

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

and

Cooperating State Agricultural Experiment Stations

2004-2005

UNIFORM BREAD WHEAT TRIAL

Final Report

Coordinators: David Marshall and Myron Fountain

This is a joint progress report of cooperative investigations underway in the Agricultural Research Service of the U. S. Department of Agriculture and the State Agricultural Experiment Stations containing preliminary data which have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. This report is primarily a tool for use by cooperators and those persons having direct and special interest in the development of agricultural research programs. This report includes data furnished by the State Agricultural Experiment Stations and is not intended for publication and should not be referred to in literature citations or quoted in publicity or advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved.

USDA-ARS
Plant Science Research Unit
1419 Gardner Hall, Box 7616
North Carolina State University
Raleigh, NC 27695-7616

The purpose of the Uniform Bread Wheat Trial (UBWT) is to evaluate hard endosperm, bread quality, winter habit cultivars and advanced lines for adaptation to the high rainfall, humid environments of the eastern United States. The entries in this 3rd UBWT were selected from public and private breeding programs in the southern and central Great Plains. A total of 37 entries (17 hard red, 16 hard white, and 4 soft red) were included in the trial. There were 11 testing locations for the 2004-05 UBWT, with one in Delaware, one in Georgia, two in Kentucky, one in Maryland, three in North Carolina, one in Pennsylvania, and two in Virginia.

Roane was the highest yielding variety, averaging 85 bu/a across 10 environments, followed by the three other soft red wheat varieties, AGS 2000, NC-Neuse, and Tribute. Tribute yielded 76 bu/a and seven hard red winter wheat varieties were not significantly different, TX01D3232, TX98D2423, Dumas, TAM 302, TX98D1170, TX96D1073, and TX00D1390. Tribute had the highest test weight (59.6 lb/bu), and 11 varieties were not significantly different. Of the hard red wheat varieties that were not significantly different for yield and test weight compared to Tribute, Dumas and TX96D1073 had the best yield and test weight. TX96D1073 had average performance for the other traits measured. Across the last two years of this trial, Hondo, TX98D1170, and TX99D4478 were rated excellent for resistance to powdery mildew compared to other hard red wheat varieties. Of the hard white wheat varieties, Lakin, KS03HW82, KS03HW36, and KS03HW83 had good yields. KS03HW36 had excellent test weight and resistance rating to powdery mildew.

New Castle Co., DE - Plot size = 106 ft²; 3 Reps; Planted on 12 Nov 04; Harvested on 15 Jul 05. Good growing conditions throughout year; some rain and heavy dews at harvest resulted in a late harvest. Cooperator: Bob Uniatowski.

Plains, GA - Plot size = 50 ft²; 2 reps; Planted on 16 Nov 04; harvested on 7 Jun 05. 90lb N/a applied. Cooperators: J. Johnson, D. Bland, and S. Sutton.

Lexington, KY - Planted on 9 Nov 04; Harvested on 29 Jun 05. Cooperator: Dave Van Sanford.

Logan Co., KY - Planted on 7 Nov 04; Harvested on 23 Jun 05. Cooperator: Dave Van Sanford.

Clarksville, MD - Early WSSMV (rated 1 rep), followed by possible take-all resulted in uneven growth; light mildew. Cooperator: J. Costa.

Kinston, NC - Plot size = 55ft²; 2 reps; Planted on 21 Oct 04; Harvested on 22 June 05. Overall good growing conditions throughout year; heavy powdery mildew in late winter-early spring. Cooperators: Dave Marshall and Bill Brown

Laurel Springs, NC - Plot size = 55ft²; 2 reps; Planted on 5 Oct 04; Harvested on 8 July 05. Some winter damage; Heavy septoria nodorum blotch late in season; Harvested late, some sprouting. Cooperators: Dave Marshall and Bill Brown.

Salisbury, NC - Plot size 55ft²; 2 reps; Planted 14 Oct 04; Harvested 15 June 05. Good growing conditions throughout the year. Cooperators: Paul Murphy and Dave Marshall.

Landisville, PA - Plot size = 30.6ft²; 4 reps; Planted on 11 Oct 04; Harvested on 11 July 05; 60lb N/a applied 31 Mar 05; Conditions very dry in spring, with minimal disease development; Rain during ripening resulted in some lodging and reduced test weight. Cooperator: Greg Roth.

Blacksburg, VA - Cooperators: C. Griffey and J. Paling.

Warsaw, VA - Cooperators: C. Griffey and J. Paling.

ENTRIES

<i>Entry</i>	<i>Designation</i>	<i>Pedigree</i>	<i>Class*</i>	<i>Origin</i>	<i>2004-05 Source</i>	<i>Yrs in trial</i>
1	2137	W2440/W9488A//2163 (=PI592444; HBF0263-137; KS92P0263-137)	HRW	AgriPro	04USDA	3
2	AGS 2000	Pioneer 2555/PF84301//Florida 302 (=PI612956; GA89482E7)	SRW	GA	04USDA	3
3	Coronado	W85-084/W85-225 (=PI591625; W91-287)	HRW	AgriPro	04USDA	3
4	Custer	F29-76/TAM 105//Chisholm (=OK88767-11)	HRW	OK	04USDA	3
5	Dumas	WI90-425/WI89-483 (=PI619199; W95-385)	HRW	AgriPro	04USDA	3
6	Hondo	W84-179/W81-171/3/Sturdy/Hawk//Vona/W76-1141 (=PI603958; W95-210)	HRW	AgriPro	04USDA	3
7	Ike	Dular/Eagle//2*Cheney/Larned/3/Colt (=PI574488; KS889H48)	HRW	KS	04USDA	3
8	Jagalene	Jagger/Abilene (=PI631376; W98-362)	HRW	AgriPro	04USDA	3
9	Jagger	KS82W418/Stephens (=PI593688; KS84063-9-39-3)	HRW	KS	04USDA	2
10	KS00HW175-4-1	Arlin/KS89H20	HWW	KS	04USDA	1
11	KS00HW175-4-3	Arlin/KS89H20	HWW	KS	04USDA	1
12	KS00HW175-4-6	Arlin/KS89H20	HWW	KS	04USDA	1
13	KS03HW36	KS96HW91-1/KS97HW202 (KS97HW202=KS91HW19//TA2460/3*TAM 107) (=KS5110)	HWW	KS	04USDA	1
14	KS03HW40	KS96HW91-1/KS97HW202 (KS97HW202=KS91HW19//TA2460/3*TAM 107) (=KS5112)	HWW	KS	04USDA	1
15	KS03HW42	KS96HW91-1/KS97HW202 (KS97HW202=KS91HW19//TA2460/3*TAM 107) (=KS5113)	HWW	KS	04USDA	1
16	KS03HW45	KS96HW91-1/KS97HW202 (KS97HW202=KS91HW19//TA2460/3*TAM 107) (=KS5115)	HWW	KS	04USDA	1
17	KS03HW72	KS97HW16/KS97HW206 (KS97HW206=KS91HW19/Jagger sib) (=KS5233)	HWW	KS	04USDA	1
18	KS03HW73	KS97HW16/KS97HW206 (KS97HW206=KS91HW19/Jagger sib) (=KS5233)	HWW	KS	04USDA	1
19	KS03HW74	KS97HW16/KS97HW206 (KS97HW206=KS91HW19/Jagger sib) (=KS5233)	HWW	KS	04USDA	1
20	KS03HW78	KS97HW202/KS97HW257 (KS97HW257=KS91HW19/KS95W663-11-6-1) (=KS5311)	HWW	KS	04USDA	1
21	KS03HW80	KS97HW202/KS97HW257 (KS97HW257=KS91HW19/KS95W663-11-6-1) (=KS5311)	HWW	KS	04USDA	1
22	KS03HW82	KS97HW202/KS97HW257 (KS97HW257=KS91HW19/KS95W663-11-6-1) (=KS5311)	HWW	KS	04USDA	1
23	KS03HW83	KS97HW202/KS97HW257 (KS97HW257=KS91HW19/KS95W663-11-6-1) (=KS5311)	HWW	KS	04USDA	1
24	Lakin	KS89H130/Arlin (=PI617032; KS96HW115)	HWW	KS	04USDA	2
25	NC-Neuse	Coker 86-29//Stella/CHD756-80/3/Coker 9907 (=PI633037; NC96-13156)	SRW	NC	04USDA	2
26	Roane	VA71-54-147/Coker 68-15//IN65309C1-18-2-3-2 (=PI612958; VA93-54-429)	SRW	VA	04USDA	3
27	Sturdy 2K	Sinvalocho/Wichita//CI 11969/Wichita/3/Seu Seun 1 (=TX391-56-D1-23)	HRW	TX	04USDA	3

ENTRIES

<i>Entry</i>	<i>Designation</i>	<i>Pedigree</i>	<i>Class*</i>	<i>Origin</i>	<i>2004-05 Source</i>	<i>Yrs in trial</i>
28	TAM 110	TAM 105*4/Amigo*4//Largo (=PI595757; TXGH12588-105)	HRW	TX	04USDA	3
29	TAM 302	Probrand 812/Caldwell//TX86D1310 (=PI605910; TX91D6913)	HRW	TX	04USDA	3
30	Trego	KS87H325/Rio Blanco (=PI612576; KS95HW62-6)	HWW	KS	04USDA	2
31	Tribute	VA92-51-39/AL870365 (=VA98W-593)	SRW	VA	04USDA	3
32	TX96D1073	TX86D1310/Kavkaz//TX86D1308 (=WX87D144-10-99-12-18)	HRW	TX	04USDA	3
33	TX98D1170	TX89D1253*2/TTCC404 (=WX93D208-9-1-2) (=TX98D1170)	HRW	TX	04USDA	3
34	TX98D2423	2163*W3453/W2441 (=TX92D4351-2-11-13-1) (=HBG0056 sel)	HRW	TX	04USDA	3
35	TX99D4478	TX92D8040*3/TTCC259 (=WX93D230-1)	HRW	TX	04USDA	3
36	TX00D1390	TX89D1253*2/TTCC404 (=WX93D208-9-1-17-13)	HRW	TX	04TX	1
37	TX01D3232	TX92U3060/TX91D6465 (=X95U104-P66)	HRW	TX	04TX	1
* Classes are HRW=Hard Red Winter; HWW=Hard White Winter; and SRW=Soft Red Winter.						

