UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service

State Agricultural Experiment Stations, Cooperating

2007 - 2008

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

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USDA Agricultural Research Service

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2007-2008 UNIFORM EASTERN SOFT RED WINTER WHEAT NURSERY
LIST OF ENTRIES AND PEDIGREES

Entry No.	Cultivar/ Designation	Pedigree	Contributor	1st Year in Nursery
1	Roane	VA71-54-147(CI17449)/C68-15//IN65309C1-18-2-3-2 (formerly VA93-54-429)	Check	95-96
2	INW0411	96204A1-12//Goldfield/92823A1-11 (formerly P97397E1-11-2-4-1-1)	Check	03-04
3	Branson	Pio2737W/891-4584A (Pike/FL302) (formerly M00-3701)	Check	03-04
4	Bess	MO11769/Madison (formerly MO981020)	Check	02-03
5	MO011126	MO94-103/Pio2552	McKendry	05-06
6	VA03W-412	Roane/Pio2643//SS520	Griffey	05-06
7	AR97044-10-2	Elkhart/AR494B-2-2	Bacon	06-07
8	KY96C-0769-7-3	2552/Roane	Van Sanford	06-07
9	OH02-12678	Foster/Hopewell//OH581/OH569	Sneller	06-07
10	MO040192	IL85-2872/MO10501	McKendry	06-07
11	IL00-8530	IL89-1687//IL90-6364/IL93-2489	Kolb	06-07
12	NC04-20814	NC94-6275/P86958//VA96-54-234	Murphy	07-08
13	AR97124-4-2	P88288C1-6-1-2/Terra SR204	Bacon	07-08
14	OH02-7217	92118B4-2/OH561	Sneller	07-08
15	OH03-41-45	IL91-14167/OH599	Sneller	07-08
16	P02444A1-23-9	981129/99793//INW0301/92145	Ohm	07-08
17	P03207A1-7	INW0304*2/RSI5//981281/3/INW0315/99794	Ohm	07-08
18	P04287A1-16	INW0315*2/4/INW0304//9346/CS5Am/3/91202//INW0301/INW0315	Ohm	07-08
19	NYCalR-L	reselection out of Caledonia	Sorrells	07-08
20	MD01W233-06-8	McCormick/Choptank	Costa	07-08
21	MD01W233-06-21	McCormick/Choptank	Costa	07-08
22	MD99W483-06-9	VA97W358/Renwood 3260	Costa	07-08
23	VA05W-257	VA98W-130(Savannah/VA87-54-558//VA88-54-328/Gore)//Coker9835/SS520	Griffey	07-08
24	VA05W-414	Pio25W60//VA96W-606WS(FFR555W/Coker9803//Annette)/Pio2691	Griffey	07-08
25	LA01*425	P2571/Y91-6B	Moreno	07-08
26	LA02-923	PS8424//XY90-1B/TX851212	Moreno	07-08
27	21525c1*	OH498/Foster//P2571	Moreno	07-08
28	IL02-18228	Pio25R26/IL9634-24437(IL90-4813/L85-3132/Ning7840)//IL95-4162	Kolb	07-08
29	IL02-19463	Patton/Cardinal//IL96-2550	Kolb	07-08
30	Mocha exp.	OH489/OH490	Fioritto	07-08
31	Arena exp.	NASW84-345/Coker9835//OH419/OH389	Fioritto	07-08
32	India exp.	KY85C-35-4/Karl/Madison	Fioritto	07-08
33	B030543	VA93-54-429/LA85422	Hancock	07-08
34	D04*5513	DK1551W/D94-50228	Hancock	07-08
35	M03-3616-11B	Hopewell/Patton	Hancock	07-08
36	KY97C-0321-02-01	Kristy/VA94-52-25//2540	Van Sanford	07-08
37	KY97C-0519-04-07	SS555W/2540//2552	Van Sanford	07-08
38	W06-202B	Ashland/Hopewell//OH546/L930605	Cisar	07-08
39	MO040152	MO 12278/Pio2571	McKendry	07-08
40	G41730	T814/L900819	Brown	07-08
41	G52612	T812/VA91-54-219	Brown	07-08
42	G69202	VA91-54-219/OH413	Brown	07-08
43	M04-4566	Bradley/Roane	Fogleman	07-08
44	M04-4802	FFR518//Elkhart/MV-18	Fogleman	07-08
45	M04*5109	VA94-54-479/Pio2628	Fogleman	07-08

LOCATION NOTES

Bay, Arkansas

Cooperators:	June Hancock, David Hill, Richard Gray AgriPro Coker
Planted:	October 13, 2007
Harvested:	June 16, 2008
Notes:	After planting received 8 inches of rain in the next 2 weeks. Stands were spotty and CV reflects variability. This is the most Septoria I have seen in years.

Stuttgart, Arkansas

Cooperators:	Robert Bacon, John Kelly University of Arkansas
Planted:	November 6, 2007
Harvested:	June 12, 2008
Fertilizer:	90 N spring application

Griffin, Georgia

Cooperators:	Jerry Johnson, Dan Bland, James Buck, John Youmans, Lilian Mirana, Steve Sutton University of Georgia
Planted:	November 1, 2007
Harvested:	June 5, 2008
Fertilizer:	20-40-60; 70 N topdress

Aberdeen, Idaho

Cooperators:	Harold Bockelman, Charles Erickson, Scott McNeil USDA-ARS, National Small Grains Collection
Planted:	September 17, 2007
Harvested:	August 4, 2008

Irvington, Illinois

Cooperators:	Barton Fogleman, Jen Vonderwell, Eugene Glover AgriPro Coker
Planted:	October 20, 2007
Harvested:	June 30, 2008
Fertilizer:	100 N on April 3

Brownstown, Illinois

Cooperators:	Fred Kolb, Norman Smith, Eric Brucker University of Illinois
Planted:	October 4, 2007
Harvested:	June 25, 2008
Fertilizer:	40 N preplant; 50 N topdress

Notes:	Cool, wet season. Above average height and yields excellent for this location.

Urbana, Illinois

Cooperators:	Fred Kolb, Norman Smith, Eric Brucker University of Illinois
Planted:	September 28, 2007
Harvested:	July 3, 2008
Fertilizer:	40 N preplant; 50 N topdress
Notes:	Cool, wet spring. FHB data are from misted, grain spawn inoculated FHB nursery, 3 reps of single 3 foot rows. ISK Index = Incidence *(0.3) + Severity *(0.3) + Kernel Rating *(0.4). BYDV stunting data are from BYDV-PAV-IL inoculated hills. Stunting = ((Control Ht. - Inoc. Ht)/ Control Ht.) * 100. Winterkill: 0 = no damage, 9 = all plants dead (also recorded at DeKalb, IL).

Brookston, Indiana

Cooperators:	Barton Fogleman, Jen Vonderwell, Eugene Glover AgriPro Coker
Notes:	Winter kill notes, two rep average: minimum of 5.7 equals moderate stand damage(~40-55%), maximum of 9 equals no living plants remaining.

Lafayette, Indiana

Cooperators:	Ben Moreno, Justin Cooley WestBred LLC
Planted:	October 6, 2007
Harvested:	July 5, 2008

Tipton, Indiana

Cooperators:	Sam Brown, Katie Russler Genesis Seed Research
Planted:	October 5, 2007
Harvested:	July 17, 2008
Fertilizer:	20 N fall; 40-4-12 on March 1; 40-1-12 on April 1
Notes:	Good stand establishment in the fall. No extreme cold weather in December or January. Thaw late January and early February with excessive rain. Cooler than normal spring temperatures with excellent grain fill. Above normal precipitation on the late end of heading.

Wabash, Indiana

Cooperators:	Ben Moreno, Justin Cooley WestBred LLC
Planted:	October 2, 2007
Harvested:	July 11, 2008

West Lafayette, Indiana

Cooperators:	Sue Cambron
	USDA-ARS, Crop Production & Pest Control Research
Notes:	Hessian fly data with multiple biotypes.

West Lafayette, Indiana

Cooperators:	Herb Ohm
	Purdue University
Planted:	October 5, 2007
Harvested:	June 23, 2008
Fertilizer:	35-90-0 fall; 95 N topdress
Notes:	FHB data from misted nursery; 4mean disease severity of 6 spikes point inoculated with 500 F. graminearum macro spores in 10ul dH20 with a dispensable syringe. Septoria tritici sporulation: R=little or no sporulation, M=moderate sporulation, S=profuse sporulation.

Manhattan, Kansas

Cooperators:	Allan Fritz
	Kansas State University
Notes:	Nursery was destroyed by baseball-sized hail.

Wichita, Kansas

Cooperators:	Jim Wilson
	Trio Research, Inc.
Planted:	October 11, 2007
Harvested:	July 7, 2008
Fertilizer:	70 N
Notes:	Long, cool growing season with much moisture.

Winfield, Kansas

Cooperators:	Sid Perry
	WestBred LLC
Planted:	October 28, 2007
Harvested:	June 20, 2008

Logan Co., Kentucky

Cooperators:	Dave Van Sanford
	University of Kentucky
Planted:	October 17, 2007
Harvested:	June 23, 2008
Notes:	Abundant leaf blotch, lodging.

Woodford Co., Kentucky

Cooperators:	Dave Van Sanford University of Kentucky
Planted:	November 1, 2007
Harvested:	July 1, 2008
Notes:	Planted late, not much growth going into winter, probably not enough N.

Clarksville, Maryland

Cooperators:	Jose Costa, Aaron Cooper University of Maryland
Planted:	October 8, 2007
Harvested:	June 27, 2008

East Lansing & Merrill, Michigan

Cooperators:	Janet Lewis Michigan State University
Planted:	September 27, 2007
Harvested:	July 15, 2008
Fertilizer:	250# 6-15-36; 196# 46-0-0 spring
Notes:	FHB data from inoculated/mist-irrigated nursery at East Lansing. Sprouting was tested in the greenhouse at East Lansing from samples collected at Merrill. Julian Days Flowering data was the mean of East Lansing and Merrill.

St. Paul, Minnesota

Cooperators:	Yue Jin USDA-ARS, Cereal Disease Laboratory
Notes:	Stem rust seedling and field data.

St. Paul, Minnesota

Cooperators:	Dave Long, Jim Kolmer USDA-ARS, Cereal Disease Laboratory
Notes:	Leaf rust seedling data.

Columbia, Missouri

Cooperators:	Anne L. McKendry, David Tague University of Missouri
Planted:	October 5, 2007
Harvested:	July 15, 2008
Fertilizer:	40 N fall; 80 N spring
Notes:	Long wet winter, stands averaged 67% but plant health good since it was cool. Canopy clean at heading, (too much) rain during heading, grain fill, and harvest. FHB (natural infection) was significant - although may have affected later varieties more than

the earlier ones. Anything under 135 d may have escaped. Since we wanted to get a rating on everything possible in the program, we used a simplified 5-point scale rather than the normal scale. Data across 3 reps were very consistent. Both rainfall during harvest and FHB reduced test weights. 1= resistant (<10% of the heads had visible symptoms), 2= moderately resistance (10-20 % of the heads had visible symptoms), 3= moderately susceptible (20-40% of the heads had visible symptoms), 4= susceptible (40-60% of the heads had visible symptoms), 5= very susceptible (>60% of the heads had visible symptoms).

Cleveland, Mississippi

Cooperators:	June Hancock, David Hill, Richard Gray
	AgriPro Coker
Planted:	November 8, 2007
Harvested:	June 17, 2008

Laurel Springs, North Carolina

Cooperators:	Dave Marshall, Myron Fountain
	USDA-ARS
Notes:	Data on stripe rust, winter stress, and powdery mildew.

Plymouth, North Carolina

Cooperators:	Paul Murphy, Rene Navarro
	North Carolina State University
Planted:	November 1, 2007
Harvested:	June 9, 2008
Fertilizer:	130 N topdress
Notes:	Good establishment in the fall. Mild winter with heavy powdery mildew and leaf rust development which impacted grain yield, test weight, and straw strength.

Raleigh, North Carolina

Cooperators:	Gina Brown-Guedira
	USDA-ARS, Eastern Regional Small Grains Genotyping Lab
Notes:	Marker analysis. DNA was isolated from samples of 10 plants/ entry. "nd"= not determined or lack of amplification. If marker is dominant, samples with no amplification are left blank. "?" indicates that markers may not be diagnostic or data was not clear; therefore can be sure if gene is present or not.

Lincoln, Nebraska

Cooperators:	Stephen Baenziger
	University of Nebraska

Notes: Severe soilborne mosaic in the field, which explains the low yield in some lines. We also had stem rust and lots of scab (rating based mainly on blank heads).

Ithaca, New York
Cooperators: Mark Sorrells
Cornell University
Planted: September 25, 2007
Harvested: July 14, 2008
Fertilizer: 100# 10-20-20 + 100# AmNit

Napoleon, Ohio
Cooperators: Barton Fogleman, Jen Vonderwell, Eugene Glover
AgriPro Coker
Planted: October 6, 2007
Harvested: July 22, 2008
Fertilizer: 100 N on April 7

Wooster, Ohio
Cooperators: Clay Sneller, Larry Herald
Ohio State University, OARDC

Wooster, Ohio
Cooperators: Ron Fioritto
SunBeam Extract
Planted: October 1, 2007
Harvested: July 11, 2008

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

Enid, Oklahoma
Cooperators: Brett Carver
Oklahoma State University
Notes: Acid soil tolerance data. Soil pH=4.6, 70ppm Al, and Al saturation=11%). Scale of 0 (most tolerant) to 5 (most susceptible) based on overall vigor, discoloration, and tiller production. Vegetative ratings may not associate with those taken on adult plants; adult-plant ratings not recorded due to difficulty in detecting genetic differences. Inherent differences in tillering capacity and growth habit (prostrate vs. erect) may have biased vegetative ratings.

Nairn, Ontario

Cooperators:	Mark Etienne Hyland Seeds
Planted:	October 16, 2007
Notes:	Good snow cover over the winter and then a series of freeze and thaw cycles. Good conditions throughout season for yield and disease along with ample, timely rainfall. Fusarium was present, but unfortunately no notes taken. Rust came in late and hard.

Knoxville, Tennessee

Cooperators:	Dennis West University of Tennessee
Notes:	Nursery was abandoned after a severe hailstorm about 2 weeks after heading.

Blacksburg, Virginia

Cooperators:	Carl Griffey Virginia Tech

Warsaw, Virginia

Cooperators:	Carl Griffey Virginia Tech

Mt. Vernon & Pullman, Washington

Cooperators:	Xianming Chen USDA-ARS, Wheat Genetics, Quality, Physiology, & Disease
Notes:	Adult stripe rust data. Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs. Entries with a high IT in the first note, but a low IT in the second note may indicate that they have high-temperature, adult-plant (HTAP) resistance. Stripe rust at the Walla Walla (LOC 6) occurred in hotspots and lack of uniformity, and therefore, some entries possibly escaped from infection.

Arlington, Wisconsin

Cooperators:	Mark Martinka University of Wisconsin
Notes:	The trials at Arlington were abandoned due to ice sheeting that caused significant stand loss – 109 inches of snow compared to a normal winter of 48 inches.

Oconto, Wisconsin

Cooperators:	Gordon Cisar Great Lakes Cereal Grains
Planted:	September 29, 2007
Harvested:	August 2, 2008
Fertilizer:	manure (lots of it)
Notes:	Lots of snow cover, so winterkill was minimized. Lots of moisture. A very long season and late harvest.


TESTING LOCATIONS
Mt. Vernon
Pullman
Walla Walla
Aberdeen
St. Paul
Oconto
Arlington
Merrill
E Lansing
Nairn (Ailsa Craig)
Ithaca
Napoleon
Wooster
Lafayette
Wabash
Urbana
Tipton
Clarksville
Lincoln
Manhattan
Columbia
Brownstown
Irvington
Woodford Co.
Blacksburg
Warsaw
Wichita
Winfield
Enid
Logan Co
Knoxville
Plymouth
Laurel Springs
Bay
Stuttgart
Cleveland
Griffin
Washington
Oregon
Idaho
Montana
North Dakota
Minnesota
South Dakota
Wyoming
Nebraska
Iowa
Wisconsin
Michigan
New York
Vermont
Maine
Connecticut
Pennsylvania
New Jersey
Ohio
Illinois
Indiana
West Virginia
Virginia
Kentucky
Tennessee
North Carolina
South Carolina
Nevada
Utah
Colorado
Kansas
Missouri
Oklahoma
Arkansas
Mississippi
Alabama
Georgia
Florida
Louisiana
Texas
New Mexico
Arizona
California

YIELD (bu/acre)

		Bay		Stuttgart		Griffin		Aberdeen		Irvington		Brownstown	
		AR	a	AR	a	GA		ID	b	IL	ab	IL	ab
		Hancock	rank	Bacon	rank	Johnson	rank	Bockelman	rank	Fogleman	rank	Kolb	rank
1	Roane	30.7	40	72.2	17	83.4	13	106.7	23	74.0	23	84.1	13
2	INW0411	38.0	29	59.7	35	41.9	37	107.6	21	67.5	38	74.0	37
3	Branson	45.4	16	81.3	3	101.8	1	118.8	10	81.3	8	83.7	16
4	Bess	41.5	24	82.6	1	83.2	15	107.7	20	77.1	15	82.5	17
5	MO011126	42.0	23	80.9	4	90.6	9	93.8	42	71.5	32	76.6	33
6	VA03W-412	43.8	20	64.6	28	95.4	3	124.5	4	81.9	6	89.2	6
7	AR97044-10-2	37.1	31	73.6	15	94.3	5	106.3	24	79.0	12	85.2	10
8	KY96C-0769-7-3	49.9	8	70.9	20	76.8	20	101.4	29	71.6	31	77.6	30
9	OH02-12678	50.5	6	65.1	27	40.5	38	110.5	18	62.2	42	79.1	26
10	MO040192	42.8	22	76.0	9	48.3	31	98.2	38	73.2	24	88.8	7
11	IL00-8530	40.6	26	81.4	2	69.7	23	101.0	33	81.4	7	89.4	5
12	NC04-20814	44.3	19	67.5	25	36.6	42	97.9	39	72.6	27	82.3	19
13	AR97124-4-2	45.3	17	71.6	18	66.9	25	91.2	43	70.8	34	77.1	31
14	OH02-7217	37.0	32	50.1	40	20.0	44	123.4	5	75.8	17	81.4	20
15	OH03-41-45	45.5	15	74.8	13	75.6	21	99.1	36	72.3	28	91.3	2
16	P02444A1-23-9	33.7	37	52.7	39	50.9	30	94.5	41	68.2	37	83.9	15
17	P03207A1-7	54.2	4	71.3	19	77.4	19	107.0	22	62.0	44	69.9	43
18	P04287A1-16	35.9	33	72.4	16	81.6	16	83.1	45	62.2	43	68.2	44
19	NYCalR-L	35.6	35	58.6	38			116.6	11	71.2	33	80.4	22
20	MD01W233-06-8	47.7	11	59.4	37	40.1	40	101.2	31	67.1	39	72.0	40
21	MD01W233-06-21	30.3	41	49.3	41	73.4	22	106.3	24	77.2	14	73.5	38
22	MD99W483-06-9	39.3	27	35.6	45	45.8	32	99.6	35	83.0	3	76.6	33
23	VA05W-257	29.2	42	47.5	42	45.4	33	100.2	34	79.0	13	79.1	26
24	VA05W-414	41.0	25	63.2	30	59.2	29	101.1	32	73.0	25	79.4	25
25	LA01*425	37.8	30	74.6	14	100.9	2	130.4	2	82.3	4	84.6	11
26	LA02-923	58.5	2	75.7	11	93.2	6	129.0	3	88.8	1	95.0	1
27	21525c1*	42.8	21	44.1	44	26.6	43	113.5	15	75.6	19	77.9	29
28	IL02-18228	23.2	45	77.1	6	44.9	34	98.9	37	72.7	26	80.4	22
29	IL02-19463	45.5	14	76.0	9	80.9	17	101.8	28	74.6	22	89.8	4
30	Mocha exp.	35.8	34	60.5	34	44.5	35	121.6	7	72.0	29	71.4	41
31	Arena exp.	39.1	28	68.3	24	63.8	26	134.4	1	65.9	40	67.3	45
32	India exp.	27.0	44	66.0	26	83.6	12	90.7	44	70.6	36	78.7	28
33	B030543	27.7	43	78.0	5	92.6	7	108.7	19	79.7	10	85.4	9
34	D04*5513	56.5	3	68.9	23	95.1	4	122.6	6	74.8	21	71.3	42
35	M03-3616-11B	32.2	39	61.3	32	83.3	14	119.8	8	61.1	45	82.4	18
36	KY97C-0321-02-01	58.8	1	60.8	33	67.7	24	114.9	13	70.6	35	73.3	39
37	KY97C-0519-04-07	34.6	36	44.7	43	40.2	39	113.9	14	76.0	16	74.4	35
38	W06-202B	32.4	38	76.9	7	63.4	27	115.4	12	84.8	2	77.1	31
39	MO 040152	44.9	18	64.0	29	90.0	10	113.2	16	75.5	20	74.1	36
40	G41730	50.3	7	76.3	8	92.1	8	104.3	27	79.4	11	87.3	8
41	G52612	53.0	5	75.1	12	86.5	11	111.6	17	63.8	41	79.6	24
42	G69202	48.3	9	69.9	22	43.6	36	106.0	26	80.4	9	90.5	3
43	M04-4566	45.6	13	61.9	31	79.0	18	101.2	30	82.3	5	84.1	13
44	M04-4802	45.6	12	70.8	21	63.1	28	119.6	9	71.8	30	84.6	11
45	M04*5109	47.8	10	59.5	36	39.1	41	97.6	40	75.7	18	80.9	21
LOCATION MEANS		41.5		66.5		67.6		108.2		74.1		80.3	
LSD (.05)		18.7		16.3				14.89		9.65		7	
CV %		22.3		14.9				8.19		6.49		5.4	
REPS		2		3		1		3		2		3	
Harvest Plot Area (sq.ft.)				70		50		22.14		45.6		34	

YIELD (bu/acre)

		Urbana IL	ab	Lafayette IN	a	Tipton IN	ab	Wabash IN	ab	W Lafayette IN	ab	Wichita KS	b
		Kolb	rank	Moreno	rank	Brown	rank	Moreno	rank	Ohm	rank	Wilson	rank
1	Roane	70.3	37	64.6	44	106.1	31	82.1	28	89.0	28	89.2	14
2	INW0411	62.4	44	74.2	33	108.2	27	73.5	45	90.0	26	74.7	35
3	Branson	79.5	25	82.5	9	104.6	35	92.2	5	101.5	4	74.7	35
4	Bess	74.7	32	78.1	23	102.2	39	87.5	13	91.8	23	94.7	2
5	MO011126	89.3	7	78.4	21	120.9	4	78.2	40	83.5	35	81.7	27
6	VA03W-412	88.8	9	86.6	5	119.8	8	86.9	15	98.0	10	89.4	12
7	AR97044-10-2	66.0	42	70.4	40	104.1	37	80.6	34	83.3	39	83.8	24
8	KY96C-0769-7-3	86.7	12	73.9	34	118.0	11	77.4	43	88.0	29	84.6	20
9	OH02-12678	72.1	34	80.9	13	104.2	36	84.1	22	98.5	9	80.4	29
10	MO040192	72.0	35	75.2	30	116.2	15	78.6	38	90.5	25	90.6	9
11	IL00-8530	86.5	15	77.4	24	108.8	23	86.5	16	91.8	23	83.2	26
12	NC04-20814	60.4	45	67.1	43	108.4	24	81.3	33	83.5	35	80.3	30
13	AR97124-4-2	74.8	31	78.9	19	99.7	44	81.9	29	86.5	32	75.1	34
14	OH02-7217	84.8	17	82.2	10	108.3	26	87.2	14	94.0	19	78.5	31
15	OH03-41-45	87.9	10	80.9	14	112.5	20	86.2	17	97.3	12	83.5	25
16	P02444A1-23-9	89.6	6	80.8	15	117.4	14	82.4	27	94.5	17	70.4	43
17	P03207A1-7	75.8	29	64.4	45	97.8	45	83.0	25	99.8	8	73.0	38
18	P04287A1-16	81.2	23	69.0	42	102.1	40	79.7	35	77.5	43	72.5	40
19	NYCalR-L	75.2	30	81.2	12	99.8	43	82.8	26	82.3	40	72.0	42
20	MD01W233-06-8	74.2	33	71.7	38	105.9	32	74.1	44	83.5	35	86.1	18
21	MD01W233-06-21	69.2	41	76.5	27	116.1	16	81.8	30	72.3	45	72.3	41
22	MD99W483-06-9	63.0	43	75.9	29	113.0	19	78.8	36	80.0	42	84.4	22
23	VA05W-257	69.7	38	75.0	31	106.3	30	78.3	39	87.3	30	58.2	45
24	VA05W-414	69.6	39	76.4	28	108.4	24	88.8	11	72.8	44	76.8	33
25	LA01*425	107.8	1	83.9	8	127.8	2	91.5	6	104.5	1	91.8	7
26	LA02-923	89.0	8	92.6	2	113.5	18	93.0	3	101.0	5	90.6	9
27	21525c1*	94.5	3	85.9	6	117.6	13	95.6	1	100.8	7	84.6	20
28	IL02-18228	93.7	5	73.7	36	99.9	42	77.5	42	96.5	14	92.8	4
29	IL02-19463	94.3	4	79.4	18	122.3	3	84.4	20	103.0	3	93.3	3
30	Mocha exp.	86.7	12	81.9	11	105.1	34	87.7	12	85.5	34	73.6	37
31	Arena exp.	77.2	27	84.7	7	110.4	21	84.2	21	85.8	33	64.6	44
32	India exp.	70.4	36	69.9	41	106.5	29	84.5	19	93.8	20	96.3	1
33	B030543	79.9	24	73.9	34	120.7	6	91.3	7	95.8	16	91.8	7
34	D04*5513	82.3	21	76.6	26	103.3	38	85.1	18	81.0	41	88.9	16
35	M03-3616-11B	99.2	2	94.7	1	118.0	12	90.3	9	103.3	2	89.9	11
36	KY97C-0321-02-01	86.7	12	86.7	4	120.9	4	83.8	23	93.5	21	89.4	12
37	KY97C-0519-04-07	76.2	28	88.0	3	107.5	28	92.5	4	92.8	22	72.7	39
38	W06-202B	83.9	19	80.8	15	130.9	1	93.1	2	98.0	10	92.8	4
39	MO 040152	84.8	17	77.3	25	118.5	9	81.3	32	83.5	35	89.1	15
40	G41730	83.8	20	80.6	17	119.9	7	89.8	10	101.0	5	92.4	6
41	G52612	87.5	11	72.0	37	102.1	40	81.4	31	94.3	18	81.5	28
42	G69202	84.9	16	74.9	32	105.2	33	91.2	8	97.0	13	86.5	17
43	M04-4566	82.0	22	71.4	39	118.1	10	83.3	24	96.0	15	84.1	23
44	M04-4802	77.7	26	78.4	21	109.6	22	78.7	37	90.0	26	77.4	32
45	M04*5109	69.6	39	78.7	20	114.5	17	77.6	41	87.3	30	85.8	19
LOCATION MEANS		80.4		78.0		111.1		84.3		91.1		82.7	
LSD (.05)		8.1				10.7				9.9		8.9	
CV %		6.2				7		3.6		7.7		5.3	
REPS		3		1		2		2		4		2	
Harvest Plot Area (sq.ft.)		34				32						36	

