UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service

State Agricultural Experiment Stations, Cooperating

2009 - 2010

UNIFORM SOUTHERN SOFT RED WINTER WHEAT NURSERY

Report

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USSRWWN cooperators may use the following data from this report in registration notices, release requests, and PVP applications: their line, the check entries, the mean of the test, and (with permission from the owners) any other lines that have already been released.

USDA-ARS
National Small Grains Germplasm Research Facility
1691 S. 2700 W.
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October 2010

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2009-2010 UNIFORM SOUTHERN SOFT RED WINTER WHEAT NURSERY
LIST OF ENTRIES AND PEDIGREES

Entry No.	Cultivar/ Designation	Pedigree	Contributor	1st Year in Nursery
1	AGS 2000	Pio.2555/PF84301//FL 302 (formerly GA89482E7)	Check	97-98
2	Pioneer Brand 26R61	Omega78/S76/4/Arthur71/3/Stadler//Redcoat/Wisc1/5/Coker747/6/2555sib (formerly XW663)	Check	97-98
3	Coker 9553	89M-4035A(IL77-2656/NK79W810/Pio2580 (formerly D00*6874-2)	Check	04-05
4	USG 3555	VA94-52-60/Pio2643//USG3209 (formerly VA02W-555)	Check	04-05
5	W980031K1	FL931339AS (USW97-19 H21, Purple awn)//LA8529-B-3-5-11-2-B-1(USW97-27 C797/FL7297 Awned)	Edge	08-09
6	VA05W-139	Pio26R24/McCormick	Griffey	08-09
7	VA06W-392	VA96W-49(Savannah/Madison)/AGS2000//RC-Strategy(VA98W-586)	Griffey	08-09
8	VA05W-251	VA98W-130(Savannah/VA87-54-558//VA88-54-328/Gore)/VA96W-348(IN81401A1-32-2/FFR555W)/Pio26R61	Griffey	08-09
9	LA01139D-56-1	LA00056(LA841/LA422)/P26R61	Harrison	08-09
10	AR96052-4-3	Ceruga-15/Pio2643	Bacon	08-09
11	AR98088-1-1	Pio2580/Jaypee	Bacon	08-09
12	NC05-19684	P92118(SN)/VA94-52-25//NC96BGTD3	Murphy	08-09
13	MD00W389-08-4	Pio2643/MD71-5	Costa	09-10
14	MD01W270-08-12	VA98W-769/USG3209	Costa	09-10
15	MD01W28-08-11	AGS2000/USG3209	Costa	09-10
16	B05-0142	Ordeal/Coker9704	Hancock	09-10
17	B05-0329	NC97BGTD7//VA94-54-479/L920179	Hancock	09-10
18	B05*0323	Hopewell/BL920520	Hancock	09-10
19	NC05-19896	Burr/NC96BGTA6sib//Natchez	Murphy	09-10
20	NC06-20401	NC95CLB-14543/Ren3260//NC96-14629	Murphy	09-10
21	NC06-19556	B931167/Roane//Choptank	Murphy	09-10
22	TN902	ILL F322W/BL940582//(Card/Mass)/T106	West	09-10
23	LA01139D-86-2	LA841/LA422//Pio26R61	Harrison	09-10
24	LA0110D-84-2	Pio26R61/LA94242D24-4(VA92-54-104/Morey sib)	Harrison	09-10
25	LA01056D-84-7-2	GA90552AE33(Saluda/FL74265//FL302/Gore)/NVB980312(Ck9835/TN101)	Harrison	09-10
26	VA06W-412	Tribute/AGS2000//VAN99W-20	Griffey	09-10
27	GA00067-8E35	GA921204/AGS2000	Johnson	09-10
28	GA001138-8E36	GA961581/Pio26R61	Johnson	09-10
29	GA011493-8E18	IN92201//AGS2000/PioXW692	Johnson	09-10
30	G75735	Pontiac/Wakefield	Brown	09-10
31	G81036	T96/C86-33	Brown	09-10
32	G75692	P86958C4-2-1-10/G3566	Brown	09-10

LOCATION NOTES

Belle Mina, Alabama

Cooperators:	Kathryn M. Glass Auburn University
Planted:	November 9, 2009
Harvested:	June 18, 2010
Fertilizer:	80 N
Notes:	Cold and wet conditions.

Bay, Arkansas

Cooperators:	June Hancock, David Hill, Richard Gray Syngenta / AgriPro
Planted:	November 3, 2009
Harvested:	June 13, 2010
Notes:	Planted late due to wet weather and stayed wet all season. Stands were not the best. Severe stripe rust followed by Septoria and leaf rust.

Fayetteville, Arkansas

Cooperators:	Gene Milus University of Arkansas
Notes:	FHB data from misted, inoculated nursery. Field stem rust data using QFCS, the contemporary race.

Georgetown, Delaware

Cooperators:	Bob Uniatowski University of Delaware
Planted:	November 10, 2009
Harvested:	June 23, 2010
Fertilizer:	100 N
Notes:	Late planting due to a very wet fall. Wet winter and spring. Stands were not the best.

Quincy, Florida

Cooperators:	Ron Barnett, Ann Blount University of Florida
Planted:	December 22, 2009
Notes:	Planted late. Very cold and rainy early. Grew well with no diseases that affected yield. Excess moisture at harvest and late planting resulted in below average test weights. Entries with * in heading date column did not appear to vernalize properly and headed very late.

Griffin, Georgia

Cooperators:	Jerry Johnson University of Georgia
Planted:	November 1, 2009
Harvested:	June 8, 2010
Fertilizer:	80 N

Plains, Georgia

Cooperators:	Jerry Johnson University of Georgia
Planted:	November 19, 2009
Harvested:	May 27, 2010
Fertilizer:	80 N
Notes:	Extremely wet at planting. The plots were not irrigated during a dry period at grain filling. This dry period might have resulted in lower yields for later maturing lines.

Battle Ground, Indiana

Cooperators:	Jim Peterson, Sam Brown, Katie Russler Limagrain Cereal Seeds
Planted:	October 20, 2009
Harvested:	July 5, 2010
Fertilizer:	35#N fall, 62#N March 8th, 23# April 27th -78-63, plus zinc & sulphur
Notes:	Wet fall, difficult to get planted, which is why we ended up planting at Battle Ground. Poor stand establishment. Mild winter, adequate snow cover. Unusually dry March and up to April 15th. Ideal temperatures in May, but the rain started causing Fusarium. June was third wettest on record with over 10 inches of rain. Wheat ripened early and compounded with all the rain we saw shattering.

Delphi, Indiana

Cooperators:	J. Barton Fogleman, Jennifer Vonderwell, Eugene Glover Syngenta / AgriPro
Planted:	October 19, 2009
Harvested:	June 26, 2010
Fertilizer:	100 N equivalent UAN+AS on March 18

Ferdinand, Indiana

Cooperators:	J. Barton Fogleman, Jennifer Vonderwell, Eugene Glover Syngenta / AgriPro
Planted:	November 7, 2009
Harvested:	June 21, 2010
Fertilizer:	100 N equivalent UAN+AS on March 31
Notes:	Planted late. Stands thin and very weedy.

Sullivan, Indiana

Cooperators:	Benjamin Moreno, Justin Cooley, Curtis Beazer
	Westbred
Planted:	November 5, 2009
Harvested:	June 22, 2010

West Lafayette, Indiana

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

Winfield, Kansas

Cooperators:	Sid Perry
	Westbred
Planted:	November 5, 2009
Harvested:	June 14, 2010
Notes:	Planted late due to wet weather. Stayed cold and wet all season. Tillering was reduced.

Lexington, Kentucky

Cooperators:	Dave Van Sanford, John Connelley
	University of Kentucky
Planted:	October 22, 2009
Harvested:	June 28, 2010
Fertilizer:	100 N in 2 applications; P and K according to soil tests
Notes:	So-so year, too much moisture early.

Schochoh, Kentucky

Cooperators:	Dave Van Sanford, John Connelley
	University of Kentucky
Planted:	November 4, 2009
Harvested:	June 22, 2010
Fertilizer:	100 N in 2 applications; P and K according to soil tests
Notes:	So-so year, too much moisture early.

Baton Rouge, Louisiana

Cooperators:	Stephen Harrison, Kelly Arceneaux, McCarthy
	Louisiana State University
Planted:	November 8, 2009
Harvested:	May 21, 2010
Notes:	Extremely wet January - Feburary (20") reduced tillering. Uniformly cool winter. Very dry March 4 - early May (1.2" total) hastened maturity and lowered test weights. Moderately heavy stripe rust pressure. Ratings are the mean of three scores (March 11, 22, 30). No leaf rust, PM or Hessian Fly pressure. Phenotype is mean of four 'general appearance' ratings. 0 = excellent, 5 = average, 9 = very

poor. Soilborne presence verified by NC State/Christina Cowger. Some soilborne ratings do not correspond with previous data. No other viruses were detected and symptoms were virus and were severe. Fusarium misted nursery planted somewhat late, wide heading dates range; only early-medium datae varieties reported due to confounding.

Winnsboro, Louisiana

Cooperators:	Stephen Harrison, Kelly Arceneaux, McCarthy, Padgett, Mascagni Louisiana State University
Planted:	November 18, 2009
Harvested:	May 26, 2010
Notes:	Very wet January - Feburary reduced tillering. Uniformly cool winter. Dry March - June hastened maturity and lowered test weights. Moderate stripe rust pressure. Ratings are the mean of two scores (Apr 14 and Apr 25). No leaf rust, PM or Hessian Fly pressure. Phenotype is mean of two 'general appearance' ratings. 0 = excellent, 5 = average, 9 = very poor.

Queenstown, Maryland

Cooperators:	Jose Costa, Aaron Cooper University of Maryland
Planted:	October 12, 2009
Harvested:	June 18, 2010
Fertilizer:	80 N
Notes:	Very wet after planting. BYDV present; some leaf rust; no mildew. No FHB this year.

Salisbury, Maryland

Cooperators:	Jose Costa University of Maryland
Notes:	Misted, inoculated scab nursery.

St. Paul, Minnesota

Cooperators:	Jim Kolmer, Yue Jin, Dave Long USDA-ARS, Cereal Disease Laboratory
Notes:	Leaf rust and stem rust multi-isolate seedling data.

Cleveland, Mississippi

Cooperators:	June Hancock, David Hill, Richard Gray Syngenta / AgriPro
Planted:	November 11, 2009
Harvested:	June 16, 2010

Newton, Mississippi

Cooperators:	Brad Burgess Mississippi State University
Planted:	November 7, 2009
Harvested:	June 1, 2010
Fertilizer:	300 N on Feb. 18
Notes:	Unusually cold temperatures during January which reduced optimal tillering. Some deer feeding damage observed on awnless varieties.

Portageville, Missouri

Cooperators:	Anne McKendry, David Tague University of Missouri
Planted:	November 6, 2009
Harvested:	June 21, 2010
Fertilizer:	120 N (40 fall, 80 spring)
Notes:	A very wet fall and spring led to some standing water that increased variance, inconsistently across the test – hence the higher than normal CV and LSD.

Kinston, North Carolina

Cooperators:	Paul Murphy North Carolina State University
Planted:	October 25, 2009
Harvested:	June 3, 2010
Fertilizer:	130 N
Notes:	Extremely wet fall and winter. Poor tillering. Cold winter and late start to growth in spring. Yet harvest was at normal time. Mildew and BYDV data from Lake Wheeler.

Laurel Springs, North Carolina

Cooperators:	David Marshall USDA-ARS, Plant Science Research
Notes:	Adult-plant stripe rust data. Predominant races were PSt 100 and 102; rust was severe and well-distributed. Rust spread was CG514W, which rated a 9 IT and 100% severity. 0-3 resistant; 4-6 intermediate; 7-9 susceptible.

Raleigh, North Carolina

Cooperators:	David Livingston, Tan Tuong USDA-ARS, Plant Science Research
Notes:	Controlled environment freeze test. Ten plants per entry were planted in cone-tainers (Livingston et al. 2005, Crop Science, 45:1545-1558). Two replicates. Plants were grown for 5 weeks at 13°C; 12 hours light/dark period; 400µmole light intensity, then hardened in chamber for 3 weeks at 3°C; 12 hours light/dark period; 350µmole light intensity. After 3 weeks, plants were subzero

acclimated for 3 days @ -3°C in the dark, frozen @ 1°C/hour to -16°C for 3 hours, then thawed @ 2°C/hour to 3°C. Once removed from testing chambers, plants were watered once with 0.001% (v/v) Vitavax fungicide solution -And allowed to recover for 3 weeks at 13°C in cone-tainers; 12 hours light/dark period; 400µmole light. Plant survival ratings were rated for regrowth after 4 weeks by visually assessing leaves and roots. **0** = Completely dead; **1** = 1 survived (green) shoot **or** 1 primary root; **2** = 1 or 2 survived (green) shoots or 1 survived shoot **and** 1 or 2 primary roots; **3** = 1 or 2 survived shoots with developed roots (primary and secondary roots); **4** = 95% survived shoots with well developed roots; **5** = 100% survived with very little or no sign of freeze damage**.**

Raleigh, North Carolina

Cooperators: Christina Cowger
USDA-ARS, Plant Science Research

Notes: Eastern Septoria Nursery data. Screening was conducted at Kinston and Raleigh, NC. Each plot consisted of two standard headrows, and there were two replicates with entries randomly assigned to plots in each replicate. Plots were inoculated with wheat straw in December 2009. Disease data are from Kinston, NC, where plots were irrigated several times with an overhead linear system during the April drought. At Kinston, SNB pressure was excellent on leaves but only moderate on glumes, and no other diseases confounded the SNB ratings. The nursery was also grown and inoculated at Raleigh, and rated there for SNB and heading date. The Raleigh SNB data were inferior due to a heavy BYDV epidemic and lack of irrigation, and are not provided here. Heading date was not a significant source of variation in SNB symptoms on either leaves or glumes, so no adjustment for heading date was made to the disease data.

Raleigh, North Carolina

Cooperators: Gina Brown-Guedira
USDA-ARS, Eastern Regional Small Grains Genotyping Lab

Notes: Marker analysis.

Wooster, Ohio

Cooperators: Clay Sneller
Ohio State University, OARDC

Wooster, Ohio

Cooperators: Edward Souza
USDA-ARS, Soft Wheat Quality Laboratory

Notes: Milling and baking quality data.

Enid, Oklahoma

Cooperators:	Brett Carver, Melanie Bayles Oklahoma State University
Notes:	Acid soil tolerance data. Soil pH=4.0 to 4.3. Scale of 0 (most tolerant) to 5 (most susceptible) based on overall vigor, discoloration, and tiller production. Vegetative ratings may not associate with those taken on adult plants; adult-plant ratings not recorded due to difficulty in detecting genetic differences. Inherent differences in tillering capacity and growth habit (prostrate vs. erect) may have biased vegetative ratings.

Knoxville, Tennessee

Cooperators:	Dennis West University of Tennessee
Planted:	October 26, 2009
Harvested:	June 16, 2010
Fertilizer:	90 N
Notes:	Very wet from planting through February. Some stand loss in low areas.

Prosper, Texas

Cooperators:	Russell Sutton Texas A&M University – Commerce

Blacksburg, Virginia

Cooperators:	Carl Griffey Virginia Tech
Planted:	September 23, 2009
Harvested:	June 19, 2010
Fertilizer:	fall 30-80-100 + 1ton lime; 120 N spring

Warsaw, Virginia

Cooperators:	Carl Griffey Virginia Tech
Planted:	October 22, 2009
Harvested:	June 10, 2010
Fertilizer:	30-80-80-5 preplant; 109 N spring

Mt. Vernon, Pullman, Walla Walla, Lind, Washington

Cooperators:	Xianming Chen USDA-ARS, Wheat Genetics, Quality, Physiology, & Disease Research
Notes:	Adult stripe rust data. Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry

were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs. Entries with a high IT in the first note, but a low IT in the second note may indicate that they have high-temperature, adult-plant (HTAP) resistance.

Oconto, Wisconsin

Cooperators:	Gordon Cisar Great Lakes Cereal Grains
Planted:	October 9, 2009
Harvested:	July 27, 2010
Notes:	Variable snow cover leading to variable winter injury. Lots of rain during and preceding harvest. Leaf blotch note is an average of two readings on the same plot.


2009-10 USSRWWN
LOCATIONS
Mt. Vernon
Lind
Pullman
Walla Walla
St. Paul
Oconto
Wooster
W. Lafayette
Delphi
Battle Ground
Georgetown
Salisbury
Warsaw
Sullivan
Ferdinand
Lexington
Blacksburg
Winfield
Enid
Schochoh
Portageville
Knoxville
Laurel Springs
Raleigh
Kinston
Fayetteville
Bay
Belle Mina
Cleveland
Griffin
Prosper
Newton
Plains
Winnsboro
Quincy
Baton Rouge
Washington
Oregon
Idaho
Montana
North Dakota
Minnesota
Wisconsin
Michigan
South Dakota
Wyoming
Nebraska
Iowa
Illinois
Indiana
Ohio
Pennsylvania
New York
Vermont
New Jersey
Nevada
Utah
Colorado
Kansas
Missouri
Kentucky
West Virginia
Virginia
California
Arizona
New Mexico
Oklahoma
Arkansas
Tennessee
North Carolina
South Carolina
Mississippi
Alabama
Georgia
Louisiana
Florida
Texas

YIELD (bu/acre)

		Belle Mina		Bay		Georgetown		Quincy		Griffin		Plains	
		AL	ab	AR	a	DE	a	FL	a	GA	a	GA	a
		Glass	rank	Hancock	rank	Uniatowski	rank	Barnett	rank	Johnson	rank	Johnson	rank
1	AGS 2000	50.9	21	66.1	5	54.5	28	65.8	8	57.2	25	64.1	31
2	Pioneer Brand 26R61	34.2	31	62.0	14	44.5	31	66.9	6	58.9	24	65.0	29
3	Coker 9553	58.4	5	79.5	1	65.3	10	74.9	1	76.4	4	69.5	23
4	USG 3555	56.6	10	71.8	3	63.7	13	62.4	14	72.6	9	72.1	16
5	W980031K1	26.6	32	54.5	26	44.3	32	66.9	5	64.0	21	70.7	19
6	VA05W-139	46.4	28	57.0	22	64.7	11	59.6	16	73.3	8	67.6	25
7	VA06W-392	54.2	16	62.0	15	67.1	7	61.6	15	65.5	18	60.7	32
8	VA05W-251	58.4	5	60.7	19	74.7	3	63.1	13	42.6	30	69.7	21
9	LA01139D-56-1	57.7	9	72.4	2	54.9	26	74.6	2	77.4	3	66.9	27
10	AR96052-4-3	55.7	11	61.0	17	60.6	19	63.1	12	62.5	22	73.7	9
11	AR98088-1-1	59.8	2	68.8	4	61.2	18	63.2	11	65.5	18	77.7	4
12	NC05-19684	47.9	26	54.8	24	59.0	22	45.4	28	40.4	31	70.3	20
13	MD00W389-08-4	54.3	14	66.0	7	51.1	29	51.1	23	49.3	26	66.2	28
14	MD01W270-08-12	58.0	8	51.9	29	58.1	24	39.8	30	47.4	27	71.2	17
15	MD01W28-08-11	54.3	14	49.1	31	67.1	7	54.9	19	42.8	29	67.1	26
16	B05-0142	49.6	22	60.9	18	70.4	5	66.8	7	74.4	5	72.7	13
17	B05-0329	47.5	27	54.6	25	61.8	17	55.0	18	73.5	6	71.1	18
18	B05*0323	54.6	12	58.5	20	82.9	1	30.8	32	66.6	16	74.9	8
19	NC05-19896	51.1	19	66.0	6	63.7	13	51.9	22	79.1	2	76.0	6
20	NC06-20401	51.8	18	56.6	23	59.7	20	49.5	25	62.1	23	73.7	9
21	NC06-19556	48.0	25	64.0	9	57.9	25	32.0	31	66.4	17	69.7	21
22	TN902	58.2	7	50.0	30	66.8	9	53.7	20	43.1	28	80.1	2
23	LA01139D-86-2	49.2	23	52.8	28	54.7	27	52.8	21	70.0	11	64.8	30
24	LA0110D-84-2	52.4	17	64.0	8	64.4	12	70.5	3	69.9	12	68.8	24
25	LA01056D-84-7-2	54.5	13	63.8	11	59.3	21	64.0	10	73.5	6	72.7	13
26	VA06W-412	48.1	24	57.8	21	62.3	16	64.5	9	71.2	10	76.2	5
27	GA00067-8E35	51.1	19	63.4	13	67.7	6	48.5	26	67.5	14	75.8	7
28	GA001138-8E36	40.4	29	63.8	12	58.7	23	69.4	4	82.0	1	82.4	1
29	GA011493-8E18	36.2	30	53.5	27	48.6	30	56.1	17	66.9	15	78.1	3
30	G75735	60.0	1	40.5	32	63.2	15	46.4	27	34.1	32	72.4	15
31	G81036	58.8	4	61.9	16	75.7	2	42.4	29	68.3	13	73.3	12
32	G75692	59.8	2	64.0	10	71.7	4	50.7	24	65.5	18	73.5	11
LOCATION MEANS		51.4		60.4		61.9		56.8		63.4		71.5	
LSD (.05)		4.95				16.4		11.1		12.8		15.2	
CV %		5.9		14.1		15.7		12		12.4		10.3	
REPS		3		2		3		3		2		2	
Harvest Plot Area (sq.ft.)		100		59.9		56.25		60		50		50	

YIELD (bu/acre)