COOPERATORS

Jose Costa
Dept NRSLA
6123 Plant Sciences Bldg
University of Maryland
College Park, MD
phone: (301) 405-1317
email: jc274@umail.umd.edu

Carl Griffey
Dept Crop & Soil Environmental Science
Virginia Tech
Blacksburg, VA 24061-0404
phone: (540) 231-9789
email: cgriffey@vt.edu

Jerry Johnson
Georgia Experiment Station
Crop & Soil Sciences
1109 Experiment Street
University of Georgia
Griffin, GA 30223-1797
phone: (770) 228-7321
email: jjohnso@gaes.griffin.peachnet.edu

David Marshall
USDA/ARS
Plant Science Research Unit
1419 Gardner Hall
North Carolina State University, Box 7616
Raleigh, NC 27695-7616
phone: (919) 515-6819
email: david_marshall@ncsu.edu

Paul Murphy
Dept of Crop Science
219 Greenhouse Unit 3
North Carolina State Univ - Box 7629
Raleigh, NC 27695-7629
phone: (919) 513-0000
email: njpm@unity.ncsu.edu

Greg Roth
Dept Crop & Soil Sciences
116 ASI Building
The Pennsylvania State University
University Park, PA 16802
phone: (814) 863-1018
email: gwr@psu.edu

Dave Van Sanford
Department of Agronomy
Plant Science Bldg, Rm 327
University of Kentucky
Lexington, KY 40546-0914
phone: (859) 257-5020
email: dvs@uky.edu

Bob Uniatowski
Dept Plant & Soil Sciences
University of Delaware
Newark, DE 19717-1303
phone: 302-831-1370
email: bobuni@udel.edu

GRAIN YIELD

Entry	Designation	<u>NewCastle DE</u>		<u>Plains, GA</u>		<u>Lexington, KY</u>		<u>Logan Co., KY</u>		<u>Clrksvll MD*</u>		<u>Kinston NC</u>		<u>LrlSprgs NC</u>		<u>Salisbury NC</u>		<u>Landisville, PA</u>		<u>Bksburg, VA</u>		<u>Warsaw, VA</u>		<u>10-location mean*</u>	
		<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>	<i>bu/ac</i>	<i>rank</i>
1	2137	76.1	20	50.5	24	60.3	25	76.9	26	56.5	13	49.7	17	36.9	21	77.2	26	84.2	8	59.6	26	55.8	34	62.7	27
2	AGS 2000	99.4	1	89.6	1	56.2	30	85.9	17	61.6	8	72.3	3	49.8	4	93.8	4	81.4	16	73.0	4	91.7	1	79.3	2
3	Coronado	70.2	31	59.1	15	54.5	32	96.8	4	45.8	25	41.0	26	32.1	27	78.4	25	79.0	21	53.7	35	63.6	22	62.8	25
4	Custer	79.0	14	61.6	12	78.9	4	89.5	10	31.0	35	45.7	20	30.4	30	84.6	12	72.9	30	57.3	30	58.4	32	65.8	19
5	Dumas	78.4	15	77.4	4	67.7	15	95.7	5	47.6	22	61.0	10	37.6	19	78.8	24	83.2	10	56.5	32	74.2	7	71.0	7
6	Hondo	79.8	13	48.2	28	57.9	29	74.8	30	42.7	27	67.9	4	31.2	29	74.0	31	71.1	32	63.4	18	65.0	21	63.3	24
7	Ike	75.6	22	39.4	35	58.0	28	90.8	8	24.3	36	45.7	21	49.2	6	84.1	13	63.2	37	47.1	37	58.9	30	61.2	28
8	Jagalene	84.1	8	47.1	29	62.7	21	93.2	6	57.9	11	39.2	29	41.2	16	79.3	21	80.3	17	66.3	12	59.1	29	65.2	20
9	Jagger	88.6	4	49.4	26	69.7	12	99.1	3	46.2	24	51.1	16	37.3	20	70.5	33	83.6	9	61.7	22	62.0	26	67.3	14
10	KS00HW175-4-1	76.4	19	50.6	23	49.8	35	80.6	21	51.7	19	31.5	34	22.6	33	75.7	27	81.9	13	62.4	19	62.0	25	59.3	33
11	KS00HW175-4-3	80.3	12	51.1	22	46.0	36	80.8	20	42.2	29	30.3	35	25.0	32	82.5	16	75.3	25	60.1	24	62.6	24	59.4	32
12	KS00HW175-4-6	80.6	11	48.9	27	45.1	37	74.9	29	43.0	26	30.1	36	19.7	37	79.5	20	76.8	24	62.1	21	66.6	18	58.4	35
13	KS03HW36	74.0	23	58.8	16	70.4	10	70.3	34	46.4	23	61.7	9	33.5	26	85.2	11	79.8	20	58.8	29	70.8	13	66.3	17
14	KS03HW40	72.4	29	53.2	21	64.0	19	73.7	31	33.9	32	54.3	13	21.2	36	88.2	8	77.4	23	56.4	33	67.2	17	62.8	26
15	KS03HW42	76.6	18	56.0	18	60.1	26	73.7	32	55.4	17	42.7	25	28.1	31	75.2	28	75.3	26	52.6	36	63.2	23	60.3	29
16	KS03HW45	68.9	35	50.5	25	60.7	24	100.4	2	35.5	31	53.9	14	21.3	35	79.3	22	81.5	15	55.8	34	69.2	14	64.1	23
17	KS03HW72	69.3	34	39.3	36	69.0	13	69.3	35	63.5	7	22.8	37	43.1	14	74.7	30	68.6	34	59.0	28	53.0	35	56.8	37
18	KS03HW73	83.6	9	75.2	5	70.1	11	66.4	37	68.1	3	36.5	32	41.0	17	81.9	18	79.9	18	64.0	16	52.7	36	65.1	21
19	KS03HW74	77.7	16	63.9	11	51.8	33	72.1	33	56.9	12	40.1	27	48.0	9	67.5	36	64.4	36	60.0	25	50.6	37	59.6	30
20	KS03HW78	65.0	37	40.2	34	56.1	31	76.1	27	68.9	2	43.7	24	36.1	24	67.9	35	67.9	35	69.0	7	58.4	31	58.0	36
21	KS03HW80	68.4	36	46.5	31	59.3	27	69.1	36	65.3	6	44.2	23	34.7	25	69.1	34	71.2	31	71.0	6	56.7	33	59.0	34
22	KS03HW82	70.1	33	69.1	9	62.7	22	89.2	11	49.7	20	52.1	15	36.6	22	83.9	14	73.1	29	65.3	14	73.5	8	67.6	13
23	KS03HW83	70.2	32	54.7	20	70.6	9	86.4	16	48.8	21	38.1	31	36.3	23	79.0	23	89.7	3	63.7	17	71.5	12	66.0	18
24	Lakin	77.6	17	28.9	37	65.8	16	84.3	18	60.1	10	59.6	11	50.3	3	92.6	5	82.2	11	71.8	5	66.4	19	67.9	12
25	NC-Neuse	87.1	5	72.9	7	78.7	5	89.7	9	56.0	16	73.1	2	56.4	2	82.3	17	85.9	6	75.7	2	80.7	4	78.2	3
26	Roane	96.7	2	74.0	6	88.9	1	88.3	13	70.8	1	89.7	1	62.0	1	98.1	2	82.1	12	93.0	1	80.8	3	85.4	1
27	Sturdy 2K	71.1	30	59.3	14	65.7	17	87.8	14	65.8	5	39.0	30	31.4	28	85.7	9	78.4	22	59.2	27	67.6	16	64.5	22
28	TAM 110	84.9	7	43.4	32	84.6	3	89.1	12	61.4	9	67.7	5	22.2	34	73.0	32	81.6	14	60.4	23	61.3	27	66.8	15
29	TAM 302	73.9	24	72.9	8	63.1	20	91.9	7	32.6	33	47.7	19	45.2	13	83.0	15	86.4	5	65.0	15	79.4	5	70.8	8
30	Trego	72.9	28	46.8	30	50.6	34	83.5	19	18.7	37	44.8	22	40.7	18	66.4	37	74.3	28	56.7	31	59.3	28	59.6	31
31	Tribute	90.7	3	58.0	17	73.4	7	102.9	1	66.0	4	62.4	8	43.1	15	96.5	3	74.3	27	75.5	3	81.3	2	75.8	4
32	TX96D1073	73.2	26	80.6	2	71.5	8	78.1	25	56.4	14	56.6	12	49.0	7	91.2	7	70.0	33	65.8	13	67.9	15	70.4	10
33	TX98D1170	73.8	25	79.5	3	68.0	14	75.0	28	42.2	30	49.1	18	45.4	12	85.3	10	94.6	2	62.2	20	73.3	9	70.6	9
34	TX98D2423	85.2	6	64.8	10	88.1	2	80.3	22	53.1	18	36.2	33	48.6	8	75.2	29	96.0	1	66.4	11	72.0	11	71.3	6
35	TX99D4478	75.9	21	42.6	33	61.2	23	78.9	24	56.1	15	63.7	6	49.4	5	80.4	19	79.8	19	67.9	8	65.7	20	66.5	16
36	TX00D1390	82.0	10	59.9	13	65.4	18	87.1	15	31.6	34	39.4	28	47.6	10	91.3	6	88.1	4	67.9	9	73.1	10	70.2	11
37	TX01D3232	73.2	27	54.8	19	74.3	6	79.8	23	42.6	28	63.5	7	46.6	11	99.7	1	85.6	7	66.8	10	74.6	6	71.9	5
	<i>Mean</i>	77.9		57.3		64.9		83.3		50.2		49.9		38.7		81.4		78.9		63.6		66.8		66.2	
	<i>LSD (5%)</i>	10.1		14.2		15.7		14.7		NS		17.7		14.7		17.6		12.8		5.8		7.8		7.3	
	<i>CV (%)</i>	8		12		14		13		33		17		19		11		12		7		9		13	

*Clarksville, MD data not included in 10-location mean.