YIELD (bu/acre)

		Winfield		Logan Co.		Woodford Co		Clarksville		Merrill		Columbia	
		KS	b	KY	a	KY	ab	MD	ab	MI	ab	MO	ab
		Perry	rank	an Sanford	rank	an Sanford	rank	Costa	rank	Lewis	rank	McKendry	rank
1	Roane	45.8	35	68.6	37	65.5	11	73.7	12	83.9	27	45.3	41
2	INW0411	46.6	30	64.3	41	59.7	28	62.3	33	76.4	41	50.8	26
3	Branson	47.7	26	85.4	12	65.4	12	72.7	13	90.6	12	60.0	4
4	Bess	53.7	12	79.1	21	67.2	6	77.7	7	83.2	28	48.2	33
5	MO011126	46.7	29	84.2	13	59.0	33	67.8	22	80.1	33	63.0	1
6	VA03W-412	46.2	34	86.3	9	52.3	44	85.2	1	92.4	9	53.7	21
7	AR97044-10-2	51.5	18	76.0	25	64.5	14	57.2	40	78.6	38	42.3	44
8	KY96C-0769-7-3	51.2	19	88.0	6	62.5	20	75.2	10	79.9	34	54.1	20
9	OH02-12678	46.8	28	78.2	22	62.3	21	72.0	14	82.6	29	47.5	38
10	MO040192	54.3	9	86.5	8	68.9	3	66.3	26	79.0	36	59.4	5
11	IL00-8530	48.1	25	54.9	44	61.9	23	67.1	25	80.4	32	60.8	2
12	NC04-20814	50.0	21	75.1	27	66.3	8	79.4	5	86.3	21	50.3	28
13	AR97124-4-2	44.9	36	79.9	17	63.0	18	54.5	43	73.3	44	45.3	41
14	OH02-7217	39.5	43	76.0	26	57.3	38	59.3	39	86.3	21	42.7	43
15	OH03-41-45	57.2	7	72.0	32	58.4	35	67.5	24	93.6	6	56.5	13
16	P02444A1-23-9	43.7	37	92.7	3	59.7	27	74.0	11	86.2	23	54.7	18
17	P03207A1-7	47.0	27	100.2	1	59.6	30	66.1	27	74.8	43	56.8	10
18	P04287A1-16	43.1	40	93.5	2	61.0	24	52.0	45	72.5	45	48.4	32
19	NYCalR-L	39.9	42	73.4	28	58.3	36	59.3	38	79.5	35	53.6	22
20	MD01W233-06-8	62.5	2	87.2	7	59.6	31	63.7	30	75.8	42	56.3	14
21	MD01W233-06-21	49.2	22	59.3	42	57.2	40	60.9	35	84.5	26	48.1	34
22	MD99W483-06-9	58.2	5	68.1	38	65.0	13	77.0	8	78.1	39	46.5	40
23	VA05W-257	27.4	45	77.7	23	57.9	37	78.3	6	78.8	37	48.7	31
24	VA05W-414	43.0	41	79.5	20	66.3	9	80.5	3	96.6	2	48.9	30
25	LA01*425	48.7	23	64.5	39	68.7	4	69.4	19	95.1	4	47.1	39
26	LA02-923	50.7	20	85.5	11	64.5	15	55.0	42	87.8	16	52.4	23
27	21525c1*	46.4	31	71.7	33	58.7	34	67.6	23	91.6	10	50.4	27
28	IL02-18228	54.2	10	76.2	24	59.2	32	59.3	37	77.5	40	58.5	7
29	IL02-19463	43.6	38	83.4	15	52.1	45	68.1	21	85.7	24	54.5	19
30	Mocha exp.	43.5	39	89.9	4	64.1	16	63.1	31	93.0	8	56.0	15
31	Arena exp.	52.5	13	64.3	40	60.0	26	60.2	36	95.5	3	51.8	24
32	India exp.	59.2	4	71.3	34	66.6	7	55.8	41	80.6	31	57.5	9
33	B030543	53.8	11	70.7	35	57.2	39	79.6	4	87.2	18	56.6	11
34	D04*5513	64.1	1	52.3	45	55.6	42	53.5	44	86.8	19	39.7	45
35	M03-3616-11B	51.8	16	79.5	19	67.9	5	70.0	17	93.3	7	51.8	24
36	KY97C-0321-02-01	51.8	17	73.1	29	63.4	17	80.6	2	89.9	13	55.3	16
37	KY97C-0519-04-07	39.3	44	58.0	43	54.6	43	64.6	29	98.3	1	55.1	17
38	W06-202B	52.4	15	80.8	16	60.8	25	77.0	9	94.5	5	57.9	8
39	MO 040152	60.0	3	69.5	36	57.0	41	61.0	34	86.5	20	47.8	37
40	G41730	57.4	6	72.5	30	62.9	19	65.2	28	87.7	17	60.5	3
41	G52612	46.3	32	85.9	10	66.1	10	62.5	32	85.7	24	48.0	36
42	G69202	48.6	24	83.7	14	62.2	22	68.6	20	88.2	15	49.4	29
43	M04-4566	46.2	33	88.0	5	73.6	1	71.7	16	90.9	11	48.1	34
44	M04-4802	52.5	14	72.2	31	59.7	29	69.8	18	88.7	14	58.9	6
45	M04*5109	55.9	8	79.5	18	71.2	2	71.8	15	82.3	30	56.6	11
LOCATION MEANS		49.4		76.9		61.9		67.6		85.3		52.4	
LSD (.05)		4.4		15.8		12.5		12.7		7.4		4.7	
CV %		5.3		10.3		9.9		9.3		3.7		5.5	
REPS		2		2		2		2		2		3	
Harvest Plot Area (sq.ft.)		50		40		40				60		48	

YIELD (bu/acre)

		Cleveland MS		Plymouth NC	ab	Lincoln NE		Ithaca NY	ab	Napoleon OH	ab	Wooster OH	ab
		Hancock	rank	Murphy	rank	Baenziger	rank	Sorrells	rank	Fogleman	rank	Sneller	rank
1	Roane	66.1	11	41.9	32	56.9	29	63.6	32	73.0	40	64.8	41
2	INW0411	55.7	36	60.4	12	43.2	40	61.9	37	81.0	26	75.3	23
3	Branson	62.1	18	39.8	35	72.6	14	74.3	7	85.5	11	83.8	6
4	Bess	55.9	35	55.5	21	83.6	5	72.4	9	87.0	8	64.1	42
5	MO011126	71.0	5	63.7	4	67.9	21	57.5	43	79.1	32	70.9	34
6	VA03W-412	70.6	7	56.8	18	79.9	7	63.6	31	84.9	13	85.8	4
7	AR97044-10-2	53.8	39	56.6	19	78.9	8	64.9	27	84.0	16	62.1	44
8	KY96C-0769-7-3	66.4	9	62.8	8	52.0	36	60.6	39	76.0	37	72.3	30
9	OH02-12678	56.1	34	31.0	39	51.9	37	64.7	28	80.0	28	78.3	17
10	MO040192	59.1	28	59.5	13	63.6	24	56.6	44	90.0	4	68.8	36
11	IL00-8530	50.7	42	59.0	14	64.8	22	69.4	19	79.4	30	72.0	31
12	NC04-20814	66.1	10	74.5	1	70.1	15	69.3	20	79.5	29	76.4	20
13	AR97124-4-2	62.0	19	55.7	20	60.7	27	59.8	41	80.6	27	62.4	43
14	OH02-7217	35.0	44	27.4	40	56.8	30	69.6	18	83.5	19	80.5	13
15	OH03-41-45	58.1	29	53.7	23	76.6	12	70.0	16	82.5	22	75.4	22
16	P02444A1-23-9	56.2	33	38.3	37	53.3	34	69.9	17	82.1	24	79.1	16
17	P03207A1-7	65.5	12	63.4	6	88.4	3	63.3	34	78.4	34	69.8	35
18	P04287A1-16	70.8	6	63.7	5	61.9	26	55.0	45	73.2	39	65.4	40
19	NYCalR-L	50.1	43	22.9	43	26.4	45	67.6	22	70.5	43	72.9	29
20	MD01W233-06-8	55.6	37	61.0	11	64.3	23	65.4	24	73.7	38	74.5	26
21	MD01W233-06-21	59.5	27	49.6	28	42.6	41	71.1	14	81.2	25	71.8	32
22	MD99W483-06-9	63.8	15	57.3	16	52.1	35	65.1	25	69.2	44	75.6	21
23	VA05W-257	56.9	30	50.3	27	41.4	44	60.3	40	70.9	42	81.4	11
24	VA05W-414	62.5	17	16.1	45	50.7	38	71.3	13	79.2	31	88.4	2
25	LA01*425	64.3	14	62.2	9	68.6	20	68.9	21	96.5	1	76.8	19
26	LA02-923	60.3	25	61.9	10	78.2	9	74.6	5	86.6	10	77.5	18
27	21525c1*	52.1	40	59.0	15	69.7	18	72.0	11	85.1	12	81.7	9
28	IL02-18228	60.4	24	53.1	24	77.8	10	66.1	23	66.6	45	65.8	39
29	IL02-19463	61.4	22	70.3	3	94.3	1	65.1	26	84.2	15	67.1	38
30	Mocha exp.	56.6	32	20.4	44	42.4	42	74.7	4	84.0	17	82.2	8
31	Arena exp.	55.3	38	23.2	42	53.3	33	76.8	2	78.1	35	81.4	10
32	India exp.	60.7	23	51.5	25	54.7	31	58.8	42	82.9	20	71.2	33
33	B030543	84.1	1	71.4	2	77.7	11	70.9	15	84.6	14	74.1	28
34	D04*5513	83.9	2	46.6	30	69.8	17	62.4	36	82.4	23	54.7	45
35	M03-3616-11B	75.4	4	40.2	34	76.4	13	74.2	8	87.1	7	79.1	15
36	KY97C-0321-02-01	80.1	3	54.9	22	69.0	19	71.6	12	86.7	9	88.4	3
37	KY97C-0519-04-07	50.8	41	44.7	31	42.0	43	83.6	1	91.9	3	90.0	1
38	W06-202B	68.4	8	24.2	41	62.8	25	64.7	29	92.7	2	85.0	5
39	MO 040152	62.0	19	51.3	26	58.2	28	62.8	35	78.5	33	67.6	37
40	G41730	13.9	45	62.9	7	94.2	2	74.3	6	87.3	6	74.8	25
41	G52612	56.6	31	47.1	29	83.4	6	63.5	33	71.5	41	79.7	14
42	G69202	62.8	16	36.4	38	84.2	4	76.5	3	76.4	36	75.1	24
43	M04-4566	65.2	13	41.7	33	69.9	16	60.9	38	88.3	5	83.2	7
44	M04-4802	62.0	19	39.7	36	45.0	39	72.0	10	82.9	21	80.8	12
45	M04*5109	60.2	26	56.9	17	53.7	32	64.0	30	83.6	18	74.5	27
LOCATION MEANS		60.6		49.8		64.1		67.2		81.4		75.2	
LSD (.05)				10.8				4.7		7.91		7.3	
CV %				9.8				9.4		4.81		5.95	
REPS		1		2		1		3		2		3	
Harvest Plot Area (sq.ft.)				55				41		45.6		50	

YIELD (bu/acre)

		Wooster OH	a	Nairn ON	a	Blacksburg VA	ab	Warsaw VA	ab	Oconto WI	ab
		Fioritto	rank	Etienne	rank	Griffey	rank	Griffey	rank	Cisar	rank
1	Roane	63.2	16	73.4	41	76.7	32	79.9	35	97.9	18
2	INW0411	62.0	21	78.3	36	82.8	20	97.9	13	93.5	34
3	Branson	64.0	12	90.6	12	91.8	6	112.7	3	101.9	10
4	Bess	62.8	19	85.6	23	76.9	31	83.7	32	97.8	20
5	MO011126	48.9	45	87.4	17	81.1	23	91.9	18	102.9	9
6	VA03W-412	55.6	33	81.7	31	105.6	1	113.4	1	103.6	7
7	AR97044-10-2	51.8	41	77.3	39	88.4	12	90.7	19	93.4	35
8	KY96C-0769-7-3	56.5	30	82.2	30	84.7	15	87.7	25	95.5	28
9	OH02-12678	62.8	19	99.4	4	70.0	40	95.9	15	94.5	30
10	MO040192	55.8	32	89.7	13	89.3	10	90.0	21	97.1	24
11	IL00-8530	59.4	23	77.7	38	91.8	5	85.3	30	110.1	2
12	NC04-20814	57.5	26	102.2	2	88.5	11	101.8	11	114.0	1
13	AR97124-4-2	51.7	42	86.2	21	71.9	38	70.2	44	94.9	29
14	OH02-7217	68.6	6	93.3	8	65.3	42	76.3	37	95.9	27
15	OH03-41-45	68.1	8	92.7	9	70.5	39	89.0	23	99.4	15
16	P02444A1-23-9	64.3	11	77.1	40	79.5	25	95.9	14	99.1	16
17	P03207A1-7	55.9	31	79.7	35	82.1	21	87.1	26	94.1	32
18	P04287A1-16	63.9	13	78.3	36	76.2	33	92.7	16	93.1	36
19	NYCalR-L	71.0	3	92.1	11	62.0	43	81.5	34	91.2	40
20	MD01W233-06-8	50.7	44	85.0	25	85.8	13	85.4	29	91.7	38
21	MD01W233-06-21	70.7	4	81.7	31	72.6	37	85.5	28	89.4	44
22	MD99W483-06-9	68.2	7	85.9	22	83.6	18	104.9	8	99.6	14
23	VA05W-257	54.6	36	83.4	29	78.2	28	106.1	5	96.5	25
24	VA05W-414	64.4	10	100.0	3	84.6	16	104.1	9	103.5	8
25	LA01*425	52.9	40	110.5	1	81.4	22	105.3	6	110.1	3
26	LA02-923	70.2	5	85.6	23	61.9	44	84.9	31	94.4	31
27	21525c1*	63.4	15	94.3	7	78.1	29	89.4	22	96.1	26
28	IL02-18228	51.6	43	70.6	43	73.9	35	70.2	45	92.1	37
29	IL02-19463	55.0	35	72.7	42	92.6	4	82.7	33	97.2	23
30	Mocha exp.	58.4	24	87.1	18	84.8	14	72.4	42	86.2	45
31	Arena exp.	73.9	1	80.7	33	57.8	45	73.3	40	93.7	33
32	India exp.	63.1	17	68.8	44	72.9	36	71.6	43	99.1	17
33	B030543	55.3	34	85.0	25	90.4	8	87.9	24	100.8	13
34	D04*5513	54.6	37	86.3	19	75.9	34	77.4	36	89.4	43
35	M03-3616-11B	58.3	25	89.4	14	83.2	19	86.2	27	97.4	22
36	KY97C-0321-02-01	63.1	18	86.3	19	91.1	7	113.2	2	109.8	4
37	KY97C-0519-04-07	56.5	29	80.0	34	94.3	3	105.0	7	90.3	41
38	W06-202B	61.0	22	84.3	28	69.4	41	99.0	12	101.8	11
39	MO 040152	52.9	39	92.6	10	79.6	24	72.5	41	97.8	19
40	G41730	63.4	14	96.9	5	84.3	17	92.0	17	97.6	21
41	G52612	53.7	38	88.9	15	90.1	9	103.4	10	100.8	12
42	G69202	57.1	27	88.3	16	79.0	26	90.6	20	104.3	6
43	M04-4566	67.3	9	94.9	6	100.8	2	111.1	4	106.5	5
44	M04-4802	72.2	2	68.1	45	78.1	30	75.0	38	91.6	39
45	M04*5109	56.8	28	84.6	27	78.6	27	73.5	39	89.6	42
LOCATION MEANS		60.3		85.7		80.8		89.9		97.7	
LSD (.05)		10.6				10.8		13.4		12.8	
CV %		12.9				7.9		8.9		9.7	
REPS		3		3						3	
Harvest Plot Area (sq.ft.)		45								50	

YIELD (bu/acre)

		ENTRY MEANS ALL LOCATIONS	rank	ENTRY MEANS IN-REGION [a]	rank	ENTRY MEANS CV <10% [b]	rank
1	Roane	72.2	33	72.6	38	75.7	35
2	INW0411	69.8	43	72.8	36	75.3	38
3	Branson	81.0	4	82.2	3	83.1	6
4	Bess	77.2	13	77.4	20	79.3	19
5	MO011126	76.2	15	77.6	18	78.0	23
6	VA03W-412	82.3	2	82.7	2	86.1	2
7	AR97044-10-2	73.6	27	73.4	35	76.1	30
8	KY96C-0769-7-3	75.3	21	77.0	23	78.4	20
9	OH02-12678	72.5	31	75.4	25	75.8	33
10	MO040192	75.3	20	77.8	17	79.4	18
11	IL00-8530	75.5	17	78.5	15	80.7	14
12	NC04-20814	75.5	18	79.3	10	80.1	16
13	AR97124-4-2	70.2	40	72.1	40	71.7	44
14	OH02-7217	70.2	41	74.1	32	75.8	34
15	OH03-41-45	77.5	12	79.0	12	80.2	15
16	P02444A1-23-9	73.3	28	77.3	22	78.2	22
17	P03207A1-7	74.7	22	75.1	28	75.5	36
18	P04287A1-16	70.7	39	72.1	41	71.1	45
19	NYCalR-L	68.8	45	71.4	44	72.0	43
20	MD01W233-06-8	71.8	36	73.5	34	76.0	31
21	MD01W233-06-21	70.1	42	71.6	43	74.5	42
22	MD99W483-06-9	72.2	32	74.5	30	77.9	25
23	VA05W-257	69.1	44	73.8	33	74.6	41
24	VA05W-414	74.1	24	77.5	19	77.6	26
25	LA01*425	83.1	1	83.9	1	87.5	1
26	LA02-923	81.1	3	81.0	7	82.6	9
27	21525c1*	75.4	19	78.7	14	81.8	11
28	IL02-18228	71.2	38	72.0	42	75.4	37
29	IL02-19463	78.5	10	79.0	13	81.3	12
30	Mocha exp.	71.9	34	74.5	29	76.4	29
31	Arena exp.	71.6	37	72.8	37	74.7	40
32	India exp.	71.9	35	72.4	39	75.9	32
33	B030543	79.7	6	79.4	9	83.4	4
34	D04*5513	73.8	25	71.1	45	74.9	39
35	M03-3616-11B	79.2	9	79.1	11	82.3	10
36	KY97C-0321-02-01	80.5	5	82.2	4	84.5	3
37	KY97C-0519-04-07	72.8	29	76.8	24	80.9	13
38	W06-202B	78.1	11	79.7	8	82.8	7
39	MO 040152	74.3	23	74.1	31	77.1	28
40	G41730	79.5	7	81.2	6	83.2	5
41	G52612	76.6	14	77.3	21	78.3	21
42	G69202	76.2	16	78.4	16	79.9	17
43	M04-4566	79.2	8	81.6	5	82.7	8
44	M04-4802	73.7	26	75.3	26	77.9	24
45	M04*5109	72.7	30	75.2	27	77.4	27
LOCATION MEANS		74.9		76.5		78.5	
LSD (.05)							
CV %							
REPS							
Harvest Plot Area (sq.ft.)							

TEST WEIGHT (lbs/bu)

		Bay AR Hancock	Stuttgart AR Bacon	Griffin GA Johnson	Aberdeen ID Bockelman	Irvington IL Fogleman	Brownstown IL Kolb
1	Roane	55.6	54.9	59.9	63.2	61.6	60.3
2	INW0411	48.0	54.2	53.8	61.8	58.1	54.0
3	Branson	55.7	56.2	60.1	61.5	57.8	55.1
4	Bess	54.9	56.4	60.3	63.1	60.2	57.7
5	MO011126	55.4	55.8	61.0	62.5	59.6	57.6
6	VA03W-412	55.2	57.3	61.3	64.0	60.5	58.8
7	AR97044-10-2	53.1	55.2	59.8	62.1	59.1	55.7
8	KY96C-0769-7-3	54.5	54.9	60.7	62.1	61.0	58.5
9	OH02-12678	56.8	57.2	56.2	61.6	58.5	57.2
10	MO040192	55.1	57.1	56.0	62.7	61.0	56.6
11	IL00-8530	56.9	58.5	60.7	63.9	61.0	57.5
12	NC04-20814	56.0	55.9	56.3	62.8	59.7	57.9
13	AR97124-4-2	55.0	57.0	59.5	62.7	58.5	56.1
14	OH02-7217	52.1	52.5	52.4	63.0	58.7	56.6
15	OH03-41-45	56.0	56.9	60.0	63.5	61.1	59.7
16	P02444A1-23-9	52.9	52.7	55.5	60.7	57.7	53.1
17	P03207A1-7	55.8	54.8	59.7	62.2	58.1	55.6
18	P04287A1-16	54.6	55.2	59.3	61.8	57.7	55.5
19	NYCalR-L	54.9	56.1		63.1	58.5	55.7
20	MD01W233-06-8	59.5	51.9	56.6	63.0	60.5	58.9
21	MD01W233-06-21	51.3	54.9	60.0	61.5	59.3	55.7
22	MD99W483-06-9	56.2	49.4	53.3	62.2	56.9	55.9
23	VA05W-257	53.9	52.2	52.7	62.5	58.6	53.5
24	VA05W-414	54.0	53.5	58.1	63.1	60.1	52.2
25	LA01*425	53.1	53.4	59.9	63.9	59.6	55.8
26	LA02-923	53.3	52.4	59.7	62.2	58.2	55.9
27	21525c1*	49.9	56.0	51.5	61.9	58.4	53.2
28	IL02-18228	53.9	58.1	59.3	63.5	61.4	58.7
29	IL02-19463	58.7	57.6	60.7	61.9	60.3	58.8
30	Mocha exp.	49.2	52.6	59.4	61.8	58.0	52.8
31	Arena exp.	52.2	50.4	57.2	61.9	59.1	50.9
32	India exp.	52.4	55.6	57.5	62.6	59.3	54.1
33	B030543	53.7	54.3	61.7	64.3	61.6	58.6
34	D04*5513	53.2	55.9	60.7	63.3	59.8	56.6
35	M03-3616-11B	53.5	54.9	60.5	62.1	57.9	56.6
36	KY97C-0321-02-01	51.5	52.9	55.9	62.6	59.0	52.5
37	KY97C-0519-04-07	50.8	51.3	52.4	62.3	57.8	51.2
38	W06-202B	50.6	55.3	57.3	63.3	58.2	53.5
39	MO 040152	55.6	58.0	61.4	62.9	60.7	57.8
40	G41730	55.0	56.1	60.8	62.6	60.1	57.8
41	G52612	56.4	56.1	60.0	62.3	59.5	58.0
42	G69202	52.0	54.4	55.7	64.3	60.5	58.6
43	M04-4566	50.0	53.5	59.0	59.5	57.3	54.4
44	M04-4802	50.4	51.8	55.7	61.2	58.5	53.0
45	M04*5109	54.1	57.1	57.3	63.7	61.1	58.3
LOCATION MEANS		53.8	54.9	58.1	62.6	59.3	56.1

TEST WEIGHT (lbs/bu)

