

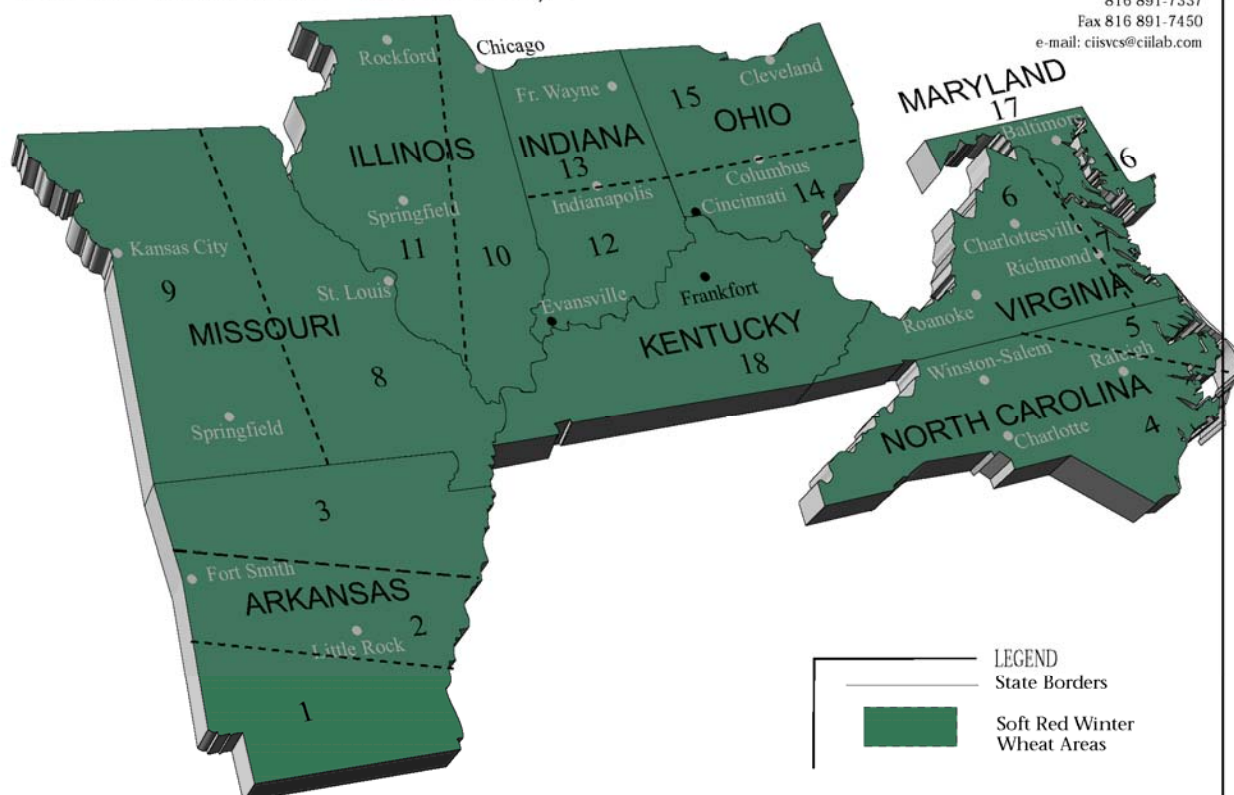
**Soft Red Winter Wheat  
Quality Survey**

**2005**

## Survey Overview

**CII LABORATORY SERVICES** 

10835 Ambassador Drive  
Kansas City, Missouri 64153  
816 891-7337  
Fax 816 891-7450  
e-mail: ciisvs@ciiab.com



### Soft Red Winter Wheat

© CII, 1996-2003 All Rights Reserved

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 309 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. In 2005, only early samples were collected in Arkansas as the harvest finished very quickly. 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 U.S. Wheat Associates and USDA's Foreign Agricultural Service.

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

# 2005 Soft Red Winter Quality Summary

## Soft Red Winter 2005 Survey - All Samples

	Composite Average			East Coast			Gulf Ports		
	2005	2004	5-Year	2005	2004	5-Year	2005	2004	5-Year
<b>Wheat Grade Data</b>									
Test Weight (lb/bu)	60.3	58.2	58.7	60.3	58.1	58.6	60.3	58.3	58.8
Test Weight (kg/hl)	79.3	76.7	77.3	79.4	76.5	77.1	79.3	76.7	77.3
Damage - Total (%)	0.2	1.8	1.5	0.6	1.2	1.5	0.2	1.9	1.5
Foreign Material (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
Shrunken and Broken (%)	0.8	0.7	0.6	0.5	0.8	0.7	0.8	0.7	0.6
Total Defects (%)	1.1	2.5	2.1	1.1	2.1	2.3	1.0	2.6	2.1
Grade	1	NA	NA	1	NA	NA	1	NA	NA
<b>Wheat Non-Grade Data</b>									
Dockage (%)	0.9	0.7	0.7	0.5	0.9	0.9	0.9	0.7	0.7
Moisture (%)	13.1	13.5	13.1	13.2	13.7	13.3	13.1	13.5	13.1
Protein (%) 12%/0% mb	9.5/10.8	NA	NA	9.8/11.1	NA	NA	9.4/10.7	NA	NA
Wheat Ash (%) 14%/0% mb	1.53/1.78	NA	NA	1.49/1.74	NA	NA	1.54/1.79	NA	NA
1000 Kernel Weight (g)	33.8	31.3	32.3	35.5	31.1	31.7	33.4	31.3	32.4
Wheat Falling Number (sec)	360	357	347	356	354	350	362	358	346
Kernel Size (%) lg/med/sm	84/15/01	NA	NA	87/12/01	NA	NA	84/15/01	NA	NA
Single Kernel Hardness	18.4	17.3	21.8	22.4	15.4	21.6	17.4	17.7	21.9
Single Kernel Weight (mg)	24.6	31.9	32.4	35.0	31.9	31.9	22.1	31.9	32.4
Single Kernel Diameter (mm)	1.72	2.28	2.31	2.43	2.26	2.25	1.55	2.29	2.33
Sedimentation (cc)	12.8	12.9	14.5	14.3	14.4	17.6	12.5	12.6	13.9
<b>Flour Data</b>									
Flour Extraction Rate (%)	70.1	69.4	69.7	68.5	70.1	69.5	70.5	69.3	69.7
Flour Color - *L	92.9	92.8	93.2	93.4	92.9	93.2	92.8	92.8	93.2
Flour Color - *a	-3.0	-3.2	-3.3	-3.2	-3.3	-3.4	-2.9	-3.2	-3.3
Flour Color - *b	8.2	8.0	8.0	8.2	8.0	8.0	8.2	8.0	8.0
Flour Protein (%) 14%/0% mb	7.9/9.2	NA	NA	8.1/9.4	NA	NA	7.9/9.2	NA	NA
Flour Ash (%) 14%/0% mb	0.43/0.50	NA	NA	0.43/0.50	NA	NA	0.43/0.50	NA	NA
Wet Gluten (%)	20.9	22.1	22.6	20.3	23.1	23.9	21.0	21.9	22.3
Gluten Index	91.7	90.1		95.4	94.5		90.9	89.0	
Falling Number (sec)	343	335	338	346	336	342	342	335	338
Amylograph (65g) (BU)	674	510	472	596	525	482	693	507	472
Starch Damage (%)	4.3	4.1	4.4	4.1	3.8	4.2	4.3	4.2	4.3
<b>Dough Properties</b>									
Farinograph Peak (min)	1.3	1.6	1.7	1.4	1.8	2.0	1.3	1.6	1.7
Farinograph Stability (min)	2.9	3.0	3.1	3.3	3.1	3.5	2.8	3.0	3.1
Farinograph Absorption (%)	52.3	53.1	52.6	53.1	53.4	53.5	52.1	53.0	52.4
Alveograph P (mm)	39	34	34	46	38	39	37	33	33
Alveograph L (mm)	90	107	107	86	113	113	91	105	106
Alveograph W (10-4 joules)	98	90	89	115	105	113	94	86	85
<b>Baking Evaluation</b>									
Crumb Grain	5.5	5.3	5.6	5.9	5.5	5.8	5.5	5.3	5.6
Crumb Texture	5.8	5.8	5.9	5.7	5.9	6.1	5.8	5.8	5.8
Loaf Volume (cc)	707	723	743	729	724	750	701	722	741
Cookie Spread Ratio	8.5	8.3	8.3	8.1	8.2	8.1	8.6	8.4	8.4
% Area Production	100.0%			19.2%			80.8%		

