UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service

State Agricultural Experiment Stations, Cooperating

2004 - 2005

UNIFORM EASTERN SOFT RED WINTER WHEAT NURSERY

Report

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

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

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

October 2005

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2004-2005 UNIFORM EASTERN SOFT RED WINTER WHEAT NURSERY
LIST OF ENTRIES AND PEDIGREES

Entry No.	Cultivar/ Designation	Pedigree	Contributor	1st Year in Nursery
1	Caldwell	Benhur sib*2/Siete Cerros	Check	88-89
2	Foster	KY 83-60/Tyler//KY 83-75 (formerly KY 85C-31-6)	Check	96-97
3	Patton	SW85*94/IN82104B1-3-2 (formerly A94-1048)	Check	96-97
4	Roane	VA71-54-147(CI17449)/C68-15//IN65309C1-18-2-3-2 (formerly VA93-54-429)	Check	95-96
5	MO980829	MO11769/Madison	McKendry	02-03
6	T141	T441/T13	Wilson	03-04
7	AR 93027-3-2	Pio2571/Coker9024	Bacon	03-04
8	MV 5-46	71-54-147/CK68-15//IN65309C7-18-2-3-2/FFR555W//MSY*3/Balkan//Sal	Costa	03-04
9	MSU Line E1007	Pio2555/Pio2737W	Ward	03-04
10	IL99-15867	IL93-2879/P881705A-1-X-60	Kolb	03-04
11	OH751	10584-0801/Coker9663	Sneller	03-04
12	M00-3701	Pio2737W/891-4584A (Pike/FL302)	Beazer	03-04
13	X00-1079	P2510/MO11769/XY901B	Moreno	03-04
14	96229-3E39	881130/2*881582	Johnson	04-05
15	961395-3E25	87110/VA55//88151	Johnson	04-05
16	B990081	L870537/PI382152	Hancock	04-05
17	B990133	L890145/LX8728D	Hancock	04-05
18	B990399	Pio2510/L881060	Hancock	04-05
19	MSU Line D8006-R	Pio2555/Lowell	Ward	04-05
20	AR 850-1-1	Verne/Ceruga-5	Bacon	04-05
21	M01-4377	Coker9663/VA91-54-219	Beazer	04-05
22	M01*1019	FR86-2186/891-4484/3/N87-3-6/YMI6//Zagrepcahka	Beazer	04-05
23	Y00*3067	P2571/VA90-52-26	Moreno	04-05
24	X00-1056	T814//MO11769/LX8728D	Moreno	04-05
25	93C-0004-22-1	MO10136/T63//2510	Van Sanford	04-05
26	97C-0232-2	VA94-52-25/KY87C-42-8-5//2552	Van Sanford	04-05
27	VA02W-398	VA96-52-73(Savannah/FFR555W)/VA96-52-15<WLR/6/MSY*4/Balkan/5/SAL/WLR"S"/GO4779/3/WLR/4/SAL)	Griffey	04-05
28	VA02W-513	L890682(SAL/CK797)/USG3209//VA94-52-60/Pio2643	Griffey	04-05
29	VA02W-555	VA94-52-60/Pio2643//USG3209	Griffey	04-05
30	Nomad exp.	T44-1/Freedom//L910097	Fioritto	04-05
31	Samco exp.	FL22/Excel//P2548/KY83-38	Fioritto	04-05
32	Bingo exp.	T814/L880119//Freedom	Fioritto	04-05
33	97397J1-4-1-4-7	P96204//Goldfield/INW9824	Ohm	04-05
34	97462A1-21-1-5-2	INW9811/Goldfield//P96204	Ohm	04-05
35	981312A1-6-2-2	Goldfield/X117//Roane/P92145A2-4-6	Ohm	04-05
36	T148	Vernville/OH645	Wilson	04-05
37	OH776	OH513/OH515	Sneller	04-05
38	OH768	Catoctin/OH536	Sneller	04-05
39	IL99-26442	IL87-2834-1/Pio2571	Kolb	04-05
40	IL00-8061	P8138I1-16-5-50/Foster//IL93-2489	Kolb	04-05
41	G20412	IL84-3010/T812	Brown	04-05
42	G20536	Howell/Clark//G41338	Brown	04-05
43	G20433	Clemens/VA91-54-219	Brown	04-05

LOCATION NOTES

Bay, Arkansas

Cooperators:	June Hancock, David Hill, Richard Gray AgriPro COKER
Planted:	November 8, 2004
Harvested:	June 15, 2005
Comments:	Heading dates are a bit strange. We were just starting to head when very cool temperatures slowed things down. Some of the later lines may appear to be very late.

Fayetteville, Arkansas

Cooperators:	Gene Milus University of Arkansas
Comments:	Inoculated twice with a 2005 field collection from SW Arkansas and irrigated to promote disease. Data only for 1 rep because of planting screw up. Septoria tritici blotch came in late and was the only disease of significance other than stripe rust.

Stuttgart, Arkansas

Cooperators:	Robert Bacon University of Arkansas
Comments:	No data to report – we had a wipe out on all our cooperative nurseries.

Wellington, Colorado

Cooperators:	Gordon Cisar Great Lakes Cereal Grains
Comments:	Observation rows. Lodging and stripe rust data recorded.

New Castle, Delaware

Cooperators:	Bob Uniatowski University of Delaware
Planted:	November 10, 2004
Harvested:	July 11, 2005
Fertilizer:	100-0-0

Quincy, Florida

Cooperators:	Ron Barnett, Lloyd Schell University of Florida
Planted:	November 16, 2004
Fertilizer:	75-50-75
Comments:	This is the first year that stripe rust caused significant yield reductions. Not harvested for yield data because of excessive rainfall.

Griffin, Georgia

Cooperators:	Jerry Johnson, Dan Bland, Steve Sutton, J. Youman University of Georgia
Planted:	November 3, 2004
Harvested:	June 10, 2005
Fertilizer:	15-30-45; 80-0-0 topdress

Aberdeen, Idaho

Cooperators:	Harold Bockelman, Charles Erickson, Scott McNeil USDA-ARS, National Small Grains Collection
Planted:	September 14, 2004
Comments:	Limited data collected due to high intra- and inter-plot variability caused by winter ice damage and low soil fertility.

Brownstown, Illinois

Cooperators:	Fred Kolb, Norman Smith, Eric Brucker University of Illinois
Planted:	October 5, 2004
Harvested:	June 23, 2005
Fertilizer:	40-0-0 preplant; 60-0-0 topdress; P,K ok
Comments:	Very dry spring and grainfill. Very little disease.

Urbana, Illinois

Cooperators:	Fred Kolb, Norman Smith, Eric Brucker University of Illinois
Planted:	September 28, 2004
Harvested:	June 27, 2005
Fertilizer:	40-0-0 preplant; 60-0-0 topdress; P,K ok
Comments:	Dry spring and grainfill. Little disease other than stripe rust. FHB Spray/Bay Inoculation Method: Heads were inoculated by spraying with conidiospores, and placing a bag over the heads for about 48 hours. (Not in the mist-irrigated nursery). Means calculated from 2 reps.

Greensburg, Indiana

Cooperators:	Sam Brown Genesis Seed Research
Planted:	October 14, 2004
Harvested:	July 6, 2005
Fertilizer:	30-0-0 fall; 60-0-0 spring
Comments:	The soil was wet at planting, and marginal stands were established. Winter heaving, leaf burning and dessication preceded perfect spring grain fill and tillering. Then it became very hot and dry the last 15 days.

Lafayette, Indiana

Cooperators:	Ben Moreno, J. Cooley Westbred LLC
Harvested:	June 29, 2005
Comments:	Winter kill note might be misleading, it should give an indication of leaf "burning" and "heaving"…Entries with scores of 6 or less were able to recover while scores 7 or higher had an effect on plot stand. We had a dry early spring, timely rains in April and early May then a dry fill up period. No scab was present, and leaf diseases pressure was low.

West Lafayette, Indiana

Cooperators:	Herb Ohm Purdue University
Planted:	September 29, 2004
Harvested:	July 1, 2005
Fertilizer:	35-90-0 fall; 95-0-0 spring
Comments:	FHB data: Mean number of diseased spikelets at 25 d after point inoculation of 10-12 spikes, bagged for 3 d and misted during 3 weeks prior and about 2 weeks post flowering. Only 2 spikes inoculated for Entry 8. Straw Index: 0=no lodging; 1=6-15% of plot lodged; 9=86-100% of plot lodged.

West Lafayette, Indiana

Cooperators:	Sue Cambron USDA-ARS Crop Production & Pest Control Research
Comments:	Hessian fly data. Number of plants R vs number of plants S.

Woodburn, Indiana

Cooperators:	Barton Fogleman, Jen Vonderwell, Eugene Glover AgriPro COKER
Comments:	Only reporting one rep of data. Field randomization records for reps 2 and 3 were lost.

Manhattan, Kansas

Cooperators:	Allan Fritz Kansas State University
Comments:	Serious freeze in the first week of May. We were able to get seed back but the data was meaningless.

Wichita, Kansas

Cooperators:	James A. Wilson Trio Research, Inc.
Planted:	October 13, 2004
Harvested:	July 1, 2005
Fertilizer:	Fallow and 50-0-0
Comments:	Water damage to nursery in the fall. Long cold dry period after start of heading. Severe soil borne mosaic.

Winfield, Kansas

Cooperators:	Sid Perry Westbred LLC
Planted:	October 15, 2004
Harvested:	June 12, 2005
Comments:	Virus notes are primarily spindle streak, although cannot rule out some soil borne mosaic as well.

Schochoh (Logan Co.), Kentucky

Cooperators:	Dave Van Sanford University of Kentucky
Planted:	November 7, 2004
Harvested:	June 23, 2005
Fertilizer:	P,K according to soil tests; 100 units of N in two applications
Comments:	Cool May weather led to good yields and test weights.

Woodford Co., Kentucky

Cooperators:	Dave Van Sanford University of Kentucky
Planted:	October 31, 2004
Harvested:	June 2, 2005
Fertilizer:	P,K according to soil tests; 100 units of N in two applications
Comments:	Cool May weather led to good yields and test weights.

Baton Rouge, Louisiana

Cooperators:	Steve Harrison, Kelly Areceneaux, Fred LaRue Louisiana State University
Comments:	No data collected due to a very warm winter and lack of vernalization.

Clarksville, Maryland

Cooperators:	Jose Costa, Aaron Cooper University of Maryland
Planted:	October 6, 2004
Harvested:	July 5, 2005
Fertilizer:	60-0-0 spring
Comments:	Late rains caused delay in harvest resulting in lodging and lower test weights.

Dundee, Michigan

Cooperators:	Ben Moreno, J. Cooley Westbred LLC
Harvested:	July 11, 2005
Comments:	Nursery was impacted by Cephalosporium stripe. Entries 22 and 43 were severely infected in both reps, while entries1, 4, 5, 7, 14, and 21 were infected in one rep but not the other.

Laporte, Michigan

Cooperators:	Rick Ward, Lee Siler Michigan State University
Planted:	October 5, 2004
Harvested:	July 17, 2005
Fertilizer:	250 lbs of 10-12-36 + 1%Mn fall; 197 lbs of 46-0-0 spring

St. Paul, Minnesota

Cooperators:	Yue Jin USDA-ARS, Cereal Disease Laboratory
Comments:	Stem rust seedling and field data. "/" indicates a mixture of plants, predominant type listed first. "S" indicate susceptible, including infection types 3 or 4. Bulk of races for field inoculation: MCCF, QFCS, QTHJ, RCRS, RKQQ, TPMK, TTTT.

St. Paul, Minnesota

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

St. Paul, Minnesota

Cooperators:	Jim Kolmer USDA-ARS, Cereal Disease Laboratory
Comments:	Leaf rust field data. Considerable winterkill.

Columbia, Missouri

Cooperators:	Anne McKendry, David Tague University of Missouri
Planted:	October 7, 2004
Fertilizer:	120-0-0
Comments:	Above average rainfall during the fall, January, February and March with normal temperatures, little or no midwinter growth. Sixth driest spring on record and the driest since 1971 resulted in lower than normal disease levels. Some late spring freezing temperatures (April) but no obvious damage. Stripe rust late. No rain after physiologic maturity allowed yield and high test weight.

Lincoln, Nebraska

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

Lincoln, Nebraska

Cooperators:	Stephen Baenziger University of Nebraska
Planted:	September 20, 2004

Mead, Nebraska

Cooperators:	Stephen Baenziger University of Nebraska
Planted:	October 4, 2005

Ithaca, New York

Cooperators:	Mark Sorrells Cornell University
Planted:	September 22, 2004
Harvested:	July 13, 2005
Fertilizer:	30-60-60 fall; 100 lbs Ammonium nitrate spring

Plymouth, North Carolina

Cooperators:	Paul Murphy, Rene Navarro, Christina Cowger North Carolina State University
Planted:	November 8, 2004
Harvested:	June 19, 2005
Fertilizer:	120-0-0
Comments:	Fall growth excellent. Cold winter. Long cool spring with delayed heading, however crop ripened quickly due to hot weather. Thus test weights not as high as other NC locations.

Raleigh, North Carolina

Cooperators:	David Marshall USDA-ARS Plant Science Research
Comments:	Powdery mildew data not submitted due to high variability in the results.

Wooster, Ohio

Cooperators:	Ron Fioritto SunBeam Extract Co.
Planted:	September 27, 2004
Harvested:	July 13, 2005

Wooster, Ohio

Cooperators:	Clay Sneller Ohio State University, OARDC
Comments:	Big yields and test weights for Wooster.

Wooster, Ohio

Cooperators:	Charles Gaines USDA-ARS Soft Wheat Quality Lab
Comments:	Milling and baking quality data.

Enid, Oklahoma

Cooperators:	Brett Carver Oklahoma State University
Comments:	Readings taken at Enid, OK (pH = 4.6, 70 ppm Al, and Al saturation = 11%). Scale of 1 (highly tolerant) to 5 (highly susceptible), in which Jagger = 2. First reading could be biased by winter dormancy pattern; second reading could be biased by extreme differences in growth habit; third reading yielded greatest confidence.

Nairn, Ontario

Cooperators:	Mark Etienne Hyland Seeds
Planted:	October 13, 2004
Harvested:	August 2, 2005
Fertilizer:	200kg 6-24-24 fall; 90 units N (liquid) spring
Comments:	Very warm summer with timely rains. Crop came through the winter in average condition, some flooding and differential winter kill in plots. Plots were able to fill out spaces and produced from average to above average yield for this area. Good, consistent trial.

Ridgetown, Ontario

Cooperators:	Arend Smid Ridgetown College, University of Guelph
Planted:	October 10, 2004
Harvested:	July 18, 2005
Fertilizer:	12-48-48; 60-0-0 topdress
Comments:	Excellent growing conditions. Absence of stormy weather throughout the growing season resulted in little or no lodging. Crop headed-out 5 days later and matured 5 days earlier than in immediate previous years. Excellent winter survival. Excellent vigor. Little or no fusarium head blight. Hot, droughty conditions during filling period lowered yield. Grown on one of our best fields.

Knoxville, Tennessee

Cooperators:	Dennis West University of Tennessee
Planted:	October 26, 2004
Harvested:	June 21, 2005
Fertilizer:	90-30-30

Vega, Texas

Cooperators:	Gordon Cisar Great Lakes Cereal Grains
Comments:	Observation rows. Stripe rust data recorded.

Blacksburg, Virginia

Cooperators:	Carl Griffey, T. Pridgen, Joe Paling Virginia Tech
Comments:	Belgian Lodging = Area x Intensity x 0.2. Area is rated on a scale from 1 (plot unaffected) to 10 (entire plot affected). Intensity is rated on a scale from 1 (plants standing upright) to 5 (plants lying flat on the ground). In two separate greenhouse experiments, wheat lines were inoculated at the two-leaf seedling stage using leaf rust race TNRJ with virulence for resistance genes Lr1, 2a, 2c, 3a, 3ka, 9, 10, 11, 14a, 24, 30 and a composite of powdery mildew isolates with virulence for resistance genes Pm1, 2, 3a, 3c, 3f, 4a, 4b, 5, 6, 7. Two sets of powdery mildew differentials (the standard Chancellor set and an experimental Coker 68-15 set) were used. Note the Coker 68-15 differential set used in these tests is still being developed and refined by USDA-ARS at Raleigh, NC. In some cases where treated seed was sent by cooperators, the reaction types may not be reflective of genetic resistance. Infection type for leaf rust was rated on a 0-3 (0-2 = resistant and 3=susceptible) scale and for powdery mildew on a 0-4 (0-2 =

resistant, 3 = moderately susceptible, and 4 = susceptible). Where indicated reaction types R=resistant, MR=moderately resistant, I=Intermediate, MS=moderately susceptible, and S=susceptible. Reaction types of heterogeneous lines are noted with the predominant disease score listed preceding the slash. For example a disease score of 12/TR4, indicates that most plants were scored as 12 and a Trace (TR) number of plants were scored as 4. Disease scores having "C" indicates Chlorosis was observed and "N" indicates Necrosis.

Warsaw, Virginia

Cooperators:	Carl Griffey, T. Pridgen, Joe Paling Virginia Tech
Comments:	Belgian Lodging = Area x Intensity x 0.2. Area is rated on a scale from 1 (plot unaffected) to 10 (entire plot affected). Intensity is rated on a scale from 1 (plants standing upright) to 5 (plants lying flat on the ground).

Mt. Vernon,
Pullman, Washington

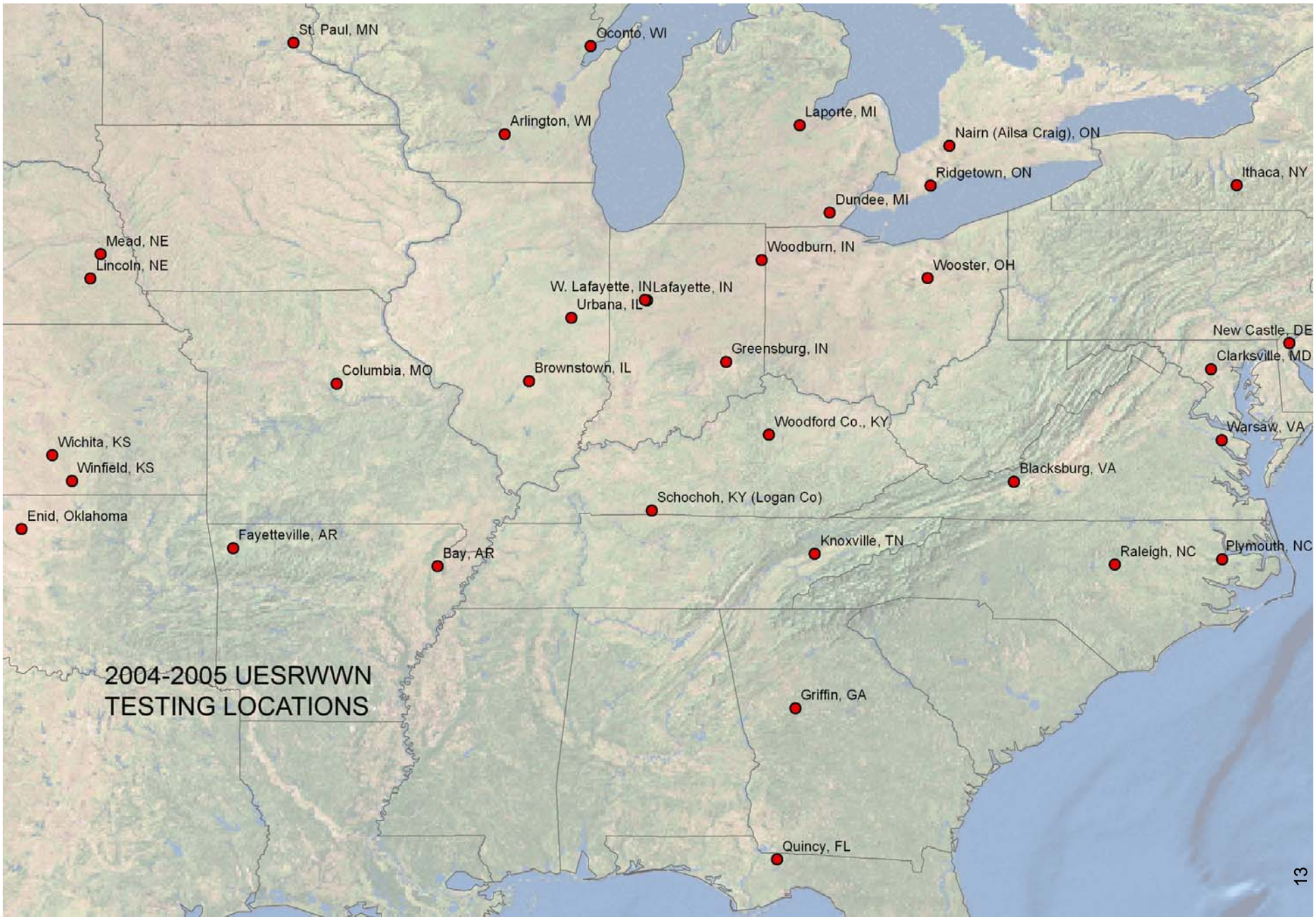
Cooperators:	Xianming Chen USDA-ARS Wheat Genetics, Quality, Physiology & Disease Res.
Comments:	Adult stripe rust data.

