UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

and

Cooperating State Agricultural Experiment Stations

2005-06

UNIFORM BREAD WHEAT TRIAL

Final Report

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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 4th UBWT were selected from public and private breeding programs in the southern and central Great Plains. A total of 35 entries (22 hard red, 9 hard white, and 4 soft red) were included in the trial. There were 9 testing locations for the 2005-06 UBWT, with 1 in Delaware, 1 in Georgia, 2 in Kentucky, 3 in North Carolina, and 2 in Virginia.

New Castle Co., DE - Fairly normal winter, one snow cover (10 in), dry period three weeks before harvest. No lodging. Plot size=56.25 ft^2; 3 reps; Planted on 25 Oct 05; Harvested on 10 Jul 06. Cooperator: Bob Uniatowski.
Clarksville, MD - Not planted. Cooperator: J. Costa.
Plains, GA - Plot size=50 ft^2; 2 reps; Planted on 12 Nov 05; Harvested on 25 May 06. Cooperator: J. W. Johnson.
Lexington, KY - Cooperator: Dave Van Sanford.
Schochoh, KY - Cooperator: Dave Van Sanford.
Kinston, NC - Wet after planting, dry spring, severe hessian fly and leaf rust, moderate powdery mildew, no significant lodging. Plot size=55ft^2; 2 reps; Planted on 21 Oct 05; Harvested on 9 Jun 06. Cooperators: D. Marshall & M. Fountain

Laurel Springs, NC - Screening nursery for winter kill. Cold Dec, but warmer than normal winter. Plot size=11 ft^2; 1 rep; Planted on 8 Nov 05; Harvested on 15 Jul 06. Cooperators: D. Marshall & M. Fountain
Salisbury, NC - Dry spring, excellent conditions during grain fill period, no lodging. Plot size=55ft^2; 2 reps; Planted on 18 Oct 05; Harvested on 18 Jun 06. Cooperator: P. Murphy, D. Marshall, M. Fountain
Blacksburg, VA - Cooperator: C. Griffey
Warsaw, VA - Cooperator: C. Griffey

Entries

Entry	Designation	Pedigree	Class*	Origin	2005-06 Source	Yrs in trial
1	AGS 2000	Pioneer 2555/PF84301//Florida 302 (=PI612956; GA89482E7)	SRW	GA	AGS	4
2	Dumas	WI90-425/WI89-483 (=PI619199; W95-385)	HRW	AgriPro	ARS	4
3	Hondo	W84-179/W81-171/3/Sturdy/Hawk//Vona/W76-1141 (=PI603958; W95-210)	HRW	AgriPro	ARS	4
4	Jagalene	Jagger/Abilene (=PI631376; W98-362)	HRW	AgriPro	ARS	4
5	Jagger	KS82W418/Stephens (=PI593688; KS84063-9-39-3)	HRW	KS	ARS	3
6	Lakin	KS89H130/Arlin (=PI617032; KS96HW115)	HWW	KS	ARS	3
7	Neuse	Coker 86-29//Stella/CHD756-80/3/Coker 9907 (=PI633037; NC96-13156)	SRW	NC	NC	3
8	Roane	VA71-54-147/Coker 68-15//IN65309C1-18-2-3-2 (=PI612958; VA93-54-429)	SRW	VA	ARS	4
9	Sturdy 2K	Sinvalocho/Wichita//CI 11969/Wichita/3/Seu Seun 1 (=TX391-56-D1-23)	HRW	TX	ARS	4
10	TAM 303	TX89D1253*2/TTCC404 (=WX93D208-9-1-2) (=TX98D1170)	HRW	TX	ARS	4
11	Tribute	VA92-51-39/AL870365 (=VA98W-593)	SRW	VA	ARS	4
12	KS03HW45	KS96HW91-1/KS97HW202 (KS97HW202=KS91HW19//TA2460/3*TAM 107) (=KS5115)	HWW	KS	ARS	2
13	KS03HW72	KS97HW16/KS97HW206 (KS97HW206=KS91HW19/Jagger sib) (=KS5233)	HWW	KS	ARS	2
14	KS03HW73	KS97HW16/KS97HW206 (KS97HW206=KS91HW19/Jagger sib) (=KS5233)	HWW	KS	ARS	2
15	KS03HW82	KS97HW202/KS97HW257 (KS97HW257=KS91HW19/KS95W663-11-6-1) (=KS5311)	HWW	KS	ARS	2
16	TX99D4478	TX92D8040*3/TTCC259 (=WX93D230-1)	HRW	TX	ARS	4
17	TX00D1390	TX89D1253*2/TTCC404 (=WX93D208-9-1-17-13)	HRW	TX	ARS	2
18	TX01D3232	TX92U3060/TX91D6465 (=X95U104-P66)	HRW	TX	ARS	2
19	ARS03-1014	TX89V4133/TX94D4360 (=WX02ARS129-2)	HRW	ARS	ARS	1
20	ARS03-3747	TX99D4612/Lockett (=WX02ARS137-83)	HRW	ARS	ARS	1
21	ARS03-3751	TX99D4612/Lockett (=WX02ARS137-87)	HRW	ARS	ARS	1
22	ARS03-3806	X94-748-2-2/TAM 301 (=WX02ARS143-37)	HRW	ARS	ARS	1
23	ARS03-4299	TAM 302*2/TTCCC621 (T.monococcum) (=WX02ARS147-62)	HRW	ARS	ARS	1
24	ARS03-4627	TAM 202/TX97A0122 (=WX02ARS120-37)	HRW	ARS	ARS	1
25	ARS03-4736	KS00U755/TX98D1170 (=WX02ARS113-9)	HRW	ARS	ARS	1
26	ARS03-4769	KS00U754/TX98D1170 (=WX02ARS112-5)	HRW	ARS	ARS	1
27	ARS03-5041	KS00U754/TX98D1170 (=WX02ARS112-262)	HRW	ARS	ARS	1
28	ARS03-5048	KS00U754/TX98D1170 (=WX02ARS112-269)	HRW	ARS	ARS	1
29	ARS03-5898	Sturdy 2K/TAM 302 (=WX02ARS119-6)	HRW	ARS	ARS	1
30	ARS03-6131	TAM 302/TX99D4628 (=WX02ARS124-17)	HRW	ARS	ARS	1
31	ARS03-6201	TX98D1170/KS98U662 (=WX02ARS164-278)	HRW	ARS	ARS	1
32	ARS04-1168	KS99HW24(Custer/KS93HW255)/005292(ID377S/94HW123//Trego) (=KS2094-U54)	HWW	ARS	ARS	1
33	ARS04-1247	KS98H239-1(Ike//TA2460/*3 TAM 200)/KS920709B-5-2(T67/X84W063-9-45//K92)//Lakin (=KS2040-U77)	HWW	ARS	ARS	1
34	ARS04-1249	CO960293-1/KS98HW151-6(Arlin/TA2460/*3 TAM 107)//KS99HW37(Jagger/93HW242) (=KS2023-U18)	HWW	ARS	ARS	1
35	ARS04-1267	KS98HW151-6(Arlin/TA2460/*3 TAM 107)/KS01HW101(01-6101)(94HW115/Betty sib) (=KS2135-U54)	HWW	ARS	ARS	1

* Classes are HRW=Hard Red Winter; HWW=Hard White Winter; and SRW=Soft Red Winter.

Seed Requirements: DE(300g); GA(280g); KY(350g); MD(400g); NC(560); VA(450) = 2,340g

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2005-06 Uniform Bread Wheat Trial

Means across locations

Entry	Designation	Class	Yr in trial	Yield bu/a	Yield rank	Test Weight lb/bu	Heading Julian	Height in	Lodging 0.2-10.0	Powdery Mildew 0-9	Stripe Rust 0-9	Leaf Rust 0-9	Hessian Fly 0-9	Flour Protein %	Gluten %	Zeleny	Falling Number s	Kernel Hardness score	Kernel Weight mg	Kernel Diameter mm
11	Tribute	SRW	4	94.4	1	60.8	113	32	0.3	1	5	1	7	11.63	23.2	42.6	410	39	38.69	2.55
1	AGS 2000	SRW	4	90.6	2	58.8	111	35	0.2	2	7	1	3	12.44	23.4	43.3	423	21	45.16	2.80
21	ARS03-3751	HRW	1	87.9	3	56.3	113	37	1.4	2	1	3	4	12.36	24.1	40.7	367	72	41.26	2.73
25	ARS03-4736	HRW	1	86.9	4	60.8	114	36	0.5	3	6	2	5	12.21	25.2	51.7	466	76	42.06	2.85
20	ARS03-3747	HRW	1	86.3	5	56.0	113	37	1.2	2	0	2	5	12.22	23.6	39.9	370	71	41.91	2.74
22	ARS03-3806	HRW	1	86.3	6	58.3	117	35	0.2	1	0	2	6	12.93	26.9	59.5	454	79	35.10	2.42
8	Roane	SRW	4	83.8	7	57.9	117	32	0.2	3	4	3	6	11.85	26.4	51.4	391	37	32.15	2.40
7	Neuse	SRW	3	83.2	8	58.9	118	33	0.3	0	8	2	6	12.88	25.2	52.3	409	33	39.23	2.72
23	ARS03-4299	HRW	1	82.4	9	59.2	114	36	1.2	1	4	2	4	12.33	26.0	54.9	391	75	43.44	2.76
30	ARS03-6131	HRW	1	81.8	10	57.0	111	33	0.2	1	8	4	7	12.95	24.5	46.7	437	78	30.71	2.26
2	Dumas	HRW	4	80.3	11	59.3	113	35	0.3	5	3	2	4	12.63	24.5	48.1	486	73	35.45	2.68
34	ARS04-1249	HWW	1	80.0	12	56.9	117	34	0.2	1	0	1	7	13.36	32.0	71.2	269	80	39.60	2.72
16	TX99D4478	HRW	4	78.7	13	57.9	113	35	0.6	2	7	3	6	12.88	27.0	56.2	448	74	39.65	2.70
31	ARS03-6201	HRW	1	77.9	14	58.1	110	31	1.6	1	4	2	5	12.76	25.3	49.4	399	47	39.35	2.71
35	ARS04-1267	HWW	1	77.1	15	59.6	112	34	0.4	1	4	5	6	14.57	33.6	74.9	348	81	35.06	2.46
24	ARS03-4627	HRW	1	76.9	16	56.7	112	31	1.0	1	1	2	5	12.59	22.4	44.2	344	89	39.66	2.72
9	Sturdy 2K	HRW	4	76.5	17	57.9	114	36	0.6	4	2	2	4	11.74	24.6	46.9	460	79	34.88	2.48
32	ARS04-1168	HWW	1	75.9	18	58.1	114	36	0.6	5	5	2	5	12.46	26.6	62.1	287	74	35.23	2.57
6	Lakin	HWW	3	75.5	19	58.9	114	35	0.5	4	5	5	5	12.99	27.2	60.0	362	75	37.84	2.61
15	KS03HW82	HWW	2	75.1	20	57.0	116	37	2.2	2	0	1	7	12.05	23.3	50.8	344	59	37.77	2.69
33	ARS04-1247	HWW	1	75.1	21	57.0	111	34	0.8	4	5	1	4	12.20	25.9	57.9	314	67	38.06	2.58
17	TX00D1390	HRW	2	74.9	22	58.1	112	33	0.9	4	3	1	6	12.05	24.0	49.3	430	67	37.72	2.57
5	Jagger	HRW	3	74.1	23	57.9	110	32	0.6	6	0	5	6	13.96	27.1	56.8	445	82	34.86	2.59
14	KS03HW73	HWW	2	74.0	24	58.7	117	34	0.2	4	0	2	6	13.79	30.4	65.3	307	77	34.53	2.51
29	ARS03-5898	HRW	1	73.7	25	60.1	112	37	0.2	3	4	5	7	12.52	24.4	49.4	449	68	32.00	2.52
12	KS03HW45	HWW	2	73.2	26	57.6	118	38	1.0	3	6	1	7	11.67	24.9	51.5	419	70	39.90	2.64
19	ARS03-1014	HRW	1	72.4	27	57.1	115	33	0.2	2	7	4	7	12.33	23.9	47.5	448	76	34.99	2.44
10	TAM 303	HRW	4	72.2	28	57.1	112	33	2.7	2	4	2	3	12.30	25.1	50.0	431	71	37.71	2.55
3	Hondo	HRW	4	71.9	29	58.4	121	36	0.5	1	3	4	5	13.19	26.4	56.7	445	86	34.25	2.50
27	ARS03-5041	HRW	1	71.8	30	59.1	115	35	0.5	3	5	1	9	12.99	29.7	59.2	470	79	39.23	2.64
28	ARS03-5048	HRW	1	69.9	31	59.1	115	36	0.4	3	5	2	8	13.00	29.9	58.7	503	72	40.25	2.66
4	Jagalene	HRW	4	68.7	32	58.7	114	33	0.4	8	0	5	6	12.88	24.4	49.6	433	77	37.95	2.77
18	TX01D3232	HRW	2	68.3	33	55.0	111	31	0.4	5	1	2	5	13.11	26.1	52.5	426	80	32.84	2.50
13	KS03HW72	HWW	2	64.9	34	58.1	120	34	0.2	3	0	2	6	13.93	31.0	67.6	299	71	30.32	2.35
26	ARS03-4769	HRW	1	64.4	35	57.1	108	32	0.4	3	2	1	6	14.83	30.4	65.6	414	59	35.42	2.57
	Number of loc			*7*		*8*	*7*	*7*	*2*	*5*	*1*	*2*	*1*	*4*	*2*	*2*	*3*	*3*	*3*	*3*
	Mean			77.3		58.1	114	34	0.6	3	3	2	5	12.76	26.2	53.8	403	69	37.26	2.60
	CV (%)			11.3		3.4	2	4	69.9	41		66	17	5.67	5.0	6.0	15	6	3.90	2.43
	LSD (0.05)			9.2		1.9	2	1	0.9	1		3	2	1.01	1.5	3.7	97	6	2.37	0.10

Milling/Baking Results for 25 entries across 4 locations of the 2005-06 Uniform Bread Wheat Trial (35 entries)

