

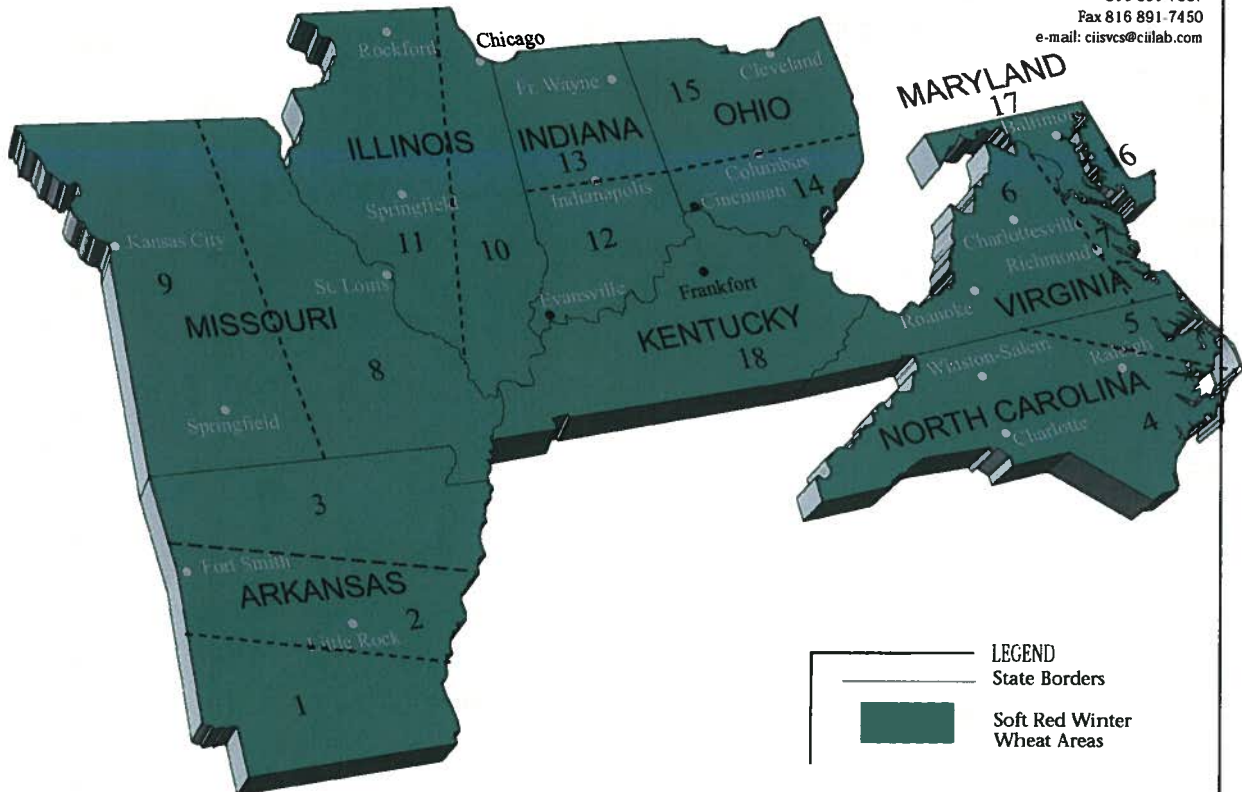
**2010 Soft Red Winter Wheat
Quality Survey**

**Final
9/7/2010**

Survey Overview

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Soft Red Winter Wheat

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CII Laboratory Services, Kansas City, Missouri, collected the soft red winter (SRW) samples and performed the quality evaluation except grade and single kernel analysis. Kansas Grain Inspection Service graded the samples. Kansas State University's International Grains Program performed single kernel analysis. U.S. Wheat Associates summarized the data.

The 18 areas shown above are used for reporting the results from approximately 350 SRW samples. Roughly half the samples in each area were collected early in harvest and half late, and samples for each time period were evaluated separately. The tests done on individual wheat samples include: test weight, moisture, protein, thousand kernel weight, ash, and falling number. An early and late composite was made for each area for the remaining analyses. The tables on the following pages summarize these individual sample and composite results in different ways.

This survey was funded by U.S. Wheat Associates and USDA's Foreign Agricultural Service.

SRW area map is reproduced with permission of CII Laboratory Services.

Soft Red Winter 2010 Survey - All Samples

	Composite Average			East Coast*			Gulf Ports*		
	2010	2009	5-Year	2010	2009	5-Year	2010	2009	5-Year
Wheat Grade Data									
Test Weight (lb/bu)	57.9	57.6	59.4	59.7	59.2	59.8	57.5	57.3	59.3
Test Weight (kg/hl)	76.2	75.8	78.1	78.5	77.8	78.7	75.7	75.4	78.0
Damage - Total (%)	1.7	2.4	0.9	1.5	1.8	1.1	1.7	2.5	0.9
Foreign Material (%)	0.4	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.0
Shrunken and Broken (%)	0.6	0.7	0.6	0.6	0.6	0.5	0.6	0.8	0.7
Total Defects (%)	2.6	3.1	1.6	2.2	2.4	1.7	2.7	3.2	1.6
Grade	3	3	2	2	2	2	3	3	2
Wheat Non-Grade Data									
Dockage (%)	0.9	0.8	0.9	1.2	1.1	0.8	0.8	0.8	0.9
Moisture (%)	12.9	12.8	13.0	12.8	13.1	13.0	13.0	12.8	13.0
Protein (%) 12%/0% mb	10.3/11.7	10.0/11.4	9.9/11.3	11.0/12.5	10.9/12.4	10.0/11.4	10.1/11.5	9.8/11.1	9.9/11.3
Wheat Ash (%) 14%/0% mb	1.55/1.81	1.56/1.81	1.53/1.78	1.53/1.77	1.55/1.80	1.47/1.70	1.56/1.81	1.57/1.83	1.55/1.80
1000 Kernel Weight (g)	31.8	30.8	33.4	32.1	32.9	34.9	31.7	30.4	33.0
Wheat Falling Number (sec)	333	325	334	334	322	327	333	325	337
Kernel Size (%) lg/med/sm	80/19/01	80/19/01	83/16/01	77/22/01	83/16/01	86/13/01	81/18/01	80/19/01	83/16/01
Single Kernel Hardness	20.6	20.1	18.8	24.7	25.9	19.4	19.6	18.9	18.8
Single Kernel Weight (mg)	30.6	30.6	30.6	30.9	32.2	34.1	30.5	30.2	29.8
Single Kernel Diameter (mm)	2.2	2.26	2.16	2.2	2.35	2.36	2.2	2.25	2.11
Sedimentation (cc)	11.9	12.3	13.1	16.2	16.7	14.5	11.0	11.4	12.8
DON (ppm)	2.0	1.8	0.8	0.4	1.5	0.7	2.4	1.9	0.9
Flour Data									
Lab Mill Extraction (%)	70.0	67.2	69.0	68.2	66.9	68.6	70.3	67.3	69.1
Flour Color - *L	93.1	93.3	93.4	93.0	93.2	93.5	93.1	93.3	93.4
Flour Color - *a	-3.2	-3.1	-3.0	-3.1	-3.0	-3.1	-3.2	-3.1	-3.0
Flour Color - *b	8.1	8.3	8.3	8.1	7.9	8.1	8.1	8.4	8.3
Flour Protein (%) 14%/0% mb	8.6/10.0	8.2/9.5	8.3/9.6	9.3/10.8	8.8/10.2	8.4/9.7	8.5/9.9	8.0/9.3	8.2/9.6
Flour Ash (%) 14%/0% mb	0.43/0.51	0.45/0.52	0.43/0.50	0.43/0.50	0.44/0.51	0.43/0.50	0.44/0.51	0.45/0.52	0.43/0.50
Wet Gluten (%)	23.3	21.4	21.8	25.3	22.9	20.5	22.8	21.1	22.2
Gluten Index	85.1	69.4	79.1	89.0	74.7	84.8	84.2	68.3	77.7
Falling Number (sec)	354	325	334	356	322	327	353	325	337
Amylograph (65g) (BU)	717	553	598	673	477	512	727	568	619
Starch Damage (%)	4.4	4.4	4.3	4.7	4.4	4.3	4.3	4.4	4.3
Solvent Retention Capacity									
Water/50% Sucrose	56/107	59/115	55/108	56/109	59/118	56/112	55/104	58/110	54/105
5% Lactic Acid/5% Na ₂ CO ₃	116/81	117/87	110/79	119/81	122/89	113/81	113/80	114/87	107/78
Dough Properties									
Farinograph Peak (min)	1.6	1.5	1.5	2.0	1.8	1.7	1.6	1.4	1.5
Farinograph Stability (min)	2.9	2.6	2.9	3.3	2.8	3.0	2.9	2.5	2.9
Farinograph Absorption (%)	51.8	51.3	52.0	52.3	52.8	52.6	51.7	51.0	52.0
Alveograph P (mm)	35	41	40	38	50	46	34	39	39
Alveograph L (mm)	88	83	89	106	85	84	83	83	90
Alveograph W (10-4 joules)	83	90	94	103	115	106	79	85	91
Alveograph P/L	0.40	0.50	0.45	0.36	0.59	0.55	0.41	0.48	0.43
Baking Evaluation									
Crumb Grain	5.2	5.2	5.3	5.9	5.8	5.6	5.1	5.1	5.3
Crumb Texture	5.3	5.2	5.5	5.9	5.6	5.6	5.1	5.1	5.5
Loaf Volume (cc)	733	733	716	744	737	715	730	732	717
Cookie Spread Ratio	9.8	9.0	8.7	8.9	8.1	8.3	9.9	9.2	8.8
% Area Production	100.0%			18.4%			81.6%		

* East Coast - Maryland, Virginia, North Carolina; Gulf Ports - Arkansas, Illinois, Indiana, Kentucky, Missouri, Ohio

