	2
41	B010728	1
42	B010578	4
43	D02-8443	2
44	APCK M03-3002	2
45	APCK M00-3904-9	1
46	APCK M02*2518	1
LOCATION MEANS:		1.7

SPROUTING

		Merrill MI Siler In-Head Sprouting 0-9
1	Foster	8.0
2	Patton	3.3
3	Roane	3.5
4	INW0411	2.7
5	MSU Line E1007	7.2
6	MSU Line D8006-R	6.3
7	AR 850-1-1	7.1
8	KY93C-0004-22-1	4.8
9	KY97C-0232-2	7.9
10	OH776	5.4
11	T154	8.3
12	T155	8.2
13	GA951231-4A15	6.9
14	GA961567-4A35	8.1
15	AR96077-7-2	7.7
16	MO011126	7.4
17	Z00-3538	4.7
18	Z00-3554	2.9
19	GX02-138	6.7
20	VA03W-235	1.6
21	VA03W-412	8.2
22	VA03W-409	7.8
23	P99608C1-1-3-4	3.7
24	P99840C4-8-4	6.4
25	P992060G1-1-5	5.0
26	KY94C-0094-11-2	6.5
27	MD00-72-5028	5.9
28	MD00-72-5050	8.0
29	IL00-8109	2.8
30	IL01-11934	4.6
31	IL01-16170	6.7
32	MSU Line E1007-W	7.6
33	SE98-1089-34	3.2
34	SE90-1209-9	7.3
35	SE91-1492-4	4.5
36	G32401	6.1
37	G21104	2.6
38	G30433	5.7
39	OH01-7664	6.5
40	OH01-7653	5.1
41	B010728	7.7
42	B010578	7.1
43	D02-8443	1.8
44	APCK M03-3002	8.7
45	APCK M00-3904-9	7.3
46	APCK M02*2518	6.6
LOCATION MEANS:		5.9

KERNEL WEIGHT

		Ridgetown ON
		Smid
		1000 kernels
		grams
1	Foster	38.0
2	Patton	37.6
3	Roane	37.2
4	INW0411	48.4
5	MSU Line E1007	37.6
6	MSU Line D8006-R	36.8
7	AR 850-1-1	35.6
8	KY93C-0004-22-1	39.6
9	KY97C-0232-2	39.6
10	OH776	44.8
11	T154	41.2
12	T155	38.0
13	GA951231-4A15	33.6
14	GA961567-4A35	40.4
15	AR96077-7-2	40.0
16	MO011126	44.4
17	Z00-3538	32.8
18	Z00-3554	38.8
19	GX02-138	44.0
20	VA03W-235	38.0
21	VA03W-412	33.2
22	VA03W-409	40.0
23	P99608C1-1-3-4	40.8
24	P99840C4-8-4	39.2
25	P992060G1-1-5	46.8
26	KY94C-0094-11-2	34.8
27	MD00-72-5028	44.4
28	MD00-72-5050	37.2
29	IL00-8109	38.8
30	IL01-11934	40.8
31	IL01-16170	35.2
32	MSU Line E1007-W	41.6
33	SE98-1089-34	37.6
34	SE90-1209-9	37.6
35	SE91-1492-4	41.2
36	G32401	42.8
37	G21104	40.8
38	G30433	39.2
39	OH01-7664	45.2
40	OH01-7653	36.0
41	B010728	40.1
42	B010578	38.4
43	D02-8443	44.8
44	APCK M03-3002	35.6
45	APCK M00-3904-9	41.2
46	APCK M02*2518	42.4
LOCATION MEANS:		39.6

2006 Crop
Advanced Nursery Evaluation

A total of 46 entries were submitted from the Uniform Eastern Soft Red Winter Wheat Nursery. These entries were composites of samples grown in Virginia, Illinois and Ohio. The standard data is compared to the "historical average" for the cultivar, and quality scores for all entries are adjusted to this average. The samples in this nursery were compared to entry #2602, PATTON. Of the 767 cultivars in the SWQL database of Allis-milled cultivars, PATTON ranks 231st for Milling Score based on data from 3 millings. The following table compares the PATTON standards with the "historical data" from the Allis and Quad databases:

	Allis Database	Standard	Quad Database
Test Weight	60.7	61.2	60.7
Flour Yield	78.0	70.8	71.5
Break Flour	32.7		
E.S.I.	9.4		
Friability	28.7		
Softness Equivalent		56.4	55.7
Protein	9.2	8.6	9.4
Ash	0.43		
Cookie Diameter	17.9	17.5	17.8
Lactic Acid Retention	74	101	85
Milling Score	71.9 B		
Baking Score	68.3 C		
S.E. Score	69.1 C		
Test Wt. Score	54.2 D		

The following table shows how much the quality scores are adjusted to be similar to the adjustment of the standard, after comparison to the "historical data":

Milling Quality Score Factor	+9.8
Baking Quality Score Factor	+11.6
Softness Equivalent Factor	-7.8
Test Weight Score Factor	-3.7

This crop year a new tab called "Grain Condition" has been added to the evaluation spreadsheet. On this sheet we attempt to give an overview of each entry's grain condition prior to milling. We would welcome any feedback on this new information.

In addition to the standard, both FOSTER and ROANE have been previously analyzed by the SWQL.

With regard to grain condition, all entries had at least some evidence of scab and approximately two-thirds showed signs of weathering. Sprouting was noted in one fourth of the entries. The nursery was not cleaned prior to milling and as a result low to moderate levels of shriveling remained in each sample.

Test weight values for each of the three check cultivars were within 0.8 lb/bu of their historic values.

In the case of milling quality, there was a consistent reduction in flour yield of 0.7% for each of the three check cultivars when compared to their historic values. However, these cultivars produced very typical S.E. values.

Cookie diameters of the three checks were 0.2-0.3 cm lower than their corresponding historic values.

The standard had approximately 1% visible sprouting which likely accounts for the increased Lactic Acid SRC value (101% vs. 85%, historically). Both FOSTER and ROANE produced very typical Lactic Acid values.

SWQL Director Notes
Included in the data analysis for this nursery is a two year average of quality data for the checks and several experimental lines. In this nursery, Foster should be viewed as being the desirable goal for most quality characteristics. Roane is the lesser quality check for most traits, except softness equivalent. Lines with values less than Roane for Milling Quality Score and greater Roane for Sucrose

SRC likely will not have acceptable quality for most traditional soft wheat products.

Test weights in this data set were within the normal range of test weights for soft wheats. Test weight is often used by the grain trade as an indicator of milling yield. In this nursery test weight was not correlated to flour yield.

Protein was correlated to lactic acid SRC but with a low predictability (R^2=0.16). Protein had no correlation to sucrose SRC, the primary measure of soft wheat flour quality (R^2=0.09). In this data set, cookie diameter was highly correlated to flour protein (R^2=-0.38). In most data sets I have analyzed within the SWQL of adapted soft winter wheats, protein has little or no heritability. This suggests that cookie diameters observed in this data set are strongly affected by phenotypic variation in flour protein concentration and may not be highly predictive of the end-use quality of these cultivars. The combination of lactic acid and sucrose SRC values may be better predictors of the genetic potential of these cultivars to produce good quality soft wheat flour.