KS					SKCS					Grain NIR			Flour NIR						Mixograph				Bake			Dough	Proof	Loaf					
Lab	UBWT 06	UBWT 07	Name	Twt	Mst	Wt	Size	HS	Class	Mst	Pro	Pro_14	Yld	Mst	Ash	Ash_14	Pro	Pro_14	Abs	Mix	Cor_Mix	Mix_Tol	Abs	Mix	Cor_Mix	Wt	Height	Wt	Crumb	Crumb	LVol	SVol	LVReg
entry	entry	entry		lb/bu	%	mg	mm			%	%	%	%	%	%	%	%	%	%	min	min		%	min	min	g	cm	g	score	color	cc	cc/g	
1	1	1	AGS 2000	60.9	12.9	42.4	2.6	12	soft	10.6	10.9	10.5	75.6	13.4	0.51	0.51	9.4	9.4	57.6	3.19	2.15	1	56.3	3.00	2.00	166.0	7.0	147.8	2.3	yellow	739	5.0	67.3
2	3	2	Hondo	59.9	12.7	33.0	2.4	78	hard	10.6	12.2	11.7	73.6	13.8	0.62	0.62	10.5	10.5	60.4	4.25	3.48	5	60.8	6.57	5.31	169.6	7.2	148.3	2.4	yellow	754	5.1	60.7
3	5	4	Jagger	59.6	12.6	34.3	2.5	66	hard	10.8	11.7	11.3	74.0	14.1	0.53	0.52	10.3	10.3	60.6	3.38	2.69	4	60.9	4.19	3.32	170.3	7.3	149.0	3.0	slight yellow	811	5.5	69.5
4	6	5	Lakin	61.8	12.7	36.2	2.5	63	hard	10.6	11.0	10.7	74.3	14.0	0.48	0.48	9.6	9.6	59.7	3.13	2.22	3	59.5	4.19	2.93	170.0	7.2	149.0	3.3	slight yellow	790	5.3	72.6
5	10	8	TAM 303	59.2	12.6	35.7	2.4	63	hard	10.8	11.4	11.0	73.3	14.1	0.47	0.47	9.9	9.9	59.7	3.07	2.31	3	60.1	3.85	2.89	169.4	7.1	148.6	2.9	yellow	778	5.2	68.0
6	11	9	Tribute	62.3	13.0	36.8	2.4	35	soft	10.9	10.6	10.2	73.7	13.6	0.51	0.51	9.1	9.0	58.0	2.57	1.64	2	57.2	5.03	3.18	166.4	7.1	146.7	1.7	yellow	693	4.7	62.7
7	12		KS03HW45	60.3	12.2	37.0	2.5	65	hard	10.4	10.4	10.0	75.0	13.9	0.50	0.50	9.0	8.9	58.2	3.79	2.39	3	58.6	4.16	2.60	167.8	7.0	147.2	2.7	slight yellow	724	5.0	68.6
8	13		KS03HW72	60.1	12.0	28.6	2.2	65	hard	10.1	12.5	11.9	73.2	13.9	0.50	0.50	10.8	10.8	60.8	2.82	2.41	0	56.6	2.78	2.35	166.1	7.1	145.4	2.8	slight yellow	818	5.6	65.8
9	14	21	KS03HW73	61.1	12.2	31.5	2.3	70	hard	10.4	11.9	11.4	73.4	13.9	0.54	0.54	10.3	10.3	60.0	2.88	2.28	1	57.1	2.94	2.32	166.6	7.2	145.7	2.5	slight yellow	793	5.5	66.8
10	15	22	KS03HW82	58.5	11.9	34.8	2.6	53	mixed	10.0	10.8	10.3	73.8	13.9	0.50	0.50	9.3	9.3	58.0	2.44	1.62	1	56.5	2.60	1.73	166.1	6.9	145.4	2.3	slight yellow	771	5.3	72.6
11	16	Adv 07	TX99D4478	59.9	12.1	37.1	2.5	68	hard	10.3	11.9	11.4	74.3	14.0	0.50	0.50	10.3	10.3	60.1	3.38	2.69	3	60.0	4.03	3.18	168.8	7.1	147.3	3.4	slight yellow	799	5.4	67.8
12	19		ARS03-1014	59.1	12.0	32.8	2.3	68	hard	10.1	10.9	10.4	70.8	14.0	0.56	0.56	9.5	9.5	58.8	1.72	1.21	1	56.9	2.50	1.73	166.6	6.9	147.2	1.1	yellow	701	4.8	59.5
13	20	24	ARS03-3747	58.6	12.4	39.2	2.6	63	hard	10.3	10.6	10.1	73.4	13.9	0.56	0.56	9.3	9.2	58.3	1.82	1.18	0	57.0	2.16	1.43	166.4	6.7	147.3	0.8	yellow	684	4.7	59.7
14	21		ARS03-3751	58.7	12.3	39.3	2.6	64	hard	10.2	11.2	10.7	72.9	13.9	0.54	0.54	9.6	9.6	58.8	1.72	1.21	0	57.5	2.13	1.48	166.6	6.7	147.6	0.8	yellow	685	4.7	57.3
15	22	25	ARS03-3806	60.4	12.1	33.5	2.3	72	hard	10.3	11.8	11.3	71.9	14.0	0.54	0.54	10.2	10.2	60.0	2.57	2.02	2	59.6	3.00	2.35	168.7	7.1	147.8	2.5	slight yellow	779	5.3	65.3
16	23	26	ARS03-4299	61.4	12.5	41.9	2.7	72	hard	10.3	11.5	11.0	74.8	13.7	0.57	0.57	10.2	10.1	59.8	3.10	2.37	2	58.9	3.38	2.59	168.1	6.9	148.3	2.5	yellow	731	4.9	59.7
17	24	27	ARS03-4627	59.0	12.2	38.8	2.7	75	hard	10.3	11.4	10.9	71.5	13.9	0.59	0.59	9.9	9.9	60.5	3.50	2.61	4	61.8	5.60	4.12	170.8	7.2	149.8	1.0	yellow	741	5.0	62.8
18	25		ARS03-4736	62.3	12.3	38.3	2.7	70	hard	10.6	10.7	10.4	74.1	14.1	0.53	0.53	9.4	9.4	58.8	2.72	1.88	3	61.5	3.82	2.63	170.6	7.2	149.1	2.6	yellow	819	5.5	79.2
19	27		ARS03-5041	61.2	12.0	36.9	2.5	76	hard	10.4	11.2	10.7	74.6	14.1	0.48	0.48	9.7	9.7	59.4	2.25	1.63	2	60.4	3.06	2.18	169.8	7.1	149.8	2.3	yellow	775	5.2	70.2
20	29		ARS03-5898	62.0	12.4	31.7	2.4	55	hard	10.8	11.2	10.8	73.4	14.2	0.46	0.46	9.6	9.7	59.4	1.88	1.34	1	58.6	2.25	1.61	168.6	6.8	149.7	1.6	yellow	734	4.9	63.4
21	30		ARS03-6131	59.2	12.2	29.9	2.2	66	hard	10.5	11.8	11.3	74.3	14.1	0.51	0.51	10.4	10.4	60.6	3.60	2.90	3	60.3	4.85	3.89	168.8	7.2	149.8	3.8	yellow	803	5.4	67.6
22	32		ARS04-1168	61.4	12.7	33.7	2.4	67	hard	10.8	11.4	11.0	72.5	14.2	0.50	0.51	9.9	9.9	60.4	4.91	3.70	5	61.5	7.28	5.38	169.4	7.0	149.9	2.5	slight yellow	766	5.1	66.5
23	33		ARS04-1247	60.1	12.1	36.4	2.5	56	hard	10.3	11.1	10.7	72.5	14.1	0.47	0.47	9.6	9.6	59.3	3.63	2.54	3	60.1	4.28	3.03	169.1	7.1	148.0	2.8	slight yellow	813	5.5	75.7
24	34	33	ARS04-1249	61.4	12.6	38.7	2.6	72	hard	10.7	12.0	11.6	73.5	14.1	0.53	0.53	10.4	10.4	60.9	4.22	3.37	3	61.3	4.88	3.83	170.4	7.2	149.3	2.6	slight yellow	811	5.4	68.2
25	35	34	ARS04-1267	62.7	12.1	34.8	2.4	69	hard	10.5	12.8	12.3	72.8	14.3	0.49	0.49	11.1	11.1	61.7	3.41	2.93	3	60.5	3.94	3.39	170.1	7.1	149.5	3.4	slight yellow	796	5.4	61.2
			Mean	60.4	12.4	35.7	2.4	63		10.5	11.4	10.9	73.5	14.0	0.52	0.52	9.9	9.9	59.6	3.04	2.27	2	59.2	3.86	2.86	168.4	7.0	148.1	2.4		764	5.2	66.3
			CV (%)	1.8	4.8	6.1	4.2	7		3.6	4.7	4.7	1.4	1.0	5.03	4.99	4.7	4.7	1.4	14.58	16.51	33	1.8	17.51	17.44	0.7	2.5	1.0	26.4		4	4.3	6.8
			LSD (0.05)	1.6	0.8	3.1	0.1	6		0.5	0.8	0.7	1.4	0.2	0.04	0.04	0.7	0.7	1.2	0.6	0.5	1	1.5	0.95	0.70	1.7	0.2	2.0	0.9		45	0.3	6.3

Abbreviations

SKCS				Grain NIR		Mixograph			Bake		
Twt	test weight (lb/bu)			Mst	wheat moisture by NIR (%)	Abs	mixograph water absorption (%)		Abs	bake water absorption (%)	
Mst	single kernel moisture (%)			Pro	wheat protein by NIR (as-is %)	Mix	mixograph mix time (min)		Mix	bake mix time (min)	
Wt	single kernel weight (mg)			Pro_14	wheat protein by NIR (14% mb)	Cor_Mix	corrected mixograph mix time (min)		Cor_Mix	corrected bake mix time (min)	
Size	single kernel size (mm)			Flour		Mix_Tol	mixograph mixing tolerance				
HS	single kernel hardness score			Yld	extraction % (flour yield)				Dough Wt	dough weight (g)	
Class	single kernel FGIS classification			Mst	flour moisture by NIR (%)				Loaf Wt	loaf weight (g)	
				Ash	analytical flour ash (as-is %)				LVol	loaf volume (cc)	
				Ash_14	analytical flour ash (14% mb)				SVol	specific volume (cc/g)	
				Pro	flour protein by NIR (as-is %)				LVReg	loaf volume regression	
				Pro_14	flour protein by NIR (14% mb)						

GRAIN YIELD

		NCC, DE		Plains, GA		Lexington, KY*		Schochoh, KY		Kinston NC		LSprings NC*		Salisbury NC		B'burg, VA		Warsaw, VA		7-location mean*	
Entry	Designation	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/ac	rank	bu/a	rank	bu/a	rank
1	AGS 2000	119.6	1	87.5	9	36.5	10	83.7	5	58.6	8	113.8	7	81.3	17	111.8	1	91.9	5	90.6	2
2	Dumas	101.6	8	83.3	11	26.0	21	66.5	25	50.9	15	67.5	27	86.3	3	90.9	12	82.6	17	80.3	11
3	Hondo	95.3	11	56.9	33	22.3	25	65.9	26	44.7	21	68.0	25	70.6	31	84.2	29	85.6	13	71.9	29
4	Jagalene	87.0	25	50.3	35	15.8	32	74.0	15	26.6	35	87.7	14	85.1	8	88.3	18	69.8	34	68.7	32
5	Jagger	103.4	6	67.0	28	17.4	30	72.6	18	33.1	30			85.1	7	85.3	27	72.2	32	74.1	23
6	Lakin	81.8	31	69.8	23	31.6	14	75.2	14	30.8	33	88.8	13	90.9	1	95.9	9	84.0	14	75.5	19
7	Neuse	90.3	20	66.9	29	48.1	3	84.7	3	78.3	1	72.2	24	76.0	25	97.9	8	88.6	8	83.2	8
8	Roane	100.4	10	64.6	31	40.1	6	82.7	6	68.6	3	128.6	2	77.2	24	107.5	3	85.9	12	83.8	7
9	Sturdy 2K	100.9	9	66.2	30	19.0	27	56.0	32	58.9	7	76.4	21	85.5	4	89.1	16	79.1	23	76.5	17
10	TAM 303	83.2	27	74.9	19	15.9	31	63.7	29	39.8	26	52.0	34	89.4	2	81.7	31	72.4	31	72.2	28
11	Tribute	112.4	2	91.1	8	56.1	2	91.2	1	66.3	4	63.7	29	84.3	11	105.4	5	109.9	1	94.4	1
12	KS03HW45	86.0	26	69.4	24	13.9	35	64.1	28	54.5	13	118.5	4	65.6	34	84.3	28	88.4	9	73.2	26
13	KS03HW72	73.6	34	69.0	26	39.5	7	65.6	27	48.4	19	57.4	31	52.5	35	66.9	35	78.2	25	64.9	34
14	KS03HW73	83.2	28	80.7	14	27.0	19	72.7	17	57.8	9	55.0	33	68.6	32	76.6	32	78.3	24	74.0	24
15	KS03HW82	80.7	32	68.0	27	15.4	33	78.2	10	57.2	10	81.1	16	81.0	18	76.6	33	83.7	15	75.1	20
16	TX99D4478	95.2	12	77.9	16	26.9	20	75.5	13	50.9	16	83.3	15	78.2	22	86.1	24	87.1	10	78.7	13
17	TX00D1390	92.9	17	74.9	20	14.0	34	61.6	30	51.7	14	67.8	26	82.2	15	86.5	23	74.6	30	74.9	22
18	TX01D3232	66.3	35	69.3	25	31.7	13	55.1	33	43.8	22	77.0	20	82.9	14	91.8	11	68.9	35	68.3	33
19	ARS03-1014	91.7	18	77.4	17	23.8	24	67.5	24	30.6	34	119.3	3	78.6	21	83.6	30	77.2	27	72.4	27
20	ARS03-3747	103.0	7	99.7	2	30.1	16	71.8	20	48.8	17	117.7	6	83.0	13	104.3	6	93.8	4	86.3	5
21	ARS03-3751	111.7	3	101.0	1	28.8	17	69.3	22	48.7	18	99.2	8	85.5	5	108.4	2	90.4	6	87.9	3
22	ARS03-3806	104.6	5	92.4	5	28.1	18	81.6	7	56.2	12	76.3	22	83.3	12	90.3	14	95.5	2	86.3	6
23	ARS03-4299	93.8	15	92.1	6	19.7	26	79.1	9	64.1	5	57.1	32	73.8	27	86.6	22	87.0	11	82.4	9
24	ARS03-4627	91.6	19	95.4	3	30.6	15	49.3	35	46.6	20	78.8	17	84.7	9	87.4	20	83.2	16	76.9	16
25	ARS03-4736	106.5	4	82.9	13	37.6	9	75.8	12	69.0	2	137.5	1	85.5	6	98.2	7	90.1	7	86.9	4
26	ARS03-4769	77.4	33	70.9	22	18.9	28	52.0	34	33.5	29	74.9	23	72.0	30	74.9	34	70.2	33	64.4	35
27	ARS03-5041	93.5	16	53.0	34	17.6	29	73.4	16	32.1	32	64.1	28	80.7	19	92.7	10	77.3	26	71.8	30
28	ARS03-5048	94.3	13	58.8	32	24.3	22	69.6	21	32.2	31	92.1	10	73.0	28	85.9	26	75.7	29	69.9	31
29	ARS03-5898	88.1	23	74.2	21	34.4	11	72.5	19	35.8	28	117.7	5	77.3	23	88.9	17	79.3	22	73.7	25
30	ARS03-6131	94.3	14	77.2	18	37.8	8	84.5	4	35.9	27	91.3	12	80.0	20	106.2	4	94.7	3	81.8	10
31	ARS03-6201	87.4	24	91.8	7	32.4	12	88.0	2	42.9	23	57.4	30	67.3	33	85.9	25	82.1	19	77.9	14
32	ARS04-1168	89.0	22	78.1	15	24.3	23	67.6	23	56.9	11	91.9	11	75.1	26	88.0	19	76.7	28	75.9	18
33	ARS04-1247	89.1	21	83.3	12	45.5	4	60.8	31	40.2	24	92.8	9	81.4	16	90.7	13	79.9	21	75.1	21
34	ARS04-1249	82.0	30	93.2	4	67.3	1	76.7	11	62.8	6	77.4	18	72.4	29	90.3	15	82.4	18	80.0	12
35	ARS04-1267	82.2	29	84.8	10	42.0	5	79.6	8	40.1	25	77.1	19	84.6	10	87.2	21	80.9	20	77.1	15
	Mean	92.2		77.0		29.7		71.7		48.5		84.7		78.9		90.2		82.8		77.3	
	CV (%)	8.2		10.0		25.8		10.4		14.8				9.0		5.8		9.6		11.3	
	LSD (0.05)	12.3		15.6		12.9		10.1		14.6				14.5		8.6		13.0		9.2	