2010 State Summary All Samples

	Arkansas	Missouri	Illinois	Indiana	Ohio	Kentucky	North Carolina	Virginia	Maryland
Wheat Grade Data - from Individual Samples									
Test Weight (Lab) (lb/bu)	58.9	57.4	56.9	56.6	56.5	57.7	57.4	60.8	59.6
Count	37	28	63	34	45	21	46	35	38
Wheat Grade Data - from Area Composite Samples									
Test Weight (lb/bu)	59.0	58.0	56.9	57.3	56.5	58.4	58.2	61.6	60.1
Test Weight (kg/hl)	77.6	76.4	75.0	75.4	74.4	76.8	76.6	81.0	79.1
Damage - Total (%)	0.2	1.5	1.3	2.5	2.7	1.7	2.4	0.7	0.9
Foreign Material (%)	0.1	1.3	0.4	0.2	0.2	0.5	0.2	0.1	0.1
Shrunken and Broken (%)	0.5	0.6	0.6	0.5	0.7	0.5	0.7	0.6	0.5
Total Defects (%)	0.8	3.4	2.3	3.1	3.5	2.7	3.3	1.4	1.5
Grade	2	3	3	3	3	2	2	1	1
Wheat Non-Grade Data - from Individual Samples									
Moisture (%)	12.5	12.9	13.1	13.3	13.3	12.8	12.7	12.8	12.8
Protein (%) 12%/0% mb	10.2/11.6	10.2/11.6	10.2/11.6	9.9/11.2	10.1/11.5	10.2/11.5	12.2/13.8	10.4/11.8	9.6/10.9
Ash (%) 14%/0% mb	1.53/1.78	1.58/1.84	1.56/1.81	1.56/1.81	1.59/1.85	1.47/1.71	1.56/1.81	1.50/1.74	1.52/1.77
1000 Kernel Weight (g)	33.6	29.7	33.1	31.6	29.6	34.6	29.7	34.6	33.0
Wheat Falling Number (sec)	323	334	335	326	333	342	318	348	345
DON (ppm)	0.5	2.1	1.7	2.7	4.4	2.0	0.1	0.2	0.9
Wheat Non-Grade Data - from Area Composite Samples									
Dockage (%)	1.2	0.9	0.7	1.0	0.8	0.7	1.8	0.4	1.4
Moisture (Lab) (%)	12.4	12.8	13.0	13.2	13.3	12.9	12.6	12.9	12.7
Protein (Lab) (%)	10.2	10.3	10.2	9.8	10.1	10.0	12.3	10.5	9.7
Kernel Size (%) lg/med/sm	85/14/01	77/22/01	82/16/02	83/17/00	77/22/01	86/13/01	70/29/01	84/15/01	81/18/01
Single Kernel Hardness	18.7	25.5	17.8	15.2	17.7	22.6	22.9	29.0	24.8
Single Kernel Weight (mg)	32.7	28.2	31.3	30.7	29.3	33.0	28.8	33.0	32.4
Single Kernel Diameter (mm)	2.34	2.15	2.29	2.24	2.19	2.34	2.14	2.33	2.28
Sedimentation (cc)	13.1	11.0	10.6	10.0	9.6	13.0	21.0	13.8	11.4
DON (ppm)	0.5	2.7	1.9	2.5	3.6	2.0	0.1	0.1	1.1
Flour Data									
Lab Mill Extraction (%)	72.1	70.0	70.7	68.6	68.8	72.9	67.1	71.6	68.3
Flour Color - *L	92.7	93.3	93.1	93.3	93.3	92.8	92.8	92.8	93.3
Flour Color - *a	-2.9	-3.2	-3.2	-3.2	-3.3	-3.0	-3.0	-3.1	-3.4
Flour Color - *b	7.9	8.3	8.1	7.7	8.3	8.0	7.8	8.0	8.6
Flour Protein (%) 14%/0% mb	9.1/10.5	8.6/10.0	8.4/9.8	7.9/9.1	8.2/9.6	8.8/10.2	10.3/12.0	8.9/10.4	8.4/9.8
Flour Ash (%) 14%/0% mb	0.49/0.57	0.43/0.50	0.41/0.48	0.40/0.47	0.44/0.51	0.46/0.53	0.42/0.49	0.46/0.53	0.41/0.47
Wet Gluten (%)	24.0	24.4	23.4	21.1	21.1	22.7	28.7	23.0	22.7
Gluten Index	86.9	83.5	84.0	91.0	81.7	82.7	86.1	92.8	89.2
Falling Number (sec)	362	347	357	342	354	353	352	369	353
Amylograph (65g) (BU)	664	791	757	743	740	580	603	673	759
Starch Damage (%)	4.7	4.7	4.4	3.8	3.9	4.4	4.6	5.2	4.4
Dough Properties									
Farinograph Peak (min)	2.2	1.4	1.5	1.4	1.6	1.5	2.3	2.1	1.3
Farinograph Stability (min)	2.9	2.7	3.3	1.8	2.7	3.3	3.5	3.7	2.5
Farinograph Absorption (%)	53.6	52.2	51.0	51.0	50.5	53.7	52.5	53.7	51.0
Alveograph P (mm)	46	39	31	30	28	38	37	49	30
Alveograph L (mm)	82	84	80	94	85	81	114	81	109
Alveograph W (10-4 joules)	99	90	76	75	62	87	109	117	82
Alveograph P/L	0.56	0.46	0.39	0.32	0.33	0.47	0.33	0.60	0.27
Baking Evaluation									
Crumb Grain	5.4	5.2	4.5	5.0	5.1	5.5	6.0	5.4	6.2
Crumb Texture	5.2	5.4	4.7	5.0	5.4	5.0	6.2	6.0	6.0
Loaf Volume (cc)	736	723	727	725	735	738	764	734	722
Cookie Spread Ratio	8.5	10.2	10.0	10.9	10.9	8.2	8.7	7.8	10.1

Soft Red Winter 2010 Survey - All Samples

	Arkansas		Missouri		Illinois		Indiana		Ohio		Kentucky		North Carolina		Virginia		Maryland		
	S	C	N	W	E	W	E	S	N	S	N	S	NE	W	E	W	E	W	E
Wheat Grade Data - from Individual Samples																			
Test Weight (Lab) (lb/bu)	58.4	59.2	59.0	55.0	59.0	56.9	56.9	56.2	57.1	56.3	57.7	56.8	59.5	60.0	61.1	58.8	59.9		
Count	12	14	11	16	12	37	26	17	16	29	21	28	18	10	25	10	28		
Wheat Grade Data - from Area Composite Samples																			
Test Weight (lb/bu)	58.9	59.6	58.3	56.5	59.1	56.7	57.3	57.2	57.6	56.2	58.4	57.8	59.8	61.5	61.6	59.8	60.3		
Test Weight (kg/ht)	77.5	78.4	76.7	74.4	77.7	74.7	75.5	75.3	75.8	74.0	76.8	76.0	78.6	80.8	81.0	78.7	79.3		
Damage - Total (%)	0.4	0.0	0.4	0.7	2.0	1.3	1.4	3.0	1.7	3.0	1.7	2.7	1.3	0.8	0.7	1.4	0.7		
Foreign Material (%)	0.0	0.0	0.3	2.5	0.5	0.4	0.5	0.0	0.2	0.2	0.5	0.2	0.2	0.0	0.2	0.0	0.2		
Shrunken and Broken (%)	0.6	0.3	0.5	1.0	0.4	0.5	0.8	0.4	0.6	0.7	0.5	0.8	0.6	0.7	0.6	0.3	0.6		
Total Defects (%)	1.0	0.3	1.2	4.1	2.9	2.2	2.6	3.6	2.5	3.8	2.7	3.6	2.0	1.5	1.4	1.6	1.4		
Grade	2	2	2	4	2	3	3	3	3	3	2	3	2	1	1	2	1		
Wheat Non-Grade Data - from Individual Samples																			
Moisture (%)	12.4	12.6	12.5	13.0	12.8	13.0	13.2	13.3	13.7	13.2	12.8	12.6	13.0	12.6	12.9	12.7	12.9		
Protein (%) 12% mb	10.4	9.8	10.5	10.3	10.2	10.2	10.1	10.0	9.9	10.2	10.2	12.5	11.1	11.0	10.2	9.5	9.6		
Ash (%) 14% mb	1.56	1.47	1.56	1.60	1.57	1.57	1.54	1.57	1.51	1.62	1.47	1.58	1.49	1.48	1.50	1.55	1.51		
1000 Kernel Weight (g)	34.6	32.4	34.1	25.6	32.4	32.3	34.5	32.6	30.1	29.5	34.6	28.9	33.0	32.9	35.2	32.2	33.4		
Wheat Falling Number (sec)	288	331	353	326	339	335	334	329	331	334	342	314	334	356	345	343	347		
DON (ppm)	0.4	0.4	0.8	3.8	0.9	1.9	1.5	1.1	4.3	4.7	2.0	0.1	0.2	0.2	0.2	1.6	0.6		
Wheat Non-Grade Data - from Area Composite Samples																			
Dockage (%)	1.2	1.1	1.5	1.0	0.8	0.7	0.7	0.8	1.2	0.8	0.7	2.2	0.5	0.5	0.4	2.9	0.8		
Moisture (%)	12.5	12.6	12.0	12.8	12.8	12.8	13.2	13.1	13.3	13.5	12.9	12.5	13.1	12.7	13.0	12.4	12.8		
Protein (%) 12% mb	10.9	9.6	10.2	10.5	10.2	10.4	9.9	9.9	9.7	10.1	10.0	12.6	11.1	11.0	10.3	9.7	9.7		
Kernel Size Large (Over 7) (%)	84	89	81	66	84	81	85	79	80	76	86	68	75	80	86	81	81		
Kernel Size Medium (Over 9) (%)	16	11	18	31	15	17	14	14	20	19	13	31	23	19	14	18	18		
Kernel Size Small (Thru 9) (%)	1	1	1	2	1	2	1	0	1	1	1	1	1	1	0	1	1		
Single Kernel Hardness	19.4	17.5	19.7	25.2	25.7	17.4	18.4	14.3	16.0	20.0	22.6	23.1	22.3	30.6	28.4	25.1	24.7		
Single Kernel Weight (mg)	32.0	33.7	31.9	25.9	29.8	30.9	31.8	31.7	29.6	30.3	33.0	28.3	30.7	31.3	33.6	31.6	32.8		
Single Kernel Diameter (mm)	2.33	2.37	2.32	2.07	2.22	2.27	2.32	2.31	2.17	2.26	2.34	2.12	2.24	2.25	2.37	2.29	2.28		
Sedimentation (cc)	14	13	14	13	10	11	10	9	11	10	13	22	17	15	14	9	13		
DON (ppm)	0.4	0.7	0.5	3.9	1.9	2.3	1.3	1.4	3.6	3.6	2.0	0.1	0.2	0.1	0.1	1.6	0.9		
Flour Data																			
Lab Mill Extraction (%)	72.5	72.3	71.3	67.8	71.6	71.5	69.6	67.5	70.0	68.5	72.9	67.4	66.0	71.3	71.7	70.2	67.5		
Flour Color - *L	92.7	92.7	92.9	93.2	93.5	93.0	93.3	93.2	93.3	93.4	92.8	92.8	93.0	93.1	92.8	93.3	93.3		
Flour Color - *a	-3.0	-2.9	-2.9	-3.1	-3.4	-3.2	-3.3	-3.3	-3.3	-3.3	-3.0	-3.0	-3.1	-3.0	-3.1	-3.3	-3.5		
Flour Color - *b	7.6	8.0	8.2	8.1	8.5	8.1	8.2	7.5	7.9	8.4	8.0	7.8	8.0	7.8	8.1	8.2	8.8		
Flour Protein (%) 14% mb	9.3	8.7	9.4	8.9	8.5	8.6	8.1	7.8	8.0	8.3	8.8	10.6	9.1	9.7	8.6	8.5	8.4		
Flour Ash (%) 14% mb	0.51	0.45	0.51	0.43	0.44	0.42	0.40	0.40	0.40	0.44	0.46	0.42	0.42	0.45	0.46	0.42	0.40		
Wet Gluten (%)	24.2	22.0	26.8	25.0	24.0	24.2	22.1	20.9	21.4	20.8	22.7	29.6	25.3	27.5	21.4	22.4	22.8		
Gluten Index	96.1	87.3	76.2	79.0	86.5	76.6	95.1	94.5	87.4	80.3	82.7	85.0	90.6	86.1	95.3	92.9	87.6		
Falling Number (sec)	363	357	368	348	346	360	353	335	345	357	353	351	354	370	369	341	359		
Amylograph (65g) (BU)	770	590	650	830	765	745	775	725	755	735	580	580	690	600	700	780	750		
Starch Damage (%)	5.1	4.8	4.2	4.2	5.0	4.4	4.4	4.0	3.6	4.0	4.4	4.6	4.6	5.0	5.2	4.0	4.6		
Dough Properties																			
Famograph Peak (min)	2.0	2.3	2.5	1.3	1.5	1.5	1.5	1.3	1.8	1.5	1.5	2.3	2.3	2.5	2.0	1.5	1.3		
Famograph Stability (min)	2.8	3.0	2.8	2.0	3.3	3.5	3.0	1.8	1.8	2.5	3.3	3.5	3.5	3.0	4.0	2.5	2.5		
Famograph Absorption (%)	53.8	53.4	53.8	53.1	51.6	50.9	51.4	51.3	50.8	50.5	53.7	52.6	52.1	55.2	53.2	51.1	51.0		
Alveograph P (mm)	46	57	32	35	42	31	33	26	31	28	38	35	40	49	49	30	30		
Alveograph L (mm)	73	69	113	92	79	83	75	86	103	98	81	132	90	87	79	91	117		
Alveograph W (10-4 joules)	93	118	80	83	95	75	78	84	66	57	87	110	107	119	117	69	88		
Alveograph P/L	0.63	0.82	0.28	0.38	0.53	0.37	0.44	0.39	0.25	0.34	0.47	0.27	0.44	0.56	0.62	0.33	0.25		
Baking Evaluation																			
Crumb Grain	5.5	5.0	6.0	5.5	5.0	4.5	4.5	5.0	5.5	5.0	5.5	6.0	6.0	5.0	5.5	5.5	6.5		
Crumb Texture	5.5	5.0	5.0	4.5	6.0	4.5	4.5	4.5	5.0	5.5	5.5	6.5	6.0	6.0	6.0	6.0	6.0		
Loaf Volume (cc)	725	743	738	738	713	750	693	713	738	725	738	768	750	725	738	733	718		
Cookie Spread Ratio	8.9	8.7	7.9	10.3	10.1	10.1	9.9	10.5	11.4	10.6	8.2	8.7	8.8	8.1	7.7	10.3	10.1		