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		Samples composited from: Urbana, IL; Napoleon, OH; Warsaw, VA	MILLING QUALITY SCORE		BAKING QUALITY SCORE		TEST WT. SCORE		SOFT. EQUIV. SCORE	
	STANDARD (#2602, Patton)		71.9	B	68.3	C	54.2	D	69.1	C
2601	1	Foster	86.7	A	89.3	A	53.8	D	74.6	B
2602	2	Patton	71.9	B	68.3	C	54.2	D	69.1	C
2603	3	Roane	63.2	C	57.0	D	76.4	B	69.1	C
2604	4	INW0411	68.0	C	66.3	C	44.3	E	68.6	C
2605	5	E 1007	71.6	B	91.3	A	58.8	D	76.2	B
2606	6	D 8006-R	71.1	B	73.6	B	55.8	D	59.3	D
2607	7	AR850-1-1	79.3	B	69.6	C	64.9	C	63.2	C
2608	8	KY93C-0004-22-1	76.9	B	66.6	C	66.8	C	63.2	C
2609	9	KY97C-0232-2	67.6	C	70.3	B	67.2	C	68.6	C
2610	10	OH776	81.1	A	76.0	B	60.6	C	67.3	C
2611	11	T 154	64.4	C	5.3	F	60.5	C	25.4	F
2612	12	T 155	68.3	C	54.3	D	49.7	E	73.9	B
2613	13	GA951231-4A15	72.8	B	27.6	F	52.5	D	70.1	B
2614	14	GA961567-4A35	66.9	C	59.6	D	33.3	F	77.8	B
2615	15	AR96077-7-2	71.3	B	81.6	A	52.3	D	74.7	B
2616	16	MO011126	86.2	A	80.3	A	71.0	B	65.1	C
2617	17	Z 00-3538	69.4	C	87.0	A	51.8	D	59.9	D
2618	18	Z 00-3554	65.6	C	75.0	B	49.5	E	64.9	C
2619	19	G 02-138	61.6	C	78.0	B	35.7	F	84.0	A
2620	20	VA03W-235	74.7	B	86.0	A	56.1	D	74.4	B
2621	21	VA03W-412	75.6	B	82.6	A	69.6	C	74.0	B
2622	22	VA03W-409	75.6	B	106.6	A	44.8	E	71.5	B
2623	23	P99608C1-1-3-4	67.7	C	83.6	A	49.4	E	84.4	A
2624	24	P99840C4-8-4	58.7	D	50.0	E	72.0	B	64.0	C
2625	25	P992060G1-1-5	73.4	B	86.0	A	34.2	F	84.1	A
2626	26	KY94C-0094-11-2	76.9	B	98.3	A	65.3	C	65.4	C
2627	27	MD00-72-5028	73.2	B	78.3	B	67.4	C	59.5	D
2628	28	MD00-72-5050	65.6	C	64.3	C	56.7	D	53.5	D
2629	29	IL00-8109	81.1	A	86.6	A	54.4	D	78.8	B
2630	30	IL01-11934	72.7	B	79.6	B	66.0	C	63.6	C
2631	31	IL01-16170	71.2	B	83.3	A	63.2	C	74.6	B
2632	32	E 1007-W	78.4	B	78.0	B	47.7	E	64.9	C
2633	33	SE98-1089-34	58.0	D	64.6	C	34.6	F	72.1	B
2634	34	SE90-1209-9	55.7	D	51.0	D	40.4	E	60.3	C
2635	35	SE91-1492-4	53.0	D	46.0	E	74.2	B	47.5	E
2636	36	G 32401	65.4	C	68.0	C	56.4	D	67.1	C
2637	37	G 21104	81.9	A	87.6	A	42.2	E	89.2	A
2638	38	G 30433	68.8	C	76.6	B	55.1	D	75.9	B
2639	39	OH01-7664	69.5	C	85.0	A	63.7	C	79.2	B
2640	40	OH01-7653	68.2	C	73.3	B	58.9	D	76.3	B
2641	41	B 010728	63.5	C	66.3	C	65.3	C	51.0	D
2642	42	B 010578	55.1	D	62.6	C	50.6	D	56.9	D
2643	43	D 02-8443	60.8	C	76.0	B	52.8	D	74.4	B
2644	44	APCK M03-3002	72.7	B	79.6	B	53.8	D	63.1	C
2645	45	APCK M00-3904-9	60.6	C	52.0	D	73.3	B	52.0	D
2646	46	APCK M02-2518	73.2	B	80.3	A	65.3	C	79.0	B