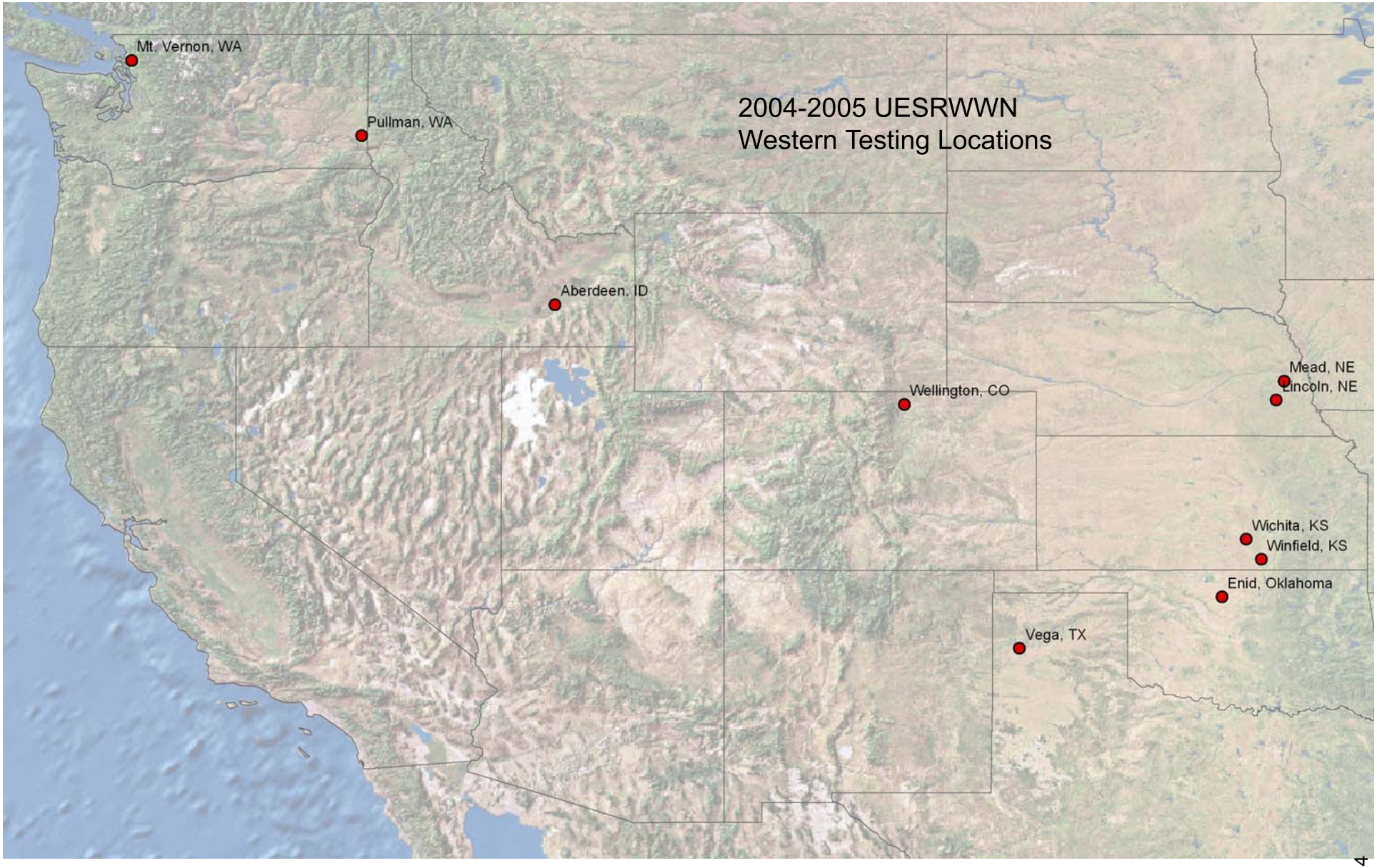
Arlington, Wisconsin

Cooperators:	Roger Borges, Mark Martinka University of Wisconsin
Planted:	September 29, 2004
Harvested:	July 29, 2005
Fertilizer:	90 lbs/A
Comments:	Winter kill not completely variety related with extensive ice sheets; use considerable caution in interpreting results; CV for winter kill is 43%.

Oconto, Wisconsin

Cooperators:	Gordon Cisar Great Lakes Cereal Grains
Planted:	September 26, 2004
Comments:	Nursery not harvested due to severe winterkill.


St. Paul, MN
Oconto, WI
Arlington, WI
Laporte, MI
Nairn (Ailsa Craig), ON
Ridgetown, ON
Ithaca, NY
Dundee, MI
Mead, NE
Lincoln, NE
Woodburn, IN
Wooster, OH
W. Lafayette, IN
Lafayette, IN
Urbana, IL
New Castle, DE
Clarksville, MD
Greensburg, IN
Columbia, MO
Brownstown, IL
Woodford Co., KY
Warsaw, VA
Wichita, KS
Winfield, KS
Blacksburg, VA
Schochoh, KY (Logan Co)
Enid, Oklahoma
Fayetteville, AR
Bay, AR
Knoxville, TN
Raleigh, NC
Plymouth, NC
2004-2005 UESRWWN
TESTING LOCATIONS
Griffin, GA
Quincy, FL


2004-2005 UESRWWN
Western Testing Locations
Mt. Vernon, WA
Pullman, WA
Aberdeen, ID
Wellington, CO
Mead, NE
Lincoln, NE
Wichita, KS
Winfield, KS
Enid, Oklahoma
Vega, TX

YIELD (bu/acre)

		Bay		New Castle		Griffin		Brownstown		Urbana		Greensburg	
		AR	ab	DE	ab	GA		IL	ab	IL	ab	IN	ab
		Hancock	rank	Uniatowski	rank	Johnson	rank	Kolb	rank	Kolb	rank	Brown	rank
1	Caldwell	50.2	39	94.3	37	70.6	39	74.0	25	67.4	41	96.3	40
2	Foster	44.4	43	103.0	6	87.6	27	79.1	16	81.9	32	102.1	37
3	Patton	57.1	35	100.0	17	74.3	36	57.6	42	83.6	27	116.9	15
4	Roane	68.1	22	90.4	42	100.2	6	67.3	35	83.0	28	124.4	9
5	MO980829	72.7	16	94.2	38	90.1	22	86.5	3	87.4	23	109.3	26
6	T141	63.4	30	109.2	1	53.9	43	61.8	40	82.1	31	98.3	39
7	AR 93027-3-2	60.4	34	94.8	34	75.5	35	84.9	5	90.0	18	110.1	25
8	MV 5-46	64.8	27	101.1	14	97.6	11	89.7	1	81.5	33	112.8	22
9	MSU Line E1007	54.5	36	97.2	26	93.2	18	82.7	8	98.7	4	119.0	14
10	IL99-15867	62.0	31	99.3	19	95.4	14	78.3	17	92.6	14	121.7	12
11	OH751	51.2	38	102.7	7	71.3	38	79.6	14	89.6	21	101.3	38
12	M00-3701	71.2	17	95.7	30	106.3	4	76.9	21	89.7	20	124.4	9
13	X00-1079	65.4	26	102.3	8	98.1	9	81.7	9	88.8	22	116.9	15
14	96229-3E39	79.1	10	103.5	5	108.2	3	61.6	41	75.3	38	107.3	34
15	961395-3E25	83.2	6	92.0	41	112.8	2	78.1	18	91.5	15	107.6	32
16	B990081	84.5	1	95.3	31	84.8	30	69.0	32	96.1	7	133.5	1
17	B990133	74.9	14	102.3	8	98.5	8	76.0	22	95.4	9	115.7	18
18	B990399	81.1	9	94.9	33	116.4	1	75.3	24	96.5	6	108.4	30
19	MSU Line D8006-R	75.3	13	96.5	27	94.6	15	81.0	11	90.9	16	125.3	7
20	AR 850-1-1	82.3	7	104.3	4	82.1	32	72.4	27	95.2	10	110.3	24
21	M01-4377	83.4	5	100.2	16	91.6	21	79.6	14	98.4	5	125.3	7
22	M01*1019	83.9	4	102.3	8	67.5	41	70.7	31	107.8	1	109.0	29
23	Y00*3067	70.8	18	100.6	15	92.2	20	84.9	5	100.6	3	128.8	5
24	X00-1056	67.6	23	97.6	22	79.2	34	71.6	30	93.4	13	131.9	2
25	93C-0004-22-1	81.5	8	98.3	21	86.2	29	65.3	38	90.1	17	122.2	11
26	97C-0232-2	84.3	3	95.0	32	94.3	16	74.0	25	82.6	29	130.6	3
27	VA02W-398	70.7	20	101.8	12	96.5	12	86.1	4	85.2	25	89.6	43
28	VA02W-513	72.8	15	95.8	29	101.6	5	77.0	20	93.7	11	107.6	32
29	VA02W-555	84.4	2	94.8	34	99.8	7	79.8	13	82.6	29	106.6	35
30	Nomad exp.	60.9	33	108.7	2	95.8	13	72.0	29	86.8	24	113.2	21
31	Samco exp.	70.7	19	97.6	22	83.5	31	72.2	28	68.6	40	109.3	26
32	Bingo exp.	44.7	42	98.8	20	97.8	10	81.5	10	80.8	34	107.8	31
33	97397J1-4-1-4-7	61.6	32	94.6	36	88.3	26	65.6	36	76.8	37	91.6	42
34	97462A1-21-1-5-2	47.5	41	94.2	38	89.6	23	54.3	43	80.7	35	103.2	36
35	981312A1-6-2-2	63.5	29	97.5	25	87.6	28	64.2	39	61.5	42	111.9	23
36	T148	67.4	24	93.7	40	88.3	25	65.5	37	84.1	26	95.4	41
37	OH776	64.3	28	96.3	28	89.4	24	75.7	23	93.7	11	116.4	17
38	OH768	53.5	37	99.7	18	73.9	37	84.4	7	54.2	43	113.5	20
39	IL99-26442	78.7	11	97.6	22	80.6	33	89.0	2	104.7	2	115.2	19
40	IL00-8061	76.2	12	104.7	3	93.9	17	78.0	19	95.8	8	126.6	6
41	G20412	69.2	21	101.6	13	92.7	19	68.9	33	80.0	36	128.9	4
42	G20536	67.4	25	88.7	43	70.4	40	68.2	34	89.8	19	109.3	26
43	G20433	47.7	40	102.2	11	65.3	42	80.3	12	71.5	39	120.9	13
LOCATION MEANS		67.9		98.5		88.8		74.9		86.5		113.4	
LSD (.05)		9.3		14.3				7.9		11.1		10.2	
CV %		8.4		8.9				6.5		7.9		6.5	
REPS		3		3		2		3		3		2	
Harvest Plot Area (sq.ft.)		64.84		106.8		50		34		34		32	

YIELD (bu/acre)

		Lafayette		W. Lafayette		Woodburn		Wichita		Winfield		Logan Co.	
		IN	a	IN	a	IN	a	KS		KS	b	KY	a
		Moreno	rank	Ohm	rank	Fogleman	rank	Wilson	rank	Perry	rank	VanSanford	rank
1	Caldwell	77.3	37	94.6	25	72.1	20	26.6	40	35.3	34	71.9	29
2	Foster			95.3	24	65.1	34	36.0	35	21.8	41	75.1	17
3	Patton	83.1	29	99.0	18	83.0	2	35.7	36	23.2	40	72.3	27
4	Roane	84.0	27	97.9	21	71.7	21	46.2	25	49.4	24	69.5	30
5	MO980829	78.3	35	89.7	29	63.2	35	49.2	22	56.2	14	73.9	22
6	T141	75.1	39	98.9	20	78.6	7	38.2	32	48.9	27	60.8	42
7	AR 93027-3-2	88.0	20	88.7	30	67.0	31	42.5	29	50.8	21	61.9	39
8	MV 5-46	67.5	41	50.4	43	58.0	41	55.9	12	52.0	18	72.6	26
9	MSU Line E1007	99.4	2	112.9	3	77.0	11	55.1	16	50.1	22	76.4	15
10	IL99-15867	87.4	22	104.2	14	76.2	13	55.7	13	49.1	26	67.5	32
11	OH751	86.2	23	80.5	36	65.3	33	46.4	24	39.6	32	62.9	37
12	M00-3701	85.7	25	100.0	17	68.5	27	63.6	8	65.8	9	81.8	8
13	X00-1079	85.7	24	114.5	1	70.0	24	56.3	11	55.4	16	69.0	31
14	96229-3E39	73.0	40	63.2	40	65.4	32	37.7	33	52.5	17	56.6	43
15	961395-3E25	80.3	33	73.2	37	63.2	36	72.4	2	63.2	11	74.8	18
16	B990081	93.8	10	102.3	16	72.8	19	64.4	7	67.5	7	63.2	36
17	B990133	75.8	38	97.7	22	59.7	40	65.6	6	68.4	5	83.8	7
18	B990399	83.5	28	110.4	5	73.0	17	42.6	28	51.3	20	75.4	16
19	MSU Line D8006-R	88.0	19	91.9	27	61.7	38	37.3	34	47.5	29	67.0	33
20	AR 850-1-1	90.8	17	106.1	11	52.6	42	54.7	18	68.0	6	63.4	35
21	M01-4377	95.2	7	108.2	6	67.8	29	43.7	27	61.0	13	73.9	22
22	M01*1019	83.1	29	68.6	38	62.9	37	76.1	1	77.8	1	93.5	1
23	Y00*3067	91.8	13	91.4	28	60.6	39	57.3	10	44.3	31	72.2	28
24	X00-1056	96.0	5	104.8	12	49.9	43	49.7	21	55.5	15	87.1	6
25	93C-0004-22-1	92.1	11	104.8	13	78.6	8	67.8	4	74.0	3	87.6	5
26	97C-0232-2	84.7	26	83.8	35	73.8	16	60.9	9	74.8	2	73.2	25
27	VA02W-398	91.5	15	52.8	42	76.7	12	54.9	17	48.9	27	81.6	9
28	VA02W-513	92.0	12	99.0	18	75.5	15	70.9	3	64.6	10	73.8	24
29	VA02W-555	81.0	32	65.3	39	68.5	26	66.9	5	73.9	4	81.0	10
30	Nomad exp.	90.2	18	103.6	15	68.9	25	41.1	30	29.4	37	62.8	38
31	Samco exp.	81.3	31	85.4	32	78.3	9	32.8	38	38.8	33	66.5	34
32	Bingo exp.	91.7	14	107.9	8	82.7	3	39.5	31	35.1	36	74.2	21
33	97397J1-4-1-4-7	65.1	42	88.5	31	79.4	4	25.9	41	35.3	34	61.2	40
34	97462A1-21-1-5-2	77.4	36	93.7	26	83.2	1	28.7	39	20.6	42	61.0	41
35	981312A1-6-2-2	87.9	21	55.3	41	67.9	28	33.6	37	20.3	43	90.6	3
36	T148	79.0	34	84.4	34	70.3	23	52.5	20	63.0	12	74.3	20
37	OH776	96.7	4	114.5	1	78.9	6	47.3	23	50.0	23	74.6	19
38	OH768	91.0	16	84.9	33	67.8	30	18.1	43	23.5	39	93.1	2
39	IL99-26442	94.3	9	107.9	7	73.0	18	55.7	13	66.5	8	89.8	4
40	IL00-8061	97.4	3	106.6	9	76.2	14	55.4	15	46.3	30	79.6	13
41	G20412	94.6	8	111.1	4	79.1	5	53.1	19	51.9	19	78.8	14
42	G20536	95.3	6	106.5	10	77.1	10	44.4	26	49.3	25	80.0	12
43	G20433	100.3	1	96.6	23	71.0	22	19.7	42	25.5	38	80.8	11
LOCATION MEANS		86.5		92.9		70.5		48.3		49.9		74.2	
LSD (.05)				13.6				12.7		6.4		19.9	
CV %				10.5				13		7.8		15.9	
REPS		1		4		1		2		2		2	
Harvest Plot Area (sq.ft.)		45				60		36		50		40	

YIELD (bu/acre)

		Woodford Co. KY	a	Clarksville MD	a	Dundee MI	a	Laporte MI	ab	Columbia MO	ab	Plymouth NC	ab
		VanSanford	rank	Costa	rank	Moreno	rank	Ward	rank	McKendry	rank	Murphy	rank
1	Caldwell	86.3	34	66.1	29	64.6	28	73.5	38	70.6	34	53.1	39
2	Foster	85.7	35	57.6	36	62.1	34	76.9	26	78.8	15	63.5	25
3	Patton	94.5	27	57.8	35	72.6	15	80.2	15	71.9	33	70.1	11
4	Roane	90.8	31	75.5	17	57.3	40	74.4	32	75.6	22	57.2	36
5	MO980829	81.5	38	68.0	28	63.9	30	73.7	33	82.2	8	66.7	17
6	T141	97.5	22	76.2	16	73.8	10	78.8	20	61.8	42	56.9	37
7	AR 93027-3-2	78.5	40	77.3	14	64.3	29	79.9	17	86.7	3	57.5	35
8	MV 5-46	100.3	20	73.5	22	56.6	41	71.7	40	84.4	6	72.4	6
9	MSU Line E1007	103.9	13	87.7	2	73.6	12	78.2	22	72.4	30	73.9	4
10	IL99-15867	102.2	19	75.1	19	76.7	9	79.3	19	76.9	21	73.8	5
11	OH751	97.0	24	56.7	37	78.8	6	84.2	6	83.5	7	67.7	15
12	M00-3701	93.9	28	69.6	27	79.6	4	91.3	1	77.5	20	63.6	24
13	X00-1079	103.7	14	76.4	15	87.5	1	78.2	22	90.5	1	74.4	3
14	96229-3E39	106.6	10	64.5	30	50.2	43	74.9	29	77.8	18	62.8	27
15	961395-3E25	96.2	26	78.1	11	70.4	20	73.6	35	87.9	2	84.0	1
16	B990081	110.2	5	83.2	6	73.3	13	83.8	8	67.8	38	64.8	21
17	B990133	109.2	7	77.9	13	73.0	14	77.0	24	69.0	36	71.5	7
18	B990399	107.3	9	49.4	42	67.3	25	85.3	4	73.3	27	75.5	2
19	MSU Line D8006-R	68.4	43	53.6	40	76.9	8	81.9	11	63.3	41	61.7	29
20	AR 850-1-1	102.6	17	51.8	41	59.7	37	82.5	10	78.1	17	69.3	13
21	M01-4377	104.8	12	60.2	34	71.0	18	89.6	2	81.7	10	68.7	14
22	M01*1019	97.5	22	71.0	25	62.9	33	73.7	33	86.7	3	64.3	22
23	Y00*3067	103.3	16	78.0	12	73.6	11	76.5	27	79.2	14	67.2	16
24	X00-1056	109.3	6	75.0	20	66.8	27	83.1	9	75.2	24	52.3	40
25	93C-0004-22-1	113.2	3	79.0	9	62.1	35	79.4	18	72.2	31	64.9	20
26	97C-0232-2	114.1	2	83.1	7	54.4	42	71.7	40	78.5	16	71.1	8
27	VA02W-398	129.6	1	83.5	5	67.7	24	73.6	35	72.2	31	70.5	10
28	VA02W-513	80.2	39	78.6	10	61.2	36	74.8	30	82.2	8	70.0	12
29	VA02W-555	103.5	15	88.9	1	77.2	7	77.0	24	85.7	5	66.3	18
30	Nomad exp.	99.1	21	85.0	3	63.7	31	71.4	42	70.1	35	63.0	26
31	Samco exp.	105.7	11	84.3	4	68.2	23	73.6	35	77.8	18	51.2	41
32	Bingo exp.	111.5	4	63.6	31	69.1	21	80.6	13	81.4	11	70.7	9
33	97397J1-4-1-4-7	91.8	30	62.7	32	59.5	38	75.1	28	60.8	43	59.6	32
34	97462A1-21-1-5-2	86.4	33	75.4	18	79.0	5	78.8	20	64.7	40	58.9	33
35	981312A1-6-2-2	96.4	25	61.5	33	58.1	39	72.4	39	75.3	23	58.5	34
36	T148	84.6	36	72.2	24	68.4	22	65.0	43	68.1	37	60.7	30
37	OH776	102.4	18	80.6	8	85.6	2	80.2	15	72.8	29	66.0	19
38	OH768	109.1	8	55.2	39	71.3	17	74.6	31	79.7	13	60.1	31
39	IL99-26442	76.8	42	69.9	26	72.3	16	83.9	7	80.5	12	62.0	28
40	IL00-8061	90.4	32	72.7	23	67.2	26	80.4	14	74.2	26	63.9	23
41	G20412	78.4	41	73.6	21	84.5	3	87.5	3	75.1	25	47.7	42
42	G20536	84.2	37	49.0	43	70.4	19	84.5	5	67.6	39	56.5	38
43	G20433	92.9	29	55.6	38	63.2	32	81.6	12	73.3	27	47.2	43
LOCATION MEANS		97.2		70.6		68.8		78.3		75.9		64.2	
LSD (.05)		21.5						7.2		10.3		9.9	
CV %		12.9		16.4				4.4		8.3		8.7	
REPS		2		2		1		2		3		2	
Harvest Plot Area (sq.ft.)		40		36		45		60		55		55	

YIELD (bu/acre)

		Lincoln		Ithaca		Wooster		Wooster		Nairn		Ridgetown	
		NE		NY	ab	OH	ab	OH	ab	ON	ab	ON	ab
		Baenziger	rank	Sorrells	rank	Fioritto	rank	Sneller	rank	Etienne	rank	Smid	rank
1	Caldwell	56.3	33	53.8	19	71.1	21	76.3	43	80.5	40	100.2	36
2	Foster	45.9	41	48.6	35	66.1	35	84.2	30	85.1	26	108.4	15
3	Patton	61.8	25	54.4	16	70.4	23	88.3	21	84.3	30	112.1	8
4	Roane	69.0	16	58.6	10	69.3	28	82.4	32	85.0	27	96.6	38
5	MO980829	89.4	1	48.6	34	74.2	15	84.1	31	86.4	23	107.4	19
6	T141	71.7	11	42.2	43	55.2	43	79.5	38	82.6	36	102.1	31
7	AR 93027-3-2	74.7	9	43.5	42	79.7	3	76.9	40	85.5	24	106.4	21
8	MV 5-46	51.1	38	57.1	11	65.1	37	87.3	23	87.0	21	108.5	13
9	MSU Line E1007	69.8	15	54.4	17	77.3	8	97.5	10	102.5	1	113.4	7
10	IL99-15867	82.8	3	49.5	33	73.7	16	98.8	5	83.9	32	108.5	13
11	OH751	72.0	10	59.5	4	71.3	20	94.3	13	90.6	12	104.4	25
12	M00-3701	70.5	13	51.6	25	81.4	2	85.0	27	95.2	4	117.2	2
13	X00-1079	87.6	2	59.1	6	84.9	1	88.9	19	88.9	16	105.6	23
14	96229-3E39	68.8	17	49.8	31	61.6	41	80.1	36	79.8	41	95.9	41
15	961395-3E25	79.8	6	54.5	15	65.5	36	89.0	18	88.5	17	113.8	5
16	B990081	70.9	12	52.6	22	79.0	4	99.4	3	94.8	7	115.2	4
17	B990133	59.5	27	54.3	18	68.5	31	92.3	16	85.2	25	103.3	28
18	B990399	80.8	5	61.5	1	62.5	40	98.7	6	98.0	2	117.8	1
19	MSU Line D8006-R	70.1	14	53.3	20	75.7	11	95.5	11	94.9	6	110.0	12
20	AR 850-1-1	79.6	7	46.4	39	69.2	29	84.4	28	92.3	10	103.0	29
21	M01-4377	61.3	26	59.7	3	66.8	34	94.1	14	84.8	28	113.5	6
22	M01*1019	75.2	8	51.2	28	70.2	24	99.0	4	90.9	11	102.0	32
23	Y00*3067	66.7	18	56.4	12	78.9	5	88.4	20	95.0	5	101.0	34
24	X00-1056	63.5	22	53.1	21	64.2	38	76.8	41	94.0	8	107.1	20
25	93C-0004-22-1	64.6	21	51.2	27	74.5	14	98.1	8	89.6	14	108.1	17
26	97C-0232-2	53.3	37	46.3	40	72.9	19	100.4	2	94.0	9	108.0	18
27	VA02W-398	66.2	19	59.4	5	77.7	7	98.6	7	88.4	18	95.6	42
28	VA02W-513	56.1	34	56.3	13	68.4	32	86.7	25	83.0	35	102.7	30
29	VA02W-555	57.3	32	58.8	8	73.0	18	105.1	1	82.0	37	101.3	33
30	Nomad exp.	55.0	36	49.5	32	73.7	17	94.8	12	69.6	43	99.0	37
31	Samco exp.	56.0	35	46.4	38	69.3	27	86.8	24	88.4	20	96.5	40
32	Bingo exp.	62.4	23	59.0	7	76.4	10	94.0	15	90.6	13	116.1	3
33	97397J1-4-1-4-7	45.5	42	45.4	41	61.5	42	87.7	22	78.2	42	96.6	38
34	97462A1-21-1-5-2	40.3	43	48.4	37	68.2	33	84.4	28	81.7	39	104.4	25
35	981312A1-6-2-2	58.3	31	48.4	36	64.1	39	81.4	34	88.4	18	89.1	43
36	T148	47.7	39	50.1	30	70.4	22	81.1	35	83.7	33	103.4	27
37	OH776	62.3	24	51.8	24	69.5	26	89.2	17	84.6	29	105.3	24
38	OH768	65.5	20	50.5	29	68.7	30	98.0	9	86.6	22	106.1	22
39	IL99-26442	82.0	4	52.5	23	78.6	6	86.2	26	95.8	3	111.1	9
40	IL00-8061	59.4	28	51.3	26	70.0	25	76.5	42	84.3	30	100.9	35
41	G20412	47.6	40	56.0	14	76.5	9	81.6	33	81.8	38	110.8	10
42	G20536	58.6	30	58.6	9	75.2	13	79.9	37	83.2	34	110.2	11
43	G20433	59.0	29	60.1	2	75.5	12	79.0	39	89.4	15	108.2	16
LOCATION MEANS		64.5		52.9		71.3		88.6		87.4		105.7	
LSD (.05)				5.9		6.3		7		6.1		6.3	
CV %				6.6		5.3		4.8		5.1		4.3	
REPS		1		3		2		3		3		4	
Harvest Plot Area (sq.ft.)		32		41		45		50		44.55		48.28	