		Battle Ground		Delphi		Ferdinand		Sullivan		Winfield		Lexington	
		IN		IN		IN	a	IN	b	KS	b	KY	ab
		Peterson	rank	Fogleman	rank	Fogleman	rank	Moreno	rank	Perry	rank	Van Sanford	rank
1	AGS 2000	56.9	9	59.3	21	49.0	13	68.3	30	48.4	16	65.0	13
2	Pioneer Brand 26R61	40.9	27	49.5	30	45.2	20	70.0	24	47.2	18	56.9	31
3	Coker 9553	67.6	1	69.5	8	45.3	18	79.4	4	60.2	6	61.4	22
4	USG 3555	54.6	13	71.5	6	51.0	9	81.7	1	65.2	2	71.5	2
5	W980031K1	43.1	24	46.5	32	40.2	28	69.8	26	42.2	29	52.5	32
6	VA05W-139	41.5	26	64.8	18	57.2	4	78.6	6	61.0	3	64.2	14
7	VA06W-392	59.8	5	65.1	15	49.3	12	72.4	18	45.3	24	65.4	10
8	VA05W-251	54.2	14	79.5	2	49.9	10	71.5	20	47.1	20	70.1	4
9	LA01139D-56-1	63.2	3	71.5	6	42.8	24	72.7	17	53.4	9	65.9	8
10	AR96052-4-3	55.8	10	67.0	10	45.2	19	74.0	11	39.8	32	65.5	9
11	AR98088-1-1	59.3	6	73.7	4	56.0	5	79.3	5	49.0	14	68.9	6
12	NC05-19684	53.4	16	62.2	19	40.5	27	71.3	21	45.3	25	59.2	27
13	MD00W389-08-4	52.9	17	64.8	17	63.8	1	73.9	12	46.3	22	58.1	30
14	MD01W270-08-12	43.1	23	66.6	12	59.1	2	77.0	9	44.4	27	63.2	16
15	MD01W28-08-11	53.7	15	56.4	22	57.3	3	76.5	10	52.2	10	75.9	1
16	B05-0142	40.4	29	53.7	26	49.6	11	73.2	14	43.3	28	65.2	12
17	B05-0329	40.5	28	51.5	28	46.1	16	66.0	31	48.6	15	61.0	24
18	B05*0323	57.0	8	66.9	11	43.7	23	80.3	3	60.7	4	61.5	21
19	NC05-19896	47.3	21	67.1	9	42.6	25	72.8	16	46.6	21	66.5	7
20	NC06-20401	57.7	7	65.8	13	32.0	31	68.3	29	44.8	26	65.3	11
21	NC06-19556	45.4	22	60.9	20	31.7	32	69.9	25	54.9	8	58.2	29
22	TN902	48.7	20	64.9	16	47.0	14	78.6	7	49.0	13	61.4	23
23	LA01139D-86-2	49.2	19	54.7	24	32.8	30	70.7	23	47.2	17	62.6	17
24	LA0110D-84-2	62.4	4	65.6	14	40.7	26	77.9	8	50.3	11	63.7	15
25	LA01056D-84-7-2	42.3	25	53.7	27	52.0	8	69.6	27	58.9	7	61.6	18
26	VA06W-412	28.4	31	55.3	23	44.0	21	73.7	13	50.2	12	70.5	3
27	GA00067-8E35	55.1	12	54.1	25	45.7	17	73.1	15	60.4	5	60.7	25
28	GA001138-8E36	20.2	32	50.3	29	43.8	22	71.8	19	70.6	1	59.8	26
29	GA011493-8E18	36.7	30	47.6	31	46.1	15	53.7	32	41.5	31	58.3	28
30	G75735	51.3	18	72.0	5	54.6	6	71.0	22	41.8	30	61.5	20
31	G81036	63.7	2	84.1	1	52.3	7	81.3	2	47.2	19	69.0	5
32	G75692	55.4	11	78.8	3	34.7	29	68.4	28	45.9	23	61.6	19
LOCATION MEANS		50.0		63.0		46.6		73.0		50.3		63.5	
LSD (.05)		7.8		15.94				7.83		6.5		8.02	
CV %		11.9		16.77				8.19		7.9		5.74	
REPS		2		2		1				2		2	
Harvest Plot Area (sq.ft.)		32		58		58				50		40	

YIELD (bu/acre)

		Schochoh		Baton Rouge		Winnsboro		Queenstown		Cleveland		Newton	
		KY	a	LA	a	LA	ab	MD	a	MS	a	MS	a
		Van Sanforc	rank	Harrison	rank	Harrison	rank	Costa	rank	Hancock	rank	Burgess	rank
1	AGS 2000	64.4	15	38.4	15	64.5	9	70.8	18	71.4	18	61.0	3
2	Pioneer Brand 26R61	68.6	7	42.1	14	57.4	20	60.7	30	89.2	3	49.6	22
3	Coker 9553	65.1	14	51.4	3	72.4	1	71.5	16	84.2	7	67.1	1
4	USG 3555	68.7	6	49.3	4	63.0	11	73.0	10	78.5	12	50.7	18
5	W980031K1	63.0	18	42.8	13	55.3	24	71.6	15	85.8	5	60.3	4
6	VA05W-139	53.8	29	45.1	10	63.6	10	74.6	8	88.7	4	53.9	10
7	VA06W-392	64.1	16	47.6	7	61.2	15	70.0	19	66.6	20	47.3	26
8	VA05W-251	68.7	5	22.0	28	49.5	30	67.8	23	48.6	29	47.9	25
9	LA01139D-56-1	76.0	1	29.0	21	50.6	27	72.8	11	73.9	15	58.3	5
10	AR96052-4-3	50.6	31	38.2	16	56.1	23	72.2	14	75.8	14	49.9	21
11	AR98088-1-1	68.4	8	45.2	9	57.6	19	72.5	13	79.0	11	53.2	11
12	NC05-19684	69.2	4	28.5	23	50.4	29	68.3	21	46.0	30	47.2	27
13	MD00W389-08-4	63.6	17	16.5	31	51.3	26	59.2	32	72.0	17	52.2	13
14	MD01W270-08-12	55.3	26	24.7	26	50.4	28	66.7	24	55.0	26	45.9	28
15	MD01W28-08-11	73.7	2	19.4	30	41.6	31	59.4	31	53.1	27	44.5	29
16	B05-0142	55.6	25	45.4	8	69.7	4	74.4	9	83.8	8	54.5	9
17	B05-0329	65.5	13	35.6	17	66.9	6	62.9	28	89.8	2	57.4	6
18	B05*0323	58.3	24	22.3	27	57.8	17	72.8	12	77.4	13	50.2	20
19	NC05-19896	66.3	10	44.2	12	62.7	13	68.8	20	63.8	23	48.7	24
20	NC06-20401	52.7	30	25.7	25	57.6	18	62.7	29	51.7	28	43.9	31
21	NC06-19556	54.2	28	35.1	19	56.2	22	75.3	7	65.7	21	44.2	30
22	TN902	55.1	27	20.5	29	54.5	25	78.4	3	33.3	31	49.2	23
23	LA01139D-86-2	43.3	32	49.0	5	62.3	14	65.1	26	79.5	10	51.8	15
24	LA0110D-84-2	65.9	11	54.3	1	65.2	7	80.4	1	85.2	6	57.2	7
25	LA01056D-84-7-2	59.5	20	48.4	6	70.0	3	78.1	4	60.5	24	51.8	17
26	VA06W-412	65.6	12	28.5	22	65.0	8	77.8	5	65.2	22	51.9	14
27	GA00067-8E35	59.3	21	45.0	11	70.7	2	68.2	22	80.6	9	55.9	8
28	GA001138-8E36	59.2	22	53.0	2	68.1	5	78.6	2	95.6	1	63.5	2
29	GA011493-8E18	62.3	19	35.2	18	56.3	21	65.8	25	73.3	16	50.5	19
30	G75735	69.6	3	10.7	32	33.5	32	77.1	6	26.3	32	39.2	32
31	G81036	67.9	9	27.3	24	61.1	16	71.3	17	59.5	25	51.8	16
32	G75692	58.3	23	33.9	20	62.8	12	64.3	27	67.7	19	52.4	12
LOCATION MEANS		62.2		36.1		58.9		70.4		69.6		52.0	
LSD (.05)				8.2		9.5		14.5		18.2		7.2	
CV %				11.2		7.8		10.1		12.8		11.8	
REPS		1		2		2		2		2		2	
Harvest Plot Area (sq.ft.)		40		70		70		47		62.7		75	

YIELD (bu/acre)

		Portageville		Kinston		Wooster		Knoxville		Prosper		Blacksburg	
		MO	a	NC	ab	OH	b	TN	a	TX	ab	VA	ab
		McKendry	rank	Murphy	rank	Sneller	rank	West	rank	Sutton	rank	Griffey	rank
1	AGS 2000	57.9	20	45.4	3	48.3	27	86.1	3	52.0	24	92.3	15
2	Pioneer Brand 26R61	53.3	24	31.1	31	55.1	12	63.0	31	63.6	13	83.6	31
3	Coker 9553	64.8	2	42.0	10	62.3	4	92.4	1	69.5	5	99.9	4
4	USG 3555	52.3	26	45.4	4	64.5	3	71.6	18	67.2	8	96.1	11
5	W980031K1	52.4	25	34.1	29	54.5	14	66.0	28	63.7	11	82.2	32
6	VA05W-139	58.8	19	46.6	1	56.5	9	67.9	26	64.4	10	96.6	10
7	VA06W-392	62.8	10	37.0	25	49.9	25	70.6	22	63.0	14	96.0	12
8	VA05W-251	57.5	21	45.6	2	55.6	11	85.8	4	34.8	30	106.9	1
9	LA01139D-56-1	62.2	12	32.4	30	70.6	1	90.4	2	53.6	23	97.0	9
10	AR96052-4-3	65.6	1	44.1	7	46.6	31	64.9	30	59.2	16	91.0	17
11	AR98088-1-1	64.2	4	40.4	15	48.2	28	69.5	24	70.6	4	88.2	24
12	NC05-19684	61.4	14	44.1	6	55.0	13	77.8	9	44.2	26	84.3	30
13	MD00W389-08-4	63.0	8	42.7	9	57.5	8	70.8	21	33.2	31	86.2	28
14	MD01W270-08-12	48.8	29	37.0	24	48.6	26	75.9	14	43.0	27	86.9	26
15	MD01W28-08-11	63.0	8	39.0	19	51.4	21	77.4	11	37.4	29	84.7	29
16	B05-0142	60.9	15	36.8	27	54.1	16	75.3	15	63.7	11	88.5	22
17	B05-0329	56.7	23	39.1	18	47.9	30	84.0	6	67.8	7	88.4	23
18	B05*0323	62.0	13	40.7	14	56.1	10	77.5	10	55.8	21	97.4	8
19	NC05-19896	57.0	22	44.6	5	44.3	32	75.1	16	66.6	9	91.3	16
20	NC06-20401	44.8	31	40.8	13	48.1	29	66.8	27	50.2	25	87.0	25
21	NC06-19556	41.3	32	41.5	11	50.4	24	59.1	32	56.0	20	93.3	14
22	TN902	64.1	5	38.1	21	58.8	7	81.0	7	32.0	32	99.4	5
23	LA01139D-86-2	44.9	30	25.5	32	50.5	23	79.8	8	62.3	15	89.2	21
24	LA0110D-84-2	59.5	18	37.4	22	61.6	5	84.3	5	74.2	3	95.9	13
25	LA01056D-84-7-2	50.8	27	40.2	16	54.2	15	76.0	13	69.3	6	98.4	6
26	VA06W-412	63.8	6	40.1	17	66.3	2	70.0	23	56.1	19	101.1	3
27	GA00067-8E35	59.8	17	43.8	8	53.4	18	71.0	19	74.6	2	103.7	2
28	GA001138-8E36	62.5	11	36.9	26	60.4	6	76.9	12	74.8	1	97.6	7
29	GA011493-8E18	64.7	3	41.2	12	53.5	17	73.3	17	54.2	22	90.2	19
30	G75735	49.0	28	35.3	28	52.2	20	65.7	29	39.0	28	89.5	20
31	G81036	63.8	6	37.2	23	53.0	19	68.1	25	56.9	18	86.7	27
32	G75692	59.9	16	38.8	20	51.4	22	70.9	20	58.5	17	90.4	18
LOCATION MEANS		57.9		39.5		54.4		74.5		57.2		92.5	
LSD (.05)		9.7		8		8.9		12.5		5.2		5.27	
CV %		12.3		9.7		8.2		10.6		6.7		3.36	
REPS		3		2		2		3				2	
Harvest Plot Area (sq.ft.)		55		55		50		46				45	

YIELD (bu/acre)

		Warsaw VA	ab	Oconto WI	
		Griffey	rank	Cisar	rank
1	AGS 2000	68.2	7	88.2	16
2	Pioneer Brand 26R61	62.2	27	88.9	13
3	Coker 9553	70.5	4	80.9	26
4	USG 3555	65.5	17	68.3	30
5	W980031K1	61.5	29	73.1	29
6	VA05W-139	71.0	3	97.0	2
7	VA06W-392	71.1	2	95.5	4
8	VA05W-251	72.0	1	100.7	1
9	LA01139D-56-1	65.6	16	95.1	6
10	AR96052-4-3	62.4	26	89.9	12
11	AR98088-1-1	67.2	12	95.3	5
12	NC05-19684	61.5	28	94.0	7
13	MD00W389-08-4	58.2	32	88.9	14
14	MD01W270-08-12	64.1	22	84.4	21
15	MD01W28-08-11	59.1	31	81.0	25
16	B05-0142	66.8	13	86.5	19
17	B05-0329	60.2	30	96.4	3
18	B05*0323	67.7	9	88.3	15
19	NC05-19896	65.7	15	87.8	17
20	NC06-20401	67.4	11	84.3	22
21	NC06-19556	63.8	23	80.5	27
22	TN902	69.2	5	50.7	32
23	LA01139D-86-2	65.9	14	65.0	31
24	LA0110D-84-2	62.7	25	82.0	24
25	LA01056D-84-7-2	64.3	21	87.0	18
26	VA06W-412	68.4	6	92.2	9
27	GA00067-8E35	68.1	8	82.6	23
28	GA001138-8E36	65.4	18	90.7	11
29	GA011493-8E18	67.5	10	85.6	20
30	G75735	65.3	19	91.5	10
31	G81036	64.9	20	78.0	28
32	G75692	63.7	24	92.5	8
LOCATION MEANS		65.5		85.7	
LSD (.05)		5.61			
CV %		5.05			
REPS		2		1	
Harvest Plot Area (sq.ft.)		45			

YIELD (bu/acre)

		ENTRY MEANS ALL LOCATIONS	rank	ENTRY MEANS IN-REGION	[a]	rank	ENTRY MEANS CV < 10%	rank
1	AGS 2000	62.1	15	62.2		14	60.3	17
2	Pioneer Brand 26R61	58.1	22	57.9		24	56.1	29
3	Coker 9553	69.3	1	69.1		1	67.6	2
4	USG 3555	65.7	3	65.1		4	67.6	1
5	W980031K1	57.2	26	57.9		22	54.2	32
6	VA05W-139	64.4	7	63.8		8	64.9	4
7	VA06W-392	62.7	11	62.2		15	61.6	13
8	VA05W-251	61.7	17	59.8		20	61.1	15
9	LA01139D-56-1	65.4	5	63.7		9	61.9	11
10	AR96052-4-3	61.2	20	60.9		17	59.4	20
11	AR98088-1-1	65.5	4	64.9		5	62.9	10
12	NC05-19684	57.0	28	55.0		31	56.3	27
13	MD00W389-08-4	58.2	21	56.4		26	56.2	28
14	MD01W270-08-12	56.4	31	55.1		29	57.3	25
15	MD01W28-08-11	57.4	25	56.0		27	57.2	26
16	B05-0142	62.9	9	64.2		6	61.1	16
17	B05-0329	61.4	18	62.2		13	59.3	21
18	B05*0323	62.4	13	60.7		18	63.3	9
19	NC05-19896	62.2	14	62.6		11	61.2	14
20	NC06-20401	56.6	30	55.1		30	58.1	24
21	NC06-19556	56.8	29	55.7		28	59.2	22
22	TN902	57.1	27	56.8		25	59.9	19
23	LA01139D-86-2	57.5	24	57.9		23	58.5	23
24	LA0110D-84-2	66.0	2	65.8		3	64.1	6
25	LA01056D-84-7-2	62.9	10	63.4		10	64.1	7
26	VA06W-412	62.1	16	62.4		12	63.9	8
27	GA00067-8E35	63.8	8	64.1		7	65.9	3
28	GA001138-8E36	65.2	6	66.6		2	64.6	5
29	GA011493-8E18	57.6	23	58.9		21	55.2	30
30	G75735	54.3	32	51.6		32	54.9	31
31	G81036	62.5	12	60.9		16	61.6	12
32	G75692	61.4	19	60.2		19	60.1	18
LOCATION MEANS		61.1		60.6			60.6	
LSD (.05)								
CV %								
REPS								
Harvest Plot Area (sq.ft.)								

TEST WEIGHT (lbs/bu)

		Belle Mina AL Glass	Bay AR Hancock	Georgetown DE Uniatowski	Quincy FL Barnett	Griffin GA Johnson
1	AGS 2000	54.0	57.4	55.6	54.4	61.5
2	Pioneer Brand 26R61	51.9	59.0	54.1	54.1	62.3
3	Coker 9553	54.9	59.2	57.1	56.6	61.8
4	USG 3555	54.2	57.5	56.7	51.2	60.1
5	W980031K1	50.5	59.4	52.6	54.7	62.3
6	VA05W-139	52.8	57.7	56.9	49.6	61.5
7	VA06W-392	54.2	56.1	56.6	51.2	60.8
8	VA05W-251	54.9	54.4	57.1	51.5	59.0
9	LA01139D-56-1	55.2	58.7	56.3	56.3	61.4
10	AR96052-4-3	53.3	57.0	55.8	52.5	60.0
11	AR98088-1-1	54.7	59.3	58.3	55.7	61.2
12	NC05-19684	54.3	57.3	58.8	53.1	59.6
13	MD00W389-08-4	55.1	57.5	57.8	52.5	57.4
14	MD01W270-08-12	56.2	58.0	59.3	51.2	59.7
15	MD01W28-08-11	56.2	57.5	58.4	55.7	60.2
16	B05-0142	50.0	56.3	54.9	50.6	58.9
17	B05-0329	53.9	58.5	56.3	51.5	61.4
18	B05*0323	53.9	57.6	57.5	47.7	60.8
19	NC05-19896	54.2	58.6	58.1	52.2	61.6
20	NC06-20401	55.1	58.3	58.7	54.4	58.9
21	NC06-19556	54.0	56.7	56.7	45.8	59.2
22	TN902	53.5	52.4	56.4	49.6	56.2
23	LA01139D-86-2	53.1	58.4	53.4	53.4	60.9
24	LA0110D-84-2	54.2	58.4	57.9	52.8	60.2
25	LA01056D-84-7-2	52.8	56.5	55.6	53.8	60.0
26	VA06W-412	54.4	57.3	58.9	52.5	62.1
27	GA00067-8E35	50.5	56.2	57.0	51.8	61.6
28	GA001138-8E36	53.7	59.4	55.9	54.4	61.6
29	GA011493-8E18	51.7	59.6	55.5	55.7	62.4
30	G75735	56.1	55.2	59.2	50.9	56.5
31	G81036	53.6	53.9	58.4	46.4	59.8
32	G75692	54.9	55.4	58.8	47.0	58.5
LOCATION MEANS		53.8	57.3	56.9	52.2	60.3

TEST WEIGHT (lbs/bu)

		Plains GA Johnson	Battle Ground IN Peterson	Sullivan IN Moreno	Winfield KS Perry	Lexington KY Van Sanford
1	AGS 2000	60.3	53.8	55.3	57.6	56.0
2	Pioneer Brand 26R61	61.5	53.7	58.2	58.7	55.8
3	Coker 9553	62.0	56.4	58.5	59.4	57.5
4	USG 3555	60.5	53.8	56.8	58.7	57.2
5	W980031K1	62.1	53.4	58.1	59.0	55.6
6	VA05W-139	60.6	52.3	55.6	59.0	56.3
7	VA06W-392	60.9	52.2	56.3	56.7	57.3
8	VA05W-251	58.8	53.2	57.2	55.4	57.6
9	LA01139D-56-1	59.7	55.3	58.7	59.7	58.1
10	AR96052-4-3	60.4	53.3	55.7	56.2	56.8
11	AR98088-1-1	61.8	56.9	59.5	59.4	59.5
12	NC05-19684	63.3	55.6	58.9	58.3	58.2
13	MD00W389-08-4	61.4	54.5	59.4	57.9	57.4
14	MD01W270-08-12	61.7	55.6	58.5	58.7	58.3
15	MD01W28-08-11	61.2	58.0	60.6	58.1	60.0
16	B05-0142	59.5	52.8	56.0	55.7	56.8
17	B05-0329	58.6	54.0	56.6	57.8	57.1
18	B05*0323	60.4	55.4	58.9	57.7	57.5
19	NC05-19896	61.8	56.2	59.1	58.7	58.6
20	NC06-20401	61.3	56.4	59.0	57.2	58.1
21	NC06-19556	60.8	54.7	57.7	57.3	56.8
22	TN902	60.8	51.8	56.9	54.1	56.6
23	LA01139D-86-2	61.5	53.8	58.3	57.9	57.8
24	LA0110D-84-2	61.7	54.9	59.0	58.3	57.0
25	LA01056D-84-7-2	61.5	52.9	58.8	59.3	57.4
26	VA06W-412	60.5	54.2	57.0	58.6	58.2
27	GA00067-8E35	62.2	54.9	59.3	59.4	58.0
28	GA001138-8E36	61.5	51.8	52.0	60.2	53.4
29	GA011493-8E18	61.6	56.4	55.7	60.3	57.9
30	G75735	61.7	56.6	60.1	57.9	58.7
31	G81036	59.7	53.6	55.7	57.3	58.4
32	G75692	61.0	54.0	59.8	57.3	57.6
LOCATION MEANS		61.0	54.4	57.7	58.1	57.4

TEST WEIGHT (lbs/bu)

		Schochoh KY Van Sanford	Baton Rouge LA Harrison	Winnsboro LA Harrison	Queenstown MD Costa	Cleveland MS Hancock
1	AGS 2000	56.3	55.5	54.0	60.8	59.2
2	Pioneer Brand 26R61	54.9	56.1	59.8	61.6	
3	Coker 9553	57.8	56.5	56.6	62.0	60.9
4	USG 3555	55.6	54.9	53.8	59.4	
5	W980031K1	56.9	55.8	56.5	62.1	60.0
6	VA05W-139	54.4	54.6	54.5	61.1	
7	VA06W-392	54.8	53.4	53.5	61.2	56.4
8	VA05W-251	55.8	52.6	51.3	59.8	56.5
9	LA01139D-56-1	56.7	56.0	54.8	61.1	58.1
10	AR96052-4-3	56.0	54.3	52.7	59.2	57.0
11	AR98088-1-1	58.6	56.1	55.2	60.3	59.5
12	NC05-19684	57.7	56.8	54.2	62.1	56.1
13	MD00W389-08-4	56.9	54.7	53.4	61.0	58.7
14	MD01W270-08-12	58.4	56.6	55.5	61.3	60.8
15	MD01W28-08-11	59.2	55.5	52.7	63.3	57.4
16	B05-0142	54.2	51.9	53.2	60.6	58.2
17	B05-0329	55.8	54.7	55.8	61.2	57.6
18	B05*0323	56.9	53.6	53.8	59.9	57.4
19	NC05-19896	57.3	55.7	56.5	60.7	59.6
20	NC06-20401	56.6	55.4	55.9	60.8	59.3
21	NC06-19556	53.2	54.7	54.1	61.2	
22	TN902	54.5	53.9	52.2	59.4	52.8
23	LA01139D-86-2	55.1	55.9	56.1	60.8	57.4
24	LA0110D-84-2	56.7	55.8	55.3	60.3	59.3
25	LA01056D-84-7-2	54.5	56.7	54.9	60.4	59.0
26	VA06W-412	57.2	54.2	54.6	61.3	56.9
27	GA00067-8E35	56.9	54.8	55.9	61.3	57.2
28	GA001138-8E36	54.6	56.3	56.8	60.9	58.2
29	GA011493-8E18	57.7	57.6	56.6	62.2	60.1
30	G75735	57.6	54.6	52.8	60.7	55.6
31	G81036	56.2	53.2	53.5	60.9	55.9
32	G75692	54.9	53.6	54.1	61.0	57.2
LOCATION MEANS		56.2	55.1	54.7	60.9	57.9