TEST WEIGHT

		<i>NewCstl</i>	<i>Plains</i>	<i>Lxngtn</i>	<i>Logan</i>	<i>Clrksvl</i>	<i>Knston</i>	<i>LrlSprgs</i>	<i>Slsbury</i>	<i>Lndsvlle</i>	<i>Bksburg</i>	<i>Warsaw</i>	<i>II-location</i>	
		<u>DE</u>	<u>GA</u>	<u>KY</u>	<u>KY</u>	<u>MD</u>	<u>NC</u>	<u>NC</u>	<u>NC</u>	<u>PA</u>	<u>VA</u>	<u>VA</u>	<u>mean</u>	
<i>Entry</i>	<i>Designation</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>lb/bu</i>	<i>rank</i>
1	2137	57.4	52.7	56.7	61.5	56.3	60.0	53.0	59.6	58.3	57.6	63.3	57.8	18
2	AGS 2000	57.6	53.9	51.5	61.8	57.0	60.8	53.9	60.1	58.3	59.3	63.4	58.0	14
3	Coronado	57.3	52.2	57.4	60.7	55.3	58.8	52.4	59.7	58.9	58.3	63.2	57.6	20
4	Custer	58.4	52.6	59.7	60.7	57.0	59.1	52.1	60.0	60.2	58.9	63.1	58.3	13
5	Dumas	58.4	53.9	58.5	62.2	56.3	59.6	54.3	60.9	59.5	59.1	64.7	58.8	4
6	Hondo	58.5	49.1	57.8	62.1	58.5	60.6	53.3	60.5	60.0	59.7	64.3	58.6	8
7	Ike	60.5	50.1	60.2	61.9	nd	61.1	55.0	60.2	60.0	59.6	62.2	59.0	3
8	Jagalene	59.3	50.8	58.7	61.7	58.2	59.9	52.7	60.0	60.7	59.7	64.5	58.7	7
9	Jagger	59.3	48.0	58.6	60.2	57.5	58.1	50.9	59.9	58.8	57.8	63.4	57.5	24
10	KS00HW175-4-1	56.6	44.9	55.7	62.8	57.1	57.2	49.3	59.7	58.5	59.3	64.1	56.8	30
11	KS00HW175-4-3	57.5	45.0	56.6	62.7	57.3	57.2	48.4	59.6	58.3	58.5	64.2	56.8	31
12	KS00HW175-4-6	57.5	43.6	57.9	62.5	58.0	56.7	47.1	59.0	58.5	58.5	64.0	56.7	33
13	KS03HW36	59.1	46.2	59.5	62.0	58.9	60.7	53.3	60.6	59.7	60.2	64.0	58.6	9
14	KS03HW40	58.5	43.8	58.6	61.8	58.4	59.3	49.7	60.4	59.3	60.0	64.1	57.6	21
15	KS03HW42	58.6	45.2	58.3	60.7	57.4	58.7	51.1	59.0	58.9	58.7	64.3	57.3	27
16	KS03HW45	58.7	45.4	58.9	60.5	57.8	58.7	51.3	59.4	59.1	59.4	63.7	57.5	25
17	KS03HW72	58.8	42.4	59.7	61.2	56.8	55.1	50.5	58.9	59.7	58.9	63.0	56.8	32
18	KS03HW73	56.8	46.5	60.2	61.2	57.8	58.0	50.3	59.3	59.2	59.9	62.9	57.5	26
19	KS03HW74	58.5	48.7	61.6	63.4	57.9	60.0	50.1	60.4	60.4	60.6	62.9	58.6	10
20	KS03HW78	59.3	45.7	59.8	63.4	58.0	60.2	50.6	60.3	59.7	60.4	65.2	58.4	11
21	KS03HW80	59.2	46.2	58.2	62.1	57.8	58.9	50.8	59.8	59.5	60.2	65.0	58.0	15
22	KS03HW82	57.2	46.5	57.3	59.9	55.5	56.9	51.7	58.2	58.1	57.5	63.7	56.6	35
23	KS03HW83	57.4	46.8	57.7	60.0	55.8	56.6	51.0	58.4	58.4	57.8	63.6	56.7	34
24	Lakin	57.5	46.3	57.2	61.4	57.2	60.8	54.4	60.5	58.8	59.5	64.4	58.0	16
25	NC-Neuse	60.2	52.5	57.6	61.2	57.0	60.9	54.4	59.9	60.1	60.2	63.3	58.8	5
26	Roane	59.0	52.4	56.7	62.6	57.4	62.1	56.4	60.4	58.9	60.7	64.3	59.2	2
27	Sturdy 2K	57.4	53.6	54.7	60.5	55.8	58.1	51.4	58.7	57.4	56.5	62.9	57.0	29
28	TAM 110	57.9	50.2	59.2	60.7	56.9	59.2	53.1	61.7	57.9	58.2	62.0	57.9	17
29	TAM 302	52.9	49.2	55.2	60.2	54.3	57.9	53.7	58.7	57.4	56.4	62.5	56.2	36
30	Trego	58.3	48.7	59.1	62.2	nd	60.6	53.4	60.4	60.8	60.5	64.5	58.8	6
31	Tribute	58.9	53.4	58.2	62.8	57.8	61.9	55.6	61.4	59.7	61.7	64.7	59.6	1
32	TX96D1073	57.4	53.9	59.7	60.7	56.1	60.7	53.4	59.3	59.6	59.1	62.9	58.4	12
33	TX98D1170	56.2	51.0	56.9	60.0	57.0	59.9	55.0	59.6	58.3	57.7	62.5	57.6	22
34	TX98D2423	56.4	50.1	58.1	60.4	56.6	58.3	55.0	59.7	58.2	58.8	62.6	57.6	23
35	TX99D4478	57.9	46.2	56.5	60.8	56.7	59.1	53.2	58.8	58.8	58.3	62.2	57.1	28
36	TX00D1390	57.4	51.5	57.8	61.9	nd	56.9	50.9	60.0	58.7	59.4	63.8	57.7	19
37	TX01D3232	54.4	48.7	57.7	58.5	53.6	55.6	48.6	57.5	58.4	55.8	62.2	55.5	37
	<i>Mean</i>	57.9	48.9	57.9	61.4	57.0	59.0	52.2	59.7	59.1	59.0	63.6	57.8	
	<i>LSD (5%)</i>	1.9	—	—	—	2.0	1.4	2.5	0.6	0.6	0.7	0.3	1.2	
	<i>CV (%)</i>	2	—	—	—	2	1	2	1	1	1	0	3	

HEADING DATE (JULIAN)									
		<i>New Castle</i>	<i>Lexington</i>	<i>Clarksville</i>	<i>Kinston</i>	<i>Landisville</i>	<i>Blacksburg</i>	<i>Warsaw</i>	<i>7-location</i>
<i>Entry</i>	<i>Designation</i>	<i>DE</i>	<i>KY</i>	<i>MD</i>	<i>NC</i>	<i>PA</i>	<i>VA</i>	<i>VA</i>	<i>mean</i>
1	2137	143	136	138	117	140	136	125	134
2	AGS 2000	143	138	137	106	139	133	118	131
3	Coronado	143	135	134	112	136	133	121	131
4	Custer	138	134	136	112	138	133	121	130
5	Dumas	142	136	137	112	139	135	123	132
6	Hondo	146	139	137	120	140	136	130	135
7	Ike	142	138	136	120	138	135	128	134
8	Jagalene	144	135	135	113	139	133	123	132
9	Jagger	136	134	129	106	136	129	118	127
10	KS00HW175-4-1	146	139	136	120	140	136	127	135
11	KS00HW175-4-3	145	139	137	121	140	136	127	135
12	KS00HW175-4-6	145	139	136	121	140	136	127	135
13	KS03HW36	141	136	136	115	136	134	126	132
14	KS03HW40	142	138	136	116	136	134	125	132
15	KS03HW42	139	134	135	118	136	133	123	131
16	KS03HW45	140	136	135	115	136	133	124	131
17	KS03HW72	144	139	137	116	140	136	128	134
18	KS03HW73	145	137	137	114	141	136	127	134
19	KS03HW74	144	137	136	115	139	136	126	133
20	KS03HW78	144	136	137	117	141	136	126	134
21	KS03HW80	145	136	136	114	140	136	125	133
22	KS03HW82	143	136	133	114	137	134	123	131
23	KS03HW83	145	136	135	114	138	134	123	132
24	Lakin	142	136	136	113	140	135	123	132
25	NC-Neuse	147	138	139	115	141	137	125	135
26	Roane	145	138	137	115	141	138	127	134
27	Sturdy 2K	143	137	137	115	140	136	125	133
28	TAM 110	137	134	134	110	136	131	120	129
29	TAM 302	145	138	138	117	141	137	126	135
30	Trego	143	136	137	116	140	136	123	133
31	Tribute	144	136	136	113	139	134	123	132
32	TX96D1073	142	134	136	113	137	134	122	131
33	TX98D1170	142	135	136	112	136	133	121	131
34	TX98D2423	144	136	138	114	140	136	125	133
35	TX99D4478	142	137	136	116	138	133	123	132
36	TX00D1390	141	135	136	113	136	134	122	131
37	TX01D3232	138	134	136	111	136	133	120	130
	<i>Mean</i>	143	136	136	115	139	135	124	132
	<i>LSD (5%)</i>	—	—	1	1	2	1	1	2
	<i>CV (%)</i>	—	—	0	1	6	0	1	1