YIELD (bu/acre)

		Knoxville		Blacksburg		Warsaw		Arlington	
		TN	ab	VA	ab	VA	a	WI	a
		West	rank	Griffey	rank	Griffey	rank	Borges	rank
1	Caldwell	69.7	35	68.8	35	71.4	40	69.6	19
2	Foster	74.6	31	74.8	20	81.4	26	49.4	40
3	Patton	70.7	34	71.2	31	83.7	23	63.4	23
4	Roane	89.9	9	88.4	1	90.1	14	62.7	24
5	MO980829	82.5	17	75.6	15	86.7	20	58.4	32
6	T141	60.0	42	56.4	42	75.7	34	61.4	26
7	AR 93027-3-2	67.9	38	68.6	37	84.9	21	60.2	30
8	MV 5-46	100.6	1	74.7	21	96.8	3	31.7	42
9	MSU Line E1007	77.5	24	74.0	23	91.7	11	50.7	38
10	IL99-15867	94.0	7	73.9	24	94.7	5	60.8	29
11	OH751	76.7	26	73.2	28	96.3	4	53.1	37
12	M00-3701	94.0	7	76.3	14	102.2	1	56.0	34
13	X00-1079	85.1	14	80.5	7	92.6	8	58.8	31
14	96229-3E39	78.5	21	75.5	16	94.6	6	49.6	39
15	961395-3E25	97.4	3	81.5	4	93.1	7	63.8	22
16	B990081	85.5	13	74.0	22	91.9	10	68.2	20
17	B990133	88.4	11	65.7	38	87.5	17	53.4	36
18	B990399	83.9	15	81.5	4	88.9	15	61.0	27
19	MSU Line D8006-R	89.6	10	69.2	34	86.8	18	80.5	8
20	AR 850-1-1	75.5	30	74.9	19	74.7	36	75.9	11
21	M01-4377	96.8	5	81.3	6	91.5	12	82.6	7
22	M01*1019	67.0	40	79.1	9	83.7	23	42.1	41
23	Y00*3067	80.8	18	73.9	24	86.8	18	77.0	9
24	X00-1056	76.4	28	81.6	3	75.7	34	70.6	16
25	93C-0004-22-1	80.6	19	73.2	27	92.6	8	64.3	21
26	97C-0232-2	99.7	2	79.5	8	91.1	13	72.7	13
27	VA02W-398	82.6	16	79.1	10	98.4	2	56.3	33
28	VA02W-513	96.5	6	77.9	12	81.8	25	94.0	1
29	VA02W-555	97.2	4	81.9	2	88.7	16	30.5	43
30	Nomad exp.	76.7	26	73.9	24	77.8	30	61.0	28
31	Samco exp.	87.6	12	64.0	39	74.3	37	85.6	2
32	Bingo exp.	76.0	29	71.7	30	73.8	38	71.7	15
33	97397J1-4-1-4-7	58.9	43	53.8	43	62.2	43	75.8	12
34	97462A1-21-1-5-2	78.6	20	59.3	41	66.3	42	69.7	18
35	981312A1-6-2-2	72.0	33	70.7	32	67.2	41	55.4	35
36	T148	68.6	37	60.7	40	72.9	39	61.6	25
37	OH776	78.2	22	75.3	18	78.5	28	84.2	5
38	OH768	67.8	39	69.9	33	75.9	32	72.3	14
39	IL99-26442	78.2	22	78.1	11	75.8	33	84.2	4
40	IL00-8061	77.3	25	72.7	29	77.5	31	83.3	6
41	G20412	72.9	32	68.7	36	78.3	29	85.3	3
42	G20536	63.5	41	75.5	17	79.0	27	76.3	10
43	G20433	69.3	36	76.4	13	84.2	22	70.2	17
LOCATION MEANS		80.1		73.4		83.7		65.5	
LSD (.05)		12.2		5.3				19.1	
CV %		9.4		5.3				21.8	
REPS		3		3		1		3	
Harvest Plot Area (sq.ft.)		36						55	

YIELD (bu/acre)

		ENTRY MEANS ALL LOCATIONS	rank	ENTRY MEANS IN-REGION [a]	rank	ENTRY MEANS CV <10% [b]	rank
1	Caldwell	70.1	40	73.9	41	70.9	41
2	Foster	69.4	42	75.8	36	74.6	36
3	Patton	74.8	33	79.1	27	75.7	33
4	Roane	77.7	26	79.6	25	78.8	27
5	MO980829	77.9	25	79.0	31	80.5	20
6	T141	71.5	38	74.5	38	71.2	40
7	AR 93027-3-2	75.2	31	77.6	35	77.7	29
8	MV 5-46	75.8	28	77.8	34	81.9	16
9	MSU Line E1007	82.7	7	85.3	4	82.7	12
10	IL99-15867	81.9	11	83.8	11	82.2	14
11	OH751	76.3	27	79.4	26	79.3	24
12	M00-3701	83.4	4	84.5	6	84.8	5
13	X00-1079	83.8	1	85.4	3	84.2	8
14	96229-3E39	73.4	36	74.5	39	76.0	31
15	961395-3E25	82.5	8	82.5	15	84.5	6
16	B990081	83.6	2	85.6	2	85.2	3
17	B990133	80.3	16	81.6	21	81.7	19
18	B990399	82.2	10	83.8	12	84.1	9
19	MSU Line D8006-R	78.2	24	80.8	22	82.0	15
20	AR 850-1-1	78.6	23	79.9	24	81.7	18
21	M01-4377	83.5	3	86.6	1	86.6	1
22	M01*1019	79.3	19	80.1	23	83.5	10
23	Y00*3067	81.4	12	84.1	9	83.0	11
24	X00-1056	78.9	22	81.7	20	80.1	21
25	93C-0004-22-1	82.7	6	84.3	7	82.7	13
26	97C-0232-2	82.2	9	84.1	8	85.2	2
27	VA02W-398	79.8	18	82.0	18	80.0	22
28	VA02W-513	81.2	13	82.6	14	81.9	17
29	VA02W-555	80.7	15	81.7	19	84.4	7
30	Nomad exp.	75.6	30	79.0	30	75.8	32
31	Samco exp.	75.0	32	78.7	32	74.9	35
32	Bingo exp.	79.0	21	82.3	16	79.1	26
33	97397J1-4-1-4-7	68.2	43	71.4	43	68.9	43
34	97462A1-21-1-5-2	70.7	39	75.0	37	70.5	42
35	981312A1-6-2-2	70.0	41	73.3	42	71.2	39
36	T148	72.8	37	74.4	40	73.8	38
37	OH776	80.9	14	84.0	10	79.3	25
38	OH768	73.9	34	78.7	33	74.4	37
39	IL99-26442	82.9	5	84.8	5	84.9	4
40	IL00-8061	79.9	17	82.7	13	79.9	23
41	G20412	79.1	20	82.1	17	78.7	28
42	G20536	75.7	29	79.0	29	76.7	30
43	G20433	73.8	35	79.1	28	75.5	34
LOCATION MEANS		77.8		80.4		79.3	
LSD (.05)							
CV %							
REPS							
Harvest Plot Area (sq.ft.)							

TEST WEIGHT (lbs/bu)

		Bay AR Hancock	New Castle DE Uniatowski	Griffin GA Johnson	Brownstown IL Kolb	Urbana IL Kolb
1	Caldwell	54.2	57.5	55	61.8	59.8
2	Foster	53.9	56.6	55	60.8	59.1
3	Patton	53.7	56.5	54	60.6	59.5
4	Roane	57.9	57.0	59	63.2	62.1
5	MO980829	58.1	55.7	58	60.4	58.6
6	T141	55.5	57.3	53	61.8	61.9
7	AR 93027-3-2	57.4	56.0	57	61.7	60.9
8	MV 5-46	57.5	56.5	58	61.9	61.7
9	MSU Line E1007	57.7	58.1	56	61.8	59.6
10	IL99-15867	56.1	56.3	56	61.0	60.2
11	OH751	56.4	56.3	55	61.2	59.6
12	M00-3701	58.1	57.0	56	60.5	60.2
13	X00-1079	58.3	56.6	54	60.8	59.4
14	96229-3E39	59.7	55.6	58	62.6	61.8
15	961395-3E25	57.4	56.3	59	62.1	60.6
16	B990081	57.5	56.0	58	62.0	61.5
17	B990133	57.1	55.7	58	62.6	62.7
18	B990399	59.5	57.0	58	63.1	61.3
19	MSU Line D8006-R	58.3	58.3	56	61.5	59.4
20	AR 850-1-1	60.6	57.9	57	61.1	59.8
21	M01-4377	59.2	56.3	53	62.8	63.2
22	M01*1019	58.3	58.1	52	61.2	60.3
23	Y00*3067	58.7	57.3	55	60.9	61.0
24	X00-1056	57.6	56.0	54	61.7	60.5
25	93C-0004-22-1	58.8	56.4	57	61.9	61.4
26	97C-0232-2	59.6	56.9	58	62.3	61.4
27	VA02W-398	56.9	57.2	55	60.1	58.0
28	VA02W-513	60.8	58.1	58	62.5	62.9
29	VA02W-555	56.2	56.1	57	60.6	59.8
30	Nomad exp.	56.3	55.6	55	61.3	61.2
31	Samco exp.	58.8	57.4	56	61.5	61.5
32	Bingo exp.	57.3	57.1	55	62.4	59.9
33	97397J1-4-1-4-7	58.7	57.5	57	60.9	60.6
34	97462A1-21-1-5-2	56.8	57.6	56	60.7	61.0
35	981312A1-6-2-2	57.0	56.1	54	60.2	59.8
36	T148	58.4	57.7	56	61.5	60.9
37	OH776	56.6	56.1	57	60.8	61.1
38	OH768	56.6	56.2	56	59.6	56.5
39	IL99-26442	58.6	55.6	56	61.2	59.4
40	IL00-8061	57.4	56.3	58	61.7	61.7
41	G20412	57.1	56.9	57	60.3	60.9
42	G20536	58.1	56.4	56	61.7	60.2
43	G20433	56.8	56.7	56	62.6	60.9
LOCATION MEANS		57.6	56.7	56.1	61.5	60.6

TEST WEIGHT (lbs/bu)

		Greensburg IN	Lafayette IN	W. Lafayette IN	Winfield KS	Logan Co. KY
		Brown	Moreno	Ohm	Perry	Van Sanford
1	Caldwell	56.3	62.1	62.2	57.0	60.2
2	Foster	56.3	58.7	61.5	55.4	59.5
3	Patton	59.6	60.7	61.9	55.2	59.5
4	Roane	61.0	62.6	63.2	56.1	61.4
5	MO980829	57.9	57.1	60.0	58.1	60.5
6	T141	58.4	60.9	62.1	57.8	60.4
7	AR 93027-3-2	59.3	62.8	62.5	56.2	59.6
8	MV 5-46	60.1	61.3	57.1	57.8	60.2
9	MSU Line E1007	58.5	60.3	60.6	55.2	59.6
10	IL99-15867	58.7	59.6	62.8	60.5	58.9
11	OH751	58.2	58.0	60.4	57.6	58.5
12	M00-3701	56.5	61.1	62.2	57.6	57.9
13	X00-1079	57.1	56.6	61.2	55.4	58.5
14	96229-3E39	58.4	57.5	62.4	60.2	61.9
15	961395-3E25	60.2	59.7	62.1	58.9	60.0
16	B990081	58.4	61.4	62.3	59.1	61.0
17	B990133	61.6	63.1	63.3	58.9	60.5
18	B990399	60.7	58.7	63.7	59.7	61.5
19	MSU Line D8006-R	59.1	59.0	60.5	56.2	59.1
20	AR 850-1-1	58.7	60.3	61.2	58.6	60.4
21	M01-4377	62.4	64.3	64.3	61.0	62.1
22	M01*1019	58.5	58.2	60.6	57.3	58.8
23	Y00*3067	59.9	61.8	62.5	55.7	59.1
24	X00-1056	57.9	59.8	61.5	57.0	60.4
25	93C-0004-22-1	60.1	60.4	62.4	58.9	59.7
26	97C-0232-2	60.9	60.5	62.2	59.4	61.6
27	VA02W-398	56.2	56.1	56.9	55.4	59.2
28	VA02W-513	61.8	63.3	63.9	59.7	61.5
29	VA02W-555	59.8	56.5	59.8	58.6	60.1
30	Nomad exp.	60.2	60.1	63.5	54.4	59.0
31	Samco exp.	60.2	64.6	62.2	57.3	60.5
32	Bingo exp.	57.4	60.7	61.8	56.0	60.4
33	97397J1-4-1-4-7	60.7	60.6	61.3	56.2	60.0
34	97462A1-21-1-5-2	60.4	61.0	61.4	53.9	59.5
35	981312A1-6-2-2	60.7	59.4	59.3	55.7	60.0
36	T148	58.8	62.3	61.0	57.0	61.0
37	OH776	59.8	61.1	62.6	56.6	61.4
38	OH768	56.9	59.1	58.6	56.5	59.7
39	IL99-26442	59.3	59.7	60.6	58.3	60.2
40	IL00-8061	62.7	62.8	62.6	58.9	61.4
41	G20412	60.1	60.9	61.3	56.5	60.2
42	G20536	58.7	60.3	61.9	56.5	60.0
43	G20433	58.8	60.6	62.2	57.0	61.2
LOCATION MEANS		59.2	60.4	61.6	57.3	60.1

TEST WEIGHT (lbs/bu)

		Woodford Co. KY	Clarksville MD	Dundee MI	Laporte MI	Columbia MO
		Van Sanford	Costa	Moreno	Ward	McKendry
1	Caldwell	60.2	56.2	58.2	58.6	62.1
2	Foster	59.4	57.8	58.2	56.8	61.3
3	Patton	60.4	56.4	58.7	59.7	61.1
4	Roane	62.0	58.4	58.0	58.7	62.7
5	MO980829	58.7	57.0	57.9	59.0	60.6
6	T141	61.4	57.3	61.0	59.7	60.7
7	AR 93027-3-2	60.4	55.6	60.1	58.8	60.9
8	MV 5-46	62.6	58.2	60.1	59.3	61.6
9	MSU Line E1007	60.6	54.9	59.8	57.3	60.7
10	IL99-15867	60.5	57.4	58.8	58.3	60.2
11	OH751	60.5	56.6	61.4	58.6	60.5
12	M00-3701	57.8	55.3	58.8	58.5	60.4
13	X00-1079	59.5	54.9	60.6	57.7	62.2
14	96229-3E39	61.9	58.5	56.9	58.0	62.4
15	961395-3E25	60.9	57.6	60.2	59.0	61.6
16	B990081	61.3	58.9	59.6	59.5	60.7
17	B990133	62.1	57.3	58.9	59.9	61.9
18	B990399	62.0	58.3	60.7	60.6	62.6
19	MSU Line D8006-R	59.6	55.8	60.5	57.9	60.7
20	AR 850-1-1	60.5	55.3	58.7	59.1	60.9
21	M01-4377	63.2	59.4	59.2	60.4	60.6
22	M01*1019	59.0	57.5	60.3	57.2	61.1
23	Y00*3067	60.1	54.8	60.5	59.5	60.6
24	X00-1056	60.0	57.3	59.9	60.0	62.4
25	93C-0004-22-1	62.1	58.2	61.1	60.3	62.0
26	97C-0232-2	61.9	57.6	59.7	58.0	61.7
27	VA02W-398	60.2	56.9	54.3	55.8	59.2
28	VA02W-513	63.8	58.6	56.6	58.6	62.3
29	VA02W-555	61.8	57.2	60.9	57.4	61.2
30	Nomad exp.	62.1	55.4	58.9	58.9	62.0
31	Samco exp.	62.3	56.8	58.1	58.0	61.2
32	Bingo exp.	60.7	56.3	61.1	58.3	61.5
33	97397J1-4-1-4-7	60.8	57.7	58.8	59.7	60.0
34	97462A1-21-1-5-2	60.6	56.3	59.8	58.7	60.5
35	981312A1-6-2-2	59.7	54.8	58.0	57.1	59.9
36	T148	61.9	59.1	59.9	57.4	61.4
37	OH776	61.2	57.2	61.7	59.6	62.1
38	OH768	59.7	52.8	59.3	57.9	60.3
39	IL99-26442	59.2	56.5	60.8	58.9	61.1
40	IL00-8061	61.9	59.3	60.8	60.4	61.4
41	G20412	60.7	57.2	59.9	58.1	60.1
42	G20536	60.6	54.3	59.3	57.5	61.1
43	G20433	61.7	57.2	62.7	58.7	62.6
LOCATION MEANS		60.9	56.9	59.5	58.6	61.2

TEST WEIGHT (lbs/bu)

		Plymouth NC Murphy	Ithaca NY Sorrells	Wooster OH Fioritto	Wooster OH Sneller	Nairn ON Etienne
1	Caldwell	58.1	60.5	58.0	58.1	60.9
2	Foster	58.7	60.7	60.3	59.6	62.6
3	Patton	59.0	59.3	58.2	59.0	63.3
4	Roane	61.2	62.3	60.9	61.0	63.9
5	MO980829	58.8	60.6	58.5	59.8	63.8
6	T141	59.0	60.2	59.8	59.6	64.2
7	AR 93027-3-2	59.1	59.7	59.8	58.2	63.7
8	MV 5-46	60.7	61.0	59.9	60.6	62.8
9	MSU Line E1007	60.0	60.2	58.5	60.6	63.4
10	IL99-15867	59.2	59.8	58.8	58.7	62.8
11	OH751	59.0	59.3	58.3	59.2	63.3
12	M00-3701	58.1	58.1	57.7	57.9	64.0
13	X00-1079	58.6	58.9	57.9	58.0	62.4
14	96229-3E39	60.5	61.9	60.4	60.8	64.0
15	961395-3E25	60.3	61.9	60.3	60.9	64.6
16	B990081	61.1	61.1	60.6	60.8	65.0
17	B990133	60.0	59.7	59.5	60.2	64.0
18	B990399	61.2	62.7	61.7	62.2	65.2
19	MSU Line D8006-R	59.3	59.5	59.6	60.0	63.7
20	AR 850-1-1	60.4	62.0	61.0	60.5	62.9
21	M01-4377	60.9	62.4	62.1	61.6	64.4
22	M01*1019	57.2	60.7	60.7	58.0	62.6
23	Y00*3067	58.8	58.5	57.6	58.0	63.1
24	X00-1056	59.8	61.7	60.8	61.6	63.5
25	93C-0004-22-1	59.6	61.7	61.4	60.5	63.5
26	97C-0232-2	59.4	62.1	60.3	60.0	64.0
27	VA02W-398	58.1	59.2	58.8	57.8	62.1
28	VA02W-513	61.3	62.4	61.2	61.1	62.9
29	VA02W-555	58.9	60.4	59.9	58.9	61.8
30	Nomad exp.	59.4	59.0	57.6	59.7	61.8
31	Samco exp.	57.9	60.4	57.3	58.4	62.6
32	Bingo exp.	59.8	61.9	60.6	60.0	64.2
33	97397J1-4-1-4-7	59.5	60.0	58.7	59.4	62.4
34	97462A1-21-1-5-2	59.6	59.4	58.6	58.0	62.1
35	981312A1-6-2-2	58.5	58.7	57.3	57.0	61.0
36	T148	59.4	59.9	59.1	58.9	63.3
37	OH776	60.0	60.1	60.5	59.2	63.7
38	OH768	58.9	59.3	55.7	57.4	62.1
39	IL99-26442	59.5	59.9	58.0	59.6	63.3
40	IL00-8061	60.9	61.2	59.5	61.3	65.4
41	G20412	59.3	60.0	58.2	58.8	61.6
42	G20536	58.4	59.0	57.6	59.6	62.1
43	G20433	59.5	62.5	57.9	60.7	63.1
LOCATION MEANS		59.4	60.5	59.3	59.6	63.2

TEST WEIGHT (lbs/bu)