N-North, S-South, E-East, W-West, C-Central, NE-North East, NA-Not Available

Soft Red Winter 2010 Survey - Early Samples

	Arkansas			Missouri			Illinois			Indiana			Ohio			Kentucky			North Carolina			Virginia			Maryland					
	S	C	N	W	E		W	E		S	N		S	N		S	N		S	NE		W	E	W	E					
Wheat Grade Data - from Individual Samples	58.7	59.3	58.6	55.1	59.8	57.1	57.1	57.0	56.9	56.0	57.1	56.6	58.4	56.9	60.5	60.3	62.1	60.2	58.9	60.2	60.2	60.2	60.2	60.2	60.2	60.2	60.2			
Test Weight (Lab) (lb/bu)	6	9	6	10	5	20	12	12	8	10	8	15	10	8	9	5	12	14	5	14	9	5	12	5	5	14	14			
Wheat Grade Data - from Area Composite Samples	59.3	59.8	57.8	56.6	59.7	57.0	57.0	57.0	57.6	56.6	57.8	56.4	59.0	57.7	60.7	62.1	62.2	60.2	60.2	60.7	60.7	62.1	62.2	60.2	60.2	60.2	60.2	60.2		
Test Weight (lb/bu)	78.0	78.7	76.1	74.5	78.6	75.1	75.1	75.1	75.8	74.5	76.1	74.3	77.6	76.0	79.8	81.7	81.8	79.2	79.2	79.8	81.7	81.7	81.8	79.2	79.2	79.2	79.2	79.2		
Damage - Total (%)	0.3	0.0	0.7	0.7	2.0	1.3	1.3	1.3	2.7	3.3	1.3	2.7	1.3	2.7	1.3	0.3	0.7	0.7	0.7	1.3	0.3	0.3	0.7	0.7	0.7	0.7	0.7	0.7		
Foreign Material (%)	0.0	0.0	0.3	4.6	0.3	0.0	0.3	0.0	0.3	0.0	0.3	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0		
Shrunken and Broken (%)	0.4	0.3	0.5	1.0	0.4	0.4	0.8	0.4	0.4	0.4	0.6	0.7	0.5	0.5	0.7	0.8	0.6	0.6	0.6	0.7	0.8	0.6	0.6	0.2	0.2	0.2	0.2	0.2		
Total Defects (%)	0.7	0.3	1.5	6.3	2.7	1.7	2.4	2.4	3.4	3.7	2.2	3.7	2.1	3.5	2.0	1.1	1.6	1.6	0.9	2.0	2.0	1.1	1.6	0.9	0.8	0.8	0.8	0.8		
Grade	2	2	3	5	2	3	3	3	3	3	3	3	2	3	2	2	1	1	1	2	2	2	1	1	1	1	1	1		
Wheat Non-Grade Data - from Individual Samples	12.8	12.5	12.3	13.1	13.1	12.8	13.1	13.1	13.1	13.5	13.9	13.5	13.0	12.8	13.3	13.2	13.4	13.3	13.3	13.3	13.3	13.2	13.4	13.3	13.3	13.3	13.3	13.3	13.3	
Moisture (%)	10.2	10.0	10.7	10.3	9.9	10.3	10.2	10.2	9.6	9.7	9.7	10.1	10.2	12.6	11.0	11.4	10.1	11.0	9.3	9.3	11.0	11.4	10.1	9.3	9.3	9.5	9.5	9.5	9.5	
Protein (%) 12% mb	1.51	1.52	1.58	1.57	1.59	1.61	1.54	1.54	1.51	1.57	1.47	1.58	1.50	1.54	1.49	1.53	1.49	1.49	1.49	1.49	1.53	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	
Ash (%) 14% mb	33.3	33.2	33.3	25.6	34.4	31.8	34.9	34.9	33.5	30.3	30.1	29.7	35.5	28.1	34.7	34.7	36.2	33.2	33.2	33.2	34.7	34.7	36.2	33.2	33.2	34.4	34.4	34.4	34.4	
1000 Kernel Weight (g)	220	350	350	330	324	340	337	340	324	325	327	328	346	316	330	345	346	341	341	341	330	345	346	341	341	347	347	347	347	
Wheat Falling Number (sec)	0.3	0.5	0.6	3.9	1.1	1.6	1.6	1.6	0.8	3.7	3.1	4.3	2.6	0.2	0.2	0.2	0.1	1.3	1.3	0.2	0.2	0.2	0.1	1.3	1.3	0.2	0.2	0.2		
DON (ppm)	1.1	0.9	1.2	1.0	1.0	0.4	0.6	0.6	0.5	1.2	0.6	0.9	0.6	2.4	0.6	0.6	0.6	5.2	5.2	0.6	0.6	0.6	0.6	5.2	5.2	0.5	0.5	0.5		
Wheat Non-Grade Data - from Area Composite Samples	13.0	12.8	11.8	12.8	12.6	12.8	12.8	12.8	13.1	13.0	13.3	13.2	13.2	12.6	13.1	13.0	13.0	12.8	12.8	13.1	13.0	13.0	13.0	12.8	12.8	12.9	12.9	12.9	12.9	
Moisture (%)	11.0	9.5	10.3	10.5	9.7	10.6	9.7	9.7	10.1	9.7	9.4	9.8	9.8	12.5	11.0	11.4	10.1	9.7	9.7	11.0	11.0	11.4	10.1	9.7	9.7	9.5	9.5	9.5	9.5	
Protein (%) 12% mb	86	90	77	66	86	82	85	85	85	81	80	76	86	71	78	78	89	86	86	78	78	89	89	86	86	84	84	84	84	
Kernel Size Large (Over 7) (%)	14	10	22	32	13	17	14	14	15	18	18	23	13	27	21	21	10	14	14	21	21	21	10	14	15	15	15	15	15	
Kernel Size Medium (Over 9) (%)	0	0	1	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	0	1	1	1	1	1	
Kernel Size Small (Thru 9) (%)	19.7	19.5	17.7	23.8	25.9	16.8	17.3	17.3	15.8	16.9	20.9	18.5	24.4	23.7	25.3	38.6	32.9	25.7	25.7	25.3	38.6	38.6	32.9	25.7	26.5	26.5	26.5	26.5	26.5	
Single Kernel Hardness	32.1	33.3	30.9	25.4	31.2	31.6	31.5	31.5	31.8	29.4	30.3	29.1	33.0	28.2	31.9	31.1	34.2	32.7	32.7	31.9	31.1	31.1	34.2	32.7	33.8	33.8	33.8	33.8	33.8	
Single Kernel Weight (mg)	2.33	2.33	2.29	2.01	2.27	2.28	2.28	2.28	2.29	2.16	2.28	2.18	2.31	2.12	2.30	2.24	2.41	2.32	2.32	2.24	2.24	2.24	2.41	2.32	2.32	2.32	2.32	2.32	2.32	
Single Kernel Diameter (mm)	14	12	14	11	10	11	10	10	9	10	10	9	14	22	19	19	16	9	9	19	19	19	16	9	13	13	13	13	13	
Sedimentation (cc)	0.4	0.5	0.7	4.0	1.7	2.2	1.2	1.2	1.1	3.5	3.1	2.5	2.5	0.1	0.2	0.2	0.1	0.7	0.7	0.2	0.2	0.1	0.1	0.7	0.3	0.3	0.3	0.3	0.3	
DON (ppm)	72.2	73.4	72.9	69.0	72.5	72.2	69.1	69.1	70.9	67.6	71.1	67.9	74.7	67.3	67.8	73.4	74.2	71.4	71.4	67.8	67.8	73.4	74.2	71.4	68.7	68.7	68.7	68.7	68.7	
Flour Data	92.6	92.7	92.7	93.0	93.5	92.8	93.3	93.3	93.5	93.3	93.2	93.3	92.6	92.6	92.9	92.7	92.3	93.5	93.5	92.9	92.9	92.7	92.3	93.5	93.4	93.4	93.4	93.4	93.4	93.4
Lab Mill Extraction (%)	-3.0	-2.7	-3.1	-3.1	-3.2	-3.1	-3.4	-3.4	-3.1	-3.3	-3.3	-3.3	-2.9	-2.9	-3.0	-2.9	-2.8	-3.4	-3.4	-3.0	-2.9	-2.9	-2.8	-3.4	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5
Flour Color - L	7.8	8.1	8.7	8.8	8.2	7.9	8.5	8.5	7.4	7.9	8.3	8.4	8.0	7.9	7.8	8.2	8.0	8.4	8.4	7.8	7.8	8.2	8.0	8.4	8.7	8.7	8.7	8.7	8.7	
Flour Color - a	9.2	8.4	9.4	8.8	8.4	9.0	8.2	8.2	7.9	7.9	8.1	8.1	8.7	10.9	9.1	10.2	8.7	8.6	8.6	9.1	10.2	10.2	8.7	8.6	8.2	8.2	8.2	8.2	8.2	
Flour Color - b	0.50	0.49	0.51	0.46	0.45	0.45	0.40	0.40	0.40	0.40	0.42	0.43	0.48	0.43	0.47	0.50	0.52	0.45	0.45	0.47	0.50	0.52	0.45	0.45	0.40	0.40	0.40	0.40	0.40	
Flour Ash (%) 14% mb	24.8	21.2	26.7	24.7	23.9	24.1	22.5	22.5	21.5	21.3	20.7	20.1	23.4	30.5	25.3	28.6	20.9	21.9	21.9	25.3	28.6	28.6	20.9	21.9	22.5	22.5	22.5	22.5	22.5	
Wet Gluten (%)	95.1	84.1	80.5	69.8	83.5	95.8	94.8	94.8	96.9	79.2	87.2	82.4	84.0	78.9	86.9	80.2	98.3	93.8	93.8	86.9	80.2	80.2	98.3	93.8	90.7	90.7	90.7	90.7	90.7	
Gluten Index	375	373	355	358	344	384	343	343	351	318	327	353	344	350	346	355	367	313	313	346	355	355	367	313	331	331	331	331	331	
Falling Number (sec)	710	600	620	920	740	770	800	800	720	760	730	760	600	590	700	550	640	790	790	700	550	550	640	790	750	750	750	750	750	
Amylograph (65g) (BU)	5.3	4.9	4.2	4.2	5.8	4.6	4.6	4.6	3.8	3.4	3.8	3.8	4.6	4.6	4.6	6.2	5.8	4.2	4.2	4.6	4.6	5.8	4.2	4.2	4.6	4.6	4.6	4.6	4.6	
Starch Damage (%)	2.5	2.5	2.5	1.0	1.5	1.5	1.5	1.5	1.5	1.0	2.0	1.5	1.5	2.5	2.5	3.0	2.0	1.5	1.5	2.5	2.5	3.0	2.0	1.5	1.0	1.0	1.0	1.0	1.0	
Dough Properties	3.0	3.0	3.0	1.5	3.5	4.0	3.0	3.0	2.0	1.5	4.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	2.5	2.5	2.5	2.5	2.5	
Fannograph Peak (min)	54.6	54.2	53.4	52.9	52.8	51.4	51.7	51.7	51.7	50.8	51.0	51.0	54.4	52.2	52.5	57.7	54.7	51.4	51.4	52.5	57.7	57.7	54.7	51.4	51.5	51.5	51.5	51.5	51.5	
Fannograph Stability (min)	50	61	28	36	43	31	35	35	35	25	35	31	39	34	46	62	51	34	34	46	62	62	51	34	30	30	30	30	30	
Fannograph Absorption (%)	57	65	127	90	61	107	65	65	85	107	98	66	78	122	97	75	81	84	84	97	75	75	81	84	109	109	109	109	109	
Alveograph P (mm)	80	121	86	80	88	94	76	76	87	67	89	60	88	94	124	132														