HEIGHT										
		<i>NewCastle Co</i>	<i>Plains</i>	<i>Lexington</i>	<i>Logan Co</i>	<i>Clarksville</i>	<i>Landisville</i>	<i>Blacksburg</i>	<i>Warsaw</i>	<i>8-location</i>
		<u>DE</u>	<u>GA</u>	<u>KY</u>	<u>KY</u>	<u>MD</u>	<u>PA</u>	<u>VA</u>	<u>VA</u>	<u>mean</u>
<i>Entry</i>	<i>Designation</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
1	2137	35	39	33	40	35	30	33	33	35
2	AGS 2000	38	35	35	41	34	31	32	36	35
3	Coronado	36	35	28	38	33	28	31	31	33
4	Custer	34	35	35	39	36	31	32	33	34
5	Dumas	37	38	35	39	39	31	32	36	36
6	Hondo	37	39	34	40	39	30	32	34	36
7	Ike	38	36	38	42	35	30	35	35	36
8	Jagalene	35	31	36	38	35	29	31	33	34
9	Jagger	37	31	36	39	36	31	32	34	35
10	KS00HW175-4-1	40	37	37	40	37	31	34	33	36
11	KS00HW175-4-3	38	37	37	40	38	29	34	34	36
12	KS00HW175-4-6	38	37	36	39	35	29	33	34	35
13	KS03HW36	39	38	39	41	36	30	34	35	37
14	KS03HW40	37	39	39	42	37	30	33	36	37
15	KS03HW42	37	42	37	42	36	30	35	37	37
16	KS03HW45	37	42	38	43	37	33	35	35	38
17	KS03HW72	34	35	34	37	33	27	30	32	33
18	KS03HW73	37	38	37	38	36	30	32	33	35
19	KS03HW74	37	39	34	38	37	30	33	34	35
20	KS03HW78	36	37	34	29	36	28	32	33	33
21	KS03HW80	36	37	35	38	33	28	31	33	34
22	KS03HW82	37	41	36	41	37	30	35	37	37
23	KS03HW83	38	41	39	40	38	32	34	36	37
24	Lakin	36	37	35	40	37	33	34	33	36
25	NC-Neuse	35	36	34	39	36	29	32	34	34
26	Roane	35	36	34	38	34	28	32	32	34
27	Sturdy 2K	38	40	37	45	35	33	35	35	37
28	TAM 110	37	36	34	39	36	30	33	33	35
29	TAM 302	36	37	37	40	35	31	33	35	36
30	Trego	36	35	34	39	33	29	32	34	34
31	Tribute	32	34	29	38	34	27	30	33	32
32	TX96D1073	38	37	33	38	36	29	31	33	34
33	TX98D1170	37	37	37	39	36	30	33	35	36
34	TX98D2423	40	39	39	43	37	32	34	35	37
35	TX99D4478	37	38	36	40	38	30	34	35	36
36	TX00D1390	35	36	33	39	34	29	32	34	34
37	TX01D3232	33	30	32	34	34	29	30	33	32
	<i>Mean</i>	37	37	35	39	36	30	33	34	35
	<i>LSD (5%)</i>	3	—	—	—	5	2	1	2	1
	<i>CV (%)</i>	5	—	—	—	6	5	3	4	4

LODGING*										
		New Castle	Plains	Clarksville	3-location		Blacksburg	Warsaw	2-location	
		<u>DE</u>	<u>GA</u>	<u>MD</u>	<u>mean</u>		<u>VA</u>	<u>VA</u>	<u>mean</u>	
Entry	Designation	0-9	0-9	0-9	0-9	rank	0.2-10.0	0.2-10.0	0.2-10.0	rank
1	2137	1	0.0	2.5	1.2	6	0.5	0.3	0.4	5
2	AGS 2000	1	0.0	3.5	1.5	15	0.6	0.5	0.6	11
3	Coronado	1	0.0	3.0	1.3	9	0.3	0.2	0.3	2
4	Custer	1	0.0	5.5	2.2	24	0.2	0.2	0.2	1
5	Dumas	1	0.0	5.0	2.0	22	0.2	0.3	0.3	3
6	Hondo	1	0.0	6.0	2.3	27	1.7	0.3	1.0	18
7	Ike	3	2.0	5.5	3.5	36	2.0	0.6	1.3	24
8	Jagalene	1	0.0	3.0	1.3	10	0.3	0.7	0.5	7
9	Jagger	1	0.5	5.5	2.3	28	0.3	1.8	1.1	21
10	KS00HW175-4-1	1	0.0	3.0	1.3	11	1.5	0.2	0.9	17
11	KS00HW175-4-3	2	0.0	3.5	1.8	20	2.3	0.5	1.4	26
12	KS00HW175-4-6	2	0.0	3.0	1.7	18	1.2	0.2	0.7	15
13	KS03HW36	2	0.0	2.5	1.5	16	1.7	1.3	1.5	27
14	KS03HW40	2	0.0	5.5	2.5	30	2.7	3.2	3.0	34
15	KS03HW42	3	0.0	5.5	2.8	34	1.6	0.8	1.2	23
16	KS03HW45	4	0.0	5.5	3.2	35	4.1	2.5	3.3	37
17	KS03HW72	1	0.0	0.8	0.6	1	0.3	0.2	0.3	4
18	KS03HW73	1	0.0	1.0	0.7	2	0.8	0.2	0.5	8
19	KS03HW74	1	0.0	1.0	0.7	3	0.8	0.3	0.6	12
20	KS03HW78	2	0.0	1.0	1.0	5	4.3	0.4	2.4	30
21	KS03HW80	2	0.0	1.5	1.2	7	5.2	0.7	3.0	35
22	KS03HW82	3	0.0	3.5	2.2	25	0.5	0.3	0.4	6
23	KS03HW83	2	0.0	6.0	2.7	33	0.9	1.1	1.0	19
24	Lakin	2	0.0	2.0	1.3	12	2.7	3.6	3.2	36
25	NC-Neuse	1	0.0	3.0	1.3	13	0.9	0.2	0.6	13
26	Roane	1	0.0	3.8	1.6	17	2.9	0.2	1.6	28
27	Sturdy 2K	3	0.0	4.5	2.5	31	5.0	0.4	2.7	32
28	TAM 110	3	2.0	1.5	2.2	26	3.1	2.5	2.8	33
29	TAM 302	1	0.0	5.0	2.0	23	0.9	1.1	1.0	20
30	Trego	2	0.0	5.0	2.3	29	2.4	0.3	1.4	25
31	Tribute	1	0.0	2.5	1.2	8	1.5	0.8	1.2	22
32	TX96D1073	1	0.0	1.5	0.8	4	0.3	0.7	0.5	9
33	TX98D1170	2	0.0	5.5	2.5	32	2.2	1.4	1.8	29
34	TX98D2423	1	0.0	3.0	1.3	14	0.8	0.7	0.8	16
35	TX99D4478	1	0.0	4.0	1.7	19	0.2	0.9	0.6	14
36	TX00D1390	2	2.0	6.5	3.5	37	2.8	1.9	2.4	31
37	TX01D3232	1	0.0	4.5	1.8	21	0.2	0.8	0.5	10
	Mean	2	0.2	3.6	1.8		1.6	0.9	1.2	
	LSD (5%)	1	—	NS	1.7		1.1	0.8	2.0	
	CV (%)	37	—	69	56		49	64	79	

* Lodging rated on a 0-to-9 scale at New Castle, Plains, and Clarksville. At Blacksburg and Warsaw, lodging rated on the Belgian Lodging Scale = Area x Intensity x 0.2 [Area is rated on a scale from 1 (plot unaffected) to 10 (entire plot affected). Intensity is rated on a scale from 1 (plants standing upright) to 5 (plants lying flat on the ground)].

POWDERY MILDEW										
		Plains	Lexington	Kinston	Blacksburg	Warsaw	4-location		Kinston	
		<u>GA</u>	<u>KY</u>	<u>NC</u>	<u>VA</u>	<u>VA</u>	<u>mean</u>		<u>NC</u>	
Entry	Designation	rating	0-9	0-9	0-9	0-9	0-9	rank	AUC*	rank
1	2137	S	3	7.5	2.0	4.7	4.3	30	207	27
2	AGS 2000	MS	4	0.0	0.0	0.0	1.0	10	8	9
3	Coronado	S	4	6.0	0.7	1.3	3.0	25	218	30
4	Custer	MR	4	5.5	0.0	1.0	2.6	20	208	28
5	Dumas	MS	3	6.5	0.7	1.3	2.9	24	221	31
6	Hondo	MR	0	0.0	0.0	0.0	0.0	1	0	1
7	Ike	S	3	6.0	1.3	3.7	3.5	28	133	20
8	Jagalene	VS	6	8.5	4.3	7.3	6.5	37	259	36
9	Jagger	VS	6	8.5	2.7	6.7	6.0	36	273	37
10	KS00HW175-4-1	VS	5	6.5	2.0	6.3	4.9	31	192	24
11	KS00HW175-4-3	VS	5	6.0	2.7	7.0	5.2	32	213	29
12	KS00HW175-4-6	VS	5	8.5	3.0	6.3	5.7	35	226	32
13	KS03HW36	MR	0	0.0	0.0	0.7	0.2	6	23	13
14	KS03HW40	R	0	0.0	0.0	0.7	0.2	7	0	2
15	KS03HW42	S	3	0.0	0.0	1.7	1.2	13	18	12
16	KS03HW45	S	3	0.0	0.0	1.3	1.1	12	53	17
17	KS03HW72	S	4	0.0	0.3	3.0	1.8	16	0	3
18	KS03HW73	S	5	0.0	0.3	3.0	2.1	17	13	11
19	KS03HW74	S	4	0.0	0.0	2.3	1.6	14	10	10
20	KS03HW78	VS	4	0.0	1.3	3.7	2.2	18	117	18
21	KS03HW80	VS	5	7.0	2.7	6.7	5.3	33	193	25
22	KS03HW82	S	3	0.0	0.0	1.0	1.0	11	45	16
23	KS03HW83	S	2	0.0	0.3	0.7	0.7	9	35	14
24	Lakin	S	4	7.0	1.0	1.3	3.3	27	185	23
25	NC-Neuse	R	0	0.0	0.0	0.0	0.0	2	0	4
26	Roane	R	5	6.0	0.0	1.3	3.1	26	239	35
27	Sturdy 2K	VS	4	5.0	1.0	1.0	2.7	22	164	21
28	TAM 110	R	0	0.0	0.0	0.3	0.1	4	0	5
29	TAM 302	S	1	6.0	0.3	3.3	2.6	21	202	26
30	Trego	VS	5	7.5	1.7	7.0	5.3	34	234	34
31	Tribute	R	2	0.0	0.0	0.0	0.5	8	0	6
32	TX96D1073	MR	3	4.5	0.7	3.0	2.8	23	122	19
33	TX98D1170	R	0	0.0	0.0	0.0	0.0	3	0	7
34	TX98D2423	VS	4	7.0	1.3	4.3	4.1	29	226	33
35	TX99D4478	R	0	0.0	0.0	0.3	0.1	5	0	8
36	TX00D1390	S	4	0.0	0.0	2.7	1.7	15	39	15
37	TX01D3232	MS	4	0.0	1.7	4.3	2.5	19	171	22
	Mean	—	3	3.2	0.9	2.7	2.5		115	
	LSD (5%)	—	—	1.1	0.9	1.5	2.2		63	
	CV (%)	—	—	18	72	40	63		28	

* AUC=Area under the disease progress curve at Kinston. Encompasses 4 mildew ratings, taken at weekly intervals from 22 April to 22 May. Larger values mean more severe mildew throughout the time period.