TEST WEIGHT (lbs/bu)

		Newton MS Burgess	Portageville MO McKendry	Kinston NC Murphy	Knoxville TN West	Prosper TX Sutton
1	AGS 2000	57.0	61.2	57.5	57.0	56.2
2	Pioneer Brand 26R61	57.0	60.5	59.0	59.4	59.9
3	Coker 9553	57.0	61.5	58.3	57.9	61.4
4	USG 3555	54.0	59.7	57.2	54.7	58.5
5	W980031K1	58.0	60.7	59.4	59.1	60.9
6	VA05W-139	56.0	60.7	58.9	59.1	59.8
7	VA06W-392	57.0	59.3	57.6	56.7	55.8
8	VA05W-251	55.0	59.6	57.0	55.6	54.1
9	LA01139D-56-1	57.0	61.1	56.6	58.4	59.0
10	AR96052-4-3	55.0	59.0	56.6	56.9	58.0
11	AR98088-1-1	57.0	60.7	60.0	58.0	60.9
12	NC05-19684	58.0	60.6	59.5	58.4	57.1
13	MD00W389-08-4	57.0	61.1	57.6	57.5	56.8
14	MD01W270-08-12	58.0	61.1	58.3	58.2	58.1
15	MD01W28-08-11	57.0	61.7	58.3	58.4	57.7
16	B05-0142	56.0	58.2	56.2	54.4	58.4
17	B05-0329	58.0	59.8	58.2	57.3	59.0
18	B05*0323	55.0	60.4	57.3	55.7	58.0
19	NC05-19896	58.0	59.8	59.7	57.9	60.5
20	NC06-20401	56.0	60.5	59.6	57.7	58.0
21	NC06-19556	55.0	59.9	59.0	54.5	58.9
22	TN902	55.0	58.2	57.6	54.2	53.5
23	LA01139D-86-2	56.0	61.5	57.4	56.6	57.8
24	LA0110D-84-2	56.0	60.5	58.4	57.0	60.8
25	LA01056D-84-7-2	55.0	60.3	57.9	56.4	59.9
26	VA06W-412	56.0	61.2	59.2	57.3	57.8
27	GA00067-8E35	55.0	60.2	58.7	56.2	60.5
28	GA001138-8E36	57.0	61.9	59.6	59.7	59.1
29	GA011493-8E18	57.0	62.6	61.1	58.3	60.5
30	G75735	57.0	60.6	58.7	57.6	55.9
31	G81036	56.0	59.4	57.9	55.8	55.8
32	G75692	54.0	59.2	57.9	56.9	58.3
LOCATION MEANS		56.3	60.4	58.3	57.2	58.3

TEST WEIGHT (lbs/bu)

		Blacksburg VA Griffey	Warsaw VA Griffey	ENTRY MEANS ALL LOCATIONS	rank
1	AGS 2000	62.7	61.0	57.5	21
2	Pioneer Brand 26R61	63.7	62.4	58.3	10
3	Coker 9553	64.3	61.6	59.1	1
4	USG 3555	60.8	59.6	56.9	25
5	W980031K1	63.8	62.2	58.3	8
6	VA05W-139	61.9	61.4	57.4	22
7	VA06W-392	62.7	60.5	56.9	26
8	VA05W-251	62.2	60.1	56.3	30
9	LA01139D-56-1	63.5	61.4	58.3	9
10	AR96052-4-3	61.2	59.9	56.7	28
11	AR98088-1-1	63.0	61.1	58.9	3
12	NC05-19684	63.5	62.1	58.3	7
13	MD00W389-08-4	63.0	60.4	57.7	16
14	MD01W270-08-12	63.0	60.7	58.5	6
15	MD01W28-08-11	62.1	61.7	58.7	4
16	B05-0142	61.6	59.7	56.1	31
17	B05-0329	61.8	61.4	57.6	19
18	B05*0323	62.5	60.3	57.2	23
19	NC05-19896	63.2	61.5	58.6	5
20	NC06-20401	61.5	61.3	58.2	11
21	NC06-19556	62.1	60.5	56.8	27
22	TN902	62.4	59.9	55.5	32
23	LA01139D-86-2	63.6	61.6	57.6	17
24	LA0110D-84-2	63.3	61.7	58.2	12
25	LA01056D-84-7-2	62.1	60.4	57.5	20
26	VA06W-412	62.9	62.1	57.9	13
27	GA00067-8E35	63.7	61.6	57.9	15
28	GA001138-8E36	63.6	61.7	57.9	14
29	GA011493-8E18	64.3	63.2	59.0	2
30	G75735	62.9	60.7	57.6	18
31	G81036	61.3	60.4	56.5	29
32	G75692	62.2	59.2	56.9	24
LOCATION MEANS		62.7	61.0	57.6	

HEADING DATE (Julian Days)

		Belle Mina AL Glass	Bay AR Hancock	Quincy FL Barnett	Griffin GA Johnson	Plains GA Johnson
1	AGS 2000	113	113.5	110	112	108
2	Pioneer Brand 26R61	116	114.5	110	112	109
3	Coker 9553	112	110.0	106	108	109
4	USG 3555	113	113.5	111	111	108
5	W980031K1	116	114.5	109	112	109
6	VA05W-139	116	117.0	114	112	111
7	VA06W-392	115	116.0	112	113	110
8	VA05W-251	113	115.5	108	113	109
9	LA01139D-56-1	112	110.0	105	109	104
10	AR96052-4-3	113	115.5	114	111	107
11	AR98088-1-1	113	112.0	106	111	108
12	NC05-19684	113	116.0		115	110
13	MD00W389-08-4	111	109.5	112	109	108
14	MD01W270-08-12	111	112.5		110	109
15	MD01W28-08-11	116	116.0	115	113	111
16	B05-0142	113	115.5	110	112	110
17	B05-0329	116	117.0	119	114	111
18	B05*0323	115	117.5		115	113
19	NC05-19896	113	114.5		113	111
20	NC06-20401	113	114.0	114	109	108
21	NC06-19556	113	115.0	118	113	109
22	TN902	113	115.5	117	115	110
23	LA01139D-86-2	113	110.5	108	112	105
24	LA0110D-84-2	112	110.0	104	110	104
25	LA01056D-84-7-2	113	111.0	109	108	109
26	VA06W-412	116	116.0	106	114	109
27	GA00067-8E35	113	111.0	111	112	109
28	GA001138-8E36	116	117.0	109	113	108
29	GA011493-8E18	116	117.5	111	113	110
30	G75735	113	115.5		115	110
31	G81036	116	117.0		114	111
32	G75692	112	111.0		110	108
LOCATION MEANS		113.7	114.1	110.7	112.0	108.9

HEADING DATE (Julian Days)

		Battle Ground IN Peterson	Delphi IN Fogleman	Ferdinand IN Fogleman	Lexington KY Van Sanford	Baton Rouge LA Harrison
1	AGS 2000	126.0	130.0	123.5	125.8	94.0
2	Pioneer Brand 26R61	127.0	132.0	125.5	127.5	94.5
3	Coker 9553	126.0	127.0	124.5	124.6	96.0
4	USG 3555	127.0	132.0	127.0	124.8	96.5
5	W980031K1	128.0	133.0	126.5	125.7	94.5
6	VA05W-139	129.0	134.0	127.0	129.4	98.0
7	VA06W-392	127.0	133.0	126.0	126.3	96.5
8	VA05W-251	128.5	132.0	126.0	126.0	95.0
9	LA01139D-56-1	127.0	128.5	123.0	124.5	92.5
10	AR96052-4-3	127.0	128.0	126.0	126.4	96.5
11	AR98088-1-1	127.0	131.0	125.0	124.9	95.5
12	NC05-19684	127.0	132.0	126.5	125.9	101.0
13	MD00W389-08-4	127.0	130.0	124.5	124.3	94.0
14	MD01W270-08-12	126.0	128.0	124.5	124.3	99.5
15	MD01W28-08-11	126.0	134.0	127.0	127.5	101.5
16	B05-0142	128.0	132.0	126.0	125.2	96.5
17	B05-0329	129.0	134.0	127.0	127.1	102.0
18	B05*0323	127.5	134.0	126.0	125.6	102.5
19	NC05-19896	125.0	131.0	125.0	124.5	104.0
20	NC06-20401	125.0	130.0	124.0	126.1	103.0
21	NC06-19556	126.0	131.0	125.0	125.4	99.0
22	TN902	126.0	129.0	123.0	125.0	100.5
23	LA01139D-86-2	127.0	133.0	124.5	124.8	94.0
24	LA0110D-84-2	126.0	130.0	124.0	125.1	91.5
25	LA01056D-84-7-2	126.0	129.0	124.0	125.2	92.0
26	VA06W-412	127.0	134.0	127.5	126.8	97.5
27	GA00067-8E35	126.0	129.0	124.5	125.7	93.5
28	GA001138-8E36	128.0	133.0		130.3	95.5
29	GA011493-8E18	128.0	134.0	125.5	126.9	97.5
30	G75735	125.0	130.0	123.5	125.6	104.0
31	G81036	128.5	132.0	126.5	125.2	104.0
32	G75692	126.0	125.0	120.5	124.3	98.0
LOCATION MEANS		126.9	131.1	125.1	125.8	97.5

HEADING DATE (Julian Days)

		Winnsboro LA Harrison	Queenstown MD Costa	Portageville MO McKendry	Kinston NC Murphy	Wooster OH Sneller
1	AGS 2000	100.5	122.0	119.7	104	143
2	Pioneer Brand 26R61	102.5	124.0	121.0	104	142
3	Coker 9553	102.0	122.0	120.0	105	139
4	USG 3555	103.5	123.5	121.0	105	142
5	W980031K1	102.0	124.0	120.3	106	142
6	VA05W-139	105.0	125.5	122.0	110	144
7	VA06W-392	104.5	125.0	122.3	109	143
8	VA05W-251	103.0	124.5	121.3	106	144
9	LA01139D-56-1	100.0	121.5	120.0	105	142
10	AR96052-4-3	101.5	123.0	122.0	108	144
11	AR98088-1-1	102.5	123.0	119.7	106	142
12	NC05-19684	103.5	123.5	121.7	107	143
13	MD00W389-08-4	100.0	122.0	120.7	106	143
14	MD01W270-08-12	103.5	122.0	120.0	106	140
15	MD01W28-08-11	105.0	125.5	121.0	107	144
16	B05-0142	103.0	123.5	119.3	106	142
17	B05-0329	105.0	126.5	123.0	110	144
18	B05*0323	105.5	124.0	121.0	110	142
19	NC05-19896	104.0	124.0	121.0	106	142
20	NC06-20401	104.0	123.5	121.0	107	141
21	NC06-19556	103.5	122.5	121.3	107	141
22	TN902	105.0	122.0	120.7	108	140
23	LA01139D-86-2	99.5	122.0	119.7	104	141
24	LA0110D-84-2	98.0	122.0	120.0	104	140
25	LA01056D-84-7-2	100.5	121.5	120.0	104	141
26	VA06W-412	104.0	125.5	122.7	106	143
27	GA00067-8E35	100.5	121.5	119.7	105	140
28	GA001138-8E36	105.5	126.5	121.0	106	144
29	GA011493-8E18	104.5	124.5	120.3	107	142
30	G75735	105.0	122.5	120.3	111	140
31	G81036	105.0	125.0	121.7	111	143
32	G75692	102.0	121.0	119.7	105	138
LOCATION MEANS		102.9	123.4	120.8	106.6	141.9

HEADING DATE (Julian Days)

		Knoxville TN West	Prosper TX Sutton	Blacksburg VA Griffey	Warsaw VA Griffey	ENTRY MEANS ALL LOCATIONS	rank
1	AGS 2000	118	112	123.0	118.0	116.6	9
2	Pioneer Brand 26R61	121	116	123.0	118.0	117.9	16
3	Coker 9553	118	111	123.0	118.0	115.8	4
4	USG 3555	120	111	124.0	120.0	117.6	12
5	W980031K1	121	112	123.0	118.0	117.7	13
6	VA05W-139	121	112	127.0	122.0	119.8	28
7	VA06W-392	121	116	123.0	120.5	118.9	26
8	VA05W-251	122	112	124.0	121.0	118.1	18
9	LA01139D-56-1	118	107	123.0	117.0	115.2	2
10	AR96052-4-3	120	111	127.0	118.0	117.8	15
11	AR98088-1-1	120	111	123.0	118.0	116.8	10
12	NC05-19684	120	116	127.0	118.0	119.2	27
13	MD00W389-08-4	118	108	124.0	116.0	116.2	7
14	MD01W270-08-12	120	111	125.0	117.0	117.2	11
15	MD01W28-08-11	121	116	128.0	121.5	119.8	29
16	B05-0142	121	112	124.0	119.0	117.8	14
17	B05-0329	123	116	127.5	121.5	120.7	32
18	B05*0323	123	116	127.0	120.5	120.3	30
19	NC05-19896	121	111	125.0	118.5	118.5	22
20	NC06-20401	121	114	127.5	118.0	118.1	17
21	NC06-19556	122	111	127.5	118.5	118.4	20
22	TN902	122	111	126.0	118.0	118.2	19
23	LA01139D-86-2	118	110	122.0	117.0	116.1	6
24	LA0110D-84-2	118	110	122.0	116.0	115.1	1
25	LA01056D-84-7-2	118	110	121.0	117.0	115.7	3
26	VA06W-412	121	112	126.0	120.0	118.6	23
27	GA00067-8E35	119	111	122.5	117.5	116.4	8
28	GA001138-8E36	120	116	123.0	121.0	118.5	21
29	GA011493-8E18	121	116	123.0	118.0	118.7	25
30	G75735	119	111	126.0	119.0	118.6	24
31	G81036	122	116	127.5	121.0	120.4	31
32	G75692	118	111	123.0	115.0	116.0	5
LOCATION MEANS		120.2	112.4	124.6	118.6	117.8	

HEIGHT (inches)

		Belle Mina AL Glass	Bay AR Hancock	Georgetown DE Uniatowski	Quincy FL Barnett	Griffin GA Johnson
1	AGS 2000	34	34.0	31.7	40.0	30
2	Pioneer Brand 26R61	35	32.5	31.0	38.7	31
3	Coker 9553	31	34.0	29.3	36.7	33
4	USG 3555	28	31.5	28.0	32.7	28
5	W980031K1	34	33.5	31.0	39.7	32
6	VA05W-139	31	31.0	26.7	33.7	29
7	VA06W-392	31	32.0	31.0	35.3	26
8	VA05W-251	28	31.5	27.3	36.0	24
9	LA01139D-56-1	29	30.5	27.5	33.7	26
10	AR96052-4-3	31	32.0	32.3	35.3	27
11	AR98088-1-1	33	34.5	30.7	38.0	30
12	NC05-19684	28	30.5	27.5	31.0	24
13	MD00W389-08-4	29	32.0	25.6	32.7	24
14	MD01W270-08-12	30	32.0	26.0	36.0	26
15	MD01W28-08-11	34	34.0	30.0	38.7	26
16	B05-0142	34	32.5	30.0	36.0	31
17	B05-0329	36	34.5	31.3	39.0	33
18	B05*0323	32	34.5	30.5	38.0	32
19	NC05-19896	29	30.5	27.0	34.0	28
20	NC06-20401	31	32.0	28.0	35.0	31
21	NC06-19556	28	29.5	25.0	29.7	28
22	TN902	33	33.0	31.0	39.0	26
23	LA01139D-86-2	34	33.0	31.3	36.7	31
24	LA0110D-84-2	33	34.0	30.3	40.3	31
25	LA01056D-84-7-2	31	33.0	29.3	37.7	32
26	VA06W-412	32	30.5	29.7	34.3	30
27	GA00067-8E35	31	32.5	29.0	33.0	32
28	GA001138-8E36	36	36.0	33.3	40.0	38
29	GA011493-8E18	33	30.5	30.0	37.3	33
30	G75735	34	35.5	29.3	41.7	28
31	G81036	34	34.5	30.3	37.0	31
32	G75692	27	32.0	27.3	34.0	28
LOCATION MEANS		31.7	32.6	29.3	36.3	29.3

HEIGHT (inches)

		Plains GA Johnson	Battle Ground IN Peterson	Delphi IN Fogleman	Lexington KY Van Sanford	Schochoh KY Van Sanford
1	AGS 2000	31	36	33.9	33.4	34
2	Pioneer Brand 26R61	30	36	34.6	33.5	34
3	Coker 9553	29	35	38.6	30.3	32
4	USG 3555	25	31	39.8	31.9	28
5	W980031K1	28	36	35.0	33.3	32
6	VA05W-139	26	31	31.9	30.5	31
7	VA06W-392	27	32	40.2	29.9	32
8	VA05W-251	24	32	34.6	30.0	31
9	LA01139D-56-1	25	33	35.8	29.4	30
10	AR96052-4-3	24	34	33.1	32.4	32
11	AR98088-1-1	30	36	37.0	32.3	34
12	NC05-19684	24	32	36.6	28.1	28
13	MD00W389-08-4	25	31	39.4	28.5	26
14	MD01W270-08-12	28	31	31.9	30.4	32
15	MD01W28-08-11	32	36	35.0	34.4	35
16	B05-0142	27	33	37.0	31.2	33
17	B05-0329	30	37	38.2	32.1	37
18	B05*0323	30	37	34.6	32.5	35
19	NC05-19896	25	31	41.7	28.7	28
20	NC06-20401	27	33	37.8	32.7	31
21	NC06-19556	26	27	33.1	27.1	24
22	TN902	30	35	35.0	33.1	32
23	LA01139D-86-2	31	35	32.3	32.1	36
24	LA0110D-84-2	31	35	37.8	32.7	32
25	LA01056D-84-7-2	28	33	38.6	32.4	29
26	VA06W-412	28	32	37.4	32.1	31
27	GA00067-8E35	28	33	39.0	29.1	28
28	GA001138-8E36	32	37	35.4	38.1	39
29	GA011493-8E18	31	33	34.6	32.9	33
30	G75735	33	35	43.3	32.4	34
31	G81036	30	34	39.0	34.6	33
32	G75692	26	29	39.4	27.4	27
LOCATION MEANS		28.2	33.5	36.6	31.5	31.7

HEIGHT (inches)

		Baton Rouge LA Harrison	Winnsboro LA Harrison	Queenstown MD Costa	Cleveland MS Hancock	Newton MS Burgess
1	AGS 2000	32.5	37.0	36.5	38.5	37
2	Pioneer Brand 26R61	35.0	33.5	36.5	35.0	36
3	Coker 9553	33.5	35.0	34.5	38.5	35
4	USG 3555	30.5	30.5	32.0	31.5	32
5	W980031K1	34.5	34.0	34.5	35.5	34
6	VA05W-139	31.0	32.5	31.0	33.0	33
7	VA06W-392	31.5	33.0	31.0	35.5	33
8	VA05W-251	28.0	33.0	30.5	34.0	32
9	LA01139D-56-1	26.5	30.5	30.5	32.5	32
10	AR96052-4-3	33.5	33.0	33.5	36.0	35
11	AR98088-1-1	34.0	36.5	35.0	38.0	37
12	NC05-19684	28.0	29.0	29.5	32.5	30
13	MD00W389-08-4	29.0	32.5	33.0	33.0	34
14	MD01W270-08-12	31.5	34.5	33.0	35.0	36
15	MD01W28-08-11	30.0	36.5	33.5	36.0	37
16	B05-0142	31.5	35.0	33.5	35.0	35
17	B05-0329	33.5	38.5	35.0	38.0	39
18	B05*0323	33.0	37.0	35.0	36.5	38
19	NC05-19896	32.0	33.5	30.5	32.5	34
20	NC06-20401	30.0	34.5	32.5	32.0	33
21	NC06-19556	27.5	29.5	28.0	30.0	32
22	TN902	32.0	38.0	36.0	37.0	35
23	LA01139D-86-2	34.0	36.0	35.0	36.5	36
24	LA0110D-84-2	36.5	37.0	37.0	38.5	37
25	LA01056D-84-7-2	33.5	36.5	34.5	34.0	36
26	VA06W-412	29.0	33.5	33.5	32.5	33
27	GA00067-8E35	30.0	35.5	31.5	35.5	34
28	GA001138-8E36	36.0	38.5	37.0	38.5	41
29	GA011493-8E18	31.0	34.5	33.0	34.0	36
30	G75735	31.0	39.0	32.5	37.5	44
31	G81036	33.0	34.5	33.0	37.0	37
32	G75692	30.0	33.0	30.0	34.5	37
LOCATION MEANS		31.6	34.5	33.2	35.1	35.3

HEIGHT (inches)

		Portageville MO McKendry	Kinston NC Murphy	Wooster OH Sneller	Knoxville TN West	Prosper TX Sutton
1	AGS 2000	31	31.7	37	36	33.0
2	Pioneer Brand 26R61	32	29.1	39	35	34.0
3	Coker 9553	33	28.9	39	32	36.0
4	USG 3555	29	24.8	33	26	29.5
5	W980031K1	33	28.0	39	37	36.0
6	VA05W-139	32	27.8	33	31	29.0
7	VA06W-392	31	26.2	35	32	30.0
8	VA05W-251	29	29.1	32	33	29.0
9	LA01139D-56-1	32	25.0	36	32	28.5
10	AR96052-4-3	31	28.1	33	33	33.5
11	AR98088-1-1	32	30.1	37	35	34.5
12	NC05-19684	29	25.8	32	29	30.0
13	MD00W389-08-4	29	25.8	35	31	29.5
14	MD01W270-08-12	30	27.6	34	36	30.5
15	MD01W28-08-11	33	32.7	38	37	29.0
16	B05-0142	32	28.3	34	34	33.0
17	B05-0329	34	34.4	38	41	35.0
18	B05*0323	31	32.9	37	36	32.0
19	NC05-19896	29	27.4	33	30	30.5
20	NC06-20401	31	30.5	35	35	29.5
21	NC06-19556	27	26.6	32	30	26.0
22	TN902	33	31.9	39	38	28.0
23	LA01139D-86-2	30	29.7	39	41	32.0
24	LA0110D-84-2	33	30.5	39	37	34.5
25	LA01056D-84-7-2	29	27.6	38	33	30.5
26	VA06W-412	31	29.9	35	34	28.0
27	GA00067-8E35	33	26.6	36	31	32.0
28	GA001138-8E36	36	33.3	39	38	36.5
29	GA011493-8E18	30	29.5	35	34	33.0
30	G75735	32	37.2	39	37	34.5
31	G81036	32	31.3	35	34	32.0
32	G75692	30	27.0	32	31	29.0
LOCATION MEANS		31.2	29.2	35.8	34.0	31.5

HEIGHT (inches)