		Urbana IL	Tipton IN	Wabash IN	W Lafayette IN	Winfield KS	Logan Co. KY
		Kolb	Brown	Moreno	Ohm	Perry	Van Sanford
1	Roane	58.7	61.1	59.2	61.8	59.0	57.9
2	INW0411	53.1	56.1	55.6	55.7	54.6	55.4
3	Branson	55.1	56.8	56.0	57.0	56.3	56.4
4	Bess	56.1	58.2	57.8	58.8	56.0	58.9
5	MO011126	56.6	59.3	58.4	59.7	55.7	59.5
6	VA03W-412	56.9	59.7	58.0	60.2	58.5	58.1
7	AR97044-10-2	54.6	56.3	55.9	58.2	57.1	56.9
8	KY96C-0769-7-3	56.2	59.3	58.5	60.1	55.2	58.7
9	OH02-12678	55.1	59.0	57.1	59.9	56.0	58.0
10	MO040192	55.7	58.4	56.5	59.3	57.9	58.8
11	IL00-8530	57.1	60.0	57.2	59.2	58.2	57.7
12	NC04-20814	56.2	58.7	58.7	59.0	56.6	55.0
13	AR97124-4-2	54.4	57.9	57.0	57.3	56.0	57.9
14	OH02-7217	54.7	56.5	55.8	57.5	52.7	57.0
15	OH03-41-45	57.5	58.1	57.4	59.6	58.2	58.4
16	P02444A1-23-9	53.0	56.0	53.3	56.5	53.8	57.5
17	P03207A1-7	54.4	54.5	54.4	57.7	56.8	59.7
18	P04287A1-16	56.2	57.7	57.7	58.9	55.7	57.5
19	NYCalR-L	50.4	55.7	52.9	56.8	53.0	56.8
20	MD01W233-06-8	58.0	60.8	59.0	60.0	57.9	61.2
21	MD01W233-06-21	54.0	59.0	57.3	58.0	55.2	54.6
22	MD99W483-06-9	55.7	58.5	57.0	58.7	56.3	57.3
23	VA05W-257	53.6	54.7	54.1	55.3	53.0	54.8
24	VA05W-414	55.7	56.1	57.6	58.3	56.3	55.7
25	LA01*425	56.8	56.6	58.4	58.9	58.2	57.7
26	LA02-923	53.5	55.3	54.6	56.4	52.4	56.5
27	21525c1*	54.5	55.2	55.2	57.5	55.5	54.7
28	IL02-18228	57.4	60.3	57.2	60.3	60.1	59.3
29	IL02-19463	57.1	58.7	57.0	58.3	58.8	59.1
30	Mocha exp.	53.6	53.6	54.9	55.2	52.2	56.5
31	Arena exp.	52.6	55.2	54.0	56.9	55.2	56.1
32	India exp.	55.0	56.5	55.0	58.3	57.7	57.3
33	B030543	56.8	59.0	57.8	61.4	58.8	58.4
34	D04*5513	56.2	55.3	57.7	59.0	57.9	55.2
35	M03-3616-11B	55.3	58.1	56.0	58.5	55.7	58.7
36	KY97C-0321-02-01	53.9	55.5	54.5	57.5	52.7	56.8
37	KY97C-0519-04-07	52.9	54.1	54.9	55.8	54.1	54.5
38	W06-202B	54.1	55.3	55.5	56.9	57.4	57.6
39	MO 040152	57.2	61.1	58.8	60.2	57.7	58.0
40	G41730	56.0	59.2	57.6	60.1	56.8	57.9
41	G52612	56.2	58.4	58.7	59.6	56.8	58.3
42	G69202	57.0	57.6	58.7	59.9	58.2	57.1
43	M04-4566	52.8	54.5	54.0	55.4	54.6	57.3
44	M04-4802	54.5	54.7	55.1	57.8	53.5	55.3
45	M04*5109	56.6	58.7	58.3	59.7	57.9	56.2
LOCATION MEANS		55.3	57.4	56.6	58.4	56.2	57.3

TEST WEIGHT (lbs/bu)

		Woodford Co. KY	Clarksville MD	Merrill MI	Columbia MO	Plymouth NC	Ithaca NY
		Van Sanford	Costa	Lewis	McKendry	Murphy	Sorrells
1	Roane	60.2	56.4	63.4	54.6	59.8	60.5
2	INW0411	57.0	53.2	60.1	51.2	56.8	57.2
3	Branson	57.3	53.4	60.3	50.7	56.3	56.1
4	Bess	59.7	56.1	61.8	54.5	57.7	58.8
5	MO011126	59.1	56.1	63.0	54.1	59.9	57.5
6	VA03W-412	59.7	56.3	63.0	53.7	58.7	59.3
7	AR97044-10-2	58.2	52.9	60.7	52.1	55.4	57.2
8	KY96C-0769-7-3	58.4	54.8	62.6	53.9	58.7	59.7
9	OH02-12678	58.1	56.5	61.4	53.3	58.5	57.0
10	MO040192	58.5	54.1	61.7	54.9	60.0	57.8
11	IL00-8530	59.1	58.3	61.6	55.4	61.4	57.5
12	NC04-20814	58.4	55.9	61.4	53.7	59.3	58.6
13	AR97124-4-2	57.5	54.4	60.9	52.6	59.3	57.3
14	OH02-7217	58.5	52.7	65.5	52.5	55.1	58.1
15	OH03-41-45	59.6	56.6	62.8	56.0	60.0	59.1
16	P02444A1-23-9	57.3	50.1	61.5	51.9	53.5	56.4
17	P03207A1-7	58.6	55.8	61.1	54.0	59.5	56.6
18	P04287A1-16	59.1	56.3	60.3	53.4	58.0	57.1
19	NYCalR-L	57.5	52.6	62.0	51.8	55.5	57.3
20	MD01W233-06-8	59.5	60.0	63.6	56.0	61.0	58.5
21	MD01W233-06-21	55.7	53.2	62.6	53.2	59.1	57.9
22	MD99W483-06-9	59.5	56.0	62.9	52.6	57.9	58.2
23	VA05W-257	56.7	52.8	59.3	51.2	55.7	55.7
24	VA05W-414	57.6	55.1	61.1	50.6	56.6	57.8
25	LA01*425	59.3	57.2	62.6	52.6	59.6	58.4
26	LA02-923	57.1	52.5	61.3	50.4	57.2	57.0
27	21525c1*	57.6	51.6	60.6	49.7	56.6	58.6
28	IL02-18228	61.1	58.9	61.7	55.6	61.8	57.3
29	IL02-19463	59.3	57.5	61.2	53.9	58.5	56.2
30	Mocha exp.	56.7	54.3	60.9	50.5	53.1	56.2
31	Arena exp.	56.8	52.8	61.2	50.5	55.3	58.4
32	India exp.	57.9	53.9	61.5	52.7	54.9	56.8
33	B030543	59.5	56.7	62.7	55.6	60.9	59.4
34	D04*5513	58.0	53.5	63.3	51.9	58.3	60.5
35	M03-3616-11B	58.0	55.7	61.0	52.2	58.2	56.7
36	KY97C-0321-02-01	56.0	54.3	60.9	51.1	58.0	58.0
37	KY97C-0519-04-07	46.3	52.2	60.4	51.9	57.7	57.0
38	W06-202B	56.6	55.1	61.3	53.5	53.2	56.7
39	MO 040152	59.8	54.9	61.9	54.1	58.2	59.1
40	G41730	59.1	56.5	61.9	54.2	59.4	58.2
41	G52612	57.8	54.4	63.1	52.8	59.3	59.3
42	G69202	59.6	54.4	62.2	54.0	57.3	58.1
43	M04-4566	57.2	54.1	60.7	52.1	55.4	56.1
44	M04-4802	57.1	52.7	61.7	51.5	56.4	58.6
45	M04*5109	59.7	56.3	61.8	54.9	58.8	58.6
LOCATION MEANS		58.0	54.9	61.7	53.0	57.8	57.8

TEST WEIGHT (lbs/bu)

		Napoleon OH Fogleman	Wooster OH Sneller	Wooster OH Fioritto	Nairn ON Etienne	Blacksburg VA Griffey	Warsaw VA Griffey
1	Roane	59.4	61.8	60.9	58.4	54.8	57.2
2	INW0411	55.8	57.1	57.8	56.5	50.1	55.8
3	Branson	55.5	58.4	56.5	57.3	51.0	56.3
4	Bess	57.7	60.2	59.3	58.1	52.1	57.5
5	MO011126	56.3	60.0	58.8	58.5	54.2	58.0
6	VA03W-412	58.0	61.1	60.3	59.0	54.8	59.1
7	AR97044-10-2	55.9	59.7	57.7	56.5	52.5	56.6
8	KY96C-0769-7-3	57.2	60.9	60.5	57.0	52.0	55.5
9	OH02-12678	57.1	59.8	58.1	57.6	50.8	56.4
10	MO040192	57.3	60.2	59.4	58.6	53.3	56.0
11	IL00-8530	58.2	60.9	59.5	58.2	55.9	58.9
12	NC04-20814	57.1	61.2	58.7	57.6	51.1	56.5
13	AR97124-4-2	56.1	59.7	57.3	57.4	53.0	55.5
14	OH02-7217	55.9	58.9	57.4	56.2	51.3	53.3
15	OH03-41-45	57.5	61.4	58.8	58.8	51.7	57.4
16	P02444A1-23-9	55.5	57.7	57.2	55.0	48.9	55.0
17	P03207A1-7	55.6	58.6	56.6	56.8	53.2	57.7
18	P04287A1-16	56.1	58.7	56.8	57.0	52.7	56.5
19	NYCalR-L	55.3	60.4	58.0	54.8	49.4	55.8
20	MD01W233-06-8	58.3	63.0	60.9	59.1	55.9	57.4
21	MD01W233-06-21	57.4	60.7	60.1	55.9	48.9	55.2
22	MD99W483-06-9	54.1	60.2	58.6	57.4	52.0	57.4
23	VA05W-257	55.9	57.2	54.3	56.5	47.9	55.1
24	VA05W-414	57.3	60.2	57.4	55.8	50.5	57.2
25	LA01*425	57.3	60.5	59.6	58.1	49.1	56.7
26	LA02-923	55.0	58.2	57.7	55.5	48.2	55.4
27	21525c1*	56.0	59.3	59.1	55.8	48.5	53.3
28	IL02-18228	58.8	60.5	57.7	60.7	54.5	57.7
29	IL02-19463	56.8	58.0	55.7	58.0	54.7	57.8
30	Mocha exp.	54.4	57.0	54.9	55.6	50.2	53.6
31	Arena exp.	55.8	59.8	58.2	55.4	48.6	55.4
32	India exp.	55.8	59.0	57.6	56.0	51.8	55.2
33	B030543	59.5	62.7	61.0	58.6	54.4	58.7
34	D04*5513	57.4	61.9	60.8	57.5	53.1	55.2
35	M03-3616-11B	56.6	59.6	59.0	57.1	52.8	57.2
36	KY97C-0321-02-01	54.1	59.9	59.0	55.0	49.2	57.0
37	KY97C-0519-04-07	55.7	59.8	58.0	55.0	51.9	56.1
38	W06-202B	55.2	59.3	57.0	56.7	48.0	57.2
39	MO 040152	56.9	61.7	61.3	58.9	51.6	54.6
40	G41730	57.5	60.5	57.9	57.7	53.2	56.6
41	G52612	57.1	61.4	58.9	57.4	52.3	55.6
42	G69202	57.5	61.5	59.2	57.3	49.4	54.9
43	M04-4566	54.7	58.2	57.0	56.2	50.8	57.3
44	M04-4802	55.5	59.4	57.7	56.5	47.9	52.6
45	M04*5109	57.8	61.4	60.7	57.7	52.5	56.1
LOCATION MEANS		56.5	59.9	58.4	57.1	51.5	56.2

TEST WEIGHT (lbs/bu)

		Oconto WI	ENTRY MEANS ALL LOCATIONS	
		Cisar		rank
1	Roane	59.0	59.2	2
2	INW0411	56.4	55.4	39
3	Branson	56.2	56.4	31
4	Bess	57.7	58.0	12
5	MO011126	58.8	58.2	9
6	VA03W-412	58.9	58.8	6
7	AR97044-10-2	57.5	56.7	28
8	KY96C-0769-7-3	58.3	58.0	13
9	OH02-12678	57.8	57.4	20
10	MO040192	58.6	57.8	15
11	IL00-8530	58.5	58.8	5
12	NC04-20814	56.2	57.5	19
13	AR97124-4-2	57.1	57.1	23
14	OH02-7217	56.6	56.1	33
15	OH03-41-45	58.1	58.6	7
16	P02444A1-23-9	56.0	55.1	42
17	P03207A1-7	57.5	57.0	25
18	P04287A1-16	57.6	57.1	24
19	NYCalR-L	55.9	55.8	34
20	MD01W233-06-8	59.0	59.2	1
21	MD01W233-06-21	57.2	56.7	27
22	MD99W483-06-9	56.9	56.8	26
23	VA05W-257	54.5	54.9	43
24	VA05W-414	55.2	56.5	29
25	LA01*425	56.1	57.6	17
26	LA02-923	56.1	55.7	36
27	21525c1*	56.2	55.4	38
28	IL02-18228	59.6	59.0	3
29	IL02-19463	57.6	58.1	10
30	Mocha exp.	54.4	54.9	44
31	Arena exp.	55.2	55.4	40
32	India exp.	56.3	56.4	30
33	B030543	58.1	59.0	4
34	D04*5513	57.0	57.6	18
35	M03-3616-11B	56.4	57.1	22
36	KY97C-0321-02-01	55.1	55.7	35
37	KY97C-0519-04-07	55.0	54.8	45
38	W06-202B	56.5	56.1	32
39	MO 040152	57.1	58.4	8
40	G41730	56.4	58.0	14
41	G52612	54.8	57.8	16
42	G69202	54.5	57.4	21
43	M04-4566	54.3	55.4	37
44	M04-4802	52.9	55.3	41
45	M04*5109	55.3	58.0	11
LOCATION MEANS		56.7	57.0	

HEADING DATE (Julian Days)

		Bay AR Hancock	Stuttgart AR Bacon	Griffin GA Johnson	Irvington IL Fogleman	Urbana IL Kolb	Tipton IN Brown
1	Roane	120.5	108	109	141.5	143	145.0
2	INW0411	119.0	108	107	138.5	141	143.0
3	Branson	116.0	108	107	137.5	140	141.0
4	Bess	120.0	108	105	139.0	142	144.0
5	MO011126	120.0	108	108	143.0	144	146.0
6	VA03W-412	118.0	108	107	138.0	142	144.0
7	AR97044-10-2	115.0	106	98	139.0	142	144.0
8	KY96C-0769-7-3	116.5	108	108	140.5	144	143.0
9	OH02-12678	122.5	114	113	143.5	144	146.0
10	MO040192	118.0	108	108	142.0	142	143.0
11	IL00-8530	117.0	108	107	135.5	140	140.0
12	NC04-20814	118.0	108	112	139.0	143	144.0
13	AR97124-4-2	119.0	108	112	139.5	142	141.0
14	OH02-7217	128.0	112	116	145.5	145	146.0
15	OH03-41-45	121.0	108	114	141.0	142	143.0
16	P02444A1-23-9	118.0	108	112	139.5	143	142.0
17	P03207A1-7	119.0	108	108	139.0	141	142.0
18	P04287A1-16	120.5	108	106	139.5	141	142.0
19	NYCalR-L	118.5	108	112	141.5	143	144.0
20	MD01W233-06-8	119.5	108	107	140.5	143	143.0
21	MD01W233-06-21	119.0	108	108	139.5	142	142.0
22	MD99W483-06-9	116.5	106	103	139.0	144	145.5
23	VA05W-257	118.5	112	112	139.5	142	143.0
24	VA05W-414	118.0	112	112	140.0	143	143.0
25	LA01*425	119.5	108	113	139.0	142	143.0
26	LA02-923	123.5	115	114	143.5	146	146.0
27	21525c1*	121.5	108	114	140.5	143	146.0
28	IL02-18228	118.5	115	112	137.0	141	140.0
29	IL02-19463	104.5	106	112	133.0	139	140.0
30	Mocha exp.	119.5	108	114	138.5	142	141.0
31	Arena exp.	120.5	108	114	141.5	143	145.0
32	India exp.	116.5	104	104	137.0	141	140.0
33	B030543	119.5	108	113	141.0	144	144.5
34	D04*5513	118.5	108	108	140.0	143	144.5
35	M03-3616-11B	124.0	114	114	143.5	144	145.0
36	KY97C-0321-02-01	122.5	112	114	143.0	144	144.0
37	KY97C-0519-04-07	122.0	112	114	143.5	144	145.5
38	W06-202B	119.0	108	109	138.5	143	142.0
39	MO 040152	121.0	112	114	139.0	144	145.5
40	G41730	118.0	108	105	139.0	142	141.0
41	G52612	122.5	112	113	143.0	143	145.0
42	G69202	121.0	112	112	139.0	142	141.0
43	M04-4566	118.5	108	108	139.0	144	144.0
44	M04-4802	121.5	108	107	141.5	143	144.5
45	M04*5109	116.5	108	106	140.5	143	142.5
LOCATION MEANS		119.2	109.1	109.9	140.0	142.6	143.3

HEADING DATE (Julian Days)

		Lafayette IN	W Lafayette IN	Wichita KS	Woodford Co. KY	Clarksville MD	E Lansing/Merrill MI
		Moreno	Ohm	Wilson	Van Sanford	Costa	Lewis
1	Roane	146	139.5	129	136.5	133.5	156.3
2	INW0411	142	137.5	127	134.5	130.0	155.8
3	Branson	141	140.5	127	131.0	128.5	154.3
4	Bess	144	140.5	128	134.0	131.5	156.0
5	MO011126	145	139.0	130	137.0	132.5	156.5
6	VA03W-412	144	140.5	127	135.0	129.5	154.6
7	AR97044-10-2	144	141.0	128	134.0	130.5	156.7
8	KY96C-0769-7-3	145	139.0	129	135.0	131.5	156.1
9	OH02-12678	146	141.0	130	137.5	132.0	157.0
10	MO040192	142	137.5	129	133.0	131.5	154.9
11	IL00-8530	140	141.5	126	131.0	128.0	154.2
12	NC04-20814	143	137.5	127	132.5	131.0	155.3
13	AR97124-4-2	142	139.0	127	133.5	131.5	155.3
14	OH02-7217	146	139.0	130	139.0	134.5	156.0
15	OH03-41-45	145	144.0	129	136.0	131.5	155.3
16	P02444A1-23-9	144	139.0	130	133.0	131.0	154.8
17	P03207A1-7	141	141.0	126	132.0	129.0	155.1
18	P04287A1-16	141	138.5	127	133.0	132.5	154.6
19	NYCalR-L	144	141.5	129	133.0	134.5	155.5
20	MD01W233-06-8	145	141.5	128	135.5	132.0	155.7
21	MD01W233-06-21	145	140.0	129	135.0	130.0	155.1
22	MD99W483-06-9	146	142.0	130	135.0	130.5	156.7
23	VA05W-257	143	139.5	128	133.5	132.0	154.8
24	VA05W-414	143	142.0	129	135.0	131.0	156.6
25	LA01*425	143	142.0	127	132.5	130.5	155.8
26	LA02-923	149	142.0	130	137.5	137.5	158.1
27	21525c1*	146	139.0	129	136.0	132.5	156.5
28	IL02-18228	141	139.5	127	131.0	128.0	153.6
29	IL02-19463	140	138.5	126	130.0	125.5	154.0
30	Mocha exp.	142	137.5	127	131.5	130.0	155.5
31	Arena exp.	144	139.5	130	136.5	133.0	155.4
32	India exp.	142	140.5	126	130.0	129.0	153.8
33	B030543	146	141.0	130	135.0	132.0	156.0
34	D04*5513	147	141.0	129	134.0	131.0	156.8
35	M03-3616-11B	145	141.0	130	136.0	134.5	155.6
36	KY97C-0321-02-01	143	141.5	130	137.5	134.0	156.7
37	KY97C-0519-04-07	146	139.5	128	137.0	134.0	156.6
38	W06-202B	144	141.5	127	133.5	130.0	155.2
39	MO 040152	147	139.5	130	137.0	136.0	156.6
40	G41730	142	141.5	127	132.0	130.0	154.2
41	G52612	146	139.5	129	137.5	135.0	155.9
42	G69202	143	142.5	127	134.0	129.0	155.4
43	M04-4566	143	141.0	129	134.0	133.0	156.0
44	M04-4802	144	142.5	129	135.0	131.0	156.6
45	M04*5109	144	142.0	129	133.0	131.5	155.7
LOCATION MEANS		143.9	140.3	128.3	134.3	131.5	155.6

HEADING DATE (Julian Days)

		Columbia MO McKendry	Lincoln NE Baenziger	Ithaca NY Sorrells	Napoleon OH Fogleman	Wooster OH Sneller	Wooster OH Fioritto
1	Roane	142.3	152	150	150.0	148	147.0
2	INW0411	138.7	153	149	147.0	145	145.3
3	Branson	136.7	149	146	146.0	143	141.3
4	Bess	141.0	150	150	148.0	145	146.7
5	MO011126	140.7	152	149	151.0	148	146.3
6	VA03W-412	139.3	148	149	148.0	146	146.0
7	AR97044-10-2	141.0	152	149	148.0	146	146.7
8	KY96C-0769-7-3	141.7	151	149	150.0	147	146.7
9	OH02-12678	142.3	153	152	150.0	147	147.7
10	MO040192	139.7	150	146	150.0	145	143.0
11	IL00-8530	136.7	149	146	144.0	141	141.3
12	NC04-20814	141.3	152	149	148.0	145	144.0
13	AR97124-4-2	140.3	151	148	147.0	145	145.7
14	OH02-7217	144.7	152	149	148.0	147	147.3
15	OH03-41-45	141.3	151	148	148.0	147	145.7
16	P02444A1-23-9	140.0	150	148	147.5	147	146.7
17	P03207A1-7	137.7	151	148	146.0	144	143.3
18	P04287A1-16	141.0	153	146	147.5	144	145.0
19	NYCalR-L	141.7	153	149	148.0	147	144.0
20	MD01W233-06-8	141.0	152	148	148.0	146	147.3
21	MD01W233-06-21	140.7	152	146	148.0	145	145.7
22	MD99W483-06-9	140.7	153	150	150.0	147	147.0
23	VA05W-257	140.0	151	149	150.0	146	145.0
24	VA05W-414	140.0	154	146	151.0	146	145.3
25	LA01*425	140.7	151	149	148.0	147	145.7
26	LA02-923	143.0	153	152	153.5	152	149.0
27	21525c1*	143.7	153	150	151.0	148	147.7
28	IL02-18228	137.7	148	148	146.0	142	141.3
29	IL02-19463	134.7	148	146	144.0	140	140.3
30	Mocha exp.	138.0	153	148	148.0	144	140.7
31	Arena exp.	141.3	152	148	149.5	147	147.3
32	India exp.	137.0	150	148	145.0	142	141.7
33	B030543	142.0	151	150	150.0	147	147.3
34	D04*5513	142.0	151	150	148.0	150	146.0
35	M03-3616-11B	141.7	153	149	148.0	148	146.7
36	KY97C-0321-02-01	141.7	153	150	150.0	147	146.7
37	KY97C-0519-04-07	142.3	152	152	150.5	148	148.0
38	W06-202B	140.3	150	149	147.0	145	146.0
39	MO 040152	143.3	153	152	148.0	148	148.7
40	G41730	140.7	150	148	148.0	144	145.0
41	G52612	143.0	151	150	150.0	148	147.0
42	G69202	140.7	150	149	148.0	146	145.3
43	M04-4566	140.7	151	149	148.0	148	146.7
44	M04-4802	141.7	151	150	150.0	147	146.0
45	M04*5109	140.3	151	149	150.0	147	147.0
LOCATION MEANS		140.6	151.3	148.8	148.4	146.0	145.6

HEADING DATE (Julian Days)