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		Samples composited from: Urbana, IL; Napoleon, OH; Warsaw, VA	MICRO T.W. LB/BU		FLOUR YIELD %		SOFT. EQUIV. %		FLOUR PROT. %
	STANDARD (#2602, Patton)		61.2		70.8		56.4		8.58
2601	1	Foster	61.1		73.7		58.3		8.11
2602	2	Patton	61.2		70.8		56.4		8.58
2603	3	Roane	63.8		69.0	Q	56.4		8.10
2604	4	INW0411	60.0	*	70.0	*	56.2		8.48
2605	5	E 1007	61.7		70.7		58.9		8.21
2606	6	D 8006-R	61.3		70.6		53.0	*	8.64
2607	7	AR850-1-1	62.4		72.2		54.3		8.58
2608	8	KY93C-0004-22-1	62.7		71.8		54.4		8.57
2609	9	KY97C-0232-2	62.7		69.9	*	56.2		8.03
2610	10	OH776	61.9		72.6		55.8		8.24
2611	11	T 154	61.9		69.3	*	41.1	Q	9.40
2612	12	T 155	60.6		70.0		58.1		8.76
2613	13	GA951231-4A15	61.0		70.9		56.7		8.14
2614	14	GA961567-4A35	58.6	Q	69.8	*	59.5		8.39
2615	15	AR96077-7-2	60.9		70.6		58.4		8.08
2616	16	MO011126	63.2		73.6		55.0		8.58
2617	17	Z 00-3538	60.9		70.3		53.2	*	7.57
2618	18	Z 00-3554	60.6		69.5	*	54.9		7.40
2619	19	G 02-138	58.9	*	68.7	Q	61.6		8.11
2620	20	VA03W-235	61.4		71.3		58.3		7.94
2621	21	VA03W-412	63.0		71.5		58.1		7.50
2622	22	VA03W-409	60.0		71.5		57.2		7.62
2623	23	P99608C1-1-3-4	60.6		69.9	*	61.8		7.62
2624	24	P99840C4-8-4	63.3		68.1	Q	54.6		8.24
2625	25	P992060G1-1-5	58.7	Q	71.1		61.7		7.77
2626	26	KY94C-0094-11-2	62.5		71.7		55.1		7.92
2627	27	MD00-72-5028	62.7		71.0		53.0	*	8.40
2628	28	MD00-72-5050	61.5		69.5	*	50.9	*	8.47
2629	29	IL00-8109	61.2		72.6		59.8		8.15
2630	30	IL01-11934	62.6		70.9		54.5		7.59
2631	31	IL01-16170	62.2		70.6		58.3		7.96
2632	32	E 1007-W	60.4		72.1		54.9		7.69
2633	33	SE98-1089-34	58.8	*	68.0	Q	57.5		8.22
2634	34	SE90-1209-9	59.5	*	67.5	Q	53.3	*	9.16
2635	35	SE91-1492-4	63.5		67.0	Q	48.9	Q	8.44
2636	36	G 32401	61.4		69.5	*	55.7		8.87
2637	37	G 21104	59.7	*	72.8		63.4		8.20
2638	38	G 30433	61.3		70.1		58.8		8.35
2639	39	OH01-7664	62.3		70.3		59.9		7.82
2640	40	OH01-7653	61.7		70.0		58.9		8.56
2641	41	B 010728	62.5		69.1	Q	50.1	Q	8.43
2642	42	B 010578	60.7		67.4	Q	52.1	*	8.00
2643	43	D 02-8443	61.0		68.5	Q	58.3		8.13
2644	44	APCK M03-3002	61.1		70.9		54.3		8.18
2645	45	APCK M00-3904-9	63.4		68.5	Q	50.4	*	8.33
2646	46	APCK M02-2518	62.5		71.0		59.9		7.96

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		Samples composited from: Urbana, IL; Napoleon, OH; Warsaw, VA	LACTIC ACID RET'N	COOKIE DIAM. CM.		TOP GR.	SUCROSE RET'N
	STANDARD (#2602, Patton)		101.1	17.50		2	89.5
2601	1	Foster	106.7	18.13		5	88.3
2602	2	Patton	101.1	17.50		2	89.5
2603	3	Roane	114.9	17.16	*	2	97.8
2604	4	INW0411	101.2	17.44		3	94.2
2605	5	E 1007	107.8	18.19		5	90.0
2606	6	D 8006-R	105.9	17.66		4	85.3
2607	7	AR850-1-1	114.2	17.54		7	86.4
2608	8	KY93C-0004-22-1	112.5	17.45		3	91.5
2609	9	KY97C-0232-2	114.1	17.56		5	92.4
2610	10	OH776	102.8	17.73		3	86.9
2611	11	T 154	134.6	15.61	Q	1	122.4
2612	12	T 155	125.1	17.08	*	1	94.1
2613	13	GA951231-4A15	123.9	16.28	Q	1	99.6
2614	14	GA961567-4A35	113.5	17.24	*	3	98.0
2615	15	AR96077-7-2	122.2	17.90		4	90.2
2616	16	MO011126	117.2	17.86		7	87.5
2617	17	Z 00-3538	102.1	18.06		6	92.2
2618	18	Z 00-3554	101.3	17.70		4	90.9
2619	19	G 02-138	118.8	17.79		7	94.6
2620	20	VA03W-235	95.6	18.03		4	92.1
2621	21	VA03W-412	103.9	17.93		5	92.8
2622	22	VA03W-409	93.6	18.65		6	90.8
2623	23	P99608C1-1-3-4	111.3	17.96		4	93.3
2624	24	P99840C4-8-4	115.1	16.95	Q	3	104.3
2625	25	P992060G1-1-5	111.6	18.03		4	93.4
2626	26	KY94C-0094-11-2	96.5	18.40		5	87.1
2627	27	MD00-72-5028	101.5	17.80		4	90.1
2628	28	MD00-72-5050	103.6	17.38		4	95.0
2629	29	IL00-8109	124.5	18.05		5	87.6
2630	30	IL01-11934	115.7	17.84		7	89.1
2631	31	IL01-16170	116.2	17.95		5	87.4
2632	32	E 1007-W	111.6	17.79		4	89.6
2633	33	SE98-1089-34	118.6	17.39		3	90.5
2634	34	SE90-1209-9	121.3	16.98	Q	2	92.7
2635	35	SE91-1492-4	115.8	16.83	Q	2	101.5
2636	36	G 32401	118.3	17.49		2	90.8
2637	37	G 21104	120.9	18.08		6	86.8
2638	38	G 30433	130.9	17.75		4	94.4
2639	39	OH01-7664	133.0	18.00		6	93.9
2640	40	OH01-7653	130.6	17.65		3	93.9
2641	41	B 010728	119.6	17.44		3	92.8
2642	42	B 010578	96.4	17.33		4	98.1
2643	43	D 02-8443	123.7	17.73		5	93.9
2644	44	APCK M03-3002	111.0	17.84		6	94.2
2645	45	APCK M00-3904-9	105.7	17.01	Q	2	97.0
2646	46	APCK M02-2518	109.5	17.86		3	99.8