* Lexington, KY and Laurel Springs, NC data not included in 7-location mean

TEST WEIGHT

		NCC	Plains	Lexington	Schochoh	Kinston	LSprings*	Salisbury	Blacksburg	Warsaw	8-location*	
		DE	GA	KY	KY	NC	NC	NC	VA	VA	mean	
Entry	Designation	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	rank
1	AGS 2000	56.3	58.8	56.1	58.3	59.1	59.4	61.2	58.6	61.7	58.8	11
2	Dumas	58.6	60.2	55.7	57.7	58.0	57.6	63.3	59.4	61.2	59.3	5
3	Hondo	56.7	53.5	58.7	58.8	56.3	60.9	62.2	60.0	61.2	58.4	14
4	Jagalene	54.9	59.2	52.2	59.0	59.0	56.4	63.5	59.6	62.1	58.7	12
5	Jagger	57.2	57.4	53.5	57.6	57.3		61.8	58.6	60.0	57.9	21
6	Lakin	51.0	59.2	57.7	60.3	57.9	57.6	63.3	59.9	61.9	58.9	10
7	Neuse	54.8	55.7	59.8	60.8	55.7	59.9	61.8	61.4	61.5	58.9	9
8	Roane	56.4	45.5	57.2	61.6	58.4	58.0	62.0	60.0	62.1	57.9	22
9	Sturdy 2K	55.0	58.7	56.0	56.9	55.7	52.0	61.1	58.5	60.9	57.9	23
10	TAM 303	55.7	57.9	55.1	54.6	55.0	46.5	62.1	56.5	60.1	57.1	25
11	Tribute	58.2	59.3	60.7	60.8	59.6	52.3	64.0	61.0	62.7	60.8	1
12	KS03HW45	52.1	53.2	55.6	58.6	58.5	53.5	61.7	59.2	61.7	57.6	24
13	KS03HW72	48.3	58.9	58.7	58.4	58.4	57.0	62.1	60.0	59.9	58.1	18
14	KS03HW73	48.6	59.0	58.7	60.1	58.9	56.5	62.8	60.9	60.3	58.7	13
15	KS03HW82	54.1	54.5	54.8	57.5	56.0	50.0	61.7	58.2	59.1	57.0	29
16	TX99D4478	55.6	57.0	57.7	57.1	57.1	58.1	62.5	56.7	59.8	57.9	20
17	TX00D1390	56.4	57.8	51.4	58.1	57.7	54.5	63.2	58.5	61.8	58.1	16
18	TX01D3232	50.9	55.6	50.4	52.6	55.4	58.5	60.6	56.9	57.7	55.0	35
19	ARS03-1014	52.8	58.5	54.0	57.3	55.3	58.1	61.1	58.5	59.1	57.1	27
20	ARS03-3747	52.5	57.5	51.4	54.8	55.8	56.7	59.1	57.1	59.9	56.0	34
21	ARS03-3751	53.7	58.3	52.5	53.8	54.7	55.1	59.9	57.7	59.7	56.3	33
22	ARS03-3806	55.0	58.7	56.7	60.0	57.3	56.6	61.6	58.2	59.0	58.3	15
23	ARS03-4299	54.6	60.4	58.0	59.7	57.9	58.2	62.4	58.7	61.5	59.2	6
24	ARS03-4627	51.9	58.0	56.8	54.0	54.9	54.9	61.4	56.6	59.9	56.7	32
25	ARS03-4736	59.0	60.2	58.1	60.6	60.6	59.7	63.5	60.7	63.5	60.8	2
26	ARS03-4769	50.9	59.2	55.1	57.1	56.3	56.8	61.1	57.4	59.9	57.1	26
27	ARS03-5041	56.6	57.6	55.4	58.6	58.9	56.5	62.9	60.4	62.2	59.1	7
28	ARS03-5048	57.4	57.1	55.7	58.4	59.6	57.1	62.3	60.0	62.0	59.1	8
29	ARS03-5898	58.7	60.8	57.9	61.0	57.6	55.1	62.5	60.7	61.4	60.1	3
30	ARS03-6131	55.1	55.0	55.8	58.5	54.4	49.4	60.4	57.3	59.6	57.0	28
31	ARS03-6201	54.8	57.9	57.2	58.2	57.8	50.5	61.7	57.0	60.2	58.1	17
32	ARS04-1168	49.1	59.8	55.3	59.3	57.3	54.8	63.1	59.3	61.3	58.1	19
33	ARS04-1247	47.7	58.4	54.8	57.5	55.8	53.7	63.5	58.0	59.9	57.0	30
34	ARS04-1249	43.5	54.9	59.1	59.0	57.0	57.0	62.0	58.6	61.1	56.9	31
35	ARS04-1267	49.7	60.3	60.1	61.7	59.0	57.2	64.2	59.9	62.0	59.6	4
	Mean		57.5	56.1	58.2	57.2	55.8	62.1	58.9	60.8	58.1	
	CV (%)					2.0		0.6	0.9	0.5	3.4	
	LSD (0.05)					2.3		0.7	0.8	0.5	2	

* Laurel Springs, NC location was not included in 8-location mean

DAYS TO HEADING (JULIAN)									
		NCC	*Plains*	*Lexington*	*Kinston*	*Salisbury*	*Blacksburg*	*Warsaw*	*7--location*
Entry	*Designation*	*DE*	*GA*	*KY*	*NC*	*NC*	*VA*	*VA*	*mean*
1	AGS 2000	126	93	123	98	107	121	111	111
2	Dumas	126	96	123	103	109	123	113	113
3	Hondo	134	109	131	113	115	127	119	121
4	Jagalene	128	98	123	102	108	123	113	114
5	Jagger	124	93	121	98	104	117	110	110
6	Lakin	127	98	123	103	108	124	113	114
7	Neuse	134	104	127	106	109	128	115	118
8	Roane	130	105	126	107	110	126	114	117
9	Sturdy 2K	127	98	126	105	108	124	113	114
10	TAM 303	125	95	121	105	107	121	112	112
11	Tribute	126	96	126	103	108	123	112	113
12	KS03HW45	131	105	128	111	112	123	115	118
13	KS03HW72	134	106	130	110	114	129	117	120
14	KS03HW73	129	102	127	109	113	126	115	117
15	KS03HW82	134	97	127	109	110	123	113	116
16	TX99D4478	125	95	123	104	107	122	112	113
17	TX00D1390	126	92	123	103	107	121	112	112
18	TX01D3232	126	92	122	100	106	120	111	111
19	ARS03-1014	134	95	127	104	110	124	114	115
20	ARS03-3747	126	95	125	102	107	124	113	113
21	ARS03-3751	126	94	125	102	107	123	112	113
22	ARS03-3806	135	100	127	109	110	126	115	117
23	ARS03-4299	126	96	122	105	109	124	113	114
24	ARS03-4627	126	92	122	103	107	120	111	112
25	ARS03-4736	127	97	123	107	108	122	112	114
26	ARS03-4769	124	84	119	98	105	117	109	108
27	ARS03-5041	128	102	123	107	108	120	114	115
28	ARS03-5048	128	102	125	108	110	121	114	115
29	ARS03-5898	127	92	122	105	107	121	113	112
30	ARS03-6131	124	92	122	102	107	122	111	111
31	ARS03-6201	124	91	120	100	106	118	111	110
32	ARS04-1168	125	98	123	106	108	124	113	114
33	ARS04-1247	124	91	120	103	107	120	111	111
34	ARS04-1249	134	100	128	108	110	126	113	117
35	ARS04-1267	127	93	122	104	106	120	111	112
	Mean		97	124	104	108	123	113	114
	CV (%)				1	1	3	3	2
	LSD (0.05)				1	2	1	1	2

		HEIGHT								Early Height 3/27/06
		NCC	Plains	Lexington	Schochoh	Kinston	Blacksburg	Warsaw	7-location	Warsaw
		DE	GA	KY	KY	NC	VA	VA	mean	VA
Entry	Designation	in	in	in	in	in	in	in	in	in
1	AGS 2000	36	36	38	36	32	34	31	35	10.8
2	Dumas	35	34	39	38	33	34	29	35	8.7
3	Hondo	36	39	40	39	33	34	31	36	6.8
4	Jagalene	34	31	37	36	29	34	29	33	9.2
5	Jagger	34	33	36	34	29	33	28	32	9.5
6	Lakin	34	36	42	37	32	36	31	35	9.3
7	Neuse	32	34	38	37	29	33	29	33	8.7
8	Roane	31	33	36	37	29	33	27	32	7.5
9	Sturdy 2K	35	37	39	39	36	37	32	36	8.8
10	TAM 303	33	36	37	36	29	33	28	33	8.8
11	Tribute	32	33	38	35	29	33	26	32	8.2
12	KS03HW45	36	42	42	41	34	38	34	38	9.2
13	KS03HW72	32	37	40	38	29	31	30	34	7.5
14	KS03HW73	33	37	38	39	30	34	30	34	9.0
15	KS03HW82	37	39	41	40	36	35	32	37	7.8
16	TX99D4478	35	36	39	39	32	35	31	35	9.3
17	TX00D1390	33	33	40	36	30	32	28	33	8.8
18	TX01D3232	29	31	36	34	29	32	27	31	9.3
19	ARS03-1014	32	32	39	36	30	33	27	33	8.3
20	ARS03-3747	36	39	39	39	36	36	34	37	10.5
21	ARS03-3751	37	37	40	39	36	37	33	37	10.3
22	ARS03-3806	36	37	38	39	29	35	31	35	8.3
23	ARS03-4299	36	38	39	39	32	36	34	36	9.5
24	ARS03-4627	31	32	37	33	28	31	28	31	11.5
25	ARS03-4736	36	40	38	41	33	35	30	36	9.3
26	ARS03-4769	34	33	37	34	27	34	27	32	11.7
27	ARS03-5041	35	39	38	39	30	34	30	35	8.8
28	ARS03-5048	36	40	39	39	31	34	31	36	8.2
29	ARS03-5898	39	41	39	40	31	38	31	37	10.2
30	ARS03-6131	31	34	39	36	27	33	28	33	9.0
31	ARS03-6201	30	34	36	35	26	31	27	31	9.5
32	ARS04-1168	35	35	40	41	33	36	29	36	8.2
33	ARS04-1247	35	34	41	38	29	34	29	34	10.3
34	ARS04-1249	33	37	40	37	29	33	31	34	8.8
35	ARS04-1267	33	36	39	35	31	33	29	34	9.5
	Mean		36	38	37	31	34	30	34	9.1
	CV (%)					4	3	5	4	8.9
	LSD (0.05)					3	2	2	1	1.3

LODGING							
		Plains	*Lexington*	*Blacksburg*	*Warsaw*	*2-location*	*2-location*
		GA	*KY*	*VA*	*VA*	*mean*	*mean*
Entry	*Designation*	*%*	*%*	*0.2-10.0**	*0.2-10.0**	*0.2-10.0**	*%*
1	AGS 2000	5	20	0.2	0.2	0.2	13
2	Dumas	10	25	0.2	0.3	0.3	18
3	Hondo	0	68	0.7	0.3	0.5	34
4	Jagalene	5	25	0.2	0.5	0.4	15
5	Jagger	5	75	0.8	0.3	0.6	40
6	Lakin	5	5	0.4	0.5	0.5	5
7	Neuse	0	10	0.4	0.2	0.3	5
8	Roane	0	30	0.2	0.2	0.2	15
9	Sturdy 2K	5	70	0.9	0.3	0.6	38
10	TAM 303	10	85	3.0	2.3	2.7	48
11	Tribute	5	5	0.4	0.2	0.3	5
12	KS03HW45	5	85	1.3	0.7	1.0	45
13	KS03HW72	0	0	0.2	0.2	0.2	0
14	KS03HW73	20	10	0.2	0.2	0.2	15
15	KS03HW82	20	60	3.5	0.8	2.2	40
16	TX99D4478	5	68	0.9	0.3	0.6	37
17	TX00D1390	10	88	1.1	0.7	0.9	49
18	TX01D3232	5	0	0.2	0.5	0.4	3
19	ARS03-1014	0	0	0.2	0.2	0.2	0
20	ARS03-3747	5	70	1.5	0.9	1.2	38
21	ARS03-3751	5	80	1.1	1.6	1.4	43
22	ARS03-3806	0	80	0.2	0.2	0.2	40
23	ARS03-4299	20	83	2.2	0.2	1.2	52
24	ARS03-4627	0	13	1.1	0.8	1.0	7
25	ARS03-4736	10	80	0.8	0.2	0.5	45
26	ARS03-4769	10	55	0.4	0.3	0.4	33
27	ARS03-5041	10	58	0.6	0.3	0.5	34
28	ARS03-5048	10	70	0.4	0.3	0.4	40
29	ARS03-5898	20	55	0.2	0.2	0.2	38
30	ARS03-6131	5	0	0.2	0.2	0.2	3
31	ARS03-6201	10	93	2.4	0.8	1.6	52
32	ARS04-1168	10	90	0.8	0.3	0.6	50
33	ARS04-1247	10	85	0.9	0.7	0.8	48
34	ARS04-1249	5	0	0.2	0.2	0.2	3
35	ARS04-1267	5	0	0.4	0.3	0.4	3
	Mean	7	47	0.8	0.5	0.6	27.0
	CV (%)			66.3	83.1	69.9	87.0
	LSD (0.05)			0.9	0.6	0.9	48

*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*	*5-location*
		GA	*KY*	*NC*	*VA*	*VA*	*mean*
Entry	*Designation*	*0-9*	*0-9*	*0-9*	*0-9*	*0-9*	*0-9*
1	AGS 2000	2	4	3	1	0	2
2	Dumas	7	7	5	5	3	5
3	Hondo	3	1	2	0	0	1
4	Jagalene	9	8	8	8	6	8
5	Jagger	7	7	7	4	6	6
6	Lakin	4	7	5	3	3	4
7	Neuse	0	0	1	0	0	0
8	Roane	3	5	3	1	3	3
9	Sturdy 2K	7	7	2	2	1	4
10	TAM 303	5	1	2	0	1	2
11	Tribute	2	1	2	0	0	1
12	KS03HW45	3	4	2	2	2	3
13	KS03HW72	5	7	2	0	1	3
14	KS03HW73	7	6	3	1	2	4
15	KS03HW82	6	4	2	0	0	2
16	TX99D4478	5	3	2	0	0	2
17	TX00D1390	7	6	3	3	3	4
18	TX01D3232	7	6	5	6	2	5
19	ARS03-1014	2	3	2	1	0	2
20	ARS03-3747	3	3	3	2	0	2
21	ARS03-3751	3	3	2	0	0	2
22	ARS03-3806	1	1	2	0	0	1
23	ARS03-4299	2	2	2	0	0	1
24	ARS03-4627	1	3	2	0	0	1
25	ARS03-4736	6	4	4	1	1	3
26	ARS03-4769	5	5	3	3	1	3
27	ARS03-5041	5	5	2	1	0	3
28	ARS03-5048	5	5	1	1	1	3
29	ARS03-5898	4	4	2	2	1	3
30	ARS03-6131	2	1	2	0	0	1
31	ARS03-6201	1	1	2	0	0	1
32	ARS04-1168	6	6	3	6	2	5
33	ARS04-1247	7	5	2	3	1	4
34	ARS04-1249	1	2	1	0	0	1
35	ARS04-1267	1	1	2	0	1	1
	Mean	4	4	3	2	1	3
	CV (%)			32	66	57	41
	LSD (0.05)			2	2	1	1