		Nairon ON	Blacksburg VA	Warsaw VA	ENTRY MEANS ALL LOCATIONS	
		Etienne	Griffey	Griffey		rank
1	Roane	153	129.5	117.0	137.9	34
2	INW0411	153	127.5	115.0	136.0	9
3	Branson	152	127.0	114.0	134.6	4
4	Bess	153	128.0	115.5	136.6	18
5	MO011126	153	129.5	117.0	137.9	33
6	VA03W-412	153	127.0	113.0	136.0	10
7	AR97044-10-2	154	127.0	115.5	136.1	11
8	KY96C-0769-7-3	153	128.5	114.5	137.0	23
9	OH02-12678	155	133.5	119.0	139.3	43
10	MO040192	153	127.5	115.5	136.1	13
11	IL00-8530	151	126.0	114.0	134.2	3
12	NC04-20814	153	129.0	114.5	136.5	16
13	AR97124-4-2	153	128.0	117.5	136.4	15
14	OH02-7217	154	132.5	121.5	139.7	44
15	OH03-41-45	152	130.5	118.0	137.7	31
16	P02444A1-23-9	152	128.0	116.0	136.6	19
17	P03207A1-7	151	129.5	116.5	135.6	6
18	P04287A1-16	153	129.0	116.0	136.1	12
19	NYCalR-L	151	131.0	119.0	137.5	30
20	MD01W233-06-8	153	130.0	116.0	137.1	27
21	MD01W233-06-21	153	128.0	115.5	136.5	17
22	MD99W483-06-9	155	128.5	114.0	137.1	26
23	VA05W-257	153	130.5	116.0	137.1	24
24	VA05W-414	153	129.5	116.0	137.4	29
25	LA01*425	153	128.5	115.0	136.8	21
26	LA02-923	156	135.5	120.5	140.8	45
27	21525c1*	155	131.5	118.5	138.6	37
28	IL02-18228	150	128.0	116.5	135.3	5
29	IL02-19463	149	126.0	112.0	132.8	1
30	Mocha exp.	150	128.5	117.5	135.9	8
31	Arena exp.	154	131.0	118.5	138.0	36
32	India exp.	151	126.0	111.0	134.1	2
33	B030543	154	130.5	115.5	138.0	35
34	D04*5513	154	128.0	115.5	137.4	28
35	M03-3616-11B	153	133.5	121.0	139.1	42
36	KY97C-0321-02-01	154	130.5	118.0	138.7	38
37	KY97C-0519-04-07	155	131.5	118.0	139.0	41
38	W06-202B	152	128.0	113.5	136.3	14
39	MO 040152	154	131.0	119.0	139.0	40
40	G41730	152	127.5	116.0	135.8	7
41	G52612	154	134.5	118.5	138.9	39
42	G69202	153	128.0	116.0	136.9	22
43	M04-4566	153	130.0	115.5	137.1	25
44	M04-4802	154	131.5	116.5	137.7	32
45	M04*5109	153	128.0	114.0	136.7	20
LOCATION MEANS		152.9	129.4	116.3	137.0	

HEIGHT (inches)

		Griffin GA Johnson	Aberdeen ID Bockelman	Irvington IL Fogleman	Brownstown IL Kolb	Urbana IL Kolb	Tipton IN Brown
1	Roane	35	33.0	35.0	38	38	38
2	INW0411	36	35.7	31.9	38	35	39
3	Branson	34	35.0	35.0	38	37	39
4	Bess	39	33.7	38.2	42	39	39
5	MO011126	36	31.7	39.8	42	40	42
6	VA03W-412	36	34.7	37.8	38	37	39
7	AR97044-10-2	40	35.0	39.4	42	38	43
8	KY96C-0769-7-3	35	32.0	35.4	37	37	38
9	OH02-12678	42	35.7	37.4	43	40	43
10	MO040192	36	38.3	35.8	46	43	44
11	IL00-8530	37	37.0	37.8	40	39	42
12	NC04-20814	34	34.3	36.6	40	36	40
13	AR97124-4-2	39	38.3	39.8	44	42	44
14	OH02-7217	39	38.3	40.6	42	43	46
15	OH03-41-45	43	39.0	42.9	46	45	49
16	P02444A1-23-9	36	36.0	37.8	41	41	45
17	P03207A1-7	38	38.0	35.8	40	40	44
18	P04287A1-16	36	33.3	34.3	38	36	40
19	NYCalR-L	42	37.7	43.7	45	44	45
20	MD01W233-06-8	35	31.0	34.6	38	35	38
21	MD01W233-06-21	38	32.0	37.0	40	37	40
22	MD99W483-06-9	37	32.3	33.9	40	36	40
23	VA05W-257	34	32.3	36.2	37	35	39
24	VA05W-414	36	31.7	37.4	40	36	41
25	LA01*425	41	34.3	36.2	40	39	40
26	LA02-923	44	39.0	40.6	41	40	42
27	21525c1*	38	34.7	39.0	40	40	41
28	IL02-18228	36	37.0	39.8	41	41	40
29	IL02-19463	35	38.3	37.8	39	39	40
30	Mocha exp.	38	36.7	34.6	39	38	38
31	Arena exp.	37	38.0	37.4	39	39	42
32	India exp.	35	36.0	35.0	40	36	43
33	B030543	34	34.0	35.8	40	37	39
34	D04*5513	34	31.3	34.3	39	36	40
35	M03-3616-11B	36	34.0	34.6	38	39	39
36	KY97C-0321-02-01	37	33.3	38.2	39	38	40
37	KY97C-0519-04-07	35	32.7	35.4	39	35	39
38	W06-202B	34	36.3	38.2	40	38	40
39	MO 040152	39	36.0	42.5	40	38	42
40	G41730	38	33.3	35.8	40	35	40
41	G52612	39	35.3	37.0	41	40	42
42	G69202	34	35.3	37.0	40	38	36
43	M04-4566	40	38.0	40.9	44	42	47
44	M04-4802	35	33.7	37.0	41	39	40
45	M04*5109	35	34.3	39.0	42	40	46
LOCATION MEANS		37.0	35.1	37.3	40.4	38.6	41.2

HEIGHT (inches)

		Lafayette IN	W Lafayette IN	Wichita KS	Logan Co. KY	Woodford Co. KY	Clarksville MD
		Moreno	Ohm	Wilson	Van Sanford	Van Sanford	Costa
1	Roane	34	38.0	30	37.5	31.5	38.0
2	INW0411	34	38.0	36	42.0	32.5	39.0
3	Branson	36	37.5	32	40.0	33.5	37.5
4	Bess	38	41.0	38	43.5	35.5	43.0
5	MO011126	40	41.5	32	43.5	32.5	40.0
6	VA03W-412	35	37.5	34	39.0	32.5	38.5
7	AR97044-10-2	41	40.0	38	42.0	33.5	40.0
8	KY96C-0769-7-3	36	37.5	32	38.0	32.5	40.0
9	OH02-12678	41	38.5	38	46.0	34.5	44.0
10	MO040192	45	42.5	40	48.0	36.5	43.5
11	IL00-8530	38	40.0	34	43.5	34.0	39.5
12	NC04-20814	36	38.0	30	42.5	31.5	41.0
13	AR97124-4-2	41	42.0	38	45.5	38.0	42.0
14	OH02-7217	39	42.0	36	47.5	37.5	43.5
15	OH03-41-45	44	40.5	32	48.0	38.5	44.5
16	P02444A1-23-9	40	41.0	36	45.5	34.0	44.0
17	P03207A1-7	39	41.0	34	46.5	35.0	43.0
18	P04287A1-16	36	38.0	32	41.0	34.5	40.0
19	NYCalR-L	43	37.5	36	49.0	40.5	48.5
20	MD01W233-06-8	38	37.5	30	41.5	31.5	36.0
21	MD01W233-06-21	38	38.0	36	43.0	32.5	38.5
22	MD99W483-06-9	39	39.0	32	40.0	32.0	39.5
23	VA05W-257	37	40.5	34	40.0	31.5	38.5
24	VA05W-414	36	39.5	36	42.0	33.5	41.5
25	LA01*425	38	40.5	36	38.0	35.0	39.0
26	LA02-923	41	40.0	36	47.5	37.0	47.0
27	21525c1*	40	39.0	34	42.0	34.5	41.0
28	IL02-18228	38	40.0	34	44.0	36.0	42.5
29	IL02-19463	40	40.0	34	43.0	34.0	42.5
30	Mocha exp.	36	37.5	30	41.0	34.0	41.5
31	Arena exp.	38	39.5	34	42.0	32.0	40.5
32	India exp.	39	40.5	36	45.0	34.5	41.5
33	B030543	35	37.5	30	39.5	33.0	38.5
34	D04*5513	35	36.0	30	36.5	31.5	37.5
35	M03-3616-11B	39	37.0	34	40.5	31.0	37.0
36	KY97C-0321-02-01	39	39.0	30	40.5	32.0	39.0
37	KY97C-0519-04-07	37	38.0	30	41.0	32.0	38.0
38	W06-202B	38	38.5	38	41.5	32.0	41.0
39	MO 040152	39	40.5	36	41.0	34.5	39.0
40	G41730	37	38.0	30	40.5	34.0	39.5
41	G52612	40	39.5	32	42.0	35.0	40.5
42	G69202	39	38.5	32	38.0	34.5	38.0
43	M04-4566	43	44.5	40	46.5	39.0	45.5
44	M04-4802	37	39.5	36	42.5	34.5	42.0
45	M04*5109	41	40.0	38	41.5	35.5	41.5
LOCATION MEANS		38.5	39.3	34.1	42.4	34.1	40.8

HEIGHT (inches)

		Merrill MI Lewis	Columbia MO McKendry	Lincoln NE Baenziger	Ithaca NY Sorrells	Napoleon OH Flgleman	Wooster OH Sneller
1	Roane	33.5	35	31	37.4	36.2	35
2	INW0411	32.5	36	33	31.5	33.9	38
3	Branson	34.2	35	33	35.4	37.0	37
4	Bess	36.4	39	36	39.4	38.6	40
5	MO011126	34.3	40	35	39.4	39.0	39
6	VA03W-412	33.7	35	34	31.5	37.0	37
7	AR97044-10-2	36.5	38	37	31.5	40.2	39
8	KY96C-0769-7-3	32.4	36	33	33.5	34.3	37
9	OH02-12678	36.5	39	34	35.4	40.2	41
10	MO040192	37.9	41	39	31.5	38.6	43
11	IL00-8530	37.7	37	39	31.5	41.7	39
12	NC04-20814	33.7	36	33	33.5	38.6	39
13	AR97124-4-2	35.7	39	39	38.2	42.5	40
14	OH02-7217	35.9	39	37	39.4	40.2	41
15	OH03-41-45	38.9	40	40	33.5	44.1	43
16	P02444A1-23-9	36.9	38	34	37.4	40.6	40
17	P03207A1-7	35.5	37	33	41.3	40.2	40
18	P04287A1-16	31.8	35	31	31.5	36.6	37
19	NYCalR-L	37.8	42	36	38.2	41.7	43
20	MD01W233-06-8	32.4	36	30	39.4	35.8	37
21	MD01W233-06-21	31.9	36	32	31.5	37.0	38
22	MD99W483-06-9	34.3	37	31	37.4	36.2	38
23	VA05W-257	33.2	35	29	41.3	37.0	36
24	VA05W-414	33.0	35	32	31.5	37.4	40
25	LA01*425	35.1	36	34	41.3	38.2	38
26	LA02-923	36.0	42	37	31.5	40.9	39
27	21525c1*	35.8	38	36	39.4	39.4	39
28	IL02-18228	35.3	38	35	35.4	40.2	41
29	IL02-19463	37.4	36	36	33.5	40.9	41
30	Mocha exp.	34.3	36	32	33.5	37.8	40
31	Arena exp.	35.0	38	41	33.5	39.4	40
32	India exp.	36.9	37	38	36.6	43.3	41
33	B030543	32.6	36	36	39.4	38.2	36
34	D04*5513	33.4	35	33	31.5	36.6	33
35	M03-3616-11B	32.6	36	35	39.4	37.8	36
36	KY97C-0321-02-01	32.1	38	34	31.5	37.0	39
37	KY97C-0519-04-07	32.9	37	31	31.5	37.0	36
38	W06-202B	36.0	35	33	37.4	39.4	39
39	MO 040152	35.2	37	37	30.3	43.3	37
40	G41730	32.6	35	36	39.4	40.2	38
41	G52612	34.2	38	38	41.3	39.4	40
42	G69202	34.5	35	35	31.5	39.4	39
43	M04-4566	39.7	42	42	31.5	44.1	44
44	M04-4802	32.9	38	35	32.7	37.0	39
45	M04*5109	34.6	40	36	33.5	40.2	41
LOCATION MEANS		34.8	37.3	34.9	35.3	39.0	39.0

HEIGHT (inches)

		Wooster OH	Nairn ON	Blacksburg VA	Warsaw VA	ENTRY MEANS ALL LOCATIONS	
		Fioritto	Etienne	Griffey	Griffey		rank
1	Roane	30.0	28.0	37.0	34.5	34.7	44
2	INW0411	31.3	28.1	38.0	37.5	35.3	40
3	Branson	31.7	29.3	38.5	35.5	35.5	36
4	Bess	33.3	29.3	40.0	36.5	38.1	12
5	MO011126	33.0	29.5	39.0	36.0	37.5	19
6	VA03W-412	30.7	28.5	37.5	35.5	35.4	38
7	AR97044-10-2	33.3	30.9	40.0	37.5	38.0	13
8	KY96C-0769-7-3	30.0	28.3	37.5	35.5	34.9	42
9	OH02-12678	31.7	32.3	40.0	38.0	38.7	8
10	MO040192	37.7	32.7	43.5	40.0	40.2	4
11	IL00-8530	32.3	29.4	40.0	37.5	37.6	18
12	NC04-20814	31.0	28.5	36.5	35.0	35.7	35
13	AR97124-4-2	32.7	32.3	41.0	36.5	39.6	6
14	OH02-7217	31.3	32.9	41.5	41.5	39.7	5
15	OH03-41-45	38.3	33.5	42.5	42.0	41.3	2
16	P02444A1-23-9	33.0	29.9	41.5	41.0	38.6	9
17	P03207A1-7	33.0	28.9	40.5	38.0	38.3	10
18	P04287A1-16	31.7	28.0	38.0	37.5	35.3	39
19	NYCalR-L	37.3	31.7	45.0	42.0	41.2	3
20	MD01W233-06-8	30.3	27.8	36.0	35.5	34.8	43
21	MD01W233-06-21	32.3	28.5	37.5	36.5	36.0	30
22	MD99W483-06-9	33.7	28.5	38.5	34.5	35.9	31
23	VA05W-257	32.3	29.1	37.5	34.0	35.4	37
24	VA05W-414	31.7	29.9	38.0	36.0	36.1	27
25	LA01*425	30.3	30.7	40.0	36.5	37.1	23
26	LA02-923	34.3	33.5	41.0	38.0	39.5	7
27	21525c1*	32.7	29.7	39.5	40.0	37.8	15
28	IL02-18228	31.7	27.6	39.0	35.5	37.6	17
29	IL02-19463	32.7	27.6	38.5	36.0	37.4	21
30	Mocha exp.	30.3	29.3	38.0	36.5	36.0	28
31	Arena exp.	31.7	29.6	38.5	36.0	37.3	22
32	India exp.	33.7	31.1	41.0	35.5	38.0	14
33	B030543	28.7	29.9	39.0	36.0	35.7	34
34	D04*5513	27.0	29.1	37.5	35.0	34.2	45
35	M03-3616-11B	29.3	28.9	37.5	35.0	35.8	33
36	KY97C-0321-02-01	30.7	30.7	38.0	36.0	36.0	29
37	KY97C-0519-04-07	30.0	29.9	38.0	36.5	35.1	41
38	W06-202B	32.7	28.9	38.5	36.0	36.9	24
39	MO 040152	29.3	29.5	38.5	37.5	37.4	20
40	G41730	28.7	29.6	39.5	38.0	36.3	26
41	G52612	30.7	28.1	39.5	37.0	37.7	16
42	G69202	32.7	28.9	37.5	36.0	35.9	32
43	M04-4566	39.0	30.8	43.5	41.5	41.3	1
44	M04-4802	32.3	30.7	38.0	37.0	36.8	25
45	M04*5109	32.3	30.3	39.5	37.5	38.1	11
LOCATION MEANS		32.1	29.8	39.2	37.0	37.1	

LODGING

		Stuttgart AR	Tipton IN	Logan Co. KY	Columbia MO	Cleveland MS	Nairn ON
		Bacon	Brown	Van Sanford	McKendry	Hancock	Etienne
		0-9	1-9	0-9	0-9	1-9	0-9
1	Roane	2	1.0	4	1.7	2	1.5
2	INW0411	1	1.0	0	1.0	1	0.3
3	Branson	3	1.0	0	2.3	1	0.8
4	Bess	2	2.0	3	2.0	2	1.3
5	MO011126	1	1.0	0	2.7	1	0.0
6	VA03W-412	1	1.0	3	1.0	1	0.5
7	AR97044-10-2	0	1.0	0	1.3	2	2.5
8	KY96C-0769-7-3	0	1.0	0	1.0	1	0.0
9	OH02-12678	1	3.0	2	1.3	1	0.5
10	MO040192	0	1.0	1	3.0	2	2.0
11	IL00-8530	4	3.5	8	3.3	1	1.0
12	NC04-20814	3	1.0	3	2.7	1	0.5
13	AR97124-4-2	2	1.0	3	1.7	2	1.5
14	OH02-7217	0	1.0	0	0.3	1	1.0
15	OH03-41-45	2	7.0	1	3.3	1	2.0
16	P02444A1-23-9	1	1.0	0	0.7	1	3.0
17	P03207A1-7	0	1.0	2	2.3	1	1.0
18	P04287A1-16	0	1.0	0	1.0	1	0.5
19	NYCalR-L	3	1.0	0	2.0	1	1.0
20	MD01W233-06-8	4	1.0	5	3.0	1	0.5
21	MD01W233-06-21	3	1.0	6	2.3	2	0.5
22	MD99W483-06-9	9	1.0	1	2.0	1	0.0
23	VA05W-257	2	1.0	0	2.7	1	0.8
24	VA05W-414	3	4.5	2	2.7	1	1.0
25	LA01*425	0	1.0	0	1.3	1	0.5
26	LA02-923	1	1.0	0	0.3	1	0.8
27	21525c1*	0	3.0	0	1.0	1	0.3
28	IL02-18228	1	5.5	6	3.3	1	0.5
29	IL02-19463	0	2.5	1	2.7	1	0.5
30	Mocha exp.	1	1.0	0	1.3	1	0.3
31	Arena exp.	1	1.5	0	1.3	1	1.0
32	India exp.	0	2.0	1	2.7	1	1.8
33	B030543	1	5.0	5	1.7	1	0.8
34	D04*5513	1	3.5	1	1.3	1	0.5
35	M03-3616-11B	1	1.5	0	2.0	1	0.5
36	KY97C-0321-02-01	2	2.0	1	1.0	1	0.0
37	KY97C-0519-04-07	0	1.0	0	1.3	2	0.8
38	W06-202B	1	3.0	0	1.7	1	1.8
39	MO 040152	0	1.5	0	1.0	1	0.5
40	G41730	2	2.0	3	2.3	1	1.0
41	G52612	1	2.5	0	2.7	1	0.5
42	G69202	1	2.5	1	3.0	1	0.8
43	M04-4566	1	2.0	0	1.7	1	0.5
44	M04-4802	2	2.0	4	2.0	1	1.0
45	M04*5109	3	1.0	5	1.3	1	0.3
LOCATION MEANS		1.5	1.9	1.6	1.9	1.2	0.8

LODGING

		Blacksburg VA Griffey 0-9	Warsaw VA Griffey 0-9	Oconto WI Cisar 0-9
1	Roane	6.0	4.5	4.3
2	INW0411	0.0	4.0	2.0
3	Branson	1.0	4.0	1.7
4	Bess	8.0	6.5	0.0
5	MO011126	8.0	5.5	0.7
6	VA03W-412	0.0	2.5	2.7
7	AR97044-10-2	0.0	5.0	0.0
8	KY96C-0769-7-3	5.5	3.5	0.3
9	OH02-12678	5.0	5.5	5.0
10	MO040192	2.0	6.0	2.7
11	IL00-8530	8.0	5.5	1.7
12	NC04-20814	6.5	5.5	3.0
13	AR97124-4-2	2.0	6.5	5.7
14	OH02-7217	0.5	3.5	0.7
15	OH03-41-45	7.5	5.0	6.0
16	P02444A1-23-9	0.0	3.0	0.7
17	P03207A1-7	1.0	4.0	1.0
18	P04287A1-16	0.5	3.5	1.0
19	NYCalR-L	1.5	5.0	2.0
20	MD01W233-06-8	8.5	7.0	8.3
21	MD01W233-06-21	9.0	7.0	5.3
22	MD99W483-06-9	6.5	5.5	4.3
23	VA05W-257	5.5	5.5	2.7
24	VA05W-414	9.0	7.0	5.0
25	LA01*425	1.0	4.5	1.3
26	LA02-923	4.5	3.0	4.3
27	21525c1*	1.0	4.5	0.7
28	IL02-18228	7.5	6.0	4.0
29	IL02-19463	7.0	5.0	3.3
30	Mocha exp.	0.0	2.5	0.3
31	Arena exp.	6.0	5.5	3.7
32	India exp.	0.5	4.5	2.7
33	B030543	4.5	6.0	5.7
34	D04*5513	3.0	6.0	4.3
35	M03-3616-11B	1.5	4.0	4.0
36	KY97C-0321-02-01	5.0	5.5	3.0
37	KY97C-0519-04-07	1.0	7.0	3.7
38	W06-202B	8.5	5.5	7.0
39	MO 040152	8.5	7.5	4.3
40	G41730	0.5	6.0	3.0
41	G52612	4.5	5.0	5.7
42	G69202	7.5	5.5	4.7
43	M04-4566	4.0	5.5	3.0
44	M04-4802	6.5	7.5	6.0
45	M04*5109	7.5	5.5	3.7
LOCATION MEANS		4.3	5.2	3.2

WINTER DAMAGE

		DeKalb IL	Urbana IL	Brookston IN	Tipton IN	Lafayette IN	Columbia MO
		Kolb	Kolb	Fogleman	Brown	Moreno	McKendry
		winter kill	winter kill	winter kill	winter kill	spring vigor	winter kill
		0-9	0-9	0-9	1-9	1-9	0-9
1	Roane	0.0	0.0	8.5	1.3	7	3.3
2	INW0411	6.5	0.0	6.0	1.8	2	2.9
3	Branson	1.5	0.0	6.7	2.8	6	3.7
4	Bess	5.0	1.0	7.9	2.0	6	3.5
5	MO011126	6.0	0.0	8.1	2.0	3	4.0
6	VA03W-412	5.5	0.3	8.0	1.5	7	3.2
7	AR97044-10-2	7.0	1.7	7.9	1.5	6	4.3
8	KY96C-0769-7-3	5.0	0.0	7.5	1.5	1	3.9
9	OH02-12678	8.0	0.0	7.0	1.0	1	4.1
10	MO040192	2.5	0.3	8.2	1.3	3	2.1
11	IL00-8530	5.5	0.0	6.3	2.3	6	3.6
12	NC04-20814	9.0	2.8	8.9	2.0	8	3.4
13	AR97124-4-2	1.0	0.0	5.2	1.8	1	3.3
14	OH02-7217	2.5	0.0	4.8	1.0	1	2.6
15	OH03-41-45	5.0	0.0	5.2	1.3	4	2.9
16	P02444A1-23-9	6.0	0.3	6.9	1.8	3	4.1
17	P03207A1-7	2.5	0.5	6.4	1.5	2	3.1
18	P04287A1-16	4.5	0.3	8.2	1.5	2	4.9
19	NYCalR-L	4.5	0.0	7.0	1.5	2	2.1
20	MD01W233-06-8	5.0	0.7	7.2	1.8	4	2.9
21	MD01W233-06-21	3.0	1.3	8.0	1.5	6	3.2
22	MD99W483-06-9	7.5	4.7	9.0	1.8	4	3.5
23	VA05W-257	5.0	2.2	8.4	1.8	5	3.3
24	VA05W-414	7.0	3.0	9.0	2.0	5	3.0
25	LA01*425	5.0	0.0	6.2	1.5	6	3.2
26	LA02-923	1.5	0.3	6.0	2.0	3	3.3
27	21525c1*	1.0	0.0	5.9	1.0	4	3.2
28	IL02-18228	7.5	0.0	6.2	1.5	2	3.3
29	IL02-19463	9.0	0.0	5.5	1.8	4	3.5
30	Mocha exp.	5.5	0.0	7.0	1.5	2	2.2
31	Arena exp.	8.0	0.0	6.2	1.8	2	2.7
32	India exp.	8.0	0.0	6.0	2.0	4	2.7
33	B030543	9.0	1.5	6.7	1.5	6	2.5
34	D04*5513	9.0	0.2	7.9	1.5	7	3.2
35	M03-3616-11B	8.0	0.0	5.9	1.0	1	3.5
36	KY97C-0321-02-01	9.0	0.0	6.5	1.8	2	3.3
37	KY97C-0519-04-07	9.0	1.2	8.0	1.8	2	4.5
38	W06-202B	6.5	0.2	6.2	2.0	5	3.1
39	MO 040152	9.0	0.0	7.0	1.5	5	3.7
40	G41730	8.5	0.2	6.2	1.5	5	3.6
41	G52612	7.0	0.0	6.9	2.0	6	3.4
42	G69202	9.0	0.0	9.0	1.8	6	3.5
43	M04-4566	8.0	0.0	5.2	1.5	2	2.1
44	M04-4802	9.0	0.5	6.4	1.3	2	2.8
45	M04*5109	9.0	1.2	7.7	1.3	4	3.4
LOCATION MEANS		6.0	0.5	7.0	1.6	3.9	3.3
GROWTH STAGE / DATE				April 14	April 21		