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		Samples composited from: Urbana, IL; Napoleon, OH; Warsaw, VA	FHB (0-9)	WEATHERING (Yes/No)	SPROUTING (0-9)	SHRIVELING (0-3)
	STANDARD (#2602, Patton)					
2601	1	Foster	2.0		0	2
2602	2	Patton	2.0	Yes	1	1
2603	3	Roane	1.0		0	1
2604	4	INW0411	2.0	Yes	0	1
2605	5	E 1007	2.0	Yes	1	2
2606	6	D 8006-R	2.0	Yes	0	1
2607	7	AR850-1-1	3.0	Yes	0	2
2608	8	KY93C-0004-22-1	2.0	Yes	0	1
2609	9	KY97C-0232-2	2.0	Yes	0	1
2610	10	OH776	3.0	Yes	0	2
2611	11	T 154	4.0	Yes	5	2
2612	12	T 155	3.0	Yes	0	2
2613	13	GA951231-4A15	4.0	Yes	0	2
2614	14	GA961567-4A35	4.0	Yes	1	2
2615	15	AR96077-7-2	1.0		0	1
2616	16	MO011126	1.0		0	1
2617	17	Z 00-3538	1.0		0	1
2618	18	Z 00-3554	1.0		0	1
2619	19	G 02-138	2.0	Yes	0	2
2620	20	VA03W-235	2.0		0	1
2621	21	VA03W-412	2.0	Yes	0	1
2622	22	VA03W-409	2.0	Yes	0	1
2623	23	P99608C1-1-3-4	2.0	Yes	0	1
2624	24	P99840C4-8-4	2.0	Yes	0	1
2625	25	P992060G1-1-5	2.0	Yes	0	1
2626	26	KY94C-0094-11-2	1.0		0	1
2627	27	MD00-72-5028	3.0		6	1
2628	28	MD00-72-5050	3.0		4	1
2629	29	IL00-8109	1.0	Yes	1	1
2630	30	IL01-11934	3.0		1	1
2631	31	IL01-16170	1.0	Yes	0	1
2632	32	E 1007-W	4.0	Yes	6	2
2633	33	SE98-1089-34	2.0	Yes	0	2
2634	34	SE90-1209-9	3.0	Yes	0	2
2635	35	SE91-1492-4	3.0	Yes	0	1
2636	36	G 32401	2.0	Yes	2	1
2637	37	G 21104	2.0		0	1
2638	38	G 30433	2.0	Yes	0	1
2639	39	OH01-7664	2.0		0	1
2640	40	OH01-7653	3.0		0	1
2641	41	B 010728	2.0	Yes	0	1
2642	42	B 010578	1.0	Yes	1	1
2643	43	D 02-8443	3.0	Yes	0	1
2644	44	APCK M03-3002	1.0	Yes	1	1
2645	45	APCK M00-3904-9	3.0		0	1
2646	46	APCK M02-2518	2.0		0	1