OTHER DISEASES AND TRAITS

Entry	Designation	<i>BYDV*</i>	<i>WSSMV+SBMV</i>	<i>WSSMV</i>	<i>Stripe Rust</i>	<i>Stripe Rust</i>	<i>Leaf Rust</i>	<i>SN Leaf</i>	<i>SN Head</i>	<i>Leaf blotch</i>	<i>Winter Damage</i>
		<i>Blacksburg</i>	<i>Kinston</i>	<i>Clarksville</i>	<i>Plains</i>	<i>Logan Co</i>	<i>Plains</i>	<i>LrlSprgs</i>	<i>LrlSprgs</i>	<i>Logan Co</i>	<i>Kinston</i>
		<i>VA</i>	<i>NC</i>	<i>MD</i>	<i>GA</i>	<i>KY</i>	<i>GA</i>	<i>NC</i>	<i>NC</i>	<i>KY</i>	<i>NC</i>
		<i>0-9</i>	<i>0-9</i>	<i>0-9</i>	<i>0-9</i>	<i>0-5</i>	<i>0-9</i>	<i>0-9</i>	<i>0-9</i>	<i>0-9</i>	<i>0-9</i>
1	2137	3.3	3.0	4	S	1	6	6.5	5.0	4	1.5
2	AGS 2000	3.3	2.5	4	S	5	3	5.0	3.0	5	2.5
3	Coronado	3.7	5.0	7	TR	2	2	7.5	8.0	5	1.7
4	Custer	3.0	5.5	9	S	1	2	7.0	7.5	4	2.0
5	Dumas	2.3	4.0	6	S	1	2	6.5	7.0	5	2.0
6	Hondo	2.7	1.5	6	S	3	4	4.5	4.5	4	1.7
7	Ike	3.0	4.0	7	nd*	1	9	4.0	6.0	4	1.5
8	Jagalene	2.7	7.0	2	nd	1	9	6.5	8.0	4	2.2
9	Jagger	3.7	4.5	6	nd	0	9	6.5	7.0	4	2.2
10	KS00HW175-4-1	3.0	5.5	3	0	0	TR	8.0	9.0	5	2.0
11	KS00HW175-4-3	2.7	8.5	6	0	0	2	7.5	9.0	5	2.0
12	KS00HW175-4-6	3.3	7.0	6	0	1	2	8.0	8.5	5	2.0
13	KS03HW36	3.0	4.0	6	0	1	0	6.5	9.0	5	1.7
14	KS03HW40	3.3	6.0	7	0	1	3	7.0	9.0	5	1.5
15	KS03HW42	3.7	3.5	6	TR	0	0	6.0	8.5	6	1.7
16	KS03HW45	3.0	3.5	9	3	0	3	6.5	9.0	5	1.5
17	KS03HW72	3.0	6.0	1	nd	0	4	4.0	8.0	6	1.0
18	KS03HW73	2.7	7.5	1	0	1	TR	3.0	5.0	5	1.7
19	KS03HW74	2.7	6.5	2	0	0	6	2.5	5.5	5	1.5
20	KS03HW78	3.0	3.0	1	nd	2	6	4.5	4.5	5	1.5
21	KS03HW80	3.0	3.0	1	nd	1	5	5.0	8.0	6	2.0
22	KS03HW82	3.0	4.5	6	0	0	0	4.5	6.5	5	1.0
23	KS03HW83	3.7	6.0	2	0	0	3	4.5	7.0	5	1.0
24	Lakin	2.7	3.0	1	nd	1	8	5.0	7.0	5	1.7
25	NC-Neuse	2.0	3.5	5	VS	2	0	2.0	2.0	5	2.5
26	Roane	2.3	2.5	5	S	1	1	2.5	2.5	3	1.7
27	Sturdy 2K	3.0	4.0	2	0	1	0	5.0	5.0	6	2.0
28	TAM 110	3.3	2.5	2	nd	1	8	7.0	9.0	5	1.5
29	TAM 302	2.0	3.5	2	0	1	3	3.5	5.5	6	1.7
30	Trego	3.0	5.0	8	TR	0	5	5.0	7.5	6	1.7
31	Tribute	3.0	5.0	6	nd	1	5	4.5	6.0	4	2.0
32	TX96D1073	3.3	2.5	2	0	1	0	5.5	6.0	6	1.5
33	TX98D1170	2.3	3.0	7	TR	0	0	4.5	6.0	6	1.0
34	TX98D2423	3.0	6.0	6	TR	0	2	4.5	5.5	6	2.2
35	TX99D4478	2.7	3.0	2	nd	0	7	4.0	7.0	6	1.5
36	TX00D1390	2.7	5.5	7	0	0	0	5.0	6.0	5	2.0
37	TX01D3232	3.0	4.5	6	TR	nd	3	5.5	7.5	6	2.2
	<i>Mean</i>	3.0	4.5	5	—	0.9	3	5.3	6.6	5	1.7
	<i>LSD (5%)</i>	0.8	2.5	—	—	—	—	2.0	2.1	—	0.7
	<i>CV (%)</i>	20	27	—	—	—	—	19	16	—	20

* BYDV=Barley Yellow Dwarf Virus, WSSMV=Wheat Spindle Streak Mosaic Virus, SBMV=Soilborne Mosaic Virus; SR=Stripe Rust; LR=Leaf Rust; SN=Stagonospora nodorum; nd=no data

SINGLE KERNEL HARDNESS (scores statistically analyzed on Grain Quality sheet)