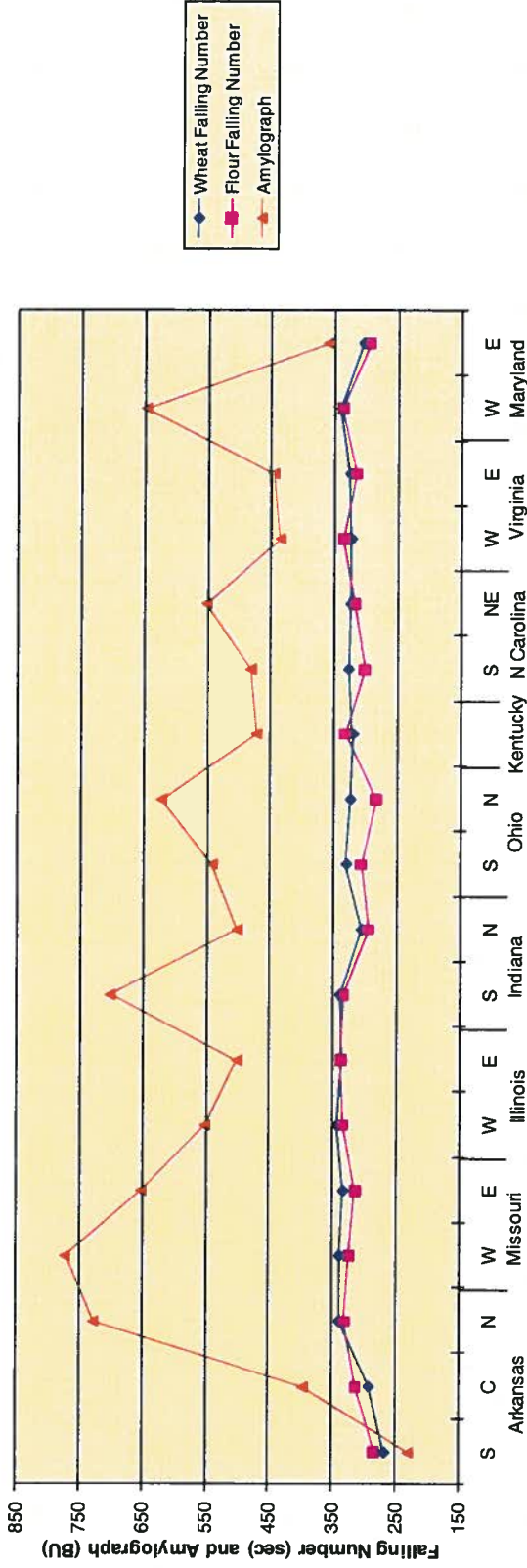
Soft Red Winter 2010 Survey - Late Samples

	Arkansas		Missouri		Illinois		Indiana		Ohio		Kentucky		North Carolina		Virginia		Maryland	
	S	C	N	W	E	W	E	S	N	S	N	S	NE	W	E	W	E	
Wheat Grade Data - from Individual Samples																		
Test Weight (Lab) (lb/bu)	58.0	58.8	59.5	54.8	58.5	56.7	56.9	56.6	57.0	56.0	57.1	56.8	58.5	59.7	60.2	58.8	59.6	
Count	6	5	5	6	7	17	9	7	8	14	11	14	9	5	13	5	14	
Wheat Grade Data - from Area Composite Samples																		
Test Weight (lb/bu)	58.5	59.4	58.7	56.3	58.4	56.4	57.0	57.8	57.3	56.0	57.7	57.8	58.8	60.8	61.0	59.4	60.0	
Test Weight (kg/ha)	77.0	78.2	77.3	74.2	76.9	74.3	75.1	76.1	75.5	73.8	76.0	76.1	77.4	80.0	80.2	78.2	78.9	
Damage - Total (%)	0.5	0.0	0.0	0.7	2.0	1.3	1.3	2.7	2.0	3.3	2.0	2.7	1.3	1.3	0.7	2.0	1.3	
Foreign Material (%)	0.0	0.0	0.3	0.3	0.7	0.7	0.3	0.0	0.0	0.0	0.7	0.0	0.3	0.0	0.0	0.0	0.3	
Shrunken and Broken (%)	0.8	0.3	0.5	0.9	0.3	0.6	0.3	0.8	0.7	0.6	0.5	1.0	0.4	0.5	0.5	0.3	0.4	
Total Defects (%)	1.3	0.3	0.8	1.9	3.0	2.6	1.9	3.5	2.7	3.9	3.2	3.7	2.0	1.8	1.2	2.3	2.0	
Grade	2	2	2	3	2	3	3	3	3	3	3	3	2	1	1	2	1	
Wheat Non-Grade Data - from Individual Samples																		
Moisture (%)	12.1	12.7	12.9	12.9	12.6	13.2	13.3	13.1	13.5	13.0	12.6	12.4	12.8	12.0	12.5	12.0	12.5	
Protein (%) 12% mb	10.5	9.5	10.3	10.4	10.4	10.2	10.3	9.7	10.1	10.3	10.2	12.3	11.2	10.6	10.3	9.6	9.7	
Ash (%) 14% mb	1.62	1.40	1.55	1.65	1.56	1.52	1.57	1.58	1.56	1.66	1.45	1.61	1.49	1.44	1.51	1.62	1.53	
1000 Kernel Weight (g)	35.9	30.9	35.1	25.5	31.0	32.8	34.1	31.8	30.1	29.2	33.7	29.6	31.2	31.1	34.2	31.2	32.4	
Wheat Falling Number (sec)	356	296	356	319	350	330	332	323	336	340	339	313	337	366	344	344	346	
DON (ppm)	0.4	0.3	0.9	3.7	0.8	2.1	1.3	5.0	4.0	5.2	1.4	0.1	0.2	0.3	0.3	1.8	1.1	
Wheat Non-Grade Data - from Area Composite Samples																		
Dockage (%)	1.2	1.3	1.7	1.0	0.6	0.9	1.1	1.1	1.0	0.6	0.7	1.9	0.4	0.3	0.1	0.6	1.0	
Moisture (%)	12.0	12.3	12.2	12.8	12.9	12.9	13.2	13.6	13.7	13.4	12.6	12.5	13.0	12.3	12.9	12.1	12.8	
Protein (%) 12% mb	10.8	9.6	10.2	10.6	10.7	10.2	10.0	9.8	10.3	10.5	10.2	12.8	11.2	10.6	10.4	9.7	10.0	
Kernel Size Large (Over 7) (%)	82	87	84	67	82	79	84	78	81	75	86	64	73	81	82	77	78	
Kernel Size Medium (Over 9) (%)	17	12	15	31	17	17	15	21	19	24	13	34	26	18	17	22	20	
Kernel Size Small (Thru 9) (%)	1	1	1	2	1	3	1	0	0	1	1	1	1	1	1	1	1	
Single Kernel Hardness	19.0	15.5	21.6	26.5	25.6	18.0	19.6	15.2	19.1	15.6	20.8	22.5	19.2	22.6	23.9	24.5	23.0	
Single Kernel Weight (mg)	32.0	34.1	32.9	26.4	28.4	30.2	31.6	29.7	30.3	28.8	33.0	28.3	29.6	31.4	33.0	30.5	31.8	
Single Kernel Diameter (mm)	2.32	2.41	2.34	2.12	2.16	2.25	2.36	2.18	2.23	2.17	2.37	2.11	2.18	2.26	2.32	2.26	2.23	
Sedimentation (cc)	13	13	13	14	10	11	10	12	10	10	12	22	15	10	11	9	12	
DON (ppm)	0.4	0.9	0.4	3.8	2.1	2.3	1.5	3.8	4.8	4.6	1.5	0.1	0.1	0.1	0.1	2.5	1.4	
Flour Data																		
Lab Mill Extraction (%)	72.8	71.2	69.7	66.5	70.6	70.7	68.7	67.3	68.9	69.1	71.0	67.4	64.2	69.2	68.1	68.9	66.3	
Flour Color - *L	92.8	92.7	93.0	93.4	93.4	93.1	93.4	93.1	93.4	93.4	93.0	92.9	93.1	93.5	93.2	93.1	93.1	
Flour Color - *a	-2.9	-3.0	-2.7	-3.5	-3.5	-3.3	-3.2	-3.3	-3.2	-3.3	-3.0	-3.1	-3.2	-3.1	-3.4	-3.1	-3.4	
Flour Color - *b	7.4	7.9	7.6	8.0	8.7	8.3	7.9	7.8	8.2	8.3	7.9	7.7	8.2	7.4	8.1	8.0	8.9	
Flour Protein (%) 14% mb	9.4	9.0	9.3	8.9	8.6	8.3	8.1	7.6	8.3	8.4	8.8	10.4	9.0	9.1	8.6	8.5	8.6	
Flour Ash (%) 14% mb	0.52	0.41	0.51	0.39	0.43	0.40	0.41	0.41	0.42	0.45	0.44	0.42	0.38	0.39	0.41	0.39	0.40	
Wet Gluten (%)	23.6	22.8	26.8	25.3	24.0	24.3	21.7	20.3	23.2	21.6	21.9	28.6	25.3	26.4	21.8	23.0	23.2	
Gluten Index	97.0	90.4	71.8	88.2	89.4	57.4	95.4	92.1	85.7	78.1	81.4	91.0	94.3	92.0	92.2	91.9	84.4	
Falling Number (sec)	350	340	381	338	347	336	347	351	363	361	361	347	362	385	371	369	386	
Amylograph (65g) (BU)	830	560	680	740	790	720	750	690	780	710	560	570	680	650	760	770	750	
Starch Damage (%)	4.9	4.6	4.2	4.2	4.2	4.2	4.2	3.8	3.8	4.2	4.2	4.6	4.6	3.8	4.6	3.8	4.6	
Dough Properties																		
Fannograph Peak (min)	1.5	2.0	2.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	1.5	1.5	
Fannograph Stability (min)	2.5	3.0	2.5	2.5	3.0	3.0	3.0	2.0	3.0	2.0	3.5	4.5	4.0	3.5	4.0	2.0	2.5	
Fannograph Absorption (%)	53.0	52.6	54.1	53.3	50.3	50.3	51.0	50.7	50.4	50.0	53.0	52.9	51.7	52.7	51.6	50.7	50.4	
Alveograph P (mm)	42	52	35	33	40	30	31	27	27	24	37	36	34	36	46	26	29	
Alveograph L (mm)	88	73	98	93	96	59	85	87	97	96	83	142	83	99	76	98	125	
Alveograph W (10-4 joules)	105	114	74	85	101	56	79	65	67	54	85	126	90	106	112	59	93	
Alveograph P/L	0.48	0.71	0.36	0.35	0.42	0.51	0.36	0.27	0.28	0.25	0.45	0.25	0.41	0.36	0.61	0.27	0.23	
Baking Evaluation																		
Crumb Grain	6	5	6	6	5	4	4	5	5	5	6	7	6	5	6	6	7	
Crumb Texture	6	5	5	4	6	4	6	4	5	5	5	7	4	6	6	6	6	
Loaf Volume (cc)	725	735	725	750	700	750	685	700	725	750	725	785	750	750	750	765	735	
Cookie Spread Ratio	8.5	8.8	8.1	9.9	10.5	11.0	10.2	10.2	10.6	11.4	8.6	8.9	9.4	8.7	7.7	10.5	9.9	