OTHER DISEASES AND TRAITS							
		Stripe Rust	Leaf Rust				Hessian Fly
		Plains	*Plains*	*Kinston*	*Warsaw*	*2-location*	*Kinston*
		GA	*GA*	*NC*	*VA*	*mean*	*NC*
Entry	*Designation*	*0-9*	*0-9*	*%*	*0-9*	*0-9*	*0-9*
1	AGS 2000	7	0	0	2	1	3
2	Dumas	3	0	1	3	2	4
3	Hondo	3	3	10	5	4	5
4	Jagalene	0	7	3	3	5	6
5	Jagger	0	7	6	2	5	6
6	Lakin	5	5	40	5	5	5
7	Neuse	8	1	0	2	2	6
8	Roane	4	5	0	1	3	6
9	Sturdy 2K	2	0	0	3	2	4
10	TAM 303	4	0	0	3	2	3
11	Tribute	5	0	0	1	1	7
12	KS03HW45	6	1	5	1	1	7
13	KS03HW72	0	2	0	2	2	6
14	KS03HW73	0	1	0	2	2	6
15	KS03HW82	0	0	0	2	1	7
16	TX99D4478	7		0	3	3	6
17	TX00D1390	3	0	0	2	1	6
18	TX01D3232	1	1	0	3	2	5
19	ARS03-1014	7		35	4	4	7
20	ARS03-3747	0	1	5	3	2	5
21	ARS03-3751	1	1	0	4	3	4
22	ARS03-3806	0	1	3	2	2	6
23	ARS03-4299	4	1	0	2	2	4
24	ARS03-4627	1	0	1	3	2	5
25	ARS03-4736	6		0	2	2	5
26	ARS03-4769	2	0	0	2	1	6
27	ARS03-5041	5	0	0	2	1	9
28	ARS03-5048	5		0	2	2	8
29	ARS03-5898	4	5	20	5	5	7
30	ARS03-6131	8		15	4	4	7
31	ARS03-6201	4	0	0	3	2	5
32	ARS04-1168	5	0	0	4	2	5
33	ARS04-1247	5	0	0	2	1	4
34	ARS04-1249	0	0	0	1	1	7
35	ARS04-1267	4	5	31	4	5	6
	Mean	3	2	5	3	2	5
	CV (%)			188	30	66	17
	LSD (0.05)			19	1	3	2

											KERNEL WEIGHT					KERNEL DIAMETER				
		SINGLE KERNEL HARDNESS									Kinston	LSprings*	Salisbury	Warsaw	3-location*	Kinston	LSprings*	Salisbury	Warsaw	3-location*
		Kinston, NC		Laurel Springs, NC*		Salisbury, NC		Warsaw, VA		3-location*	NC	NC	NC	VA	mean	NC	NC	NC	VA	mean
Entry	Designation	Score	Class	Score	Class	Score	Class	Score	Class	mean	mg	mg	mg	mg	mg	mm	mm	mm	mm	mm
1	AGS 2000	22	"SOFT	23	"SOFT	27	"SOFT	15	"SOFT	21	41.37	41.77	45.28	48.83	45.16	2.74	2.71	2.77	2.89	2.80
2	Dumas	78	"HARD	66	"HARD	77	"HARD	64	"HARD	73	31.94	31.48	35.93	38.49	35.45	2.57	2.55	2.67	2.81	2.68
3	Hondo	87	"HARD	83	"HARD	89	"HARD	83	"HARD	86	30.05	33.07	37.83	34.87	34.25	2.41	2.51	2.64	2.44	2.50
4	Jagalene	82	"HARD	75	"HARD	77	"HARD	72	"HARD	77	33.55	28.82	40.28	40.01	37.95	2.64	2.34	2.81	2.86	2.77
5	Jagger	88	"HARD			80	"HARD	77	"HARD	82	30.88		37.18	36.51	34.86	2.48		2.66	2.62	2.59
6	Lakin	76	"HARD	56	"HARD	81	"HARD	69	"HARD	75	33.79	37.45	39.62	40.12	37.84	2.48	2.60	2.66	2.70	2.61
7	Neuse	28	"SOFT	29	"SOFT	37	"SOFT	33	"SOFT	33	38.56	38.98	39.08	40.06	39.23	2.74	2.67	2.69	2.72	2.72
8	Roane	31	"SOFT	29	"SOFT	47	"MIXED	33	"SOFT	37	31.51	32.98	31.06	33.87	32.15	2.45	2.43	2.30	2.45	2.40
9	Sturdy 2K	73	"HARD	69	"HARD	85	"HARD	78	"HARD	79	32.82	34.69	34.92	36.91	34.88	2.42	2.51	2.48	2.55	2.48
10	TAM 303	63	"HARD	58	"HARD	81	"HARD	68	"HARD	71	33.17	34.56	40.02	39.94	37.71	2.41	2.44	2.62	2.63	2.55
11	Tribute	36	"SOFT	34	"SOFT	49	"MIXED	33	"SOFT	39	35.98	35.83	39.07	41.02	38.69	2.51	2.50	2.56	2.57	2.55
12	KS03HW45	71	"HARD	55	"HARD	74	"HARD	66	"HARD	70	37.81	39.66	39.49	42.41	39.90	2.60	2.63	2.61	2.70	2.64
13	KS03HW72	71	"HARD	68	"HARD	74	"HARD	67	"HARD	71	29.07	28.79	31.48	30.41	30.32	2.35	2.30	2.38	2.32	2.35
14	KS03HW73	74	"HARD	60	"HARD	82	"HARD	74	"HARD	77	33.72	33.38	34.53	35.35	34.53	2.52	2.46	2.49	2.53	2.51
15	KS03HW82	60	"HARD	52	"HARD	65	"HARD	51	"HARD	59	35.88	38.94	38.78	38.64	37.77	2.68	2.85	2.71	2.69	2.69
16	TX99D4478	71	"HARD	63	"HARD	83	"HARD	68	"HARD	74	36.07	39.26	41.29	41.59	39.65	2.62	2.70	2.73	2.75	2.70
17	TX00D1390	61	"HARD	75	"HARD	74	"HARD	65	"HARD	67	34.98	30.67	39.66	38.53	37.72	2.50	2.47	2.62	2.59	2.57
18	TX01D3232	83	"HARD	62	"HARD	82	"HARD	75	"HARD	80	31.22	36.82	34.87	32.42	32.84	2.51	2.52	2.55	2.45	2.50
19	ARS03-1014	73	"HARD	57	"HARD	83	"HARD	72	"HARD	76	32.90	37.92	36.04	36.03	34.99	2.41	2.61	2.47	2.44	2.44
20	ARS03-3747	68	"HARD	56	"HARD	79	"HARD	65	"HARD	71	40.88	38.23	41.52	43.32	41.91	2.79	2.61	2.68	2.76	2.74
21	ARS03-3751	68	"HARD	58	"HARD	80	"HARD	67	"HARD	72	39.54	36.44	41.87	42.37	41.26	2.75	2.59	2.72	2.72	2.73
22	ARS03-3806	79	"HARD	75	"HARD	86	"HARD	72	"HARD	79	33.41	33.06	36.04	35.85	35.10	2.44	2.46	2.44	2.37	2.42
23	ARS03-4299	68	"HARD	62	"HARD	82	"HARD	74	"HARD	75	39.82	40.38	43.82	46.67	43.44	2.69	2.63	2.77	2.82	2.76
24	ARS03-4627	89	"HARD	82	"HARD	91	"HARD	86	"HARD	89	35.16	34.26	41.93	41.90	39.66	2.58	2.53	2.78	2.79	2.72
25	ARS03-4736	68	"HARD	63	"HARD	82	"HARD	78	"HARD	76	41.11	40.56	41.68	43.39	42.06	2.86	2.84	2.79	2.89	2.85
26	ARS03-4769	62	"HARD	57	"HARD	62	"HARD	52	"HARD	59	33.09	34.52	36.73	36.44	35.42	2.53	2.59	2.59	2.59	2.57
27	ARS03-5041	77	"HARD	67	"HARD	87	"HARD	73	"HARD	79	35.63	42.11	40.01	42.06	39.23	2.53	2.91	2.65	2.73	2.64
28	ARS03-5048	71	"HARD	63	"HARD	79	"HARD	67	"HARD	72	37.82	41.88	39.64	43.29	40.25	2.62	2.86	2.62	2.74	2.66
29	ARS03-5898	68	"HARD	61	"HARD	73	"HARD	62	"HARD	68	31.04	32.82	31.46	33.51	32.00	2.50	2.62	2.50	2.55	2.52
30	ARS03-6131	76	"HARD	69	"HARD	84	"HARD	73	"HARD	78	28.29	33.02	30.42	33.41	30.71	2.23	2.38	2.23	2.33	2.26
31	ARS03-6201	41	"SOFT/MIXED	38	"SOFT	56	"HARD	43	"MIXED	47	36.17	40.38	39.78	42.11	39.35	2.63	2.83	2.73	2.78	2.71
32	ARS04-1168	69	"HARD	61	"HARD	81	"HARD	72	"HARD	74	34.56	34.74	35.96	35.17	35.23	2.56	2.51	2.62	2.53	2.57
33	ARS04-1247	67	"HARD	50	"MIXED	76	"HARD	57	"HARD	67	33.27	35.77	38.06	42.86	38.06	2.44	2.51	2.57	2.74	2.58
34	ARS04-1249	73	"HARD	75	"HARD	90	"HARD	77	"HARD	80	38.71	36.61	38.62	41.48	39.60	2.73	2.65	2.66	2.76	2.72
35	ARS04-1267	81	"HARD	72	"HARD	87	"HARD	75	"HARD	81	32.23	32.51	34.96	37.98	35.06	2.41	2.40	2.45	2.52	2.46
	Mean	67		60		75				69	34.74	35.95	37.97	39.08	37.26	2.55	2.58	2.60	2.64	2.60
	CV (%)	4				3				6	2.98		3.07		3.90	1.92		1.46		2.43
	LSD (0.05)	5				4				6	2.11		2.37		2.37	0.10		0.08		0.10

* Laurel Springs, NC location not included in multi-location mean

		FLOUR PROTEIN						GLUTEN			ZELENY			FALLING NUMBER				
		Kinston	LSprings*	Salisbury	B'burg	Warsaw	4-location*	B'burg	Warsaw	2-location	B'burg	Warsaw	2-location	Kinston	LSprings	Salisbury	Warsaw	3-location*
		NC	NC	NC	VA	VA	mean	VA	VA	mean	VA	VA	mean	NC	NC	NC	VA	mean
Entry	Designation	%	%	%	%	%	%	%	%	%				s	s	s	s	s
1	AGS 2000	12.73	12.50	12.33	11.47	13.24	12.44	20.56	26.34	23.45	38.12	48.38	43.25	436	395	424	410	423
2	Dumas	12.98	11.57	11.64	12.05	13.85	12.63	21.91	27.18	24.55	42.51	53.68	48.10	520	445	474	463	486
3	Hondo	12.61	13.92	13.61	13.04	13.50	13.19	26.11	26.65	26.38	57.43	55.93	56.68	442	408	454	438	445
4	Jagalene	13.61	12.13	11.40	12.08	14.43	12.88	20.85	27.87	24.36	44.02	55.09	49.56	447	416	412	440	433
5	Jagger	15.16		12.37	13.41	14.89	13.96	25.67	28.62	27.15	53.60	59.95	56.78	477	273	414	444	445
6	Lakin	13.33	10.08	11.67	12.62	14.34	12.99	25.31	29.04	27.18	57.02	62.89	59.96	387	173	391	307	362
7	Neuse	11.98	11.88	12.75	12.38	14.41	12.88	21.68	28.68	25.18	47.19	57.47	52.33	399	378	418	409	409
8	Roane	10.61	10.87	11.52	11.97	13.28	11.85	24.72	28.16	26.44	49.00	53.75	51.38	395	351	374	403	391
9	Sturdy 2K	10.81	11.48	10.91	12.08	13.14	11.74	22.96	26.15	24.56	44.58	49.24	46.91	496	432	430	453	460
10	TAM 303	11.41	10.72	11.84	12.39	13.54	12.30	23.13	27.16	25.15	46.99	52.93	49.96	414	291	423	455	431
11	Tribute	10.46	11.23	11.58	11.98	12.49	11.63	22.49	23.96	23.23	45.11	40.15	42.63	429	331	377	423	410
12	KS03HW45	11.73	9.90	10.12	11.58	13.24	11.67	22.04	27.66	24.85	49.12	53.87	51.50	431	269	415	411	419
13	KS03HW72	12.74	12.35	13.96	13.75	15.26	13.93	30.08	32.01	31.04	66.50	68.67	67.58	370	91	379	147	299
14	KS03HW73	14.33	10.29	12.85	13.40	14.56	13.79	28.95	31.89	30.42	64.89	65.65	65.27	344	102	392	186	307
15	KS03HW82	11.50	9.45	11.71	11.98	13.00	12.05	22.26	24.38	23.32	49.89	51.69	50.79	339	227	402	292	344
16	TX99D4478	11.59	11.18	11.93	13.56	14.43	12.88	26.18	27.74	26.96	55.77	56.58	56.17	460	367	436	448	448
17	TX00D1390	11.15	11.61	11.38	12.31	13.37	12.05	22.41	25.61	24.01	48.65	49.99	49.32	441	254	411	438	430
18	TX01D3232	13.90	11.22	12.14	12.30	14.10	13.11	23.67	28.47	26.07	49.32	55.73	52.53	446	367	422	409	426
19	ARS03-1014	12.83	10.54	11.74	11.56	13.20	12.33	21.60	26.27	23.94	43.89	51.01	47.45	509	407	380	455	448
20	ARS03-3747	13.08	9.94	11.81	11.49	12.48	12.22	21.98	25.23	23.60	37.25	42.48	39.87	382	385	387	341	370
21	ARS03-3751	13.06	10.57	12.28	11.33	12.78	12.36	21.43	26.72	24.08	36.37	45.03	40.70	406	376	364	332	367
22	ARS03-3806	11.91	11.38	12.21	13.49	14.11	12.93	26.94	26.84	26.89	61.64	57.43	59.53	499	153	423	441	454
23	ARS03-4299	10.93	11.52	11.81	12.62	13.95	12.33	24.04	28.04	26.04	52.76	57.12	54.94	392	411	382	399	391
24	ARS03-4627	12.95	12.29	12.64	11.59	13.18	12.59	19.73	25.00	22.37	38.89	49.52	44.20	290	199	396	347	344
25	ARS03-4736	11.82	10.58	11.02	12.71	13.29	12.21	23.91	26.39	25.15	48.68	54.81	51.75	506	388	418	474	466
26	ARS03-4769	15.56	11.44	13.55	14.24	15.97	14.83	28.00	32.79	30.40	61.92	69.31	65.61	416	220	433	392	414
27	ARS03-5041	11.99	12.69	11.60	13.49	14.88	12.99	27.32	32.04	29.68	55.58	62.73	59.16	515	263	417	479	470
28	ARS03-5048	13.10	11.94	10.55	13.49	14.87	13.00	27.47	32.34	29.91	55.75	61.65	58.70	552	227	468	488	503
29	ARS03-5898	12.21	10.81	11.65	12.82	13.38	12.52	23.75	24.96	24.35	50.00	48.81	49.40	473	257	424	449	449
30	ARS03-6131	13.19	12.18	13.11	12.29	13.21	12.95	23.44	25.53	24.48	44.87	48.56	46.72	470	390	433	409	437
31	ARS03-6201	12.22	11.09	11.92	12.89	14.00	12.76	23.58	26.99	25.29	46.01	52.82	49.41	376	324	425	395	399
32	ARS04-1168	11.63	11.15	11.37	12.60	14.23	12.46	24.75	28.37	26.56	58.70	65.48	62.09	272	227	403	187	287
33	ARS04-1247	11.65	10.32	10.60	12.11	14.45	12.20	22.71	29.10	25.90	51.83	63.89	57.86	257	62	496	188	314
34	ARS04-1249	11.63	13.22	12.34	13.87	15.59	13.36	30.44	33.51	31.98	68.13	74.30	71.22	214	107	452	141	269
35	ARS04-1267	13.23	13.24	13.84	14.79	16.40	14.57	31.42	35.69	33.56	70.82	78.96	74.89	363	73	466	214	348
	Mean	12.44	11.39	11.99	12.62	13.97	12.76	24.39	28.10	26.24	51.22	56.44	53.83	416	287	417		403
	CV (%)	8.02		3.15	3.20	3.19	5.67	5.05	4.91	4.98	6.05	6.01	6.04	7		8		15
	LSD (0.05)	2.03		0.77	0.66	0.73	1.01	2.01	2.25	1.49	5.05	5.53	3.71	55		71		97