## State Summary All Samples

	Arkansas	Missouri	Illinois	Indiana	Ohio	Kentucky	North Carolina	Virginia	Maryland
<b>Wheat Grade Data - from Individual Samples</b>									
Test Weight (Lab) (lb/bu)	59.0	60.4	61.5	60.7	59.8	61.7	61.6	61.3	58.7
Count	26	38	39	35	37	22	47	33	32
<b>Wheat Grade Data - from Area Composite Samples</b>									
Test Weight (lb/bu)	58.9	60.8	61.8	61.0	60.0	62.0	61.8	61.8	58.7
Test Weight (kg/hl)	77.6	80.0	81.3	80.3	78.9	81.5	81.3	81.3	77.3
Damage - Total (%)	0.2	0.3	0.1	0.2	0.1	0.0	0.2	0.2	1.0
Foreign Material (%)	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.1
Shrunken and Broken (%)	1.6	0.6	0.4	0.5	0.5	0.4	0.5	0.5	0.5
Total Defects (%)	1.8	1.0	0.5	0.7	0.6	0.4	0.8	0.9	1.5
Grade	2	1	1	1	2	1	1	1	2
<b>Wheat Non-Grade Data - from Individual Samples</b>									
Moisture (%)	12.7	12.9	13.1	12.8	13.5	12.8	13.2	13.3	13.3
Protein (%) 12%/0% mb	9.5/10.7	9.9/11.2	9.6/10.9	10.0/11.3	9.2/10.5	10.0/11.4	10.1/11.5	9.8/11.1	9.7/11.0
Ash (%) 14%/0% mb	1.6/1.82	1.5/1.78	1.5/1.77	1.5/1.78	1.5/1.76	1.5/1.76	1.5/1.73	1.5/1.72	1.5/1.75
1000 Kernel Weight (g)	30.5	33.4	36.4	34.1	33.9	37.6	36.0	36.4	34.8
Wheat Falling Number (sec)	358	371	379	364	345	365	337	389	356
<b>Wheat Non-Grade Data - from Area Composite Samples</b>									
Dockage (%)	1.5	1.1	0.5	0.6	0.5	0.5	0.8	0.7	0.3
Moisture (Lab) (%)	12.9	13.2	13.2	13.0	13.7	12.5	13.3	13.4	13.0
Protein (Lab) (%)	9.5	9.7	9.2	9.6	8.9	9.7	9.9	9.7	9.8
Kernel Size (%) lg/med/sm	79/20/01	84/15/01	88/11/01	85/14/01	86/13/01	89/10/01	86/13/01	88/11/01	87/12/01
Single Kernel Hardness	NA	34.0	28.1	25.6	20.6	27.8	27.7	30.7	15.7
Single Kernel Weight (mg)	NA	32.1	35.7	33.4	33.9	35.2	34.9	35.8	34.8
Single Kernel Diameter (mm)	NA	2.33	2.46	2.35	2.36	2.43	2.44	2.46	2.42
Sedimentation (cc)	13	14	12	12	9	14	18	13	12
<b>Flour Data</b>									
Flour Extraction Rate (%)	72.3	69.1	70.5	70.2	68.7	69.5	69.4	70.5	67.1
Flour Color - *L	93.0	93.1	93.3	92.7	91.6	93.0	93.3	93.1	93.6
Flour Color - *a	-3.1	-2.9	-2.9	-2.8	-2.7	-2.9	-3.0	-3.2	-3.3
Flour Color - *b	8.0	8.0	8.3	8.7	8.3	8.6	8.2	9.1	7.9
Flour Protein (%) 14%/0% mb	8.2/9.6	7.9/9.2	7.7/9.0	8.1/9.5	7.3/8.5	7.9/9.2	8.4/9.7	8.0/9.3	8.0/9.3
Flour Ash (%) 14%/0% mb	0.46/0.54	0.41/0.47	0.43/0.50	0.41/0.47	0.40/0.47	0.41/0.47	0.44/0.51	0.43/0.50	0.42/0.49
Wet Gluten (%)	20.7	22.9	20.6	23.1	19.7	21.7	20.7	20.5	19.8
Gluten Index	93.6	90.8	81.4	85.5	95.0	93.4	94.1	96.6	96.0
Falling Number (sec)	341	362	354	305	317	371	302	390	361
Amylograph (65g) (BU)	621	764	709	755	786	590	377	638	735
Starch Damage (%)	4.9	4.1	4.3	3.8	3.8	3.8	4.3	4.2	4.0
<b>Dough Properties</b>									
Farinograph Peak (min)	1.2	1.5	1.2	1.4	1.2	1.5	1.5	1.5	1.3
Farinograph Stability (min)	2.6	3.8	3.3	2.3	2.0	3.3	3.0	3.8	3.4
Farinograph Absorption (%)	52.0	53.0	52.0	52.4	50.9	53.1	53.4	54.2	52.4
Alveograph P (mm)	37	43	36	35	34	41	47	55	43
Alveograph L (mm)	91	91	91	104	79	105	98	73	83
Alveograph W (10-4 joules)	97	114	90	88	73	113	119	121	110
<b>Baking Evaluation</b>									
Crumb Grain	5.3	5.8	5.7	5.5	5.2	6.0	5.8	5.7	6.0
Crumb Texture	6.0	5.8	6.0	6.3	5.3	5.5	5.5	6.2	5.6
Loaf Volume (cc)	678	743	691	744	692	738	732	743	721
Cookie Spread Ratio	8.6	8.1	8.6	8.4	9.0	8.2	7.7	7.9	8.5

**Soft Red Winter 2005 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
<b>Wheat Grade Data - from Individual Samples</b>																		
Test Weight (Lab) (lb/bu)	58.9	58.9	59.1	61.0	60.0	61.4	61.6	61.6	59.7	58.9	60.4	61.7	61.1	62.3	62.3	60.4	58.2	58.9
Count	8	11	7	21	17	19	20	15	20	10	27	22	22	25	9	24	12	20
<b>Wheat Grade Data - from Area Composite Samples</b>																		
Test Weight (lb/bu)	59.2	58.4	59.4	61.3	60.6	61.8	62.0	61.8	60.1	59.3	60.4	62.0	61.5	62.3	62.3	61.4	58.7	58.8
Test Weight (kg/hl)	77.9	76.9	78.2	80.6	79.7	81.2	81.6	81.3	79.0	78.0	79.5	81.5	80.9	82.0	82.0	80.8	77.2	77.3
Damage - Total (%)	0.3	0.2	0.0	0.7	0.1	0.2	0.1	0.3	0.1	0.3	0.0	0.0	0.3	0.2	0.4	0.0	0.9	1.0
Foreign Material (%)	0.2	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1
Shrunken and Broken (%)	1.6	2.1	0.8	0.6	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.6	0.5	0.5	0.5
Total Defects (%)	2.1	2.3	0.8	1.4	0.8	0.6	0.4	0.8	0.6	0.8	0.5	0.4	0.9	0.7	1.1	0.8	1.4	1.5
Grade	2	2	2	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2
<b>Wheat Non-Grade Data - from Individual Samples</b>																		
Moisture (%)	13.0	12.3	13.0	12.4	13.2	13.2	13.0	12.6	13.0	13.8	13.4	12.8	13.1	13.3	13.1	13.6	12.9	13.4
Protein (%) 12% mb	8.9	9.5	9.9	10.0	9.8	9.6	9.5	10.2	9.7	9.0	9.3	10.0	10.5	9.5	9.6	10.0	9.8	9.6
Ash (%) 14% mb	1.59	1.53	1.59	1.58	1.50	1.51	1.53	1.56	1.48	1.55	1.50	1.51	1.50	1.46	1.52	1.45	1.48	1.51
1000 Kernel Weight (g)	30.9	29.8	31.0	32.1	34.2	36.2	37.0	35.4	32.5	34.2	33.7	37.6	36.1	35.8	37.3	35.6	33.3	35.2
Wheat Falling Number (sec)	355	357	360	368	372	376	386	375	352	334	351	365	322	359	397	381	356	357
<b>Wheat Non-Grade Data - from Area Composite Samples</b>																		
Dockage (%)	1.2	1.8	1.2	1.3	1.0	0.5	0.8	0.6	0.6	0.5	0.6	0.5	0.9	0.8	0.5	0.9	0.4	0.3
Moisture (%)	12.3	12.9	13.5	12.8	13.5	13.4	12.8	12.7	13.3	13.9	13.6	12.5	13.3	13.4	13.1	13.6	12.9	13.0
Protein (%) 12% mb	8.9	9.6	9.8	9.8	9.6	9.3	9.2	10.0	9.1	8.8	9.0	9.7	10.3	9.3	9.3	10.0	10.1	9.7
Kernel Size Large (Over 7) (%)	85	77	75	82	86	88	91	86	85	87	86	89	86	86	89	87	86	88
Kernel Size Medium (Over 9) (%)	14	21	24	17	13	12	9	13	15	13	13	10	13	14	10	12	13	12
Kernel Size Small (Thru 9) (%)	1	2	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1
Single Kernel Hardness	NA	NA	NA	32.9	34.8	29.0	26.0	29.7	20.6	20.0	21.0	27.8	25.1	31.6	32.0	29.5	18.8	14.8
Single Kernel Weight (mg)	NA	NA	NA	31.0	32.9	35.4	36.3	34.5	32.1	33.9	33.9	35.2	35.0	34.7	37.0	34.7	32.6	35.5
Single Kernel Diameter (mm)	NA	NA	NA	2.33	2.34	2.45	2.49	2.42	2.28	2.38	2.35	2.43	2.43	2.45	2.49	2.43	2.36	2.44
Sedimentation (cc)	12	14	14	15	14	13	12	14	10	8	10	14	21	15	13	14	13	12
<b>Flour Data</b>																		
Flour Extraction Rate (%)	69.6	73.5	72.9	69.4	68.9	70.8	70.1	70.0	70.6	68.2	69.1	69.5	69.8	68.8	70.3	70.8	68.2	66.8
Flour Color - *L	92.2	93.5	93.0	93.0	93.3	93.5	92.9	92.7	92.6	92.1	91.4	93.0	93.2	93.4	93.3	93.1	93.3	93.7
Flour Color - *a	-2.6	-3.3	-3.3	-3.2	-2.7	-2.9	-3.1	-2.8	-2.8	-2.8	-2.7	-2.9	-3.1	-2.9	-3.2	-3.2	-3.2	-3.4
Flour Color - *b	7.2	8.3	8.4	8.2	7.9	8.2	8.4	8.8	8.7	8.1	8.5	8.6	8.2	8.3	9.2	9.1	7.4	8.0
Flour Protein (%) 14% mb	7.9	8.2	8.5	8.2	7.7	7.6	8.0	8.4	7.8	7.1	7.4	7.9	8.8	7.8	7.8	8.1	8.1	8.0
Flour Ash (%) 14% mb	0.45	0.47	0.47	0.42	0.40	0.43	0.45	0.42	0.40	0.40	0.40	0.41	0.46	0.43	0.42	0.45	0.41	0.43
Wet Gluten (%)	21.3	19.0	22.6	22.7	23.0	20.1	21.7	24.1	21.9	18.7	20.3	21.7	21.6	19.4	20.5	20.4	21.4	19.4
Gluten Index	95.8	92.1	93.7	88.1	92.7	94.3	53.1	82.3	89.4	94.0	95.7	93.4	92.5	96.5	96.4	96.8	92.5	97.0
Falling Number (sec)	316	331	374	376	353	363	334	341	262	310	322	371	283	330	369	409	319	373
Amylograph (65g) (BU)	450	660	710	705	805	750	620	710	810	780	790	590	255	555	625	650	700	745
Starch Damage (%)	4.6	5.3	4.6	4.0	4.2	4.0	5.0	3.8	3.8	4.0	3.8	3.8	4.2	4.4	4.2	4.2	4.0	4.0
<b>Dough Properties</b>																		
Farinograph Peak (min)	1.0	1.0	1.5	1.5	1.5	1.0	1.5	1.8	1.0	1.0	1.3	1.5	1.8	1.3	1.5	1.5	1.5	1.3
Farinograph Stability (min)	1.5	3.0	3.0	3.5	4.0	3.5	2.8	2.5	2.0	1.9	2.0	3.3	3.0	3.0	3.8	3.8	3.0	3.5
Farinograph Absorption (%)	51.8	52.4	51.7	53.2	52.9	51.8	52.5	53.2	51.6	51.3	50.7	53.1	53.8	52.8	54.7	53.8	52.4	52.4
Alveograph P (mm)	41	38	34	40	45	34	42	37	32	34	34	41	47	47	56	54	35	45
Alveograph L (mm)	83	93	94	100	85	98	77	107	101	72	84	105	105	87	77	69	87	82
Alveograph W (10-4 joules)	100	102	87	106	121	91	90	98	77	68	76	113	122	117	123	120	80	118
<b>Baking Evaluation</b>																		
Crumb Grain	6.0	5.0	5.0	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.0	6.0	6.0	5.5	6.0	5.5	6.0	6.0
Crumb Texture	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.5	6.0	5.0	5.5	5.5	5.5	5.5	6.5	6.0	6.0	5.5
Loaf Volume (cc)	675	675	685	750	738	675	725	770	713	700	688	738	750	705	750	738	708	725
Cookie Spread Ratio	8.4	8.4	9.1	8.1	8.1	8.8	8.1	8.0	8.8	9.5	8.7	8.2	7.3	8.3	7.8	8.1	8.5	8.5