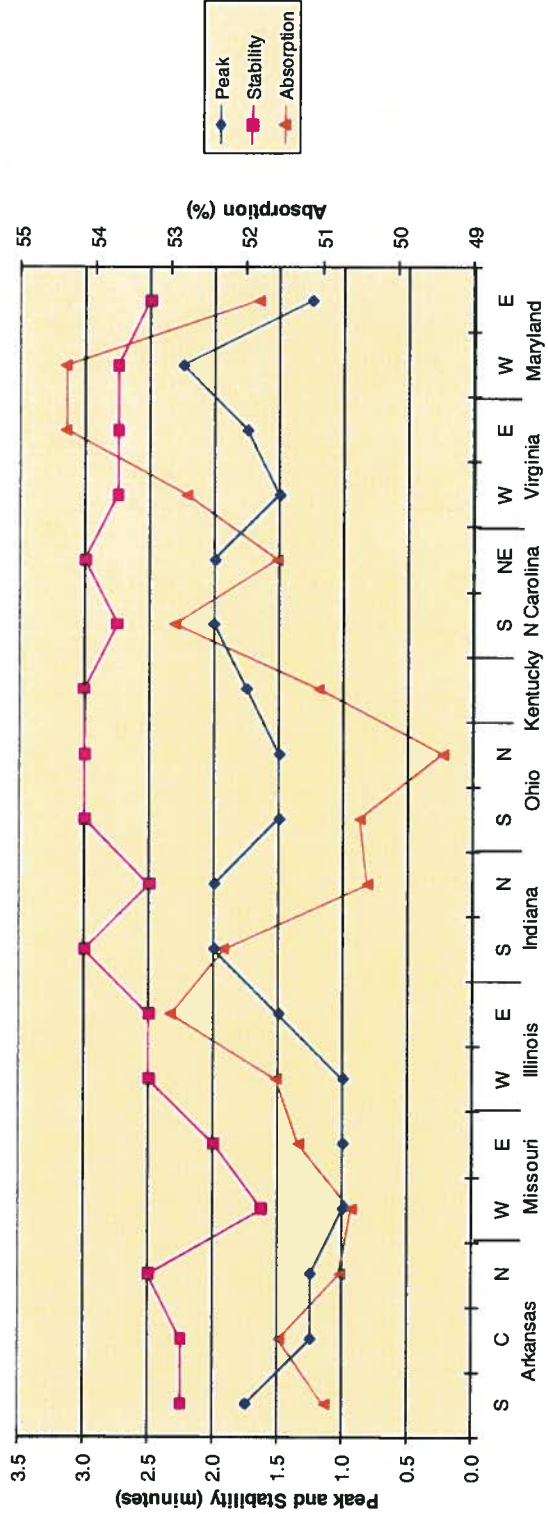
N-North, S-South, E-East, W-West, C-Central, NE-North East, NA-Not Available