Entry	Designation	Plains, GA		Lexington, KY		Logan, KY		Clarksville, MD		Kinston, NC		Lrl Spgs, NC		Salisbury, NC		Landisville, PA		Blacksburg, VA		Warsaw, VA	
		Score	Class	Score	Class	Score	Class	Score	Class	Score	Class	Score	Class	Score	Class	Score	Class	Score	Class	Score	Class
1	2137	68	"HARD	65	"HARD	70	"HARD	52	"HARD	69	"HARD	59	"HARD	55	"HARD	43	"MIXED	69	"HARD	77	"HARD
2	AGS 2000	3	"SOFT	10	"SOFT	12	"SOFT	11	"SOFT	9	"SOFT	13	"SOFT	17	"SOFT	-5	"SOFT	23	"SOFT	25	"SOFT
3	Coronado	66	"HARD	62	"HARD	63	"HARD	61	"HARD	67	"HARD	65	"HARD	63	"HARD	51	"HARD	66	"HARD	73	"HARD
4	Custer	69	"HARD	65	"HARD	72	"HARD	64	"HARD	68	"HARD	64	"HARD	68	"HARD	59	"HARD	71	"HARD	79	"HARD
5	Dumas	68	"HARD	65	"HARD	71	"HARD	57	"HARD	58	"HARD	63	"HARD	59	"HARD	48	"MIXED	70	"HARD	78	"HARD
6	Hondo	75	"HARD	81	"HARD	80	"HARD	65	"HARD	89	"HARD	73	"HARD	67	"HARD	56	"HARD	83	"HARD	85	"HARD
7	Ike	61	"HARD	55	"HARD	66	"HARD	65	"HARD	77	"HARD	64	"HARD	60	"HARD	56	"HARD	68	"HARD	72	"HARD
8	Jagalene	71	"HARD	54	"MIXED	59	"HARD	55	"HARD	74	"HARD	69	"HARD	68	"HARD	59	"HARD	72	"HARD	82	"HARD
9	Jagger	71	"HARD	66	"HARD	64	"HARD	63	"HARD	80	"HARD	68	"HARD	75	"HARD	61	"HARD	76	"HARD	86	"HARD
10	KS00HW175-4-1	51	"MIXED	56	"MIXED	62	"HARD	46	"MIXED	58	"HARD	48	"MIXED	57	"HARD	36	"SOFT	65	"HARD	79	"HARD
11	KS00HW175-4-3	49	"MIXED	57	"HARD	65	"HARD	51	"MIXED	62	"HARD	48	"MIXED	55	"HARD	41	"SOFT	66	"HARD	79	"HARD
12	KS00HW175-4-6	52	"MIXED	57	"HARD	65	"HARD	46	"MIXED	65	"HARD	48	"MIXED	55	"HARD	40	"SOFT	66	"HARD	80	"HARD
13	KS03HW36	62	"HARD	75	"HARD	74	"HARD	60	"HARD	76	"HARD	65	"HARD	64	"HARD	56	"HARD	80	"HARD	88	"HARD
14	KS03HW40	59	"HARD	68	"HARD	69	"HARD	56	"HARD	68	"HARD	60	"HARD	61	"HARD	50	"HARD	73	"HARD	85	"HARD
15	KS03HW42	66	"HARD	50	"MIXED	54	"MIXED	51	"MIXED	63	"HARD	55	"HARD	53	"HARD	46	"MIXED	65	"HARD	75	"HARD
16	KS03HW45	59	"HARD	62	"HARD	56	"HARD	51	"MIXED	72	"HARD	55	"HARD	61	"HARD	47	"MIXED	70	"HARD	75	"HARD
17	KS03HW72	51	"MIXED	64	"HARD	69	"HARD	62	"HARD	64	"HARD	53	"HARD	61	"HARD	51	"HARD	71	"HARD	75	"HARD
18	KS03HW73	59	"HARD	63	"HARD	70	"HARD	64	"HARD	71	"HARD	58	"HARD	62	"HARD	50	"HARD	73	"HARD	80	"HARD
19	KS03HW74	61	"HARD	60	"HARD	72	"HARD	64	"HARD	69	"HARD	61	"HARD	62	"HARD	51	"MIXED	71	"HARD	79	"HARD
20	KS03HW78	58	"HARD	54	"HARD	71	"HARD	53	"HARD	68	"HARD	52	"HARD	58	"HARD	47	"MIXED	69	"HARD	76	"HARD
21	KS03HW80	57	"HARD	56	"HARD	66	"HARD	51	"HARD	61	"HARD	49	"MIXED	54	"HARD	45	"MIXED	68	"HARD	71	"HARD
22	KS03HW82	49	"MIXED	53	"HARD	54	"HARD	48	"MIXED	55	"HARD	48	"MIXED	51	"HARD	47	"HARD	60	"HARD	69	"HARD
23	KS03HW83	47	"MIXED	51	"MIXED	55	"HARD	50	"HARD	56	"HARD	48	"MIXED	52	"HARD	48	"MIXED	60	"HARD	65	"HARD
24	Lakin	57	"HARD	60	"HARD	60	"HARD	49	"MIXED	63	"HARD	59	"HARD	63	"HARD	49	"MIXED	71	"HARD	82	"HARD
25	NC-Neuse	25	"SOFT	27	"SOFT	26	"SOFT	23	"SOFT	25	"SOFT	27	"SOFT	28	"SOFT	24	"SOFT	36	"SOFT	35	"SOFT
26	Roane	29	"SOFT	24	"SOFT	35	"SOFT	19	"SOFT	29	"SOFT	27	"SOFT	29	"SOFT	15	"SOFT	33	"SOFT	41	"SOFT
27	Sturdy 2K	80	"HARD	82	"HARD	77	"HARD	64	"HARD	75	"HARD	76	"HARD	65	"HARD	59	"HARD	78	"HARD	93	"HARD
28	TAM 110	66	"HARD	64	"HARD	69	"HARD	61	"HARD	55	"HARD	69	"HARD	75	"HARD	49	"HARD	64	"HARD	73	"HARD
29	TAM 302	63	"HARD	63	"HARD	64	"HARD	55	"HARD	73	"HARD	58	"HARD	55	"HARD	48	"MIXED	67	"HARD	83	"HARD
30	Trego	62	"HARD	57	"HARD	69	"HARD	59	"HARD	70	"HARD	57	"HARD	61	"HARD	56	"HARD	72	"HARD	74	"HARD
31	Tribute	27	"SOFT	25	"SOFT	34	"SOFT	31	"SOFT	28	"SOFT	34	"SOFT	33	"SOFT	25	"SOFT	45	"MIXED	46	"MIXED
32	TX96D1073	59	"HARD	63	"HARD	64	"HARD	59	"HARD	62	"HARD	57	"HARD	57	"HARD	54	"HARD	68	"HARD	67	"HARD
33	TX98D1170	56	"HARD	60	"HARD	68	"HARD	54	"HARD	62	"HARD	62	"HARD	65	"HARD	50	"MIXED	71	"HARD	79	"HARD
34	TX98D2423	74	"HARD	67	"HARD	56	"HARD	46	"MIXED	64	"HARD	67	"HARD	58	"HARD	47	"MIXED	78	"HARD	78	"HARD
35	TX99D4478	56	"MIXED	70	"HARD	74	"HARD	65	"HARD	72	"HARD	62	"HARD	62	"HARD	55	"HARD	72	"HARD	75	"HARD
36	TX00D1390	51	"MIXED	53	"HARD	59	"HARD	50	"MIXED	54	"HARD	44	"MIXED	50	"MIXED	47	"MIXED	60	"HARD	72	"HARD
37	TX01D3232	76	"HARD	71	"HARD	69	"HARD	65	"HARD	73	"HARD	74	"HARD	70	"HARD	60	"HARD	78	"HARD	90	"HARD

FLOUR PROTEIN

		<i>Plains</i>	<i>Lxngtn</i>	<i>Logan</i>	<i>Clksvle</i>	<i>Kinston</i>	<i>LrlSpgs</i>	<i>Salisbury</i>	<i>Lndsvle</i>	<i>Bksburg</i>	<i>Warsaw</i>	<i>10-location</i>	
		<i>GA</i>	<i>KY</i>	<i>KY</i>	<i>MD</i>	<i>NC</i>	<i>NC</i>	<i>NC</i>	<i>PA</i>	<i>VA</i>	<i>VA</i>	<i>mean</i>	
<i>Entry</i>	<i>Designation</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>rank</i>
1	2137	11.9	12.5	12.4	11.4	12.2	11.8	11.0	10.9	12.9	15.0	12.2	19
2	AGS 2000	12.1	13.3	11.3	11.6	12.3	12.1	11.7	11.2	13.5	13.1	12.2	18
3	Coronado	13.3	12.9	11.7	12.3	13.7	12.4	12.0	11.7	14.9	14.8	13.0	10
4	Custer	11.8	13.5	12.2	12.0	13.7	13.6	12.8	12.5	14.5	14.8	13.1	6
5	Dumas	12.2	12.3	12.3	11.7	12.4	11.9	10.9	11.3	13.3	14.1	12.2	17
6	Hondo	13.1	14.0	13.5	12.4	14.0	13.5	13.4	12.0	14.6	14.6	13.5	2
7	Ike	12.7	12.5	13.7	12.2	13.2	13.2	12.3	13.5	16.5	15.3	13.5	3
8	Jagalene	13.1	10.8	11.0	10.6	12.8	12.6	11.9	11.1	13.9	15.3	12.3	15
9	Jagger	14.0	13.0	10.4	11.1	15.4	13.7	13.0	11.6	15.4	15.8	13.3	4
10	KS00HW175-4-1	10.6	11.2	11.0	9.6	11.6	12.8	11.1	9.6	12.8	12.6	11.3	35
11	KS00HW175-4-3	10.7	10.7	10.9	10.4	11.5	11.9	10.2	10.0	12.0	12.7	11.1	36
12	KS00HW175-4-6	11.0	10.5	10.9	9.2	13.0	12.4	10.5	10.0	12.6	12.9	11.3	34
13	KS03HW36	12.0	11.9	11.9	10.9	11.4	13.7	11.3	11.3	14.1	14.3	12.3	16
14	KS03HW40	12.1	12.0	11.0	10.2	11.5	14.7	10.9	10.8	13.2	13.6	12.0	22
15	KS03HW42	13.0	11.1	11.1	10.9	11.4	12.6	10.0	11.3	13.4	13.7	11.9	27
16	KS03HW45	11.8	11.5	10.9	10.0	12.7	12.2	11.2	10.0	13.1	13.4	11.7	31
17	KS03HW72	13.4	12.9	13.6	12.9	14.6	12.9	12.9	12.8	15.5	15.5	13.7	1
18	KS03HW73	12.1	12.1	12.9	12.9	13.9	11.1	12.1	11.7	13.8	15.0	12.8	11
19	KS03HW74	12.3	12.1	12.7	13.8	13.4	11.6	12.2	12.0	14.7	15.9	13.1	9
20	KS03HW78	12.3	12.2	12.8	11.0	13.0	11.5	11.5	11.0	13.4	14.5	12.3	14
21	KS03HW80	11.3	12.4	11.3	10.9	12.1	11.0	11.3	11.2	12.6	14.4	11.9	28
22	KS03HW82	11.9	12.5	11.0	11.0	11.7	11.5	11.0	11.5	13.5	14.0	12.0	25
23	KS03HW83	11.5	12.5	11.0	11.0	11.6	11.3	11.2	11.3	13.1	14.4	11.9	26
24	Lakin	11.7	12.4	10.8	9.4	11.6	12.1	11.7	10.0	12.6	14.0	11.6	32
25	NC-Neuse	12.4	13.4	11.7	11.5	11.6	11.9	12.2	12.8	13.7	13.5	12.5	13
26	Roane	11.6	11.8	11.5	10.0	11.1	10.2	11.7	10.8	12.1	13.1	11.4	33
27	Sturdy 2K	12.1	12.2	12.1	11.5	11.8	12.7	10.6	10.8	12.4	13.6	12.0	23
28	TAM 110	12.3	12.3	11.3	11.2	10.7	15.4	12.7	10.3	13.8	15.1	12.5	12
29	TAM 302	11.7	11.7	12.1	11.1	12.5	11.7	10.0	10.7	12.7	13.9	11.8	29
30	Trego	11.6	11.5	11.8	11.0	12.5	12.4	11.1	10.4	13.4	14.1	12.0	24
31	Tribute	12.3	12.7	12.1	11.5	11.2	11.6	11.7	11.0	13.5	13.7	12.1	21
32	TX96D1073	13.4	13.4	13.7	11.6	12.9	13.1	12.6	12.1	14.2	15.4	13.2	5
33	TX98D1170	11.8	12.3	11.0	9.9	12.7	13.3	11.2	11.8	13.5	13.9	12.1	20
34	TX98D2423	12.5	11.9	10.6	9.6	10.6	10.9	10.3	10.3	12.3	11.7	11.1	37
35	TX99D4478	13.5	14.7	11.7	11.4	13.4	13.4	11.2	11.7	14.2	16.2	13.1	7
36	TX00D1390	13.5	12.0	11.0	9.2	12.3	11.9	10.6	10.6	12.4	13.7	11.7	30
37	TX01D3232	14.2	13.2	11.4	11.7	13.7	14.2	12.9	11.3	14.2	14.5	13.1	8
	<i>Mean</i>	12.3	12.3	11.7	11.1	12.5	12.5	11.5	11.2	13.6	14.2	12.3	
	<i>LSD (5%)</i>	—	—	—	—	2.1	1.0	1.3	—	—	—	0.6	
	<i>CV (%)</i>	—	—	—	—	8	4	6	—	—	—	6	