WINTER DAMAGE

		Laurel Springs NC	Ithaca NY	Nairn ON	Oconto WI
		Marshall	Sorrells	Etienne	Cisar
		winter stress	winter kill	winter survival	winter kill
		0-9	0-9	%	0-9
1	Roane	1	0.0	86.3	0.0
2	INW0411	1	0.0	84.3	1.3
3	Branson	1	1.7	91.0	2.0
4	Bess	1	0.0	89.3	1.0
5	MO011126	1	3.3	83.3	2.7
6	VA03W-412	1	3.3	86.7	0.0
7	AR97044-10-2	2	0.0	90.7	1.7
8	KY96C-0769-7-3	1	0.0	89.3	2.0
9	OH02-12678	0	0.0	89.0	0.0
10	MO040192	1	1.7	88.7	0.7
11	IL00-8530	1	0.0	90.3	0.3
12	NC04-20814	1	1.7	84.7	0.3
13	AR97124-4-2	0	0.0	88.7	2.0
14	OH02-7217	0	0.0	85.0	2.7
15	OH03-41-45	0	1.7	89.0	0.0
16	P02444A1-23-9	0	0.0	81.0	1.7
17	P03207A1-7	0	0.0	86.0	1.7
18	P04287A1-16	0	1.7	73.7	0.7
19	NYCalR-L	0	0.0	92.0	0.7
20	MD01W233-06-8	1	1.7	92.0	2.0
21	MD01W233-06-21	1	0.0	91.0	1.7
22	MD99W483-06-9	1	3.3	84.7	0.7
23	VA05W-257	1	1.7	87.0	0.7
24	VA05W-414	1	3.3	87.0	0.7
25	LA01*425	0	0.0	90.7	3.0
26	LA02-923	0	0.0	87.3	1.7
27	21525c1*	1	1.7	91.0	0.3
28	IL02-18228	0	0.0	84.6	0.3
29	IL02-19463	0	0.0	83.7	1.0
30	Mocha exp.	0	0.0	90.7	1.7
31	Arena exp.	1	0.0	82.6	1.3
32	India exp.	1	0.0	83.6	0.7
33	B030543	3	1.7	87.3	0.7
34	D04*5513	3	1.7	89.7	0.7
35	M03-3616-11B	0	0.0	83.7	1.3
36	KY97C-0321-02-01	1	5.0	72.7	0.7
37	KY97C-0519-04-07	1	0.0	78.3	2.0
38	W06-202B	4	3.3	86.3	1.7
39	MO 040152	1	0.0	67.7	1.3
40	G41730	1	1.7	74.6	1.0
41	G52612	0	3.3	76.7	0.3
42	G69202	1	0.0	86.3	1.3
43	M04-4566	0	5.0	90.6	0.0
44	M04-4802	0	0.0	87.3	0.7
45	M04*5109	2	1.7	83.6	1.3
LOCATION MEANS		0.8	1.1	85.5	1.1
GROWTH STAGE / DATE					

LEAF RUST

		Tipton IN Brown	Lafayette IN Moreno	Wichita KS Wilson	Winfield KS Perry	St Paul MN Kolmer	Merrill MI Lewis
		1-9	1-9	0-9	1-9		0-9
1	Roane	2.0	3	1	1	30S	4
2	INW0411	1.0	1	1	5	10MRMS	3
3	Branson	1.0	5	2	7	50S	2
4	Bess	5.0	6	2	7	70S	3
5	MO011126	5.0	5	2	6	20MRMS	2
6	VA03W-412	4.0	3	1	9	20M	3
7	AR97044-10-2	3.0	3	1	3	20MRMS	4
8	KY96C-0769-7-3	3.0	6	1	9	50S	4
9	OH02-12678	3.0	6	1	8	50S	4
10	MO040192	1.0	2	1	3	20MSS	2
11	IL00-8530	3.0	4	2	8	20MS	5
12	NC04-20814	3.5	1	1	1	TR	2
13	AR97124-4-2	1.0	1	1	6	20MS	2
14	OH02-7217	3.0	6	1	9	90S	5
15	OH03-41-45	2.0	6	1	5	40MS	3
16	P02444A1-23-9	8.0	8	2	9	50S	5
17	P03207A1-7	2.0	1	1	1	TR	3
18	P04287A1-16	2.0	1	1	1	TR	2
19	NYCalR-L	9.0	9	3	9	90S	4
20	MD01W233-06-8	1.0	1	1	1	20M	1
21	MD01W233-06-21	2.0	1	9	8	90S	4
22	MD99W483-06-9	1.0	4	1	3	20MS	3
23	VA05W-257	3.0	7	2	5	50S	2
24	VA05W-414	2.5	6	1	2	20MS	4
25	LA01*425	7.0	5	1	8	40S	2
26	LA02-923	4.0	4	1	7	50S	3
27	21525c1*	3.0	2	1	5	10MS/50S	2
28	IL02-18228	3.0	2	1	1	20MRMS	4
29	IL02-19463	1.5	3	1	1	30S	2
30	Mocha exp.	7.0	9	5	8	50S	6
31	Arena exp.	4.0	5	1	4	20MRMS	4
32	India exp.	6.0	5	1	3	20MRMS	3
33	B030543	3.0	3	1	8	30MRMS	2
34	D04*5513	3.0	1	1	5	30MRMS	2
35	M03-3616-11B	4.0	4	1	5	missing	3
36	KY97C-0321-02-01	1.0	1	1	1	10S	2
37	KY97C-0519-04-07	3.0	7	1	1	20/40S	3
38	W06-202B	1.0	7	1	5	20/40S	5
39	MO 040152	8.0	6	1	7	5M	2
40	G41730	1.0	7	2	7	10S	5
41	G52612	3.0	3	3	1	10M	3
42	G69202	8.0	5	1	1	20M	3
43	M04-4566	4.5	3	1	3	5M	3
44	M04-4802	4.0	4	1	8	40S/20M	4
45	M04*5109	7.0	7	1	3	10MS	3
LOCATION MEANS		3.5	4.2	1.5	4.8		3.2
		June 24					

LEAF RUST

		Cleveland MS Hancock	Plymouth NC Murphy	Nairn ON Etienne	Blacksburg VA Griffey	Warsaw VA Griffey	Oconto WI Cisar
		1-9		0-9	0-9	0-9	
1	Roane	3	5.5	5.3	2.0	2.5	5.0
2	INW0411	1	5.5	5.0	1.0	1.5	1.3
3	Branson	7	6.5	4.0	5.5	2.0	1.3
4	Bess	8	6.5	3.7	7.0	6.0	6.3
5	MO011126	4	4.0	5.0	6.0	1.5	0.7
6	VA03W-412	3	5.5	3.7	1.0	4.0	1.7
7	AR97044-10-2	5	6.0	4.0	5.0	0.5	1.0
8	KY96C-0769-7-3	4	6.0	5.0	6.0	5.0	3.3
9	OH02-12678	3	5.0	6.0	3.5	5.5	2.3
10	MO040192	2	2.0	3.7	0.0	0.0	0.3
11	IL00-8530	4	4.0	4.9	4.0	0.0	2.0
12	NC04-20814	2	1.0	3.0	1.5	0.0	0.0
13	AR97124-4-2	2	1.0	2.7	0.0	0.0	0.0
14	OH02-7217	4	7.5	5.7	7.0	8.0	8.7
15	OH03-41-45	4	4.0	6.0	1.5	0.5	2.0
16	P02444A1-23-9	5	7.5	6.0	5.5	6.0	6.7
17	P03207A1-7	2	2.0	3.7	0.5	0.0	0.3
18	P04287A1-16	1	1.0	3.0	1.0	0.0	0.0
19	NYCalR-L	5	7.5	6.3	6.0	5.0	8.0
20	MD01W233-06-8	1	4.5	2.3	1.5	5.5	0.0
21	MD01W233-06-21	2	2.5	3.0	0.5	0.5	0.0
22	MD99W483-06-9	2	6.5	5.7	2.5	3.0	1.7
23	VA05W-257	3	5.0	4.7	5.5	2.0	0.3
24	VA05W-414	3	6.0	5.3	6.0	1.0	1.7
25	LA01*425	3	2.0	5.0	2.5	1.5	0.7
26	LA02-923	3	5.5	5.3	5.5	3.0	1.0
27	21525c1*	3	4.0	3.7	2.0	1.0	0.3
28	IL02-18228	2	1.0	3.0	1.0	2.5	0.3
29	IL02-19463	6	5.0	3.7	6.0	2.0	1.7
30	Mocha exp.	6	7.5	8.0	6.5	4.0	8.7
31	Arena exp.	5	7.5	5.5	4.0	3.5	7.3
32	India exp.	5	8.5	5.6	7.0	3.5	1.0
33	B030543	3	4.0	4.3	2.0	1.5	0.3
34	D04*5513	3	4.5	4.0	1.0	1.0	0.0
35	M03-3616-11B	2	2.5	6.3	1.0	2.0	4.0
36	KY97C-0321-02-01	4	1.0	3.3	1.0	0.0	0.7
37	KY97C-0519-04-07	4	5.5	5.7	4.5	2.5	4.3
38	W06-202B	3	8.0	4.0	6.0	0.0	0.3
39	MO 040152	6	5.5	4.7	6.0	0.5	0.7
40	G41730	5	5.5	5.0	4.0	2.0	2.3
41	G52612	4	5.0	5.0	2.5	5.0	1.0
42	G69202	5	7.5	6.3	7.5	6.5	4.7
43	M04-4566	4	7.0	6.0	6.5	9.0	3.3
44	M04-4802	3	6.0	6.0	4.0	3.5	2.7
45	M04*5109	6	6.5	5.1	4.5	2.0	3.7
LOCATION MEANS		3.7	4.9	4.7	3.7	2.6	2.3

LEAF RUST

St Paul
MN
Long

		Reactions produced by NA race* **							Postulated
		BBBD	MFPS	MLDS	TCRK	TJBG	TDBG	TNRJ	genes***
1	Roane	;	;ic	;1c	3	;1c	;1c	3	11
2	INW0411	;	;1c2	;2c	3	;	;	;	11,26
3	Branson	;	;1c2	;	3	3	3	3-;	2a
4	Bess	3-;	3	3	3	3	3	3	0
5	MO011126	3-;	3	3	3	3	3	3	0
6	VA03W-412	;	3	;-3	3	;3	;-3	3-;	26
7	AR97044-10-2	;	3	3	3	3	3	3	1
8	KY96C-0769-7-3	;-3	;1c	;1c	;2c	;1c	;1c	;1c	+
9	OH02-12678	;	3;	;1c-3	3	;1c	;1c	3	11
10	MO040192	;	3	3	3	3;	3	3;	1
11	IL00-8530	3-;	3	3	3	3	3	3	0
12	NC04-20814	;	;	;1c	3	;	;	;	11,26
13	AR97124-4-2	;	;	3	;	;-3	;	3	9
14	OH02-7217	;	;-3	;2	3	;1c	;1c	3	11
15	OH03-41-45	;	;1c	;	3	;1c	;1c	3	11
16	P02444A1-23-9	;	3	3	3	3	3	3	1
17	P03207A1-7	;	;1c3	;	;1c	;1c	;2c	;1c	+
18	P04287A1-16	;	;1c	;	;1c	;1c	;1c	;	+
19	NYCalR-L	;	;3	;1c	;2c	;1c1	;1c2	;1c	+
20	MD01W233-06-8	;	;1c3	;	;	;	;	;	24,26
21	MD01W233-06-21	;	;	;-3	;	;	;	;2c	+
22	MD99W483-06-9	;1c	3;	;	;	;1c2	;	;1c	24,26
23	VA05W-257	;	;1c	;	3	;1c2	;	;	11,26
24	VA05W-414	;0	3-;	3-;	3	3-;	;-3	;-3	11,26
25	LA01*425	;	;1c3	;3	3;	3-;	3	3	+
26	LA02-923	;	;1c2	;3	3	3;	;1c3	3	+
27	21525c1*	3-;	3	3	3	3	3	3	0
28	IL02-18228	;	3	3;	;3	;1c1	;1c2	;1c	24,26
29	IL02-19463	;	3	3	3	3	3	3	1
30	Mocha exp.	;	;1c2	;1c	3	;1c2	;1c	;1c	11.26
31	Arena exp.	;	;1c	;1c	3	;1c	;1c	;	11,26
32	India exp.	;	;	;1c	3	;1c	;1c	;	11,26
33	B030543	;	3	3	3	3	3	3	1
34	D04*5513	;1c	;1c2	2c;	3	;1c	;2c	;1c	11,26
35	M03-3616-11B	;	3	;1c-3	;	;1c	;1c	;	24,26
36	KY97C-0321-02-01	;	;	;1c	;3	;	;	;	11,26
37	KY97C-0519-04-07	;	;	;	3	;1c2	;1c	3	11
38	W06-202B	;	;	;3	;	;	;	;	+
39	MO 040152	;	3	3-;	3	3	3	-	1
40	G41730	3	3	3	3	3	3	3	0
41	G52612	;	;1c	;1c	3	;1c	;1c	3	11
42	G69202	;	;	;1c	3;	;1c1	;1c1	;	11,26
43	M04-4566	;	;	;	;3	;	;1c	;	+
44	M04-4802	;	;1c2-3	;2c	3	;2c-2	;1c2	;	11,26
45	M04*5109	3-;	;1c2	;2c	3	;1c	;1c2	3	11

*Single genes tested: = 1,2a,2c,3,3Ka,9,10,11,14a,16,17,18,24,26,30,B

**Virulence formula:
BBBD=14a
MFPS=1,3,3ka,10,14a,17,24,26,30,B
MLDS=1,3,9,10,14a,17,B
TCRK=1,2a,2c,3,3ka,10,11,14a,18,26,30
TJBJ=1,2a,2c,3,10,14a,16,24
TDBG=1,2a,2c,3,10,24
TNRJ=1.2a.2c.3.3ka.9.10.11.14a.24.30

***+ = Lr gene(s) present but unable to identify with these Lr virulence combinations

STEM RUST

		Tipton IN Brown 1-9	St Paul MN Jin	Lincoln NE Baenziger 1-4
1	Roane	1	40S	2
2	INW0411	1	0	3
3	Branson	1	60S	2
4	Bess	1	60S	1
5	MO011126	1	60S	2
6	VA03W-412	1	40S	2
7	AR97044-10-2	1	50S	1
8	KY96C-0769-7-3	1	70S	3
9	OH02-12678	1	10MS/60S	2
10	MO040192	1	50S	2
11	IL00-8530	1	20S	3
12	NC04-20814	1	10MS-S	1
13	AR97124-4-2	1	70S	1
14	OH02-7217	5	70S	3
15	OH03-41-45	2	70S/20MR	2
16	P02444A1-23-9	1	TMS	3
17	P03207A1-7	1	10MR-MS	1
18	P04287A1-16	1	0	1
19	NYCalR-L	1	70S	3
20	MD01W233-06-8	1	20MR	2
21	MD01W233-06-21	1	80S	3
22	MD99W483-06-9	1	5MR	2
23	VA05W-257	1	70S	2
24	VA05W-414	1	40S	3
25	LA01*425	1	50S	3
26	LA02-923	1	20MR	2
27	21525c1*	1	30S	2
28	IL02-18228	1	30S	2
29	IL02-19463	1	40S	3
30	Mocha exp.	1	25S	3
31	Arena exp.	1	50S	2
32	India exp.	1	50S	2
33	B030543	1	10S	3
34	D04*5513	1	60S	2
35	M03-3616-11B	1	5R (1 plt)	3
36	KY97C-0321-02-01	1	40S	3
37	KY97C-0519-04-07	1	70S	3
38	W06-202B	1	70S	3
39	MO 040152	1	70S	3
40	G41730	1	10S	2
41	G52612	1	40S	1
42	G69202	1	10S	1
43	M04-4566	1	0/40S	3
44	M04-4802	1	60S	2
45	M04*5109	1	60S	2
LOCATION MEANS		1.1		2.2

STEM RUST

St Paul
MN
Jin

		US races					
		QFCS	QTHJ	RCRS	RKQQ	TPMK	TTTT
		06ND76C	75ND717C	77ND82A	99KS76A-1	74MN1407	01MN89A-1-2
		37916	37916	37916	37916	37916	37916
1	Roane	S	S	S	S	S	S
2	INW0411	0	0	;1-	0/2-	2-	;
3	Branson	2-	S	S	S	2/S	S
4	Bess	S	S	S	S	S	S
5	MO011126	S	0?	S	S	S	S
6	VA03W-412	S	S	-	S/2	S/2	S/2-
7	AR97044-10-2	2	S	S	S	2+	S
8	KY96C-0769-7-3	S	S	S	S	S	S
9	OH02-12678	0;1	2/S	2++	2++	0/2	S/2+
10	MO040192	S	0	S	S	S	S
11	IL00-8530	2	2	S	S	2	S
12	NC04-20814	0	0	S	S	0/S	S
13	AR97124-4-2	S	S	S	S	S	S
14	OH02-7217	S	S	S	S	S	S
15	OH03-41-45	S	S/2	S/2	2/;	S	S
16	P02444A1-23-9	;3-	0	;	S/;	3;	3;
17	P03207A1-7	2	0	2	0;	0	0/2
18	P04287A1-16	0;	0	0;1	2	2	2-/S
19	NYCalR-L	S	S	S	S	S	S
20	MD01W233-06-8	2-	2	2	2	2	2
21	MD01W233-06-21	S	S	S	S	S	S
22	MD99W483-06-9	0	0	2-	2	0	2-
23	VA05W-257	S	S	S	S	S	S
24	VA05W-414	S	S	S	S	S	S
25	LA01*425	0/S	S	S	;	S	S
26	LA02-923	2-	0/2	2-	2+	2+	2+
27	21525c1*	2	S	S	S	2+	S
28	IL02-18228	2	S	S	S	2+	S
29	IL02-19463	2	S	S	S	S	S
30	Mocha exp.	;1	2	;13-	S	0/2+	S
31	Arena exp.	S	S	S	S	S	S
32	India exp.	S/2	S/2-	2-	S	S	0;
33	B030543	0	0	S	S	S	S
34	D04*5513	2	S	S	S	2+	S
35	M03-3616-11B	0	0	0	2	0	;
36	KY97C-0321-02-01	S	S/0	S/0	S	-	S
37	KY97C-0519-04-07	S	0/S	S LIF	S	S LIF	S
38	W06-202B	2-	S	S	S	2	S
39	MO 040152	S	S	S	S	S	S
40	G41730	0	0	S	S LIF	S LIF	S
41	G52612	2	S	S	;13-	2/S	S
42	G69202	0;	0	S	S LIF	S/2	S
43	M04-4566	1	0	2	2	-	;/2/S
44	M04-4802	S	S	S	3;	S	S
45	M04*5109	S	0/S	S	S	S	S

Notes and explanations:
Bulk: a composite of US races: QFCS, QTHJ, RCRS, RKQQ, TPMK, TTTT

Ratings "S" denotes susceptible infection type (IT) 3 or 4.
"/" denotes hetergeneous, the predominant type given first.
"LIF" denotes low infection frequency, or fewer number of pustules.

Gene postulation was tentative and done for genes effective against TTKSK (Ug99) only. No attempt was made to postulate other Sr genes. Users are advised to confirm with available markers.

Repeated screening was done based on preliminary screening with race TTKSK. Lines missing or suspected to be resistant were repeated with 3 races of the TTKS lineage: TTKSK (Ug99), TTKST (Sr24 virulence), and TTTSK (Sr36 virulence) and TRTT (a race with 1A.1R virulence, not in the TTKS lineage)

STEM RUST

				St Paul MN Jin				
		Preliminary test		Repeated test of selections				
		TTKSK rep1	TTKSK rep2	TTKSK	TTKST	TTTSK	TRTT	
		04KEN156/04	04KEN156/04	04KEN156/04	06KEN19v3	07KEN24-4	06YEM34-1	postulated
		37973	37994	2/3/08	2/3/08	2/3/08	2/3/08	genes
1	Roane	S	S					
2	INW0411	0	0/;2	0/2	;2- LIF	S	2	Sr36
3	Branson	S	S					
4	Bess	S	S					
5	MO011126	S/0	S					
6	VA03W-412	S	S					
7	AR97044-10-2	S	S					
8	KY96C-0769-7-3	S	S					
9	OH02-12678	2+ LIF	22+	2++	2+	2++	S	SrTmp?
10	MO040192	S	S					
11	IL00-8530	S	S					
12	NC04-20814	0	-	;2-	;2-	S	S	Sr36?
13	AR97124-4-2	S	S					
14	OH02-7217	S	S					
15	OH03-41-45	S	S/2	2/S	2/S	2/S	S/2+	
16	P02444A1-23-9	S	S					
17	P03207A1-7	0/2+	S	S	S	S	2	
18	P04287A1-16	0	0;	3-N	23 N	S	2-/S	
19	NYCalR-L	0/S	S					
20	MD01W233-06-8	;2	;2-/;	2	2	2-	2-/2++	?
21	MD01W233-06-21	S	S					
22	MD99W483-06-9	0	0	0/S	-	S	2	Sr36
23	VA05W-257	S	S					
24	VA05W-414	2+	S	0/S	S	S	S	
25	LA01*425	S	S					
26	LA02-923	2	2-	2	S	2	2	Sr24
27	21525c1*	S	S					
28	IL02-18228	S	S					
29	IL02-19463	S	S					
30	Mocha exp.	S	S					
31	Arena exp.	S	S/2	S	S	S	S	
32	India exp.	S	S					
33	B030543	0	0	0	0	-	S	Sr36
34	D04*5513	S	S					
35	M03-3616-11B	S	S					
36	KY97C-0321-02-01	-	S					
37	KY97C-0519-04-07	S LIF	S					
38	W06-202B	S	S					
39	MO 040152	S	S					
40	G41730	0	0	0	0/S	S	S	Sr36
41	G52612	S	S					
42	G69202	0	0	0	0	S	S	Sr36
43	M04-4566	S	S					
44	M04-4802	S	S					
45	M04*5109	S	S					

Avirulence/virulence formula of stem rust races used in screening:

race	Avirulence	Virulence
QFCS	6 7b 9b 9e 11 24 30 31 36 38 Tmp 1	5 8a 9a 9d 9g 10 17 21 McN
QTHJ	7b 9a 9e 24 30 31 36 Tmp 1A.1R	5 6 8a 9b 9d 9g 10 11 17 21 38 McN
RCRS	6 8a 9e 11 24 30 31 Tmp 1A.1R	5 7b 9a 9b 9d 9g 10 17 21 38 McN
RKQQ	9e 10 11 17 24 30 31 38 Tmp 1A.1R	5 6 7b 8a 9a 9b 9d 9g 21 McN
TPMK	6 9a 9b 24 30 31 38 1A.1R	5 7b 8a 9a 9d 9e 9g 10 11 17 21 36 Tmp McN
TTTT	24 31 1A.1R	5 6 7b 8a 9a 9b 9d 9e 9g 10 11 17 21 30 36 38 McN
TTKSK	24 36 Tmp 1A.1R	5 6 7b 8a 9a 9b 9d 9e 9g 10 11 17 21 30 31 38 McN
TTKST	36 Tmp 1A.1R	5 6 7b 8a 9a 9b 9d 9e 9g 10 11 17 21 24 30 31 38 McN
TTTSK	24 Tmp 1A.1R	5 6 7b 8a 9a 9b 9d 9e 9g 10 11 17 21 30 31 36 38 McN
TTRT	8a 24 31	5 6 7b 9a 9b 9d 9e 9g 10 11 17 21 30 36 38 McN 1A.1R

STRIPE RUST

		Griffin GA	Winfield KS	Cleveland MS	Laurel Springs NC	
		Johnson	Perry	Hancock	Marshall	
		0-9		1-9	IT	%
1	Roane	3	0	3	8	30
2	INW0411	9	0	7	8	50
3	Branson	0	0	1	0	0
4	Bess	3	0	1	0	0
5	MO011126	0	0	1	6	10
6	VA03W-412	2	0	2	4	1
7	AR97044-10-2	3	0	1	4	1
8	KY96C-0769-7-3	0	0	3	0	0
9	OH02-12678	7	0	1	8	20
10	MO040192	5	0	4	4	30
11	IL00-8530	1	0	1	3	1
12	NC04-20814	8	0	4	9	40
13	AR97124-4-2	1	0	1	0	0
14	OH02-7217	8	0	7	9	80
15	OH03-41-45	0	0	1	4	20
16	P02444A1-23-9	3	0	1	4	10
17	P03207A1-7	4	0	3	7	10
18	P04287A1-16	4	0	2	4	30
19	NYCalR-L	3	0	2	8	40
20	MD01W233-06-8	6	0	6	9	60
21	MD01W233-06-21	0	0	1	3	1
22	MD99W483-06-9	9	0	6	7	80
23	VA05W-257	8	0	3	9	70
24	VA05W-414	7	0	1	9	60
25	LA01*425	0	0	2	9	40
26	LA02-923	1	0	1	4	10
27	21525c1*	8	0	7	8	70
28	IL02-18228	4	0	4	8	50
29	IL02-19463	3	0	3	8	70
30	Mocha exp.	1	0	1	8	70
31	Arena exp.	2	0	1	4	50
32	India exp.	7	0	1	9	70
33	B030543	1	0	1	4	40
34	D04*5513	1	0	1	3	1
35	M03-3616-11B	2	0	1	9	70
36	KY97C-0321-02-01	8	5	3	9	100
37	KY97C-0519-04-07	8	0	3	9	100
38	W06-202B	5	0	2	4	50
39	MO 040152	2	0	1	0	0
40	G41730	4	0	1	0	0
41	G52612	0	0	1	3	1
42	G69202	9	0	2	0	0
43	M04-4566	5	0	1	8	30
44	M04-4802	4	0	1	7	10
45	M04*5109	9	4	1	8	40
LOCATION MEANS		4.0	0.2	2.3	5.5	
GROWTH STAGE / DATE						