* Laurel Springs, NC location not included in multi-location mean

KS									SKCS																					
Lab				Test weight (lb/bu)					Kernel moisture (%)					Kernel weight (mg)					Kernel size (mm)					Kernel hardness score					Hardness class				
Entry	UBWT 06	UBWT 07	Name	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc
1	1	1	AGS 2000	60.3	58.3	62.0	62.8	60.9	13.2	12.4	13.2	12.8	12.9	42.8	33.3	46.1	47.5	42.4	2.6	2.3	2.8	2.7	2.6	5	17	21	3	12	soft	soft	soft	soft	soft
2	3	2	Hondo	57.2	57.4	63.2	61.7	59.9	12.7	11.7	13.6	12.8	12.7	30.1	28.4	38.5	34.9	33.0	2.3	2.2	2.6	2.4	2.4	84	79	78	70	78	hard	hard	hard	hard	hard
3	5	4	Jagger	57.8	57.1	62.8	60.7	59.6	12.8	11.9	13.3	12.5	12.6	32.2	29.8	39.1	36.0	34.3	2.3	2.3	2.7	2.6	2.5	64	69	67	65	66	hard	hard	hard	hard	hard
4	6	5	Lakin	60.4	60.5	63.6	62.7	61.8	12.6	12.1	13.5	12.7	12.7	32.5	32.0	39.5	40.8	36.2	2.3	2.3	2.6	2.6	2.5	62	63	69	57	63	hard	hard	hard	hard	hard
5	10	8	TAM 303	58.8	54.4	62.8	60.6	59.2	12.8	11.7	13.4	12.5	12.6	36.8	28.5	39.5	38.1	35.7	2.4	2.1	2.6	2.5	2.4	56	64	74	59	63	hard	hard	hard	hard	hard
6	11	9	Tribute	60.5	60.4	64.4	63.7	62.3	13.4	12.2	13.6	12.9	13.0	34.8	32.5	39.9	40.0	36.8	2.4	2.3	2.5	2.4	2.4	31	42	38	28	35	soft	mixed	soft	soft	soft
7	12		KS03HW45	58.4	58.3	62.4	61.9	60.3	12.6	11.9	11.9	12.4	12.2	33.4	33.3	39.9	41.4	37.0	2.4	2.3	2.6	2.6	2.5	66	71	64	57	65	hard	hard	hard	hard	hard
8	13		KS03HW72	59.4	57.3	63.2	60.4	60.1	12.7	11.3	11.5	12.4	12.0	27.4	24.6	32.1	30.3	28.6	2.1	2.0	2.4	2.2	2.2	68	73	64	54	65	hard	hard	hard	hard	hard
9	14	21	KS03HW73	60.8	59.3	63.2	61.0	61.1	13.4	11.5	11.6	12.4	12.2	30.5	27.1	33.5	34.8	31.5	2.3	2.1	2.4	2.4	2.3	68	75	75	62	70	hard	hard	hard	hard	hard
10	15	22	KS03HW82	56.8	55.4	62.4	59.5	58.5	12.4	11.6	11.4	12.3	11.9	31.4	30.0	38.9	39.0	34.8	2.4	2.3	2.8	2.7	2.6	56	57	59	39	53	mixed	hard	hard	soft	mixed
11	16	Adv 07	TX99D4478	57.6	57.7	63.6	60.5	59.9	12.0	11.9	11.5	12.8	12.1	32.0	33.3	40.2	42.9	37.1	2.3	2.4	2.7	2.7	2.5	71	71	76	55	68	hard	hard	hard	hard	hard
12	19		ARS03-1014	58.3	55.5	62.4	60.2	59.1	12.1	11.5	11.6	12.7	12.0	31.8	28.6	35.1	35.5	32.8	2.2	2.1	2.4	2.3	2.3	69	66	75	60	68	hard	hard	hard	hard	hard
13	20	24	ARS03-3747	58.5	54.7	60.8	60.5	58.6	12.7	11.7	12.2	12.9	12.4	39.8	30.2	43.5	43.4	39.2	2.6	2.2	2.7	2.7	2.6	55	70	71	56	63	mixed	hard	hard	hard	hard
14	21		ARS03-3751	60.0	53.1	61.2	60.5	58.7	12.0	11.9	12.4	12.8	12.3	40.7	28.1	42.8	45.7	39.3	2.7	2.1	2.7	2.8	2.6	59	71	70	55	64	hard	hard	hard	hard	hard
15	22	25	ARS03-3806	59.7	59.0	62.8	60.1	60.4	12.3	12.1	11.6	12.4	12.1	31.6	29.6	36.8	35.9	33.5	2.3	2.1	2.4	2.3	2.3	74	75	77	62	72	hard	hard	hard	hard	hard
16	23	26	ARS03-4299	61.2	58.4	63.6	62.4	61.4	12.8	12.1	12.0	13.0	12.5	39.1	36.4	44.3	47.8	41.9	2.5	2.5	2.8	2.9	2.7	71	78	74	63	72	hard	hard	hard	hard	hard
17	24	27	ARS03-4627	58.4	53.6	62.8	61.0	59.0	12.5	11.5	11.8	12.9	12.2	40.9	29.1	43.2	42.0	38.8	2.7	2.2	2.9	2.8	2.7	70	73	81	76	75	hard	hard	hard	hard	hard
18	25		ARS03-4736	60.9	59.6	64.8	64.0	62.3	13.0	11.6	11.9	12.8	12.3	35.1	32.2	43.9	42.0	38.3	2.5	2.4	2.9	2.8	2.7	65	71	74	68	70	hard	hard	hard	hard	hard
19	27		ARS03-5041	58.8	59.2	64.0	62.9	61.2	12.5	11.4	11.6	12.3	12.0	28.8	33.0	41.9	44.0	36.9	2.1	2.4	2.7	2.8	2.5	83	76	79	65	76	hard	hard	hard	hard	hard
20	29		ARS03-5898	60.5	61.1	64.0	62.3	62.0	12.9	13.0	11.4	12.3	12.4	32.0	29.3	33.1	32.5	31.7	2.4	2.3	2.4	2.4	2.4	57	52	62	50	55	hard	mixed	hard	hard	hard
21	30		ARS03-6131	56.0	58.5	61.6	60.6	59.2	11.2	13.0	12.0	12.7	12.2	28.4	26.8	32.7	31.8	29.9	2.1	2.0	2.3	2.2	2.2	69	62	71	62	66	hard	hard	hard	hard	hard
22	32		ARS04-1168	59.9	59.5	64.4	61.8	61.4	13.3	13.1	12.0	12.4	12.7	31.6	29.5	36.9	36.6	33.7	2.3	2.2	2.6	2.5	2.4	68	71	71	59	67	hard	hard	hard	hard	hard
23	33		ARS04-1247	58.7	56.7	64.4	60.7	60.1	11.6	12.8	11.7	12.3	12.1	36.9	29.3	38.2	41.0	36.4	2.4	2.2	2.6	2.6	2.5	52	57	66	47	56	hard	hard	hard	mixed	hard
24	34	33	ARS04-1249	60.0	60.1	63.6	61.8	61.4	13.0	13.4	11.7	12.4	12.6	37.4	33.9	41.8	41.5	38.7	2.6	2.4	2.8	2.7	2.6	71	70	78	67	72	hard	hard	hard	hard	hard
25	35	34	ARS04-1267	61.6	61.5	65.2	62.6	62.7	11.1	13.4	11.9	12.0	12.1	33.8	31.9	35.4	37.9	34.8	2.3	2.3	2.4	2.4	2.4	69	65	76	66	69	hard	hard	hard	hard	hard
			Mean	59.2	57.9	63.2	61.5	60.4	12.5	12.1	12.2	12.6	12.4	34.1	30.4	39.1	39.3	35.7	2.4	2.2	2.6	2.6	2.4	63	66	68	56	63					
			CV (%)					1.8					4.8					6.1					4.2					7					
			LSD (0.05)					1.6					0.8					3.1					0.1					6					

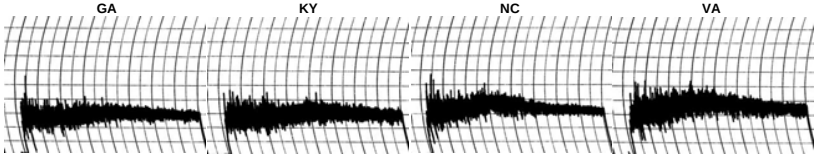
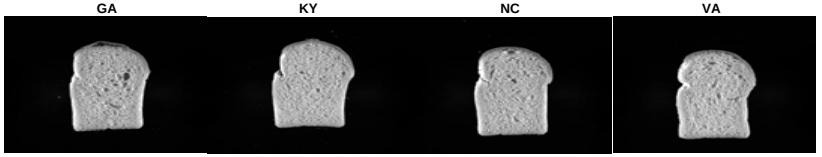
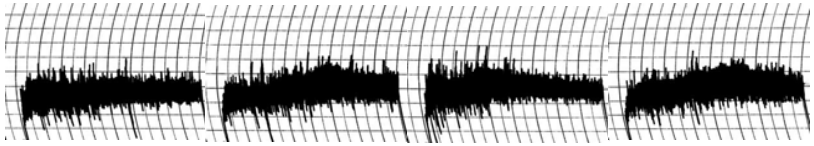
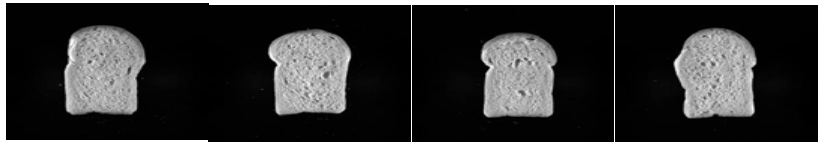
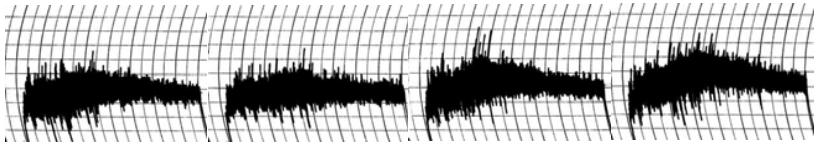
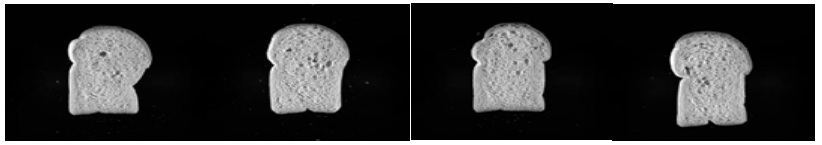
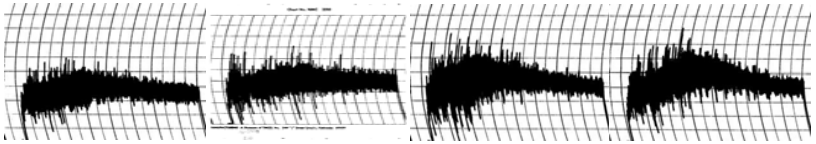
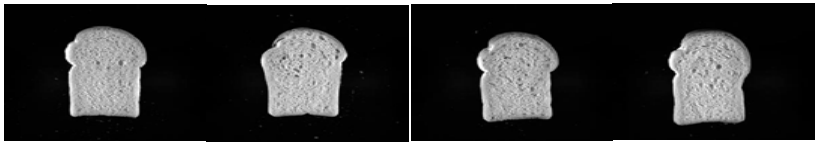
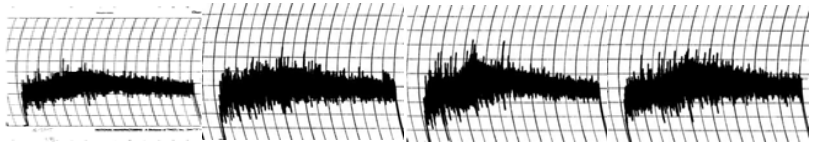
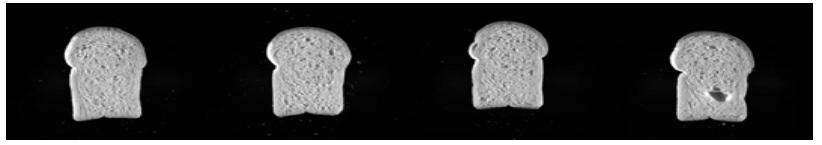
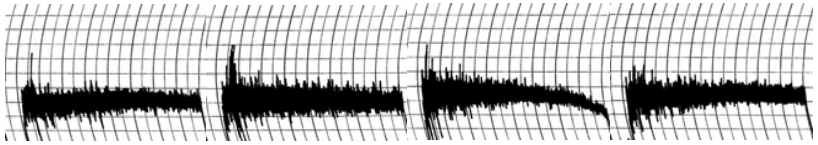
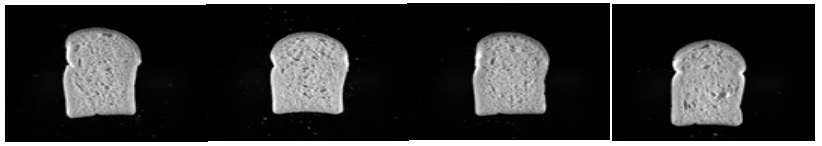
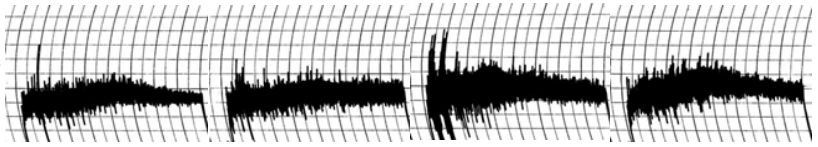
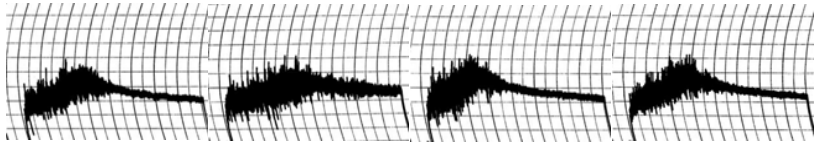
KS				NIR																			
Lab				Kernel hardness score					Adj. ker. hard. score					Grain moisture (%)					Grain protein (%)				
Entry	UBWT 06	UBWT 07	Name	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc
1	1	1	AGS 2000	21	19	27	23	23	15	15	20	17	17	11.0	10.0	10.6	10.7	10.6	9.9	10.0	11.4	12.4	10.9
2	3	2	Hondo	69	63	83	71	72	61	59	70	63	63	10.7	9.8	11.1	10.7	10.6	11.0	13.0	12.4	12.4	12.2
3	5	4	Jagger	63	56	77	63	65	55	53	66	57	58	11.1	10.2	10.9	10.8	10.8	10.5	11.4	11.5	13.5	11.7
4	6	5	Lakin	53	46	68	62	57	47	42	57	55	50	10.6	9.9	11.2	10.8	10.6	10.1	10.3	10.5	13.2	11.0
5	10	8	TAM 303	66	48	80	73	67	58	45	69	66	60	10.8	10.1	11.2	11.1	10.8	10.6	11.3	11.0	12.6	11.4
6	11	9	Tribute	26	32	38	30	32	19	28	29	24	25	11.0	10.5	11.1	10.8	10.9	10.4	10.3	10.2	11.6	10.6
7	12		KS03HW45	59	65	64	76	66	52	61	60	69	61	10.5	10.2	10.2	10.8	10.4	9.4	10.4	9.5	12.3	10.4
8	13		KS03HW72	47	51	53	52	51	40	50	51	46	47	10.3	9.7	9.9	10.5	10.1	11.2	12.2	12.5	13.9	12.5
9	14	21	KS03HW73	62	58	58	63	60	52	55	55	57	55	11.5	9.7	9.8	10.7	10.4	10.7	11.8	11.9	13.1	11.9
10	15	22	KS03HW82	37	36	46	38	39	32	34	45	34	36	10.3	9.6	9.7	10.3	10.0	10.1	10.2	11.0	12.0	10.8
11	16	Adv 07	TX99D4478	66	54	69	68	64	61	50	66	60	59	10.5	10.0	9.9	10.9	10.3	11.2	12.0	11.1	13.4	11.9
12	19		ARS03-1014	65	44	67	65	60	60	42	64	57	56	10.5	9.4	9.8	10.8	10.1	10.7	10.5	10.4	12.1	10.9
13	20	24	ARS03-3747	49	49	60	58	54	42	47	55	50	49	10.6	9.6	10.1	10.7	10.3	9.8	10.7	10.4	11.3	10.6
14	21		ARS03-3751	51	47	62	59	55	47	43	56	51	49	10.1	9.8	10.2	10.8	10.2	10.6	11.1	11.0	11.9	11.2
15	22	25	ARS03-3806	70	64	79	75	72	64	59	76	68	67	10.2	10.2	10.0	10.9	10.3	11.3	11.0	11.6	13.1	11.8
16	23	26	ARS03-4299	70	68	73	78	72	62	63	69	68	66	10.6	9.9	9.9	10.8	10.3	11.2	11.3	10.9	12.7	11.5
17	24	27	ARS03-4627	70	62	82	81	74	63	59	77	72	68	10.8	9.7	9.9	10.9	10.3	10.3	11.8	11.4	12.0	11.4
18	25		ARS03-4736	72	66	82	76	74	63	64	77	68	68	11.3	9.9	10.3	10.9	10.6	10.0	10.7	10.2	12.0	10.7
19	27		ARS03-5041	71	63	74	79	72	64	61	72	72	67	10.6	9.9	10.0	11.0	10.4	10.4	10.0	10.9	13.5	11.2
20	29		ARS03-5898	59	56	59	55	57	51	48	57	50	52	11.3	10.9	10.1	10.9	10.8	10.6	11.0	10.8	12.3	11.2
21	30		ARS03-6131	64	51	65	66	62	63	43	61	58	56	9.9	10.8	10.3	11.0	10.5	11.5	11.6	11.9	12.1	11.8
22	32		ARS04-1168	75	65	74	71	71	65	56	69	65	64	11.2	10.8	10.3	10.8	10.8	11.3	10.9	10.4	13.0	11.4
23	33		ARS04-1247	50	38	58	59	51	48	32	55	53	47	10.0	10.4	10.1	10.7	10.3	10.4	10.7	10.0	13.4	11.1
24	34	33	ARS04-1249	71	67	80	81	75	62	57	76	74	67	10.8	10.9	10.2	10.9	10.7	10.9	11.2	11.4	14.5	12.0
25	35	34	ARS04-1267	66	64	81	73	71	65	54	77	69	66	9.8	11.0	10.5	10.8	10.5	11.7	11.8	12.7	15.0	12.8
			Mean	59	53	66	64	61	52	49	61	57	55	10.6	10.1	10.3	10.8	10.5	10.6	11.1	11.1	12.8	11.4
			CV (%)					7					8					3.6					4.7
			LSD (0.05)					6					6					0.5					0.8