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

### Soft Red Winter 2005 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	NE	W	E	W	E
<b>Wheat Grade Data - from Individual Samples</b>																		
Test Weight (Lab) (lb/bu)	58.9	58.9	59.1	61.0	59.7	60.8	61.4	62.2	59.7	58.7	60.3	61.8	61.1	62.7	63.0	60.3	58.2	58.6
Count	8	11	7	7	7	9	11	8	10	5	14	11	11	13	4	12	6	10
<b>Wheat Grade Data - from Area Composite Samples</b>																		
Test Weight (lb/bu)	59.2	58.4	59.4	61.1	60.3	61.3	62.1	62.5	60.0	58.9	60.4	62.0	61.3	62.1	63.5	62.0	58.9	58.5
Test Weight (kg/hl)	77.9	76.9	78.2	80.4	79.3	80.6	81.7	82.2	78.9	77.5	79.5	81.5	80.6	81.7	83.5	81.5	77.5	77.0
Damage - Total (%)	0.3	0.2	0.0	0.8	0.0	0.2	0.0	0.0	0.2	0.6	0.0	0.0	0.2	0.4	0.3	0.0	0.7	1.1
Foreign Material (%)	0.2	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.4	0.0	0.0
Shrunken and Broken (%)	1.6	2.1	0.8	0.4	0.5	0.4	0.3	0.4	0.5	0.4	0.4	0.3	0.4	0.4	0.4	0.6	0.5	0.4
Total Defects (%)	2.1	2.3	0.8	1.4	0.6	0.6	0.3	0.5	0.7	1.0	0.4	0.3	0.7	0.8	0.8	1.0	1.2	1.5
Grade	2	2	2	1	1	2	1	1	1	2	1	1	1	1	1	1	2	2
<b>Wheat Non-Grade Data - from Individual Samples</b>																		
Moisture (%)	13.0	12.3	13.0	12.6	13.5	14.0	13.5	12.5	13.1	13.9	13.8	13.0	13.4	13.5	12.7	13.3	12.7	13.0
Protein (%) 12% mb	8.9	9.5	9.9	9.9	9.8	9.6	9.4	10.0	9.7	9.0	9.2	10.0	10.2	9.4	9.3	9.9	10.0	9.5
Ash (%) 14% mb	1.59	1.53	1.59	1.59	1.47	1.51	1.51	1.57	1.44	1.55	1.48	1.55	1.51	1.46	1.47	1.46	1.48	1.50
1000 Kernel Weight (g)	30.9	29.8	31.0	32.4	34.6	37.9	38.2	36.2	32.7	33.8	34.1	38.4	37.5	36.0	37.6	34.9	33.1	35.3
Wheat Falling Number (sec)	355	357	360	355	366	371	382	385	352	329	347	367	314	354	404	376	373	357
<b>Wheat Non-Grade Data - from Area Composite Samples</b>																		
Dockage (%)	1.2	1.8	1.2	1.8	1.3	0.4	0.9	0.5	0.6	0.4	0.4	0.5	0.7	0.8	0.4	1.0	0.3	0.2
Moisture (%)	12.3	12.9	13.5	13.0	13.4	14.5	13.8	12.4	13.5	14.2	14.1	12.8	13.6	13.7	12.5	13.1	12.8	12.7
Protein (%) 12% mb	8.9	9.6	9.8	9.8	9.3	9.5	9.4	9.8	9.2	8.4	8.9	9.9	10.1	9.1	8.9	10.1	10.1	9.8
Kernel Size Large (Over 7) (%)	85	77	75	83	87	91	93	86	86	89	87	91	90	85	90	87	87	87
Kernel Size Medium (Over 9) (%)	14	21	24	16	13	9	7	13	14	10	12	9	9	14	9	12	13	12
Kernel Size Small (Thru 9) (%)	1	2	1	1	1	0	0	1	1	0	1	0	0	1	1	1	1	0
Single Kernel Hardness	NA	NA	NA	33.6	37.2	NA	NA	31.5	19.7	18.6	21.5	32.0	NA	33.5	39.6	33.5	22.4	13.5
Single Kernel Weight (mg)	NA	NA	NA	32.0	33.0	NA	NA	35.1	31.4	33.9	34.5	36.4	NA	36.0	38.0	34.3	31.4	36.1
Single Kernel Diameter (mm)	NA	NA	NA	2.38	2.30	NA	NA	2.44	2.25	2.40	2.37	2.50	NA	2.50	2.50	2.41	2.30	2.47
Sedimentation (cc)	12	14	14	15	14	13	12	15	10	8	10	14	20	15	12	14	13	12
<b>Flour Data</b>																		
Flour Extraction Rate (%)	69.6	73.5	72.9	68.6	68.4	72.2	72.2	69.5	72.3	69.6	68.0	69.8	69.0	69.0	69.7	71.4	67.6	67.9
Flour Color - *L	92.2	93.5	93.0	93.0	93.3	94.2	93.7	92.5	92.9	92.8	89.8	94.1	93.7	93.5	93.3	93.1	93.5	93.7
Flour Color - *a	-2.6	-3.3	-3.3	-2.6	-2.7	-2.9	-3.3	-2.8	-2.8	-2.7	-2.5	-3.0	-3.4	-2.7	-3.3	-3.2	-3.3	-3.4
Flour Color - *b	7.2	8.3	8.4	8.1	7.9	7.4	8.2	8.9	8.9	7.8	8.2	8.8	8.0	8.1	9.6	8.8	7.4	8.0
Flour Protein (%) 14% mb	7.9	8.2	8.5	8.2	7.5	7.3	7.9	8.5	8.1	7.1	7.2	7.5	8.2	7.6	7.7	8.3	8.2	8.1
Flour Ash (%) 14% mb	0.45	0.47	0.47	0.43	0.40	0.39	0.41	0.41	0.39	0.40	0.40	0.41	0.46	0.42	0.40	0.45	0.40	0.45
Wet Gluten (%)	21.3	19.0	22.6	22.7	24.9	19.4	21.7	24.7	22.4	18.7	20.4	22.0	21.5	20.1	20.0	20.4	21.4	21.0
Gluten Index	95.8	92.1	93.7	89.9	94.3	98.7	9.2	75.3	86.8	92.4	94.6	91.2	87.4	95.7	95.4	97.1	93.8	95.3
Falling Number (sec)	316	331	374	382	348	376	305	334	242	333	347	391	271	327	347	386	318	377
Amylograph (65g) (BU)	450	660	710	710	830	750	540	700	790	790	890	520	230	550	570	610	730	710
Starch Damage (%)	4.6	5.3	4.6	3.8	4.6	4.2	5.8	3.8	3.8	3.8	3.8	4.2	3.8	4.2	4.6	4.2	4.2	4.2
<b>Dough Properties</b>																		
Farinograph Peak (min)	1.0	1.0	1.5	1.5	1.5	1.0	1.5	2.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.0
Farinograph Stability (min)	1.5	3.0	3.0	4.0	3.5	3.0	2.5	3.0	2.0	2.0	2.0	3.5	2.5	2.5	3.5	3.5	3.5	3.5
Farinograph Absorption (%)	51.8	52.4	51.7	53.3	53.5	51.8	53.0	52.6	51.1	51.5	50.8	52.6	53.2	52.8	53.6	53.4	52.7	53.0
Alveograph P (mm)	41	38	34	42	47	30	42	36	30	33	33	39	44	46	51	53	37	48
Alveograph L (mm)	83	93	94	96	82	106	67	116	106	73	89	100	94	97	91	66	93	74
Alveograph W (10-4 joules)	100	102	87	107	124	86	77	103	74	69	77	107	100	124	123	110	92	119
<b>Baking Evaluation</b>																		
Crumb Grain	6	5	5	6	6	5	6	5	5	6	5	6	6	6	6	6	6	6
Crumb Texture	6	6	6	5	6	6	5	6	6	5	6	5	6	5	6	7	6	5
Loaf Volume (cc)	675	675	685	775	725	650	700	775	725	700	700	725	700	685	750	725	700	750
Cookie Spread Ratio	8.4	8.4	9.1	7.8	7.7	9.1	7.5	8.2	8.6	10.0	8.5	8.6	7.2	8.6	7.8	8.2	8.4	8.4