		Blacksburg VA Griffey	Warsaw VA Griffey	ENTRY MEANS ALL LOCATIONS	rank
1	AGS 2000	37.5	32.0	34.4	6
2	Pioneer Brand 26R61	38.5	33.0	34.2	9
3	Coker 9553	39.5	32.5	33.9	11
4	USG 3555	35.5	27.5	30.3	30
5	W980031K1	40.5	32.5	34.2	8
6	VA05W-139	36.0	28.0	30.9	24
7	VA06W-392	34.0	28.5	31.7	23
8	VA05W-251	38.0	28.0	30.6	26
9	LA01139D-56-1	35.0	30.0	30.5	28
10	AR96052-4-3	37.5	30.0	32.3	18
11	AR98088-1-1	40.0	34.5	34.5	5
12	NC05-19684	31.0	27.5	29.2	31
13	MD00W389-08-4	35.5	27.5	30.4	29
14	MD01W270-08-12	38.0	29.5	31.8	22
15	MD01W28-08-11	35.5	31.5	33.9	12
16	B05-0142	35.5	29.5	32.8	17
17	B05-0329	38.0	30.0	35.6	3
18	B05*0323	39.5	31.5	34.3	7
19	NC05-19896	35.0	28.0	30.8	25
20	NC06-20401	34.5	29.5	32.1	20
21	NC06-19556	32.0	26.5	28.4	32
22	TN902	37.5	31.5	33.8	13
23	LA01139D-86-2	38.0	33.0	34.2	10
24	LA0110D-84-2	39.0	33.5	35.0	4
25	LA01056D-84-7-2	35.5	30.5	32.8	16
26	VA06W-412	34.5	29.5	31.8	21
27	GA00067-8E35	38.0	28.5	32.1	19
28	GA001138-8E36	38.5	33.5	36.8	1
29	GA011493-8E18	37.5	31.5	33.1	15
30	G75735	37.5	35.5	35.6	2
31	G81036	38.0	29.0	33.8	14
32	G75692	35.0	27.5	30.6	27
LOCATION MEANS		36.7	30.3	32.7	

LODGING

		Battle Ground IN	Portageville MO	Blacksburg VA	Warsaw VA	Oconto WI
		Peterson	McKendry	Griffey	Griffey	Cisar
		0-9	0-9	0-9	0-9	0-9
1	AGS 2000	0.0	1.3	3.5	1.5	2
2	Pioneer Brand 26R61	0.0	0.0	0.0	1.0	0
3	Coker 9553	1.0	0.7	0.0	1.5	1
4	USG 3555	1.5	0.3	0.0	2.0	5
5	W980031K1	0.0	1.0	0.0	1.5	0
6	VA05W-139	0.0	0.7	0.0	0.5	0
7	VA06W-392	3.5	2.3	2.0	1.5	7
8	VA05W-251	4.5	0.7	2.0	2.0	8
9	LA01139D-56-1	2.0	1.0	0.0	1.0	5
10	AR96052-4-3	3.0	1.7	2.0	1.5	7
11	AR98088-1-1	3.0	2.3	4.0	2.0	6
12	NC05-19684	2.0	1.0	1.0	2.0	6
13	MD00W389-08-4	1.0	1.7	0.0	2.0	5
14	MD01W270-08-12	3.0	2.3	1.0	1.5	8
15	MD01W28-08-11	2.0	1.7	1.0	3.0	5
16	B05-0142	0.0	1.0	0.0	1.5	6
17	B05-0329	2.0	0.7	3.5	1.5	1
18	B05*0323	3.0	1.7	0.5	2.0	5
19	NC05-19896	1.0	0.3	1.5	1.0	4
20	NC06-20401	3.0	1.0	4.5	2.0	5
21	NC06-19556	0.0	0.0	2.0	1.5	6
22	TN902	2.0	0.7	0.0	2.0	8
23	LA01139D-86-2	2.0	1.3	1.5	1.0	2
24	LA0110D-84-2	0.0	0.3	0.5	1.5	3
25	LA01056D-84-7-2	1.0	2.0	0.5	2.0	3
26	VA06W-412	0.0	1.3	0.0	2.0	3
27	GA00067-8E35	0.0	0.7	0.0	1.5	6
28	GA001138-8E36	0.0	0.3	1.5	0.5	0
29	GA011493-8E18	1.0	1.3	0.5	1.5	7
30	G75735	3.0	2.7	2.0	3.0	7
31	G81036	1.0	1.0	0.0	1.5	4
32	G75692	0.0	2.7	0.0	2.0	7
LOCATION MEANS		1.4	1.2	1.1	1.6	4.4
GROWTH STAGE / DATE		June 29				

LODGING

ENTRY MEANS
ALL LOCATIONS

			rank
1	AGS 2000	1.7	12
2	Pioneer Brand 26R61	0.2	1
3	Coker 9553	0.8	5
4	USG 3555	1.8	16
5	W980031K1	0.5	4
6	VA05W-139	0.2	2
7	VA06W-392	3.3	29
8	VA05W-251	3.4	30
9	LA01139D-56-1	1.8	17
10	AR96052-4-3	3.0	26
11	AR98088-1-1	3.5	31
12	NC05-19684	2.4	22
13	MD00W389-08-4	1.9	19
14	MD01W270-08-12	3.2	28
15	MD01W28-08-11	2.5	24
16	B05-0142	1.7	13
17	B05-0329	1.7	15
18	B05*0323	2.4	23
19	NC05-19896	1.6	9
20	NC06-20401	3.1	27
21	NC06-19556	1.9	18
22	TN902	2.5	24
23	LA01139D-86-2	1.6	9
24	LA0110D-84-2	1.1	6
25	LA01056D-84-7-2	1.7	13
26	VA06W-412	1.3	7
27	GA00067-8E35	1.6	11
28	GA001138-8E36	0.5	3
29	GA011493-8E18	2.3	20
30	G75735	3.5	32
31	G81036	1.5	8
32	G75692	2.3	21

LOCATION MEANS 2.0
GROWTH STAGE / DATE

WINTER DAMAGE

		Oconto WI Cisar 0-9
1	AGS 2000	0
2	Pioneer Brand 26R61	2
3	Coker 9553	6
4	USG 3555	4
5	W980031K1	4
6	VA05W-139	3
7	VA06W-392	3
8	VA05W-251	2
9	LA01139D-56-1	2
10	AR96052-4-3	3
11	AR98088-1-1	0
12	NC05-19684	2
13	MD00W389-08-4	2
14	MD01W270-08-12	2
15	MD01W28-08-11	2
16	B05-0142	2
17	B05-0329	2
18	B05*0323	0
19	NC05-19896	0
20	NC06-20401	0
21	NC06-19556	0
22	TN902	2
23	LA01139D-86-2	7
24	LA0110D-84-2	5
25	LA01056D-84-7-2	4
26	VA06W-412	0
27	GA00067-8E35	3
28	GA001138-8E36	3
29	GA011493-8E18	3
30	G75735	1
31	G81036	4
32	G75692	4
LOCATION MEANS		2.4

LEAF RUST

		Bay AR	Battle Ground IN	Winfield KS	Kinston NC	Blacksburg VA
		Hancock	Peterson	Perry	Murphy	Griffey
		0-9	0-9		0-9	0-9
1	AGS 2000	2	1	6	0.5	1.0
2	Pioneer Brand 26R61	1	0	6	1.0	4.5
3	Coker 9553	2	1	8	1.0	5.0
4	USG 3555	3	3	4	4.5	6.5
5	W980031K1	1	0	4	0.5	3.0
6	VA05W-139	1	6	4	1.0	3.5
7	VA06W-392	0	0	5	0.0	1.5
8	VA05W-251	2	0	4	0.5	2.0
9	LA01139D-56-1	3	3	4	5.0	5.5
10	AR96052-4-3	3	0	6	3.0	3.0
11	AR98088-1-1	2	3	3	2.0	5.0
12	NC05-19684	3	2	6	0.5	4.0
13	MD00W389-08-4	3	7	4	7.5	5.5
14	MD01W270-08-12	3	3	7	3.5	5.5
15	MD01W28-08-11	1	0	3	0.0	0.0
16	B05-0142	2	0	6	1.0	3.5
17	B05-0329	2	2	4	1.5	3.0
18	B05*0323	2	2	3	1.0	3.5
19	NC05-19896	1	1	7	1.5	2.5
20	NC06-20401	1	0	3	0.5	0.0
21	NC06-19556	0	0	3	0.5	0.5
22	TN902		6	7	3.0	5.0
23	LA01139D-86-2	1	1	6	1.0	5.0
24	LA0110D-84-2	1	0	5	1.0	1.5
25	LA01056D-84-7-2	1	0	3	0.0	5.5
26	VA06W-412	1	0	3	0.5	0.5
27	GA00067-8E35	0	0	4	1.0	0.5
28	GA001138-8E36	1	0	3	0.0	0.0
29	GA011493-8E18	1	0	2	0.5	0.0
30	G75735		3	7	2.0	4.5
31	G81036	6	2	5	2.5	5.0
32	G75692	2	2	7	1.5	3.5
LOCATION MEANS		1.7	1.5	4.8	1.5	3.1
GROWTH STAGE / DATE			June 10			

LEAF RUST

		Warsaw VA Griffey 0-9	Oconto WI Cisar	ENTRY MEANS ALL LOCATIONS	rank
1	AGS 2000	1.5	0	1.7	12
2	Pioneer Brand 26R61	2.0	2	2.4	16
3	Coker 9553	4.0	1	3.1	23
4	USG 3555	6.0	8	5.0	30
5	W980031K1	2.5	3	2.0	13
6	VA05W-139	2.5	1	2.7	20
7	VA06W-392	0.0	0	0.9	7
8	VA05W-251	0.5	0	1.3	9
9	LA01139D-56-1	4.5	3	4.0	26
10	AR96052-4-3	4.0	0	2.7	20
11	AR98088-1-1	5.0	3	3.3	24
12	NC05-19684	1.0	0	2.4	16
13	MD00W389-08-4	6.0	7	5.7	32
14	MD01W270-08-12	6.5	4	4.6	29
15	MD01W28-08-11	0.0	2	0.9	5
16	B05-0142	3.0	0	2.2	14
17	B05-0329	3.0	1	2.4	16
18	B05*0323	2.5	2	2.3	15
19	NC05-19896	4.0	0	2.4	19
20	NC06-20401	1.0	0	0.8	4
21	NC06-19556	0.0	0	0.6	1
22	TN902	5.5	7	5.6	31
23	LA01139D-86-2	2.5	5	3.1	22
24	LA0110D-84-2	1.0	0	1.4	10
25	LA01056D-84-7-2	0.5	0	1.4	11
26	VA06W-412	1.0	0	0.9	5
27	GA00067-8E35	2.0	1	1.2	8
28	GA001138-8E36	0.5	0	0.6	3
29	GA011493-8E18	0.5	0	0.6	1
30	G75735	4.0		4.1	27
31	G81036	5.5	4	4.3	28
32	G75692	2.5	6	3.5	25
LOCATION MEANS		2.7	1.9	2.5	
GROWTH STAGE / DATE					

LEAF RUST

St. Paul
MN
Long/Kolmer

		Reactions produced by NA race* **								Postulated
		TNRJ	TCQJ	TCRK	TDBG	TJBG	MFPS	MBTS	FCNB	genes***
1	AGS 2000	;1c	3	3	;	;	;2	;	;	11,26
2	Pioneer Brand 26R61	;1c1	3	3	;	;	;2	;	;	11,26
3	Coker 9553	3	3	3	;	;	;	3	;	11
4	USG 3555	3	3	3	;	;	;	3	;3-3	11
5	W980031K1	;	3;	;	;	;	;	;	;	+
6	VA05W-139	;1	3;	3	;	;	;	;	;	11,26
7	VA06W-392	;2	;	;	;	;2	;	;	;	+
8	VA05W-251	;1c	;	;	;	;	;	;	;	+
9	LA01139D-56-1	3	3	3	3	-	3	3	3	-
10	AR96052-4-3	;1c	;	;3	;	;	;	;	;	18
11	AR98088-1-1	3	3	3	3	3	3	3	3	-
12	NC05-19684	3	;	;	;	;	;	;	;	9,24
13	MD00W389-08-4	3	3	3	;	;	;	3	-	11
14	MD01W270-08-12	-	-	3	-	3	3	3	3	-
15	MD01W28-08-11	-	-	-	-	-	-	;	;	-
16	B05-0142	;	;	3	;	;	;	;	-	18,26
17	B05-0329	-	3	3	3	;-3	3	3	3	-
18	B05*0323	;	;	;	;	;	;	;	;	+
19	NC05-19896	;1c	;	;	3;	;	;	;	;	+
20	NC06-20401	;	;	;1c2	;	;	;	;	;1c	+
21	NC06-19556	;	;	;	;	;	;	;	;	+
22	TN902	3;	3	3	;	;	;	3	;	11
23	LA01139D-86-2	;	;	;	;	;	3	;	;	24,26
24	LA0110D-84-2	;1c	;	;1c	;1c	;	3	3	3	+
25	LA01056D-84-7-2	3	;	;	;	;	;	;	;	9,24
26	VA06W-412	3	;	;	-	-	3	;	;	24
27	GA00067-8E35	;1c2	;3c	;	;	-	;	3	;	+
28	GA001138-8E36	;	;1c2	;	;	-	;	;	;	+
29	GA011493-8E18	;1c	;1c3	;	;	-	;	;-3	;	+
30	G75735	;1c	3	3	;	-	3	;-3	-	26
31	G81036	3	3	3	3	-	3	3	3	-
32	G75692	3	3	3	3;	3	3	3	3	-

*Single genes tested: = 1,2a,2c,3,3Ka,9,10,11,14a,1 ,18,24,26 ,30,B
**Virulence formula:
TNRJ=1.2a.2c.3.3ka.9.10.11.14a.24.30
TCQJ+1,2a,2c,3,10,11,14a,26,B
TCRK=1,2a,2c,3,3ka,10,11,14a,18,26,30
TJBJ=1,2a,2c,3,10,14a,16,24
TJBJ=1,2a,2c,3,10,14a,16,24
MFPS=1,3,3ka,10,14a,17,24,26,30,B
MBTS=1,3,3ka,10,11,14a,17,30,B
FCNB=2c,3,3ka,17,26
***+ = Lr gene(s) present but unable to identify with these Lr virulence combinations

LEAF RUST

Blacksburg
VA
Griffey

		TNRJ	TCRK+ MFQS			
1	AGS 2000	0;c	23;			
2	Pioneer Brand 26R61	0;	3			
3	Coker 9553	3	3			
4	USG 3555	0;	3			
5	W980031K1	0;	3			
6	VA05W-139	;12	2;			
7	VA06W-392	23	0;	Lr GENE	TNRJ	TCRK +MFQS
8	VA05W-251	23-	0;		observed	observed
9	LA01139D-56-1	3-	3	Lr1	3-	3
10	AR96052-4-3	3	3/0;	Lr2a	23	3;
11	AR98088-1-1	3	3	Lr2c	3	2c
12	NC05-19684	3	0;	Lr3	3	;3
13	MD00W389-08-4	3	3			3
14	MD01W270-08-12	23	3	Lr9	3	0;
15	MD01W28-08-11	0;c	3	Lr16	;1-N	12;N
16	B05-0142	3;	23;	Lr24	23	3
17	B05-0329	3	3	Lr26	;1=N	3
18	B05*0323	23	3;			
19	NC05-19896	;12	;1=	Lr3ka	3	3-
20	NC06-20401	;1	12;	Lr11	3	3
21	NC06-19556	0;	12;	Lr17	;1	;12C
22	TN902	0;tr3	3/TR0;	Lr30	3	23
23	LA01139D-86-2	0;	3-			
24	LA0110D-84-2	12;	2;	LrB	;12	can't read
25	LA01056D-84-7-2	3	0;	Lr10	3-	3
26	VA06W-412	3-	3	Lr14a	3	3
27	GA00067-8E35	;1	0;	Lr18	;1	23
28	GA001138-8E36	0;	;1			
29	GA011493-8E18	2;cn	23;			
30	G75735	23;	3;			
31	G81036	3	3			
32	G75692	23	3			
DATE		Dec. 1	Dec. 14			

STEM RUST

		Fayetteville AR Milus	
		IT 0-4	%
1	AGS 2000	2	15
2	Pioneer Brand 26R61	2	7
3	Coker 9553	4	50
4	USG 3555	0	0
5	W980031K1	1	7
6	VA05W-139	3	50
7	VA06W-392	3	70
8	VA05W-251	4	85
9	LA01139D-56-1	0	0
10	AR96052-4-3	0	0
11	AR98088-1-1	3	50
12	NC05-19684	1	2
13	MD00W389-08-4	0	0
14	MD01W270-08-12	1	2
15	MD01W28-08-11	1	2
16	B05-0142	3	30
17	B05-0329	0	0
18	B05*0323	0	0
19	NC05-19896	0	0
20	NC06-20401	0	0
21	NC06-19556	0	0
22	TN902	2	15
23	LA01139D-86-2	0	0
24	LA0110D-84-2	0	0
25	LA01056D-84-7-2	0	0
26	VA06W-412	1	7
27	GA00067-8E35	3	15
28	GA001138-8E36	2	15
29	GA011493-8E18	0	0
30	G75735	1	7
31	G81036	1	2
32	G75692	0	0
LOCATION MEANS		1.2	13.5

STEM RUST

		St. Paul MN Jin										
		QFCS	QFCS	QTHJ	QTHJ	MCCF	MCCF	RCRS	RCRS	RKQQ	TPMK	TTTT
		06ND76C	06ND76C	75ND717C	75ND717C	59KS19	59KS19	77ND82A	77ND82A	99KS76A-1	74MN1409	01MN84A-1-2
			rep2		rep 2		rep2		rep2			
	McNair 701	S	S	S	S	S	S	S	S	S	S	S
	Red Chief	2+3	2+3	3-	2+	S	2+3	S	2+3	2+	S	S
1	AGS 2000	0	2-;	0	;1	;	0	2-	;1/2+	2	2	0/S
2	Pioneer Brand 26R61	2	2-	2	2	2-	2-	2-	2-	2	2	2/S
3	Coker 9553	S	S	S	S	S	S	S	S	S	S/2	S
4	USG 3555	0	0	0	0	0	0	2-	2-	;	0;	0;
5	W980031K1	2	2-	2	2	2	2-	2-	2-	2/S	2	2-
6	VA05W-139	0	S	S	S	S	S	S/2-	S	S	S	S
7	VA06W-392	S	S	S	S	S	S	S	S	S	S	S
8	VA05W-251	S	S	S	S	S	S	S	S	S	S	S
9	LA01139D-56-1	0	0	0	0	0	0	;3/S	S	0	0	S
10	AR96052-4-3	0	0;	0	0	0	0;	S	S	S	S	S
11	AR98088-1-1	S	S	S	S	S	S	S	S	3/;	S	S
12	NC05-19684	0	0	0	0	0	0	S	-	S	;1/S	S
13	MD00W389-08-4	0	0	0	0	0	0	S	-	0/S	2/S	S
14	MD01W270-08-12	0	0	0	-	-	0	S	S	S	S	0
15	MD01W28-08-11	2	2-	0	0	2	0;	2-	-	2	2	2-
16	B05-0142	S	S	0	;3	3;	S	31;	0	S	S	S
17	B05-0329	0	0	0	0	0	0	2+3	S	-	S/;	S
18	B05*0323	1	;1	S	S	0;	0	;13-	;1	S	;/S	S
19	NC05-19896	;1	0	0	0	0	0	3;	S	;/S	S	S
20	NC06-20401	0	0	0	0	0	0	2-/S	S/2-	;/S	S	S
21	NC06-19556	0	0	0	-	0	0;	2-/S	2-	2	2	2-
22	TN902	2	2	2/S	2	2	2-/S	2-	2	2-	2	2
23	LA01139D-86-2	2-	2-	2	2-	0	2-	2-	2-	0;	2	0
24	LA0110D-84-2	0	;	0	;13	0;	0;	3;1	;13	0;	2+;	S
25	LA01056D-84-7-2	2+	2	S	S	2+	2	S	S	S	S	S
26	VA06W-412	2-	2-	0	2-	2	2-	2-	2	2-	2	-
27	GA00067-8E35	S	3;	S	3;	S	;3	S	3;	;/S	S	S
28	GA001138-8E36	0	2-	0	2-	2-	2-	2-	2-	2	2	2
29	GA011493-8E18	2	;	0	;/;3	;/2+	;	3;	3;	3;	;13	S
30	G75735	S	S	S	S	S	S	S	S	S	S	S
31	G81036	2	2	S	S	2	2	S	S	;1+	2+	S
32	G75692	0	0	0	0	0	0	S	S	S	S	S

Notes and explanations:

Bulk: a composite of US races used in seedling test: MCCFC, QFCSC, QTHJC, RCRSC, RKQQC, TPMKC, TTTTF
for updated race nomenclature, please refer to: Jin et al. 2008 Plant Dis. 92:923-926.