		Ridgetown ON	Knoxville TN	Blacksburg VA	Warsaw VA	Arlington WI
		Smid	West	Griffey	Griffey	Borges
1	Caldwell	61.7	54.6	56.2	62.6	53.3
2	Foster	61.4	54.9	57.6	62.5	53.0
3	Patton	61.7	54.4	57.7	62.3	55.0
4	Roane	60.4	57.3	59.3	63.7	55.0
5	MO980829	61.1	55.9	57.6	62.5	55.3
6	T141	61.5	55.0	57.7	62.3	56.7
7	AR 93027-3-2	60.4	55.7	56.8	62.8	53.7
8	MV 5-46	62.5	57.9	59.4	63.3	53.9
9	MSU Line E1007	61.8	57.0	57.0	62.5	54.3
10	IL99-15867	61.4	54.8	57.3	62.6	55.7
11	OH751	61.7	56.8	57.0	62.8	55.7
12	M00-3701	60.6	56.8	56.0	62.5	53.3
13	X00-1079	60.9	53.5	55.1	61.1	53.3
14	96229-3E39	61.4	56.8	58.9	63.5	56.3
15	961395-3E25	62.3	56.0	58.6	63.1	54.7
16	B990081	62.9	57.8	58.1	63.3	55.7
17	B990133	62.9	58.0	57.8	63.6	56.4
18	B990399	63.5	58.5	59.0	63.8	55.4
19	MSU Line D8006-R	60.3	55.3	56.9	62.1	55.7
20	AR 850-1-1	61.4	56.3	57.2	61.9	56.3
21	M01-4377	63.9	58.2	59.7	63.7	58.0
22	M01*1019	60.6	55.5	56.6	61.8	54.7
23	Y00*3067	61.4	56.0	56.2	62.2	55.3
24	X00-1056	62.5	57.4	57.3	62.0	55.7
25	93C-0004-22-1	63.4	56.9	58.7	63.0	56.3
26	97C-0232-2	62.3	56.2	59.0	63.0	55.7
27	VA02W-398	59.7	52.6	56.8	62.0	51.9
28	VA02W-513	62.5	56.7	59.4	62.9	57.7
29	VA02W-555	60.6	54.7	57.5	62.3	54.0
30	Nomad exp.	62.0	54.9	56.8	62.9	54.6
31	Samco exp.	62.6	56.1	56.7	63.3	57.3
32	Bingo exp.	62.1	54.3	56.8	63.2	54.7
33	97397J1-4-1-4-7	61.8	55.2	58.0	61.3	57.7
34	97462A1-21-1-5-2	61.4	56.4	57.5	61.8	55.7
35	981312A1-6-2-2	60.9		55.5	62.3	53.7
36	T148	62.5	55.1	57.7	62.5	56.3
37	OH776	61.8	56.9	57.9	61.7	56.0
38	OH768	60.9	55.6	56.3	62.3	54.0
39	IL99-26442	60.8	56.0	56.7	62.6	55.0
40	IL00-8061	63.4	56.4	59.4	63.5	58.7
41	G20412	60.8	57.3	58.0	62.3	54.7
42	G20536	60.6	55.3	56.7	62.4	56.0
43	G20433	61.7	56.0	58.7	63.6	55.0
LOCATION MEANS		61.7	56.0	57.6	62.6	55.3

TEST WEIGHT (lbs/bu)

		ENTRY MEANS ALL LOCATIONS	rank
1	Caldwell	58.6	37
2	Foster	58.5	39
3	Patton	58.7	35
4	Roane	60.3	5
5	MO980829	58.9	33
6	T141	59.4	19
7	AR 93027-3-2	59.2	22
8	MV 5-46	59.8	12
9	MSU Line E1007	59.0	26
10	IL99-15867	59.0	25
11	OH751	58.9	32
12	M00-3701	58.5	38
13	X00-1079	58.1	41
14	96229-3E39	60.0	10
15	961395-3E25	59.9	11
16	B990081	60.1	9
17	B990133	60.2	7
18	B990399	60.8	3
19	MSU Line D8006-R	59.0	29
20	AR 850-1-1	59.6	15
21	M01-4377	61.0	1
22	M01*1019	58.7	36
23	Y00*3067	59.0	27
24	X00-1056	59.5	18
25	93C-0004-22-1	60.2	6
26	97C-0232-2	60.1	8
27	VA02W-398	57.5	43
28	VA02W-513	60.8	2
29	VA02W-555	58.9	31
30	Nomad exp.	58.9	30
31	Samco exp.	59.6	16
32	Bingo exp.	59.3	21
33	97397J1-4-1-4-7	59.4	20
34	97462A1-21-1-5-2	59.0	28
35	981312A1-6-2-2	58.2	40
36	T148	59.6	17
37	OH776	59.7	14
38	OH768	57.9	42
39	IL99-26442	59.1	24
40	IL00-8061	60.7	4
41	G20412	59.1	23
42	G20536	58.8	34
43	G20433	59.8	13
LOCATION MEANS		59.3	

HEADING DATE (Julian Days)

		Bay AR Hancock	New Castle DE Uniatowski	Quincy FL Barnett	Griffin GA Johnson	Aberdeen ID Bockelman
1	Caldwell	121.3	142	108	112	150.8
2	Foster	117.3	146	108	111	153.8
3	Patton	113.3	141	96	106	153.8
4	Roane	121.7	145	102	112	153.8
5	MO980829	127.0	147	100	103	154.5
6	T141	123.0	141	97	115	151.8
7	AR 93027-3-2	112.7	139	98	107	152.3
8	MV 5-46	113.7	145	97	104	153.8
9	MSU Line E1007	118.0	145	102	111	154.0
10	IL99-15867	116.0	144	99	109	153.8
11	OH751	114.3	143	96	106	155.3
12	M00-3701	115.3	143	107	106	153.3
13	X00-1079	123.7	146	102	112	153.8
14	96229-3E39	113.3	144	87	103	156.8
15	961395-3E25	115.7	147	96	104	154.8
16	B990081	113.3	141	102	111	151.3
17	B990133	112.0	136	98	105	150.8
18	B990399	117.7	147	89	106	156.8
19	MSU Line D8006-R	115.7	146	89	110	155.8
20	AR 850-1-1	122.7		99	113	156.5
21	M01-4377	118.7	146	89	111	154.3
22	M01*1019	113.7	145	95	110	155.0
23	Y00*3067	112.0	140	90	104	151.8
24	X00-1056	123.0	146		115	154.3
25	93C-0004-22-1	115.0	144	106	113	153.0
26	97C-0232-2	113.3	145	84	105	153.8
27	VA02W-398	111.7	144	95	103	155.8
28	VA02W-513	114.7	144	96	105	156.3
29	VA02W-555	112.7	144	96	105	154.3
30	Nomad exp.	114.0	142	102	105	153.0
31	Samco exp.	112.7	136	99	103	151.3
32	Bingo exp.	121.0	146	108	112	154.8
33	97397J1-4-1-4-7	115.7	142	107	105	152.5
34	97462A1-21-1-5-2	115.7	141	106	106	151.5
35	981312A1-6-2-2	122.3	146	101	114	154.5
36	T148	113.0	145	84	105	153.5
37	OH776	120.0	145		111	155.0
38	OH768	123.3	145	99	115	153.3
39	IL99-26442	121.0	146			155.3
40	IL00-8061	116.7	143	108	112	152.5
41	G20412	119.0	143	107	111	153.3
42	G20536	119.0	141		11	151.8
43	G20433	122.7	145		117	154.3
LOCATION MEANS		117.2	143.6	98.5	106.3	153.8

HEADING DATE (Julian Days)

		Urbana IL	Lafayette IN	W. Lafayette IN	Woodford Co. KY	Clarksville MD
		Kolb	Moreno	Ohm	Van Sanford	Costa
1	Caldwell	135.5	133	132.0	131.0	136.0
2	Foster	135.6	134	132.5	130.0	137.0
3	Patton	135.1	133	131.0	130.0	137.0
4	Roane	138.4	136	133.5	130.5	138.0
5	MO980829	140.0	139	137.0	136.0	138.0
6	T141	136.4	134	133.5	133.0	136.0
7	AR 93027-3-2	133.3	133	132.5	132.5	135.5
8	MV 5-46	134.0	133	134.0	132.0	137.0
9	MSU Line E1007	137.5	136	135.5	132.5	138.5
10	IL99-15867	136.6	134	133.5	133.5	136.0
11	OH751	136.1	133	133.0	133.5	137.0
12	M00-3701	132.8	133	131.5	133.0	135.5
13	X00-1079	140.2	139	134.5	133.5	139.0
14	96229-3E39	135.7	133	133.5	133.5	136.0
15	961395-3E25	136.6	133	134.5	133.0	138.0
16	B990081	135.4	132	132.0	131.5	136.0
17	B990133	132.8	129	129.0	130.0	133.5
18	B990399	138.2	139	136.0	134.0	138.0
19	MSU Line D8006-R	137.3	136	136.0	133.0	138.5
20	AR 850-1-1	141.4	138	138.0	135.0	141.0
21	M01-4377	138.5	135	133.5	133.5	138.0
22	M01*1019	137.3	136	136.5	134.0	138.0
23	Y00*3067	134.8	133	133.5	128.0	136.0
24	X00-1056	139.9	139	135.5	134.5	138.5
25	93C-0004-22-1	136.8	135	135.5	133.5	137.5
26	97C-0232-2	134.3	133	133.5	133.5	136.0
27	VA02W-398	135.5	135	135.0	131.5	135.5
28	VA02W-513	135.2	133	133.0	130.0	136.0
29	VA02W-555	133.5	134	131.5	129.0	136.0
30	Nomad exp.	135.5	134	133.0	129.0	136.5
31	Samco exp.	133.1	131	131.0	129.0	135.0
32	Bingo exp.	137.7	135	136.0	133.0	139.0
33	97397J1-4-1-4-7	133.8	132	131.5	129.0	135.5
34	97462A1-21-1-5-2	133.4	132	130.5	131.0	135.5
35	981312A1-6-2-2	136.7	136	135.5	134.5	138.0
36	T148	134.0	133	133.5	131.5	137.0
37	OH776	138.3	136	133.5	133.0	137.5
38	OH768	138.8	135	136.0	134.0	137.5
39	IL99-26442	138.9	138	137.0	134.0	138.5
40	IL00-8061	136.9	136	135.0	132.0	136.5
41	G20412	134.7	135	133.0	133.0	136.0
42	G20536	136.1	134	132.5	130.5	136.0
43	G20433	139.8	139	134.0	134.5	138.5
LOCATION MEANS		136.3	134.6	133.8	132.2	137.0

HEADING DATE (Julian Days)

		Laporte MI	Columbia MO	Lincoln NE	Mead NE	Ithaca NY
		Ward	McKendry	Baenziger	Baenziger	Sorrells
1	Caldwell	156.6	131.7	137	140	153
2	Foster	156.4	131.7	138	140	153
3	Patton	156.1	129.7	136	140	153
4	Roane	156.6	131.3	137	140	154
5	MO980829	157.3	133.0	139	142	154
6	T141	155.2	131.3	138	140	152
7	AR 93027-3-2	155.8	129.7	136	139	153
8	MV 5-46	156.7	128.3	134	139	153
9	MSU Line E1007	156.7	132.3	139	139	154
10	IL99-15867	156.8	131.3	136	139	153
11	OH751	156.4	132.3	138	139	153
12	M00-3701	156.2	128.0	136	139	153
13	X00-1079	157.1	132.3	138	139	154
14	96229-3E39	156.3	130.7	135	139	153
15	961395-3E25	158.8	129.3	137	140	154
16	B990081	155.8	129.7	136	140	153
17	B990133	156.1	127.3	135	139	152
18	B990399	158.4	132.0	139	143	153
19	MSU Line D8006-R	157.5	131.3	139	144	154
20	AR 850-1-1	159.1	136.0	139	143	154
21	M01-4377	156.4	132.0	135	140	152
22	M01*1019	157.8	131.7	137	142	154
23	Y00*3067	156.3	130.0	136	139	153
24	X00-1056	157.1	132.3	139	139	154
25	93C-0004-22-1	156.4	131.3	138	140	153
26	97C-0232-2	157.9	130.7	136	140	153
27	VA02W-398	156.4	129.3	135	139	154
28	VA02W-513	156.5	128.7	136	139	153
29	VA02W-555	156.3	128.3	135	139	153
30	Nomad exp.	156.6	130.3	135	139	153
31	Samco exp.	155.0	128.0	135	139	152
32	Bingo exp.	156.6	132.0	138	139	153
33	97397J1-4-1-4-7	155.4	128.0	136	139	152
34	97462A1-21-1-5-2	155.0	129.3	135	139	151
35	981312A1-6-2-2	157.2	133.0	137	140	154
36	T148	157.0	130.7	134	140	153
37	OH776	156.0	132.3	138	141	152
38	OH768	156.4	132.0	136	143	153
39	IL99-26442	156.6	132.7	139	143	154
40	IL00-8061	155.9	130.0	136	139	154
41	G20412	156.5	129.3	136	139	153
42	G20536	155.9	129.7	136	139	153
43	G20433	156.7	131.0	137	142	154
LOCATION MEANS		156.6	130.7	136.7	140.0	153.1

HEADING DATE (Julian Days)

		Wooster OH Fioritto	Wooster OH Sneller	Nairn ON Etienne	Ridgetown ON Smid	Knoxville TN West
1	Caldwell	144.0	148	153.3	153	123
2	Foster	144.5	148	154.0	155	124
3	Patton	142.5	147	154.0	153	125
4	Roane	144.5	149	154.0	155	125
5	MO980829	144.5	147	155.3	154	128
6	T141	143.0	145	153.0	153	128
7	AR 93027-3-2	143.0	146	152.7	153	123
8	MV 5-46	140.5	145	153.7	155	120
9	MSU Line E1007	145.5	148	154.3	155	122
10	IL99-15867	143.5	147	153.3	154	120
11	OH751	144.5	146	153.3	155	122
12	M00-3701	143.0	147	153.7	153	118
13	X00-1079	145.5	149	153.3	154	122
14	96229-3E39	143.0	146	154.0	155	123
15	961395-3E25	144.0	147	154.0	156	122
16	B990081	141.5	146	152.3	152	125
17	B990133	138.5	142	152.0	152	120
18	B990399	144.0	147	155.3	157	125
19	MSU Line D8006-R	146.0	149	154.3	156	123
20	AR 850-1-1	149.5	152	157.3	157	127
21	M01-4377	140.5	143	153.7	155	124
22	M01*1019	145.0	148	154.0	155	125
23	Y00*3067	143.5	145	153.3	154	118
24	X00-1056	148.0	150	154.0	155	127
25	93C-0004-22-1	145.0	148	154.3	155	123
26	97C-0232-2	140.5	144	154.7	155	120
27	VA02W-398	143.5	145	155.3	156	120
28	VA02W-513	144.0	148	154.0	155	119
29	VA02W-555	140.0	143	154.0	155	119
30	Nomad exp.	145.0	148	154.0	154	120
31	Samco exp.	139.5	143	152.3	151	118
32	Bingo exp.	145.5	149	154.3	155	124
33	97397J1-4-1-4-7	142.5	146	153.3	154	123
34	97462A1-21-1-5-2	140.5	144	153.0	152	124
35	981312A1-6-2-2	145.5	148	154.7	156	129
36	T148	143.0	144	153.7	154	122
37	OH776	146.0	148	154.0	154	127
38	OH768	143.0	145	153.7	154	129
39	IL99-26442	148.0	150	154.0	154	127
40	IL00-8061	144.0	149	153.3	154	123
41	G20412	143.0	147	153.0	152	125
42	G20536	144.0	147	152.7	153	123
43	G20433	146.0	149	153.0	155	128
LOCATION MEANS		143.7	146.8	153.8	154.3	123.3

HEADING DATE (Julian Days)

		Blacksburg VA	Warsaw VA	ENTRY MEANS ALL LOCATIONS	
		Griffey	Griffey		rank
1	Caldwell	135.3	129	136.6	25
2	Foster	135.3	129	137.0	27
3	Patton	134.7	128	135.2	14
4	Roane	136.3	130	137.4	34
5	MO980829	136.3	131	138.3	38
6	T141	134.3	129	136.5	24
7	AR 93027-3-2	133.0	126	134.8	9
8	MV 5-46	133.3	126	134.9	11
9	MSU Line E1007	135.7	127	137.2	31
10	IL99-15867	134.7	127	136.0	21
11	OH751	135.7	128	135.9	19
12	M00-3701	133.7	126	135.3	16
13	X00-1079	137.0	130	137.9	35
14	96229-3E39	134.0	123	134.9	10
15	961395-3E25	133.0	124	136.0	22
16	B990081	133.7	126	135.3	15
17	B990133	131.7	123	132.9	2
18	B990399	136.3	129	137.3	32
19	MSU Line D8006-R	135.7	129	137.1	29
20	AR 850-1-1	137.3	132	139.4	40
21	M01-4377	134.7	127	135.9	20
22	M01*1019	136.3	129	137.1	28
23	Y00*3067	133.3	123	134.0	4
24	X00-1056	137.7	131	140.5	42
25	93C-0004-22-1	135.7	129	137.2	30
26	97C-0232-2	134.7	124	134.6	7
27	VA02W-398	133.0	126	135.2	13
28	VA02W-513	134.0	127	135.3	17
29	VA02W-555	132.7	126	134.4	6
30	Nomad exp.	135.0	128	135.5	18
31	Samco exp.	131.0	122	133.0	3
32	Bingo exp.	136.3	131	138.0	36
33	97397J1-4-1-4-7	133.0	127	135.1	12
34	97462A1-21-1-5-2	133.0	126	134.7	8
35	981312A1-6-2-2	136.7	130	138.2	37
36	T148	133.0	123	134.4	5
37	OH776	136.0	130	139.2	39
38	OH768	131.7	129	137.4	33
39	IL99-26442	138.0	131	141.8	43
40	IL00-8061	135.3	128	136.8	26
41	G20412	133.3	128	136.4	23
42	G20536	133.7	128	132.7	1
43	G20433	136.7	131	140.2	41
LOCATION MEANS		134.7	127.6	136.4	

HEIGHT (inches)

		Bay AR Hancock	New Castle DE Uniatowski	Quincy FL Barnett	Griffin GA Johnson	Brownstown IL Kolb
1	Caldwell	37.0	36.7	38.0	43	38.9
2	Foster	35.7	38.3	36.5	38	37.5
3	Patton	37.0	41.0	40.0	34	36.4
4	Roane	33.7	4.0	35.0	35	32.8
5	MO980829	40.7	40.3	46.0	34	41.2
6	T141	39.0	41.3	42.5	37	39.4
7	AR 93027-3-2	35.3	37.3	38.5	34	37.9
8	MV 5-46	33.3	37.3	36.0	31	35.1
9	MSU Line E1007	36.0	37.0	37.5	36	37.9
10	IL99-15867	36.7	37.7	39.5	35	37.5
11	OH751	38.3	39.0	40.0	37	37.7
12	M00-3701	33.7	35.3	38.5	32	33.0
13	X00-1079	37.0	37.7	38.0	33	34.6
14	96229-3E39	36.3	37.3	39.5	36	36.3
15	961395-3E25	33.7	33.7	38.0	34	31.0
16	B990081	37.0	35.0	42.0	35	34.4
17	B990133	34.0	34.7	38.5	35	35.0
18	B990399	40.0	41.3	39.5	39	39.9
19	MSU Line D8006-R	39.3	40.0	41.5	37	37.8
20	AR 850-1-1	37.3	38.3	41.5	38	37.5
21	M01-4377	37.0	38.0	38.5	37	38.4
22	M01*1019	33.3	34.3	37.0	31	30.9
23	Y00*3067	38.3	40.0	41.5	40	36.9
24	X00-1056	38.0	37.7	37.0	37	36.9
25	93C-0004-22-1	36.7	36.7	37.5	38	34.2
26	97C-0232-2	36.3	37.3	38.0	36	33.5
27	VA02W-398	34.3	37.3	36.0	35	33.3
28	VA02W-513	31.3	31.2	35.0	32	29.9
29	VA02W-555	31.7	34.3	34.5	35	30.4
30	Nomad exp.	33.7	31.7	34.0	35	32.2
31	Samco exp.	35.3	34.0	38.0	34	33.7
32	Bingo exp.	39.3	37.3	38.5	40	35.9
33	97397J1-4-1-4-7	34.7	36.7	38.0	37	34.1
34	97462A1-21-1-5-2	33.3	36.3	34.5	35	30.7
35	981312A1-6-2-2	34.3	34.0	35.0	34	30.5
36	T148	33.3	36.0	33.5	35	33.5
37	OH776	37.3	38.0	36.5	36	36.7
38	OH768	40.3	38.7	40.0	36	40.7
39	IL99-26442	42.3	40.3	38.0	39	42.0
40	IL00-8061	40.0	40.3	41.5	48	39.9
41	G20412	39.0	38.3	38.5	36	37.9
42	G20536	39.7	40.0	38.0	35	37.6
43	G20433	39.7	40.0	36.0	36	41.6
LOCATION MEANS		36.5	36.5	38.2	36.0	35.9

HEIGHT (inches)

		Urbana IL Kolb	Greensburg IN Brown	Lafayette IN Moreno	W. Lafayette IN Ohm	Woodburn IN Fogleman
1	Caldwell	37.1	42	34	36.0	35.0
2	Foster	37.1	41	32	33.5	33.5
3	Patton	38.1	41	33	33.5	36.2
4	Roane	35.7	38	31	33.0	31.5
5	MO980829	39.1	42	34	37.5	32.7
6	T141	40.4	42	34	39.0	36.2
7	AR 93027-3-2	36.6	39	33	31.5	33.5
8	MV 5-46	33.4	37	29	28.0	31.5
9	MSU Line E1007	38.6	41	35	36.0	33.9
10	IL99-15867	38.3	40	33	35.5	34.3
11	OH751	37.2	43	34	32.0	35.0
12	M00-3701	34.6	37	31	31.5	33.5
13	X00-1079	36.1	37	32	35.5	33.5
14	96229-3E39	35.5	39	30	31.0	33.5
15	961395-3E25	33.5	36	30	28.0	29.5
16	B990081	37.0	38	32	34.0	30.3
17	B990133	35.8	37	32	32.0	29.9
18	B990399	40.2	42	35	36.0	36.2
19	MSU Line D8006-R	35.7	41	34	31.0	35.8
20	AR 850-1-1	39.7	43	35	38.0	36.2
21	M01-4377	39.0	43	35	36.5	37.0
22	M01*1019	33.0	34	28	27.0	30.3
23	Y00*3067	39.0	42	34	33.5	36.2
24	X00-1056	37.8	41	33	36.5	33.9
25	93C-0004-22-1	37.8	38	32	34.5	33.5
26	97C-0232-2	35.1	38	31	30.5	30.3
27	VA02W-398	35.0	34	28	27.5	30.3
28	VA02W-513	32.7	33	28	27.5	29.5
29	VA02W-555	32.1	33	27	26.5	29.9
30	Nomad exp.	32.5	34	29	30.5	29.5
31	Samco exp.	28.5	35	30	28.0	28.3
32	Bingo exp.	37.7	41	35	36.5	33.5
33	97397J1-4-1-4-7	36.8	34	30	34.0	32.7
34	97462A1-21-1-5-2	35.4	34	30	33.0	31.5
35	981312A1-6-2-2	31.4	35	30	23.0	29.1
36	T148	36.1	37	31	30.5	31.5
37	OH776	39.7	38	34	36.0	35.0
38	OH768	33.1	42	36	32.5	35.4
39	IL99-26442	42.5	45	36	40.0	37.4
40	IL00-8061	40.2	43	38	40.0	34.3
41	G20412	37.8	42	36	38.0	33.5
42	G20536	36.8	45	36	36.0	35.0
43	G20433	37.3	45	35	36.5	35.0
LOCATION MEANS		36.4	39.1	32.4	33.2	33.1