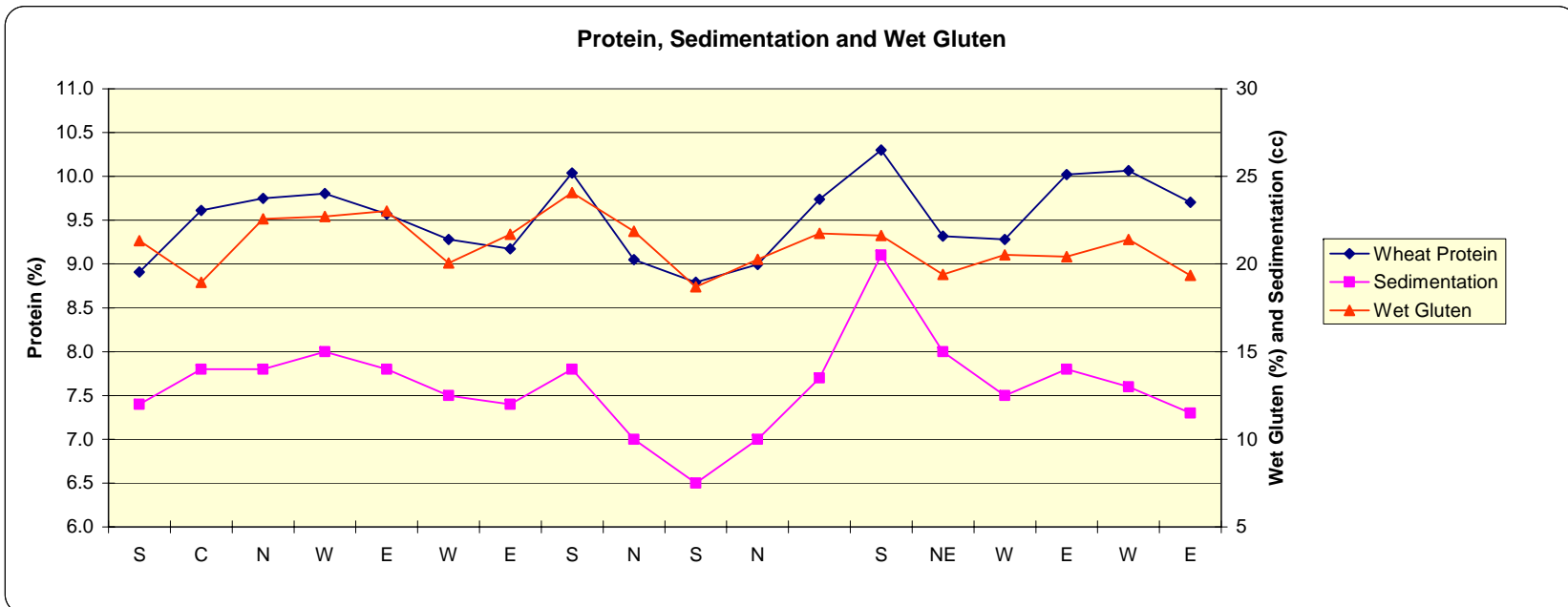
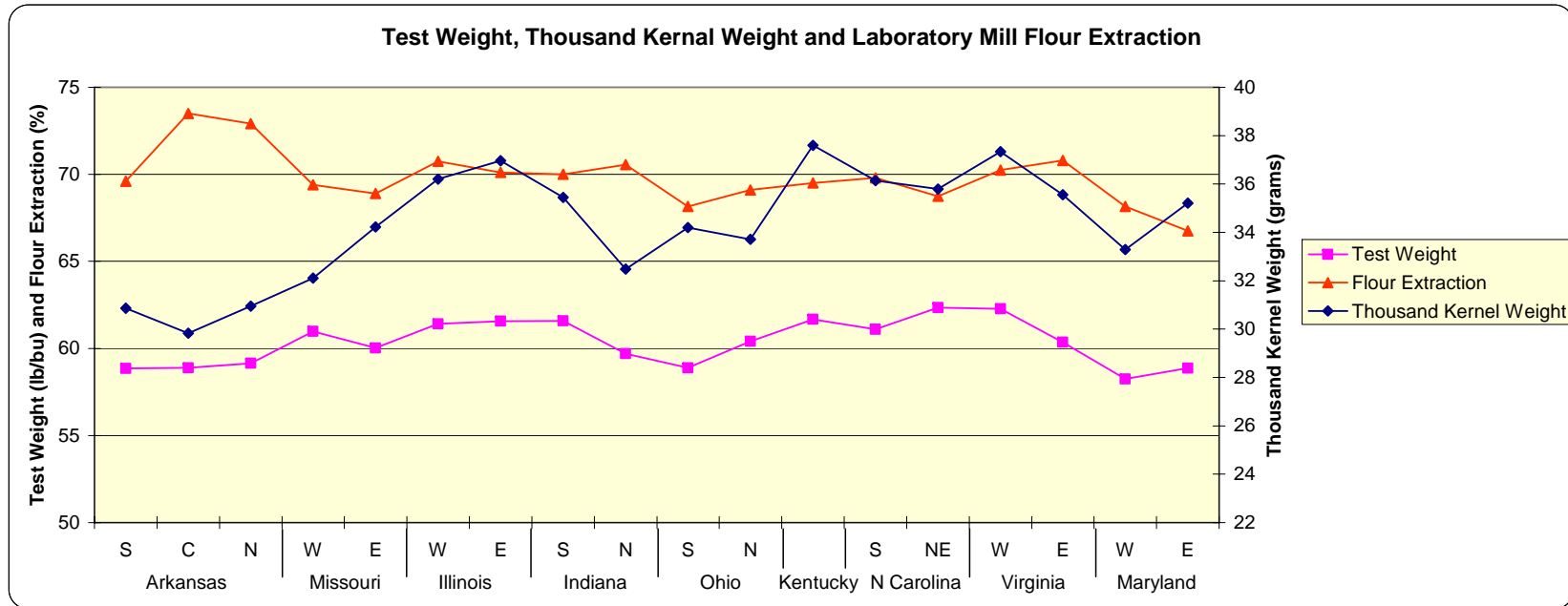
N-North, S-South, E-East, W-West, C-Central, NE-North East, NA-Not Available

**Soft Red Winter 2005 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
<b>Wheat Grade Data - from Individual Samples</b>																		
Test Weight (Lab) (lb/bu)	NA	NA	NA	61.0	60.2	62.0	61.8	60.9	59.7	59.1	60.6	61.5	61.1	62.0	61.7	60.4	58.3	59.1
Count	NA	NA	NA	14	10	10	9	7	10	5	13	11	11	12	5	12	6	10
<b>Wheat Grade Data - from Area Composite Samples</b>																		
Test Weight (lb/bu)	NA	NA	NA	61.4	60.8	62.2	61.9	61.1	60.1	59.6	60.4	61.9	61.7	62.5	61.1	60.8	58.4	59.0
Test Weight (kg/hl)	NA	NA	NA	80.7	80.0	81.8	81.4	80.4	79.1	78.4	79.5	81.4	81.1	82.2	80.4	80.0	76.9	77.6
Damage - Total (%)	NA	NA	NA	0.6	0.2	0.1	0.1	0.6	0.0	0.0	0.0	0.0	0.3	0.0	0.5	0.0	1.0	0.9
Foreign Material (%)	NA	NA	NA	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
Shrunken and Broken (%)	NA	NA	NA	0.7	0.6	0.5	0.4	0.5	0.4	0.5	0.5	0.4	0.6	0.4	0.7	0.4	0.5	0.5
Total Defects (%)	NA	NA	NA	1.4	0.9	0.6	0.5	1.1	0.5	0.5	0.6	0.5	1.0	0.5	1.3	0.6	1.6	1.5
Grade	NA	NA	NA	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2
<b>Wheat Non-Grade Data - from Individual Samples</b>																		
Moisture (%)	NA	NA	NA	12.3	13.0	12.4	12.3	12.7	13.0	13.6	12.9	12.6	12.8	13.0	13.4	13.9	13.1	13.9
Protein (%) 12% mb	NA	NA	NA	10.1	9.8	9.6	9.6	10.4	9.8	9.0	9.5	10.1	10.8	9.6	9.9	10.1	9.7	9.8
Ash (%) 14% mb	NA	NA	NA	1.58	1.52	1.51	1.57	1.55	1.53	1.54	1.51	1.48	1.50	1.45	1.56	1.43	1.48	1.51
1000 Kernel Weight (g)	NA	NA	NA	32.0	33.9	34.7	35.4	34.6	32.3	34.6	33.3	36.8	34.8	35.6	37.1	36.2	33.5	35.1
Wheat Falling Number (sec)	NA	NA	NA	375	377	380	391	363	352	338	356	363	330	363	392	387	338	357
<b>Wheat Non-Grade Data - from Area Composite Samples</b>																		
Dockage (%)	NA	NA	NA	0.8	0.7	0.5	0.6	0.7	0.5	0.5	0.7	0.5	1.0	0.8	0.6	0.7	0.4	0.3
Moisture (%)	NA	NA	NA	12.6	13.7	12.4	11.8	13.0	13.1	13.7	13.1	12.3	13.0	13.1	13.8	14.2	13.1	13.4
Protein (%) 12% mb	NA	NA	NA	9.8	9.8	9.1	8.9	10.3	8.9	9.2	9.1	9.6	10.5	9.5	9.6	10.0	10.0	9.6
Kernel Size Large (Over 7) (%)	NA	NA	NA	80	85	85	89	86	83	84	85	88	82	86	87	87	86	88
Kernel Size Medium (Over 9) (%)	NA	NA	NA	18	14	15	11	13	16	15	14	11	17	14	11	12	13	11
Kernel Size Small (Thru 9) (%)	NA	NA	NA	1	1	1	0	1	1	1	1	1	1	1	2	1	1	1
Single Kernel Hardness	NA	NA	NA	32.3	32.4	29.0	26.0	28.0	21.4	21.5	20.5	23.6	25.1	29.7	24.3	25.5	15.2	16.1
Single Kernel Weight (mg)	NA	NA	NA	30.1	32.7	35.4	36.3	34.0	32.8	33.8	33.3	33.9	35.0	33.5	36.0	35.1	33.9	34.8
Single Kernel Diameter (mm)	NA	NA	NA	2.28	2.37	2.45	2.49	2.40	2.30	2.36	2.32	2.35	2.43	2.39	2.48	2.44	2.41	2.41
Sedimentation (cc)	NA	NA	NA	15	14	12	12	13	10	7	10	13	21	15	13	14	13	11
<b>Flour Data</b>																		
Flour Extraction Rate (%)	NA	NA	NA	70.2	69.4	69.3	68.0	70.5	68.8	66.7	70.2	69.2	70.6	68.5	70.8	70.2	68.7	65.6
Flour Color - *L	NA	NA	NA	92.9	93.2	92.7	92.0	92.9	92.3	91.4	92.9	91.9	92.7	93.3	93.2	93.0	93.1	93.6
Flour Color - *a	NA	NA	NA	-3.8	-2.6	-2.9	-2.8	-2.8	-2.8	-2.9	-2.9	-2.8	-2.8	-3.0	-3.1	-3.1	-3.1	-3.3
Flour Color - *b	NA	NA	NA	8.2	7.8	9.0	8.6	8.7	8.4	8.3	8.8	8.4	8.3	8.4	8.7	9.4	7.3	8.0
Flour Protein (%) 14% mb	NA	NA	NA	8.3	7.8	7.9	8.0	8.4	7.5	7.2	7.6	8.3	9.3	8.0	8.0	7.9	8.0	7.9
Flour Ash (%) 14% mb	NA	NA	NA	0.41	0.39	0.46	0.49	0.42	0.41	0.40	0.40	0.40	0.45	0.43	0.43	0.44	0.41	0.40
Wet Gluten (%)	NA	NA	NA	22.7	21.2	20.7	21.7	23.4	21.3	18.7	20.1	21.5	21.8	18.7	21.0	20.4	21.4	17.7
Gluten Index	NA	NA	NA	86.3	91.1	89.9	96.9	89.2	92.0	95.6	96.7	95.6	97.6	97.2	97.4	96.4	91.1	98.6
Falling Number (sec)	NA	NA	NA	370	358	350	363	347	281	287	296	350	294	333	390	432	320	369
Amylograph (65g) (BU)	NA	NA	NA	700	780	750	700	720	830	770	690	660	280	560	680	690	670	780
Starch Damage (%)	NA	NA	NA	4.2	3.8	3.8	4.2	3.8	3.8	4.2	3.8	3.4	4.6	4.6	3.8	4.2	3.8	3.8
<b>Dough Properties</b>																		
Farinograph Peak (min)	NA	NA	NA	1.5	1.5	1.0	1.5	1.5	1.0	1.0	1.5	1.5	2.0	1.5	1.5	1.5	1.5	1.5
Farinograph Stability (min)	NA	NA	NA	3.0	4.5	4.0	3.0	2.0	2.0	1.8	2.0	3.0	3.5	3.5	4.0	4.0	2.5	3.5
Farinograph Absorption (%)	NA	NA	NA	53.0	52.3	51.8	52.0	53.7	52.0	51.1	50.5	53.5	54.4	52.8	55.8	54.2	52.0	51.7
Alveograph P (mm)	NA	NA	NA	38	43	37	41	38	33	34	34	42	49	48	61	54	32	42
Alveograph L (mm)	NA	NA	NA	103	88	90	86	97	96	71	78	110	116	77	63	72	81	89
Alveograph W (10-4 joules)	NA	NA	NA	104	117	95	103	92	79	67	74	119	143	109	123	129	68	117
<b>Baking Evaluation</b>																		
Crumb Grain	NA	NA	NA	5	6	6	6	6	6	5	5	6	6	5	6	5	6	6
Crumb Texture	NA	NA	NA	6	6	6	7	7	6	5	5	6	5	6	7	5	6	6
Loaf Volume (cc)	NA	NA	NA	725	750	700	750	765	700	700	675	750	800	725	750	750	715	700
Cookie Spread Ratio	NA	NA	NA	8.4	8.5	8.5	8.7	7.8	9.0	8.9	9.0	7.8	7.4	7.9	7.7	8.0	8.6	8.6