Ratings: "S" denotes susceptible infection type (IT) 3 or 4.
"/" denotes hetergeneous, the predominant type given first.
"LIF" denotes low infection frequency, or fewer number of pustules.
"C" stands for excessive chlorosis
"N" stands for excessive necrosis

Gene postulations are tentative and done for genes effective against TTKSK (Ug99) only. No attempt was made to postulate other Sr genes.
Users are advised to confirm with available markers.
"Sr2 mosaic" was referred to seedling chlorosis, similar to Sr2 expression in seedling under certain environments

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

STEM RUST

St. Paul MN

		TTTT	SCCSC	SCCSC	QCCSM	Jin TTKSK	TTKSK	TTKST	TTTSK	TRTT	
		01MN84A-1-2	09ID73-2	09ID73-2	75WA165-2A	04KEN156/04	04KEN156/04	06KEN19V3	07KEN24-4	06YEM34-1	Note1
		rep2		rep2							
	McNair 701	S	**S**	**S**	**S**	**S**	**S**	S	S	S	
	Red Chief	S	2+	2	S	2+3	2+3	2+3	2+	S	
1	AGS 2000	2-	0/;2	2-	2	2+	2+	0/2+/S	2+	2	
2	Pioneer Brand 26R61	2	2	2	2	S	S	S	S	2	
3	Coker 9553	S	S	S	S	S	S	S	S	S	
4	USG 3555	2-	0;	0	0	0;	0;	0	S	2-	Sr36
5	W980031K1	2-/S	2	2	2	S	S	S	S	2	
6	VA05W-139	S	S	S	S	-	S	S	S	S	
7	VA06W-392	S	S	S	S	S					
8	VA05W-251	S	S	S	S	S/2	S	S	S	S	
9	LA01139D-56-1	S	0	0	0	0	0	0	S	S	Sr36
10	AR96052-4-3	S	0	;	;	0;	;1+	0	S	S	Sr36
11	AR98088-1-1	S	S	S	S	S					
12	NC05-19684	S	0	0	0;	;1-	;1	0	S	S	Sr36
13	MD00W389-08-4	S	0	0	-	0	-	-	S	S	Sr36
14	MD01W270-08-12	-	0	0	-	-	0	0	S	S	Sr36
15	MD01W28-08-11	2-	2-	2-	-	-	2+3	2+	-	2	?
16	B05-0142	S	S	-	0;/S	;13 LIF	S	S LIF	S	S	
17	B05-0329	S	0	0	0	0	0/S	0	S	S	Sr36
18	B05*0323	S	;3-	;	;2-	S					
19	NC05-19896	S	;	0	0;	1+;	2+;	;1	S	S	Sr36
20	NC06-20401	S	;	0	0	0;	0	0	S	3-;	Sr36
21	NC06-19556	2-	;	2-;	2-	;3-	S	S LIF	S LIF	2	
22	TN902	2/S	2/S	2-	2	S					
23	LA01139D-86-2	2-	2-	2-	2	S					
24	LA0110D-84-2	;/3;	;/S	;1-	;1	S					
25	LA01056D-84-7-2	S	2	2+	2N	S					
26	VA06W-412	2-	;/2	2-	2-/S	2-	2-	2	-	-	
27	GA00067-8E35	S	S/3;	S	2-	S					
28	GA001138-8E36	2	2	2	2-	S					
29	GA011493-8E18	S	;1	;1	;	S					
30	G75735	S	S	S	S	S					
31	G81036	S	2	2	2	S					
32	G75692	S	0	0	0/S	0	0	0	S	S	Sr36

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

race	Avirulence	Virulence
MCCFC	6 8a 9b 9d 9e 11 24 30 31 36 38	5 7b 9a 9g 10 17 Tmp McN
QCCSM	6 7b 8a 9b 9e 11 30 31 36 38 Tmp	5 9a 9d 9g 10 17 21 24 McN
QFCSC	6 7b 9b 9e 11 24 30 31 36 38 Tmp	5 8a 9a 9d 9g 10 17 21 McN
QTHJC	7b 9a 9e 24 30 31 36 Tmp	5 6 8a 9b 9d 9g 10 11 17 21 38 McN
RCRSC	6 8a 9e 11 24 30 31 Tmp	5 7b 9a 9b 9d 9g 10 17 21 38 McN
RKQQC	9e 10 11 17 24 30 31 38 Tmp	5 6 7b 8a 9a 9b 9d 9g 21 McN
SCCSC	6 7b 8a 9b 11 24 30 31 36 38 Tmp	5 9a 9d 9e 9g 10 17 21 McN
TPMKC	6 9a 9b 24 30 31 38	5 7b 8a 9a 9d 9e 9g 10 11 17 21 36 Tmp McN
TTTTF	24 31	5 6 7b 8a 9a 9b 9d 9e 9g 10 11 17 21 30 36 38 McN
TTKSK	24 36 Tmp	5 6 7b 8a 9a 9b 9d 9e 9g 10 11 17 21 30 31 38 McN
TTKST	36 Tmp	5 6 7b 8a 9a 9b 9d 9e 9g 10 11 17 21 24 30 31 38 Mc
TTTSK	24 Tmp	5 6 7b 8a 9a 9b 9d 9e 9g 10 11 17 21 30 31 36 38 Mc
TRTTF	8a 24 31	5 6 7b 9a 9b 9d 9e 9g 10 11 17 21 30 36 38 McN + 1

New virulence added in screening:

QCCSM was added in 2008/09 screening with virulence on Sr24.

SCCSC was added in 2009/10 screening with virulence on Sr9e and Sr13

STRIPE RUST

		Bay AR Hancock 0-9	Fayetteville AR Milus %	Griffin GA Johnson 0-9	Baton Rouge LA Harrison 0-9	Winnsboro LA Harrison 0-9
1	AGS 2000	5	5.3	4	2.7	1.5
2	Pioneer Brand 26R61	0	0.0	1	0.0	0.0
3	Coker 9553	0	0.7	0	0.2	0.0
4	USG 3555	0	0.0	0	0.0	0.0
5	W980031K1	1	0.0	1	0.5	0.0
6	VA05W-139	1	0.0	2	0.0	0.0
7	VA06W-392	0	2.3	0	1.2	0.3
8	VA05W-251	5	22.3	5	4.0	5.0
9	LA01139D-56-1	2	1.3	0	4.5	3.3
10	AR96052-4-3	1	3.0	3	1.8	1.8
11	AR98088-1-1	0	0.7	1	0.7	0.5
12	NC05-19684	7	30.0	6	2.2	3.3
13	MD00W389-08-4	6	31.7	7	5.2	4.5
14	MD01W270-08-12	4	27.3	6	4.0	3.3
15	MD01W28-08-11	6	20.0	7	2.7	4.8
16	B05-0142	1	0.7	2	0.3	0.0
17	B05-0329	0	1.0	0	0.2	0.3
18	B05*0323	2	3.0	3	2.5	0.3
19	NC05-19896	0	0.0	2	0.2	0.0
20	NC06-20401	2	5.0	5	1.2	1.0
21	NC06-19556	0	0.0	6	0.2	0.5
22	TN902	6	70.0	6	3.5	4.5
23	LA01139D-86-2	0	1.0	0	0.0	0.0
24	LA0110D-84-2	0	0.0	0	0.3	0.0
25	LA01056D-84-7-2	1	0.0	3	1.0	0.8
26	VA06W-412	1	2.0	4	3.5	0.3
27	GA00067-8E35	0	0.0	0	0.0	0.0
28	GA001138-8E36	0	0.0	0	0.0	0.0
29	GA011493-8E18	2	0.0	0	3.5	1.8
30	G75735	6	5.7	7	4.7	7.0
31	G81036	1	0.7	3	1.7	0.5
32	G75692	0	0.7	4	1.5	0.3
LOCATION MEANS		1.9	7.3	2.8	1.7	1.4
GROWTH STAGE / DATE						

STRIPE RUST

		Cleveland MS	Laurel Springs NC		Prosper TX	Oconto WI
		Hancock	Marshall		Sutton	Cisar
			IT 0-9	% severity	0-9	
1	AGS 2000	7	8	50	3	0
2	Pioneer Brand 26R61	3	6	10	0	0
3	Coker 9553	7	1	10	0	0
4	USG 3555	7	0	0	0	0
5	W980031K1	7	3	1	0	0
6	VA05W-139	6	0	0	0	0
7	VA06W-392	6	0	0	0	0
8	VA05W-251	7	9	50	5	1
9	LA01139D-56-1	7	0	0	2	0
10	AR96052-4-3	7	3	1	2	0
11	AR98088-1-1	9	3	10	1	0
12	NC05-19684	5	8	90	7	0
13	MD00W389-08-4	4	9	90	7	0
14	MD01W270-08-12	9	8	70	4	0
15	MD01W28-08-11	4	8	80	8	2
16	B05-0142	7	3	1	0	0
17	B05-0329	6	0	0	0	0
18	B05*0323	7	3	40	8	0
19	NC05-19896	4	0	0	0	0
20	NC06-20401	4	7	30	7	0
21	NC06-19556	5	3	1	2	0
22	TN902	8	8	90	8	7
23	LA01139D-86-2	7	0	0	0	0
24	LA0110D-84-2	7	0	0	0	0
25	LA01056D-84-7-2	8	3	10	1	0
26	VA06W-412	8	4	1	4	0
27	GA00067-8E35	6	0	0	0	0
28	GA001138-8E36	6	0	0	0	0
29	GA011493-8E18	5	0	0	3	0
30	G75735	4	8	70	8	1
31	G81036	6	5	20	4	0
32	G75692	7	2	1	1	0
LOCATION MEANS		6.3	3.5	22.7	2.7	0.3
GROWTH STAGE / DATE						

STRIPE RUST

		Pullman WA Chen 6/25/10 Flowering		Mt. Vernon WA Chen 4/14/10 Stem elong.		Mt. Vernon WA Chen 5/24/10 Flowering		Walla Walla WA Chen 6/10/10 Milk		Lind WA Chen 6/17/10 Milk	
		IT	%	IT	%	IT	%	IT	%	IT	%
1	AGS 2000	8	60	5	30	8	100	8	100	8	40
2	Pioneer Brand 26R61	8	60	2	5	2	22	8	100	8	20
3	Coker 9553	2	5	2	5	2	10	2	10	2	2
4	USG 3555	2	5	2	2	2	5	3	5	2	2
5	W980031K1	8	60	2	2	2	10	8	100	8	20
6	VA05W-139	2	10	2	2	2	5	2	10	2	2
7	VA06W-392	5	30	3	15	2	30	5	30	---	---
8	VA05W-251	8	60	8	40	8	100	8	80	---	---
9	LA01139D-56-1	8	60	5	30	8	100	8	50	2	2
10	AR96052-4-3	8	80	8	60	8	90	8	80	---	---
11	AR98088-1-1	3	20	2	15	2	10	3	10	2	2
12	NC05-19684	8	80	8	60	8	100	8	100	8	10
13	MD00W389-08-4	8	80	8	80	8	100	8	100	8	10
14	MD01W270-08-12	8	80	8	80	8	100	8	100	8	20
15	MD01W28-08-11	5	70	3	20	7	90	8	100	5	10
16	B05-0142	3	20	3	20	5	50	8	30	2	2
17	B05-0329	3	10	2	10	2	40	3	20	3	10
18	B05*0323	8	80	8	80	5	70	8	100	8	40
19	NC05-19896	3	10	2	2	2	10	2	5	2	2
20	NC06-20401	8	60	8	80	8	100	8	100	8	20
	PS 279	**8**	**80**	**8**	**80**	**8**	**90**	**8**	**100**	**8**	**40**
21	NC06-19556	3	20	5	30	8	90	2	20	2	5
22	TN902	8	80	8	80	8	100	8	100	8	10
23	LA01139D-86-2	5	60	3	20	5	70	8	100	2	2
24	LA0110D-84-2	8	10	2	5	2	10	8	90	2	5
25	LA01056D-84-7-2	3	10	2	10	2	20	3	40	2	5
26	VA06W-412	8	80	8	50	5	60	8	100	2	2
27	GA00067-8E35	2	5	2	5	2	5	2	2	---	---
28	GA001138-8E36	8	10	2	5	2	10	2	5	2	2
29	GA011493-8E18	8	50	5	40	5	80	8	80	---	---
30	G75735	8	80	8	80	8	100	8	100	8	10
31	G81036	8	80	8	80	8	100	8	100	5	10
32	G75692	8	100	8	80	8	100	8	100	8	5
	PS 279	**8**	**80**	**8**	**80**	**8**	**90**	**8**	**100**	**8**	**60**
	PS 279	**8**	**80**	**8**	**60**	**8**	**90**	**8**	**100**	**8**	**40**
	PS 279	**8**	**80**	**8**	**60**	**8**	**90**	**8**	**100**	**8**	**20**
	PS 279	**8**	**80**	**8**	**80**	**8**	**90**	**8**	**100**	**8**	**40**
	PS 279	**8**	**80**	**8**	**80**	**8**	**90**	**8**	**100**	**8**	**80**

* Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs. Entries with a high IT in the first note, but a low IT in the second note may indicate that they have high-temperature, adult-plant (HTAP) resistance.

STRIPE RUST

Pullman
WA
Chen

Infection type produced by PST races*

		Seedling Test** (4 - 20 C)					Adult-plant Test** (10 - 30 C)			Possible
		PST-37	PST-45	PST-100	PST-114	PST-127	PST-100	PST-114	PST-127	HTAP Resistance
1	AGS 2000	1,8	1	8	8	8	8,8,8	8,8,8	8,8,8	NO
2	Pioneer Brand 26R61	1	2	8	8	8	3,3,3	4,4,4	7,7,7	NO
3	Coker 9553	8	8	8	8	8	2,2,3	1,1,1	1,1,1	YES
4	USG 3555	2	2	8	8	8	2,2,2	1,1,1	1,1,1	YES
5	W980031K1	1	2	8	8	8	4,4,5	3,3,3	7,7,7	NO
6	VA05W-139	5	8	8	8	8	2,2,2	2,2,2	2,2,2	YES
7	VA06W-392	8	8	8	8	8	3,3,3	3,3,3	7,7,7	LOW
8	VA05W-251	8	8	8	8	8	8,8,8	8,8,8	8,8,8	NO
9	LA01139D-56-1	8	8	8	8	8	2,2,2	2,2,2	2,2,2	YES?
10	AR96052-4-3	8	8	8	8	8	8,8,8	8,8,8	8,8,8	NO
11	AR98088-1-1	8	8	8	8	8	3,3,3	2,2,2	2,2,2	YES
12	NC05-19684	8	8	8	8	8	8,8,8	8,8,8	8,8,8	NO
13	MD00W389-08-4	8	8	8	8	8	8,8,8	8,8,8	8,8,8	NO
14	MD01W270-08-12	8	8	8	8	8	8,8,8	8,8,8,	8,8,8	NO
15	MD01W28-08-11	1	2	8	8	8	8,8,8	8,8,8	8,8,8	NO
16	B05-0142	8	3	8	5	5	2,2,3	2,2,2	2,2,2	YES
17	B05-0329	8	8	8	8	8	2,2,2	2,2,2	2,2,2	YES
18	B05*0323	8	8	8	8	8	7,7,7	7,7,7	5,5,5	NO
19	NC05-19896	8	8	8	5	7	2,2,2	2,2,2	2,2,2	YES
20	NC06-20401	8	2,8	8	8	8	8,8,8	8,8,8	5,5,5	NO
21	NC06-19556	5	2	8	8	8	3,3,3	6,6,6	2,2,2	NO
22	TN902	1	2	8	8	8	8,8,8	8,8,8	8,8,8	NO
23	LA01139D-86-2	1	1	8	8	8	3,3,3	3,3,3	3,3,3	YES?
24	LA0110D-84-2	5	7	8	5	7	2,2,2	2,2,2	3,3,3	YES?
25	LA01056D-84-7-2	8	8	8	8	8	3,3,3	2,2,2	3,3,3	YES
26	VA06W-412	8	8	8	8	8	8,8,8	8,8,8	8,8,8	NO
27	GA00067-8E35	8	5	8	8	8	2,2,2	2,22	2,2,2	YES
28	GA001138-8E36	1	2	8	8	7	3,3,3	2,2,3	3,3,3	YES
29	GA011493-8E18	8	2	8	5	7	2,2,2	2,2,2	2,2,2	YES?
30	G75735	8	8	8	8	8	8,8,8	8,88	8,8,8	NO
31	G81036	8	8	8	8	8	5,5,5	3,4,4	6,6,6	LOW
32	G75692	8	8	8	8	8	7,7,7	5,5,5	7,7,7	NO
	PS 279	**8**	**8**	**8**	**8**	**8**	**8,8,8**	**8,8,8**	**8,8,8**	**NO**

* Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs. Entries with a high IT in the seedling test, but a low IT in the adult-plant test may indicate that they have high-temperature, adult-plant (HTAP) resistance. PST-37 is virulent on differentials 1,3,6,8,9,10,11,12; PST-45 on 1,3,12,13,15; PST-100 on 1,3,8,9,10,11,12,16,17,18,19,20; PST-114 on 1,3,4,5,8,9,10,11,12,14,16,17,18,19,20; and PST-127 on 1,2,3,5,6,8,9,10,11,12,13,15,16,17,18,19,20.
DIFFERENTIALS: 1 = LEMHI (*Yr21*), 2 = CHINESE 166 (*Yr1*), 3 = HEINESE VII (*Yr2,YrHVII*), 4 = MORO (*Yr10,YrMor*), 5 = PAHA (*YrPa1,YrPa2,YrPa3*), 6 = DRUCHAMP (*Yr3a,YrDru1,YrDru2*), 7 = Yr5/6*AVS (*Yr5*), 8 = PRODURA (*YrPr1,YrPr2*), 9 = YAMHILL (*Yr2,Yr4a,YrYam*), 10 = STEPHENS (*Yr3a,YrSte1,YrSte2*), 11 = LEE (*Yr7,Yr22,Yr23*), 12 = FIELDER (*Yr6,Yr20*), 13 = TYEE (*YrTye*), 14 = TRES (*YrTr1,YrTr2*), 15 = HYAK (*Yr17,YrTye*), 16 = EXPRESS (*YrExp1,YrExp2*), 17 = Yr8/6*AVS (*Yr8*), 18 = Yr9/6*AVS (*Yr9*), 19 = CLEMENT (*Yr9,YrCle*), AND 20 = COMPAIR (Yr8,Yr19).

** For the seedling tests, about 5 to 10 plants were used. Inoculation was done at the 2-leaf stage and incubated in the dew chamber at 10C for about 24 h in dark. The inoculated plants were then grown in a greenhouse growth chamber at a diurnal temperature cycle gradually changing from 4 C at 2:00 am to 20 C at 2:00 pm with a 16 h photoperiod in the day time. Infection type was recorded for the line about 20 days after inoculation
For the adult-plant tests, One-leaf seedlings were strated to vernalized at 2-4C for about 6 weeks and vernalized seedlings were transplanted into a big pots. 3 plants were used in each race test. Inoculation was done at the boot to heading stages and incubated in the dew chamber at 10C for about 24 h in dark. The inoculated plants were then grown in a greenhouse growth chamber at a diurnal temperature cycle gradually changing from 10 C at 2:00 am to 30 C at 2:00 pm with a 16 h photoperiod in the day time. Infection type was recorded for each individual plant using the flag leaf about 20 days after inoculation.

SEPTORIA

		Bay AR	Battle Ground IN	Knoxville TN	
		Hancock	Peterson	West	
		tritici	tritici	tritici	nodorum
			0-9	0-9	0-9
1	AGS 2000	4	7	5.6	4.3
2	Pioneer Brand 26R61	3	7	4.3	6.0
3	Coker 9553	4	6	5.6	4.3
4	USG 3555	3	6	5.0	5.6
5	W980031K1	3	6	4.3	6.0
6	VA05W-139	3	5	4.3	5.3
7	VA06W-392	3	6	5.0	4.6
8	VA05W-251	4	6	4.3	3.3
9	LA01139D-56-1	3	6	5.0	6.6
10	AR96052-4-3	2	6	4.3	6.0
11	AR98088-1-1	4	8	6.0	4.6
12	NC05-19684	2	6	3.6	4.3
13	MD00W389-08-4	4	6	7.0	5.6
14	MD01W270-08-12	5	7	5.0	5.3
15	MD01W28-08-11	4	6	5.0	3.6
16	B05-0142	3	6	5.6	5.0
17	B05-0329	3	5	3.0	5.6
18	B05*0323	4	7	5.0	6.0
19	NC05-19896	3	5	3.0	6.0
20	NC06-20401	3	6	3.3	5.6
21	NC06-19556	4	5.5	5.0	7.0
22	TN902	4	6	6.3	6.3
23	LA01139D-86-2	3	6	6.3	6.0
24	LA0110D-84-2	3	6	5.0	4.6
25	LA01056D-84-7-2	4	6	5.6	4.0
26	VA06W-412	3	5	4.3	5.6
27	GA00067-8E35	4	6	5.0	6.6
28	GA001138-8E36	3	6	5.0	6.0
29	GA011493-8E18	3	4	4.3	6.6
30	G75735	4	7	6.3	7.3
31	G81036	2	7	6.3	6.0
32	G75692	4	7	6.3	5.6
LOCATION MEANS		3.4	6.1	5.0	5.5
GROWTH STAGE / DATE			June 10		

SEPTORIA

		Oconto WI	
		Cisar	
		tritici	nodorum
1	AGS 2000	5.5	2
2	Pioneer Brand 26R61	4.5	3
3	Coker 9553	5.0	1
4	USG 3555	6.0	1
5	W980031K1	5.0	6
6	VA05W-139	4.0	3
7	VA06W-392	4.0	1
8	VA05W-251	5.0	1
9	LA01139D-56-1	6.5	1
10	AR96052-4-3	4.0	5
11	AR98088-1-1	8.0	2
12	NC05-19684	5.5	1
13	MD00W389-08-4	7.0	1
14	MD01W270-08-12	8.0	1
15	MD01W28-08-11	6.5	1
16	B05-0142	6.0	4
17	B05-0329	4.5	2
18	B05*0323	6.5	3
19	NC05-19896	5.5	3
20	NC06-20401	6.0	3
21	NC06-19556	5.5	4
22	TN902	8.0	3
23	LA01139D-86-2	3.5	5
24	LA0110D-84-2	4.5	1
25	LA01056D-84-7-2	4.5	1
26	VA06W-412	4.5	4
27	GA00067-8E35	5.0	2
28	GA001138-8E36	3.5	2
29	GA011493-8E18	4.5	5
30	G75735	6.5	2
31	G81036	5.0	1
32	G75692	7.0	3
LOCATION MEANS		5.5	2.4
GROWTH STAGE / DATE			

EASTERN SEPTORIA NURSERY

2009-10 Eastern Septoria Nursery
Uniform Southern

Kinston inoculated with wheat straw, irrigated three times in April

SNBL = SNB leaves
SNBG = SNB glumes

US nbr	Septoria entry nbr		Early or Late	means of 2 reps Kinston (0-9) SNB	SNB glumes	Raleigh HD
1	6	AGS 2000	E	6.0	1.0	17.0
2	150	Pioneer Brand 26R61	E	4.5	2.0	19.0
3	139	Coker 9553	E	5.0	3.0	16.0
4	151	USG 3555	E	4.5	4.0	16.5
5	152	W980031K1	E	5.0	3.5	19.5
6	271	VA05W-139	L	6.0	2.0	21.0
7	273	VA06W-392	L	4.5	1.0	19.0
8	272	VA05W-251	L	5.0	1.5	16.5
9	145	LA01139D-56-1	E	4.5	4.0	15.5
10	134	AR96052-4-3	E	4.0	2.0	18.5
11	135	AR98088-1-1	E	4.0	1.5	16.5
12	147	NC05-19684	E	3.0	2.0	19.0
13	265	MD00W389-08-4	L	4.0	2.0	16.0
14	266	MD01W270-08-12	L	6.0	4.0	16.0
15	270	MD01W28-08-11	L	6.0	1.0	21.0
16	137	B05-0142	E	4.5	1.5	19.0
17	138	B05-0329	E	4.0	1.5	21.5
18	136	B05*0323	E	5.5	1.5	22.5
19	132	NC05-19896	E	2.5	1.5	19.5
20	149	NC06-20401	E	4.0	1.5	19.5
21	148	NC06-19556	E	5.0	4.5	20.0
22	133	TN902	E	4.5	2.0	18.5
23	146	LA01139D-86-2	E	6.0	3.5	15.5
24	144	LA0110D-84-2	E	6.0	2.5	16.0
25	143	LA01056D-84-7-2	E	5.0	5.5	15.0
26	274	VA06W-412	L	4.5	1.0	20.5
27	140	GA00067-8E35	E	5.0	4.0	17.0
28	141	GA001138-8E36	E	4.5	1.5	19.5
29	142	GA011493-8E18	E	2.5	1.5	17.5
30	268	G75735	L	3.5	2.0	20.5
31	269	G81036	L	6.0	1.0	22.0
32	267	G75692	L	6.0	3.0	17.0

FUSARIUM HEAD BLIGHT (SCAB)