STRIPE RUST

		Pullman WA Chen		Mt. Vernon WA Chen			
		IT	%	IT	%	IT	%
1	Roane	8	60	8	60	8	60
2	INW0411	8	90	8	60	8	90
3	Branson	3	30	2,8	10,60	2	1
4	Bess	2	60	8	80	8	100
5	MO011126	3	50	2	15	2	10
6	VA03W-412	3	10	8	60	8	80
7	AR97044-10-2	2	50	8	80	8	100
8	KY96C-0769-7-3	3	20	2	10	2	10
9	OH02-12678	8	70	8	60	8	100
10	MO040192	8	80	8	80	8	100
11	IL00-8530	2	40	8	80	8	70
12	NC04-20814	6	40	8	80	8	100
13	AR97124-4-2	8	60	8	80	8	100
14	OH02-7217	8	80	8	80	8	100
15	OH03-41-45	8	50	8	80	8	100
16	P02444A1-23-9	5	30	8	80	8	100
17	P03207A1-7	4	30	8	60	8	100
18	P04287A1-16	3	20	8	40	5	30
19	NYCalR-L	8	70	8	60	5	40
20	MD01W233-06-8	8	90	8	80	8	90
21	MD01W233-06-21	5	40	8	80	2	20
22	MD99W483-06-9	8	80	8	60	8	100
23	VA05W-257	8	90	8	80	8	100
24	VA05W-414	8	90	8	60	8	70
25	LA01*425	4	40	8	60	8	60
26	LA02-923	4	60	5	30	2	5
27	21525c1*	8	80	8	80	8	90
28	IL02-18228	5	60	8	60	5	70
29	IL02-19463	5	50	8	80	8	100
30	Mocha exp.	6	60	8	80	5	50
31	Arena exp.	5	50	2	10	2	30
32	India exp.	8	70	8	80	8	80
33	B030543	4	10	3	15	5	50
34	D04*5513	5	30	3	15	8	40
35	M03-3616-11B	8	80	5	20	5	50
36	KY97C-0321-02-01	8	80	8	60	8	90
37	KY97C-0519-04-07	8	80	8	80	8	90
38	W06-202B	8	70	5	40	5	40
39	MO 040152	2	20	8	80	8	70
40	G41730	3	20	8	80	8	100
41	G52612	3	5	2	10	2	10
42	G69202	4	40	8	80	8	100
43	M04-4566	4	40	8	40	8	80
44	M04-4802	3	5	5	20	5	20
45	M04*5109	8	80	8	80	5	80

LOCATION MEANS

GROWTH STAGE / DATE	dough / July 11	stem elongation / April 23	heading / June 5

STRIPE RUST

		Walla Walla WA Chen	
		IT	%
1	Roane	8	40
2	INW0411	8	60
3	Branson	0	0
4	Bess	0	0
5	MO011126	0	0
6	VA03W-412	0	0
7	AR97044-10-2	0	0
8	KY96C-0769-7-3	8	60
9	OH02-12678	8	60
10	MO040192	8	80
11	IL00-8530	0	0
12	NC04-20814	0	0
13	AR97124-4-2	0	0
14	OH02-7217	8	60
15	OH03-41-45	0	0
16	P02444A1-23-9	0	0
17	P03207A1-7	8	10
18	P04287A1-16	0	0
19	NYCalR-L	8	10
20	MD01W233-06-8	8	60
21	MD01W233-06-21	0	0
22	MD99W483-06-9	8	80
23	VA05W-257	8	80
24	VA05W-414	8	80
25	LA01*425	0	0
26	LA02-923	8	60
27	21525c1*	8	80
28	IL02-18228	8	60
29	IL02-19463	8	10
30	Mocha exp.	8	60
31	Arena exp.	8	60
32	India exp.	8	60
33	B030543	8	20
34	D04*5513	8	20
35	M03-3616-11B	8	60
36	KY97C-0321-02-01	8	80
37	KY97C-0519-04-07	8	80
38	W06-202B	8	60
39	MO 040152	8	20
40	G41730	8	40
41	G52612	0	0
42	G69202	8	80
43	M04-4566	8	60
44	M04-4802	0	0
45	M04*5109	8	40

LOCATION MEANS
GROWTH STAGE / DATE soft dough / July 1

SEPTORIA

		Bay AR		W Lafayette IN		Logan Co. KY	Wooster OH
		Hancock		Ohm		Van Sanford	Sneller
		tritici	nodorum	tritici	tritici	tritici	tritici
		1-9	% of glume tissue	% of leaf below flag	sporulation density		0-9
1	Roane	4.0	25	40	M	5.5	2.7
2	INW0411	4.0	55	80	S	7.5	1.3
3	Branson	4.0	40	60	M	6.0	1.7
4	Bess	4.5	35	60	M	7.5	2.3
5	MO011126	4.5	45	50	M	6.5	2.0
6	VA03W-412	4.5	40	60	M	7.5	1.0
7	AR97044-10-2	6.0	50	60	M	7.0	2.3
8	KY96C-0769-7-3	4.5	35	50	M	7.0	2.3
9	OH02-12678	3.0	30	30	M	4.5	1.0
10	MO040192	4.0	70	60	S	6.0	1.3
11	IL00-8530	4.0	40	70	M	7.0	2.3
12	NC04-20814	5.0	50	60	M	5.5	2.0
13	AR97124-4-2	4.0	65	60	M	6.0	1.7
14	OH02-7217	4.5	30	60	S	6.0	1.7
15	OH03-41-45	3.5	40	40	S	7.0	1.7
16	P02444A1-23-9	4.5	60	50	M	6.5	1.3
17	P03207A1-7	3.0	40	50	M	5.5	2.0
18	P04287A1-16	3.5	70	60	S	4.5	1.7
19	NYCalR-L	3.5	35	30	R	5.5	3.0
20	MD01W233-06-8	4.5	35	40	M	6.5	2.7
21	MD01W233-06-21	5.5	50	60	M		2.3
22	MD99W483-06-9	5.0	45	80	S	8.0	1.7
23	VA05W-257	4.5	45	60	M	7.0	2.0
24	VA05W-414	5.0	40	70	S	6.0	1.3
25	LA01*425	3.5	35	50	M	5.5	1.3
26	LA02-923	3.5	40	40	M	6.5	2.7
27	21525c1*	4.0	30	20	M	6.5	1.7
28	IL02-18228	4.5	30	50	M	5.5	2.0
29	IL02-19463	4.5	40	60	M	7.5	1.0
30	Mocha exp.	5.0	50	60	S	6.5	2.7
31	Arena exp.	3.5	35	30	M	5.5	1.7
32	India exp.	5.0	40	60	M	8.0	1.7
33	B030543	5.0	45	50	M	8.0	2.3
34	D04*5513	5.0	45	60	S	8.0	2.0
35	M03-3616-11B	3.5	40	50	M	5.5	1.3
36	KY97C-0321-02-01	4.0	30	50	S	7.5	1.7
37	KY97C-0519-04-07	5.0	30	60	S	8.0	2.0
38	W06-202B	4.5	40	70	M	8.0	3.7
39	MO 040152	4.5	30	60	M	7.0	3.0
40	G41730	4.5	30	60	M	7.5	2.0
41	G52612	5.0	35	50	M	5.5	4.0
42	G69202	4.0	25	50	S	6.0	1.3
43	M04-4566	5.0	40	70	S	8.0	2.0
44	M04-4802	4.0	45	50	S	5.5	2.7
45	M04*5109	5.0	45	60	M	8.0	2.3
LOCATION MEANS		4.3	41.1	54.4		6.6	2.0
GROWTH STAGE / DATE						10.1	

SEPTORIA

		Nairn ON	Oconto WI	
		Etienne	Cisar	
			tritici	nodorum
		0-9		
1	Roane	6.0	4.0	0.7
2	INW0411	6.0	3.3	5.7
3	Branson	4.0	4.7	1.3
4	Bess	4.7	4.0	0.7
5	MO011126	4.7	3.3	1.0
6	VA03W-412	4.7	3.7	3.0
7	AR97044-10-2	6.3	3.7	0.7
8	KY96C-0769-7-3	5.3	4.0	2.0
9	OH02-12678	3.7	3.0	2.0
10	MO040192	4.7	4.3	1.0
11	IL00-8530	6.0	5.3	0.0
12	NC04-20814	4.3	3.7	1.3
13	AR97124-4-2	5.0	4.3	3.7
14	OH02-7217	6.7	6.7	1.7
15	OH03-41-45	5.0	5.3	2.7
16	P02444A1-23-9	6.0	5.3	0.3
17	P03207A1-7	4.7	3.3	4.3
18	P04287A1-16	4.0	2.7	5.7
19	NYCalR-L	5.3	5.3	3.3
20	MD01W233-06-8	3.7	1.3	2.3
21	MD01W233-06-21	6.3	4.7	4.7
22	MD99W483-06-9	5.0	3.3	2.7
23	VA05W-257	5.0	3.3	1.3
24	VA05W-414	4.7	3.7	3.7
25	LA01*425	3.7	3.7	1.3
26	LA02-923	4.3	4.3	1.7
27	21525c1*	5.3	6.0	1.0
28	IL02-18228	5.5	4.3	1.0
29	IL02-19463	6.0	5.7	0.7
30	Mocha exp.	6.7	6.7	1.3
31	Arena exp.	5.0	6.3	5.3
32	India exp.	5.6	4.0	3.3
33	B030543	5.0	3.7	2.0
34	D04*5513	4.3	4.0	4.0
35	M03-3616-11B	5.0	4.3	3.3
36	KY97C-0321-02-01	5.7	2.7	1.3
37	KY97C-0519-04-07	5.3	5.7	3.3
38	W06-202B	5.3	5.3	3.7
39	MO 040152	4.3	5.0	1.7
40	G41730	4.5	3.7	2.3
41	G52612	4.3	6.0	1.0
42	G69202	4.7	4.0	0.7
43	M04-4566	6.5	5.3	2.0
44	M04-4802	5.7	5.7	2.7
45	M04*5109	5.1	5.3	1.3
LOCATION MEANS		5.1	4.4	2.2
GROWTH STAGE / DATE				

FUSARIUM HEAD BLIGHT (SCAB)

				Urbana IL			Tipton IN
				Kolb			Brown
		Incidence	Severity	FHB Index	Kernel Rating	ISK Index	
		%	%	0-100	% FDK	0-100	1-9
1	Roane	95	32	30	20	46	1.0
2	INW0411	85	27	23	23	43	1.0
3	Branson	88	55	49	33	56	1.0
4	Bess	87	25	23	15	40	1.0
5	MO011126	100	76	76	43	70	2.0
6	VA03W-412	98	76	76	70	80	4.0
7	AR97044-10-2	100	84	84	82	88	3.0
8	KY96C-0769-7-3	98	39	38	33	54	2.0
9	OH02-12678	95	41	39	30	53	2.0
10	MO040192	100	66	66	75	80	1.0
11	IL00-8530	80	37	29	27	46	1.0
12	NC04-20814	100	73	73	40	68	4.0
13	AR97124-4-2	87	53	47	53	63	3.0
14	OH02-7217	95	43	40	23	51	3.5
15	OH03-41-45	92	61	57	37	61	3.5
16	P02444A1-23-9	88	34	31	22	45	1.0
17	P03207A1-7	93	49	47	47	62	1.0
18	P04287A1-16	95	52	50	37	59	1.0
19	NYCalR-L	100	72	72	83	85	4.0
20	MD01W233-06-8	95	35	33	15	45	1.0
21	MD01W233-06-21	98	57	56	37	61	3.0
22	MD99W483-06-9	100	58	58	70	76	3.0
23	VA05W-257	97	59	57	48	66	3.0
24	VA05W-414	100	91	91	87	92	3.0
25	LA01*425	90	70	64	45	66	5.0
26	LA02-923	100	89	89	77	87	6.5
27	21525c1*	100	63	63	58	72	3.0
28	IL02-18228	53	28	15	8	28	1.0
29	IL02-19463	85	57	48	30	54	1.0
30	Mocha exp.	100	71	71	83	85	3.0
31	Arena exp.	100	79	79	60	78	3.0
32	India exp.	92	58	53	60	69	2.5
33	B030543	100	57	57	22	56	2.0
34	D04*5513	100	93	93	73	87	5.0
35	M03-3616-11B	67	35	22	22	39	2.5
36	KY97C-0321-02-01	100	81	81	80	86	6.0
37	KY97C-0519-04-07	100	62	62	72	77	6.0
38	W06-202B	93	52	49	53	65	3.0
39	MO 040152	100	55	55	30	59	4.0
40	G41730	87	43	38	30	51	6.0
41	G52612	100	67	67	43	67	3.0
42	G69202	83	40	33	20	45	2.5
43	M04-4566	100	87	87	77	87	1.0
44	M04-4802	100	68	68	70	78	4.5
45	M04*5109	97	53	51	40	61	3.0
LOCATION MEANS		94	58	55	47	64	2.8
GROWTH STAGE / DATE							June 24

FUSARIUM HEAD BLIGHT (SCAB)

		W Lafayette IN Ohm		E Lansing MI Lewis		Columbia MO McKendry	Lincoln NE Baenziger
		Severity %	Incidence %	Severity %	Index		
1	Roane	55	90	19	17	1.7	1
2	INW0411	9	85	14	12	1.7	1
3	Branson	100	85	36	32	2.7	2
4	Bess	83	75	20	15	1.0	1
5	MO011126	55	95	44	43	2.3	1
6	VA03W-412	100	95	26	26	2.7	2
7	AR97044-10-2	72	90	64	57	3.0	3
8	KY96C-0769-7-3	40	90	42	37	1.7	1
9	OH02-12678	38	85	19	16	2.0	2
10	MO040192	100	80	40	33	1.0	2
11	IL00-8530	17	90	15	14	1.3	2
12	NC04-20814	67	80	37	29	2.0	3
13	AR97124-4-2	80	85	41	35	2.3	3
14	OH02-7217	16	85	18	16	2.3	2
15	OH03-41-45	92	95	36	36	2.0	2
16	P02444A1-23-9	12	85	16	12	1.3	2
17	P03207A1-7	68	95	22	20	1.7	2
18	P04287A1-16	75	85	27	22	2.3	2
19	NYCalR-L	100	85	45	39	3.7	3
20	MD01W233-06-8	52	75	15	11	2.0	1
21	MD01W233-06-21	87	85	22	19	2.3	3
22	MD99W483-06-9	80	90	30	27	2.0	3
23	VA05W-257	88	85	30	25	4.0	4
24	VA05W-414	75	95	47	46	5.0	4
25	LA01*425	74	95	38	36	3.0	2
26	LA02-923	87	85	76	65	5.0	3
27	21525c1*	100	90	66	59	4.3	3
28	IL02-18228	12	50	8	5	1.0	3
29	IL02-19463	64	80	14	11	1.3	2
30	Mocha exp.	53	95	47	44	2.0	3
31	Arena exp.	60	95	39	36	4.7	3
32	India exp.	52	93.3	19	18	3.0	4
33	B030543	65	95	24	24	2.0	3
34	D04*5513	94	95	65	60	4.7	3
35	M03-3616-11B	43	85	13	11	2.0	1
36	KY97C-0321-02-01	82	95	63	60	5.0	2
37	KY97C-0519-04-07	37	95	36	35	3.3	3
38	W06-202B	83	95	35	35	2.3	2
39	MO 040152	43	85	28	24	2.3	1
40	G41730	39	80	19	15	2.0	1
41	G52612	69	85	21	18	2.0	1
42	G69202	66	90	21	20	2.0	1
43	M04-4566	95	95	54	51	3.0	3
44	M04-4802	100	90	29	25	4.3	2
45	M04*5109	42	95	22	21	2.3	2
LOCATION MEANS		65	88	32	29	2.6	2.2
GROWTH STAGE / DATE							

FUSARIUM HEAD BLIGHT (SCAB)

		Wooster OH Fioritto	Oconto WI Cisar
		1-9 ??	
1	Roane	0.7	1.0
2	INW0411	0.7	1.3
3	Branson	0.3	2.3
4	Bess	0.7	1.3
5	MO011126	0.0	1.3
6	VA03W-412	0.0	1.7
7	AR97044-10-2	0.3	1.0
8	KY96C-0769-7-3	0.3	0.7
9	OH02-12678	1.0	1.0
10	MO040192	1.3	1.0
11	IL00-8530	0.3	0.3
12	NC04-20814	0.7	2.3
13	AR97124-4-2	0.7	1.7
14	OH02-7217	1.0	1.3
15	OH03-41-45	0.7	2.0
16	P02444A1-23-9	0.0	1.0
17	P03207A1-7	0.3	2.0
18	P04287A1-16	0.0	0.7
19	NYCalR-L	0.0	1.3
20	MD01W233-06-8	0.0	1.0
21	MD01W233-06-21	1.0	2.0
22	MD99W483-06-9	1.3	1.0
23	VA05W-257	0.7	0.3
24	VA05W-414	1.7	5.7
25	LA01*425	0.3	1.3
26	LA02-923	1.3	0.7
27	21525c1*	0.3	1.0
28	IL02-18228	0.0	0.0
29	IL02-19463	1.0	1.0
30	Mocha exp.	0.0	1.7
31	Arena exp.	0.7	1.7
32	India exp.	1.7	1.3
33	B030543	0.0	0.7
34	D04*5513	1.3	2.0
35	M03-3616-11B	0.3	0.0
36	KY97C-0321-02-01	1.3	2.3
37	KY97C-0519-04-07	0.7	2.0
38	W06-202B	0.7	1.7
39	MO 040152	0.7	0.3
40	G41730	0.3	0.3
41	G52612	0.7	1.0
42	G69202	0.0	0.7
43	M04-4566	0.7	1.0
44	M04-4802	0.7	0.7
45	M04*5109	0.3	0.7
LOCATION MEANS		0.6	1.3
GROWTH STAGE / DATE			

POWDERY MILDEW

		Tipton IN Brown 1-9	Clarksville MD Costa 0-9	Merrill MI Lewis 0-9	Laurel Springs NC Marshall 0-9	Plymouth NC Murphy	Nairn ON Etienne 0-9
1	Roane	1	4.5	4.5	4	5.0	3.2
2	INW0411	1	1.0	2.0	0	0.0	1.2
3	Branson	1	0.5	2.5	5	1.0	1.7
4	Bess	3	6.5	4.0	7	5.0	4.2
5	MO011126	1	3.3	4.5	4	4.0	3.3
6	VA03W-412	1	0.3	3.0	0	0.5	1.8
7	AR97044-10-2	4	7.0	4.5	8	4.0	4.7
8	KY96C-0769-7-3	1	3.5	3.5	5	3.0	3.2
9	OH02-12678	1	0.0	1.0	3	0.0	0.2
10	MO040192	1	4.3	5.0	3	1.5	2.7
11	IL00-8530	3	8.0	5.5	8	6.0	5.9
12	NC04-20814	1	0.0	0.0	0	0.5	0.0
13	AR97124-4-2	6	7.5	5.0	7	5.5	3.7
14	OH02-7217	1	6.3	5.0	4	4.0	2.5
15	OH03-41-45	2	3.5	4.5	6	4.5	2.3
16	P02444A1-23-9	1	6.5	3.5	5	4.0	2.3
17	P03207A1-7	1	7.0	5.0	7	5.5	4.5
18	P04287A1-16	1	2.3	5.0	6	2.0	3.2
19	NYCalR-L	1	1.0	4.5	4	2.0	2.8
20	MD01W233-06-8	1	0.0	0.0	0	0.0	0.2
21	MD01W233-06-21	1	1.5	3.0	3	1.0	2.2
22	MD99W483-06-9	1	1.0	0.0	0	0.0	0.0
23	VA05W-257	1	1.8	3.0	6	2.5	2.8
24	VA05W-414	1	0.0	0.5	2	0.0	0.0
25	LA01*425	1	0.0	1.0	0	0.0	0.7
26	LA02-923	6	8.0	5.0	9	7.0	4.5
27	21525c1*	4	5.0	4.0	6	3.0	2.7
28	IL02-18228	3	6.5	5.0	8	5.5	4.4
29	IL02-19463	2	5.8	5.0	7	3.5	5.3
30	Mocha exp.	1	1.8	4.5	4	1.0	3.0
31	Arena exp.	1	0.8	3.5	7	3.0	2.7
32	India exp.	1	6.0	5.0	7	5.0	4.0
33	B030543	1	5.0	4.5	7	4.5	3.3
34	D04*5513	1	7.0	5.0	7	6.5	3.5
35	M03-3616-11B	1	2.5	4.5	0	2.5	2.5
36	KY97C-0321-02-01	1	0.0	1.0	0	0.5	0.0
37	KY97C-0519-04-07	1	0.3	2.0	0	3.5	1.5
38	W06-202B	1	6.5	4.5	0	6.5	3.5
39	MO 040152	4	6.3	3.5	3	4.0	3.2
40	G41730	1	1.0	0.5	2	2.0	0.9
41	G52612	1	0.5	1.0	0	3.5	1.0
42	G69202	1	3.3	1.5	0	3.0	2.2
43	M04-4566	1	0.0	1.5	0	0.0	0.9
44	M04-4802	1	2.8	2.5	0	2.5	1.8
45	M04*5109	1	5.0	4.5	4	4.5	2.5
LOCATION MEANS		1.6	3.4	3.3	3.7	3.0	2.5
GROWTH STAGE / DATE		May 22					

POWDERY MILDEW

		Blacksburg VA Griffey 0-9	Warsaw VA Griffey 0-9	Oconto WI Cisar
1	Roane	6.5	5.5	1.3
2	INW0411	3.0	0.0	0.7
3	Branson	3.0	0.5	0.3
4	Bess	6.5	3.5	3.7
5	MO011126	6.0	3.0	3.7
6	VA03W-412	2.0	1.0	0.7
7	AR97044-10-2	3.0	3.0	4.0
8	KY96C-0769-7-3	1.5	1.5	3.3
9	OH02-12678	3.0	0.5	0.0
10	MO040192	1.5	1.0	3.3
11	IL00-8530	6.0	4.0	3.7
12	NC04-20814	0.0	0.0	0.0
13	AR97124-4-2	6.0	6.0	5.3
14	OH02-7217	4.0	5.5	1.3
15	OH03-41-45	5.0	2.0	3.0
16	P02444A1-23-9	6.5	3.0	2.3
17	P03207A1-7	5.5	5.0	6.7
18	P04287A1-16	4.0	2.5	2.7
19	NYCalR-L	3.0	2.5	3.0
20	MD01W233-06-8	0.0	1.0	0.0
21	MD01W233-06-21	6.5	5.5	1.0
22	MD99W483-06-9	0.5	0.0	0.0
23	VA05W-257	3.5	3.0	2.7
24	VA05W-414	4.0	0.0	0.0
25	LA01*425	0.0	0.0	0.0
26	LA02-923	7.5	6.0	7.7
27	21525c1*	3.0	1.0	3.3
28	IL02-18228	5.5	5.0	4.3
29	IL02-19463	5.5	2.5	4.7
30	Mocha exp.	3.0	3.5	2.0
31	Arena exp.	3.5	1.5	2.7
32	India exp.	6.0	6.0	3.7
33	B030543	4.0	4.5	4.7
34	D04*5513	4.5	4.0	3.3
35	M03-3616-11B	3.5	2.0	3.3
36	KY97C-0321-02-01	0.0	0.5	0.0
37	KY97C-0519-04-07	3.5	3.5	3.7
38	W06-202B	5.5	5.5	4.0
39	MO 040152	6.0	5.0	5.0
40	G41730	4.5	2.5	1.7
41	G52612	1.5	2.0	0.7
42	G69202	3.0	4.0	0.0
43	M04-4566	1.5	0.0	0.3
44	M04-4802	4.0	2.0	3.0
45	M04*5109	3.5	4.0	5.0
LOCATION MEANS		3.8	2.8	2.6
GROWTH STAGE / DATE				

POWDERY MILDEW

		Blacksburg VA Griffey seedling	Entry ID	Pedigree	Pm Gene	07 GH 1/23/07	Reaction Type	07GH PM	PM (0-4) 11/26/07
1	Roane	34	Pm-Dif 1	Chancellor	sus	4	S	12	34
2	INW0411	23	Pm-Dif 2	CI 14114	1a	12+	MR	12+	0;
3	Branson	1	Pm-Dif 3	PI 351489	1c	3	S	34	34
4	Bess	3	Pm-Dif 4	CI 14118	2	3	S	4	4
5	MO011126	0;	Pm-Dif 5	CI 14120	3a	34	S	23	34
6	VA03W-412	23	Pm-Dif 6	CI 14121	3b	0;1	R	1	0;
7	AR97044-10-2	4	Pm-Dif 7	CI 15886	3c	3	S	34	34
8	KY96C-0769-7-3	34	Pm-Dif 8	Ralle	3d	0;1-	R	0;1-	;1
9	OH02-12678	0;	Pm-Dif 9	W176	3e	4	S	12	34
10	MO040192	2	Pm-Dif 10	C6815-PM3f	3f	34	S	23	4
11	IL00-8530	23	Pm-Dif 11	Aristide	3g	34	S	3	3
12	NC04-20814	1	Pm-Dif 12	CI 14123	4a	4	S	23	34
13	AR97124-4-2	34	Pm-Dif 13	Ronos	4b	34	S	12	34
14	OH02-7217	34	Pm-Dif 14	CI 14125	5a	23C	I	23	3
15	OH03-41-45	23	Pm-Dif 15	Kormoran	5b	34	S	34	34
16	P02444A1-23-9	3	Pm-Dif 16	I5	5d	0;CN	R	01	;1c
17	P03207A1-7	3	Pm-Dif 17	CI 15888	6	4	S	01	4
18	P04287A1-16	0;tr3	Pm-Dif 18	Transec	7	4	S	4	4
19	NYCalR-L	2	Pm-Dif 19	Kavkaz	8	;12-	MR	23	12
20	MD01W233-06-8	;1-	Pm-Dif 20	N14	9	4	S	01-	4
21	MD01W233-06-21	;1-	Pm-Dif 21	Wembly	12	0;	R	01-	0;
22	MD99W483-06-9	0;cn	Pm-Dif 22	PM16	16	;1-	R		0;
23	VA05W-257	34	Pm-Dif 23	Amigo	17	0;	R	0;	;1
24	VA05W-414	0;	Pm-Dif 24	GHSE PM20	20	;12-	MR	01	2cn
25	LA01*425	12	Pm-Dif 25	DH2	21	0;	R	0C	0;
26	LA02-923	34	Pm-Dif 26	NC96BGTA5	25	12	MR	01	0;
27	21525c1*	34	Pm-Dif 27	NC97BGTD7	34	23	IMS	12+	23
28	IL02-18228	4							
29	IL02-19463	34							
30	Mocha exp.	3							
31	Arena exp.	34							
32	India exp.	0;tr3							
33	B030543	34							
34	D04*5513	34							
35	M03-3616-11B	;1-							
36	KY97C-0321-02-01	0;							
37	KY97C-0519-04-07	0;							
38	W06-202B	23							
39	MO 040152	4							
40	G41730	34							
41	G52612	23							
42	G69202	3							
43	M04-4566	0;							
44	M04-4802	0;/3							
45	M04*5109	4							