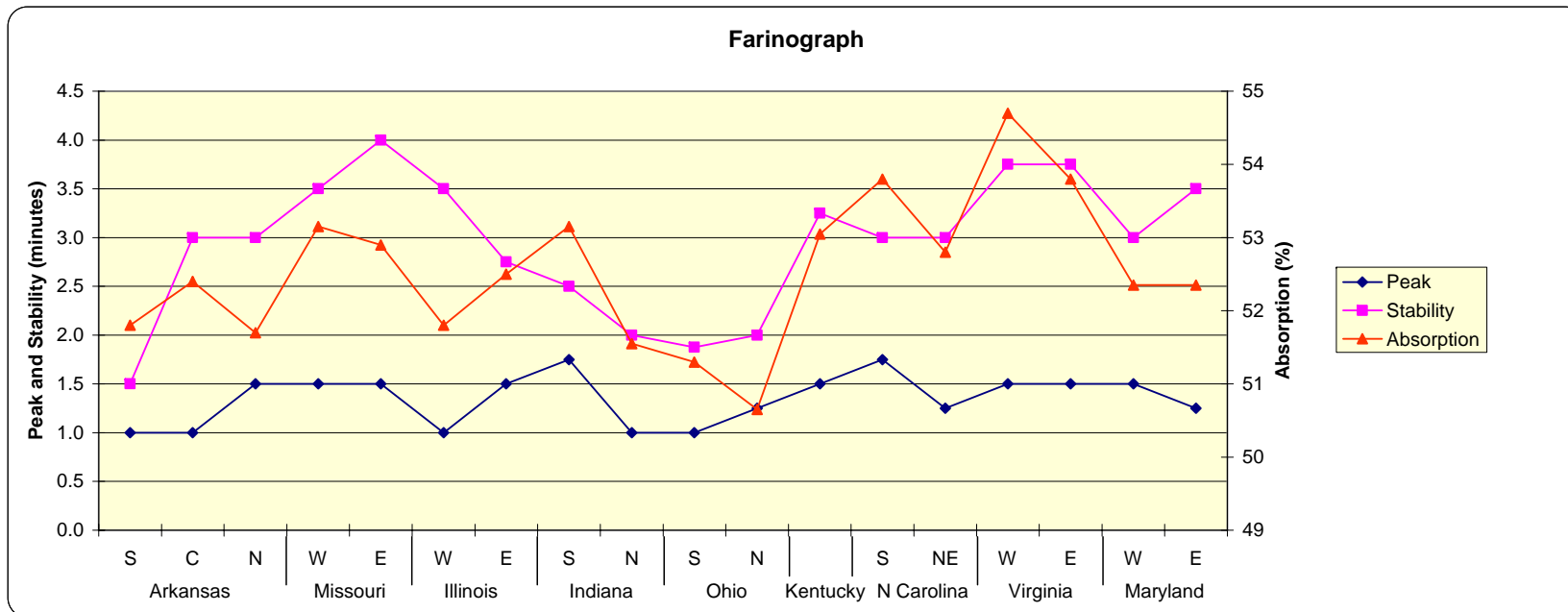
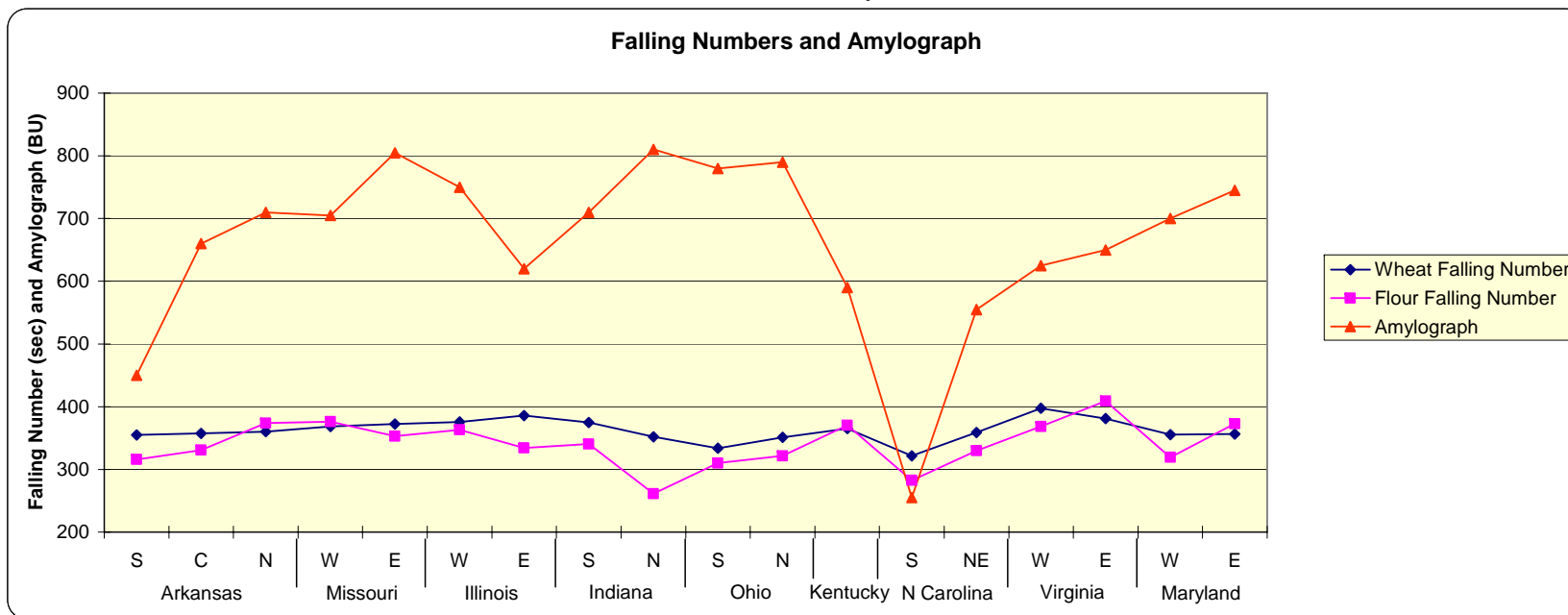
N-North, S-South, E-East, W-West, C-Central, NE-North East, NA-Not Available