		Fayetteville AR Milus	Battle Ground IN Peterson		Delphi IN Fogleman	
				incidence	severity	index
		%	0-9			
1	AGS 2000	35.0	4.0	75	80	60.0
2	Pioneer Brand 26R61	51.7	7.0	80	65	52.0
3	Coker 9553	31.7	2.0	15	40	6.0
4	USG 3555	28.3	3.0	10	20	2.0
5	W980031K1	46.7	7.5	75	65	48.8
6	VA05W-139	41.7	3.5	35	40	14.0
7	VA06W-392	30.0	5.5	15	40	6.0
8	VA05W-251	25.0	5.5	20	10	2.0
9	LA01139D-56-1	25.0	2.0	40	30	12.0
10	AR96052-4-3	31.7	5.0	20	50	10.0
11	AR98088-1-1	28.3	2.0	30	50	15.0
12	NC05-19684	28.3	3.0	40	55	22.0
13	MD00W389-08-4	23.3	2.0	2	25	0.5
14	MD01W270-08-12	21.7	2.0	5	35	1.8
15	MD01W28-08-11	26.7	6.0	15	40	6.0
16	B05-0142	48.3	2.0	65	75	48.8
17	B05-0329	45.0	6.5	60	80	48.0
18	B05*0323	35.0	1.5	30	40	12.0
19	NC05-19896	31.7	1.5	5	5	0.3
20	NC06-20401	40.0	4.5	20	50	10.0
21	NC06-19556	25.0	3.0	10	5	0.5
22	TN902	42.5	3.5	20	60	12.0
23	LA01139D-86-2	30.0	5.0	22	33	7.3
24	LA0110D-84-2	32.5	3.0	30	45	13.5
25	LA01056D-84-7-2	51.7	6.0	30	80	24.0
26	VA06W-412	41.7	7.0	20	50	10.0
27	GA00067-8E35	42.5	7.5	75	75	56.3
28	GA001138-8E36	65.0	8.0	50	90	45.0
29	GA011493-8E18	58.3	8.0	75	80	60.0
30	G75735	35.0	1.0	10	60	6.0
31	G81036	20.0	2.0	7	40	2.8
32	G75692	26.7	2.0	5	75	3.8
LOCATION MEANS		35.8	4.1	31.6	49.6	19.3
GROWTH STAGE / DATE			June 10			

FUSARIUM HEAD BLIGHT (SCAB)

		Baton Rouge LA Harrison			
		incidence	severity	index	heading
1	AGS 2000	20.0	40.0	8.0	113
2	Pioneer Brand 26R61	15.0	25.0	4.0	112
3	Coker 9553	5.0	15.0	0.8	110
4	USG 3555	7.5	15.0	1.3	113
5	W980031K1	12.5	20.0	2.5	113
6	VA05W-139				
7	VA06W-392	15.0	30.0	4.5	114
8	VA05W-251	12.5	30.0	3.8	114
9	LA01139D-56-1	12.5	10.0	1.3	110
10	AR96052-4-3				
11	AR98088-1-1				
12	NC05-19684				
13	MD00W389-08-4				
14	MD01W270-08-12				
15	MD01W28-08-11				
16	B05-0142	20.0	30.0	6.0	110
17	B05-0329				
18	B05*0323				
19	NC05-19896				
20	NC06-20401				
21	NC06-19556				
22	TN902				
23	LA01139D-86-2	10.0	12.5	1.6	110
24	LA0110D-84-2	5.0	10.0	0.5	109
25	LA01056D-84-7-2	30.0	40.0	13.0	113
26	VA06W-412	5.0	25.0	1.3	114
27	GA00067-8E35	17.5	35.0	6.5	114
28	GA001138-8E36	15.0	32.5	4.0	113
29	GA011493-8E18				
30	G75735				
31	G81036				
32	G75692				
LOCATION MEANS		13.5	24.7	3.9	112.1
GROWTH STAGE / DATE					

FUSARIUM HEAD BLIGHT (SCAB)

Salisbury
MD
Costa

		Julian	Height	Incidence	Severity	Index	% Scabby	ISK	TKW
1	AGS 2000	120.0	34.5	35.0	30.0	10.5	12.8	7.6	51.2
2	Pioneer Brand 26R61	121.0	33.5	47.5	60.0	29.8	13.3	36.5	49.7
3	Coker 9553	120.0	32.0	12.5	25.0	3.5	12.0	4.6	44.9
4	USG 3555	121.0	31.0	22.5	15.0	3.4	10.3	0.8	47.8
5	W980031K1	120.5	33.0	35.0	35.0	13.5	15.3	7.8	49.3
6	VA05W-139	121.5	29.0	27.5	45.0	11.8	11.0	11.8	42.6
7	VA06W-392	121.0	30.5	25.0	35.0	8.5	11.3	6.6	41.6
8	VA05W-251	120.5	30.5	27.5	47.5	16.5	7.3	3.5	44.2
9	LA01139D-56-1	119.5	31.0	15.0	25.0	4.3	18.5	2.3	44.3
10	AR96052-4-3	120.5	32.5	7.5	37.5	3.4	8.3	0.8	45.5
11	AR98088-1-1	120.0	34.5	17.5	15.0	2.0	16.8	3.2	41.5
12	NC05-19684	121.5	29.0	27.5	40.0	13.5	7.3	2.7	38.5
13	MD00W389-08-4	120.0	27.5	25.0	45.0	11.3	21.5	22.1	46.4
14	MD01W270-08-12	120.5	31.0	15.0	20.0	3.0	4.5	0.8	40.3
15	MD01W28-08-11	123.0	34.5	27.5	15.0	4.5	12.3	5.5	50.6
16	B05-0142	121.5	32.0	40.0	62.5	25.0	16.0	30.4	43.3
17	B05-0329	121.5	34.0	32.5	27.5	8.8	7.3	4.0	46.0
18	B05*0323	121.0	32.5	20.0	52.5	10.5	16.8	11.4	42.0
19	NC05-19896	120.0	27.5	15.0	42.5	6.4	10.0	4.5	41.5
20	NC06-20401	121.0	32.0	37.5	47.5	18.8	13.0	14.1	44.8
21	NC06-19556	120.5	25.0	25.0	60.0	15.0	12.8	13.1	38.4
22	TN902	120.5	29.0	20.0	22.5	4.9	14.3	5.6	47.9
23	LA01139D-86-2	120.0	32.0	15.0	32.5	4.8	39.8	14.4	50.0
24	LA0110D-84-2	120.0	32.0	10.0	32.5	4.1	22.8	5.5	51.1
25	LA01056D-84-7-2	118.0	31.5	22.5	45.0	11.3	37.0	25.1	39.4
26	VA06W-412	120.5	31.0	20.0	50.0	10.0	14.0	10.1	40.2
27	GA00067-8E35	119.0	29.0	25.0	22.5	4.9	23.0	8.0	39.3
28	GA001138-8E36	122.5	35.0	57.5	60.0	33.8	26.8	64.4	47.7
29	GA011493-8E18	121.0	33.0	45.0	65.0	29.0	31.8	66.4	44.7
30	G75735	121.0	32.5	27.5	42.5	12.6	22.5	25.0	40.3
31	G81036	120.5	32.5	25.0	10.0	2.5	10.3	1.9	43.4
32	G75692	118.5	30.5	5.0	10.0	0.5	19.5	0.6	40.5
LOCATION MEANS		120.5	31.4	25.3	36.7	10.7	16.2	13.2	44.3
GROWTH STAGE / DATE									

POWDERY MILDEW

		Kinston NC	Wooster OH	Blacksburg VA	Oconto WI	ENTRY MEANS ALL LOCATIONS	
		Murphy	Sneller	Griffey	Cisar		
		0-9	0-9	0-9			rank
1	AGS 2000	1	1.0	1.5	0	0.9	12
2	Pioneer Brand 26R61	2	3.0	2.0	0	1.8	20
3	Coker 9553	1	0.5	0.0	0	0.4	4
4	USG 3555	2	1.0	0.5	0	0.9	9
5	W980031K1	1	2.5	1.5	2	1.8	22
6	VA05W-139	8	1.5	1.0	0	2.6	26
7	VA06W-392	3	0.5	1.5	0	1.3	17
8	VA05W-251	4	1.5	0.5	2	2.0	23
9	LA01139D-56-1	1	0.5	0.0	0	0.4	6
10	AR96052-4-3	0	0.5	0.5	0	0.3	2
11	AR98088-1-1	1	0.5	0.5	2	1.0	14
12	NC05-19684	1	0.0	0.5	0	0.4	5
13	MD00W389-08-4	2	0.0	0.0	1	0.8	7
14	MD01W270-08-12	0	0.0	1.0	2	0.8	8
15	MD01W28-08-11	0	6.5	2.0	0	2.1	24
16	B05-0142	4	2.0	1.5	5	3.1	28
17	B05-0329	1	0.0	0.0	0	0.3	2
18	B05*0323	7	3.0	1.5	4	3.9	30
19	NC05-19896	0	3.0	1.5	0	1.1	16
20	NC06-20401	2	1.0	1.0	0	1.0	13
21	NC06-19556	0	0.0	0.0	0	0.0	1
22	TN902	8	4.0	6.0	9	6.8	32
23	LA01139D-86-2	1	2.5	0.0	0	0.9	11
24	LA0110D-84-2	2	0.5	1.5	2	1.5	18
25	LA01056D-84-7-2	0	1.0	1.0	2	1.0	15
26	VA06W-412	2	0.5	0.0	1	0.9	9
27	GA00067-8E35	3	1.5	1.5	4	2.5	25
28	GA001138-8E36	2	2.0	0.0	2	1.5	18
29	GA011493-8E18	4	3.0	0.5	4	2.9	27
30	G75735	4	2.0	2.5	4	3.1	28
31	G81036	9	4.0	4.5	4	5.4	31
32	G75692	2	0.0	2.0	3	1.8	20
LOCATION MEANS		2.4	1.5	1.2	1.7	1.7	
GROWTH STAGE / DATE							

VIRUSES

		Belle Mina AL Glass BYDV % plants affected	Bay AR Hancock WSSMV 0-9	Plains GA Johnson Soilborne	Winfield KS Perry WSBMV 0-9	Baton Rouge LA Harrison SBMV 0-9
1	AGS 2000	6.7	2	MS	1	4.5
2	Pioneer Brand 26R61	13.3	0		1	5.0
3	Coker 9553	16.7	2		1	2.5
4	USG 3555	3.4	0		1	3.5
5	W980031K1	15.0	0		1	2.5
6	VA05W-139	6.7	1		1	3.0
7	VA06W-392	0.4	2		1	4.5
8	VA05W-251	7.0	1		1	2.5
9	LA01139D-56-1	13.3	1		1	4.5
10	AR96052-4-3	13.3	2		3	1.5
11	AR98088-1-1	11.7	0		3	3.0
12	NC05-19684	0.7	0		1	0.5
13	MD00W389-08-4	15.0	0		1	4.5
14	MD01W270-08-12	2.0	2		1	1.5
15	MD01W28-08-11	0.4	0	MS	1	5.0
16	B05-0142	7.0	1		1	3.5
17	B05-0329	0.4	1		1	3.5
18	B05*0323	0.4	0		1	3.0
19	NC05-19896	3.7	0		1	1.0
20	NC06-20401	0.4	0		1	1.5
21	NC06-19556	11.7	0		1	2.5
22	TN902	5.3	0		1	2.5
23	LA01139D-86-2	5.3	0	MR	1	6.5
24	LA0110D-84-2	15.0	0		1	2.0
25	LA01056D-84-7-2	1.7	1		1	5.0
26	VA06W-412	1.0	1		1	3.0
27	GA00067-8E35	13.3	0		1	5.5
28	GA001138-8E36	1.7	0		1	4.5
29	GA011493-8E18	4.0	3		1	2.5
30	G75735	4.0	1	MR	1	3.5
31	G81036	5.3	1		1	3.0
32	G75692	6.7	0		1	1.0
LOCATION MEANS		6.6	0.7		1.1	3.2
GROWTH STAGE / DATE						

VIRUSES

		Kinston NC		Blacksburg VA
		Murphy		Griffey
		spindle streak	BYDV	BYDV
		0-9	0-9	0-9
1	AGS 2000	4.5	3	2.0
2	Pioneer Brand 26R61	4.5	3	3.0
3	Coker 9553	3.0	3	1.5
4	USG 3555	5.5	3	1.0
5	W980031K1	4.0	0	2.5
6	VA05W-139	4.0	1	1.0
7	VA06W-392	5.5	1	1.0
8	VA05W-251	3.0	2	2.5
9	LA01139D-56-1	3.0	3	1.0
10	AR96052-4-3	5.0	2	4.0
11	AR98088-1-1	5.0	4	1.5
12	NC05-19684	3.5	4	3.0
13	MD00W389-08-4	4.5	6	3.5
14	MD01W270-08-12	4.5	3	1.5
15	MD01W28-08-11	4.5	3	1.5
16	B05-0142	4.5	3	2.0
17	B05-0329	6.0	2	1.5
18	B05*0323	3.0	1	1.0
19	NC05-19896	4.0	4	2.0
20	NC06-20401	4.0	4	1.5
21	NC06-19556	5.5	3	1.0
22	TN902	2.5	3	3.5
23	LA01139D-86-2	3.5	4	1.5
24	LA0110D-84-2	4.5	1	1.5
25	LA01056D-84-7-2	6.0	4	2.5
26	VA06W-412	3.0	1	1.0
27	GA00067-8E35	3.0	2	1.5
28	GA001138-8E36	4.0	4	1.5
29	GA011493-8E18	3.5	2	2.0
30	G75735	5.0	3	2.0
31	G81036	4.0	5	2.5
32	G75692	6.0	6	2.5
LOCATION MEANS		4.3	2.9	1.9
GROWTH STAGE / DATE				

HESSIAN FLY

			W Lafayette IN Cambron		Kinston NC Murphy
		BIO B R - S	BIO O R- S	BIO L R- S	0-9
1	AGS 2000	0-15	0-16	0-16	4.0
2	Pioneer Brand 26R61	0-14	14-0	0-18	4.0
3	Coker 9553	0-15	12-5	0-17	4.5
4	USG 3555	0-16	0-18	0-14	5.0
5	W980031K1	0-17	18-0	0-15	4.5
6	VA05W-139	0-18	0-20	0-18	4.5
7	VA06W-392	0-18	0-16	0-18	5.0
8	VA05W-251	0-20	5-10	0-19	4.0
9	LA01139D-56-1	0-20	11-5	0-18	4.0
10	AR96052-4-3	14-4	0-15	0-14	3.0
11	AR98088-1-1	0-17	8-9	0-20	4.5
12	NC05-19684	0-16	0-13	0-19	2.5
13	MD00W389-08-4	0-11	0-9	0-12	4.5
14	MD01W270-08-12	0-11	0-14	0-13	5.0
15	MD01W28-08-11	0-11	0-7	0-12	7.0
16	B05-0142	0-14	0-14	0-18	5.0
17	B05-0329	0-17	0-15	0-14	3.0
18	B05*0323	0-15	9-5	0-18	3.5
19	NC05-19896	0-17	0-14	0-14	3.5
20	NC06-20401	14-0	7-5	14-0	4.0
21	NC06-19556	16-0	0-18	0-18	4.0
22	TN902	0-17	0-16	0-21	4.5
23	LA01139D-86-2	0-12	0-19	0-13	4.0
24	LA0110D-84-2	0-13	19-0	0-17	5.0
25	LA01056D-84-7-2	0-17	18-0	0-19	4.0
26	VA06W-412	0-17	0-19	0-19	4.5
27	GA00067-8E35	0-16	0-17	0-20	5.0
28	GA001138-8E36	0-19	14-2	0-18	4.0
29	GA011493-8E18	17-0	0-17	0-20	2.5
30	G75735	0-17	0-15	0-17	4.5
31	G81036	0-18	0-16	0-17	4.0
32	G75692	0-17	0-17	0-20	3.0
LOCATION MEANS					4.2
GROWTH STAGE / DATE					

ACID SOIL TOLERANCE

			Enid OK Carver	
		0-5	0-5	0-5
1	AGS 2000	1	1	2
2	Pioneer Brand 26R61	1	0	0
3	Coker 9553	2	1	1
4	USG 3555	0	0	1
5	W980031K1	2	1	2
6	VA05W-139	1	1	2
7	VA06W-392	1	1	3
8	VA05W-251	1	0	1
9	LA01139D-56-1	1	0	2
10	AR96052-4-3	1	0	1
11	AR98088-1-1	1	0	0
12	NC05-19684	2	1	2
13	MD00W389-08-4	2	2	1
14	MD01W270-08-12	2	2	2
15	MD01W28-08-11	2	3	1
16	B05-0142	2	3	2
17	B05-0329	0	0	1
18	B05*0323	1	1	2
19	NC05-19896	0	1	2
20	NC06-20401	1	0	2
21	NC06-19556	1	0	1
22	TN902	0	0	0
23	LA01139D-86-2	2	1	2
24	LA0110D-84-2	1	1	4
25	LA01056D-84-7-2	0	0	0
26	VA06W-412	1	1	3
27	GA00067-8E35	1	1	2
28	GA001138-8E36	1	1	3
29	GA011493-8E18	1	1	2
30	G75735	1	1	1
31	G81036	1	1	1
32	G75692	1	1	2
LOCATION MEANS		1.1	0.8	1.6
GROWTH STAGE / DATE		Nov. 13	March 3	May 4

FREEZE TEST

Raleigh
NC
Livingston

		Average Surv. Rating*	Average % Survival	% Surv. Rank
1	AGS 2000	0.75	38	30
2	Pioneer Brand 26R61	2.15	88	13
3	Coker 9553	3.85	98	3
4	USG 3555	0.75	38	31
5	W980031K1	2.95	93	5
6	VA05W-139	2.70	90	9
7	VA06W-392	2.50	88	11
8	VA05W-251	2.15	83	17
9	LA01139D-56-1	1.60	68	28
10	AR96052-4-3	1.45	68	29
11	AR98088-1-1	2.30	85	14
12	NC05-19684	2.20	83	16
13	MD00W389-08-4	1.60	73	25
14	MD01W270-08-12	2.60	90	10
15	MD01W28-08-11	1.75	75	23
16	B05-0142	1.50	70	27
17	B05-0329	1.75	73	24
18	B05*0323	1.70	78	22
19	NC05-19896	2.00	83	19
20	NC06-20401	2.95	93	6
21	NC06-19556	1.75	78	21
22	TN902	0.70	33	32
23	LA01139D-86-2	1.55	73	26
24	LA0110D-84-2	1.85	78	20
25	LA01056D-84-7-2	2.05	85	15
26	VA06W-412	2.55	93	8
27	GA00067-8E35	3.00	95	4
28	GA001138-8E36	3.55	100	2
29	GA011493-8E18	2.90	93	7
30	G75735	2.45	88	12
31	G81036	3.60	100	1
32	G75692	2.05	83	18

PHENOTYPE

		Baton Rouge LA Harrison 0-9	Winnsboro LA Harrison 0-9
1	AGS 2000	5.6	4.3
2	Pioneer Brand 26R61	4.5	3.8
3	Coker 9553	3.4	3.0
4	USG 3555	4.1	3.5
5	W980031K1	4.4	4.0
6	VA05W-139	4.4	3.5
7	VA06W-392	4.4	4.5
8	VA05W-251	7.0	6.3
9	LA01139D-56-1	6.9	6.0
10	AR96052-4-3	5.1	5.8
11	AR98088-1-1	4.1	4.3
12	NC05-19684	7.0	5.5
13	MD00W389-08-4	8.1	6.0
14	MD01W270-08-12	6.8	5.8
15	MD01W28-08-11	6.4	6.5
16	B05-0142	4.5	3.5
17	B05-0329	5.1	3.8
18	B05*0323	6.4	5.0
19	NC05-19896	4.4	4.5
20	NC06-20401	6.3	5.3
21	NC06-19556	5.0	4.3
22	TN902	6.9	6.3
23	LA01139D-86-2	3.9	3.8
24	LA0110D-84-2	3.9	3.5
25	LA01056D-84-7-2	4.1	4.3
26	VA06W-412	6.0	4.3
27	GA00067-8E35	4.5	3.3
28	GA001138-8E36	3.5	3.8
29	GA011493-8E18	6.4	5.8
30	G75735	7.5	7.3
31	G81036	6.1	5.3
32	G75692	6.1	4.5
LOCATION MEANS		5.4	4.7

MARKER DATA

Raleigh
NC
Brown-Guedira

		Rht-B1b	Rht-D1b	Rht8	Ppd-D1a	Fhb1	Fhb Ernie 3B
1	AGS 2000	no	yes		no	no	no
2	Pioneer Brand 26R61	no	yes		yes	no	no
3	Coker 9553	no	yes	no	yes	no	no
4	USG 3555	no	yes	no	yes	**False positive**	**yes**
5	W980031K1	no	yes		yes	no	no
6	VA05W-139	no	yes	no	yes	no	no
7	VA06W-392	no	yes	no	no	no	no
8	VA05W-251	no	yes	no	yes	mix	no
9	LA01139D-56-1	no	yes	no	yes	no	no
10	AR96052-4-3	no	yes	no	yes	no	no
11	AR98088-1-1	no	yes	no	yes	no	no
12	NC05-19684	no	yes	no	yes	no	no
13	MD00W389-08-4	no	yes	no	yes	no	no
14	MD01W270-08-12	no	yes	no	yes	no	no
15	MD01W28-08-11	no	yes		no	no	no
16	B05-0142	no	yes	no	yes	no	no
17	B05-0329	no	yes	no	no	no	no
18	B05*0323	yes	yes	no	no	no	no
19	NC05-19896	no	yes	no	yes	no	**?**
20	NC06-20401	no	yes	no	yes	**yes**	no
21	NC06-19556	yes	het	no	yes	no	no
22	TN902	no	yes	het	yes	no	no
23	LA01139E-86-2	no	yes	no	yes	no	no
24	LA0110D-84-2	no	yes	no	yes	no	no
25	LA01056D-84-7-2	no	yes	no	yes	no	no
26	VA06W-412	no	yes	no	no	no	no
27	GA00067-8E35		no	no	yes	no	no
28	GA001138-8E36	no	yes	no	no	no	no
29	GA011496-8E18	no	yes	no	no	no	no
30	G75735	yes	no	no	no	no	no
31	G81036	yes	no	no	no	no	**yes**
32	G75692	yes	no	no	no	no	no
		Rht-B1b= dwarfing allele (Rht1)	Rht-D1b= dwarfing allele (Rht2)		Ppd-D1a = insenstive allele		

MARKER DATA

Raleigh
NC
Brown-Guedira

		Fhb 2DL-Wuhan1/W14	Fhb Ernie 5AS	Fhb Ning7840 5AS	Sr2	Sr36	Sr24/Lr24
1	AGS 2000	no	no	no	no	no	no
2	Pioneer Brand 26R61	no	no	no	no	no	no
3	Coker 9553	no	no	no	no	no	no
4	USG 3555	no	no	no	no	**yes**	no
5	W980031K1	no	no	no	no	no	no
6	VA05W-139	no	no	no	no	no	no
7	VA06W-392	no	no	no	no	no	no
8	VA05W-251	no	no	no	no	no	no
9	LA01139D-56-1	no	no	no	no	**yes**	no
10	AR96052-4-3	no	no	no	no	**yes**	no
11	AR98088-1-1	no	yes	no	no	no	no
12	NC05-19684	no	no	no	no	**yes**	no
13	MD00W389-08-4	no	no	no	no	**yes**	no
14	MD01W270-08-12	no	no	no	no	**yes**	no
15	MD01W28-08-11	no	no	no	no	no	no
16	B05-0142	no	no	no	no	no	no
17	B05-0329	no	no	no	no	**yes**	no
18	B05*0323	no	no	no	no	no	no
19	NC05-19896	no	yes?	no	no	**yes**	no
20	NC06-20401	no	no	no	no	**yes**	no
21	NC06-19556	no	no	no	no	**yes**	no
22	TN902	no	no	no	no	no	no
23	LA01139E-86-2	no	no	no	no	no	no
24	LA0110D-84-2	no	no	no	no	no	no
25	LA01056D-84-7-2	no	no	no	no	nd	no
26	VA06W-412	no	no	no	no	no	**yes**
27	GA00067-8E35	no	no	no	no	no	no
28	GA001138-8E36	no	no	no	no	no	no
29	GA011496-8E18	no	no	no	no	no	no
30	G75735	no	no	no	no	no	no
31	G81036	no	no	no	no	no	no
32	G75692	no	no	no	no	**yes**	no