Comparisons of 2010 Results For Selected Quality Factors

Falling Numbers and Amylograph

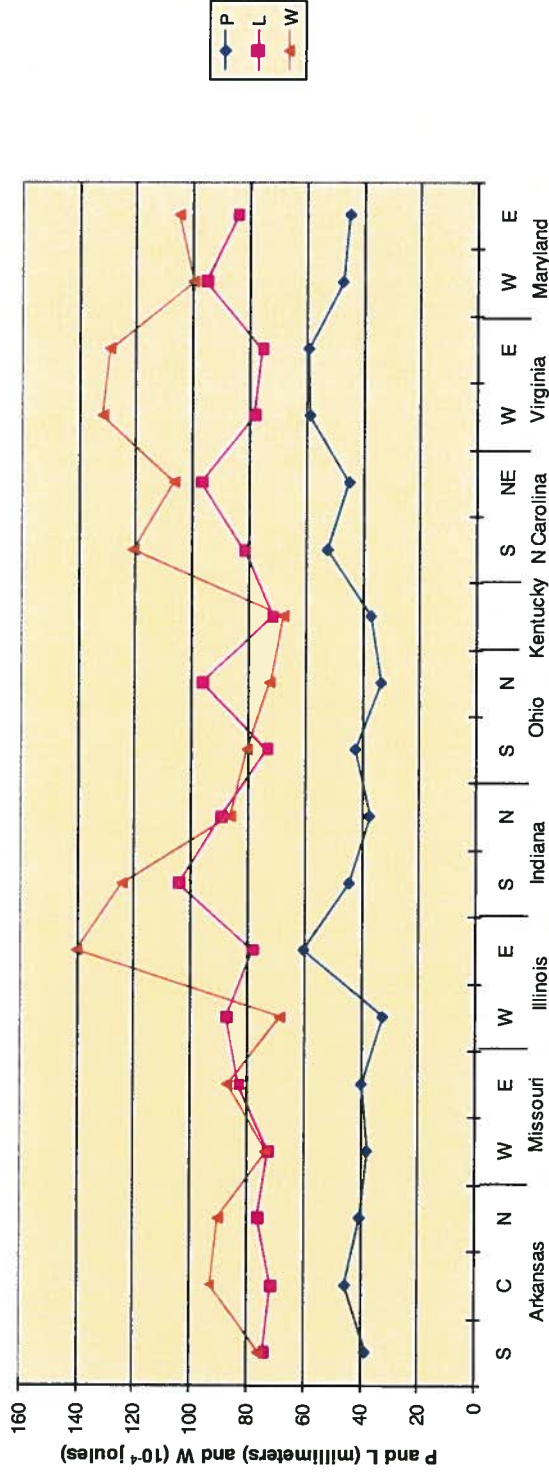


Farinograph

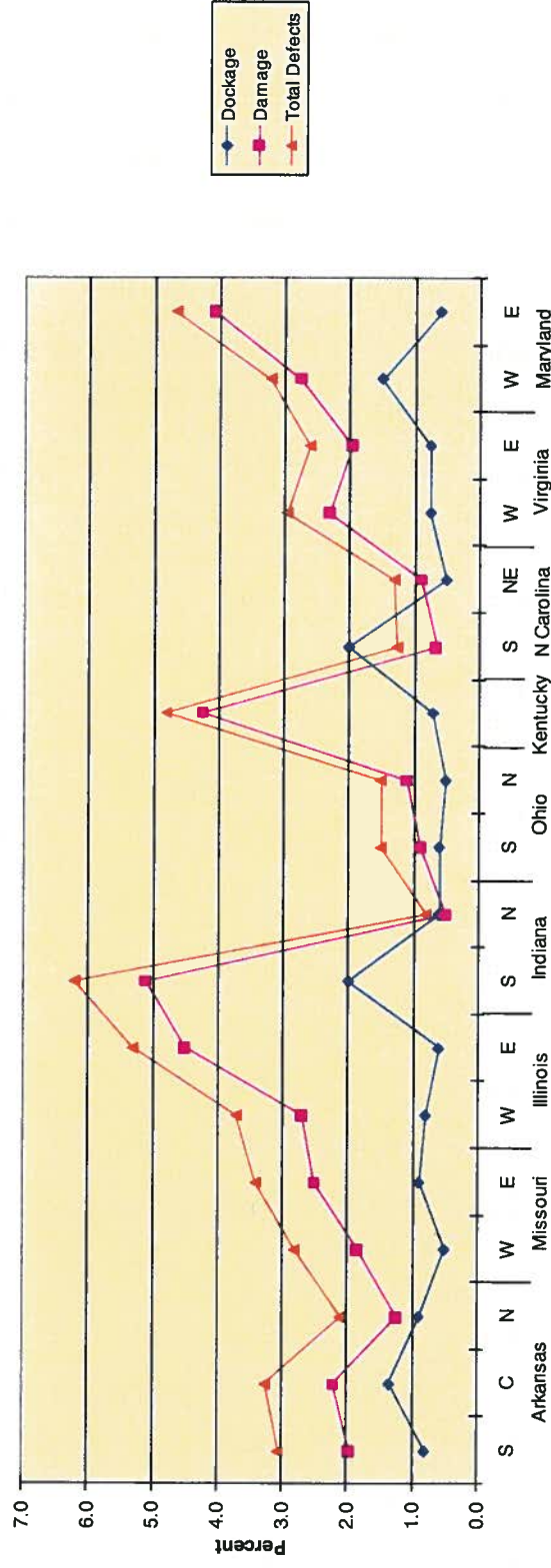


Comparisons of 2010 Results For Selected Quality Factors

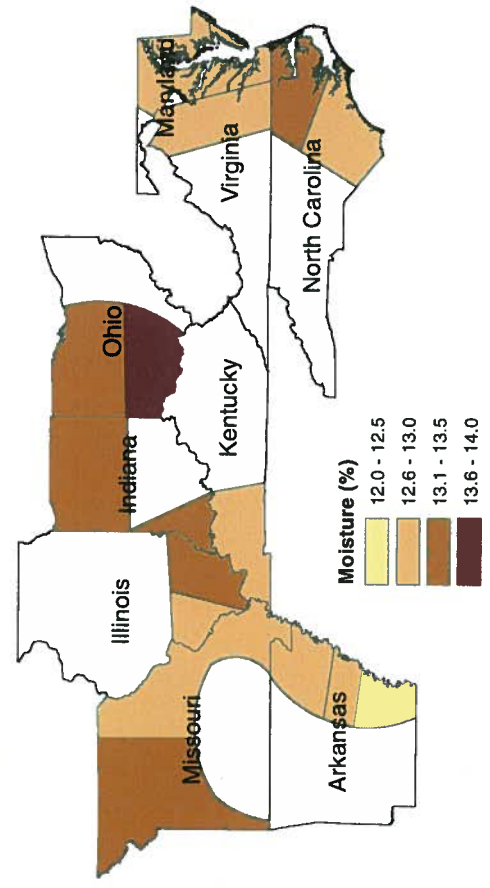
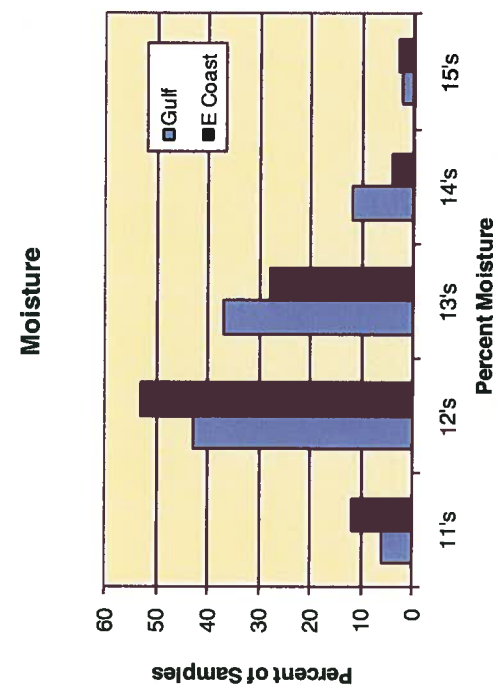
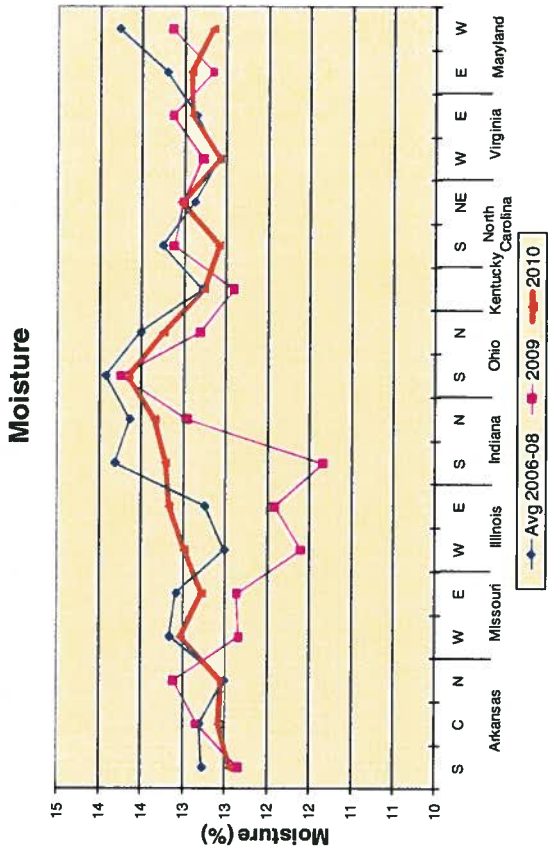
Alveograph



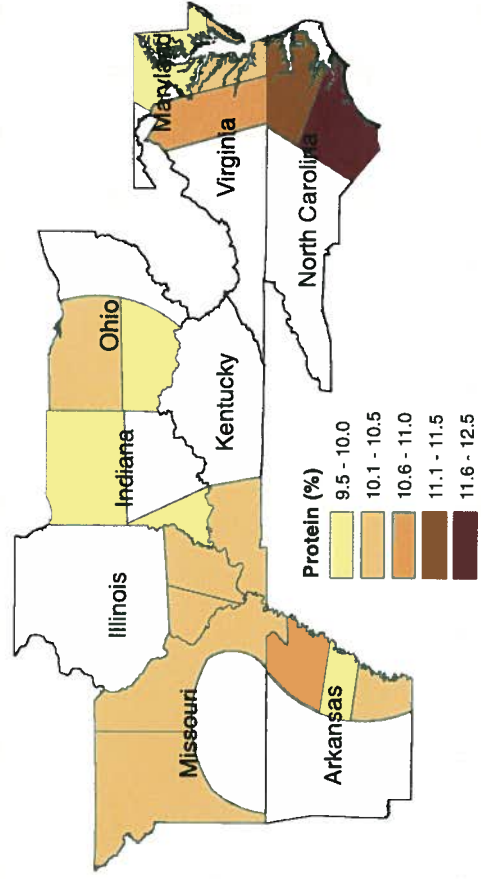
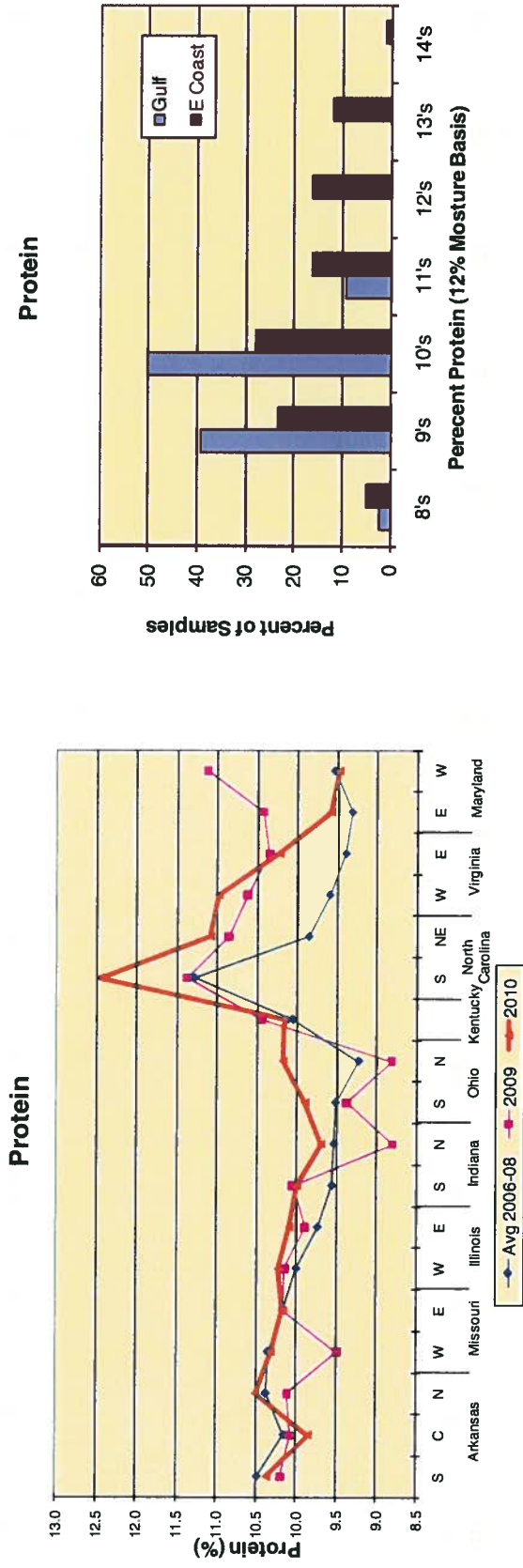
Dockage, Damage and Total Defects