## Comparisons of 2005 Results For Selected Quality Factors

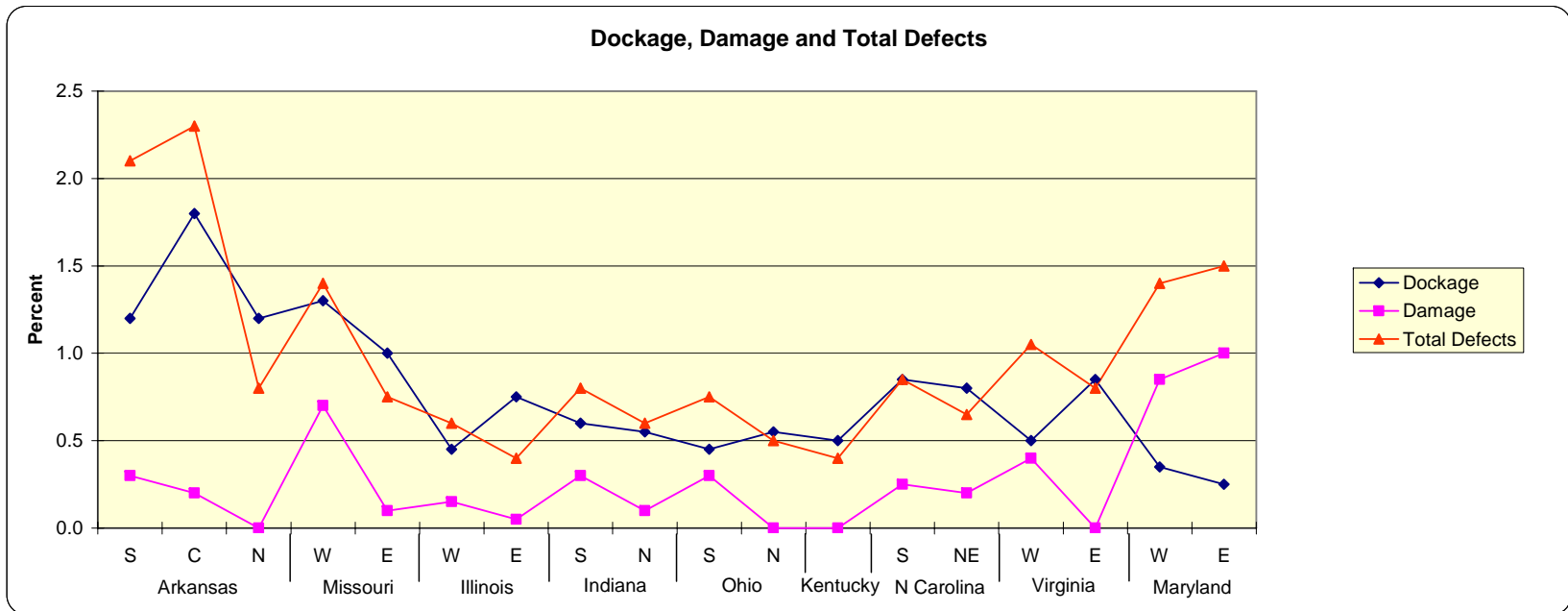
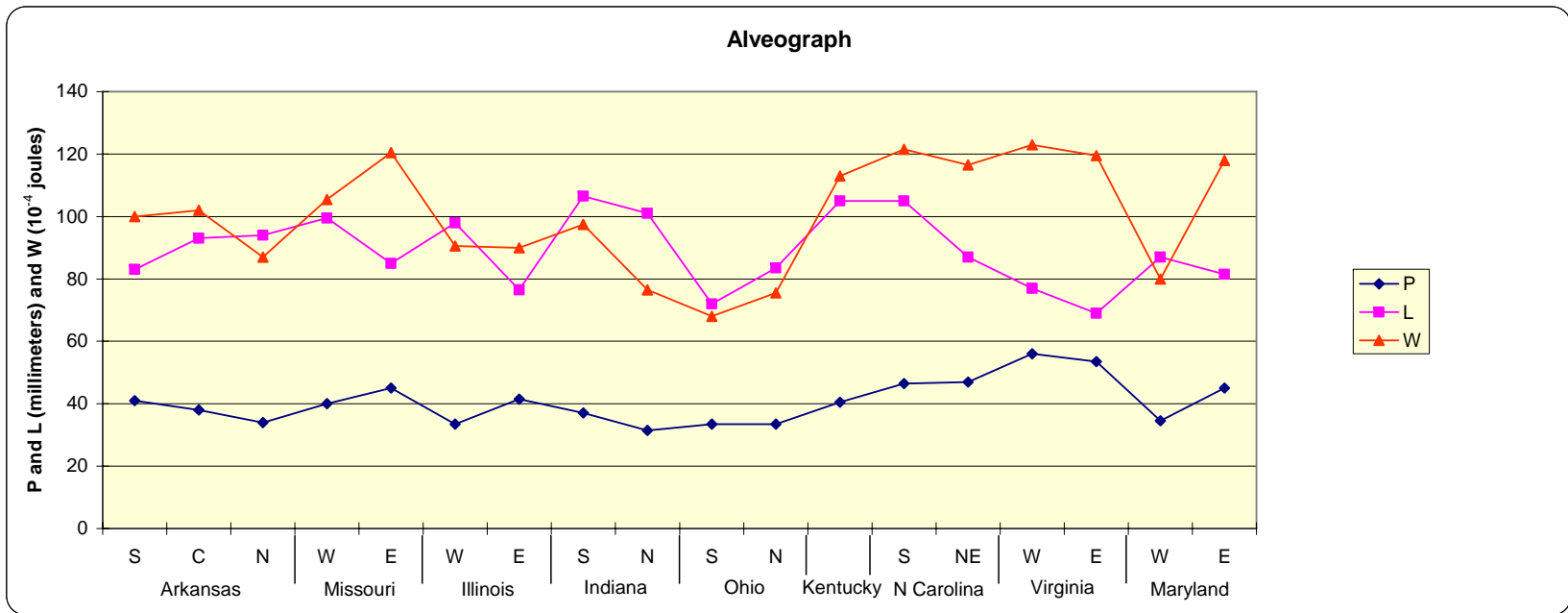




# Comparisons of 2005 Results For Selected Quality Factors

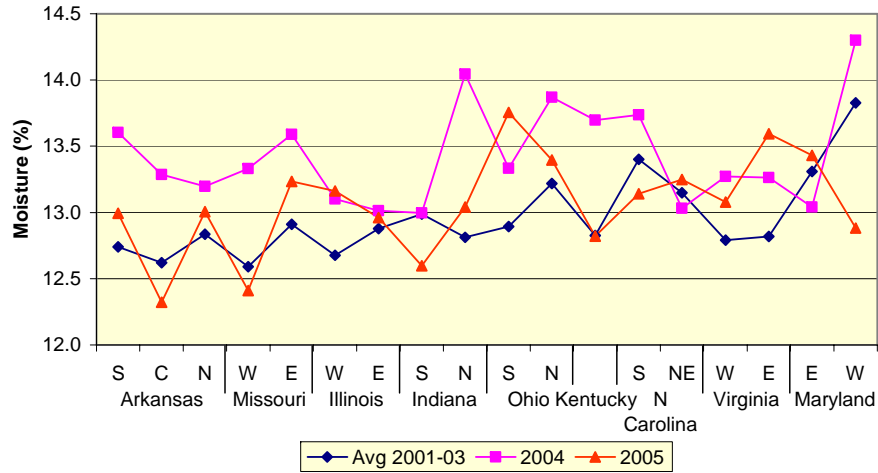


## Comparisons of 2005 Results For Selected Quality Factors

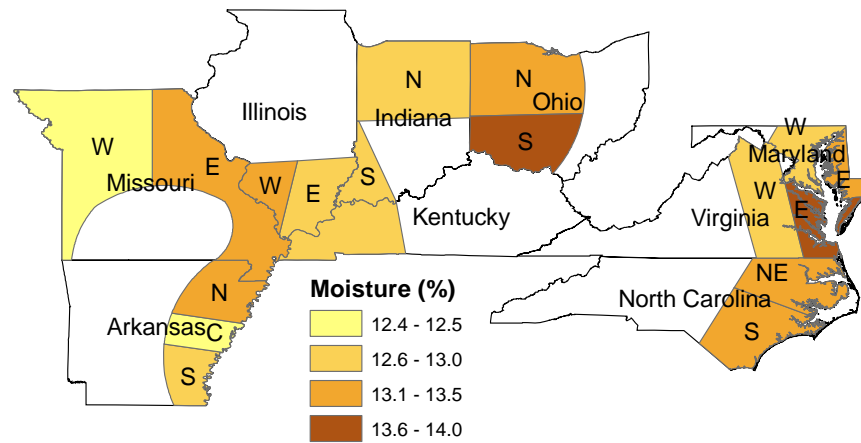
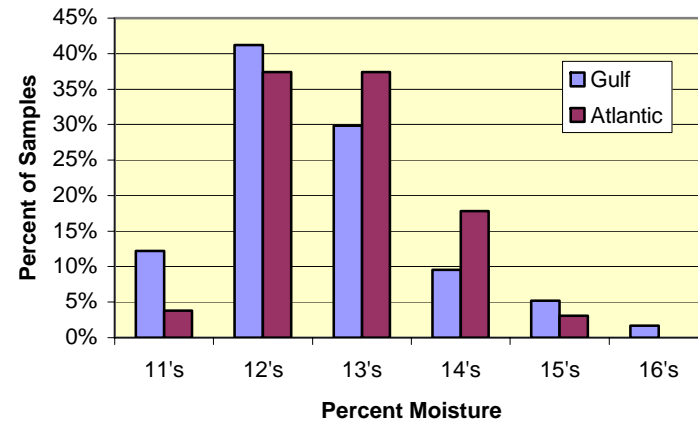