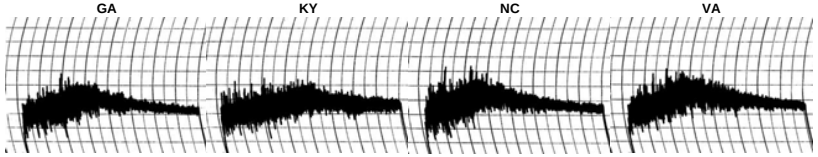
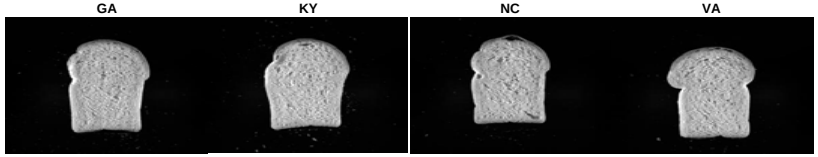
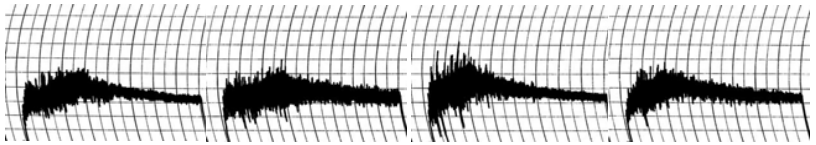
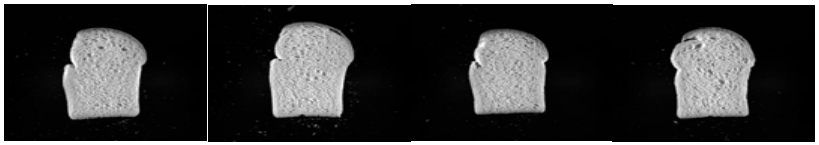
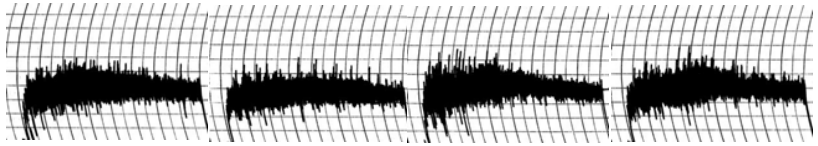
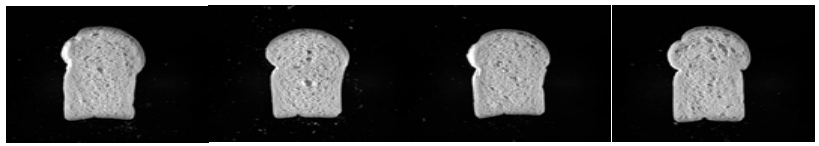
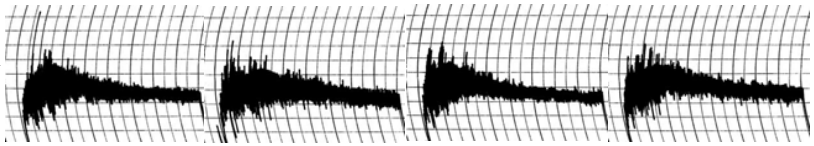
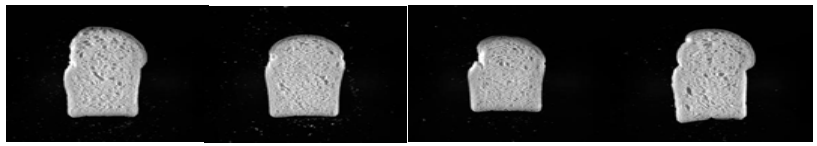
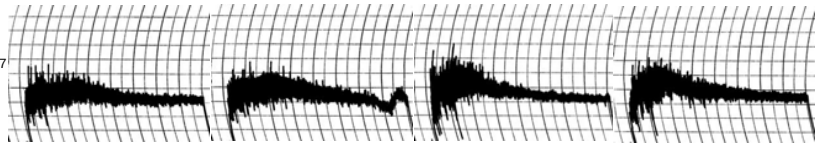
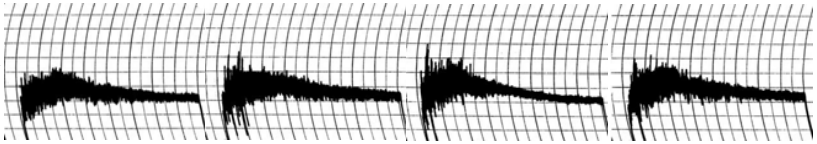
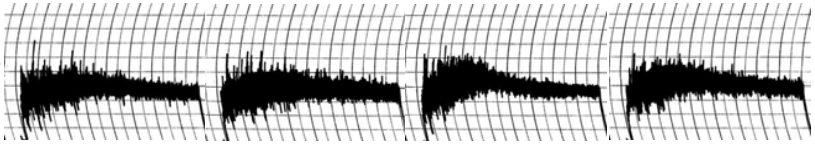
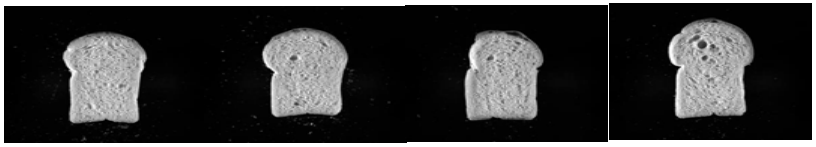
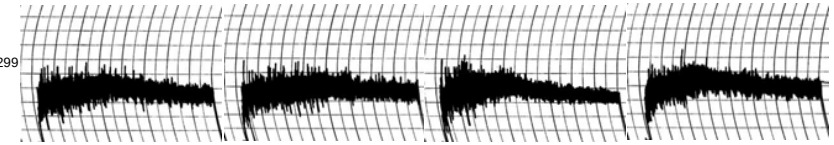
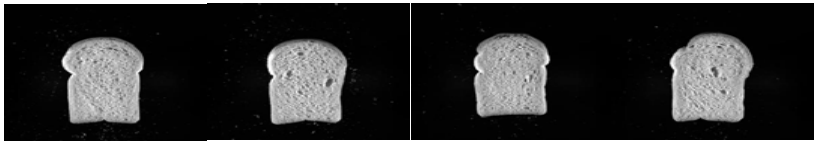
Entry	Name	Grain pro. at 14% mst (%)					Flour yield (%)					Flour moisture (%)				
		GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc
1	AGS 2000	9.55	9.6	11.0	11.9	10.5	77.0	75.3	76.4	73.6	75.6	13.3	13.3	13.6	13.5	13.4
2	Hondo	10.5	12.4	12.0	12.0	11.7	74.9	71.2	75.4	72.8	73.6	13.5	13.8	13.7	14.0	13.8
3	Jagger	10.1	10.9	11.1	13.0	11.3	73.5	72.6	76.5	73.4	74.0	14.2	14.0	13.8	14.2	14.1
4	Lakin	9.72	9.9	10.2	12.8	10.7	74.9	73.2	75.7	73.2	74.3	14.1	14.0	13.8	14.1	14.0
5	TAM 303	10.2	10.8	10.7	12.2	11.0	75.3	69.2	75.8	72.8	73.3	14.1	13.9	14.0	14.4	14.1
6	Tribute	10	9.9	9.9	11.1	10.2	75.8	70.5	76.1	72.3	73.7	13.5	13.8	13.2	13.7	13.6
7	KS03HW45	9.02	9.9	9.1	11.9	10.0	76.0	73.6	76.8	73.7	75.0	13.9	13.9	13.7	14.2	13.9
8	KS03HW72	10.7	11.6	11.9	13.4	11.9	75.4	71.4	74.0	71.9	73.2	13.9	13.9	13.7	14.1	13.9
9	KS03HW73	10.4	11.2	11.4	12.6	11.4	76.9	72.7	73.9	70.1	73.4	13.8	13.9	13.8	14.2	13.9
10	KS03HW82	9.7	9.7	10.4	11.5	10.3	74.6	71.3	74.9	74.4	73.8	13.9	14.0	13.9	13.7	13.9
11	TX99D4478	10.7	11.4	10.6	12.9	11.4	75.1	72.4	76.3	73.4	74.3	14.2	13.9	13.9	14.1	14.0
12	ARS03-1014	10.2	10.0	9.9	11.6	10.4	72.0	68.8	72.5	69.8	70.8	14.2	13.8	13.8	14.2	14.0
13	ARS03-3747	9.41	10.2	10.0	10.9	10.1	73.6	71.1	75.6	73.1	73.4	14.1	13.7	13.5	14.1	13.9
14	ARS03-3751	10.1	10.5	10.6	11.4	10.7	74.1	70.0	74.5	72.9	72.9	13.8	13.7	13.7	14.2	13.9
15	ARS03-3806	10.8	10.5	11.1	12.6	11.3	72.5	70.7	73.3	71.1	71.9	13.9	13.9	13.8	14.3	14.0
16	ARS03-4299	10.7	10.8	10.4	12.2	11.0	75.4	74.3	75.1	74.2	74.8	13.7	13.6	13.6	14.0	13.7
17	ARS03-4627	9.92	11.2	10.8	11.6	10.9	72.8	67.3	74.3	71.6	71.5	14.0	13.8	13.7	14.1	13.9
18	ARS03-4736	9.68	10.3	9.8	11.6	10.4	73.7	73.0	75.9	73.6	74.1	14.5	13.9	13.8	14.2	14.1
19	ARS03-5041	10	9.5	10.4	13.0	10.7	74.8	74.8	75.3	73.3	74.6	14.1	13.9	13.9	14.3	14.1
20	ARS03-5898	10.3	10.7	10.3	11.9	10.8	73.3	73.3	75.3	71.8	73.4	14.4	14.2	13.8	14.4	14.2
21	ARS03-6131	11	11.2	11.4	11.7	11.3	74.7	72.9	76.6	73.1	74.3	14.0	14.1	13.9	14.4	14.1
22	ARS04-1168	11	10.5	9.9	12.6	11.0	74.5	70.4	73.9	71.0	72.5	14.2	14.2	14.0	14.5	14.2
23	ARS04-1247	9.93	10.3	9.5	12.9	10.7	74.3	70.4	73.7	71.7	72.5	14.1	14.1	13.9	14.4	14.1
24	ARS04-1249	10.5	10.8	11.0	13.9	11.6	74.7	72.2	74.8	72.2	73.5	14.0	14.0	13.9	14.3	14.1
25	ARS04-1267	11.1	11.4	12.2	14.4	12.3	73.0	72.3	74.7	71.2	72.8	14.1	14.3	14.1	14.5	14.3
	Mean	10.2	10.6	10.6	12.3	10.9	74.5	71.8	75.1	72.5	73.5	14.0	13.9	13.8	14.2	14.0
	CV (%)					4.7					1.4					1.0
	LSD (0.05)					0.7					1.4					0.2