HEIGHT (inches)

		Logan Co. KY	Woodford Co. KY	Clarksville MD	Dundee MI	Laporte MI
		Van Sanford	Van Sanford	Costa	Moreno	Ward
1	Caldwell	42.5	38.5	39.5	32.0	35.5
2	Foster	41.0	38.0	38.5	32.0	36.5
3	Patton	42.0	39.0	37.5	36.5	37.0
4	Roane	41.5	39.0	35.0	34.0	33.0
5	MO980829	42.0	40.5	39.5	33.0	36.1
6	T141	42.5	41.0	36.0	33.0	40.0
7	AR 93027-3-2	37.5	37.5	35.5	32.0	35.5
8	MV 5-46	37.0	38.0	35.5	27.0	32.5
9	MSU Line E1007	41.0	38.5	39.5	34.5	35.4
10	IL99-15867	36.0	39.0	38.0	34.0	36.0
11	OH751	42.5	41.5	37.5	36.0	38.6
12	M00-3701	35.0	37.0	34.5	32.5	33.1
13	X00-1079	38.0	39.5	38.5	33.5	38.0
14	96229-3E39	38.5	39.0	35.0	27.0	34.5
15	961395-3E25	33.5	40.0	32.0	28.0	31.0
16	B990081	36.5	38.5	36.5	31.0	34.1
17	B990133	35.5	37.0	35.0	30.5	34.0
18	B990399	41.5	43.0	39.0	35.5	38.5
19	MSU Line D8006-R	39.5	39.5	36.5	33.0	35.5
20	AR 850-1-1	40.5	41.0	40.0	33.0	37.4
21	M01-4377	41.5	39.5	37.5	32.5	35.9
22	M01*1019	35.0	39.0	31.0	27.0	30.5
23	Y00*3067	40.0	42.0	39.5	36.5	38.0
24	X00-1056	42.0	40.5	38.5	32.0	36.5
25	93C-0004-22-1	42.0	37.5	34.5	31.5	33.6
26	97C-0232-2	37.5	38.5	35.0	30.0	33.4
27	VA02W-398	38.0	38.0	36.0	29.0	32.5
28	VA02W-513	36.5	34.0	30.5	27.5	30.4
29	VA02W-555	35.5	33.5	31.5	26.0	30.0
30	Nomad exp.	34.5	34.5	32.0	28.0	31.1
31	Samco exp.	36.5	37.5	34.5	29.5	34.5
32	Bingo exp.	41.0	39.0	38.0	35.0	35.0
33	97397J1-4-1-4-7	35.0	37.5	36.5	31.5	36.1
34	97462A1-21-1-5-2	35.5	37.5	37.0	32.0	34.1
35	981312A1-6-2-2	36.0	38.5	33.5	28.0	32.0
36	T148	37.0	37.5	30.5	33.0	33.0
37	OH776	39.5	39.5	37.5	33.0	36.0
38	OH768	43.5	40.5	41.0	36.5	37.0
39	IL99-26442	43.5	42.5	40.5	35.0	37.9
40	IL00-8061	42.0	41.5	41.5	34.5	40.4
41	G20412	41.5	40.5	39.0	33.5	37.5
42	G20536	41.0	42.0	39.5	34.0	38.5
43	G20433	43.5	43.0	39.0	32.0	39.0
LOCATION MEANS		39.1	39.0	36.6	32.0	35.2

HEIGHT (inches)

		Columbia MO	Lincoln NE	Mead NE	Ithaca NY	Wooster OH
		McKendry	Baenziger	Baenziger	Sorrells	Fioritto
1	Caldwell	38	38	38	32.7	38.0
2	Foster	39	37	37	31.5	36.0
3	Patton	39	36	38	35.4	33.5
4	Roane	39	34	37	27.6	31.5
5	MO980829	43	41	42	35.4	33.5
6	T141	42	40	39	31.5	36.5
7	AR 93027-3-2	38	35	36	31.5	32.0
8	MV 5-46	37	34	33	28.7	34.5
9	MSU Line E1007	40	36	37	31.5	35.5
10	IL99-15867	39	39	38	31.5	33.5
11	OH751	38	39	39	28.7	31.0
12	M00-3701	35	34	35	29.5	34.5
13	X00-1079	37	34	36	29.5	32.5
14	96229-3E39	40	36	38	32.7	35.5
15	961395-3E25	35	32	33	27.6	36.5
16	B990081	37	35	37	30.3	34.5
17	B990133	37	33	36	28.7	36.5
18	B990399	43	39	41	33.5	32.0
19	MSU Line D8006-R	39	34	38	30.3	35.5
20	AR 850-1-1	40	37	42	31.5	34.0
21	M01-4377	40	34	38	31.5	33.5
22	M01*1019	36	31	33	28.7	34.5
23	Y00*3067	38	35	40	33.5	33.0
24	X00-1056	41	34	38	31.5	30.5
25	93C-0004-22-1	37	35	40	30.7	31.5
26	97C-0232-2	36	35	38	29.5	30.0
27	VA02W-398	36	32	36	27.6	33.0
28	VA02W-513	32	31	32	26.8	36.0
29	VA02W-555	33	30	35	28.7	33.0
30	Nomad exp.	35	31	32	25.6	32.5
31	Samco exp.	38	34	35	29.5	31.0
32	Bingo exp.	39	37	38	33.5	35.0
33	97397J1-4-1-4-7	37	33	35	31.5	35.5
34	97462A1-21-1-5-2	36	32	34	29.5	37.5
35	981312A1-6-2-2	35	31	33	24.8	37.0
36	T148	37	31	35	31.5	38.5
37	OH776	38	32	38	31.5	38.0
38	OH768	40	37	39	30.3	35.5
39	IL99-26442	44	37	41	33.5	36.5
40	IL00-8061	41	38	40	33.5	34.5
41	G20412	40	34	39	33.5	35.0
42	G20536	40	32	41	32.7	35.0
43	G20433	42	36	39	34.3	34.0
LOCATION MEANS		38.3	34.8	37.2	30.8	34.4

HEIGHT (inches)

		Wooster OH	Nairn ON	Ridgetown ON	Blacksburg VA	Warsaw VA
		Sneller	Etienne	Smid	Griffey	Griffey
1	Caldwell	41	33.3	39	34.3	34
2	Foster	39	32.3	39	31.7	35
3	Patton	43	34.4	40	34.7	36
4	Roane	41	28.7	33	32.0	33
5	MO980829	42	32.1	39	35.0	39
6	T141	43	35.4	41	34.3	38
7	AR 93027-3-2	38	31.5	36	31.3	35
8	MV 5-46	39	28.7	33	29.7	33
9	MSU Line E1007	41	30.1	36	32.7	38
10	IL99-15867	42	32.5	37	33.0	36
11	OH751	45	35.6	40	32.0	39
12	M00-3701	38	31.7	35	29.3	35
13	X00-1079	38	30.7	37	32.3	35
14	96229-3E39	40	31.5	34	32.3	36
15	961395-3E25	37	28.9	32	29.0	34
16	B990081	41	31.9	37	29.3	38
17	B990133	39	30.5	36	29.3	35
18	B990399	45	35.6	39	34.7	39
19	MSU Line D8006-R	41	33.3	37	33.3	39
20	AR 850-1-1	44	32.5	36	34.7	39
21	M01-4377	41	32.5	36	33.7	38
22	M01*1019	37	25.6	30	28.3	32
23	Y00*3067	45	34.4	40	32.7	39
24	X00-1056	42	33.5	37	34.0	36
25	93C-0004-22-1	40	30.5	34	31.3	36
26	97C-0232-2	40	29.7	34	30.3	35
27	VA02W-398	39	29.9	32	29.0	35
28	VA02W-513	36	27.8	30	29.0	32
29	VA02W-555	38	27.6	29	28.7	31
30	Nomad exp.	38	27.6	32	28.7	32
31	Samco exp.	38	28.0	35	28.3	33
32	Bingo exp.	41	30.5	38	34.0	37
33	97397J1-4-1-4-7	40	30.5	36	29.7	35
34	97462A1-21-1-5-2	39	30.5	35	29.0	33
35	981312A1-6-2-2	38	28.5	31	31.0	31
36	T148	39	29.3	35	29.7	33
37	OH776	43	32.3	37	32.7	37
38	OH768	44	33.5	38	35.0	38
39	IL99-26442	44	34.8	38	35.7	37
40	IL00-8061	43	35.4	42	34.7	38
41	G20412	41	32.5	39	33.3	38
42	G20536	42	32.9	39	34.3	38
43	G20433	45	35.0	40	36.7	40
LOCATION MEANS		40.7	31.5	36.1	32.0	35.8

HEIGHT (inches)

		Arlington WI	ENTRY MEANS ALL LOCATIONS	
		Borges		rank
1	Caldwell	30.0	37.0	14
2	Foster	26.3	35.9	22
3	Patton	30.0	37.0	13
4	Roane	28.0	33.0	35
5	MO980829	25.7	37.9	6
6	T141	28.0	38.2	5
7	AR 93027-3-2	25.3	34.8	27
8	MV 5-46	22.3	32.9	36
9	MSU Line E1007	25.0	36.2	20
10	IL99-15867	25.3	36.0	21
11	OH751	28.0	37.1	12
12	M00-3701	26.7	33.7	31
13	X00-1079	28.0	35.1	24
14	96229-3E39	27.0	35.1	25
15	961395-3E25	27.3	32.5	38
16	B990081	28.7	35.0	26
17	B990133	24.0	33.9	30
18	B990399	29.3	38.4	3
19	MSU Line D8006-R	31.3	36.5	17
20	AR 850-1-1	31.3	37.6	7
21	M01-4377	29.2	36.7	16
22	M01*1019	22.3	31.5	41
23	Y00*3067	30.3	37.6	8
24	X00-1056	27.3	36.3	18
25	93C-0004-22-1	28.7	35.1	23
26	97C-0232-2	26.0	34.0	29
27	VA02W-398	23.5	33.0	34
28	VA02W-513	27.0	31.1	42
29	VA02W-555	23.3	31.1	43
30	Nomad exp.	25.0	31.6	40
31	Samco exp.	25.7	32.8	37
32	Bingo exp.	31.0	36.8	15
33	97397J1-4-1-4-7	27.7	34.4	28
34	97462A1-21-1-5-2	28.0	33.6	33
35	981312A1-6-2-2	26.0	32.0	39
36	T148	27.0	33.6	32
37	OH776	29.7	36.2	19
38	OH768	32.7	37.5	9
39	IL99-26442	31.0	39.0	2
40	IL00-8061	31.0	39.1	1
41	G20412	30.7	37.1	11
42	G20536	27.7	37.3	10
43	G20433	31.7	38.2	4
LOCATION MEANS		27.7	35.3	

LODGING

		Wellington CO Cisar 0-9	New Castle DE Uniatowski 0-9	W. Lafayette IN Ohm 0-9	Clarksville MD Costa 0-9	Columbia MO McKendry 0-9
1	Caldwell	0	1.7	4.5	5.0	0.4
2	Foster	0	1.3	4.0	4.0	2.0
3	Patton	3	1.0	3.5	4.0	1.0
4	Roane	4	1.3	4.5	1.0	0.1
5	MO980829	6	2.0	6.0	4.5	1.0
6	T141	7	1.0	5.5	0.0	0.4
7	AR 93027-3-2	0	1.0	4.0	1.5	0.4
8	MV 5-46	0	1.3	2.5	0.5	1.7
9	MSU Line E1007	2	1.0	5.5	0.0	0.1
10	IL99-15867	0	1.3	5.0	3.5	1.0
11	OH751	3	1.0	4.5	7.0	1.3
12	M00-3701	0	1.3	4.0	2.5	1.0
13	X00-1079	0	1.0	4.5	4.5	0.4
14	96229-3E39	2	1.0	3.0	3.5	0.1
15	961395-3E25	0	1.0	3.0	3.5	0.1
16	B990081	5	1.0	5.5	1.0	0.1
17	B990133	5	1.3	3.0	2.0	1.7
18	B990399	2	1.0	6.0	8.0	0.7
19	MSU Line D8006-R	2	1.0	4.5	5.5	0.1
20	AR 850-1-1	2	1.0	5.0	7.0	0.1
21	M01-4377	4	1.0	5.5	4.0	1.0
22	M01*1019	2	1.0	3.5	3.5	0.4
23	Y00*3067	7	1.0	3.5	3.5	0.1
24	X00-1056	2	1.0	4.5	2.5	0.7
25	93C-0004-22-1	0	1.0	4.0	1.5	0.1
26	97C-0232-2	2	1.7	3.5	0.0	0.1
27	VA02W-398	4	1.7	4.0	1.0	2.0
28	VA02W-513	3	1.0	3.0	0.0	0.1
29	VA02W-555	2	1.0	3.5	1.0	1.0
30	Nomad exp.	0	1.0	2.0	0.5	0.1
31	Samco exp.	0	1.0	3.0	0.5	0.4
32	Bingo exp.	0	1.0	6.0	4.5	0.1
33	97397J1-4-1-4-7	0	1.0	4.0	0.5	0.1
34	97462A1-21-1-5-2	0	1.0	4.0	2.5	0.1
35	981312A1-6-2-2	0	1.0	2.5	0.5	0.1
36	T148	0	1.0	4.0	3.0	0.1
37	OH776	6	1.3	6.0	2.5	0.7
38	OH768	3	1.0	5.5	8.5	0.4
39	IL99-26442	7	1.0	7.0	2.0	1.0
40	IL00-8061	3	2.0	7.0	1.0	2.3
41	G20412	0	1.3	7.0	2.5	1.3
42	G20536	8	2.3	7.5	6.5	0.1
43	G20433	9	2.3	6.0	4.5	1.7
LOCATION MEANS		2.4	1.2	4.5	2.9	0.6

LODGING

		Ridgetown ON Smid 0-9	Knoxville TN West %	Warsaw VA Griffey 0.2-10
1	Caldwell	0.0	13	0.8
2	Foster	0.0	0	0.2
3	Patton	0.0	0	0.4
4	Roane	0.0	2	0.2
5	MO980829	0.0	3	0.4
6	T141	0.0	3	0.4
7	AR 93027-3-2	0.0	0	0.2
8	MV 5-46	0.0	0	0.4
9	MSU Line E1007	0.0	0	0.2
10	IL99-15867	0.2	8	0.2
11	OH751	0.0	30	3.0
12	M00-3701	0.0	0	0.2
13	X00-1079	0.0	3	0.4
14	96229-3E39	0.0	10	0.4
15	961395-3E25	0.0	0	0.2
16	B990081	0.0	0	0.2
17	B990133	0.0	0	0.2
18	B990399	0.0	0	0.2
19	MSU Line D8006-R	0.0	3	0.4
20	AR 850-1-1	0.0	0	0.2
21	M01-4377	0.0	0	0.4
22	M01*1019	0.0	7	0.2
23	Y00*3067	0.0	0	0.2
24	X00-1056	0.0	0	0.2
25	93C-0004-22-1	0.0	0	0.2
26	97C-0232-2	0.0	0	0.2
27	VA02W-398	0.2	0	0.8
28	VA02W-513	0.0	0	0.2
29	VA02W-555	0.0	3	0.2
30	Nomad exp.	0.0	0	0.2
31	Samco exp.	0.0	13	0.4
32	Bingo exp.	0.0	0	0.4
33	97397J1-4-1-4-7	0.0	0	0.2
34	97462A1-21-1-5-2	0.0	0	0.2
35	981312A1-6-2-2	0.0	0	0.2
36	T148	0.0	0	0.2
37	OH776	0.0	0	0.8
38	OH768	0.0	10	0.8
39	IL99-26442	1.0	0	0.4
40	IL00-8061	0.5	5	0.4
41	G20412	0.5	3	0.2
42	G20536	0.2	22	0.4
43	G20433	0.8	63	0.4
LOCATION MEANS		0.1	4.7	0.4

WINTER DAMAGE

		Aberdeen ID	Urbana IL	Greensburg IN	Lafayette IN	W. Lafayette IN	Woodburn IN
		Bockelman	Kolb	Brown	Moreno	Ohm	Fogleman
		Winter Kill	Winter Kill	Winter Kill	Winter Kill	Survival	Winter Kill
		0-9	%	0-9	0-9	%	0-9
1	Caldwell	0.3	0	2	5	88.8	1
2	Foster	0.5	0	3	5	77.5	4
3	Patton	0.8	0	2	3	90.0	1
4	Roane	1.0	0	3	5	73.8	1
5	MO980829	1.3	0	2	4	67.5	7
6	T141	0.3	0	3	2	91.3	1
7	AR 93027-3-2	1.0	0	3	6	73.8	1
8	MV 5-46	1.5	0	4	8	8.8	6
9	MSU Line E1007	0.5	0	3	3	94.8	1
10	IL99-15867	1.3	0	3	5	78.8	1
11	OH751	1.3	0	3	4	57.5	1
12	M00-3701	1.5	0	1	6	76.3	1
13	X00-1079	1.0	0	3	4	95.0	1
14	96229-3E39	1.5	8	3	8	20.0	6
15	961395-3E25	1.3	8	2	6	35.0	7
16	B990081	0.5	0	1	4	83.8	1
17	B990133	0.5	0	2	3	87.5	1
18	B990399	1.0	0	2	5	80.0	1
19	MSU Line D8006-R	0.5	0	4	4	81.3	1
20	AR 850-1-1	1.0	0	2	3	91.3	1
21	M01-4377	1.3	0	2	6	70.0	1
22	M01*1019	1.5	0	4	6	32.5	5
23	Y00*3067	0.5	0	1	4	80.0	1
24	X00-1056	2.3	0	1	5	86.3	1
25	93C-0004-22-1	1.3	0	1	4	77.5	1
26	97C-0232-2	1.5	0	2	6	57.5	1
27	VA02W-398	1.5	42	6	8	5.5	5
28	VA02W-513	1.0	0	3	7	67.5	1
29	VA02W-555	1.5	25	4	8	21.3	7
30	Nomad exp.	1.5	0	1	3	81.3	1
31	Samco exp.	0.8	0	2	3	86.3	1
32	Bingo exp.	1.8	0	3	3	87.5	1
33	97397J1-4-1-4-7	1.8	0	2	3	93.0	1
34	97462A1-21-1-5-2	1.5	0	2	4	90.0	1
35	981312A1-6-2-2	1.3	0	1	5	47.5	1
36	T148	1.3	0	2	6	65.0	1
37	OH776	1.3	0	1	5	83.8	1
38	OH768	1.0	0	2	4	71.3	1
39	IL99-26442	1.3	0	2	4	91.3	1
40	IL00-8061	1.0	0	1	5	86.3	1
41	G20412	1.3	0	1	6	85.0	1
42	G20536	1.5	0	2	6	83.8	1
43	G20433	1.0	0	2	5	83.8	1
LOCATION MEANS		1.1	1.9	2.3	4.9	71.8	1.9

WINTER DAMAGE

		Dundee MI	Ithaca NY	Wooster OH	Nairn ON	Arlington WI	Oconto WI
		Moreno	Sorrells	Fioritto	Etienne	Borges	Cisar
		Winter Kill	Winter Kill	Winter Kill	Survival	Winter Kill	Winter Kill
		0-9	0-9	0-9	%	0-9	0-9
1	Caldwell	3.0	0.3	0.1	91.0	5.0	3.3
2	Foster	4.5	0.2	0.2	90.3	7.8	3.0
3	Patton	3.0	0.3	0.1	91.0	6.6	4.3
4	Roane	3.5	0.0	0.1	88.3	6.2	5.0
5	MO980829	3.5	0.9	0.2	90.0	6.9	5.7
6	T141	2.5	1.1	0.4	90.0	6.3	4.7
7	AR 93027-3-2	4.5	0.3	0.1	88.7	6.2	3.7
8	MV 5-46	7.0	0.0	1.0	86.3	8.7	8.7
9	MSU Line E1007	2.0	1.2	0.4	90.7	8.3	5.7
10	IL99-15867	3.0	0.4	0.2	91.3	4.8	6.0
11	OH751	2.5	0.0	0.2	90.3	4.8	4.7
12	M00-3701	3.5	0.2	0.2	88.7	7.5	5.0
13	X00-1079	2.5	0.0	0.2	91.7	4.5	4.3
14	96229-3E39	7.0	0.0	1.3	92.0	4.5	5.7
15	961395-3E25	4.0	0.2	0.2	91.7	3.8	6.7
16	B990081	2.0	0.0	0.1	92.7	4.2	5.3
17	B990133	3.5	0.0	0.2	93.0	3.3	6.0
18	B990399	2.5	0.0	0.2	92.7	5.0	7.0
19	MSU Line D8006-R	4.5	0.2	0.3	91.3	1.8	7.7
20	AR 850-1-1	3.0	0.0	0.2	90.3	0.3	5.0
21	M01-4377	3.0	0.0	0.2	94.0	2.3	4.3
22	M01*1019	3.5	0.0	0.4	91.3	5.1	6.0
23	Y00*3067	3.0	0.2	0.3	92.3	2.9	2.3
24	X00-1056	2.0	0.0	0.2	96.0	1.2	4.3
25	93C-0004-22-1	5.0	0.0	0.3	90.3	3.3	7.3
26	97C-0232-2	4.5	0.0	0.2	78.0	4.4	8.0
27	VA02W-398	6.5	0.0	0.3	87.3	7.2	8.7
28	VA02W-513	4.0	0.0	0.3	90.3	0.5	7.3
29	VA02W-555	7.5	0.2	0.3	90.7	8.4	7.3
30	Nomad exp.	4.0	0.3	0.3	87.0	3.8	7.7
31	Samco exp.	4.0	0.5	0.3	88.7	2.1	7.3
32	Bingo exp.	2.5	0.2	0.2	89.7	1.5	6.3
33	97397J1-4-1-4-7	4.0	0.0	0.3	91.0	0.8	4.7
34	97462A1-21-1-5-2	2.5	0.0	0.3	89.3	0.9	5.0
35	981312A1-6-2-2	6.5	0.3	0.2	86.3	4.8	7.7
36	T148	3.5	0.0	0.2	88.3	3.9	6.7
37	OH776	3.5	0.0	0.1	89.0	1.5	7.3
38	OH768	2.5	0.0	0.2	90.0	0.8	5.7
39	IL99-26442	3.5	0.2	0.2	92.3	0.5	5.3
40	IL00-8061	4.0	0.2	0.2	95.0	0.3	2.3
41	G20412	3.5	0.2	0.5	93.3	0.3	5.0
42	G20536	4.5	0.0	0.4	94.0	3.2	3.7
43	G20433	3.0	0.0	0.2	93.7	0.9	5.3
LOCATION MEANS		3.8	0.2	0.3	90.5	3.9	5.7