MARKER DATA

Raleigh
NC
Brown-Guedira

		1RS	H13	H9	BVD2/3	Lr37/Yr17/Sr38	Lr34/Yr18
1	AGS 2000	1RS:1BL	no	no	no	no	no
2	Pioneer Brand 26R61	1RS:1BL	no	no	no	no	no
3	Coker 9553	non-1RS	no	no	no	no	no
4	USG 3555	1RS:1BL	no	no	no	no	no
5	W980031K1	1RS:1BL	no	no	no	no	no
6	VA05W-139	non-1RS	no	no	no	no	no
7	VA06W-392	non-1RS	no	no	no	no	no
8	VA05W-251	non-1RS	no	no	no	no	no
9	LA01139D-56-1	non-1RS	no	no	no	**yes**	no
10	AR96052-4-3	non-1RS	no	no	no	no	no
11	AR98088-1-1	non-1RS	no	no	no	no	no
12	NC05-19684	non-1RS	**yes**	no	no	no	no
13	MD00W389-08-4	non-1RS	no	no	no	no	no
14	MD01W270-08-12	non-1RS	no	no	no	no	no
15	MD01W28-08-11	1RS:1BL?	no		no	no	no
16	B05-0142	non-1RS	no	no	no	**yes**	no
17	B05-0329	non-1RS	no	no	no	no	no
18	B05*0323	non-1RS	no	no	no	no	no
19	NC05-19896	non-1RS	no	no	no	**yes**	no
20	NC06-20401	1RS:1BL	no	**yes**	no	no	no
21	NC06-19556	1RS:1BL	no	no	no	no	no
22	TN902	1RS:1BL	no	no	no	no	no
23	LA01139E-86-2	1RS:1BL	no	no	no	no	no
24	LA0110D-84-2	non-1RS	no	no	no	**yes**	no
25	LA01056D-84-7-2	non-1RS	no	no	no	no	no
26	VA06W-412	1RS:1AL	no	no	no	no	no
27	GA00067-8E35	non-1RS	no	no	no	**yes**	no
28	GA001138-8E36	1RS:1BL	no	no	no	no	no
29	GA011496-8E18	non-1RS	no	no	no	**yes**	no
30	G75735	non-1RS	no	no	no	no	no
31	G81036	non-1RS	no	no	no	no	no
32	G75692	non-1RS	no	no	no	no	no

MARKER DATA

Raleigh
NC
Brown-Guedira

		Bx7 overexpressing	Glu-D1	Glu-A1
1	AGS 2000	no	5+10	Ax2*
2	Pioneer Brand 26R61	**yes**	5+10	Ax2*
3	Coker 9553	no	2+12	Ax2*
4	USG 3555	no	2+12	Ax2*
5	W980031K1	**yes**	5+10	Ax2*
6	VA05W-139	no	5+10	Ax2*
7	VA06W-392	no	2+12	Ax2*
8	VA05W-251	no	2+12	Ax2*
9	LA01139D-56-1	no	5+10	Ax1 or null
10	AR96052-4-3	no	5+10	Ax2*
11	AR98088-1-1	no	2+12	Ax1 or null
12	NC05-19684	no	2+12	Ax2*
13	MD00W389-08-4	no	5+10	Ax2*
14	MD01W270-08-12	no	2+12	Ax2*
15	MD01W28-08-11	no	5+10	Ax1 or null
16	B05-0142	no	2+12	Ax1 or null
17	B05-0329	no	2+12	Ax2*
18	B05*0323	no	2+12	het
19	NC05-19896	no	2+12	Ax2*
20	NC06-20401	no	2+12	Ax2*
21	NC06-19556	no	5+10	Ax1 or null
22	TN902	no	2+12	Ax2*
23	LA01139E-86-2	**yes**	2+12	Ax2*
24	LA0110D-84-2	**yes**	5+10	Ax2*
25	LA01056D-84-7-2	no	2+12	Ax2*
26	VA06W-412	no	5+10	Ax2*
27	GA00067-8E35	no	5+10	Ax1 or null
28	GA001138-8E36	**yes**	5+10	Ax2*
29	GA011496-8E18	no	2+12	Ax2*
30	G75735	nd	2+12	Ax1 or null
31	G81036	no	5+10	Ax1 or null
32	G75692	no	5+10	Ax1 or null

2010 Crop
Advanced Milling and Baking Evaluation
Set 2010 A06 and A07

2010 Uniform Southern Soft Red Winter Wheat Nursery – Interior and Coastal
Stephen Harrison, LSU
Entries #: 1050621 – 1050652 and 1050654 – 1050685

For the Uniform Southern Interior evaluation, a total of 32 samples of the Uniform Southern Soft Red Winter Wheat Nursery submitted for milling and baking quality evaluations from five locations, Bay, AR, Warsaw, VA, Belle Mina, AL, Knoxville, TN, Queenstown, MD. The standard quality data was compared to the average for the cultivar checks given for this nursery, and quality scores for all entries are adjusted to this average. Of the 565 cultivars in the SWQL database of Allis-milled cultivars, the following table compares 4 checks from this trial, AGS 2000, Pioneer 26R61, Coker 9553, and USG 3555 with their "historical data" from the Advanced Milling databases.

This interior trial had slight signs of FHB infected and weather damaged grain before air aspiration, but pre-harvest sprouting was not obviously present. Flour protein and flour yield were within the expected target range for soft wheat characteristics, while sucrose SRC and lactic acid SRC were greater than normal. Sixteen samples had "strong" gluten lactic acid values with LA01056D-84-7-2 being the strongest. A strong gluten strength value above 110% is generally appropriate for cracker production. Test line B05-0329 had the highest flour yield (74.2%) within this nursery and was in the top 3 for cookie diameter (19.2 cm). Flour analysis also concludes that the 4 checks are predicted to have an increase in softness equivalence when compared to the historical average of the checks. Overall, the values for flour quality measures among the checks were consistent with expectations from previous evaluations and the relative rankings of the cultivar. Therefore, we expect the results of the evaluations to be predictive of future performance of these breeding lines.

Three coastal locations, Blacksburg, VA, Newton, MS, Plains, GA, were submitted for milling and baking quality evaluations for the Coastal Composite. The samples were composited and compared using the four checks, AGS 2000, Pioneer 26R61, Coker 9553, and USG 3555.

This Coastal Composite trial had slight signs of FHB infected and weather damaged grain before air aspiration, but pre-harvest sprouting was not obviously present. Flour protein and flour yield were within the expected target range for soft wheat characteristics, while sucrose SRC and lactic acid SRC, a measurement of gluten strength, was above the target range. The nurseries average (115.2%) for lactic acid SRC is considered to have "strong" gluten strength values, with VA05W-139 was the strongest at 142.1%. The high average may possibly be good for cracker manufacturing. Analysis determines that sample LA01139D-56-1 has the highest baking score (82.4)

within this nursery. Factors such as high flour yield (72.3%), large softness equivalence (58.5%), and low sucrose SRC (90.4%) helps to establish a good cookie bake quality. Flour analysis also concludes that the 4 checks are predicted to have a decrease in milling, baking, and softness equivalent scores when compared to the historical average of the checks. Overall, the values for flour quality measures among the checks were consistent with expectations from previous evaluations and the relative rankings of the cultivar. Therefore, we expect the results of the evaluations to be predictive of future performance of these breeding lines.

2010 Uniform Southern Soft Red Winter Wheat Nursery – Interior

			From Advanced Milling Database Scoring				Predicted from Measured Data					
Lab Number	Entry Number	ENTRY	Milling Quality Score	Baking Quality Score	Softness Equivalent Score		Milling Quality Score		Baking Quality Score		Softness Equivalent Score	
1050621	1	AGS 2000	81.5	62.3	67.2		77.8	B	64.4	C	76.4	B
1050622	2	Pioneer Brand 26R61	68.9	51.8	60.9		66.4	C	49.8	E	65.5	C
1050623	3	Coker 9553	61.4	47.9	66.2		64.2	C	52.2	D	71.5	B
1050624	4	USG 3555	65.0	41.0	57.5		62.1	C	44.5	E	67.4	C
		Average	69.2	50.7	63.0		67.6		52.7		70.2	
		Adjustment Bias for Trial	1.6	-2.0	-7.2							

2010 Uniform Southern Soft Red Winter Wheat Nursery – Coastal

			From Advanced Milling Database Scoring				Predicted from Measured Data					
Lab Number	Entry Number	ENTRY	Milling Quality Score	Baking Quality Score	Softness Equivalent Score		Milling Quality Score		Baking Quality Score		Softness Equivalent Score	
1050654	1	AGS 2000	81.5	62.3	67.2		70.0	C	55.0	D	60.6	C
1050655	2	Pioneer Brand 26R61	68.9	51.8	60.9		59.8	D	46.6	E	51.9	D
1050656	3	Coker 9553	61.4	47.9	66.2		57.0	D	41.4	E	62.4	C
1050657	4	USG 3555	65.0	41.0	57.5		57.3	D	36.5	F	53.5	D
		Average	69.2	50.7	63.0		61.0		44.9		57.1	
		Adjustment Bias for Trial	8.2	5.9	5.9							

Changes in 2010 Evaluations

We have changes for group evaluations this year. Our goal is to provide more consistent and complete information on milling and baking performance of new wheat lines and cultivars. Through a generous grant funded by the state of Ohio, the Soft

Wheat Quality Laboratory has access to a new diode array NIR instrument that measures whole grain spectra. As a result we will now provide whole grain protein and grain hardness with the quality information. We also are using this instrument to develop prediction models for milling yield and softness equivalent (break flour yield). Analysis of the first two years of data, in collaboration with Mary Guttieri and Clay Sneller of Ohio State University, is promising. Prediction equations for milling yield and softness equivalent using the NIR instrument have R^2 values of over 75%. Our intent is to launch the use of NIR analysis for non-destructive milling yield selection within the next 18 months.

We are using multiple checks for adjusting the quality scores in the group. Previously, a single check was used for the scoring. This caused problems for a number of the evaluations due to 1) genotype x environment interactions and 2) interactions between cultivars for cookie diameters using the old sugar-snap cookie method and the revised AACC sugar-snap cookie method. Using the average of multiple checks should make the adjustments more robust. We transitioned to a new database of check cultivar performance that uses advanced milling data and cookie bakes using the revised AACC sugar-snap cookie method. The scoring system is still indirectly based on Allis mill ratings of cultivars.

The scores given in above table under the heading 'advanced milling database scoring' derive from the average milling and baking scores given in 5 or more millings from trials with sound grain. We transitioned to the advanced milling so that we could have more of the data based the revised AACC sugar snap cookie data and have a broader range of check cultivars from which to choose. The advanced milling database used for this adjustment will be posted on the SWQL web-site during September.

Lactic acid SRC values of gluten strength will be reported on an 'as is' basis. We have previously corrected the lactic acid SRC values to a 9% flour protein value using the formula of 7% point increase for every 1 % point increase in flour protein. After looking at many trials across many regions, we felt that this adjustment was creating more problems than it was solving. In recent years we have had many low protein trials that have resulted in very large adjustments of lactic acid that are not realistic expectations of the genetic potential of the cultivars. We also see that some genotypes can be much more responsive than model due to the presence of 5+10 allele at the *GluD1* locus with the absence of the rye translocation on the short arm of the chromosome 1B. We can provide the lactic acid values on a protein corrected basis if requested by a researcher.

Please give us feedback on the changes in the evaluations. We are open to your suggestions for continuous improvement.

Specific Information on Cultivars

The Uniform Southern Nursery is an important evaluation of breeding materials that will be release as cultivars, used in crossing for future cultivars, and as a dataset collectively for future genetic studies. The two regional composites were similar in

their appearance, with general absence of grain defects such as sprouting or severe weathering.

My comments will be directed primarily to the average of the two composite represented in the summary file included with the reports for the individual composites. Significant genotype variation was observed for all of the quality attributes. The largest genetic variance based on F-test values were for milling yield and lactic acid SRC. The smallest F-values for genotypic effects were for grain protein and top-grade score for cookies.

Among the checks, USG 3555 is a low flour yield check. Only two lines, VA05W-139 and NC06-20401 were significantly below USG 3555 for flour yield. Softness equivalent in many datasets is highly heritable when weathering is absent. All the lines were, on average within the range expected for softness equivalent. Yet, in locations with harder, stressed grain, lines with low softness equivalent will mill poorly and produce low break flour yield and high damaged starch levels in the flour. Selection for greater values of softness equivalent will improve the overall quality of the wheat produced in the eastern US.

Many of the traits evaluated in this analysis are correlated to each other and the best quality genotypes will have favorable combinations of milling yield, softness equivalent, cookie diameter, and sucrose SRC values. Sequentially selecting the genotypes in the Uniform Southern Nursery, based on those criteria and in that order, we identified the best overall genotypes in the set. Lines with quality similar or better than AGS 2000 were: VA06W-392, LA01139D-56-1, B05-0142, LA01139D-86-2, and G75692.

Genotypes with strong lactic acid values can have extra value in the manufacture of certain leavened products like crackers. Lines have both good milling characteristics and large lactic acid SRC values included: AR96052-4-3, NC05-19684, MD00W389-08-4, B05-0142. These lines may have added value for food manufacturers. Two lines had very strong gluten strength but poor milling characteristics, LA01056D-84-7-2 and VA05W-139. These lines may have value as breeding parents for the development of future strong gluten wheat lines.

Please contact me if you have questions concerning the evaluations of this trial.

Best regards,
Edward Souza

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

	Average of Interior and Coastal Composites	MODIFIED MILLING SCORE		MODIFIED BAKING SCORE		MODIFIED SOFTNESS SCORE		MICRO T.W. LB/BU	WHOLE GRAIN PROTEIN	GRAIN HARDNESS 0 - 100
1	AGS 2000	78.7	B	61.6	C	67.8	C	60.5	10.8	28.3
2	Pioneer Brand 26R61	67.9	C	50.1	D	58.0	D	61.2	11.3	36.4
3	Coker 9553	65.5	C	48.8	E	66.2	C	61.1	10.8	31.9
4	USG 3555	64.6	C	42.4	E	59.7	D	59.2	10.7	29.7
5	W980031K1	68.2	C	55.5	D	56.9	D	62.1	11.2	36.7
6	VA05W-139	62.4	C	37.8	F	59.0	D	61.1	10.8	27.6
7	VA06W-392	70.1	B	69.9	C	63.4	C	59.7	10.1	24.7
8	VA05W-251	70.5	B	59.9	D	59.8	D	60.3	10.0	28.2
9	LA01139D-56-1	79.1	B	74.5	B	64.4	C	60.8	9.8	24.2
10	AR96052-4-3	66.4	C	54.5	D	63.2	C	59.5	10.5	31.7
11	AR98088-1-1	72.7	B	60.1	C	58.9	D	60.8	9.9	33.3
12	NC05-19684	71.8	B	60.0	C	65.1	C	61.4	10.7	26.5
13	MD00W389-08-4	76.0	B	58.7	D	70.8	B	60.2	10.7	29.9
14	MD01W270-08-12	71.7	B	63.3	C	73.6	B	60.5	10.5	24.4
15	MD01W28-08-11	64.9	C	36.2	F	61.2	C	61.8	11.0	36.0
16	B05-0142	70.2	B	75.0	B	74.3	B	59.4	10.0	31.1
17	B05-0329	85.9	A	68.5	C	64.7	C	61.2	10.1	24.8
18	B05*0323	66.8	C	58.3	D	61.7	C	60.2	10.5	27.5
19	NC05-19896	77.1	B	61.4	C	57.8	D	61.0	10.2	27.5
20	NC06-20401	57.6	D	33.2	F	50.6	D	61.0	10.9	32.3
21	NC06-19556	63.6	C	53.7	D	55.9	D	60.5	10.7	34.3
22	TN902	75.5	B	58.7	D	63.8	C	59.7	9.9	25.4
23	LA01139D-86-2	75.7	B	74.0	B	67.7	C	60.9	10.5	30.5
24	LA0110D-84-2	68.1	C	65.8	C	63.4	C	60.3	10.3	27.5
25	LA01056D-84-7-2	63.4	C	43.2	E	72.2	B	60.5	10.3	25.1
26	VA06W-412	66.9	C	56.5	D	65.5	C	61.8	10.6	35.1
27	GA00067-8E35	67.6	C	62.1	C	67.6	C	61.2	10.4	28.6
28	GA001138-8E36	78.1	B	63.6	C	56.7	D	61.1	10.5	34.8
29	GA011493-8E18	68.8	C	43.7	E	54.3	D	62.2	11.1	33.6
30	G75735	69.0	C	72.6	B	64.8	C	60.3	9.7	19.6
31	G81036	63.3	C	48.6	E	68.6	C	59.8	10.3	23.4
32	G75692	69.7	C	73.9	B	74.0	B	60.0	10.3	25.9
	average	69.9	C	57.7	D	63.5	C	60.7	10.5	29.3
	Std Error	1.5		3.8		2.0		0.4	0.2	1.5
	F-value for genotype	16.8		9.2		8.4		3.2	2.8	8.9

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

	Average of Interior and Coastal Composites	FLOUR YIELD %	SOFT. EQUIV. %	FLOUR PROT. %	AS IS LACTIC ACID SRC	SUCROSE SRC %	COOKIE DIAM. CM.	TOP GR.
1	AGS 2000	71.9	61.6	8.8	108.9	96.4	18.8	4.5
2	Pioneer Brand 26R61	69.4	56.9	9.2	108.7	97.8	18.3	3.0
3	Coker 9553	68.9	60.8	8.8	119.3	102.4	18.5	4.5
4	USG 3555	68.6	57.7	8.7	114.7	103.6	18.2	4.5
5	W980031K1	69.5	56.4	9.3	109.0	96.5	18.7	5.0
6	VA05W-139	68.1	57.4	8.7	135.1	105.9	18.1	3.0
7	VA06W-392	69.9	59.5	8.3	100.8	92.7	19.0	7.0
8	VA05W-251	70.0	57.8	8.3	101.4	97.1	18.7	6.0
9	LA01139D-56-1	72.0	60.0	8.0	108.4	92.4	19.2	6.5
10	AR96052-4-3	69.1	59.4	8.8	121.8	97.8	18.4	3.5
11	AR98088-1-1	70.5	57.3	8.1	93.4	95.6	18.5	6.5
12	NC05-19684	70.3	60.3	8.7	125.0	98.4	18.9	3.5
13	MD00W389-08-4	71.3	63.0	9.0	126.1	99.2	18.9	5.5
14	MD01W270-08-12	70.3	64.4	8.3	114.5	98.0	18.8	5.5
15	MD01W28-08-11	68.7	58.4	8.9	112.8	106.7	18.1	3.5
16	B05-0142	69.9	64.7	8.2	123.9	93.8	19.3	4.5
17	B05-0329	73.5	60.1	8.1	108.3	96.5	19.2	5.5
18	B05*0323	69.2	58.7	8.5	114.2	97.7	18.7	5.5
19	NC05-19896	71.5	56.8	8.3	108.6	97.9	19.0	7.0
20	NC06-20401	67.0	53.3	8.8	121.8	105.0	17.8	3.5
21	NC06-19556	68.4	55.9	8.7	102.2	99.6	18.8	6.0
22	TN902	71.1	59.6	8.0	87.2	99.9	18.8	4.0
23	LA01139D-86-2	71.2	61.5	8.4	101.0	93.1	19.3	5.0
24	LA0110D-84-2	69.4	59.5	8.4	113.5	94.3	18.9	6.0
25	LA01056D-84-7-2	68.4	63.7	8.4	135.8	108.4	18.5	4.0
26	VA06W-412	69.2	60.5	8.4	118.5	98.3	18.5	3.5
27	GA00067-8E35	69.3	61.5	8.7	116.7	96.8	18.9	6.0
28	GA001138-8E36	71.7	56.3	8.7	102.4	97.1	19.3	6.0
29	GA011493-8E18	69.6	55.1	9.1	105.3	104.9	18.8	5.0
30	G75735	69.7	60.1	8.0	107.9	93.8	19.2	6.0
31	G81036	68.3	61.9	8.1	127.5	106.3	18.7	4.0
32	G75692	69.8	64.6	8.3	120.1	92.9	19.1	4.5
	average	69.9	59.5	8.5	113.0	98.65	18.75	4.94
	Std Error	0.3	1.0	0.2	2.5	1.8	0.17	0.7
	F-value for genotype	16.8	8.5	4.0	20.7	6.5	4.7	2.7

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Lab Number		**Interior Composite: Bay AR; Belle Mina AL; Knoxville TN; Queenstown MD; Warsaw VA**	Modified Milling Quality Score		Modified Baking Quality Score		Modified Softness Equiv. Score		Test Weight (LB/BU)	Whole Grain Protein (%)	Whole Grain Hardness (0-100)
1050621	1	AGS 2000	79.3	B	62.4	C	69.2	C	59.9	9.7	26.5
1050622	2	Pioneer Brand 26R61	68.0	C	47.8	E	58.3	D	59.8	10.6	33.7
1050623	3	Coker 9553	65.8	C	50.2	D	64.2	C	60.3	9.9	31.0
1050624	4	USG 3555	63.6	C	42.5	E	60.1	C	58.3	9.8	25.8
1050625	5	W980031K1	66.9	C	52.8	D	55.4	D	61.2	10.3	34.7
1050626	6	VA05W-139	62.1	C	35.8	F	58.3	D	60.9	10.0	24.4
1050627	7	VA06W-392	70.5	B	67.2	C	63.2	C	58.5	9.5	23.4
1050628	8	VA05W-251	69.6	C	63.2	C	62.9	C	59.6	8.9	25.8
1050629	9	LA01139D-56-1	74.3	B	66.6	C	60.9	C	60.1	9.3	24.3
1050630	10	AR96052-4-3	66.2	C	61.1	C	64.6	C	58.5	9.3	28.4
1050631	11	AR98088-1-1	70.9	B	58.4	D	59.4	D	59.6	9.3	32.7
1050632	12	NC05-19684	73.4	B	57.7	D	66.4	C	60.2	10.0	23.2
1050633	13	MD00W389-08-4	76.7	B	60.9	C	71.6	B	59.5	9.5	27.4
1050634	14	MD01W270-08-12	71.3	B	62.5	C	74.1	B	59.5	9.8	22.1
1050635	15	MD01W28-08-11	64.7	C	36.1	F	59.3	D	62.2	10.2	35.0
1050636	16	B05-0142	69.4	C	73.7	B	72.0	B	58.5	9.6	30.5
1050637	17	B05-0329	85.4	A	62.5	C	61.7	C	60.6	9.9	23.9
1050638	18	B05*0323	66.4	C	55.1	D	63.8	C	59.8	9.8	24.8
1050639	19	NC05-19896	75.7	B	58.0	D	58.3	D	59.9	9.8	26.0
1050640	20	NC06-20401	56.3	D	37.8	F	53.6	D	59.9	9.7	25.1
1050641	21	NC06-19556	66.6	C	53.2	D	58.2	D	59.2	9.7	30.2
1050642	22	TN902	74.8	B	66.0	C	69.1	C	57.7	9.2	21.1
1050643	23	LA01139D-86-2	75.0	B	73.8	B	69.1	C	59.1	9.5	27.6
1050644	24	LA0110D-84-2	67.1	C	64.1	C	63.0	C	59.2	9.5	26.1
1050645	25	LA01056D-84-7-2	62.9	C	51.0	D	70.4	B	59.8	9.5	24.5
1050646	26	VA06W-412	64.5	C	56.1	D	66.3	C	60.8	9.7	32.6
1050647	27	GA00067-8E35	66.0	C	61.4	C	68.0	C	60.2	9.7	26.9
1050648	28	GA001138-8E36	75.1	B	59.5	D	56.9	D	60.2	10.0	31.6
1050649	29	GA011493-8E18	70.0	C	52.1	D	58.1	D	61.2	10.1	29.8
1050650	30	G75735	67.7	C	74.3	B	67.4	C	59.5	9.1	16.3
1050651	31	G81036	60.2	C	46.3	E	67.0	C	59.0	9.8	20.4
1050652	32	G75692	67.4	C	73.9	B	72.3	B	59.1	9.5	24.8
		average	69.2		57.6		63.8		59.7	9.7	26.9