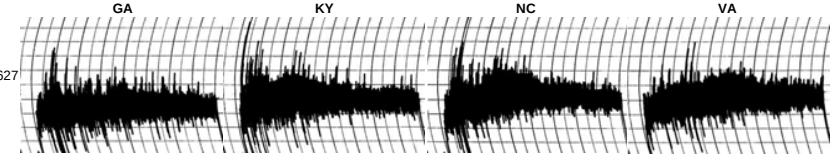
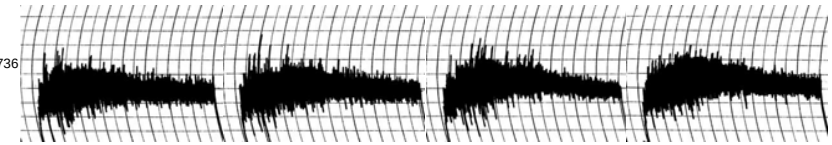
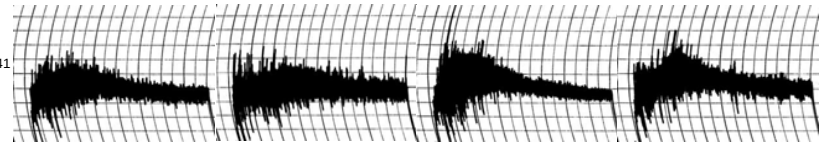
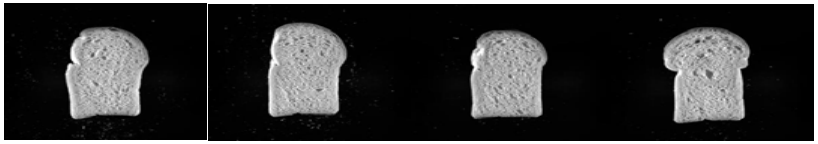
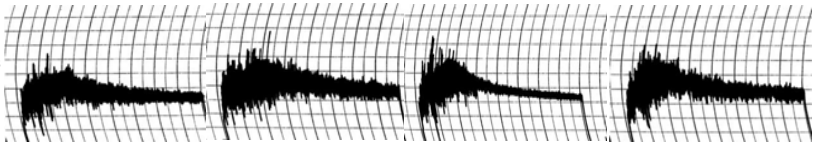
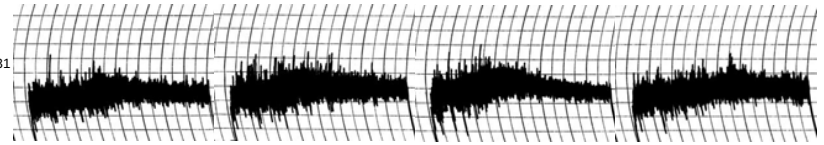
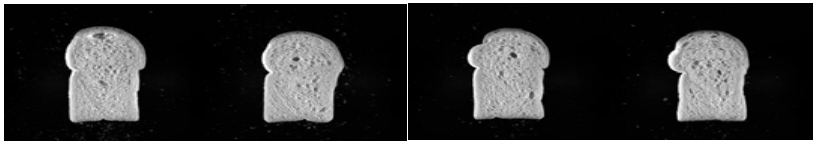
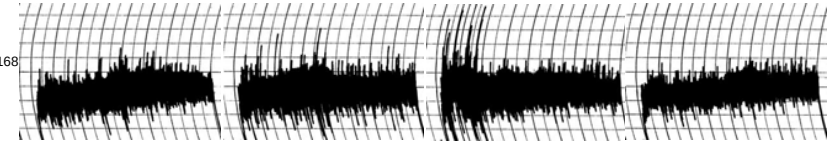
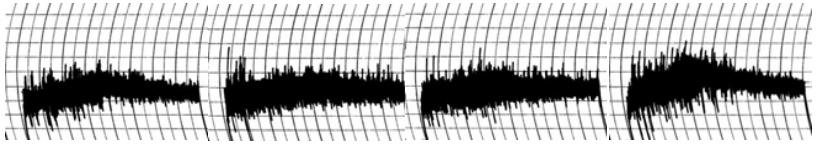
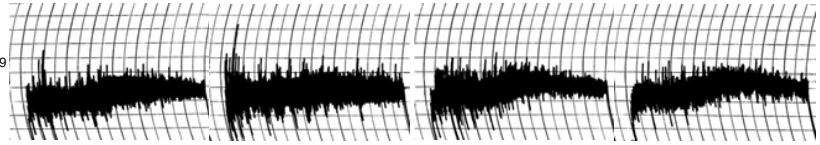
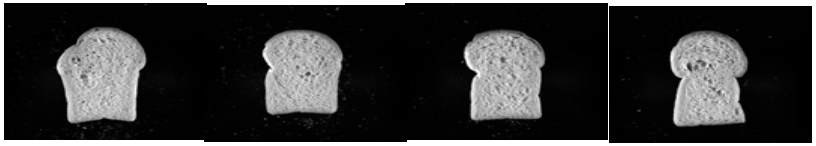
Entry	Name	Flour ash (%)					Flour ash at 14% mst (%)					Flour protein (%)					Flour pro at 14% mst (%)				
		GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc
1	AGS 2000	0.51	0.56	0.51	0.45	0.51	0.50	0.56	0.51	0.45	0.51	8.5	8.8	9.8	10.5	9.4	8.5	8.7	8.7	10.5	9.4
2	Hondo	0.66	0.64	0.62	0.55	0.62	0.66	0.64	0.61	0.55	0.62	9.4	11.1	10.8	10.7	10.5	9.3	11.0	11.0	10.7	10.5
3	Jagger	0.48	0.58	0.57	0.47	0.53	0.48	0.58	0.56	0.47	0.52	9.1	9.9	10.3	11.9	10.3	9.1	9.9	9.9	11.9	10.3
4	Lakin	0.49	0.51	0.51	0.42	0.48	0.49	0.51	0.51	0.42	0.48	8.6	8.9	9.4	11.6	9.6	8.6	8.8	8.8	11.7	9.6
5	TAM 303	0.44	0.52	0.50	0.40	0.47	0.44	0.52	0.50	0.40	0.47	9.3	9.6	9.6	11.1	9.9	9.3	9.6	9.6	11.1	9.9
6	Tribute	0.57	0.51	0.54	0.43	0.51	0.56	0.51	0.54	0.43	0.51	9.0	8.4	9.1	9.7	9.1	8.9	8.4	8.4	9.6	9.0
7	KS03HW45	0.51	0.57	0.50	0.42	0.50	0.51	0.57	0.50	0.42	0.50	8.2	8.9	8.2	10.5	9.0	8.1	8.9	8.9	10.5	8.9
8	KS03HW72	0.55	0.56	0.48	0.41	0.50	0.55	0.55	0.48	0.41	0.50	9.7	10.6	11.0	12.0	10.8	9.7	10.6	10.6	12.0	10.8
9	KS03HW73	0.59	0.58	0.51	0.47	0.54	0.59	0.58	0.51	0.47	0.54	9.5	10.0	10.2	11.6	10.3	9.5	10.0	10.0	11.6	10.3
10	KS03HW82	0.52	0.55	0.47	0.44	0.50	0.52	0.55	0.47	0.44	0.50	8.8	8.8	9.3	10.4	9.3	8.8	8.8	8.8	10.4	9.3
11	TX99D4478	0.51	0.54	0.47	0.46	0.50	0.51	0.54	0.47	0.46	0.50	9.6	10.1	9.6	11.7	10.3	9.6	10.1	10.1	11.8	10.3
12	ARS03-1014	0.57	0.63	0.55	0.48	0.56	0.57	0.63	0.55	0.48	0.56	9.2	9.1	9.1	10.7	9.5	9.2	9.1	9.1	10.7	9.5
13	ARS03-3747	0.52	0.64	0.59	0.47	0.56	0.52	0.64	0.59	0.47	0.56	8.4	9.2	9.3	10.1	9.3	8.4	9.1	9.1	10.1	9.2
14	ARS03-3751	0.49	0.60	0.56	0.49	0.54	0.49	0.60	0.56	0.49	0.54	8.9	9.5	9.6	10.2	9.6	8.9	9.5	9.5	10.2	9.6
15	ARS03-3806	0.52	0.59	0.55	0.49	0.54	0.52	0.58	0.55	0.49	0.54	9.7	9.6	10.0	11.6	10.2	9.7	9.5	9.5	11.6	10.2
16	ARS03-4299	0.55	0.65	0.56	0.52	0.57	0.55	0.65	0.55	0.52	0.57	9.7	10.1	9.5	11.3	10.2	9.6	10.0	10.0	11.3	10.1
17	ARS03-4627	0.59	0.67	0.57	0.53	0.59	0.59	0.67	0.57	0.53	0.59	8.8	10.2	9.9	10.8	9.9	8.8	10.2	10.2	10.8	9.9
18	ARS03-4736	0.54	0.57	0.53	0.47	0.53	0.54	0.57	0.52	0.47	0.53	8.5	9.4	8.9	10.7	9.4	8.6	9.4	9.4	10.7	9.4
19	ARS03-5041	0.50	0.56	0.45	0.42	0.48	0.50	0.56	0.45	0.42	0.48	8.9	8.9	9.0	11.9	9.7	8.9	8.9	8.9	11.9	9.7
20	ARS03-5898	0.44	0.51	0.48	0.41	0.46	0.44	0.51	0.48	0.41	0.46	9.1	9.4	9.4	10.6	9.6	9.2	9.4	9.4	10.7	9.7
21	ARS03-6131	0.51	0.54	0.53	0.45	0.51	0.51	0.54	0.53	0.45	0.51	10.1	10.1	10.4	10.8	10.4	10.1	10.1	10.1	10.9	10.4
22	ARS04-1168	0.52	0.57	0.48	0.44	0.50	0.52	0.58	0.48	0.44	0.51	9.9	9.3	9.0	11.3	9.9	9.9	9.3	9.3	11.4	9.9
23	ARS04-1247	0.45	0.57	0.46	0.40	0.47	0.45	0.57	0.46	0.40	0.47	8.8	9.4	8.6	11.7	9.6	8.8	9.4	9.4	11.7	9.6
24	ARS04-1249	0.51	0.61	0.52	0.48	0.53	0.51	0.61	0.52	0.48	0.53	9.5	9.7	9.9	12.5	10.4	9.5	9.7	9.7	12.6	10.4
25	ARS04-1267	0.48	0.54	0.49	0.44	0.49	0.49	0.54	0.49	0.44	0.49	10.1	10.2	11.0	13.0	11.1	10.1	10.3	10.3	13.0	11.1
	Mean	0.52	0.57	0.52	0.46	0.52	0.52	0.57	0.52	0.46	0.52	9.2	9.6	9.6	11.1	9.9	9.2	9.5	9.5	11.2	9.9
	CV (%)					5.03					4.99					4.7					4.7
	LSD (0.05)					0.04					0.04					0.7					0.7

KS				Mixograph																	
Lab				Water absorption (%)					Mix time (min)					Corrected mix time (min)					Mixing tolerance				
Entry	UBWT 06	UBWT 07	Name	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc
1	1	1	AGS 2000	55.5	57.4	58.2	59.4	57.6	3.13	3.88	2.75	3.00	3.19	1.80	2.34	2.02	2.45	2.15	0	1	0	1	1
2	3	2	Hondo	58.8	61.3	60.9	60.7	60.4	3.75	5.00	3.00	5.25	4.25	2.54	4.41	2.55	4.42	3.48	4	5	4	5	5
3	5	4	Jagger	58.0	60.5	61.0	62.9	60.6	3.50	3.75	2.75	3.50	3.38	2.27	2.82	2.17	3.48	2.69	3	4	3	5	4
4	6	5	Lakin	58.3	58.7	59.5	62.4	59.7	3.00	3.88	2.63	3.00	3.13	1.79	2.41	1.80	2.88	2.22	2	4	3	3	3
5	10	8	TAM 303	59.4	59.0	58.9	61.4	59.7	3.00	3.38	2.50	3.38	3.07	2.02	2.41	1.78	3.01	2.31	2	4	3	4	3
6	11	9	Tribute	57.3	57.9	57.9	59.0	58.0	3.38	2.63	1.50	2.75	2.57	2.14	1.50	0.96	1.96	1.64	1	4	0	2	2
7	12		KS03HW45	57.1	57.7	57.5	60.5	58.2	4.13	4.38	3.00	3.63	3.79	2.22	2.73	1.61	2.99	2.39	1	4	4	3	3
8	13		KS03HW72	58.6	60.6	61.1	63.0	60.8	2.88	3.13	2.38	2.88	2.82	2.08	2.60	2.07	2.88	2.41	0	1	0	0	0
9	14	21	KS03HW73	58.2	59.6	59.9	62.2	60.0	2.63	3.75	2.50	2.63	2.88	1.83	2.86	1.94	2.49	2.28	0	2	1	0	1
10	15	22	KS03HW82	56.0	57.5	58.3	60.3	58.0	2.88	2.88	2.00	2.00	2.44	1.76	1.76	1.34	1.61	1.62	0	2	0	0	1
11	16	Adv 07	TX99D4478	59.0	59.7	59.0	62.5	60.1	2.75	3.88	3.38	3.50	3.38	1.97	2.97	2.42	3.40	2.69	3	3	3	3	3
12	19		ARS03-1014	58.3	58.1	58.0	60.7	58.8	1.50	2.13	1.50	1.75	1.72	1.00	1.39	0.97	1.47	1.21	1	2	1	1	1
13	20	24	ARS03-3747	56.9	58.1	58.3	59.8	58.3	2.25	2.13	1.50	1.38	1.82	1.27	1.40	1.00	1.06	1.18	0	0	0	0	0
14	21		ARS03-3751	57.7	58.7	58.8	60.0	58.8	1.75	1.63	1.63	1.88	1.72	1.10	1.13	1.15	1.47	1.21	0	1	0	0	0
15	22	25	ARS03-3806	59.1	58.8	59.6	62.3	60.0	2.50	2.75	2.38	2.63	2.57	1.82	1.94	1.81	2.50	2.02	2	4	1	1	2
16	23	26	ARS03-4299	59.0	59.6	58.6	61.8	59.8	3.38	3.63	2.88	2.50	3.10	2.42	2.76	1.99	2.30	2.37	2	2	1	1	2
17	24	27	ARS03-4627	57.6	61.9	61.3	61.0	60.5	4.00	2.63	3.38	4.00	3.50	2.46	2.06	2.50	3.43	2.61	3	3	4	5	4
18	25		ARS03-4736	57.2	59.6	57.7	60.7	58.8	2.50	3.25	2.38	2.75	2.72	1.47	2.24	1.49	2.31	1.88	3	3	3	3	3
19	27		ARS03-5041	58.2	58.7	58.0	62.8	59.4	2.13	2.75	1.75	2.38	2.25	1.33	1.72	1.12	2.35	1.63	2	3	1	2	2
20	29		ARS03-5898	59.2	58.7	59.1	60.7	59.4	2.25	2.13	1.63	1.50	1.88	1.49	1.48	1.13	1.26	1.34	1	2	0	1	1
21	30		ARS03-6131	60.7	59.7	60.8	61.0	60.6	3.38	3.75	2.63	4.63	3.60	2.59	2.88	2.12	3.99	2.90	2	4	2	4	3
22	32		ARS04-1168	59.9	60.4	59.5	61.9	60.4	5.38	4.00	5.00	5.25	4.91	4.02	2.69	3.22	4.86	3.70	5	5	5	5	5
23	33		ARS04-1247	58.6	58.6	57.6	62.5	59.3	3.63	4.00	3.88	3.00	3.63	2.24	2.74	2.27	2.90	2.54	2	4	4	2	3
24	34	33	ARS04-1249	59.7	60.1	59.9	63.9	60.9	4.00	4.50	3.88	4.50	4.22	2.79	3.27	2.90	4.50	3.37	2	5	3	2	3
25	35	34	ARS04-1267	60.2	60.0	61.8	64.7	61.7	3.25	3.75	3.25	3.38	3.41	2.50	2.97	2.88	3.38	2.93	2	4	2	2	3
			Mean	58.3	59.2	59.2	61.5	59.6	3.08	3.34	2.64	3.08	3.04	2.04	2.38	1.89	2.77	2.27	2	3	2	2	2
			CV (%)					1.4					14.58					16.51					33
			LSD (0.05)					1.2					0.6					0.5					1