## Distribution of 2005 Results and Comparisons with Previous Years For Selected Quality Factors

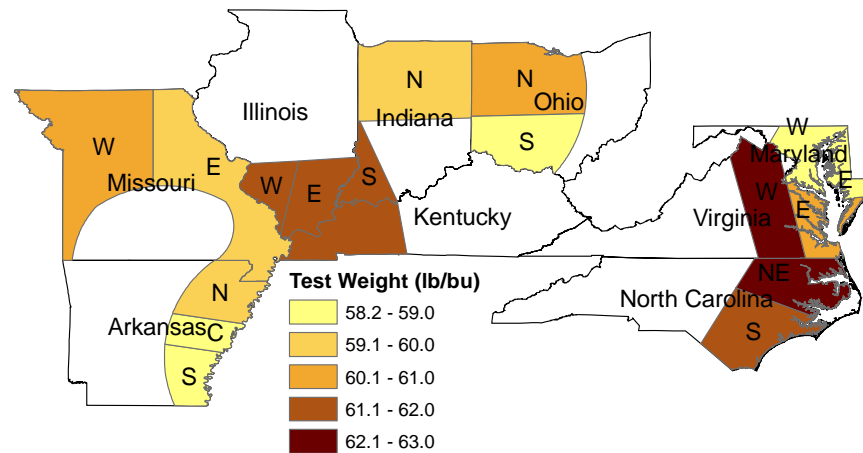
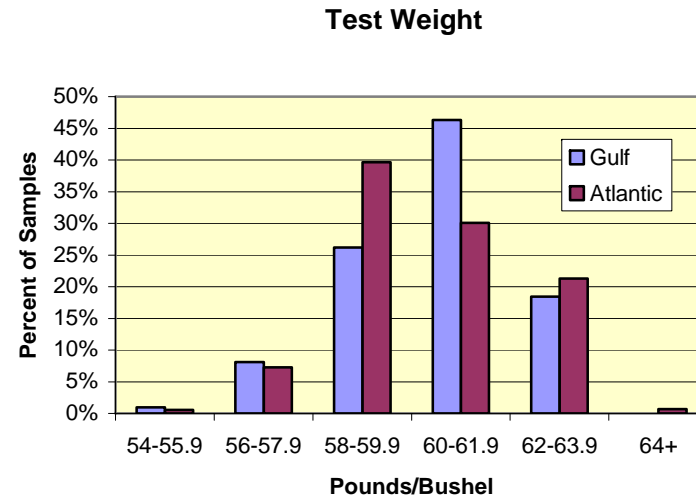
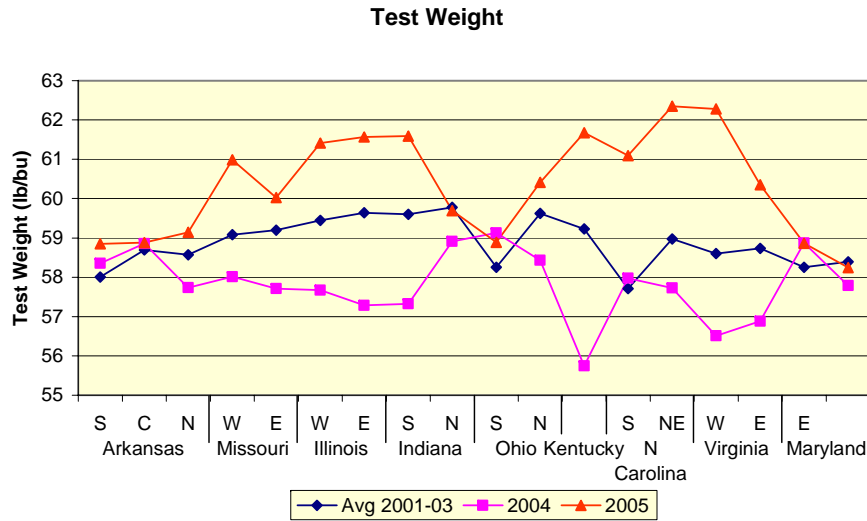
**Moisture**



**Moisture**

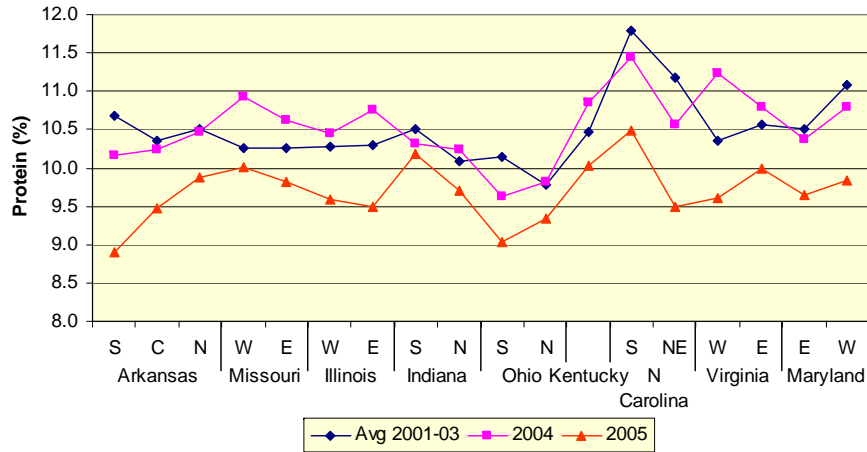


## Distribution of 2005 Results and Comparisons with Previous Years For Selected Quality Factors

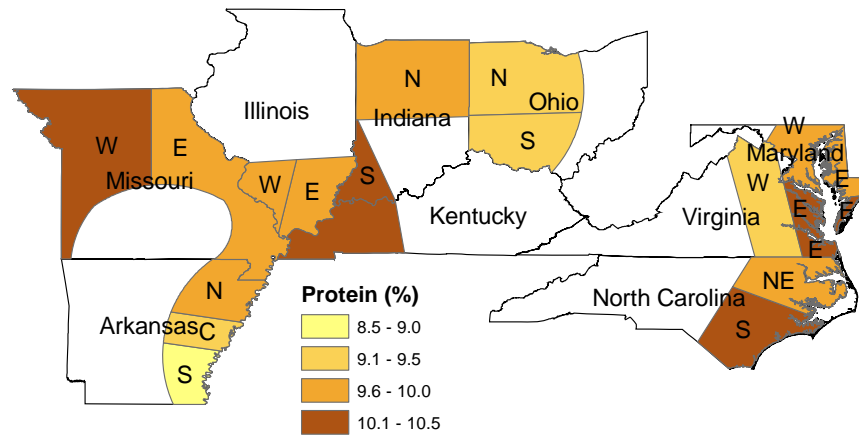
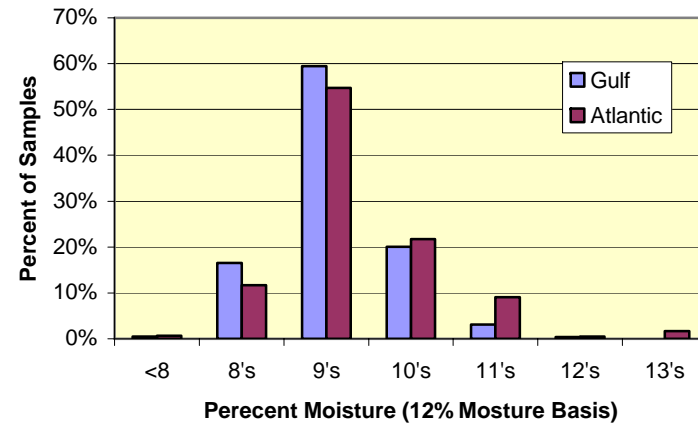


## Distribution of 2005 Results and Comparisons with Previous Years For Selected Quality Factors

**Protein**

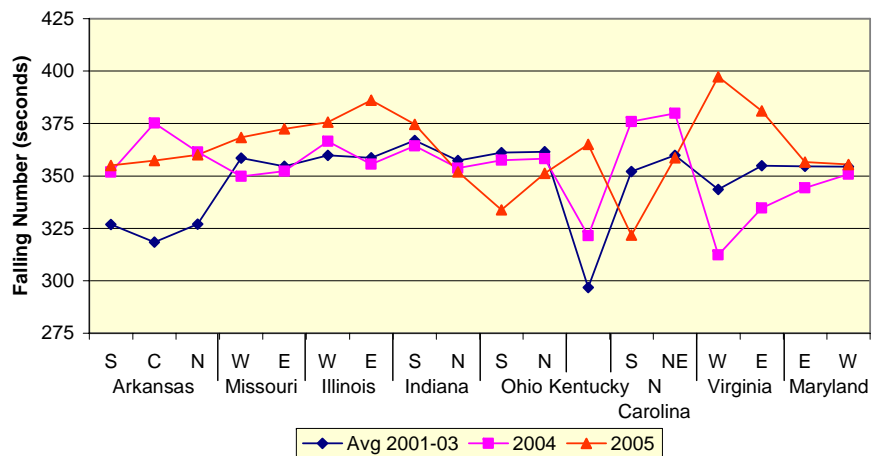


**Protein**

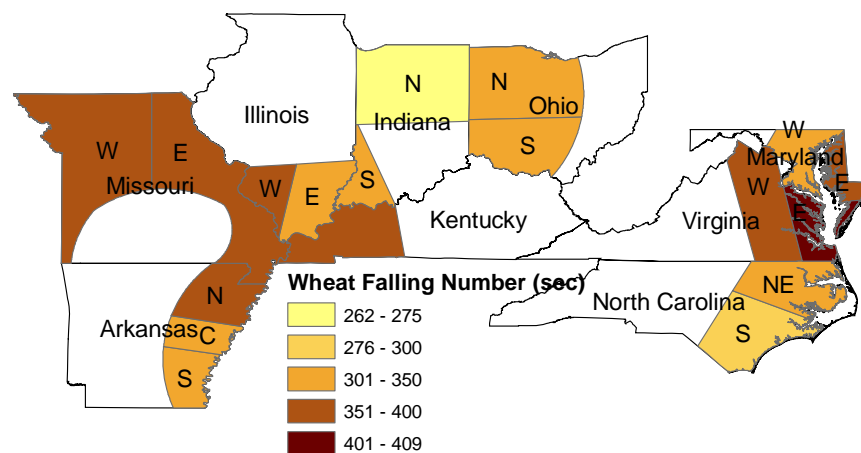
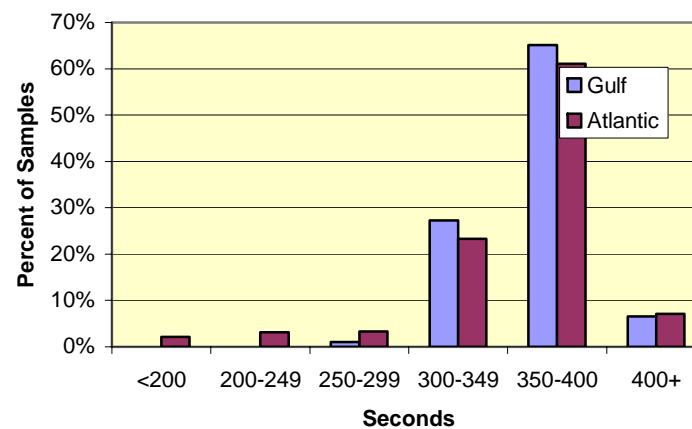