LEAF RUST

		Quincy FL	Griffin GA	Greensburg IN	Wichita KS	Woodford Co. KY	Laporte MI
		Barnett	Johnson	Brown	Wilson	Van Sanford	Ward
		0-9		1-9	1-9	% flag	0-9
1	Caldwell	4	0	2	2	5	4.5
2	Foster	5	2	2	2	10	3.5
3	Patton	2	0	2	2	1	3.0
4	Roane	0	1	2	2	5	2.4
5	MO980829	1	1	2	2	3	3.0
6	T141	1	0	2	2	3	2.5
7	AR 93027-3-2	0	0	2	2	0	1.5
8	MV 5-46	1	1	2	2	5	1.0
9	MSU Line E1007	7	4	2	2	10	3.0
10	IL99-15867	1	0	2	2	0	1.0
11	OH751	7	9	2	2	1	3.5
12	M00-3701	6	3	2	2	1	3.5
13	X00-1079	7	5	2	2	1	3.5
14	96229-3E39	0	0	1	1	0	0.0
15	961395-3E25	0	0	1	2	0	1.0
16	B990081	0	0	1	2	0	0.5
17	B990133	0	0	2	2	0	1.0
18	B990399	1	3	3	1	1	2.0
19	MSU Line D8006-R	3	3	2	2	1	2.5
20	AR 850-1-1	1	4	2	2	1	3.0
21	M01-4377	3	4	2	2	5	4.0
22	M01*1019	0	0	1	2	1	1.0
23	Y00*3067	3	1	2	2	5	2.0
24	X00-1056	4	2	2	3	3	4.0
25	93C-0004-22-1	6	3	1	3	10	2.5
26	97C-0232-2	4	4	1	3	5	3.5
27	VA02W-398	0	0	1	2	0	1.0
28	VA02W-513	0	0	1	2	1	1.0
29	VA02W-555	0	2	1	2	3	1.5
30	Nomad exp.	3	3	2	2	15	4.0
31	Samco exp.	1	3	2	3	10	2.5
32	Bingo exp.	5	5	2	3	10	4.5
33	97397J1-4-1-4-7	1	4	1	2	1	1.5
34	97462A1-21-1-5-2	1	3	1	2	1	4.0
35	981312A1-6-2-2	0	3	1	2	5	1.5
36	T148	7	6	2	5	15	3.5
37	OH776	7	4	1	2	10	4.5
38	OH768	5	2	2	2	3	3.0
39	IL99-26442	6	0	1	3	1	3.0
40	IL00-8061	4	1	1	2	1	2.0
41	G20412	6	2	2	3	1	4.0
42	G20536	1	4	1	2	1	2.0
43	G20433	7	3	1	3	5	4.0
LOCATION MEANS		2.8	2.2	1.6	2.2	3.7	2.6
GROWTH STAGE / DATE		April 6		11/June11			

LEAF RUST

		St. Paul MN		Plymouth NC	Wooster OH	Blacksburg VA	Warsaw VA
		Kolmer		Murphy	Sneller	Griffey	Griffey
		% severity	IT		0-9	0-9	0-9
1	Caldwell	10	MR	1.5	3.0	3	0
2	Foster	30	MS	4.0	2.3	6	0
3	Patton	30	MR-MS	3.0	1.3	4	0
4	Roane	30	MS	3.5	1.0	3	0
5	MO980829	40	MR-MS	3.0	1.0	4	0
6	T141	40	MS	4.5	2.7	1	0
7	AR 93027-3-2	40	MS	0.0	0.7	0	0
8	MV 5-46	40	MS	4.0	1.0	3	0
9	MSU Line E1007	30	MS	3.5	1.3	4	0
10	IL99-15867	20	MS	0.0	0.7	2	0
11	OH751			0.5	0.3	2	0
12	M00-3701	20	MS	1.0	0.7	1	0
13	X00-1079	10	MR	3.0	1.0	4	0
14	96229-3E39			0.0	0.3	0	0
15	961395-3E25			0.5	0.0	0	0
16	B990081			0.0	0.7	0	0
17	B990133			0.0	1.3	0	0
18	B990399	20	R-MR	2.0	0.3	1	0
19	MSU Line D8006-R	10	R-MR	3.0	0.7	3	0
20	AR 850-1-1	20	MR-MS	4.0	0.7	3	0
21	M01-4377			4.0	2.0	5	0
22	M01*1019			4.0	0.0	0	0
23	Y00*3067	30	MS	2.5	0.0	1	0
24	X00-1056	50	MS	4.0	0.7	3	0
25	93C-0004-22-1	20	MS	4.5	3.7	4	0
26	97C-0232-2	30	MS	3.5	1.7	3	0
27	VA02W-398			0.5	0.3	0	0
28	VA02W-513			2.0	0.3	3	0
29	VA02W-555			5.0	1.7	2	0
30	Nomad exp.			4.5	2.7	7	0
31	Samco exp.	20	MS	4.0	4.0	5	0
32	Bingo exp.	20	R-MR	5.0	2.3	4	3
33	97397J1-4-1-4-7	20	MR-MS	4.0	0.0	3	0
34	97462A1-21-1-5-2			2.5	1.3	2	0
35	981312A1-6-2-2	20	MR	3.5	3.3	3	0
36	T148	40	MS	4.5	3.0	4	3
37	OH776	40	MS	4.0	3.7	5	3
38	OH768	5	MR	3.5	1.7	5	0
39	IL99-26442	30	MS	0.0	0.0	0	0
40	IL00-8061	20	R-MR	2.0	0.7	1	0
41	G20412	30	MS	3.5	0.7	5	0
42	G20536			1.5	0.3	3	0
43	G20433	50	MS	4.0	1.3	5	5
LOCATION MEANS		27.2		2.7	1.3	2.7	0.3
GROWTH STAGE / DATE							

LEAF RUST

Blacksburg
VA
Griffey

		LR05 TNRJ
1	Caldwell	3S
2	Foster	;1
3	Patton	;1
4	Roane	3S
5	MO980829	3S
6	T141	23;
7	AR 93027-3-2	3;
8	MV 5-46	;1
9	MSU Line E1007	3S
10	IL99-15867	;1
11	OH751	3S
12	M00-3701	3S
13	X00-1079	3S
14	96229-3E39	0;
15	961395-3E25	0;
16	B990081	23
17	B990133	23
18	B990399	;1
19	MSU Line D8006-R	3S
20	AR 850-1-1	3S
21	M01-4377	3S
22	M01*1019	23
23	Y00*3067	23
24	X00-1056	3S
25	93C-0004-22-1	3S
26	97C-0232-2	23
27	VA02W-398	3S
28	VA02W-513	;1=
29	VA02W-555	0;
30	Nomad exp.	;12
31	Samco exp.	23;
32	Bingo exp.	3;
33	97397J1-4-1-4-7	;1/23
34	97462A1-21-1-5-2	;1/3S
35	981312A1-6-2-2	2;
36	T148	3S
37	OH776	23
38	OH768	3S/0;
39	IL99-26442	3S
40	IL00-8061	3S
41	G20412	3S
42	G20536	3S/TR;1
43	G20433	3S

	LR gene	LR05 TNRJ
Lr differential	Tc Lr1	3S
Lr differential	Tc Lr2a	23
Lr differential	Tc Lr2c	2C
Lr differential	Tc Lr3a	3S
Lr differential	Tc Lr9	3S
Lr differential	Tc Lr16	12=C
Lr differential	Tc Lr24	3S
Lr differential	Tc Lr26	;1
Lr differential	Tc Lr3ka	3S
Lr differential	Tc Lr11	3S/0
Lr differential	Tc Lr17	;12
Lr differential	Tc Lr30	3S
Lr differential	Tc Lr18	;1
Lr differential	Tc Lr14a	3S
Lr differential	Tc Lr10	3S
Lr differential	Tc LrB	;12

LEAF RUST

St. Paul
MN
Long

		Reactions produced by NA race*										Postulated
		BBDB	NBBK	KDBG	KGBJ	MCRK	MLDS	TBBF	TLGJ	TNRJ	MCDS	Genes***
1	Caldwell	3	3	3	;1c	3	3	3	3	3	3	14a
2	Foster	;	;	;2c	;2c3	3	;1c	;	;-3	3-;	;-3	11,26
3	Patton	;	;1c	;2c3	;1c2	3	;1c	;	;-3	;1c	;	26
4	Roane	;-3	;-3	;1c2	;	;	3	3	;-3	;-3	;	+
5	MO980829	3	3	;2c3	;2c3	3	3	3	3	3	3	0
6	T141	;-3	3	3-;1c	;-3	3-;	3	3	3-;	;31c	;-3	0
7	AR 93027-3-2	;	;	3	3	;	;	;3	3	3	-	2a,+
8	MV 5-46	;1c	;	;1c2	;	;	2c;	;	;	;2c	;	+
9	MSU Line E1007	;	;	;	;	3	2c;	;1c3	3	3	;3	11,+
10	IL99-15867	;	;	;	;	;1c2	3	;	;	;1c	3	17
11	OH751	;	;	;	;	;	3	;	3	3	;	9
12	M00-3701	;	;	3	3	;	;2	;	3	3	;	2a,+
13	X00-1079	;	;	;	;	;	;1c-3	;1c	3	3	;	2a,9
14	96229-3E39	;	;	;	;	;	;1c	;	;	;1c	;	+
15	961395-3E25	;	;	;1c	;	;	;	;	;	;1c	;	+
16	B990081	31c;	31c;	;1c	;	3-;	3;	3	3;	;1c1	;1c3	1
17	B990133	;	;	;	;	;	3	;	3;	3	;	9
18	B990399	;1c	;	;1c2	;1c2	;	;1c	;	;	1c;2	;-3	+
19	MSU Line D8006-R	;	;1c	;	;	3	3	3	3	3	3	1,3
20	AR 850-1-1	;	;1c2	;1c1	;	;-3	;1c	;1c2	3;	3	3;	+
21	M01-4377	3	3	;2c	;1c	3	3;	3	3	3	3	14a
22	M01*1019	3	3	;2c	1;2	3	3	3	3	3	3	14a
23	Y00*3067	;	3-;	;1c3	;3	3	3	3	3	3	3	1
24	X00-1056	;	3	3	3	3	3	3	-	3	3	0
25	93C-0004-22-1	;	-	;1c	;1c	3	;	;	;	-	;	18,26
26	97C-0232-2	-	3	;2	;1c2	3	;1c-3	;	;-3	;-3	;	18
27	VA02W-398	;	;	;	;	;	3;	;	;	;	;	9,17
28	VA02W-513	;	;	;	;	;-3	;1c	;	;	;	;	+
29	VA02W-555	;	;	;	;	31c;	;1c	;	;	;	;	18,26
30	Nomad exp.	;	;	;1c2	;1c1	3	;1c	;	;	3;	;2c3	11,26
31	Samco exp.	;	;	;	;	;	;1c	;1c	;1c	;	;	+
32	Bingo exp.	;	;	;1c1	;3	;	;1c	;-3	;-3	;	;1c2	+
33	97397J1-4-1-4-7	;	;	;1c	;	;	;	;	;	;1c	;1c2	+
34	97462A1-21-1-5-2	;	;	;1c	;	3	;1c	;	;	;1c	;1c2	18,26
35	981312A1-6-2-2	;	;	;	-	;1c	;1c	;	;	;	;1c	+
36	T148	3	3	3	3	-	3	3	3	-	3	0
37	OH776	;	-	;	;	-	3;	;	3	;1c2	-	9,+
38	OH768	;	;	;	;-3	;	3-;	3;	3;	3;	3	17,+
39	IL99-26442	;	;1	3	3	;	;-3	3	3	3	;	2a,+
40	IL00-8061	;	3	;	;	3	3	3	3	-	3	1,+
41	G20412	;	3	2c3;	;1c23	3	3	3	3	3	3	1,+
42	G20536	;	3	;	;1c	3	3	3	;-3	3	;2c3	1
43	G20433	;	3	2c3;	;3	;-3	3	3	3	3	3	14a

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

**Virulence formula:

BBDB=14a
NBBK=1,2c,10,14a,18
KDBG=2a,2c,3,10,24
KGBJ=2a,2c,3,10,14a,16
MCRK=1,3,3ka,10,11,14a,18,26,30
MLDS=1,3,9,10,14a,17,B
TBBF=1,2a,2c,3,14a,18
TLGJ=1,2a,2c,3,9,10,11,14a
TNRJ=1,2a,2c,3,3ka,9,10,11,14a,24,30
MCDS=1,3,10,14a,17,26,B

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

Note: MCRK, MCDS, and TNRJ were the most commonly races identified in the US in 2004.

STEM RUST

St. Paul
MN

Yue Jin

		Seedling Reaction					Adult Field Reaction		
		01MN 84A-1-2	74MN 1049	03ND76C	77ND82A	99KS76A-1	Severity	Infection	winter kill
		TTTT	TPMK	QFCS	RCRS	RKQQ		response	%
1	Caldwell	S	2+/S	2-	S	S	40	MS-S	60
2	Foster	2-	2	2-	0;1	1+	5	R-MR	90
3	Patton	;1	2	2/S	0;/S	2/S	20	MS	70
4	Roane	S/;1	S	S	S	S	60	MS-S	60
5	MO980829	S	S	S	S	S	60	S	80
6	T141	2	S	1	2	2	5	R-MR	50
7	AR 93027-3-2	S	2	2-	S	S	30	MR-MS	70
8	MV 5-46	1+	2-	2-	;1/S	2	TR		99
9	MSU Line E1007	S	S	S	S	S	50	S	80
10	IL99-15867	S	2	2	S	2C	10	S	90
11	OH751	S	S	0;	S	S	5	MS	95
12	M00-3701	S	2	2	S	S	20	MS	95
13	X00-1079	S	S	S	S	S	70	S	90
14	96229-3E39	S	S	;	S	;			100
15	961395-3E25	;1	;1	0	0;	;			100
16	B990081	S	S	S	;23	S			100
17	B990133	S	S	;	S	S			100
18	B990399	2-	2	1+	1	1+	5	R-MR	80
19	MSU Line D8006-R	-	S	S	0	0	20	MS	80
20	AR 850-1-1	S	S	2+	S	S	30	S	30
21	M01-4377	S	S	S	S	S	30	S	100
22	M01*1019	S	;	0	;	S			100
23	Y00*3067	S	S	S	S	S	60	S	80
24	X00-1056	S	S	S	S	;	60	S	70
25	93C-0004-22-1	-	S/2	S	S	S	50	S	90
26	97C-0232-2	0/S	;1	S	0	S	20	MS	90
27	VA02W-398	S	S	;1	S	S			99
28	VA02W-513	0;/S	S	0;	S	S	10	S	99
29	VA02W-555	0;	0;	0	0;/1	0/;			100
30	Nomad exp.	2-	2	;1	1	0;			100
31	Samco exp.	S	S	-	S	S	40	S	60
32	Bingo exp.	-	1	1+	1/S	1	5	R	80
33	97397J1-4-1-4-7	0	0/2	0	0	0;	0		90
34	97462A1-21-1-5-2	0;1	-	;	0;/S	1			100
35	981312A1-6-2-2	S	2	1N	S	S	30	S	95
36	T148	S	S	S	S	S	30	MS	90
37	OH776	S	S	S	S	S	40	S	98
38	OH768	-	S	S	-	S	40	S	95
39	IL99-26442	S	2-	2	S	S	60	S	50
40	IL00-8061	S	S	S	S	S	80	S	70
41	G20412	S	2+	2	S	S	40	MS-S	70
42	G20536	S	-	S	S	S	50	S	99
43	G20433	S	2/S	2	S	S	50	MS	40
DATE		1/27/2005	1/27/05	2/28/2005	3/1/2005	3/1/2005			

"/" indicates a mixture of plants, predominant type listed first. "S" indicate susceptible, including infection types 3 or 4.
Bulk of races for field inoculation: MCCF, QFCS, QTHJ, RCRS, RKQQ, TPMK, TTTT.

STRIPE RUST

		Bay AR		Fayetteville AR		Quincy FL	Griffin GA
		Hancock		Milus		Barnett	Johnson
		1-9	%	%	total leaf area	0-9	
1	Caldwell	9.0	15	50	93	3	1
2	Foster	9.0	30	50	98	4	5
3	Patton	9.0	15	50	98	4	6
4	Roane	5.3	2	7	50	3	2
5	MO980829	2.7	0	0	50	1	1
6	T141	2.3	0	0,50	30	1	0
7	AR 93027-3-2	7.0	2	15	93	4	2
8	MV 5-46	9.0	7	30	98	3	2
9	MSU Line E1007	9.0	2	15	93	1	5
10	IL99-15867	8.7	7	30	93	2	3
11	OH751	9.0	2	15	93	1	
12	M00-3701	3.3	0	0	70	1	0
13	X00-1079	4.7	0	7	85	0	3
14	96229-3E39	3.0	0	0	30	0	0
15	961395-3E25	2.3	0	0	70	0	2
16	B990081	6.0	0	2	50	0	1
17	B990133	3.7	0	0	30	0	0
18	B990399	4.0	2	0	50	0	2
19	MSU Line D8006-R	4.7	2	2	70	0	1
20	AR 850-1-1	2.3	0	0	30	0	0
21	M01-4377	2.7	0	0	30	0	0
22	M01*1019	4.3	0	0	50	0	0
23	Y00*3067	9.0	7	50	98	2	5
24	X00-1056	5.7	0	2	50	2	1
25	93C-0004-22-1	3.3	0	0	30	1	1
26	97C-0232-2	3.7	0	0	30	0	0
27	VA02W-398	8.7	7	15	93	2	3
28	VA02W-513	5.3	0	0	50	1	2
29	VA02W-555	3.0	0	0	30	0	0
30	Nomad exp.	9.0	30	70	98	1	5
31	Samco exp.	3.0	0	0	50	0	0
32	Bingo exp.	9.0	30	50	98	2	3
33	97397J1-4-1-4-7	8.0	7	15	85	2	3
34	97462A1-21-1-5-2	9.0	30	70	93	5	8
35	981312A1-6-2-2	5.0	7	7	50	1	2
36	T148	3.3	0	0	50	1	0
37	OH776	7.7	2	7	70	0	2
38	OH768	7.7	15	30	85	2	3
39	IL99-26442	3.3	0	0	30	1	0
40	IL00-8061	5.3	2	15	93	1	2
41	G20412	3.3	2	7	85	3	1
42	G20536	3.7	15	15	85	1	0
43	G20433	9.0	50	70	98	1	8
LOCATION MEANS		5.7	6.7		67.6	1.3	2.0
GROWTH STAGE / DATE			April 27	May 4	May 19	April 6	

STRIPE RUST

		Urbana IL	Greensburg IN	Wichita KS	Winfield KS	Logan Co. KY	Columbia MO
		Kolb	Brown	Wilson	Perry	Van Sanford	McKendry
		0-9	1-9	1-9	0-5	0-5	% canopy
1	Caldwell	5	5	4	4	4	1
2	Foster	6	9	4	5	5	4
3	Patton	5	7	4	5	5	10
4	Roane	3	2	2	4	2	0
5	MO980829	2	2	2	4	0	0
6	T141	1	2	2	3	0	0
7	AR 93027-3-2	2	3	3	5	1	0
8	MV 5-46	6	3	4	5	5	13
9	MSU Line E1007	5	3	4	5	5	2
10	IL99-15867	4	3	4	4	4	1
11	OH751	4	2	5	4	3	2
12	M00-3701	1	2	3	2	0	0
13	X00-1079	4	3	4	4	0	0
14	96229-3E39	1	1	1	2	0	0
15	961395-3E25	3	2	2	4	0	0
16	B990081	3	1	3	4	0	0
17	B990133	2	1	4	3	0	0
18	B990399	3	4	4	5	0	0
19	MSU Line D8006-R	3	2	1	5	1	0
20	AR 850-1-1	2	2	1	2	1	0
21	M01-4377	1	2	1	2	0	0
22	M01*1019	0	1	1	3	0	0
23	Y00*3067	2	3	4	5	2	0
24	X00-1056	1	2	3	5	0	0
25	93C-0004-22-1	2	1	2	2	1	0
26	97C-0232-2	2	1	3	1	0	0
27	VA02W-398	4	3	5	5	1	1
28	VA02W-513	2	2	3	4	0	0
29	VA02W-555	1	1	1	1	0	0
30	Nomad exp.	5	3	5	5	5	7
31	Samco exp.	1	2	2	2	0	0
32	Bingo exp.	5	3	5	5	4	2
33	97397J1-4-1-4-7	4	3	5	5	1	0
34	97462A1-21-1-5-2	7	8	5	5	5	10
35	981312A1-6-2-2	4	3	1	5	0	0
36	T148	1	2	2	2	1	0
37	OH776	3	2	5	5	1	0
38	OH768	5	3	2	5	3	1
39	IL99-26442	0	1	3	3	0	0
40	IL00-8061	2	1	3	4	0	0
41	G20412	2	3	3	4	0	1
42	G20536	2	2	3	4	1	0
43	G20433	5	5	3	5	5	2
LOCATION MEANS		2.9	2.7	3.0	3.9	1.5	1.3
GROWTH STAGE / DATE			11/June 11				

STRIPE RUST

		Mead NE	Wooster OH	Wellington CO	Wellington CO	Vega TX
		Baenziger	Sneller	Cisar	Cisar	Cisar
			0-9			
1	Caldwell	9	0.3	7	7	8
2	Foster	9	1.3	8	9	8
3	Patton	9	0.7	7	9	7
4	Roane	9	0.3	2	3	3
5	MO980829	3	0.0	7	9	4
6	T141	1	1.0	2	7	4
7	AR 93027-3-2	5	0.7	4	8	5
8	MV 5-46	9	1.0	8	9	8
9	MSU Line E1007	9	1.0	5	7	7
10	IL99-15867	8	1.0	9	8	8
11	OH751	8	0.7	8	9	8
12	M00-3701	2	0.3	0	0	1
13	X00-1079	3	0.0	2	8	6
14	96229-3E39	1	0.0	0	1	0
15	961395-3E25	1	0.3	2	6	0
16	B990081	5	0.3	3	5	4
17	B990133	1	0.0	0	1	0
18	B990399	5	0.7	1	7	0
19	MSU Line D8006-R	3	0.3	2	4	3
20	AR 850-1-1	1	0.0	1	2	3
21	M01-4377	1	0.0	0	0	0
22	M01*1019	1	0.0	0	0	2
23	Y00*3067	9	0.7	3	8	2
24	X00-1056	5	0.0	9	9	6
25	93C-0004-22-1	4	0.3	1	1	2
26	97C-0232-2	3	0.0	0	0	1
27	VA02W-398	9	1.7	9	9	7
28	VA02W-513	3	0.3	7	4	1
29	VA02W-555	1	0.0	0	0	0
30	Nomad exp.	4	1.0	7	9	6
31	Samco exp.	1	0.7	0	0	0
32	Bingo exp.	5	1.0	7	9	5
33	97397J1-4-1-4-7	7	0.7	3	7	4
34	97462A1-21-1-5-2	9	1.0	9	9	8
35	981312A1-6-2-2	6	0.0	3	6	7
36	T148	2	0.0	1	0	0
37	OH776	3	0.0	3	7	2
38	OH768	8	1.0	6	9	7
39	IL99-26442	1	0.0	0	0	0
40	IL00-8061	3	0.3	1	3	4
41	G20412	8	0.0	0	0	5
42	G20536	8	0.3	9	9	6
43	G20433	9	0.7	3	8	8
	LOCATION MEANS	4.9	0.5	3.7	5.3	4.0
	GROWTH STAGE / DATE			early	late	