VIRUSES

			Urbana IL		Plymouth NC	Wooster OH	Blacksburg VA
			Kolb		Murphy	Sneller	Griffey
		SBMV	BYDV	BYDV stunting	BYDV	WSSMV	BYDV
		0-9	0-9	%		0-9	0-9
1	Roane	7.0	6.5	19	0.0	5.0	2.0
2	INW0411	4.0	8.5	36	2.0	0.0	4.5
3	Branson	8.5	7.5	22	0.5	0.3	3.0
4	Bess	9.0	8.0	23	0.0	5.3	2.5
5	MO011126	6.5	8.0	23	2.5	0.0	3.0
6	VA03W-412	9.0	7.0	26	3.5	2.7	3.0
7	AR97044-10-2	9.0	8.0	20	2.5	2.0	2.5
8	KY96C-0769-7-3	5.0	7.5	26	1.0	0.7	2.0
9	OH02-12678	7.5	6.0	12	2.0	0.0	5.0
10	MO040192	6.5	7.0	17	1.0	3.7	3.0
11	IL00-8530	5.0	8.0	28	1.5	7.0	2.0
12	NC04-20814	9.0	9.0	28	1.5	0.7	1.0
13	AR97124-4-2	2.0	8.0	24	0.5	1.7	3.5
14	OH02-7217	6.5	7.0	18	0.0	0.7	5.5
15	OH03-41-45	4.5	6.0	13	1.0	0.7	4.0
16	P02444A1-23-9	9.0	7.0	23	0.0	0.0	3.0
17	P03207A1-7	7.0	7.5	35	0.5	0.0	3.0
18	P04287A1-16	8.5	8.5	48	0.0	1.0	3.5
19	NYCalR-L	9.0	7.5	27	4.5	0.0	5.0
20	MD01W233-06-8	7.5	8.0	29	2.0	0.0	2.0
21	MD01W233-06-21	9.0	8.0	15	3.0	1.0	3.0
22	MD99W483-06-9	9.0	8.0	25	2.5	0.3	3.5
23	VA05W-257	9.0	7.0	22	1.5	3.3	3.0
24	VA05W-414	7.0	7.0	17	2.0	0.7	2.5
25	LA01*425	8.5	8.0	25	0.5	2.3	3.5
26	LA02-923	4.5	6.5	14	0.0	1.0	5.0
27	21525c1*	4.5	7.5	22	0.0	0.3	4.5
28	IL02-18228	2.0	6.5	18	1.0	0.0	2.0
29	IL02-19463	7.0	5.5	7	1.0	1.3	3.0
30	Mocha exp.	7.5	6.5	14	3.5	0.0	3.5
31	Arena exp.	4.0	6.5	19	3.5	0.0	3.5
32	India exp.	5.5	7.0	10	0.0	0.0	3.5
33	B030543	9.0	7.0	3	0.5	4.3	3.0
34	D04*5513	9.0	7.0	20	4.0	7.0	3.5
35	M03-3616-11B	5.5	4.0	3	2.5	0.0	4.0
36	KY97C-0321-02-01	3.5	7.0	23	0.5	0.0	2.0
37	KY97C-0519-04-07	8.0	7.5	12	1.5	0.3	4.0
38	W06-202B	9.0	7.5	12	3.0	3.0	3.0
39	MO 040152	7.5	6.0	0	0.5	2.3	4.0
40	G41730	9.0	7.0	19	3.0	3.0	4.5
41	G52612	6.5	7.5	27	1.5	1.0	2.0
42	G69202	9.0	7.5	20	0.0	0.0	1.5
43	M04-4566	5.5	6.0	8	1.0	0.3	4.0
44	M04-4802	3.0	7.0	13	2.0	1.0	3.5
45	M04*5109	9.0	7.0	27	2.0	1.7	4.0
LOCATION MEANS		6.9	7.2	19.8	1.5	1.5	3.3

HESSIAN FLY

W Lafayette
IN
Cambron
0-9

		Bio B	Biio C	Bio D	Bio O	Bio L
1	Roane	3	7	9	8	9
2	INW0411	2	2	9	9	9
3	Branson	3	9	9	7	9
4	Bess	9	9	9	9	9
5	MO011126	9	9	9	3	9
6	VA03W-412	9	9	9	9	9
7	AR97044-10-2	9	9	9	9	9
8	KY96C-0769-7-3	6	4	9	7	9
9	OH02-12678	9	9	9	9	9
10	MO040192	9	8	9	9	9
11	IL00-8530	8	8	9	9	9
12	NC04-20814	8	9	9	9	9
13	AR97124-4-2	9	9	8	8	9
14	OH02-7217	9	9	9	6	9
15	OH03-41-45	9	9	9	9	9
16	P02444A1-23-9	9	9	9	9	9
17	P03207A1-7	3	1	2	7	4
18	P04287A1-16	2	2	6	9	9
19	NYCalR-L	9	9	9	4	9
20	MD01W233-06-8	9	9	9	8	9
21	MD01W233-06-21	9	4	9	9	9
22	MD99W483-06-9	9	8	9	9	9
23	VA05W-257	9	9	9	3	9
24	VA05W-414	9	9	9	3	9
25	LA01*425	9	9	9	9	9
26	LA02-923	9	9	9	9	9
27	21525c1*	9	9	9	9	9
28	IL02-18228	9	9	9	9	9
29	IL02-19463	9	9	9	4	9
30	Mocha exp.	9	2	9	9	9
31	Arena exp.	9	8	9	3	9
32	India exp.	9	9	8	9	9
33	B030543	9	9	9	9	9
34	D04*5513	9	9	9	9	9
35	M03-3616-11B	9	1	2	4	9
36	KY97C-0321-02-01	9	9	9	9	9
37	KY97C-0519-04-07	9	9	9	9	9
38	W06-202B	9	9	9	9	9
39	MO 040152	3	9	9	9	9
40	G41730	2	2	2	9	9
41	G52612	9	9	9	6	9
42	G69202	9	8	9	9	9
43	M04-4566	9	9	9	9	9
44	M04-4802	9	9	9	9	9
45	M04*5109	9	9	9	9	9

ACID SOIL TOLERANCE

		Enid OK Carver 0-5
1	Roane	1
2	INW0411	3
3	Branson	2
4	Bess	2
5	MO011126	3
6	VA03W-412	2
7	AR97044-10-2	0
8	KY96C-0769-7-3	2
9	OH02-12678	4
10	MO040192	2
11	IL00-8530	1
12	NC04-20814	4
13	AR97124-4-2	1
14	OH02-7217	1
15	OH03-41-45	0
16	P02444A1-23-9	1
17	P03207A1-7	1
18	P04287A1-16	5
19	NYCalR-L	2
20	MD01W233-06-8	1
21	MD01W233-06-21	0
22	MD99W483-06-9	3
23	VA05W-257	0
24	VA05W-414	3
25	LA01*425	1
26	LA02-923	1
27	21525c1*	1
28	IL02-18228	3
29	IL02-19463	2
30	Mocha exp.	1
31	Arena exp.	3
32	India exp.	1
33	B030543	1
34	D04*5513	1
35	M03-3616-11B	4
36	KY97C-0321-02-01	1
37	KY97C-0519-04-07	2
38	W06-202B	3
39	MO 040152	3
40	G41730	2
41	G52612	2
42	G69202	1
43	M04-4566	2
44	M04-4802	0
45	M04*5109	2
LOCATION MEANS		1.8
GROWTH STAGE / DATE		Nov 2

SPROUTING

		E Lansing & Merrill MI Lewis 0-9
1	Roane	1.0
2	INW0411	0.6
3	Branson	4.4
4	Bess	3.2
5	MO011126	4.2
6	VA03W-412	0.0
7	AR97044-10-2	4.9
8	KY96C-0769-7-3	3.7
9	OH02-12678	5.7
10	MO040192	3.7
11	IL00-8530	6.6
12	NC04-20814	2.0
13	AR97124-4-2	7.2
14	OH02-7217	2.5
15	OH03-41-45	4.7
16	P02444A1-23-9	4.6
17	P03207A1-7	7.7
18	P04287A1-16	2.8
19	NYCalR-L	6.6
20	MD01W233-06-8	2.9
21	MD01W233-06-21	2.6
22	MD99W483-06-9	1.7
23	VA05W-257	7.6
24	VA05W-414	6.3
25	LA01*425	1.8
26	LA02-923	8.0
27	21525c1*	2.4
28	IL02-18228	4.1
29	IL02-19463	6.9
30	Mocha exp.	3.8
31	Arena exp.	7.3
32	India exp.	5.4
33	B030543	3.4
34	D04*5513	3.1
35	M03-3616-11B	7.0
36	KY97C-0321-02-01	3.6
37	KY97C-0519-04-07	7.4
38	W06-202B	4.8
39	MO 040152	1.0
40	G41730	4.5
41	G52612	8.9
42	G69202	3.8
43	M04-4566	2.4
44	M04-4802	6.0
45	M04*5109	2.0
LOCATION MEANS		4.3

MARKER DATA

Raleigh, NC, Brown-Guedira

		***Rht-B1 (Rht1)* dwarfing**	***Rht-D1 (Rht2)* dwarfing**	**Ppd Insensitive?**	***Fhb1***	**3BS QTL from Ernie**	**Fhb3 from Wuhan1**
1	Roane	no	***yes***	***yes***	no	***?***	no
2	INW0411	***yes***	no	***yes***	no	no	no
3	Branson	***yes***	no	***yes***	no	no	no
4	Bess	***yes***	no	no	no	no	no
5	MO011126	no	***yes***	***yes***	no	no	no
6	VA03W-412	no	***yes***	***yes***	no	no	no
7	AR97044-10-2	***yes***	nd	***Hetero***	no	no	no
8	KY96C-0769-7-3	no	***yes***	***yes***	no	no	no
9	OH02-12678	***yes***	***hetero***	no	no	no	no
10	MO040192	***yes***	no	no	no	***yes***	no
11	IL00-8530	***yes***	no	no	no	***Hetero***	no
12	NC04-20814	***yes***	no	***yes***	no	no	no
13	AR97124-4-2	***yes***	***hetero***	no DNA		no DNA	no DNA
14	OH02-7217	***yes***	***hetero***	***Hetero***	no	***yes***	no
15	OH03-41-45	***yes***	no	no	no	no	no
16	P02444A1-23-9	***yes***	no	***yes***	***?***	no	no
17	P03207A1-7	***yes***	no	no	no	no	no
18	P04287A1-16	***yes***	no	no	no	no	no
19	NYCalR-L	no	***yes***	***yes***	no	no	no
20	MD01W233-06-8	no	***yes***	no	no	no	no
21	MD01W233-06-21	no	***yes***	no	no	no	no
22	MD99W483-06-9	***hetero***	***hetero***	***yes***	no	no	no
23	VA05W-257	no	***yes***	***yes***	no	no	no
24	VA05W-414	no	***yes***	***yes***	no	no	no
25	LA01*425	***yes***	no	***yes***	no	***yes***	no
26	LA02-923	***yes***	no	no	no	no	no
27	21525c1*	***yes***	no	***yes***	no	no	no
28	IL02-18228	***yes***	no	nd	no	no	no
29	IL02-19463	***yes***	no	***yes***	no	no	no
30	Mocha exp.	***yes***	no	***yes***	no	no	no
31	Arena exp.	no	***yes***	***yes***	no	no	no
32	India exp.	***yes***		***yes***	no	no	no
33	B030543	no	***yes***	***yes***	no	no	no
34	D04*5513	no	***yes***	***yes***	no	no	no
35	M03-3616-11B	***yes***	no	no	no	no	no
36	KY97C-0321-02-01	no	***yes***	***yes***	no	no	no
37	KY97C-0519-04-07	no	***yes***	***yes***	no	no	no
38	W06-202B	no	***yes***	***yes***	no	no	no
39	MO 040152	***yes***	***hetero***	no	no	no	no
40	G41730	no	no	no	no	no	no
41	G52612	no	***hetero***	no	no	no	no
42	G69202	***yes***	no	no	no	***yes***	no
43	M04-4566	***yes***	no	***yes***	no	no	no
44	M04-4802	no	***yes***	***yes***	no	no	no
45	M04*5109	no	***yes***	***yes***	no	no	no

MARKER DATA

Raleigh, NC, Brown-Guedira

		5AS(Ning7840) FHB QTL	*Sr24/Lr24*	1RS	*Sr36*	*H13*	*H9*	*Yr17/Lr37/Sr38*
1	Roane	no	no		no	no	no	no
2	INW0411	no	no	***T1RS:1BL***	***yes***	no	no	no
3	Branson	no	no		no	no	no	no
4	Bess	no	no		no	no	no	no
5	MO011126	no	no		no	no	no	no
6	VA03W-412	no	no		no	no	no	no
7	AR97044-10-2	no	no		no	no	no	no
8	KY96C-0769-7-3	no	no		no	no	no	no
9	OH02-12678	no	no	***TRS:1AL***	no	no	no	no
10	MO040192	no	no		no	no	no	no
11	IL00-8530	no	no		no	no	no	no
12	NC04-20814	no	no		***yes***	no	no	no
13	AR97124-4-2	no DNA	no DNA		no DNA	no DNA	no DNA	no DNA
14	OH02-7217	no	no		no	no	no	no
15	OH03-41-45	no	no	***T1RS:1AL***	no	no	no	no
16	P02444A1-23-9	no	no		no	no	no	***yes***
17	P03207A1-7	no	no	***T1RS:1BL***	no	***Hetero***	no	***yes***
18	P04287A1-16	no	no	***T1RS:1BL***	***yes***	no	no	no
19	NYCalR-L	no	no	***T1RS:1BL***	no	no	no	no
20	MD01W233-06-8	no	no	***T1RS:1AL***	no	no	no	no
21	MD01W233-06-21	no	no	***T1RS:1AL***	no	no	no	no
22	MD99W483-06-9	no	no		***yes***	no	no	no
23	VA05W-257	no	no		no	no	no	no
24	VA05W-414	no	no		***Hetero***	no	no	no
25	LA01*425	no	no		no	no	no	***yes***
26	LA02-923	no	***yes***		no	no	no	no
27	21525c1*	no	no		no	no	no	no
28	IL02-18228	no	no		no	no	no	no
29	IL02-19463	no	no		no	no	no	no
30	Mocha exp.	no	no		no	no	no	no
31	Arena exp.	no	no		no	no	no	no
32	India exp.	no	no		no	no	no	no
33	B030543	no	no		***yes***	no	no	no
34	D04*5513	no	no		no	no	no	no
35	M03-3616-11B	no	no	***T1RS:1BL***		no	no	no
36	KY97C-0321-02-01	no	no		no	no	no	no
37	KY97C-0519-04-07	no	no		no	no	no	no
38	W06-202B	no	no		no	no	no	no
39	MO 040152	no	no		no	no	no	no
40	G41730	no	no		***yes***	no	no	no
41	G52612	no	no		no	no	no	no
42	G69202	no	no		***yes***	no	no	no
43	M04-4566	no	no		no	no	no	no
44	M04-4802	no	no		no	no	no	no
45	M04*5109	no	no		no	no	no	no

MARKER DATA

Raleigh, NC, Brown-Guedira

		Bvd2 or *Bvd3*	*Lr34/Yr18/Pm38*	*Lr46/Yr29*	Bx70e strong gluten	*Glu-A1*	*Glu-D1*
1	Roane	no	no	no	no	Ax2*	2+12
2	INW0411	no	no	no	no	Ax1 or null	Hetero
3	Branson	no	no	no	no	Ax2*	2+12
4	Bess	no	no	no	no	Ax1 or null	2+12
5	MO011126	no	no	no	***yes***	Ax1 or null	2+12
6	VA03W-412	no	no	no	no	Ax1 or null	2+12
7	AR97044-10-2	no	no	no	no	Ax2*	2+12
8	KY96C-0769-7-3	no	no	no	no	Ax2*	Hetero
9	OH02-12678	no	no	no	no	Ax2*	2+12
10	MO040192	no	no	no	no	Ax1 or null	2+12
11	IL00-8530	no	no	no	no	Ax2*	Hetero
12	NC04-20814	no	no	no	no	Ax1 or null	2+12
13	AR97124-4-2	no DNA	no DNA	no DNA	no DNA	no DNA	no DNA
14	OH02-7217	no	no	no	no	Ax1 or null	Hetero
15	OH03-41-45	no	no	no	no	Ax2*	5+10
16	P02444A1-23-9	no	no	no	***yes***	Ax2*	2+12
17	P03207A1-7	***yes***	no	no	***yes***	Ax1 or null	5+10
18	P04287A1-16	***yes***	no	no	***yes***	Ax1 or null	Hetero
19	NYCalR-L	no	no	yes?	no	Ax1 or null	2+12
20	MD01W233-06-8	no	no	no	no	Ax2*	2+12
21	MD01W233-06-21	no	no	no	no	Ax2*	2+12
22	MD99W483-06-9	no	no	no	no	Ax2*	5+10
23	VA05W-257	no	no	no	no	Ax2*	2+12
24	VA05W-414	no	no	no	no	Ax1 or null	2+12
25	LA01*425	no	no	no	***yes***	Ax2*	Hetero
26	LA02-923	no	no	no	no	Hetero	2+12
27	21525c1*	no	no	no	no	Ax2*	2+12
28	IL02-18228	no	no	no	no		5+10
29	IL02-19463	no	no	no	no	Ax1 or null	2+12
30	Mocha exp.	no	no	no	no	Ax1 or null	2+12
31	Arena exp.	no	no	no	no	Ax1 or null	2+12
32	India exp.	no	no	no	no	Ax2*	5+10
33	B030543	no	***Hetero***	no	no	Ax1 or null	2+12
34	D04*5513	no	no	no	no	Ax1 or null	2+12
35	M03-3616-11B	no	no	no	no	Ax1 or null	2+12
36	KY97C-0321-02-01	no	no	no	no	Ax1 or null	2+12
37	KY97C-0519-04-07	no	no	no	no	Ax2*	2+12
38	W06-202B	no	no	no	***yes***	Ax2*	5+10
39	MO 040152	no	no	no	no	Ax1 or null	5+10
40	G41730	no	no	no	no	Ax2*	5+10
41	G52612	no	no	no	no	Ax1 or null	2+12
42	G69202	no	no	no	no	Ax2*	2+12
43	M04-4566	no	no	no	no	Ax1 or null	2+12
44	M04-4802	no	no	no	***Hetero***	Ax2*	Hetero
45	M04*5109	no	no	no	***Hetero***	Ax2*	2+12

EASTERN SEPTORIA NURSERY

Raleigh, NC, Cowger		1 rep	2 reps	2 reps	1 rep			2 reps	1 rep	2 reps		1 rep	1 rep	1 rep		
		PL GA	KN NC	SAL NC	PR KY	**all**	**all**	KN NC	EV IN	BL VA		PR KY	EV IN	LX KY	**all**	**all**
		*	*	*		*** locs**	**locs**						*	*	*** locs**	**locs**
	date -->	423	430	523	529			506	612	625		529	522	603		
			Stag nod blotch - leaves					**Stag nod bl - glumes**				**Sept trit bl - leaves**				
		plt														
		(0-9)	(0-9)	(0-9)	(0-9)*	**X**	**X**	(0-9)	(0-9)	(0-9)	**X**	(0-9)*	(0-9)	(0-9)	**X**	**X**
1	Roane		1.0	4.0		**2.5**	**2.5**	0.5	5	6.5	**4.0**	2.8	6	4	**5.0**	**4.3**
2	INW0411	2	2.0	2.0		**2.0**	**2.0**	1.5	6	7.5	**5.0**	3.7	6	4	**5.0**	**4.6**
3	Branson	0.5	2.0	2.5	2	**1.7**	**1.7**	0.5	4	8.5	**4.3**		6	5	**5.5**	**5.5**
4	Bess	3	3.0	3.0	2	**3.0**	**2.7**	1.0	3	5	**3.0**		4	4	**4.0**	**4.0**
5	MO011126	2	4.0	4.0	3	**3.3**	**3.2**	1.5	4	7.5	**4.3**	2.8	5	5	**5.0**	**4.3**
6	VA03W-412	1	3.5	3.5		**2.7**	**2.7**	1.5	3	5	**3.2**	2.4	6	4	**5.0**	**4.1**
7	AR97044-10-2	1	4.5	4.0		**3.2**	**3.2**	4.5	4	5.5	**4.7**	3.3	6	4	**5.0**	**4.4**
8	KY96C-0769-7-3		2.5	3.0		**2.8**	**2.8**	1.5	3	6.5	**3.7**	3.7	5	5	**5.0**	**4.6**
9	OH02-12678	1	1.0	3.0	2	**1.7**	**1.7**	0.0	2	3.5	**1.8**	1.9	2	4	**3.0**	**2.6**
10	MO040192	2	2.5	3.0	3	**2.5**	**2.6**	1.0	4	5.5	**3.5**		6	4	**5.0**	**5.0**
11	IL00-8530	2	2.0	3.0	2	**2.3**	**2.2**	1.0	4	6	**3.7**		5	5	**5.0**	**5.0**
12	NC04-20814	1	2.0			**1.5**	**1.5**	0.5	4	4	**2.8**	4.6	6	3	**4.5**	**4.5**
13	AR97124-4-2	1	3.0	3.0	1	**2.3**	**2.1**	1.5	3	8.5	**4.3**		6	3	**4.5**	**4.5**
14	OH02-7217	0.5	2.5	3.0		**2.0**	**2.0**	0.5	2	7.5	**3.3**	3.7	5	4	**4.5**	**4.2**
15	OH03-41-45	0.5	2.0	3.0		**1.8**	**1.8**	0.0	3	6	**3.0**	3.3	6	5	**5.5**	**4.8**
16	P02444A1-23-9	0.5	2.5	2.5		**1.8**	**1.8**	1.0	5	6.5	**4.2**	2.4	5	4	**4.5**	**3.8**
17	P03207A1-7	1	3.0	2.5		**2.2**	**2.2**	1.0	3	3.5	**2.5**	1.9	6	4	**5.0**	**4.0**
18	P04287A1-16	3	2.5	2.0		**2.5**	**2.5**	2.5	5	4.5	**4.0**	1.5	5	3	**4.0**	**3.2**
19	NYCalR-L	1	2.0	2.0		**1.7**	**1.7**	0.5	2	6.5	**3.0**	1.5	4	4	**4.0**	**3.2**
20	MD01W233-06-8	1	2.5	2.5		**2.0**	**2.0**	0.0	4	5.5	**3.2**	2.8	4	4	**4.0**	**3.6**
21	MD01W233-06-21	2	3.0	2.5		**2.5**	**2.5**	1.0	3	7	**3.7**	5.5	5	3	**4.0**	**4.5**
22	MD99W483-06-9		5.0	3.5		**4.3**	**4.3**	2.0	5	4.5	**3.8**	3.7	7	4	**5.5**	**4.9**
23	VA05W-257	2	2.0	3.0		**2.3**	**2.3**	3.0	4	4	**3.7**	2.8	6	3	**4.5**	**3.9**
24	VA05W-414	2	1.5	3.0		**2.2**	**2.2**	1.0	5	6.5	**4.2**	3.3	6	3	**4.5**	**4.1**
25	LA01*425	0.5	0.5	2.0		**1.0**	**1.0**	0.0	3	7.5	**3.5**	3.3	6	3	**4.5**	**4.1**
26	LA02-923	1	2.0	3.0		**2.0**	**2.0**	0.0	3	7.5	**3.5**	3.7	4	4	**4.0**	**3.9**
27	21525c1*	2	3.0	3.5		**2.8**	**2.8**	0.5	5	4	**3.2**	4.6	5	4	**4.5**	**4.5**
28	IL02-18228	0.5	2.5	3.5		**2.2**	**2.2**	0.5	3	6	**3.2**	3.7	5	5	**5.0**	**4.6**
29	IL02-19463	2	3.5	3.0		**2.8**	**2.8**	1.0	4	5	**3.3**	3.3	7	4	**5.5**	**4.8**
30	Mocha exp.	1	1.0	3.0		**1.7**	**1.7**	0.5	5	6	**3.8**	3.3	6	4	**5.0**	**4.4**
31	Arena exp.	0.5	2.5	3.0	2	**2.0**	**2.0**	0.5	4	4	**2.8**		6	4	**5.0**	**5.0**
32	India exp.	3	3.5	3.0		**3.2**	**3.2**	5.5	4	7	**5.5**	2.4	6	3	**4.5**	**3.8**
33	B030543	0.5	1.0	2.0		**1.2**	**1.2**	2.0	4	6.5	**4.2**	2.8	6	4	**5.0**	**4.3**
34	D04*5513	2	4.0	4.5		**3.5**	**3.5**	2.0	3	7.5	**4.2**	3.3	6	5	**5.5**	**4.8**
35	M03-3616-11B	0.5	2.5	2.5		**1.8**	**1.8**	0.0	3	4	**2.3**	2.8	5	4	**4.5**	**3.9**
36	KY97C-0321-02-01	1	2.0	3.0		**2.0**	**2.0**	0.0	4	3	**2.3**	4.6	7	5	**6.0**	**5.5**
37	KY97C-0519-04-07		1.5	3.5		**2.5**	**2.5**	0.5	4	6	**3.5**	3.7	6	5	**5.5**	**4.9**
38	W06-202B	2	2.0	4.0	3	**2.7**	**2.7**	1.0	4	4.5	**3.2**	2.8	5	4	**4.5**	**3.9**
39	MO040152	2	2.5	3.0		**2.5**	**2.5**	1.5	3	4	**2.8**	3.3	4	5	**4.5**	**4.1**
40	G41730	1	1.5	3.0		**1.8**	**1.8**	1.0	4	6.5	**3.8**	1.9	5	4	**4.5**	**3.6**
41	G52612	1	4.0	3.0		**2.7**	**2.7**	0.5	3	5	**2.8**	1.9	5	5	**5.0**	**4.0**
42	G69202	1	1.5	2.5		**1.7**	**1.7**	0.5	4	5.5	**3.3**	2.8	6	4	**5.0**	**4.3**
43	M04-4566	3	3.5	3.0		**3.2**	**3.2**	1.0	6	4.5	**3.8**	5.5	6	4	**5.0**	**5.2**
44	M04-4802	2	2.5	3.0		**2.5**	**2.5**	2.0	4	5.5	**3.8**	2.8	5	4	**4.5**	**3.9**
45	M04*5109		3.0	4.5		**3.8**	**3.8**	3.5	4	7	**4.8**	3.7	6	5	**5.5**	**4.9**