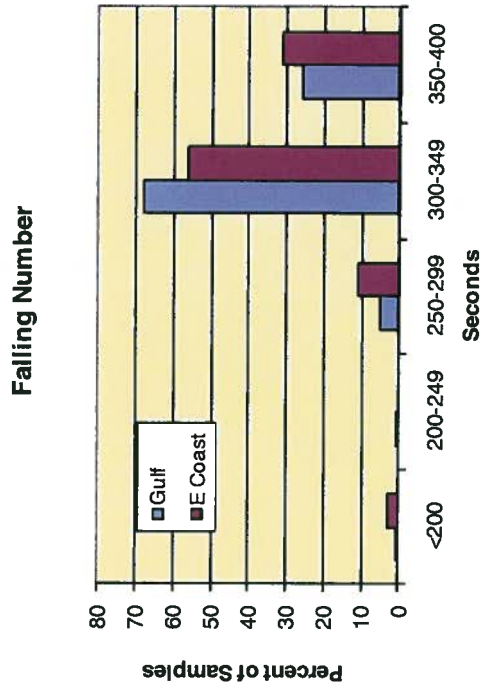
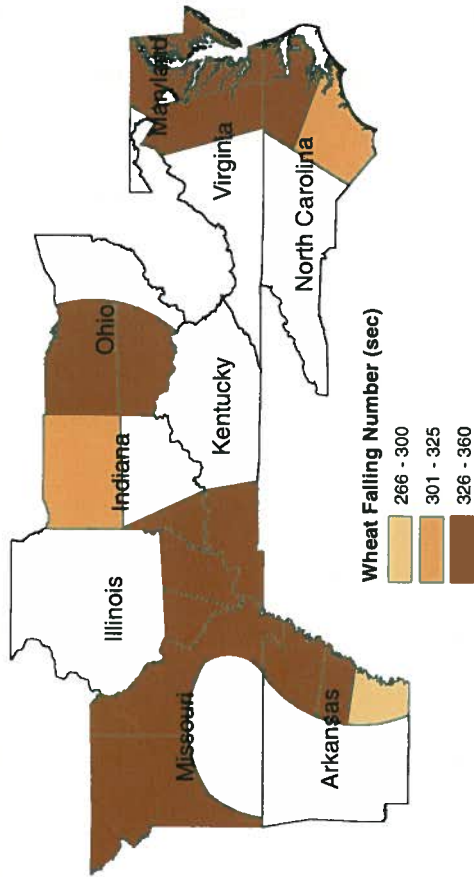
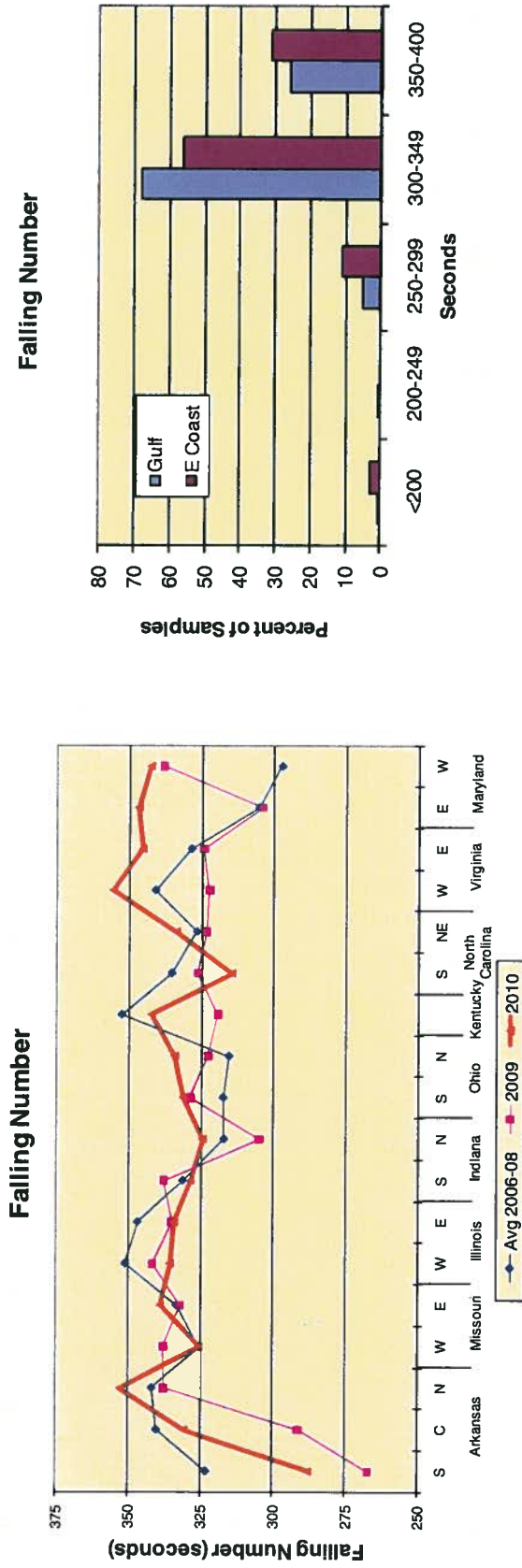
Distribution of 2010 Results and Comparisons with Previous Years For Selected Quality Factors



Distribution of 2010 Results and Comparisons with Previous Years For Selected Quality Factors

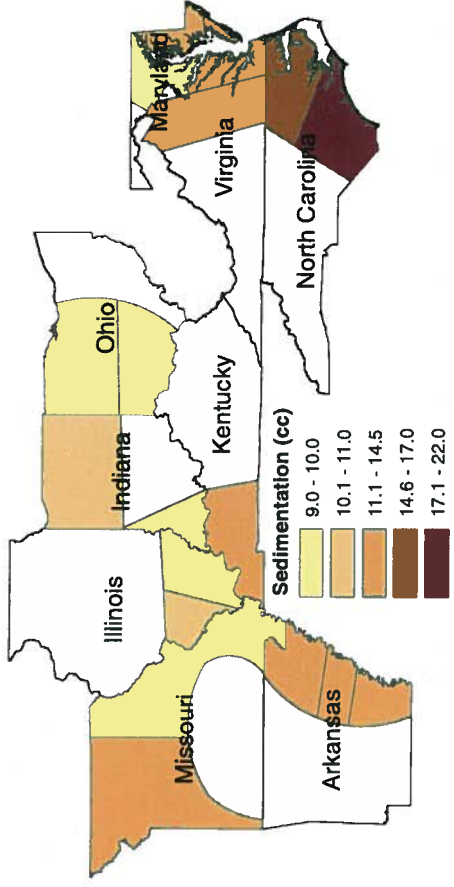
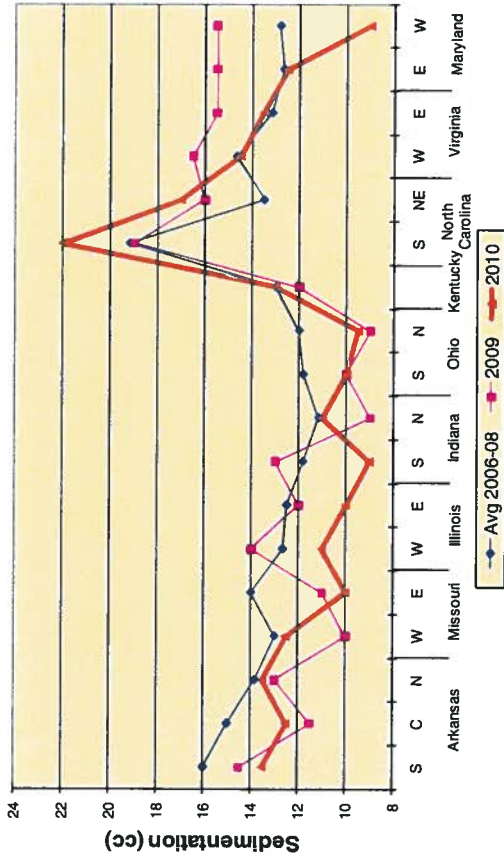


Distribution of 2010 Results and Comparisons with Previous Years For Selected Quality Factors

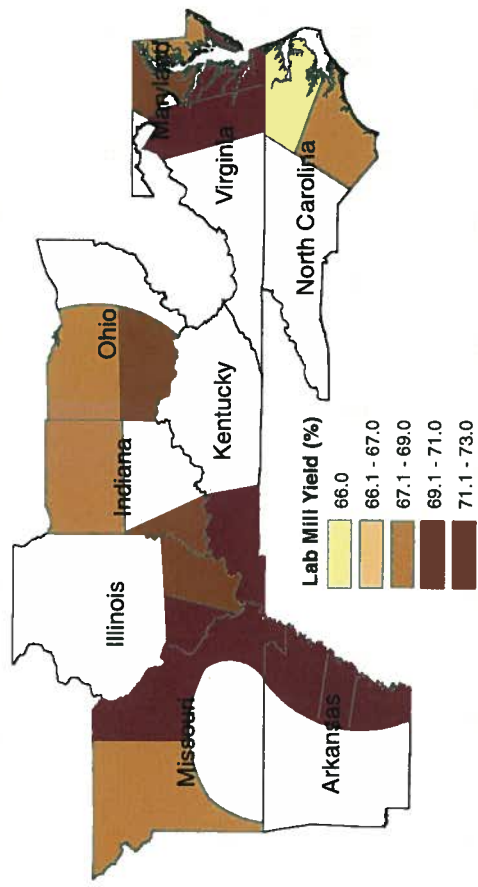
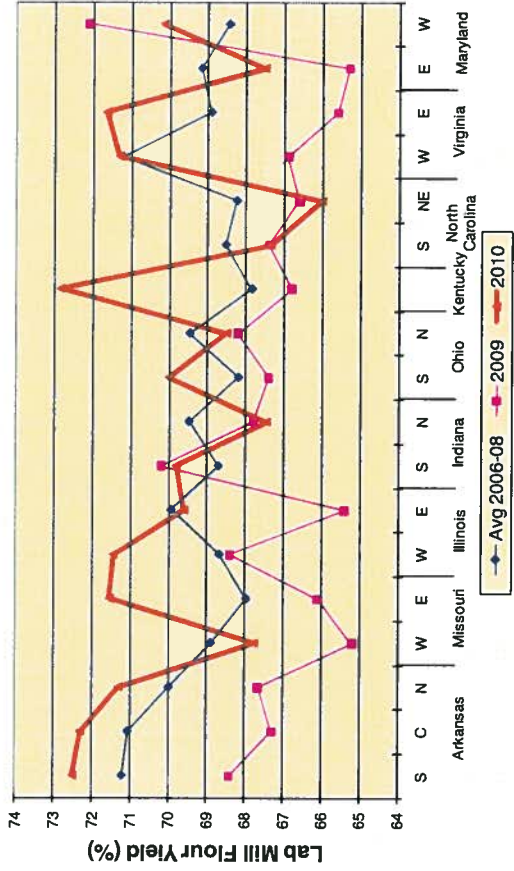


Distribution of 2010 Results and Comparisons with Previous Years For Selected Quality Factors

Sedimentation

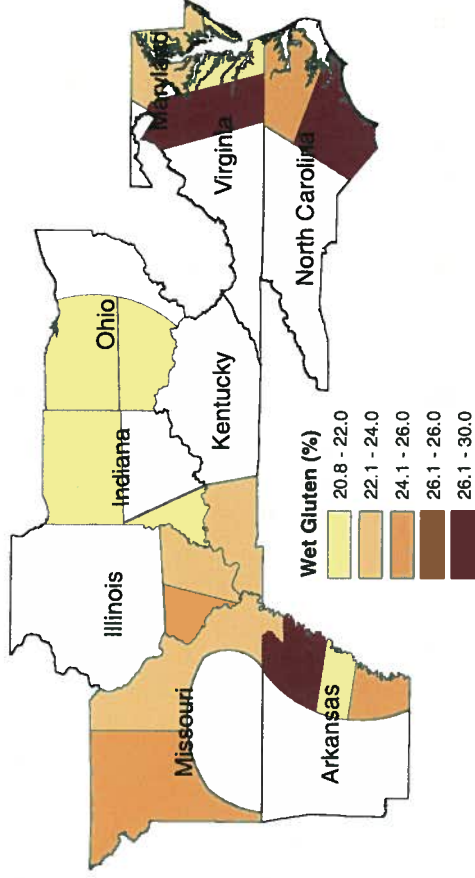
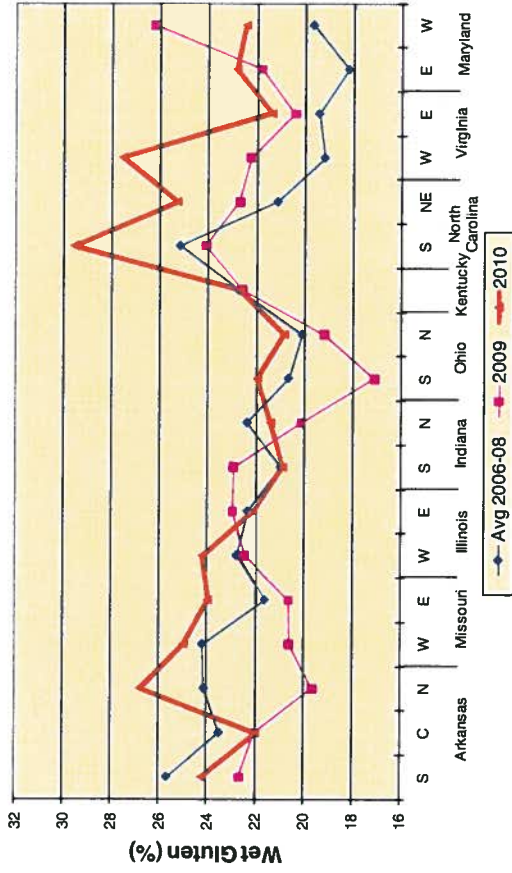