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		Samples composited from: Urbana, IL; Napoleon, OH; Warsaw, VA	COMMENTS
	STANDARD (#2602, Patton)		
2601	1	Foster	
2602	2	Patton	
2603	3	Roane	
2604	4	INW0411	
2605	5	E 1007	red w/few white
2606	6	D 8006-R	
2607	7	AR850-1-1	
2608	8	KY93C-0004-22-1	
2609	9	KY97C-0232-2	
2610	10	OH776	
2611	11	T 154	
2612	12	T 155	
2613	13	GA951231-4A15	
2614	14	GA961567-4A35	
2615	15	AR96077-7-2	
2616	16	MO011126	
2617	17	Z 00-3538	
2618	18	Z 00-3554	
2619	19	G 02-138	
2620	20	VA03W-235	
2621	21	VA03W-412	
2622	22	VA03W-409	
2623	23	P99608C1-1-3-4	
2624	24	P99840C4-8-4	
2625	25	P992060G1-1-5	
2626	26	KY94C-0094-11-2	
2627	27	MD00-72-5028	white
2628	28	MD00-72-5050	white
2629	29	IL00-8109	
2630	30	IL01-11934	
2631	31	IL01-16170	
2632	32	E 1007-W	white
2633	33	SE98-1089-34	
2634	34	SE90-1209-9	
2635	35	SE91-1492-4	
2636	36	G 32401	
2637	37	G 21104	
2638	38	G 30433	
2639	39	OH01-7664	
2640	40	OH01-7653	
2641	41	B 010728	
2642	42	B 010578	red w/some white
2643	43	D 02-8443	
2644	44	APCK M03-3002	
2645	45	APCK M00-3904-9	
2646	46	APCK M02-2518	

GRAIN CONDITION SCALE

FHB and SPROUTING

0	None
1	1%
2	2%
3	5%
4	10%
5	20%
6	40%
7	60%
8	80%
9	100%

SHRIVELING

0	None
1	Some
2	Moderate
3	Heavy

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Samples composited from:
Urbana, IL; Napoleon, OH;
Warsaw, VA

EVALUATION SUMMARY

	STD. DATA		AVG. DATA
MILLING QUALITY SCORE	71.90	B	69.9
BAKING QUALITY SCORE	68.30	C	71.9
TW SCORE	54.20	D	56.4
SE SCORE	69.10	C	68.1

	STD. DATA	AVG. DATA	ADJ. L.S.D.	NOTATION BEGINS *	Q
TEST WEIGHT	61.15	61.41	1.18	59.97	58.79
FLOUR YIELD	70.75	70.36	0.76	70.00	69.24
SOFTNESS EQUIV.	56.41	56.05	3.03	53.38	50.34
FLOUR PROTEIN	8.58	8.21	0.69		
LACTIC ACID RETENTION	101.10	112.96			
COOKIE DIAMETER	17.50	17.61	0.23	17.27	17.03

	A	B	C	D	E	F	TOTAL
MILLING SCORE	5	18	18	5	0	0	
BAKING SCORE	16	12	9	5	2	2	46
TEST WT. SCORE	0	5	13	16	8	4	
SOFTNESS EQUIV. SCORE	4	17	16	7	1	1	

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Two Year Summary: 2005 and 2006 CROP

ENTRY	MILLING QUALITY SCORE	BAKING QUALITY SCORE	TEST WT. SCORE	SOFT. EQUIV. SCORE	MICRO T.W. LB/BU	FLOUR YIELD %	SOFT. EQUIV. %	FLOUR PROT. %	LACTIC ACID RET'N	COOKIE DIAM. CM.	TOP GR.	SUCROSE RET'N
Foster	85.5	81.3	54.8	73.4	62.6	73.5	56.5	8.5	104.5	18.1	5.5	88.3
Patton	71.1	68.0	55.2	70.8	62.6	70.7	55.6	8.9	96.8	17.7	3.0	89.5
Roane	63.7	51.1	71.5	73.2	64.6	69.2	56.5	8.5	111.6	17.2	2.5	97.8
D 8006-R	71.7	73.0	55.5	63.5	62.7	70.8	53.1	8.9	108.4	17.8	4.5	85.3
AR850-1-1	79.7	72.5	59.1	71.9	63.1	72.4	56.0	8.5	113.4	17.8	4.5	86.4
E1007	73.4	89.1	59.3	80.5	63.1	71.1	59.0	8.4	106.0	18.3	5.0	90.0