STRIPE RUST

		Pullman WA Chen		Mt. Vernon WA Chen			
		IT 0-8	%	IT 0-8	%	IT 0-8	%
1	Caldwell						
2	Foster						
3	Patton						
4	Roane						
5	MO980829						
6	T141						
7	AR 93027-3-2						
8	MV 5-46						
9	MSU Line E1007						
10	IL99-15867						
11	OH751						
12	M00-3701						
13	X00-1079						
14	96229-3E39	8	20	5	40	5	50
15	961395-3E25	8	90	5	30	2	20
16	B990081	8	100	8	80	8	95
17	B990133	8	50	8	80	8	90
18	B990399	8	90	5	40	2	10
19	MSU Line D8006-R	8	100	5	40	2	20
20	AR 850-1-1	8	90	5	20	2	2
21	M01-4377	8	10	5	40	2	5
22	M01*1019	5	30	2	10	2	2
23	Y00*3067	8	100	8	100	8	100
24	X00-1056	8	100	8	100	8	100
25	93C-0004-22-1	8	70	8	40	8	60
26	97C-0232-2	8	70	5	60	5	40
27	VA02W-398	8	100	8	100	8	100
28	VA02W-513	8	90	8	40	8	100
29	VA02W-555	5	10	5	20	2	2
30	Nomad exp.	8	100	8	100	8	100
31	Samco exp.	8	40	8	10	2	40
32	Bingo exp.	8	100	8	100	8	100
33	97397J1-4-1-4-7	8	100	8	100	8	100
34	97462A1-21-1-5-2	8	100	8	100	8	100
35	981312A1-6-2-2	8	100	8	100	5	40
36	T148	8	60	5	20	2	30
37	OH776	8	100	8	100	8	100
38	OH768	8	100	5	60	8	90
39	IL99-26442	2	10	2	10	2	2
40	IL00-8061	8	100	8	100	8	100
41	G20412	8	90	8	100	8	100
42	G20536	8	100	5	40	5	20
43	G20433	8	100	8	80	8	100

LOCATION MEANS

GROWTH STAGE / DATE June 16 - Boot/headed April 22 - Stem elongation May 25 - Heading

SEPTORIA

		Logan Co. KY	Plymouth NC	Nairn ON
		Van Sanford	Murphy	Etienne
		tritici	nodorum	tritici
		0-9	Glume Blotch	Leaf Blotch
1	Caldwell	5	8.0	7.0
2	Foster	5	6.5	6.0
3	Patton	5	7.0	6.3
4	Roane	5	5.5	7.0
5	MO980829	4	4.0	6.0
6	T141	4	6.0	5.7
7	AR 93027-3-2	5	6.5	6.7
8	MV 5-46	4	6.5	6.0
9	MSU Line E1007	5	6.0	7.0
10	IL99-15867	5	5.0	7.0
11	OH751	5	5.5	5.7
12	M00-3701	5	5.5	6.7
13	X00-1079	5	7.0	6.0
14	96229-3E39	3	3.5	5.0
15	961395-3E25	3	3.5	5.7
16	B990081	4	4.5	6.0
17	B990133	5	6.5	5.0
18	B990399	4	7.0	5.7
19	MSU Line D8006-R	6	7.5	5.3
20	AR 850-1-1	5	7.0	6.7
21	M01-4377	3	5.0	6.7
22	M01*1019	5	8.5	6.7
23	Y00*3067	5	8.0	6.3
24	X00-1056	5	4.5	6.7
25	93C-0004-22-1	5	7.5	5.3
26	97C-0232-2	4	7.5	6.0
27	VA02W-398	6	7.0	7.3
28	VA02W-513	5	6.0	6.0
29	VA02W-555	4	7.5	5.0
30	Nomad exp.	4	8.0	5.7
31	Samco exp.	6	9.0	7.0
32	Bingo exp.	5	7.0	6.3
33	97397J1-4-1-4-7	5	5.5	6.7
34	97462A1-21-1-5-2	4	5.0	5.7
35	981312A1-6-2-2	4	7.0	6.0
36	T148	6	8.5	7.3
37	OH776	6	4.0	7.7
38	OH768	5	3.5	6.0
39	IL99-26442	4	4.0	7.0
40	IL00-8061	3	5.5	6.3
41	G20412	5	5.5	6.7
42	G20536	5	7.0	7.3
43	G20433	5	3.0	8.0
LOCATION MEANS		4.7	6.1	6.3

FUSARIUM HEAD BLIGHT (SCAB)

		Urbana IL Kolb FHB Evaluation Nursery (Mist-Irrigated)					Urbana IL Kolb Spray/Bay Inoculation		
		FHB Incid. %	FHB Severity %	FHB Index 0-100	Kernel Rating % FDK	ISK Index 0-100	FHB Incid. %	FHB Severity %	FHB Index 0-100
1	Caldwell	46.0	59.9	24.0	47	50.4	5.0	50.4	2.6
2	Foster	25.0	59.1	15.1	20	33.2	3.0	22.4	0.8
3	Patton	56.7	49.4	28.0	50	51.8	15.0	43.1	7.1
4	Roane	24.0	52.4	11.2	23	32.2	1.0	18.5	0.2
5	MO980829	6.3	26.8	2.0	20	17.9	1.0	14.0	0.2
6	T141	43.3	68.9	31.4	47	52.4	5.0	43.2	2.2
7	AR 93027-3-2	80.0	58.4	46.8	40	57.5	80.0	100.0	80.0
8	MV 5-46	90.0	56.4	51.1	77	74.6	45.0	75.3	37.6
9	MSU Line E1007	90.0	56.4	50.8	73	73.3	32.5	56.6	19.3
10	IL99-15867	45.0	43.9	20.5	23	36.0	3.0	16.1	0.6
11	OH751	71.7	45.7	35.6	40	51.2	7.5	28.7	2.1
12	M00-3701	60.0	59.5	35.4	43	53.2	47.5	79.7	43.5
13	X00-1079	63.3	54.7	37.0	73	64.8	1.0	14.3	0.2
14	96229-3E39	80.0	73.8	59.8	85	80.1	5.5	59.0	2.5
15	961395-3E25	80.0	57.0	47.1	70	69.1	10.5	53.9	8.9
16	B990081	50.0	47.8	23.0	37	44.0	10.0	36.5	3.7
17	B990133	11.7	45.7	6.6	20	25.2	32.5	58.3	20.1
18	B990399	56.7	70.2	43.9	73	67.4	5.5	40.8	2.1
19	MSU Line D8006-R	80.0	66.5	51.3	67	70.6	12.5	48.1	8.9
20	AR 850-1-1	70.0	78.8	55.7	57	67.3	1.0	57.0	0.6
21	M01-4377	46.7	51.8	24.7	20	37.5	5.5	21.9	1.6
22	M01*1019	60.0	51.9	29.5	77	64.2	22.5	81.0	18.2
23	Y00*3067	56.7	71.6	40.6	20	46.5	50.0	91.0	43.3
24	X00-1056	38.3	33.0	16.2	33	34.7	1.0	3.5	0.1
25	93C-0004-22-1	93.3	49.5	46.5	60	66.8	30.5	58.4	27.3
26	97C-0232-2	43.3	41.9	19.1	43	42.9	45.0	84.0	42.6
27	VA02W-398	73.3	71.0	50.7	85	77.3	52.5	99.0	52.2
28	VA02W-513	55.0	62.4	37.3	70	63.2	62.5	84.8	54.9
29	VA02W-555	40.0	46.1	19.8	57	48.5	80.0	100.0	80.0
30	Nomad exp.	35.0	66.0	23.5	63	55.6	77.5	100.0	77.5
31	Samco exp.	50.0	54.2	26.5	57	53.9	77.5	98.0	76.0
32	Bingo exp.	76.7	50.6	39.6	67	64.9	3.0	55.8	1.7
33	97397J1-4-1-4-7	4.0	13.4	0.5	23	14.5	12.5	27.0	4.4
34	97462A1-21-1-5-2	3.7	30.7	1.0	23	19.7	27.5	25.6	6.8
35	981312A1-6-2-2	30.0	31.3	8.1	50	38.4	30.0	81.2	28.1
36	T148	56.7	70.3	42.4	60	62.1	20.0	77.7	17.0
37	OH776	50.0	66.8	33.2	53	56.4	1.0	21.6	0.3
38	OH768	56.7	50.1	29.3	57	54.7	1.0	29.1	0.3
39	IL99-26442	46.7	49.2	26.6	20	36.8	1.0	7.0	0.1
40	IL00-8061	6.7	40.3	2.8	23	23.4	3.0	30.3	1.4
41	G20412	15.0	57.6	8.8	33	35.1	5.5	27.3	2.8
42	G20536	50.0	65.6	31.0	30	46.7	10.0	38.0	3.8
43	G20433	23.3	75.4	17.2	12	34.3	5.0	14.0	0.8
LOCATION MEANS		49.8	54.2	29.1	47.0	50.0	22.0	50.5	18.2
LSD (.05)		32.3	22.8	23.7	20.0	16.6			
CV %		40.6	26.3	50.9	26.7	20.8	69.7	43.9	87.9
REPS				Sisson standard below:			2		
		70.2	55.0	41.0	57.7	60.7			
GROWTH STAGE / DATE									

FUSARIUM HEAD BLIGHT (SCAB)

		W. Lafayette IN Ohm		Laporte MI Ward	
		Mean no. diseased Spikelets	Incidence (% of spikes)	Severity (% within spikes)	Index (% overall infection)
1	Caldwell	3.4	81.3	60.5	51.0
2	Foster	5.4	82.1	24.9	20.9
3	Patton	4.7	84.4	30.1	26.3
4	Roane	2.1	78.9	17.0	13.3
5	MO980829	4.5	49.8	19.2	11.2
6	T141	4.8	83.4	46.8	40.5
7	AR 93027-3-2	6.1	77.7	46.1	37.4
8	MV 5-46	1.5a	89.4	46.8	42.1
9	MSU Line E1007	2.5	86.5	46.7	40.3
10	IL99-15867	1.1	73.6	13.3	9.5
11	OH751	3.0	81.6	25.1	21.0
12	M00-3701	2.7	78.4	27.0	21.2
13	X00-1079	2.5	75.5	16.7	12.9
14	96229-3E39	7.2	86.0	49.4	44.6
15	961395-3E25	2.1	87.0	49.8	44.5
16	B990081	2.0	85.7	23.7	21.1
17	B990133	2.3	76.7	23.0	17.7
18	B990399	6.0	69.7	63.1	43.5
19	MSU Line D8006-R	3.6	75.1	56.6	44.9
20	AR 850-1-1	3.4	68.7	40.2	27.4
21	M01-4377	4.0	87.3	26.2	23.3
22	M01*1019	2.6	92.6	46.3	42.1
23	Y00*3067	4.0	91.7	42.9	38.8
24	X00-1056	1.4	66.1	16.3	10.9
25	93C-0004-22-1	1.1	77.2	40.2	29.9
26	97C-0232-2	1.1	88.1	23.2	20.6
27	VA02W-398	3.0	88.7	44.7	40.4
28	VA02W-513	3.8	84.0	40.0	34.5
29	VA02W-555	0.7	86.9	35.6	31.8
30	Nomad exp.	3.6	85.9	36.4	30.6
31	Samco exp.	7.7	89.9	53.9	48.4
32	Bingo exp.	4.9	77.1	53.5	43.6
33	97397J1-4-1-4-7	1.0	68.1	16.2	11.2
34	97462A1-21-1-5-2	1.2	86.4	14.6	13.0
35	981312A1-6-2-2	0.9	71.4	29.6	20.9
36	T148	5.0	91.6	73.0	67.1
37	OH776	6.9	83.4	32.9	26.5
38	OH768	3.6	79.5	26.4	21.3
39	IL99-26442	4.4	71.3	43.8	30.7
40	IL00-8061	1.9	78.2	23.5	19.1
41	G20412	4.9	85.9	33.8	29.7
42	G20536	2.3	79.8	33.8	28.4
43	G20433	3.8	82.5	40.3	30.7
LOCATION MEANS		3.2	80.6	35.9	29.5
LSD (.05)		2.2	20.3	20.7	19.7
CV %		65.8	13.0	33.7	38.5
REPS		8			

a) 2 spikes inoc.

GROWTH STAGE / DATE Julian 177

POWDERY MILDEW

		Quincy FL	Greensburg IN	Woodford Co. KY	Laporte MI	Wooster OH	Nairn ON
		Barnett	Brown	Van Sanford	Ward	Sneller	Etienne
		0-9	1-9	0-9	0-9	0-9	
1	Caldwell	0	6	6	5.5	1.0	3.7
2	Foster	0	4	5	3.0	1.7	1.7
3	Patton	0	5	3	6.1	1.0	1.0
4	Roane	0	5	4	3.4	1.0	0.3
5	MO980829	1	4	4	5.1	1.0	0.7
6	T141	1	1	3	1.0	0.0	0.0
7	AR 93027-3-2	1	1	3	5.6	1.0	2.7
8	MV 5-46	0	1	1	0.9	0.0	1.0
9	MSU Line E1007	0	1	3	4.3	0.0	1.3
10	IL99-15867	0	5	6	5.5	1.7	1.0
11	OH751	0	1	3	1.5	0.7	0.3
12	M00-3701	0	1	3	0.8	0.0	1.0
13	X00-1079	0	6	5	1.6	1.0	1.0
14	96229-3E39	0	1	0	1.0	1.0	0.7
15	961395-3E25	1	1	3	2.4	0.3	1.3
16	B990081	0	3	2	2.1	1.3	0.7
17	B990133	0	1	2	1.2	0.3	1.3
18	B990399	1	1	3	3.7	1.3	1.0
19	MSU Line D8006-R	0	1	2	1.5	0.0	0.3
20	AR 850-1-1	2	6	4	4.5	1.0	1.0
21	M01-4377	0	7	4	3.6	0.3	2.3
22	M01*1019	3	1	4	4.2	3.3	1.3
23	Y00*3067	3	8	8	7.2	2.3	4.0
24	X00-1056	0	1	5	3.6	2.0	3.0
25	93C-0004-22-1	0	3	4	2.9	0.3	1.3
26	97C-0232-2	0	1	2	1.9	0.3	1.7
27	VA02W-398	0	1	1	0.9	0.0	1.0
28	VA02W-513	0	1	1	1.0	0.0	1.0
29	VA02W-555	0	1	3	1.2	0.0	0.3
30	Nomad exp.	2	9	6	5.7	3.0	3.3
31	Samco exp.	0	1	2	1.6	0.3	1.0
32	Bingo exp.	0	5	4	2.9	0.3	0.3
33	97397J1-4-1-4-7	0	1	3	2.0	0.3	0.7
34	97462A1-21-1-5-2	0	1	4	2.4	1.0	0.7
35	981312A1-6-2-2	0	1	4	5.0	1.0	1.3
36	T148	0	1	3	3.7	0.3	0.7
37	OH776	0	4	3	3.5	0.3	0.0
38	OH768	0	1	3	4.4	0.0	0.7
39	IL99-26442	0	6	4	7.0	2.3	2.0
40	IL00-8061	1	6	3	6.6	2.7	2.0
41	G20412	0	6	3	3.5	1.0	1.3
42	G20536	1	8	5	6.2	1.3	1.0
43	G20433	0	3	5	3.6	3.3	1.3
LOCATION MEANS		0.4	3.1	3.5	3.4	1.0	1.3
GROWTH STAGE / DATE		April 6	11/May 31				

POWDERY MILDEW

		Ridgetown ON	Blacksburg VA	Warsaw VA
		Smid	Griffey	Griffey
		0-9	0-9	0-9
1	Caldwell	2.5	1	4
2	Foster	2.0	1	2
3	Patton	2.5	0	3
4	Roane	2.0	0	2
5	MO980829	2.5	0	2
6	T141	0.0	0	0
7	AR 93027-3-2	2.0	1	3
8	MV 5-46	0.0	0	0
9	MSU Line E1007	1.5	0	1
10	IL99-15867	2.5	0	3
11	OH751	0.5	0	1
12	M00-3701	0.5	0	1
13	X00-1079	4.0	2	4
14	96229-3E39	0.0	0	0
15	961395-3E25	0.5	0	1
16	B990081	0.5	0	1
17	B990133	0.0	0	0
18	B990399	1.0	0	1
19	MSU Line D8006-R	0.0	0	0
20	AR 850-1-1	1.0	0	3
21	M01-4377	2.5	0	4
22	M01*1019	2.5	0	3
23	Y00*3067	5.0	0	6
24	X00-1056	2.0	0	5
25	93C-0004-22-1	0.5	0	1
26	97C-0232-2	0.0	0	1
27	VA02W-398	0.0	0	0
28	VA02W-513	0.0	0	1
29	VA02W-555	0.0	0	0
30	Nomad exp.	4.0	2	4
31	Samco exp.	0.5	0	0
32	Bingo exp.	1.0	0	1
33	97397J1-4-1-4-7	0.5	0	0
34	97462A1-21-1-5-2	1.0	0	1
35	981312A1-6-2-2	2.5	0	2
36	T148	1.5	0	0
37	OH776	0.5	0	1
38	OH768	1.5	0	2
39	IL99-26442	3.5	2	5
40	IL00-8061	3.5	0	3
41	G20412	2.5	0	2
42	G20536	3.5	0	5
43	G20433	3.5	0	2
LOCATION MEANS		1.6	0.2	1.9
GROWTH STAGE / DATE				

POWDERY MILDEW

Blacksburg
VA

Griffey

		PM05 Comp
1	Caldwell	34
2	Foster	0
3	Patton	01/4
4	Roane	4
5	MO980829	4
6	T141	0/TR4
7	AR 93027-3-2	4
8	MV 5-46	23
9	MSU Line E1007	34
10	IL99-15867	4
11	OH751	34
12	M00-3701	01/4
13	X00-1079	4
14	96229-3E39	0/TR4
15	961395-3E25	0
16	B990081	4
17	B990133	4
18	B990399	34
19	MSU Line D8006-R	23
20	AR 850-1-1	4
21	M01-4377	4
22	M01*1019	4
23	Y00*3067	4
24	X00-1056	3
25	93C-0004-22-1	0/TR4
26	97C-0232-2	34
27	VA02W-398	23
28	VA02W-513	3
29	VA02W-555	34
30	Nomad exp.	4
31	Samco exp.	34
32	Bingo exp.	0/TR4
33	97397J1-4-1-4-7	4
34	97462A1-21-1-5-2	4
35	981312A1-6-2-2	4
36	T148	4
37	OH776	4
38	OH768	4
39	IL99-26442	4
40	IL00-8061	4
41	G20412	34
42	G20536	4
43	G20433	4

		PM gene	PM05 Comp
Pm differential	Chancellor	Susc	4
Pm differential	Axminster	Pm 1	3
Pm differential	C68-15*7/CI 13836	Pm 1	3
Pm differential	Ulka	Pm 2	4
Pm differential	Asosan	Pm 3a	4
Pm differential	Chul	Pm 3b	1
Pm differential	Sonora*	Pm 3c	4
Pm differential	C68-15*6/Sonora	Pm 3c	4
Pm differential	C68-15*6/Trit	Pm 3c	34
Pm differential	Michigan Amber	Pm 3f	4
Pm differential	Yuma	Pm 4a	4
Pm differential	C68-15*5/Yuma	Pm 4a	4/1
Pm differential	C68-15*5/Kapli	Pm 4a	4/1
Pm differential	Ronos	Pm 4b	4
Pm differential	Hope	Pm 5	34
Pm differential	C747*	Pm 6	4
Pm differential	Transec*	Pm 7	4
Pm differential	C68-15*7/Transec	Pm 7	3
Pm differential	Federation/Kavkaz	Pm 8	12
Pm differential	Amigo	Pm 17	0
Pm differential	C68-15*5//747/Amigo	Pm 17	0

CEPHALOSPORIUM STRIPE

		Dundee MI Moreno
1	Caldwell	4.5
2	Foster	5.0
3	Patton	2.0
4	Roane	4.5
5	MO980829	5.0
6	T141	3.5
7	AR 93027-3-2	4.5
8	MV 5-46	2.5
9	MSU Line E1007	1.0
10	IL99-15867	1.0
11	OH751	1.5
12	M00-3701	1.5
13	X00-1079	1.0
14	96229-3E39	4.5
15	961395-3E25	1.0
16	B990081	1.0
17	B990133	1.5
18	B990399	1.0
19	MSU Line D8006-R	2.5
20	AR 850-1-1	4.5
21	M01-4377	4.5
22	M01*1019	8.0
23	Y00*3067	3.5
24	X00-1056	3.5
25	93C-0004-22-1	2.5
26	97C-0232-2	3.5
27	VA02W-398	2.0
28	VA02W-513	1.0
29	VA02W-555	1.5
30	Nomad exp.	2.0
31	Samco exp.	2.5
32	Bingo exp.	2.5
33	97397J1-4-1-4-7	2.5
34	97462A1-21-1-5-2	2.5
35	981312A1-6-2-2	1.0
36	T148	2.0
37	OH776	1.0
38	OH768	1.5
39	IL99-26442	2.0
40	IL00-8061	4.5
41	G20412	2.5
42	G20536	2.5
43	G20433	8.0
LOCATION MEANS		2.8

LEAF DISEASES

		Bay AR Hancock Septoria Glume Blotch & Bacterial Blight 1-9	Laporte MI Ward Leaf Blotch Complex 0-9
1	Caldwell	6.0	4.6
2	Foster	5.5	7.1
3	Patton	5.5	6.5
4	Roane	4.5	8.1
5	MO980829	2.5	5.5
6	T141	5.0	5.9
7	AR 93027-3-2	4.5	6.9
8	MV 5-46	4.0	8.5
9	MSU Line E1007	4.0	6.5
10	IL99-15867	5.5	7.0
11	OH751	3.5	6.9
12	M00-3701	4.0	4.9
13	X00-1079	5.5	4.9
14	96229-3E39	3.0	4.6
15	961395-3E25	3.5	3.1
16	B990081	5.0	5.1
17	B990133	5.0	7.8
18	B990399	4.0	7.5
19	MSU Line D8006-R	3.5	7.4
20	AR 850-1-1	4.5	4.0
21	M01-4377	5.0	6.9
22	M01*1019	4.0	6.6
23	Y00*3067	3.5	8.6
24	X00-1056	5.0	5.5
25	93C-0004-22-1	3.5	5.4
26	97C-0232-2	3.5	7.0
27	VA02W-398	5.0	7.6
28	VA02W-513	4.5	7.4
29	VA02W-555	4.0	7.5
30	Nomad exp.	5.0	7.5
31	Samco exp.	3.5	8.6
32	Bingo exp.	5.0	7.3
33	97397J1-4-1-4-7	6.0	7.5
34	97462A1-21-1-5-2	6.0	6.5
35	981312A1-6-2-2	6.0	2.9
36	T148	6.5	7.5
37	OH776	5.0	8.6
38	OH768	6.0	5.9
39	IL99-26442	4.5	7.4
40	IL00-8061	4.0	6.0
41	G20412	6.0	8.1
42	G20536	4.5	8.1
43	G20433	5.0	7.9
LOCATION MEANS		4.6	6.6