EASTERN SEPTORIA NURSERY

Raleigh, NC, Cowger		2 reps KN NC	2 reps SAL NC		2 reps KN NC	1 rep LX KY	1 rep GR GA	1 rep PL GA
	date -->	430	523		506	603	417	429
		Powdery Mildew			**Leaf rust**		**Stripe rust**	**WSB MV**
		(0-9)	(0-9)	**X**	(0-9)	(0-3)	(0-9)	(+/-)
1	Roane	5.0	3.0	**4.0**	4.5	3	4	
2	INW0411	0.5	0.5	**0.5**	2.5	3	8	-
3	Branson	1.0	1.5	**1.3**	2.5	-	2	
4	Bess	3.5	3.0	**3.3**	5.5	-	5	-
5	MO011126	4.0	3.5	**3.8**	3.0	3	1	-
6	VA03W-412	0.0	0.0	**0.0**	3.0	3	3	-
7	AR97044-10-2	1.5	3.0	**2.3**	4.0	3	6	-
8	KY96C-0769-7-3	2.5	2.0	**2.3**	5.5	3	2	
9	OH02-12678	0.0	0.0	**0.0**	2.0	3	4	-
10	MO040192	0.5	1.0	**0.8**	0.5	-	6	-
11	IL00-8530	3.5	0.5	**2.0**	2.5	3	2	-
12	NC04-20814	0.0		**0.0**	0.5	3	5	-
13	AR97124-4-2	4.5	5.5	**5.0**	0.0	1	3	-
14	OH02-7217	4.0	3.0	**3.5**	6.0	3	8	-
15	OH03-41-45	2.0	3.0	**2.5**	2.0	3	2	-
16	P02444A1-23-9	4.0	0.0	**2.0**	3.0	3	2	+
17	P03207A1-7	4.5	3.0	**3.8**	0.0	3	5	-
18	P04287A1-16	1.0	2.5	**1.8**	1.0	3	5	-
19	NYCalR-L	1.5	0.0	**0.8**	5.0	-	3	-
20	MD01W233-06-8	0.0	0.0	**0.0**	1.0	1	7	-
21	MD01W233-06-21	1.5	0.0	**0.8**	0.0	1	1	-
22	MD99W483-06-9	0.0	0.5	**0.3**	4.5	3	8	
23	VA05W-257	1.5	1.5	**1.5**	2.0	3	7	-
24	VA05W-414	1.0	0.0	**0.5**	4.0	3	5	-
25	LA01*425	0.5	0.0	**0.3**	0.5	3	1	-
26	LA02-923	6.0	7.0	**6.5**	2.5	3	2	-
27	21525c1*	1.0	1.5	**1.3**	2.0	-	7	-
28	IL02-18228	2.5	2.5	**2.5**	1.0	-	4	-
29	IL02-19463	2.0	2.0	**2.0**	3.0	-	3	-
30	Mocha exp.	1.0	1.0	**1.0**	4.5	3	3	+
31	Arena exp.	1.0	4.0	**2.5**	6.0	3	3	-
32	India exp.	5.0	3.0	**4.0**	7.5	3	5	-
33	B030543	4.0	2.0	**3.0**	3.0	3	3	+
34	D04*5513	4.0	4.5	**4.3**	1.5	3	2	+
35	M03-3616-11B	0.0	3.0	**1.5**	1.0	3	4	+
36	KY97C-0321-02-01	0.0	1.0	**0.5**	0.0	3	6	-
37	KY97C-0519-04-07	3.0	0.5	**1.8**	4.0	3	7	
38	W06-202B	3.5	4.5	**4.0**	3.0	1	6	-
39	MO040152	2.0	2.0	**2.0**	2.5	3	2	-
40	G41730	2.5	1.0	**1.8**	4.0	3	4	+
41	G52612	2.5	1.5	**2.0**	1.5	3	3	-
42	G69202	2.5	0.0	**1.3**	3.5	3	7	+
43	M04-4566	0.0	0.0	**0.0**	7.0	3	4	-
44	M04-4802	1.5	0.5	**1.0**	2.5	3	4	-
45	M04*5109	3.0	0.0	**1.5**	4.5	3	8	

2008 Crop

Advance Milling and Baking Evaluation Nursery 2008A14

Uniform Eastern Winter Wheat Performance Nursery, Composite of Three Locations, Jose Costa

Entries # 820941 to # 820985

A total of 45 samples were provided by Jose Costa as a composite of two locations. Samples from Wooster OH were composited with the samples shipped to provide the final composite for milling for each of the genotypes. 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 Roane. Of the 831 cultivars in the SWQL database of Allis-milled cultivars, Roane ranks 208th for Milling Score based on data from 18 millings. The following table compares the Roane standard with the "historical data" from the Advanced Milling databases.

ENTRY	MILLING QUALITY SCORE	BAKING QUALITY SCORE	SOFT. EQUIV. SCORE	TEST WT. LB/BU	ADJ. YIELD %	SOFT. EQUIV. %	FLOUR PROT. %	LACTIC ACID SRC	SUCROSE SRC %
Nursery Average	56.2	68.1	66.1	60.86	68.81	58.30	9.00	106.90	98.78
Allis Database - Roane	44.9	40.4	68.0		74.68		8.80	101.00	
Roane	44.92	40.42	68.04	62.59	66.56	58.97	9.16	111.23	103.75
Roane– Advanced database average	56.6	46.9	71.0	63.7	69.1	59.9	8.7	118.1	98.9
Roane– Adv. Db. Standard deviation	4.2	13.2	7.1	3.0	1.3	2.4	0.5	9.0	6.0
Branson	51.01	72.68	63.89	58.22	67.77	57.52	9.21	101.62	101.08
Branson– Advanced database average	67.9	53.7	60.0	61.4	70.2	54.7	9.3	99.2	93.3
Branson– Adv. Db. Standard deviation	0.2	3.7	0.1	2.6	1.0	1.5	0.9	7.4	3.0
INW0411	58.05	73.18	86.01	59.07	69.18	65.26	8.44	114.15	96.99
INW0411- Advanced database average	68.0	69.4	80.7	60.9	71.2	63.5	8.2	111.3	86.8
INW0411– Adv. Db. Standard deviation	5.8	13.8	4.4	2.3	0.7	2.8	0.6	10.2	3.0

Other check cultivars that were summarized included Branson and INW0411. The comparison of those cultivars to the Advance Database is given on the worksheets titled "Historical", with a smaller version listed above. In comparing all the checks, test weights were lower than average for all three checks and softness equivalents greater than normal for two of the three. The composited samples had some weathering and sprouting that likely contributed to the reduction in test weight of samples and the increase in softness equivalent. The inspection of the grain condition identified 0% to over 10% tombstoned kernels in the samples. Aspiration likely minimized the impact of the disease on end-use quality.

Notes for 2008 Evaluations: The AACC has recommended modifications to the sugar snap cookie method. The SWQL adopted the new method for the 2008 crop year. The results of cookie data should be more accurate and reproducible. The diameters of the cookies will be generally larger than with the old method. The rankings of the cultivars should be generally similar to the old method. However the increase in diameter will be relatively smaller in better quality cultivars than in poorer quality or for very strong gluten lines.

Evaluation of Cultivars and Breeding Lines
Milling yield and softness equivalent are the most heritable traits evaluated by the Soft Wheat Quality Laboratory. Based on comparisons to the historical advanced milling sets, the ranking for the checks for milling quality is: INW0411 is similar to Branson, and Roane is poorer. The measured milling quality for the checks in this trial matched the historical rankings. Based on this any line significantly lower than Branson (<67.8% Flour yield), will have lower than normal flour yield and may have poor milling quality. Similarly, softness equivalent is measure of break flour yield on commercial mills and is negatively correlated to the particle size of flour. Small particle size is a desirable characteristic in soft wheat, particularly for cakes. Three lines had very low softness equivalent and would likely be poor for cakes: P04287A1-16, IL02-18228, and G41730.

The six breeding lines in the nursery had a good combination of flour yield (>70.0%), softness equivalent (>58.3%, the nursery ave.), sucrose SRC (<98.8, the nursery ave.), and cookie diameter (>18.4, the nursery average). The lines were VA03W-412, IL00-8530, MD99W483-06-9, VA05W-414, 21525c1*, and M04-4566. They would be expected to perform better than average in a wide range of cookie and cake formulations. A number of the lines were strong gluten types with lactic acid SRC values above 120%. These lines may have application in cracker products and other soft wheat foods that require leavening. Among the lines with strong gluten, the best quality lines for gluten and milling characteristics were IL00-8530, MO040152, M04-4802, and M04*5109. The lines highlighted good quality experimentals would like serve as sources of improved milling and baking quality in subsequent crossing programs for improved cultivars.

Best regards,
Edward Souza

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		Composite of three locations: Brownstown, IL; W. Lafayette, IN; Wooster, OH	MILLING QUALITY SCORE		BAKING QUALITY SCORE		SOFT. EQUIV. SCORE		MICRO T.W. LB/BU		FLOUR YIELD %	
	Standard (#820941, Roane)		44.9	E	40.4	E	68.0	C	62.6		66.6	
820941	1	Roane	44.9	E	40.4	E	68.0	C	62.6		66.6	
820942	2	INW0411	51.0	D	72.7	B	63.9	C	58.2	Q	67.8	
820943	3	Branson	58.0	D	73.2	B	86.0	A	59.1	Q	69.2	
820944	4	Bess	45.9	E	62.9	C	59.7	D	60.6	*	66.8	
820945	5	MO011126	65.3	C	87.2	A	62.9	C	61.6		70.6	
820946	6	VA03W-412	64.7	C	86.4	A	73.4	B	62.1		70.5	
820947	7	AR97044-10-2	58.4	D	60.1	C	62.5	C	59.9	Q	69.3	
820948	8	KY96C-0769-7-3	57.9	D	73.7	B	66.6	C	61.7		69.2	
820949	9	OH02-12678	52.3	D	58.7	D	55.2	D	61.4		68.0	
820950	10	MO040192	52.7	D	55.0	D	62.1	C	61.5		68.1	
820951	11	IL00-8530	68.4	C	89.2	A	67.8	C	61.4	*	71.2	
820952	12	NC04-20814	55.5	D	55.3	D	60.7	C	61.4		68.7	
820953	13	AR97124-4-2	51.8	D	86.7	A	69.7	C	60.1	Q	67.9	
820954	14	OH02-7217	56.7	D	74.0	B	70.9	B	59.7	Q	68.9	
820955	15	OH03-41-45	47.4	E	62.8	C	70.4	B	62.1		67.1	
820956	16	P02444A1-23-9	48.1	E	69.8	C	69.4	C	58.7	Q	67.2	
820957	17	P03207A1-7	44.4	E	46.7	E	63.0	C	60.2	*	66.5	
820958	18	P04287A1-16	60.3	C	49.4	E	40.0	F	60.4	*	69.6	
820959	19	NYCalR-L	59.2	D	85.1	A	67.2	C	60.7	*	69.4	
820960	20	MD01W233-06-8	40.4	E	66.3	C	68.8	C	62.9		65.7	*
820961	21	MD01W233-06-21	58.7	D	78.2	B	78.9	B	61.9		69.3	
820962	22	MD99W483-06-9	62.0	C	90.2	A	75.0	B	61.5		70.0	
820963	23	VA05W-257	54.1	D	65.4	C	54.8	D	58.6	Q	68.4	
820964	24	VA05W-414	68.9	C	96.6	A	68.6	C	60.5	*	71.3	
820965	25	LA01*425	60.5	C	83.9	A	78.0	B	61.0	*	69.7	
820966	26	LA02-923	42.9	E	81.6	A	57.0	D	59.8	Q	66.2	
820967	27	21525c1*	64.8	C	73.1	B	69.4	C	60.5	*	70.5	
820968	28	IL02-18228	50.3	D	37.9	F	47.6	E	61.7		67.6	
820969	29	IL02-19463	58.4	D	56.1	D	85.1	A	60.2	Q	69.3	
820970	30	Mocha exp.	60.4	C	94.3	A	82.8	A	58.5	Q	69.6	
820971	31	Arena exp.	55.7	D	55.4	D	62.1	C	60.8	*	68.7	
820972	32	India exp.	53.7	D	52.9	D	72.8	B	60.2	*	68.3	
820973	33	B030543	62.8	C	77.5	B	54.3	D	63.5		70.1	
820974	34	D04*5513	50.3	D	27.7	F	56.2	D	62.2		67.6	
820975	35	M03-3616-11B	54.7	D	82.6	A	68.8	C	60.5	*	68.5	
820976	36	KY97C-0321-02-01	65.9	C	79.5	B	61.6	C	60.3	*	70.7	
820977	37	KY97C-0519-04-07	63.3	C	79.7	B	59.9	D	60.2	*	70.2	
820978	38	W06-202B	48.0	E	46.1	E	60.6	C	60.5	*	67.2	
820979	39	MO040152	56.5	D	52.7	D	67.4	C	62.2		68.9	
820980	40	G41730	51.7	D	47.5	E	45.4	E	61.9		67.9	
820981	41	G52612	53.0	D	65.4	C	68.5	C	62.2		68.2	
820982	42	G69202	56.3	D	72.4	B	65.7	C	62.1		68.8	
820983	43	M04-4566	65.9	C	82.9	A	79.6	B	59.1	Q	70.7	
820984	44	M04-4802	59.9	D	59.6	D	76.4	B	60.3	*	69.5	
820985	45	M04*5109	67.1	C	71.4	B	71.9	B	62.4		71.0	
		Average	56.2	D	68.1		66.1		60.9		68.8	

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

	Composite of three locations: Brownstown, IL; W. Lafayette, IN; Wooster, OH	SOFT. EQUIV. %		FLOUR PROT. %		LACTIC ACID RET'N	SUCROSE SRC %	COOKIE DIAM. CM.		TOP GR.
Standard (#820941, Roane)		59.0		9.16		111.2	103.8	17.55		3
1	Roane	59.0		9.16		111.2	103.8	17.55		3
2	INW0411	57.5		9.21		101.6	101.1	18.52		3
3	Branson	65.3		8.44		114.2	97.0	18.53		4
4	Bess	56.1		9.13		96.0	100.8	18.22		4
5	MO011126	57.2		9.73		110.2	99.5	18.95		6
6	VA03W-412	60.8		8.70		100.5	93.2	18.93		5
7	AR97044-10-2	57.0		9.34		107.0	100.2	18.14		4
8	KY96C-0769-7-3	58.4		9.45		105.3	100.8	18.55		5
9	OH02-12678	54.5	*	9.45		96.8	96.0	18.10		5
10	MO040192	56.9		9.07		97.3	99.8	17.99		5
11	IL00-8530	58.9		9.06		120.0	92.1	19.01		5
12	NC04-20814	56.4		9.17		114.1	94.6	18.00		4
13	AR97124-4-2	59.5		9.47		104.0	93.7	18.94		5
14	OH02-7217	60.0		8.77		113.2	99.3	18.56		4
15	OH03-41-45	59.8		8.51		123.2	99.9	18.22		4
16	P02444A1-23-9	59.4		8.11		112.3	107.9	18.43		4
17	P03207A1-7	57.2		9.59		99.9	108.2	17.74		3
18	P04287A1-16	49.1	Q	9.51		70.6	93.9	17.82		4
19	NYCalR-L	58.7		8.68		93.2	87.8	18.89		5
20	MD01W233-06-8	59.2		9.77		103.0	108.0	18.33		5
21	MD01W233-06-21	62.8		9.26		106.5	100.3	18.68		5
22	MD99W483-06-9	61.4		8.84		96.0	91.2	19.04		5
23	VA05W-257	54.3	*	8.73		94.4	100.3	18.30		4
24	VA05W-414	59.2		8.30		94.2	89.7	19.23		6
25	LA01*425	62.4		8.05		102.5	92.9	18.85		4
26	LA02-923	55.1	*	7.86		112.7	95.8	18.79		5
27	21525c1*	59.4		9.00		106.0	91.5	18.53		5
28	IL02-18228	51.8	Q	9.79		104.3	105.9	17.47		4
29	IL02-19463	64.9		9.00		116.0	98.4	18.02		4
30	Mocha exp.	64.1		9.02		106.6	97.6	19.17		4
31	Arena exp.	56.9		9.15		113.6	94.3	18.00		4
32	India exp.	60.6		9.71		123.7	101.0	17.92		3
33	B030543	54.2	*	8.84		98.6	93.1	18.66		4
34	D04*5513	54.8	*	9.92	*	115.6	102.3	17.17	*	4
35	M03-3616-11B	59.2		9.05		85.6	97.6	18.81		4
36	KY97C-0321-02-01	56.7		9.06		110.0	100.5	18.72		5
37	KY97C-0519-04-07	56.1		8.78		112.6	97.7	18.73		5
38	W06-202B	56.3		9.04		128.0	103.0	17.72		3
39	MO040152	58.7		9.46		128.5	98.2	17.92		4
40	G41730	51.1	Q	9.22		113.4	106.7	17.76		4
41	G52612	59.1		8.96		93.8	110.4	18.30		5
42	G69202	58.2		8.22		105.7	101.3	18.51		5
43	M04-4566	63.0		8.37		97.1	98.3	18.82		5
44	M04-4802	61.9		8.67		127.0	100.1	18.12		4
45	M04*5109	60.3		8.56		125.0	99.5	18.48		5
	Average	58.3		9.0		106.9	98.8	18.4		4.4

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		Composite of three locations: Brownstown, IL; W. Lafayette, IN; Wooster, OH Standard (#820941, Roane)	FHB (0-3)	WEATHERING (Yes/No)	SPROUTING (0-3)	BLACK POINT (0-3)	SHRIVELING AFTER CLEANING (0-3)
820941	1	Roane	1-?	0	0	1	1
820942	2	INW0411	1	Y	0	1	2
820943	3	Branson	1	0	?	1	1
820944	4	Bess	1-?	Y	0	2	1
820945	5	MO011126	2	Y	1	2	2
820946	6	VA03W-412	1-?	0	0	1-?	1
820947	7	AR97044-10-2	2	Y	0	2	2
820948	8	KY96C-0769-7-3	1	?	0	1	2
820949	9	OH02-12678	1	Y	1	1	1
820950	10	MO040192	2	Y	0	2	2
820951	11	IL00-8530	1	0	0	2	1
820952	12	NC04-20814	1	0	0	2	2
820953	13	AR97124-4-2	2	Y	0	1	1
820954	14	OH02-7217	1-?	?	0	1	0
820955	15	OH03-41-45	1	0	0	2	1
820956	16	P02444A1-23-9	1	Y	0	2	1
820957	17	P03207A1-7	2	Y	1	1-?	2
820958	18	P04287A1-16	2	Y	1	1	2
820959	19	NYCalR-L	2	0	1	2	2
820960	20	MD01W233-06-8	1	0	0	1	1
820961	21	MD01W233-06-21	1	0	0	1	1
820962	22	MD99W483-06-9	2	Y	0	1	1
820963	23	VA05W-257	2	Y	1	2	2
820964	24	VA05W-414	1-?	Y	1	1	2
820965	25	LA01*425	1	0	0	1-?	1
820966	26	LA02-923	2	Y	0	2	1
820967	27	21525c1*	1	0	0	1	1
820968	28	IL02-18228	1	Y	1	1	2
820969	29	IL02-19463	1	Y	1	1	1
820970	30	Mocha exp.	2	0	0	1	1
820971	31	Arena exp.	2	Y	0	1	1
820972	32	India exp.	2	Y	0	1-?	1
820973	33	B030543	1	0	0	1	1
820974	34	D04*5513	2	Y	?	1	2
820975	35	M03-3616-11B	1	0	1	2	1
820976	36	KY97C-0321-02-01	1-?	Y	0	2-?	1
820977	37	KY97C-0519-04-07	1	Y	0	2	1
820978	38	W06-202B	1	0	0	2	1
820979	39	MO040152	1	0	0	2	2
820980	40	G41730	1	?	0	1	1
820981	41	G52612	1	Y	0	1	0
820982	42	G69202	1	0	0	1	1
820983	43	M04-4566	1-?	Y	0	1	1
820984	44	M04-4802	1	Y	0	1	1
820985	45	M04*5109	1	Y	0	1	1

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Composite of three locations: Brownstown, IL; W. Lafayette, IN; Wooster, OH

Standard (#820941, Roane)

		COMMENTS
1	Roane	
2	INW0411	
3	Branson	
4	Bess	Few white
5	MO011126	
6	VA03W-412	
7	AR97044-10-2	
8	KY96C-0769-7-3	
9	OH02-12678	
10	MO040192	
11	IL00-8530	
12	NC04-20814	
13	AR97124-4-2	
14	OH02-7217	
15	OH03-41-45	
16	P02444A1-23-9	
17	P03207A1-7	
18	P04287A1-16	
19	NYCalR-L	Few red
20	MD01W233-06-8	
21	MD01W233-06-21	
22	MD99W483-06-9	Few white
23	VA05W-257	
24	VA05W-414	
25	LA01*425	Few white
26	LA02-923	
27	21525c1*	
28	IL02-18228	
29	IL02-19463	
30	Mocha exp.	
31	Arena exp.	Few white
32	India exp.	
33	B030543	
34	D04*5513	
35	M03-3616-11B	
36	KY97C-0321-02-01	
37	KY97C-0519-04-07	
38	W06-202B	
39	MO040152	Few white
40	G41730	
41	G52612	
42	G69202	
43	M04-4566	
44	M04-4802	
45	M04*5109	

GRAIN CONDITION SCALE

FHB, SPROUTING and BLACK POINT

0	None
1	up to 10%
2	10% to 40%
3	above 40%

SHRIVELING

0	None
1	Some
2	Moderate
3	Heavy

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Composite of three locations: Brownstown, IL; W. Lafayette, IN; Wooster, OH

EVALUATION SUMMARY

	STD DATA		AVG DATA
MILLING QUALITY SCORE	44.92	E	56.2
BAKING QUALITY SCORE	40.42	E	68.1
SE SCORE	68.04	C	66.1

	STD DATA	AVG DATA	ADJ LSD	NOTATION BEGINS *	Q
TEST WEIGHT	62.59	60.86	1.21	61.38	60.17
FLOUR YIELD	66.56	68.81	0.71	65.84	65.13
SOFTNESS EQUIV.	58.97	58.30	3.17	55.79	52.62
FLOUR PROTEIN	9.16	9.00	0.74	9.90	10.64
LACTIC ACID RETENTION	111.23	106.90			
SUCROSE SRC	103.75	98.78			
COOKIE DIAMETER	17.55	18.38	0.23	17.31	17.08

	A	B	C	D	E	F	TOTAL
MILLING SCORE	0	0	14	23	8	0	
BAKING SCORE	12	11	7	8	5	2	45
SOFTNESS EQUIV. SCORE	3	10	22	7	2	1	