KS Lab Entry	UBWT 06	UBWT 07	Name	Bake: Water absorption (%)					Mix time (min)					Corrected mix time (min)					Dough weight (g)					Proof height (cm)					Loaf weight (g)					Crumb score					Crumb color					Loaf volume (cc)					Specific volume (cc/g)					Loaf volume regression				
				GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc	GA	KY	NC	VA	4-loc
1	1	1	AGS 2000	55.9	54.9	57.2	57.1	56.3	3.50	3.50	2.50	2.50	3.00	2.02	2.11	1.84	2.04	2.00	166.6	164.3	166.9	166.3	166.0	6.9	7.2	7.0	6.8	7.0	149.5	145.1	149.0	147.6	147.8	2.0	3.5	1.0	2.5	2.3	yellow	yellow	yellow	slight yellow	yellow	725	745	730	755	739	4.8	5.1	4.9	5.1	5.0	73.1	74.0	61.9	60.1	67.3
2	3	2	Hondo	58.6	61.4	61.4	61.7	60.8	7.25	6.63	4.63	7.75	6.57	4.92	5.85	3.94	6.53	5.31	167.6	170.2	170.7	170.0	169.6	7.6	7.3	7.0	6.8	7.2	146.3	148.7	150.0	148.2	148.3	3.0	2.5	2.0	2.0	2.4	yellow	yellow	slight yellow	slight yellow	yellow	785	725	745	760	754	5.4	4.9	5.0	5.1	5.1	74.1	52.7	56.9	59.2	60.7
3	5	4	Jagger	58.4	60.7	61.4	62.9	60.9	4.00	4.75	4.00	4.00	4.19	2.59	3.57	3.15	3.98	3.32	168.3	169.7	170.8	172.2	170.3	7.1	7.6	7.3	7.2	7.3	148.3	148.4	148.8	150.4	149.0	4.0	2.5	2.0	3.5	3.0	slight yellow	yellow	slight yellow	slight yellow	slight yellow	800	775	790	880	811	5.4	5.2	5.3	5.9	5.5	79.1	67.2	66.7	64.8	69.5
4	6	5	Lakin	56.8	58.6	60.5	61.9	59.5	3.75	5.00	4.75	3.25	4.19	2.23	3.11	3.25	3.12	2.93	171.3	168.0	169.3	171.2	170.0	7.2	7.3	7.2	7.0	7.2	151.4	146.5	149.4	148.5	149.0	4.0	2.8	2.5	4.0	3.3	slight yellow	yellow	slight yellow	creamy	slight yellow	805	745	750	860	790	5.3	5.1	5.0	5.8	5.3	84.9	72.6	68.4	64.6	72.6
5	10	8	TAM 303	56.8	61.6	59.7	62.1	60.1	3.50	4.25	3.50	4.13	3.85	2.35	3.04	2.49	3.68	2.89	166.3	170.7	169.1	171.5	169.4	7.1	7.2	7.0	7.0	7.1	146.4	149.7	148.3	150.0	148.6	3.2	2.5	2.5	3.2	2.9	slight yellow	yellow	yellow	slight yellow	yellow	795	765	745	805	778	5.4	5.1	5.0	5.4	5.2	76.2	68.4	65.5	62.0	68.0
6	11	9	Tribute	57.1	57.5	56.8	57.4	57.2	5.25	6.25	4.25	4.38	5.03	3.32	3.55	2.71	3.13	3.18	166.3	166.6	166.1	166.7	166.4	7.2	7.0	7.3	6.9	7.1	145.5	148.5	147.5	145.2	146.7	2.0	1.0	1.8	1.8	1.7	yellow	yellow	yellow	slight yellow	yellow	730	640	675	725	693	5.0	4.3	4.6	5.0	4.7	69.2	59.0	60.1	62.5	62.7
7	12		KS03HW45	56.5	57.5	59.3	60.9	58.6	4.25	5.50	3.38	3.50	4.16	2.28	3.43	1.81	2.88	2.60	165.8	166.8	168.5	170.2	167.8	7.0	7.0	6.7	7.1	7.0	144.3	147.4	148.7	148.3	147.2	3.0	2.8	1.8	3.2	2.7	yellow	slight yellow	slight yellow	slight yellow	slight yellow	760	675	650	810	724	5.3	4.6	4.4	5.5	5.0	83.1	61.0	63.3	66.9	68.6
8	13		KS03HW72	53.6	58.5	56.3	57.8	56.6	2.50	4.50	2.13	2.00	2.78	1.81	3.73	1.85	2.00	2.35	163.5	167.6	166.0	167.3	166.1	6.8	7.4	7.0	7.2	7.1	143.8	146.4	145.3	146.2	145.4	2.8	3.5	1.8	3.2	2.8	yellow	creamy	slight yellow	creamy	slight yellow	780	840	750	900	818	5.4	5.7	5.2	6.2	5.6	69.9	70.4	56.4	66.4	65.8
9	14	21	KS03HW73	54.5	58.6	57.5	57.9	57.1	3.00	3.75	2.50	2.50	2.94	2.09	2.86	1.94	2.37	2.32	164.0	168.0	167.1	167.2	166.6	7.1	7.6	6.8	7.2	7.2	143.2	147.0	146.5	146.2	145.7	2.0	3.0	1.5	3.5	2.5	yellow	slight yellow	slight yellow	creamy	slight yellow	810	790	750	820	793	5.7	5.4	5.1	5.6	5.5	76.4	68.4	61.9	60.5	66.8
10	15	22	KS03HW82	54.6	57.7	57.5	56.3	56.5	2.75	3.38	2.13	2.13	2.60	1.68	2.07	1.43	1.72	1.73	164.2	167.2	166.9	165.9	166.1	6.8	7.2	6.6	6.8	6.9	143.9	146.5	147.3	144.0	145.4	2.0	4.0	1.5	1.8	2.3	yellow	slight yellow	slight yellow	slight yellow	slight yellow	750	800	725	810	771	5.2	5.5	4.9	5.6	5.3	74.2	82.4	65.6	68.1	72.6
11	16	Adv 07	TX99D4478	58.9	58.6	59.5	62.8	60.0	4.00	5.00	3.50	3.63	4.03	2.87	3.83	2.50	3.52	3.18	168.1	167.7	169.1	170.2	168.8	7.1	7.3	6.8	7.2	7.1	146.1	145.7	148.6	148.6	147.3	4.0	2.5	3.5	3.5	3.4	slight yellow	yellow	slight yellow	slight yellow	slight yellow	840	755	740	860	799	5.7	5.2	5.0	5.8	5.4	79.1	63.3	64.7	63.9	67.8
12	19		ARS03-1014	55.9	56.4	56.4	58.9	56.9	2.50	3.00	2.50	2.00	2.50	1.67	1.96	1.62	1.68	1.73	166.0	165.9	166.1	168.2	166.6	6.9	7.1	6.6	7.0	6.9	146.4	146.0	147.6	148.9	147.2	1.0	1.0	0.5	2.0	1.1	yellow	yellow	slight yellow	slight yellow	yellow	750	665	615	775	701	5.1	4.6	4.2	5.2	4.8	69.6	57.4	49.8	61.3	59.5
13	20	24	ARS03-3747	55.8	56.3	58.1	57.8	57.0	2.00	2.88	2.00	1.75	2.16	1.13	1.89	1.33	1.35	1.43	165.1	165.6	167.5	167.4	166.4	6.4	7.1	6.6	6.8	6.7	147.1	146.5	148.6	147.1	147.3	1.0	0.5	0.5	1.0	0.8	yellow	yellow	slight yellow	yellow	yellow	695	670	620	750	684	4.7	4.6	4.2	5.1	4.7	69.0	58.0	49.6	62.3	59.7
14	21		ARS03-3751	55.5	57.4	58.3	58.9	57.5	2.25	2.38	2.13	1.75	2.13	1.41	1.65	1.50	1.37	1.48	165.1	167.0	166.6	167.5	166.6	6.5	6.9	6.6	6.8	6.7	145.5	148.9	148.1	148.0	147.6	1.0	0.5	0.5	1.0	0.8	yellow	yellow	slight yellow	yellow	yellow	680	675	635	750	685	4.7	4.5	4.3	5.1	4.7	61.6	56.3	49.7	61.5	57.3
15	22	25	ARS03-3806	56.6	60.1	59.5	62.1	59.6	3.25	3.25	2.63	2.88	3.00	2.36	2.29	2.00	2.74	2.35	165.9	169.4	168.2	171.4	168.7	7.0	7.1	7.0	7.2	7.1	144.7	150.0	147.6	148.9	147.8	2.5	3.0	2.0	2.5	2.5	yellow	slight yellow	slight yellow	slight yellow	slight yellow	790	730	745	850	779	5.5	4.9	5.0	5.7	5.3	71.1	63.9	62.3	63.9	65.3
16	23	26	ARS03-4299	56.4	60.2	60.2	58.7	58.9	3.50	4.00	3.13	2.88	3.38	2.50	3.04	2.16	2.65	2.59	165.8	169.6	168.6	168.2	168.1	6.7	7.3	6.8	6.8	6.9	145.5	150.2	149.8	147.8	148.3	3.0	2.0	2.5	2.5	2.5	yellow	yellow	slight yellow	slight yellow	yellow	760	705	675	785	731	5.2	4.7	4.5	5.3	4.9	67.5	56.7	56.6	58.0	59.7
17	24	27	ARS03-4627	58.7	63.5	61.3	63.8	61.8	7.25	4.50	5.50	5.13	5.60	4.46	3.52	4.08	4.40	4.12	167.7	172.5	170.1	172.9	170.8	7.1	7.4	7.2	7.2	7.2	145.8	152.1	149.2	152.2	149.8	1.8	0.5	1.0	0.5	1.0	yellow	yellow	yellow	yellow	yellow	735	725	725	780	741	5.0	4.8	4.9	5.1	5.0	71.5	58.2	60.7	60.9	62.8
18	25		ARS03-4736	61.2	61.6	60.4	62.9	61.5	3.50	4.13	3.75	3.88	3.82	2.06	2.85	2.34	3.26	2.63	170.5	170.9	169.6	171.5	170.6	7.1	7.6	6.9	7.1	7.2	147.1	150.2	149.2	149.8	149.1	3.0	3.0	1.5	3.0	2.6	yellow	yellow	yellow	yellow	yellow	845	810	775	845	819	5.7	5.4	5.2	5.6	5.5	92.4	77.0	77.1	70.3	79.2
19	27		ARS03-5041	58.3	60.6	59.6	63.1	60.4	3.25	3.75	2.50	2.75	3.06	2.03	2.35	1.61	2.72	2.18	167.7	170.0	169.6	172.0	169.8	7.0	7.1	7.1	7.2	7.1	147.5	152.0	149.3	150.3	149.8	2.0	3.5	1.0	2.5	2.3	yellow	slight yellow	yellow	slight yellow	yellow	775	775	725	825	775	5.3	5.1	4.9	5.5	5.2	77.1	77.0	67.7	59.0	70.2
20	29		ARS03-5898	55.7	59.9	58.5	60.2	58.6	2.13	2.38	2.75	1.75	2.25	1.41	1.65	1.90	1.47	1.61	166.6	169.9	167.9	169.8	168.6	6.7	7.3	6.5	6.8	6.8	147.7	150.2	150.9	150.1	149.7	1.5	2.5	0.5	2.0	1.6	yellow	slight yellow	yellow	slight yellow	yellow	730	770	670	765	734	4.9	5.1	4.4	5.1	4.9	67.0	70.7	55.8	60.1	63.4
21	30		ARS03-6131	57.7	60.8	59.5	63.2	60.3	5.00	4.88	3.75	5.75	4.85	3.83	3.75	3.03	4.96	3.89	166.0	168.6	168.7	172.0	168.8	7.1	7.3	7.2	7.2	7.2	148.2	150.2	149.5	151.3	149.8	4.0	4.5	3.5	3.2	3.8	slight yellow	yellow	yellow	slight yellow	yellow	835	790	785	800	803	5.6	5.3	5.3	5.3	5.4	74.4	68.0	64.7	63.2	67.6
22	32		ARS04-1168	59.9	61.0	61.7	63.3	61.5	6.50	9.00	7.13	6.50	7.28	4.86	6.06	4.59	6.01	5.38	167.5	167.6	170.5	172.0	169.4	7.0	7.3	6.7	6.8	7.0	148.6	147.7	151.9	151.3	149.9	4.0	1.5	2.0	2.5	2.5	slight yellow	slight yellow	slight yellow	creamy	slight yellow	820	805	660	780	766	5.5	5.5	4.3	5.2	5.1	73.8	77.7	57.2	57.1	66.5
23	33		ARS04-1247	57.8	58.8	59.5	64.2	60.1	3.25	5.63	4.50	3.75	4.28	2.00	3.86	2.63	3.62	3.03	166.8	167.3	169.1	173.2	169.1	6.7	7.4	6.8	7.3	7.1	147.6	146.3	148.2	149.9	148.0	4.0	2.0	2.0	3.0	2.8	slight yellow	slight yellow	slight yellow	creamy	slight yellow	835	805	710	900	813	5.7	5.5	4.8	6.0	5.5	87.8	76.6	69.8	68.7	75.7
24	34	33	ARS04-1249	58.7	60.7	61.6	64.1	61.3	6.00	5.88	3.13	4.50	4.88	4.19	4.27	2.34	4.50	3.83	169.0	169.3	170.5	172.9	170.4	7.1	7.1	7.1	7.4	7.2	148.2	149.2	150.4	149.3	149.3	3.0	2.5	2.5	2.5	2.6	slight yellow	slight yellow	slight yellow	yellow	slight yellow	845	720	765	915	811	5.7	4.8	5.1	6.1	5.4	81.6	61.0	65.9	64.1	68.2
25	35	34	ARS04-1267	58.8	59.0	60.9	63.3	60.5	3.50	3.88	5.25	3.13	3.94	2.69	3.07	4.65	3.13	3.39	168.5	168.3	170.7	172.7	170.1	7.0	7.4	7.0	7.1	7.1	149.2	148.1	150.3	150.3	149.5	3.5	3.0	4.0	3.0	3.4	slight yellow	slight yellow	yellow	creamy	slight yellow	815	750	745	875	796	5.5	5.1	5.0	5.8	5.4	71.4	61.0	55.0	57.2	61.2
			Mean	57.1	59.3	59.3	60.9	59.2	3.91	4.48	3.52	3.53	3.86	2.59	3.17	2.51	3.15	2.86	166.8	168.3	168.6	170.0	168.4	7.0	7.3	6.9	7.0	7.0	146.7	148.3	148.8	148.7	148.1	2.7	2.4	1.8	2.5	2.4						780	746	716	815	764	5.3	5.0	4.8	5.5	5.2	75.0	66.4	61.3	62.7	66.3
			CV (%)					1.8					17.51					17.44					0.7				2.5					1.0				26.4					4					4.3					6.8				
			LSD (0.05)					1.5					0.95					0.70					1.7				0.2					2.0				0.9					45					0.3					6.3				

Entry	UBWT 06	UBWT 07	Name	Mixos GA	Mixos KY	Mixos NC	Mixos VA	Ccell GA	Ccell KY	Ccell NC	Ccell VA
1	1	1	AGS 2000								
2	3	2	Hondo								
3	5	4	Jagger								
4	6	5	Lakin								
5	10	8	TAM 303								
6	11	9	Tribute								
7	12		KS03HW45								
8	13		KS03HW72								

Entry	UBWT 06	UBWT 07	Name	Mixos GA	Mixos KY	Mixos NC	Mixos VA	Ccell GA	Ccell KY	Ccell NC	Ccell VA
9	14	21	KS03HW73								
10	15	22	KS03HW82								
11	16	Adv 07	TX99D4478								
12	19		ARS03-1014								
13	20	24	ARS03-3747								
14	21		ARS03-3751								
15	22	25	ARS03-3806								
16	23	26	ARS03-4299								

Entry	UBWT 06	UBWT 07	Name	Mixos GA	Mixos KY	Mixos NC	Mixos VA	Ccell GA	Ccell KY	Ccell NC	Ccell VA
17	24	27	ARS03-4627								
18	25		ARS03-4736								
19	27		ARS03-5041								
20	29		ARS03-5898								
21	30		ARS03-6131								
22	32		ARS04-1168								
23	33		ARS04-1247								
24	34	33	ARS04-1249								

Entry	UBWT 06	UBWT 07	Name	Mixos GA	Mixos KY	Mixos NC	Mixos VA	Ccell GA	Ccell KY	Ccell NC	Ccell VA
25	35	34	ARS04-1267