VIRUSES

		Bay AR	Urbana IL	Wichita KS	Winfield KS	Clarksville MD
		Hancock	Kolb	Wilson	Perry	Costa
		Wheat Spindle Streak	BYDV	Soilborne Mosaic	SSMV	WSSMV
		1-9	% stunting	1-9	0-5	0-9
1	Caldwell	5.5	20.5	4	2	4
2	Foster	4.5	21.8	3	2	1
3	Patton	3.0	22.9	2	3	7
4	Roane	4.5	19.2	5	1	6
5	MO980829	4.5	18.7	2	2	5
6	T141	2.5	11.9	1	1	1
7	AR 93027-3-2	3.5	18.6	5	3	9
8	MV 5-46	5.0	28.3	3	1	3
9	MSU Line E1007	3.0	28.9	1	1	1
10	IL99-15867	3.5	4.0	3	2	1
11	OH751	3.5	13.3	1	1	2
12	M00-3701	4.5	22.1	3	1	6
13	X00-1079	4.0	14.5	2	1	5
14	96229-3E39	5.0	0.0	5	3	5
15	961395-3E25	4.5		1	3	1
16	B990081	2.5	23.8	1	1	1
17	B990133	2.5	23.2	1	1	2
18	B990399	2.0	17.3	1	1	3
19	MSU Line D8006-R	2.0	17.7	2	1	6
20	AR 850-1-1	2.5	19.1	2	1	1
21	M01-4377	5.5	32.8	7	3	3
22	M01*1019	3.5	19.1	1	1	1
23	Y00*3067	3.0	12.9	1	1	5
24	X00-1056	4.0	27.0	2	1	1
25	93C-0004-22-1	3.5	30.3	2	1	6
26	97C-0232-2	3.0	21.2	2	2	1
27	VA02W-398	3.5	0.0	2	2	4
28	VA02W-513	4.0	28.9	2	1	1
29	VA02W-555	3.5	18.3	2	2	1
30	Nomad exp.	4.0	19.2	1	1	5
31	Samco exp.	2.5	36.8	2	3	5
32	Bingo exp.	3.0	24.7	3	1	4
33	97397J1-4-1-4-7	4.0	29.6	2	3	1
34	97462A1-21-1-5-2	3.0	28.3	1	1	2
35	981312A1-6-2-2	3.5	13.0	8	4	7
36	T148	3.0	19.3	2	1	5
37	OH776	6.0	20.0	2	1	1
38	OH768	2.5	20.6	6	4	5
39	IL99-26442	5.0	18.8	2	1	6
40	IL00-8061	5.0	16.0	3	3	5
41	G20412	4.5	26.8	2	1	9
42	G20536	5.5	11.0	5	2	9
43	G20433	4.0	43.0	9	4	6
	LOCATION MEANS	3.8	20.6	2.7	1.8	3.8
	GROWTH STAGE / DATE			11	5	

VIRUSES

		Plymouth NC Murphy Soil Virus Complex	Blacksburg VA Griffey BYDV 0-9
1	Caldwell	5.0	2.0
2	Foster	5.5	2.7
3	Patton	3.0	3.3
4	Roane	4.0	1.3
5	MO980829	6.5	2.3
6	T141	2.5	4.7
7	AR 93027-3-2	5.5	2.3
8	MV 5-46	5.0	3.0
9	MSU Line E1007	1.5	3.0
10	IL99-15867	3.5	2.7
11	OH751	2.5	3.3
12	M00-3701	3.0	2.7
13	X00-1079	2.0	2.0
14	96229-3E39	7.0	4.0
15	961395-3E25	6.0	3.3
16	B990081	4.5	3.0
17	B990133	2.0	4.0
18	B990399	2.0	4.0
19	MSU Line D8006-R	2.0	2.7
20	AR 850-1-1	1.0	1.3
21	M01-4377	6.0	2.3
22	M01*1019	4.0	2.3
23	Y00*3067	2.5	3.0
24	X00-1056	3.5	2.3
25	93C-0004-22-1	1.5	2.7
26	97C-0232-2	2.5	2.0
27	VA02W-398	1.5	3.7
28	VA02W-513	2.5	2.0
29	VA02W-555	1.5	3.0
30	Nomad exp.	3.0	4.0
31	Samco exp.	4.5	3.3
32	Bingo exp.	1.0	4.0
33	97397J1-4-1-4-7	2.0	3.7
34	97462A1-21-1-5-2	2.0	2.3
35	981312A1-6-2-2	6.0	3.3
36	T148	3.0	3.3
37	OH776	1.5	1.7
38	OH768	5.5	2.3
39	IL99-26442	1.5	3.0
40	IL00-8061	5.0	3.3
41	G20412	2.0	3.0
42	G20536	3.5	2.0
43	G20433	7.0	1.7
LOCATION MEANS		3.4	2.8
GROWTH STAGE / DATE			

HESSIAN FLY

W. Lafayette
IN
Cambron

		Biotype B	Biotype C	Biotype D	Biotype E	Biotype L
1	Caldwell	12-5	0-19	0-16	16-0	0-18
2	Foster	0-14	0-17	0-14	0-17	0-17
3	Patton	13-2	13-4	13-2	15-2	0-15
4	Roane	13-2	12-4	0-17	16-1	0-14
5	MO980829	0-18	0-17	0-17	0-12	0-15
6	T141	1-14	0-19	0-16	2-12	0-16
7	AR 93027-3-2	20-1	0-20	0-17	17-0	0-14
8	MV 5-46	0-20	0-15	0-13	1-12	0-15
9	MSU Line E1007	0-15	11-6	0-16	18-0	0-18
10	IL99-15867	0-17	0-19	0-19	11-5	0-21
11	OH751	0-18	1-14	0-15	0-14	0-15
12	M00-3701	16-2	0-17	0-16	15-0	0-20
13	X00-1079	0-17	0-16	0-17	1-17	0-17
14	96229-3E39	13-3	17-0	12-4	14-0	0-18
15	961395-3E25	0-16	0-19	0-14	0-14	0-15
16	B990081	15-0	0-16	0-16	12-1	0-17
17	B990133	19-0	0-15	0-14	15-0	0-18
18	B990399	0-15	0-16	0-15	0-17	0-14
19	MSU Line D8006-R	0-14	0-17	0-11	2-8	0-13
20	AR 850-1-1	0-17	0-15	0-16	0-17	0-19
21	M01-4377	16-1	3-16	0-20	18-0	0-19
22	M01*1019	0-18	0-16	0-17	0-16	0-18
23	Y00*3067	18-0	13-2	0-12	13-0	0-15
24	X00-1056	0-19	0-16	0-15	0-11	0-18
25	93C-0004-22-1	0-18	0-12	0-16	2-17	0-16
26	97C-0232-2	0-19	0-15	0-15	0-12	0-15
27	VA02W-398	0-18	0-20	0-13	0-19	0-22
28	VA02W-513	0-17	0-16	0-16	5-11	0-14
29	VA02W-555	0-18	0-19	0-15	0-19	0-20
30	Nomad exp.	0-13	0-19	0-11	0-10	0-16
31	Samco exp.	0-15	11-6	0-15	0-15	0-14
32	Bingo exp.	0-18	0-13	0-15	1-15	0-14
33	97397J1-4-1-4-7	17-0	15-0	10-0	11-0	0-16
34	97462A1-21-1-5-2	14-0	17-0	16-0	12-0	18-0
35	981312A1-6-2-2	0-18	4-11	0-14	0-10	0-16
36	T148	1-11	7-9	2-13	4-9	0-20
37	OH776	0-15	0-17	0-14	0-12	0-10
38	OH768	0-16	3-11	0-14	1-14	0-20
39	IL99-26442	14-1	0-16	0-15	18-0	0-19
40	IL00-8061	0-20	0-15	0-16	0-17	0-22
41	G20412	15-1	0-16	0-15	12-0	0-14
42	G20536	0-19	0-12	0-17	0-15	0-20
43	G20433	14-5	3-17	0-18	12-3	0-18

ACID SOIL TOLERANCE

Enid
OK
Carver

		1-5	1-5	1-5
1	Caldwell	2	2	2
2	Foster	3	3	4
3	Patton	5	5	5
4	Roane	2	2	3
5	MO980829	4	4	4
6	T141	5	5	5
7	AR 93027-3-2	4	4	4
8	MV 5-46	2	2	3
9	MSU Line E1007	4	3	3
10	IL99-15867	3	2	2
11	OH751	4	3	4
12	M00-3701	5	4	4
13	X00-1079	2	3	3
14	96229-3E39	1	2	1
15	961395-3E25	2	3	3
16	B990081	5	5	4
17	B990133	2	1	1
18	B990399	1	1	1
19	MSU Line D8006-R	1	1	1
20	AR 850-1-1	3	1	1
21	M01-4377	2	2	1
22	M01*1019	5	5	5
23	Y00*3067	1	1	1
24	X00-1056	4	3	4
25	93C-0004-22-1	1	1	1
26	97C-0232-2	3	2	3
27	VA02W-398	1	1	1
28	VA02W-513	2	2	2
29	VA02W-555	1	1	1
30	Nomad exp.	3	3	4
31	Samco exp.	2	2	3
32	Bingo exp.	2	1	3
33	97397J1-4-1-4-7	3	2	3
34	97462A1-21-1-5-2	4	3	4
35	981312A1-6-2-2	4	3	3
36	T148	3	2	3
37	OH776	3	1	2
38	OH768	2	2	2
39	IL99-26442	3	1	1
40	IL00-8061	2	2	2
41	G20412	3	2	2
42	G20536	2	1	1
43	G20433	1	1	2
DATE		March 19	April 14	May 18

1RS STATUS

		Lincoln NE Graybosch
1	Caldwell	Non.1RS
2	Foster	1BL.1RS
3	Patton	1BL.1RS
4	Roane	Non.1RS
5	MO980829	Non.1RS
6	T141	1AL.1RS
7	AR 93027-3-2	Non.1RS
8	MV 5-46	1BL.1RS
9	MSU Line E1007	Non.1RS
10	IL99-15867	Non.1RS
11	OH751	Non.1RS
12	M00-3701	Non.1RS
13	X00-1079	Non.1RS
14	96229-3E39	Non.1RS
15	961395-3E25	1BL.1RS
16	B990081	Non.1RS
17	B990133	Non.1RS
18	B990399	Non.1RS
19	MSU Line D8006-R	Non.1RS
20	AR 850-1-1	Non.1RS
21	M01-4377	Non.1RS
22	M01*1019	Non.1RS
23	Y00*3067	Non.1RS
24	X00-1056	Non.1RS
25	93C-0004-22-1	Non.1RS
26	97C-0232-2	Non.1RS
27	VA02W-398	Non.1RS
28	VA02W-513	1BL.1RS +/-
29	VA02W-555	1BL.1RS
30	Nomad exp.	1BL.1RS
31	Samco exp.	Non.1RS
32	Bingo exp.	1BL.1RS
33	97397J1-4-1-4-7	1BL.1RS
34	97462A1-21-1-5-2	1BL.1RS
35	981312A1-6-2-2	Non.1RS
36	T148	Non.1RS
37	OH776	Non.1RS
38	OH768	Non.1RS
39	IL99-26442	Non.1RS
40	IL00-8061	Non.1RS
41	G20412	Non.1RS
42	G20536	Non.1RS
43	G20433	Non.1RS

2005 Crop
Advanced Nursery Evaluation

Entries #2551-#2593
Jose Costa
College Park, MD
Uniform Eastern Red Nursery

The data for the 43 entries in this nursery is from composites of three locations. Each location was lightly cleaned separately and then a composite sample was prepared. 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 #2552, FOSTER. Of the 734 cultivars in the SWQL data-base of Allis-milled cultivars, FOSTER ranked 23rd for Milling Score, based on data from 20 Allis millings.

	Allis Database	Standard	Quad Database
Test Weight	60.9	64.1	60.9
Flour Yield	78.9	73.4	74.4
Break Flour	33.7		
E.S.I.	8.0		
Softness Equivalent	54.7	54.7	57.2
Friability	30.2		
Protein	9.5	9.0	8.9
Ash	0.40		
Cookie Diameter	18.0	18.0	18.2
Lactic Acid Retention	88	102	104
Mill Score	84.3 A	84.3 A	
Bake Score	73.3 B	73.3 B	
Test Wt. Score	55.8 D	55.8 D	
S.E. Score	72.1 B	72.1 B	

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

Milling Quality Score Factor	+9.0
Baking Quality Score Factor	+0.6
Test Weight Score Factor	-26.5
Softness Equivalent Factor	+0.1

Test weights were high with an average test weight for the nursery of 64.3 lb/bu. The standard had a test weight of 64.1 lb/bu in this nursery compared to its historical value of 60.9 lb/bu in the SWQL test weight database. Additionally, each of the other three check varieties (CALDWELL, PATTON and ROANE) exceeded its historical test weight by at least 2.4 lb/bu. As a result, Test Weight Scores were reduced by 26.5 points.

Milling Quality Scores were excellent with all but three entries scoring "C" or better. In addition to the standard, both #2570 (AR850-1-1) and #2590 (00-8061) attained "A's" in Milling Quality.

Softness Equivalent Scores were also generally high. Two entries, #2556 (T 141) and #2580 (NOMAD) each had S.E. values below 40% which would be indicative of coarse wheat.

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		Samples composited from West Lafayette IN, Columbia MO, Blacksburg VA	MILLING QUALITY SCORE		BAKING QUALITY SCORE		TEST WT. SCORE		SOFT. EQUIV. SCORE		MICRO T.W. LB/BU	
	STANDARD (#2552, FOSTER)		84.3	A	73.3	B	55.8	D	72.1	B	64.1	
2551	1	Caldwell	79.7	B	84.3	A	59.8	D	80.7	A	64.6	
2552	2	Foster	84.3	A	73.3	B	55.8	D	72.1	B	64.1	
2553	3	Patton	70.3	B	67.6	C	56.1	D	72.5	B	64.1	
2554	4	Roane	64.2	C	45.3	E	66.6	C	77.3	B	65.4	
2555	5	MO980829	68.9	C	84.3	A	45.9	E	74.0	B	62.9	
2556	6	T141	73.4	B	-3.0	F	55.4	D	26.4	F	64.0	
2557	7	AR 93027-3-2	71.5	B	72.6	B	55.5	D	83.3	A	64.0	
2558	8	MV 5-46	65.9	C	64.3	C	59.6	D	74.5	B	64.5	
2559	9	MSU Line E1007	75.2	B	87.0	A	59.7	D	84.7	A	64.5	
2560	10	IL99-15867	73.9	B	81.3	A	58.6	D	82.6	A	64.4	
2561	11	OH751	74.3	B	86.0	A	51.4	D	77.1	B	63.6	
2562	12	M00-3701	72.8	B	78.6	B	53.9	D	84.8	A	63.9	
2563	13	X00-1079	78.6	B	92.6	A	51.2	D	77.4	B	63.5	
2564	14	96229-3E39	60.5	C	45.0	E	67.6	C	64.2	C	65.5	
2565	15	961395-3E25	74.7	B	64.6	C	61.3	C	62.0	C	64.7	
2566	16	B990081	67.9	C	73.6	B	65.3	C	69.0	C	65.2	
2567	17	B990133	69.3	C	68.3	C	65.2	C	73.1	B	65.2	
2568	18	B990399	77.2	B	70.0	C	73.6	B	62.8	C	66.2	
2569	19	MSU Line D8006-R	72.3	B	72.3	B	55.2	D	67.7	C	64.0	
2570	20	AR 850-1-1	80.2	A	75.3	B	53.3	D	80.6	A	63.8	
2571	21	M01-4377	63.7	C	65.3	C	70.4	B	65.2	C	65.8	
2572	22	M01*1019	75.7	B	75.6	B	46.9	E	81.1	A	63.0	
2573	23	Y00*3067	64.2	C	55.6	D	51.8	D	71.3	B	63.6	
2574	24	X00-1056	74.5	B	76.3	B	56.7	D	83.5	A	64.2	
2575	25	93C-0004-22-1	78.1	B	80.3	A	57.3	D	75.8	B	64.3	
2576	26	97C-0232-2	66.8	C	66.0	C	63.1	C	72.3	B	65.0	
2577	27	VA02W-398	78.1	B	79.6	B	44.0	E	75.6	B	62.7	*
2578	28	VA02W-513	57.7	D	23.3	F	64.1	C	58.5	D	65.1	
2579	29	VA02W-555	63.9	C	56.6	D	53.9	D	66.5	C	63.9	
2580	30	Nomad exp.	77.8	B	22.6	F	60.8	C	27.5	F	64.7	
2581	31	Samco exp.	59.9	D	46.6	E	57.0	D	73.3	B	64.2	
2582	32	Bingo exp.	76.9	B	77.0	B	63.7	C	74.8	B	65.0	
2583	33	97397J1-4-1-4-7	52.7	D	45.3	E	48.9	E	59.7	D	63.3	
2584	34	97462A1-21-1-5-2	56.0	D	61.6	C	54.5	D	62.2	C	63.9	
2585	35	981312A1-6-2-2	71.8	B	63.3	C	49.6	E	77.2	B	63.3	
2586	36	T148	63.4	C	32.6	F	55.9	D	45.4	E	64.1	
2587	37	OH776	78.1	B	63.6	C	64.1	C	67.1	C	65.1	
2588	38	OH768	70.5	B	76.0	B	51.9	D	69.9	C	63.6	
2589	39	IL99-26442	79.0	B	63.6	C	50.7	D	66.7	C	63.5	
2590	40	IL00-8061	83.2	A	64.3	C	63.4	C	75.4	B	65.0	
2591	41	G20412	64.7	C	60.3	C	53.1	D	75.7	B	63.8	
2592	42	G20536	71.1	B	73.3	B	55.5	D	72.8	B	64.0	
2593	43	G20433	66.1	C	59.0	D	68.6	C	79.4	B	65.6	

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		Samples composited from West Lafayette IN, Columbia MO, Blacksburg VA	FLOUR YIELD %		SOFT. EQUIV. %		FLOUR PROT. %		LACTIC ACID RET'N	COOKIE DIAM. CM.		TOP GR.
	STANDARD (#2552, FOSTER)		73.4		54.7		8.98		102.3	17.98		6
2551	1	Caldwell	72.5	*	57.7		8.68		112.0	18.31		5
2552	2	Foster	73.4		54.7		8.98		102.3	17.98		6
2553	3	Patton	70.6	Q	54.9		9.22		92.5	17.81		4
2554	4	Roane	69.4	Q	56.5		8.82		108.3	17.14	Q	3
2555	5	MO980829	70.3	Q	55.4		8.28		103.2	18.31		6
2556	6	T141	71.2	Q	38.7	Q	10.10	*	120.8	15.69	Q	1
2557	7	AR 93027-3-2	70.8	Q	58.6		8.25		114.0	17.96		6
2558	8	MV 5-46	69.7	Q	55.5		8.58		95.7	17.71	*	2
2559	9	MSU Line E1007	71.6	Q	59.1		8.59		104.1	18.39		5
2560	10	IL99-15867	71.3	Q	58.4		8.50		117.5	18.22		3
2561	11	OH751	71.4	Q	56.5		8.55		100.9	18.36		5
2562	12	M00-3701	71.1	Q	59.1		8.28		115.0	18.14		4
2563	13	X00-1079	72.2	*	56.6		8.57		100.2	18.56		5
2564	14	96229-3E39	68.6	Q	52.0		9.50		129.7	17.13	Q	2
2565	15	961395-3E25	71.5	Q	51.2	*	8.65		95.4	17.72	*	3
2566	16	B990081	70.1	Q	53.6		8.68		125.1	17.99		3
2567	17	B990133	70.4	Q	55.0		9.35		127.3	17.83		2
2568	18	B990399	72.0	*	51.5	*	8.66		103.3	17.88		3
2569	19	MSU Line D8006-R	71.0	Q	53.2		9.24		110.9	17.95		5
2570	20	AR 850-1-1	72.6	*	57.7		8.42		112.6	18.04		2
2571	21	M01-4377	69.3	Q	52.3		8.33		105.5	17.74	*	3
2572	22	M01*1019	71.7	Q	57.9		8.02		114.7	18.05		2
2573	23	Y00*3067	69.4	Q	54.4		8.00		110.3	17.45	Q	3
2574	24	X00-1056	71.4	Q	58.7		7.82		124.8	18.07		3
2575	25	93C-0004-22-1	72.1	*	56.0		8.50		106.6	18.19		6
2576	26	97C-0232-2	69.9	Q	54.8		8.39		115.0	17.76		4
2577	27	VA02W-398	72.1	*	55.9		8.44		120.4	18.17		4
2578	28	VA02W-513	68.1	Q	50.0	*	9.35		118.4	16.48	Q	1
2579	29	VA02W-555	69.3	Q	52.8		8.58		109.6	17.48	Q	4
2580	30	Nomad exp.	72.1	*	39.1	Q	9.66		92.5	16.46	Q	2
2581	31	Samco exp.	68.5	Q	55.1		9.96	*	114.7	17.18	Q	2
2582	32	Bingo exp.	71.9	*	55.7		8.52		77.5	18.09		4
2583	33	97397J1-4-1-4-7	67.1	Q	50.4	*	10.55	Q	96.3	17.14	Q	0
2584	34	97462A1-21-1-5-2	67.7	Q	51.3	*	9.46		95.7	17.63	*	3
2585	35	981312A1-6-2-2	70.9	Q	56.5		8.74		94.4	17.68	*	3
2586	36	T148	69.2	Q	45.4	Q	9.09		119.5	16.76	Q	2
2587	37	OH776	72.1	*	53.0		9.16		91.8	17.69	*	3
2588	38	OH768	70.6	Q	54.0		9.36		98.3	18.06		3
2589	39	IL99-26442	72.3	*	52.8		8.32		110.5	17.69	*	4
2590	40	IL00-8061	73.2		55.9		8.69		116.9	17.71	*	3
2591	41	G20412	69.5	Q	56.0		8.74		107.0	17.59	*	3
2592	42	G20536	70.8	Q	55.0		8.21		112.5	17.98		4
2593	43	G20433	69.8	Q	57.3		8.44		93.2	17.55	*	2