Laboratory Mill Flour Yield

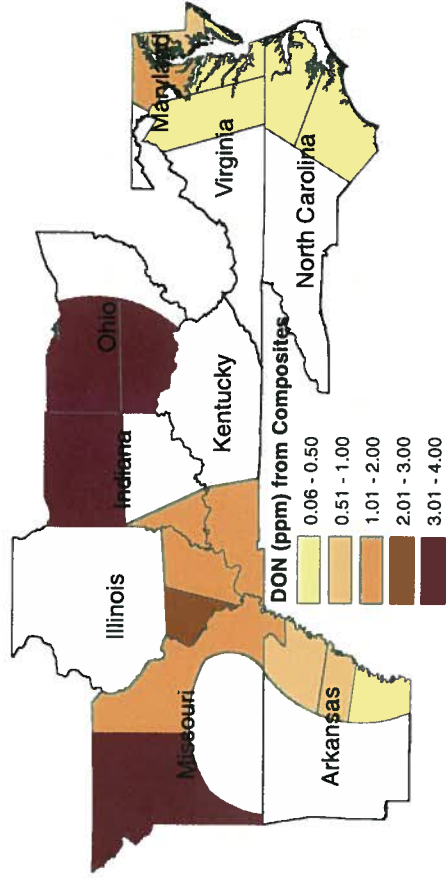
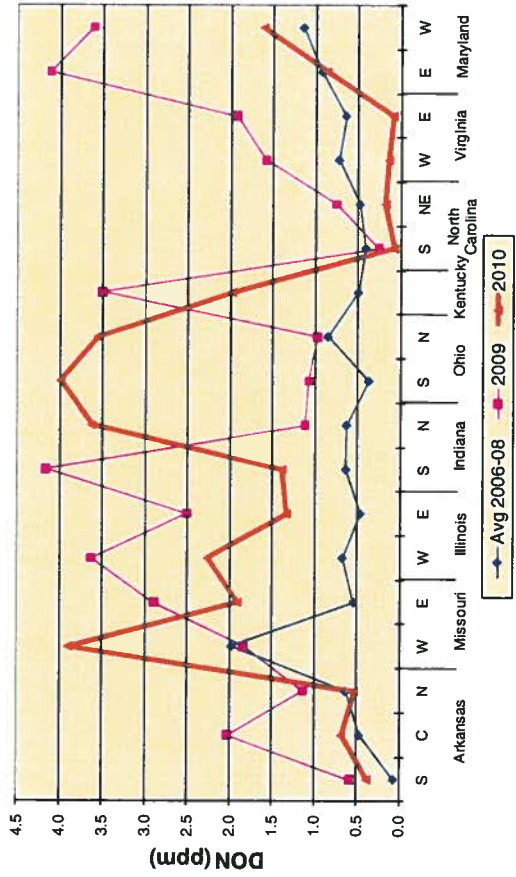


Distribution of 2010 Results and Comparisons with Previous Years For Selected Quality Factors

Wet Gluten

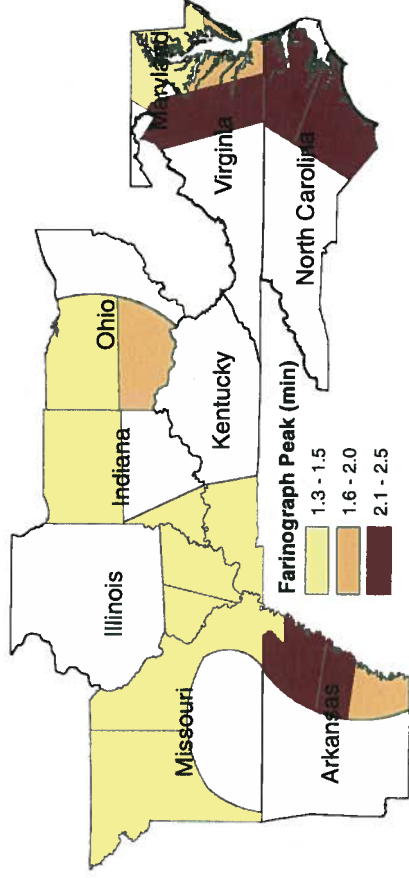
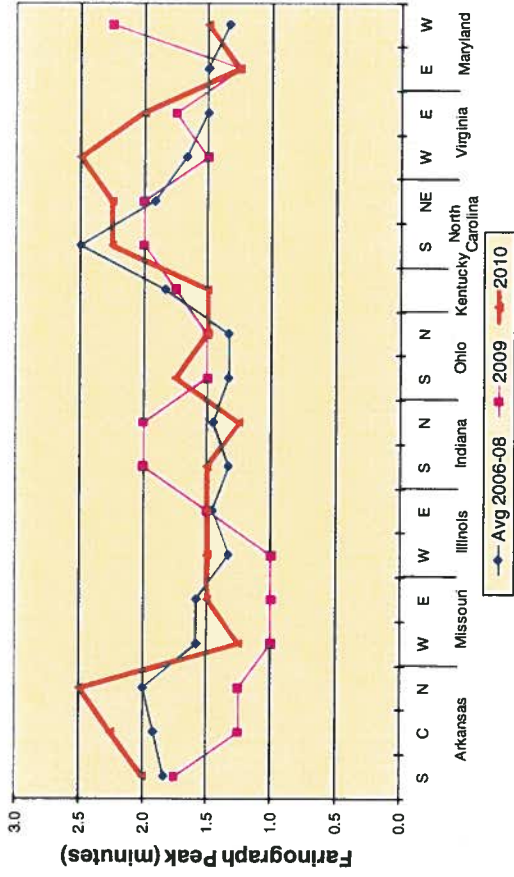


DON

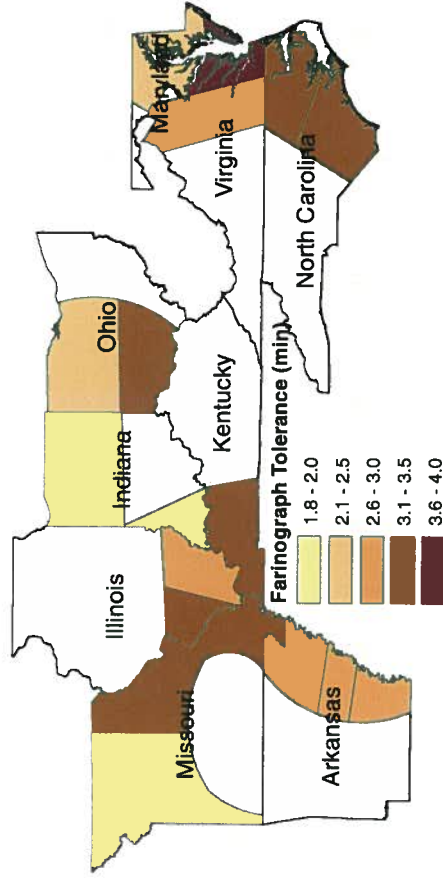
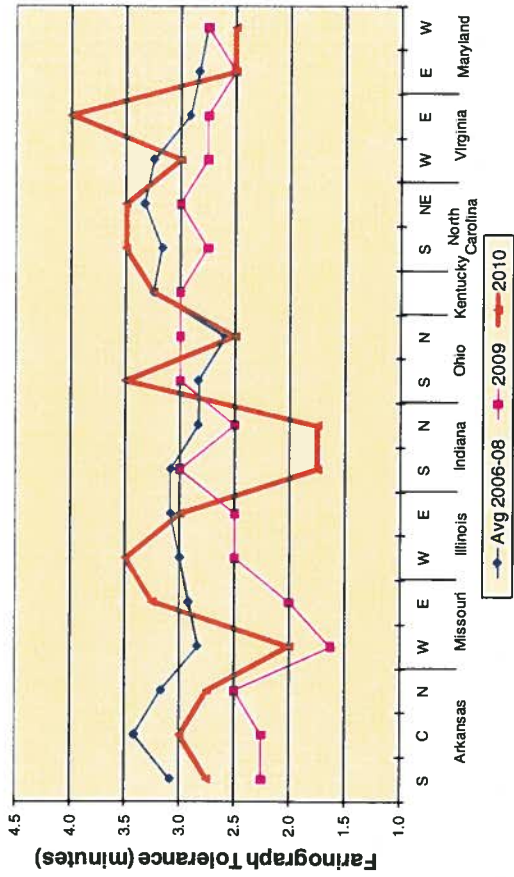


Distribution of 2010 Results and Comparisons with Previous Years For Selected Quality Factors

Farinograph Peak

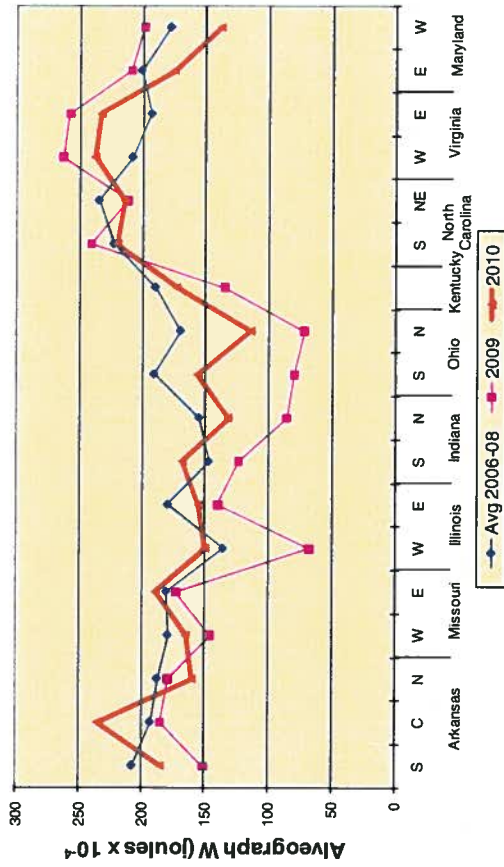


Farinograph Tolerance



Distribution of 2010 Results and Comparisons with Previous Years For Selected Quality Factors

Alveograph W Value



Alveograph P/L