FLOUR FALLING NUMBER

		<i>Plains</i>	<i>Lxngtn</i>	<i>Logan</i>	<i>Clksvle</i>	<i>Kinston</i>	<i>LrlSpgs</i>	<i>Salisbury</i>	<i>Lndsvle</i>	<i>Bksburg</i>	<i>Warsaw</i>	<i>10-location</i>	
		<u>GA</u>	<u>KY</u>	<u>KY</u>	<u>MD</u>	<u>NC</u>	<u>NC</u>	<u>NC</u>	<u>PA</u>	<u>VA</u>	<u>VA</u>	<u>mean</u>	
<i>Entry</i>	<i>Designation</i>	<i>s</i>	<i>s</i>	<i>s</i>	<i>s</i>	<i>s</i>	<i>s</i>	<i>s</i>	<i>s</i>	<i>s</i>	<i>s</i>	<i>s</i>	<i>rank</i>
1	2137	347	615	550	496	462	337	465	420	513	553	476	3
2	AGS 2000	209	509	416	395	403	271	419	394	469	515	400	17
3	Coronado	210	593	390	477	347	205	416	373	512	592	412	15
4	Custer	282	529	335	393	348	339	387	359	453	479	390	22
5	Dumas	427	594	537	493	445	375	466	483	526	569	492	2
6	Hondo	272	531	482	389	471	177	459	382	451	557	417	12
7	Ike	226	521	427	425	353	132	410	379	452	514	384	25
8	Jagalene	286	495	420	438	446	344	403	425	472	486	422	10
9	Jagger	255	619	404	530	508	360	494	454	541	568	473	4
10	KS00HW175-4-1	62	631	514	485	438	103	452	295	508	581	407	16
11	KS00HW175-4-3	62	570	509	478	446	70	448	301	537	535	396	19
12	KS00HW175-4-6	62	594	485	500	467	93	463	265	508	556	399	18
13	KS03HW36	72	587	492	418	388	233	446	386	568	609	420	11
14	KS03HW40	73	568	503	435	363	212	467	414	532	573	414	13
15	KS03HW42	302	465	294	444	248	123	368	253	426	561	348	29
16	KS03HW45	72	518	393	437	363	101	437	340	478	541	368	27
17	KS03HW72	62	538	282	444	179	62	248	217	332	490	285	33
18	KS03HW73	62	433	240	343	202	63	364	244	359	441	275	36
19	KS03HW74	64	435	287	301	209	62	341	280	381	489	285	34
20	KS03HW78	65	366	317	276	197	62	294	214	317	516	262	37
21	KS03HW80	62	378	275	356	174	63	346	289	363	455	276	35
22	KS03HW82	63	508	393	382	355	121	392	330	399	533	348	32
23	KS03HW83	88	501	358	423	344	126	396	316	399	527	348	31
24	Lakin	80	522	390	400	292	121	396	329	436	513	348	30
25	NC-Neuse	297	454	413	373	369	296	414	377	436	471	390	23
26	Roane	245	466	417	377	368	310	444	345	436	447	386	24
27	Sturdy 2K	395	682	568	614	489	363	485	391	586	608	518	1
28	TAM 110	270	594	517	495	389	285	453	340	542	500	439	6
29	TAM 302	232	619	367	461	431	360	431	408	471	514	429	8
30	Trego	95	472	367	399	346	162	410	379	442	504	358	28
31	Tribute	200	459	405	409	380	300	418	373	446	445	384	26
32	TX96D1073	247	572	400	448	354	189	407	397	432	487	393	20
33	TX98D1170	439	513	413	391	442	347	388	409	445	511	430	7
34	TX98D2423	341	501	442	407	354	284	387	352	414	428	391	21
35	TX99D4478	230	595	508	474	455	325	405	414	508	523	444	5
36	TX00D1390	62	548	464	423	440	381	429	399	478	492	412	14
37	TX01D3232	120	660	432	479	437	309	403	415	486	475	422	9
	<i>Mean</i>	188	534	416	430	370	218	412	355	461	518	390	
	<i>LSD (5%)</i>	—	—	—	—	63	68	39	—	—	—	50	
	<i>CV (%)</i>	—	—	—	—	8	15	5	—	—	—	15	

GRAIN WEIGHT

		Plains	Lxngtn	Logan	Clksvle	Kinston	LrlSpgs	Salisbury	Lndsvle	Bksburg	Warsaw	10-location	
		<u>GA</u>	<u>KY</u>	<u>KY</u>	<u>MD</u>	<u>NC</u>	<u>NC</u>	<u>NC</u>	<u>PA</u>	<u>VA</u>	<u>VA</u>	<u>mean</u>	
Entry	Designation	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	rank
1	2137	27.38	28.73	41.87	39.96	35.23	31.25	39.66	34.82	34.71	36.76	35.04	13
2	AGS 2000	37.87	29.30	47.84	47.09	41.43	34.51	45.53	39.40	40.25	48.59	41.18	1
3	Coronado	34.26	31.42	41.75	39.94	35.34	27.42	39.26	34.97	37.75	41.14	36.33	7
4	Custer	29.29	34.78	40.39	37.24	34.46	29.55	39.92	36.12	37.97	40.76	36.05	9
5	Dumas	28.21	27.34	38.28	33.78	33.46	26.42	37.41	32.89	31.11	37.99	32.69	29
6	Hondo	26.31	28.05	38.47	35.78	31.85	27.28	39.46	34.04	34.74	38.64	33.46	26
7	Ike	25.14	31.68	40.06	34.11	34.49	30.61	37.63	33.67	34.22	37.52	33.91	22
8	Jagalene	26.28	31.31	40.08	37.87	34.90	27.66	38.01	34.22	37.46	38.95	34.67	16
9	Jagger	26.25	30.03	38.21	34.89	33.66	26.31	37.00	35.83	34.64	38.40	33.52	25
10	KS00HW175-4-1	25.27	27.11	37.87	34.12	30.83	20.73	34.32	36.44	33.51	36.92	31.71	34
11	KS00HW175-4-3	26.72	28.23	38.43	32.26	29.70	22.55	35.40	35.85	33.63	38.12	32.09	32
12	KS00HW175-4-6	24.70	28.45	37.86	34.54	28.86	20.29	34.84	34.95	35.90	36.14	31.65	35
13	KS03HW36	26.32	31.81	38.37	35.93	35.15	27.69	38.58	35.09	35.40	36.84	34.12	19
14	KS03HW40	24.62	31.82	37.89	34.52	34.86	24.11	37.47	35.18	37.13	38.47	33.61	24
15	KS03HW42	30.56	34.21	45.06	40.45	36.39	28.28	39.63	38.67	38.80	44.30	37.64	2
16	KS03HW45	26.45	34.05	45.70	40.16	36.40	28.21	38.17	39.09	40.58	43.74	37.26	3
17	KS03HW72	20.63	28.45	33.71	30.22	27.79	26.59	31.63	31.70	29.75	32.93	29.34	37
18	KS03HW73	27.12	31.58	39.03	33.26	34.14	27.93	33.55	33.24	33.53	35.12	32.85	27
19	KS03HW74	27.32	33.07	36.61	35.12	35.92	31.77	35.94	35.50	35.78	35.75	34.28	17
20	KS03HW78	23.46	31.40	36.65	33.66	30.94	26.15	36.47	33.71	33.28	36.03	32.18	31
21	KS03HW80	26.07	28.23	39.29	35.32	31.30	26.12	36.39	33.36	34.67	36.49	32.72	28
22	KS03HW82	26.00	29.77	38.88	37.98	33.40	28.10	37.49	35.31	33.02	40.18	34.01	21
23	KS03HW83	26.54	29.74	37.91	36.62	33.14	27.47	36.66	35.34	34.45	39.95	33.78	23
24	Lakin	25.33	29.49	41.26	36.03	37.56	27.61	36.66	33.72	34.51	39.65	34.18	18
25	NC-Neuse	28.09	30.68	41.50	37.07	40.14	36.35	39.48	37.89	36.00	40.34	36.75	5
26	Roane	24.45	25.22	33.38	33.43	33.74	30.82	33.37	30.18	32.59	34.58	31.18	36
27	Sturdy 2K	28.37	26.31	39.57	35.72	32.82	25.03	36.05	33.02	31.77	35.52	32.42	30
28	TAM 110	25.79	35.66	43.47	40.94	38.38	20.93	40.40	36.42	39.23	45.52	36.67	6
29	TAM 302	29.89	30.28	41.12	38.92	36.40	29.14	40.17	36.01	36.62	39.92	35.85	10
30	Trego	28.72	31.17	39.44	38.66	35.95	33.29	39.78	34.17	37.57	42.66	36.14	8
31	Tribute	26.66	29.20	40.22	36.87	36.54	28.42	39.53	35.10	36.15	38.77	34.75	15
32	TX96D1073	33.23	30.69	38.49	34.49	36.96	26.48	36.69	35.38	34.44	41.02	34.79	14
33	TX98D1170	29.39	30.44	38.56	39.25	34.24	30.17	39.37	37.48	34.18	41.09	35.42	11
34	TX98D2423	26.26	32.42	40.11	37.07	34.26	31.30	37.34	36.76	36.18	39.74	35.14	12
35	TX99D4478	24.86	31.94	39.65	40.11	35.36	34.98	39.97	38.11	41.17	42.79	36.89	4
36	TX00D1390	20.81	28.63	40.00	38.89	32.92	26.48	40.70	35.55	37.66	39.16	34.08	20
37	TX01D3232	25.56	29.64	33.43	35.25	31.69	25.02	36.30	35.65	31.33	35.78	31.97	33
	Mean	27.03	30.33	39.47	36.69	34.34	27.92	37.74	35.26	35.45	39.09	34.33	
	LSD (5%)	—	—	—	—	2.11	3.60	2.03	—	—	—	1.74	
	CV (%)	—	—	—	—	3	6	3	—	—	—	6	