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Lab Number		**Interior Composite: Bay AR; Belle Mina AL; Knoxville TN; Queenstown MD; Warsaw VA**	Flour Yield (%)	Softness Equiv. (%)	Flour Protein (%)	As Is Lactic Acid SRC (%)	Sucrose SRC (%)	Cookie Diameter (cm)	Top Grade (0-9)
1050621	1	AGS 2000	72.8	65.4	8.1	105.5	96.9	18.8	6
1050622	2	Pioneer Brand 26R61	70.2	60.2	8.5	105.7	98.1	18.1	3
1050623	3	Coker 9553	69.7	63.0	8.3	115.4	99.6	18.3	6
1050624	4	USG 3555	69.2	61.0	7.9	112.4	104.1	18.2	5
1050625	5	W980031K1	69.9	58.8	8.7	103.9	98.1	18.7	6
1050626	6	VA05W-139	68.8	60.2	8.1	128.2	107.0	18.1	3
1050627	7	VA06W-392	70.7	62.5	7.6	98.4	92.1	18.6	7
1050628	8	VA05W-251	70.5	62.4	7.4	101.4	96.9	18.8	6
1050629	9	LA01139D-56-1	71.6	61.4	7.6	104.4	94.4	18.9	7
1050630	10	AR96052-4-3	69.8	63.2	7.7	115.4	96.8	18.7	4
1050631	11	AR98088-1-1	70.9	60.7	7.4	89.3	96.1	18.3	7
1050632	12	NC05-19684	71.4	64.0	8.1	124.8	100.0	18.9	3
1050633	13	MD00W389-08-4	72.2	66.6	8.1	124.3	100.1	19.0	7
1050634	14	MD01W270-08-12	70.9	67.7	7.6	118.7	99.5	18.9	7
1050635	15	MD01W28-08-11	69.4	60.7	8.2	108.6	105.9	17.9	4
1050636	16	B05-0142	70.5	66.7	7.8	122.7	95.5	19.5	6
1050637	17	B05-0329	74.2	61.8	7.9	107.0	98.5	19.2	6
1050638	18	B05*0323	69.8	62.8	7.9	113.5	101.9	18.9	7
1050639	19	NC05-19896	72.0	60.2	7.9	106.2	100.9	19.2	7
1050640	20	NC06-20401	67.5	57.9	7.9	120.0	104.5	18.0	4
1050641	21	NC06-19556	69.9	60.1	7.9	100.5	101.8	18.9	6
1050642	22	TN902	71.7	65.3	7.4	90.2	97.6	19.0	5
1050643	23	LA01139D-86-2	71.8	65.3	7.4	94.5	94.7	19.3	6
1050644	24	LA0110D-84-2	70.0	62.4	7.8	111.4	93.5	18.6	6
1050645	25	LA01056D-84-7-2	69.0	66.0	7.7	133.4	105.7	18.8	5
1050646	26	VA06W-412	69.4	64.0	7.6	117.4	99.2	18.5	3
1050647	27	GA00067-8E35	69.7	64.8	8.2	115.0	97.0	18.8	6
1050648	28	GA001138-8E36	71.8	59.5	8.2	97.7	99.0	19.2	6
1050649	29	GA011493-8E18	70.6	60.1	8.4	102.9	100.9	18.8	6
1050650	30	G75735	70.1	64.5	7.4	108.3	93.5	19.2	6
1050651	31	G81036	68.4	64.3	7.6	127.6	106.4	18.5	4
1050652	32	G75692	70.1	66.9	7.7	119.0	92.0	19.0	3
		average	70.5	62.8	7.9	110.7	99.0	18.7	5.4

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Lab Number		GRAIN CONDITION Interior Composite	FHB (0-3)	Weathering (yes/no)	Sprouting (0-3)	Black Point (0-3)	Shriveling After Cleaning (0-3)	Color
1050621	1	AGS 2000	1	Y	0	0	1	
1050622	2	Pioneer Brand 26R61	1	Y	0	0	1	
1050623	3	Coker 9553	1	Y	0	0	0	
1050624	4	USG 3555	1	Y	0	1	1	
1050625	5	W980031K1	1		0	1	1	
1050626	6	VA05W-139	1		0	0	1	
1050627	7	VA06W-392	1		0	0	0	
1050628	8	VA05W-251	0		0	0	1	
1050629	9	LA01139D-56-1	1		0	0	1	
1050630	10	AR96052-4-3	1		0	0	1	
1050631	11	AR98088-1-1	1		0	0	0	
1050632	12	NC05-19684	1		0	0	1	
1050633	13	MD00W389-08-4	1		0	0	2	
1050634	14	MD01W270-08-12	1		0	0	0	
1050635	15	MD01W28-08-11	1		0	1	2	
1050636	16	B05-0142	1		0	0	1	
1050637	17	B05-0329	1		0	0	1	
1050638	18	B05*0323	0		0	0	0	
1050639	19	NC05-19896	1		0	0	1	
1050640	20	NC06-20401	1		0	0	0	
1050641	21	NC06-19556	1		0	0	0	
1050642	22	TN902	1		0	0	1	
1050643	23	LA01139D-86-2	1		0	1	2	
1050644	24	LA0110D-84-2	1		0	0	1	
1050645	25	LA01056D-84-7-2	1		0	0	0	
1050646	26	VA06W-412	1		0	0	1	
1050647	27	GA00067-8E35	1		0	0	1	
1050648	28	GA001138-8E36	1		0	0	2	
1050649	29	GA011493-8E18	1		0	0	2	
1050650	30	G75735	0		0	0	0	
1050651	31	G81036	0		0	0	1	
1050652	32	G75692	0		0	0	1	

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Lab Number		GRAIN CONDITION Interior Composite	Comments
1050621	1	AGS 2000	
1050622	2	Pioneer Brand 26R61	
1050623	3	Coker 9553	
1050624	4	USG 3555	
1050625	5	W980031K1	
1050626	6	VA05W-139	
1050627	7	VA06W-392	
1050628	8	VA05W-251	
1050629	9	LA01139D-56-1	
1050630	10	AR96052-4-3	
1050631	11	AR98088-1-1	
1050632	12	NC05-19684	
1050633	13	MD00W389-08-4	
1050634	14	MD01W270-08-12	
1050635	15	MD01W28-08-11	
1050636	16	B05-0142	
1050637	17	B05-0329	
1050638	18	B05*0323	
1050639	19	NC05-19896	
1050640	20	NC06-20401	
1050641	21	NC06-19556	
1050642	22	TN902	
1050643	23	LA01139D-86-2	
1050644	24	LA0110D-84-2	Many Broken Kernels
1050645	25	LA01056D-84-7-2	
1050646	26	VA06W-412	
1050647	27	GA00067-8E35	
1050648	28	GA001138-8E36	
1050649	29	GA011493-8E18	
1050650	30	G75735	
1050651	31	G81036	
1050652	32	G75692	

GRAIN CONDITION SCALE

FHB, SPROUTING and BLACK POINT

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

SHRIVELING

0	None
1	Some
2	Moderate
3	Heavy

COMMENTS

Light Weathering on most samples

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Interior Composite

Adjustments from Advanced Milling Database
Quality scores are transferred from 'Advanced Set Named Cultivar July 2010'
Select as many checks as are available

			From Advanced Milling Database Scoring			Predicted from Measured Data						Data Transferred from Scores Sheet																	
Lab Number	Entry Number	ENTRY	Milling Quality Score	Baking Quality Score	Softness Equivalent Score	Milling Quality Score		Baking Quality Score		Softness Equivalent Score		Test Weight (LB/BU)		Flour Yield (%)		Softness Equivalent (%)		Flour Protein (%)		As Is Lactic Acid SRC (%)		Sucrose SRC (%)		Cookie Diameter (cm)		Top Grade (0-9)
1050621	1	AGS 2000	81.5	62.3	67.2	77.8	B	64.4	C	76.4	B	59.9		72.8		65.4		8.1		105.5		96.9		18.8		6.0
1050622	2	Pioneer Brand 26R61	68.9	51.8	60.9	66.4	C	49.8	E	65.5	C	59.8		70.2		60.2		8.5		105.7		98.1		18.1		3.0
1050623	3	Coker 9553	61.4	47.9	66.2	64.2	C	52.2	D	71.5	B	60.3		69.7		63.0		8.3		115.4		99.6		18.3		6.0
1050624	4	USG 3555	65.0	41.0	57.5	62.1	C	44.5	E	67.4	C	58.3		69.2		61.0		7.9		112.4		104.1		18.2		5.0
		Average	69.2	50.7	63.0	67.6		52.7		70.2		59.6		70.5		62.4		8.2		109.7		99.7		18.3		5.0
		Adjustment Bias for Trial	1.6	-2.0	-7.2																							

SE Score= 2.085 SE -59.889
BQ Score= -6.84+11.04*Diam-1.49*Sucrose-3.86*Flour Pro+0.598*SE
MY Score= -239.56 + 4.36*FYLD

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Lab Number		**Coastal Composite: Blacksburg VA; Newton MS; Plains GA**	Modified Milling Quality Score		Modified Baking Quality Score		Modified Softness Equiv. Score		Test Weight (LB/BU)	Whole Grain Protein (%)	Whole Grain Hardness (0-100)
1050654	1	AGS 2000	78.1	B	60.8	C	66.4	C	61.1	12.0	30.0
1050655	2	Pioneer Brand 26R61	67.9	C	52.5	D	57.8	D	62.6	11.9	39.2
1050656	3	Coker 9553	65.2	C	47.3	E	68.3	C	61.9	11.7	32.9
1050657	4	USG 3555	65.5	C	42.3	E	59.3	D	60.2	11.6	33.6
1050658	5	W980031K1	69.5	C	58.2	D	58.4	D	62.9	12.2	38.7
1050659	6	VA05W-139	62.7	C	39.8	F	59.8	D	61.4	11.5	30.9
1050660	7	VA06W-392	69.8	C	72.5	B	63.6	C	60.9	10.8	26.1
1050661	8	VA05W-251	71.4	B	56.5	D	56.8	D	61.1	11.0	30.6
1050662	9	LA01139D-56-1	84.0	A	82.4	A	68.0	C	61.6	10.4	24.1
1050663	10	AR96052-4-3	66.6	C	48.0	E	61.8	C	60.5	11.7	34.9
1050664	11	AR98088-1-1	74.5	B	61.9	C	58.4	D	62.0	10.6	33.9
1050665	12	NC05-19684	70.3	B	62.4	C	63.8	C	62.6	11.4	29.8
1050666	13	MD00W389-08-4	75.4	B	56.6	D	70.0	B	61.0	11.9	32.3
1050667	14	MD01W270-08-12	72.1	B	64.1	C	73.2	B	61.6	11.2	26.6
1050668	15	MD01W28-08-11	65.1	C	36.3	F	63.0	C	61.4	11.8	37.1
1050669	16	B05-0142	70.9	B	76.3	B	76.5	B	60.2	10.4	31.8
1050670	17	B05-0329	86.4	A	74.4	B	67.7	C	61.7	10.4	25.7
1050671	18	B05*0323	67.2	C	61.5	C	59.7	D	60.6	11.2	30.2
1050672	19	NC05-19896	78.5	B	64.9	C	57.3	D	62.0	10.6	29.0
1050673	20	NC06-20401	58.9	D	28.7	F	47.7	E	62.0	12.1	39.5
1050674	21	NC06-19556	60.6	C	54.1	D	53.6	D	61.8	11.7	38.3
1050675	22	TN902	76.2	B	51.4	D	58.4	D	61.7	10.6	29.8
1050676	23	LA01139D-86-2	76.3	B	74.2	B	66.3	C	62.6	11.4	33.4
1050677	24	LA0110D-84-2	69.0	C	67.5	C	63.8	C	61.5	11.2	28.9
1050678	25	LA01056D-84-7-2	64.0	C	35.3	F	74.1	B	61.2	11.2	25.7
1050679	26	VA06W-412	69.2	C	56.8	D	64.7	C	62.7	11.4	37.6
1050680	27	GA00067-8E35	69.2	C	62.7	C	67.1	C	62.3	11.2	30.3
1050681	28	GA001138-8E36	81.1	A	67.7	C	56.5	D	62.0	11.0	38.1
1050682	29	GA011493-8E18	67.6	C	35.3	F	50.4	D	63.2	12.1	37.4
1050683	30	G75735	70.3	B	70.9	B	62.3	C	61.2	10.4	22.8
1050684	31	G81036	66.3	C	50.9	D	70.1	B	60.5	10.9	26.4
1050685	32	G75692	71.9	B	73.9	B	75.7	B	60.9	11.1	26.9
		Average	70.7		57.7		63.1		61.6	11.3	31.6

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Lab Number		**Coastal Composite: Blacksburg VA; Newton MS; Plains GA**	Flour Yield (%)	Softness Equiv. (%)	Flour Protein (%)	As Is Lactic Acid SRC (%)	Sucrose SRC (%)	Cookie Diameter (cm)	Top Grade (0-9)
1050654	1	AGS 2000	71.0	57.8	9.6	112.4	96.0	18.77	3
1050655	2	Pioneer Brand 26R61	68.7	53.6	9.9	111.6	97.6	18.56	3
1050656	3	Coker 9553	68.0	58.7	9.4	123.2	105.1	18.67	3
1050657	4	USG 3555	68.1	54.4	9.5	117.0	103.1	18.23	4
1050658	5	W980031K1	69.0	53.9	9.9	114.0	94.8	18.71	4
1050659	6	VA05W-139	67.5	54.6	9.3	142.1	104.8	18.13	3
1050660	7	VA06W-392	69.1	56.4	9.0	103.1	93.4	19.37	7
1050661	8	VA05W-251	69.4	53.2	9.1	101.4	97.4	18.67	6
1050662	9	LA01139D-56-1	72.3	58.5	8.4	112.4	90.4	19.52	6
1050663	10	AR96052-4-3	68.3	55.5	9.8	128.2	98.8	18.19	3
1050664	11	AR98088-1-1	70.2	53.9	8.9	97.4	95.0	18.70	6
1050665	12	NC05-19684	69.2	56.5	9.3	125.2	96.7	18.97	4
1050666	13	MD00W389-08-4	70.4	59.5	9.9	127.9	98.2	18.69	4
1050667	14	MD01W270-08-12	69.6	61.0	9.0	110.2	96.4	18.74	4
1050668	15	MD01W28-08-11	68.0	56.1	9.6	117.0	107.5	18.19	3
1050669	16	B05-0142	69.3	62.6	8.6	125.1	92.1	19.05	3
1050670	17	B05-0329	72.9	58.4	8.3	109.5	94.5	19.33	5
1050671	18	B05*0323	68.5	54.5	9.2	115.0	93.4	18.52	4
1050672	19	NC05-19896	71.1	53.4	8.7	110.9	94.8	18.92	7
1050673	20	NC06-20401	66.6	48.8	9.8	123.5	105.5	17.71	3
1050674	21	NC06-19556	67.0	51.6	9.6	104.0	97.3	18.67	6
1050675	22	TN902	70.6	53.9	8.5	84.1	102.2	18.60	3
1050676	23	LA01139D-86-2	70.6	57.7	9.3	107.5	91.6	19.29	4
1050677	24	LA0110D-84-2	68.9	56.5	9.0	115.5	95.2	19.15	6
1050678	25	LA01056D-84-7-2	67.7	61.4	9.1	138.3	111.0	18.12	3
1050679	26	VA06W-412	69.0	56.9	9.2	119.6	97.4	18.50	4
1050680	27	GA00067-8E35	69.0	58.1	9.3	118.5	96.5	18.90	6
1050681	28	GA001138-8E36	71.7	53.0	9.2	107.1	95.3	19.41	6
1050682	29	GA011493-8E18	68.6	50.1	9.9	107.8	108.9	18.74	4
1050683	30	G75735	69.2	55.8	8.7	107.4	94.1	19.23	6
1050684	31	G81036	68.3	59.6	8.5	127.4	106.3	18.79	4
1050685	32	G75692	69.6	62.2	8.8	121.3	93.9	19.17	6
		Average	69.3	56.2	9.2	115.2	98.3	18.76	4.5

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Lab Number		GRAIN CONDITION Coastal Composite	FHB (0-3)	Weathering (yes/no)	Sprouting (0-3)	Black Point (0-3)	Shriveling After Cleaning (0-3)	Color
1050654	1	AGS 2000	0	Y	0	0	2	
1050655	2	Pioneer Brand 26R61	1	Y	0	0	2	
1050656	3	Coker 9553	1	Y	0	0	1	
1050657	4	USG 3555	1	Y	0	0	2	
1050658	5	W980031K1	0		0	0	1	
1050659	6	VA05W-139	0		0	0	1	
1050660	7	VA06W-392	0		0	0	1	
1050661	8	VA05W-251	0		0	0	1	
1050662	9	LA01139D-56-1	0		0	0	0	
1050663	10	AR96052-4-3	0		0	0	1	
1050664	11	AR98088-1-1	0		0	0	0	
1050665	12	NC05-19684	1		0	0	1	
1050666	13	MD00W389-08-4	0		0	0	1	
1050667	14	MD01W270-08-12	0		0	0	0	
1050668	15	MD01W28-08-11	0		0	0	1	
1050669	16	B05-0142	1		0	0	1	
1050670	17	B05-0329	0		0	0	2	
1050671	18	B05*0323	0		0	0	0	
1050672	19	NC05-19896	1		0	0	0	
1050673	20	NC06-20401	0		0	0	1	
1050674	21	NC06-19556	0		0	0	1	
1050675	22	TN902	1		0	0	1	
1050676	23	LA01139D-86-2	1		0	0	1	
1050677	24	LA0110D-84-2	0		0	1	1	
1050678	25	LA01056D-84-7-2	0		0	0	1	
1050679	26	VA06W-412	0		0	0	1	
1050680	27	GA00067-8E35	0		0	0	2	
1050681	28	GA001138-8E36	1		0	0	1	
1050682	29	GA011493-8E18	1		0	0	1	
1050683	30	G75735	0		0	0	0	
1050684	31	G81036	0		0	0	0	
1050685	32	G75692	0		0	0	0	

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

GRAIN CONDITION
Coastal Composite

Lab Number			Comments
1050654	1	AGS 2000	
1050655	2	Pioneer Brand 26R61	
1050656	3	Coker 9553	
1050657	4	USG 3555	
1050658	5	W980031K1	
1050659	6	VA05W-139	
1050660	7	VA06W-392	
1050661	8	VA05W-251	
1050662	9	LA01139D-56-1	
1050663	10	AR96052-4-3	
1050664	11	AR98088-1-1	
1050665	12	NC05-19684	
1050666	13	MD00W389-08-4	
1050667	14	MD01W270-08-12	
1050668	15	MD01W28-08-11	
1050669	16	B05-0142	
1050670	17	B05-0329	
1050671	18	B05*0323	
1050672	19	NC05-19896	
1050673	20	NC06-20401	
1050674	21	NC06-19556	
1050675	22	TN902	
1050676	23	LA01139D-86-2	
1050677	24	LA0110D-84-2	
1050678	25	LA01056D-84-7-2	
1050679	26	VA06W-412	
1050680	27	GA00067-8E35	
1050681	28	GA001138-8E36	
1050682	29	GA011493-8E18	
1050683	30	G75735	
1050684	31	G81036	
1050685	32	G75692	

GRAIN CONDITION SCALE

FHB, SPROUTING and BLACK POINT

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

SHRIVELING

0	None
1	Some
2	Moderate
3	Heavy

COMMENTS

Light Weathering on most samples

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

Coastal Composite

Adjustments from Advanced Milling Database
Quality scores are transferred from 'Advanced Set Named Cultivar July 2010'
Select as many checks as are available

			From Advanced Milling Database Scoring				Predicted from Measured Data						Data Transferred from Scores Sheet																	
Lab Number	Entry Number	ENTRY	Milling Quality Score	Baking Quality Score	Softness Equivalent Score		Milling Quality Score		Baking Quality Score		Softness Equivalent Score		Test Weight (LB/BU)		Flour Yield (%)		Softness Equivalent (%)		Flour Protein (%)		As Is Lactic Acid SRC (%)		Sucrose SRC (%)		Cookie Diameter (cm)		Top Grade (0-9)
1050654	1	AGS 2000	81.5	62.3	67.2		70.0	C	55.0	D	60.6	C	61.1		71.0		57.8		9.6		112.4		96.0		18.8		3.0
1050655	2	Pioneer Brand 26R61	68.9	51.8	60.9		59.8	D	46.6	E	51.9	D	62.6		68.7		53.6		9.9		111.6		97.6		18.6		3.0
1050656	3	Coker 9553	61.4	47.9	66.2		57.0	D	41.4	E	62.4	C	61.9		68.0		58.7		9.4		123.2		105.1		18.7		3.0
1050657	4	USG 3555	65.0	41.0	57.5		57.3	D	36.5	F	53.5	D	60.2		68.1		54.4		9.5		117.0		103.1		18.2		4.0
		Average	69.2	50.7	63.0		61.0		44.9		57.1		61.4		68.9		56.1		9.6		116.0		100.4		18.6		3.3
		Adjustment Bias for Trial	8.2	5.9	5.9																									

SE Score= 2.085 SE -59.889
BQ Score= -6.84+11.04*Diam-1.49*Sucrose-3.86*Flour Pro+0.598*SE
MY Score= -239.56 + 4.36*FYLD