GRAIN DIAMETER

		Plains	Lxngtn	Logan	Clksvle	Kinston	LrlSpgs	Salisbury	Lndsvle	Bksburg	Warsaw	10-location	
		<u>GA</u>	<u>KY</u>	<u>KY</u>	<u>MD</u>	<u>NC</u>	<u>NC</u>	<u>NC</u>	<u>PA</u>	<u>VA</u>	<u>VA</u>	<u>mean</u>	
Entry	Designation	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	rank
1	2137	2.19	2.09	2.72	2.67	2.47	2.39	2.72	2.42	2.56	2.58	2.48	18
2	AGS 2000	2.56	2.09	2.85	2.93	2.64	2.43	2.80	2.52	2.73	2.95	2.65	1
3	Coronado	2.60	2.32	2.80	2.79	2.60	2.26	2.78	2.52	2.70	2.83	2.62	2
4	Custer	2.32	2.44	2.74	2.64	2.50	2.33	2.75	2.52	2.69	2.76	2.57	6
5	Dumas	2.34	2.17	2.70	2.59	2.54	2.24	2.77	2.45	2.46	2.80	2.51	12
6	Hondo	2.15	2.15	2.68	2.60	2.39	2.24	2.71	2.44	2.60	2.72	2.47	22
7	Ike	2.06	2.30	2.64	2.47	2.43	2.38	2.57	2.40	2.50	2.62	2.44	25
8	Jagalene	2.19	2.37	2.78	2.72	2.59	2.30	2.74	2.55	2.73	2.77	2.57	5
9	Jagger	2.15	2.27	2.72	2.61	2.49	2.18	2.69	2.57	2.57	2.72	2.50	14
10	KS00HW175-4-1	2.11	2.12	2.64	2.57	2.34	1.86	2.53	2.57	2.49	2.64	2.39	33
11	KS00HW175-4-3	2.20	2.21	2.73	2.49	2.29	1.99	2.60	2.56	2.54	2.70	2.43	27
12	KS00HW175-4-6	2.07	2.23	2.70	2.60	2.24	1.84	2.59	2.52	2.61	2.61	2.40	32
13	KS03HW36	2.06	2.24	2.60	2.55	2.45	2.15	2.58	2.40	2.56	2.61	2.42	30
14	KS03HW40	2.01	2.26	2.55	2.49	2.43	1.97	2.52	2.42	2.59	2.60	2.38	34
15	KS03HW42	2.32	2.35	2.80	2.71	2.50	2.21	2.61	2.56	2.70	2.84	2.56	7
16	KS03HW45	2.07	2.35	2.79	2.68	2.48	2.14	2.55	2.58	2.70	2.80	2.51	11
17	KS03HW72	1.94	2.23	2.50	2.39	2.16	2.21	2.46	2.40	2.35	2.42	2.31	37
18	KS03HW73	2.24	2.33	2.71	2.47	2.45	2.24	2.45	2.43	2.46	2.55	2.43	26
19	KS03HW74	2.25	2.39	2.60	2.54	2.53	2.41	2.54	2.49	2.58	2.57	2.49	17
20	KS03HW78	2.10	2.33	2.61	2.59	2.40	2.17	2.64	2.54	2.51	2.64	2.45	23
21	KS03HW80	2.22	2.22	2.72	2.62	2.41	2.15	2.66	2.47	2.60	2.65	2.47	20
22	KS03HW82	2.18	2.29	2.80	2.74	2.50	2.27	2.67	2.60	2.54	2.84	2.54	9
23	KS03HW83	2.18	2.29	2.68	2.66	2.46	2.22	2.63	2.55	2.56	2.75	2.50	13
24	Lakin	2.08	2.20	2.71	2.58	2.61	2.11	2.53	2.42	2.50	2.69	2.44	24
25	NC-Neuse	2.24	2.23	2.75	2.58	2.77	2.63	2.71	2.66	2.59	2.74	2.59	3
26	Roane	2.05	1.95	2.43	2.45	2.49	2.42	2.51	2.29	2.42	2.47	2.35	36
27	Sturdy 2K	2.28	2.05	2.61	2.52	2.40	2.07	2.50	2.38	2.40	2.57	2.38	35
28	TAM 110	2.04	2.38	2.70	2.65	2.53	1.82	2.80	2.55	2.63	2.84	2.49	15
29	TAM 302	2.26	2.19	2.70	2.62	2.54	2.22	2.66	2.45	2.52	2.65	2.48	19
30	Trego	2.31	2.25	2.64	2.67	2.51	2.46	2.70	2.49	2.68	2.83	2.55	8
31	Tribute	2.10	2.05	2.55	2.58	2.48	2.21	2.67	2.43	2.57	2.61	2.43	28
32	TX96D1073	2.49	2.20	2.61	2.54	2.63	2.11	2.59	2.52	2.51	2.72	2.49	16
33	TX98D1170	2.23	2.17	2.50	2.65	2.40	2.33	2.64	2.55	2.53	2.70	2.47	21
34	TX98D2423	2.21	2.29	2.70	2.69	2.51	2.42	2.64	2.56	2.60	2.68	2.53	10
35	TX99D4478	2.02	2.30	2.66	2.72	2.56	2.60	2.72	2.63	2.83	2.81	2.59	4
36	TX00D1390	1.89	2.08	2.62	2.65	2.35	2.08	2.66	2.53	2.62	2.61	2.41	31
37	TX01D3232	2.19	2.25	2.41	2.58	2.38	2.18	2.65	2.58	2.47	2.56	2.43	29
	Mean	2.19	2.23	2.67	2.61	2.47	2.22	2.64	2.50	2.57	2.69	2.48	
	LSD (5%)	—	—	—	—	0.11	0.20	0.09	—	—	—	0.08	
	CV (%)	—	—	—	—	2	4	2	—	—	—	4	

HARDNESS SCORE

		Plains	Lxngtn	Logan	Clksvle	Kinston	LrlSpgs	Salisbury	Lndsvle	Bksburg	Warsaw	10-location	
		<u>GA</u>	<u>KY</u>	<u>KY</u>	<u>MD</u>	<u>NC</u>	<u>NC</u>	<u>NC</u>	<u>PA</u>	<u>VA</u>	<u>VA</u>	<u>mean</u>	
Entry	Designation	score	score	score	score	score	score	score	score	score	score	score	rank
1	2137	68	65	70	52	69	59	55	43	69	77	63	19
2	AGS 2000	3	10	12	11	9	13	17	0	23	25	12	37
3	Coronado	66	62	63	61	67	65	63	51	66	73	64	16
4	Custer	69	65	72	64	68	64	68	59	71	79	68	6
5	Dumas	68	65	71	57	58	63	59	48	70	78	64	14
6	Hondo	75	81	80	65	89	73	67	56	83	85	75	1
7	Ike	61	55	66	65	77	64	60	56	68	72	64	13
8	Jagalene	71	54	59	55	74	69	68	59	72	82	66	7
9	Jagger	71	66	64	63	80	68	75	61	76	86	71	4
10	KS00HW175-4-1	51	56	62	46	58	48	57	36	65	79	56	30
11	KS00HW175-4-3	49	57	65	51	62	48	55	41	66	79	57	29
12	KS00HW175-4-6	52	57	65	46	65	48	55	40	66	80	57	28
13	KS03HW36	62	75	74	60	76	65	64	56	80	88	70	5
14	KS03HW40	59	68	69	56	68	60	61	50	73	85	65	11
15	KS03HW42	66	50	54	51	63	55	53	46	65	75	58	27
16	KS03HW45	59	62	56	51	72	55	61	47	70	75	61	24
17	KS03HW72	51	64	69	62	64	53	61	51	71	75	62	21
18	KS03HW73	59	63	70	64	71	58	62	50	73	80	65	9
19	KS03HW74	61	60	72	64	69	61	62	51	71	79	65	10
20	KS03HW78	58	54	71	53	68	52	58	47	69	76	61	25
21	KS03HW80	57	56	66	51	61	49	54	45	68	71	58	26
22	KS03HW82	49	53	54	48	55	48	51	47	60	69	53	32
23	KS03HW83	47	51	55	50	56	48	52	48	60	65	53	33
24	Lakin	57	60	60	49	63	59	63	49	71	82	61	22
25	NC-Neuse	25	27	26	23	25	27	28	24	36	35	28	36
26	Roane	29	24	35	19	29	27	29	15	33	41	28	35
27	Sturdy 2K	80	82	77	64	75	76	65	59	78	93	75	2
28	TAM 110	66	64	69	61	55	69	75	49	64	73	65	12
29	TAM 302	63	63	64	55	73	58	55	48	67	83	63	18
30	Trego	62	57	69	59	70	57	61	56	72	74	64	15
31	Tribute	27	25	34	31	28	34	33	25	45	46	33	34
32	TX96D1073	59	63	64	59	62	57	57	54	68	67	61	23
33	TX98D1170	56	60	68	54	62	62	65	50	71	79	63	20
34	TX98D2423	74	67	56	46	64	67	58	47	78	78	64	17
35	TX99D4478	56	70	74	65	72	62	62	55	72	75	66	8
36	TX00D1390	51	53	59	50	54	44	50	47	60	72	54	31
37	TX01D3232	76	71	69	65	73	74	70	60	78	90	73	3
	Mean	57	58	62	53	62	56	57	47	66	74	59	
	LSD (5%)	—	—	—	—	8	5	4	—	—	—	4	
	CV (%)	—	—	—	—	6	5	4	—	—	—	8	