## Distribution of 2005 Results and Comparisons with Previous Years For Selected Quality Factors

**Wheat Falling Number**

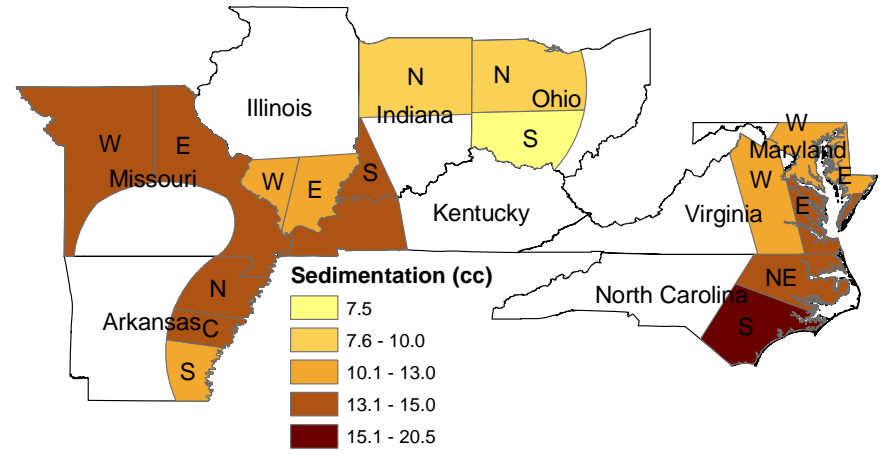
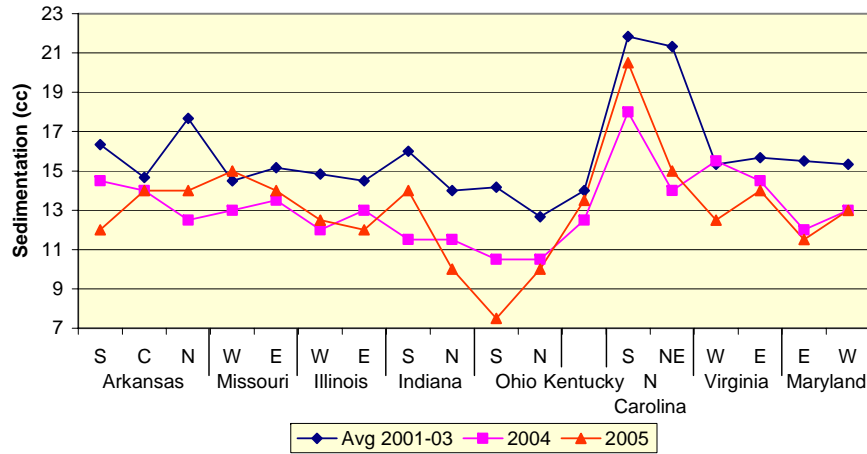


**Falling Number**

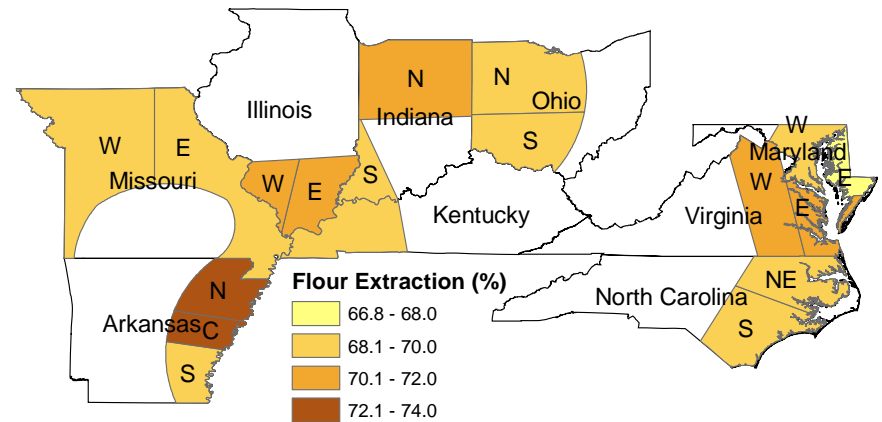
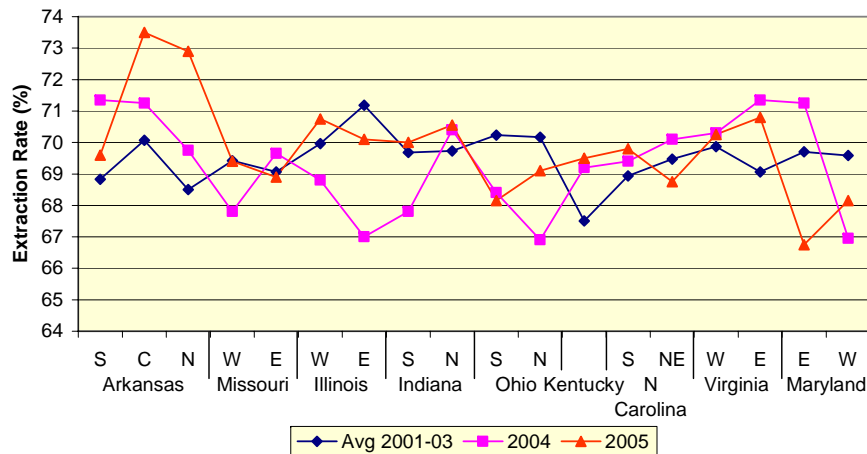


## Distribution of 2005 Results and Comparisons with Previous Years For Selected Quality Factors

### Sedimentation

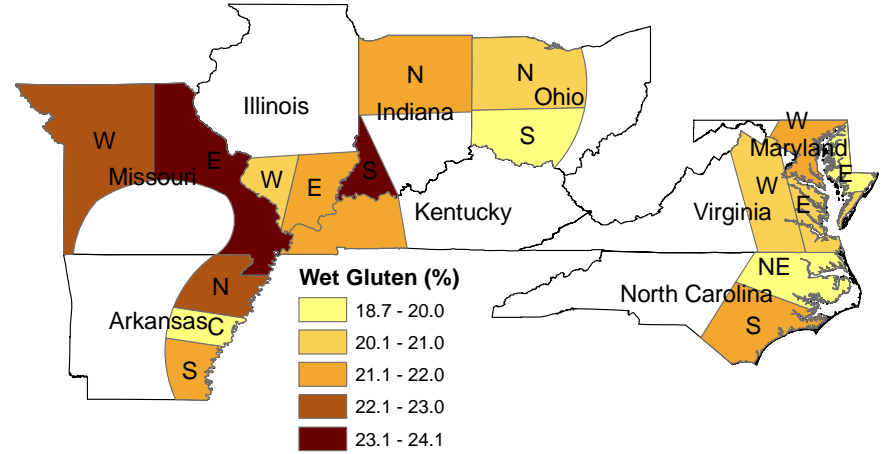
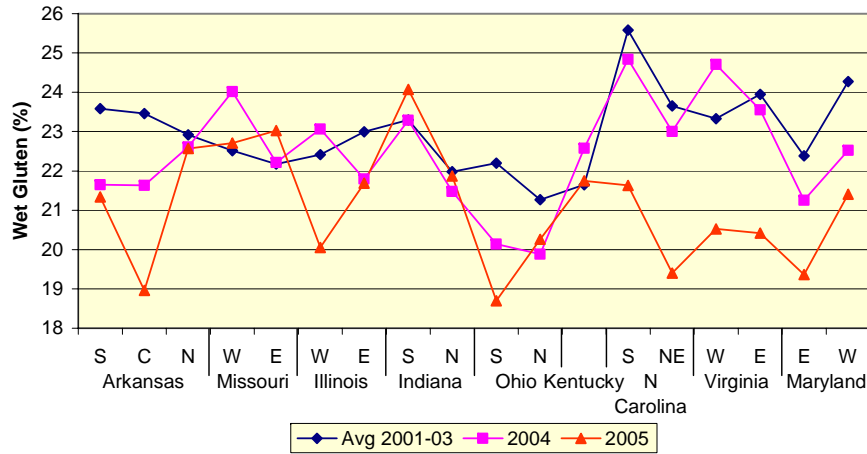


### Flour Extraction Rate

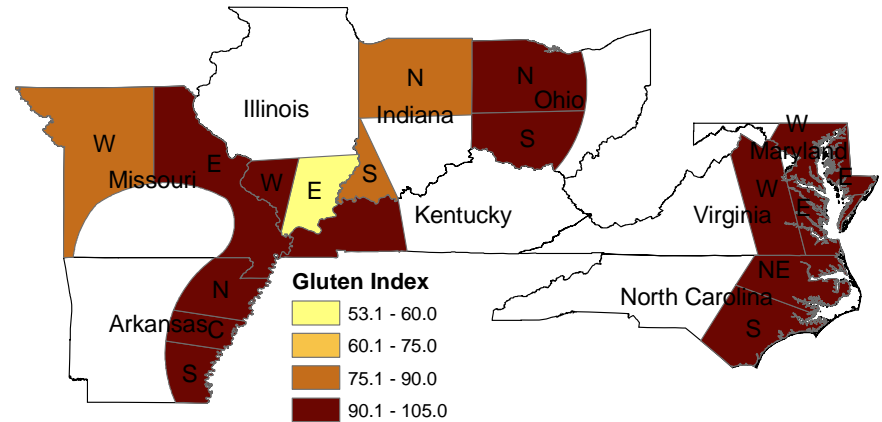
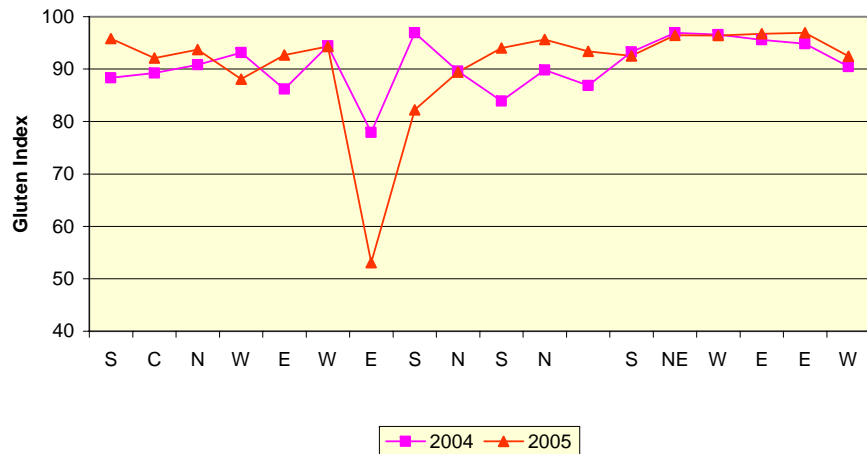


## Distribution of 2005 Results and Comparisons with Previous Years For Selected Quality Factors

**Wet Gluten**



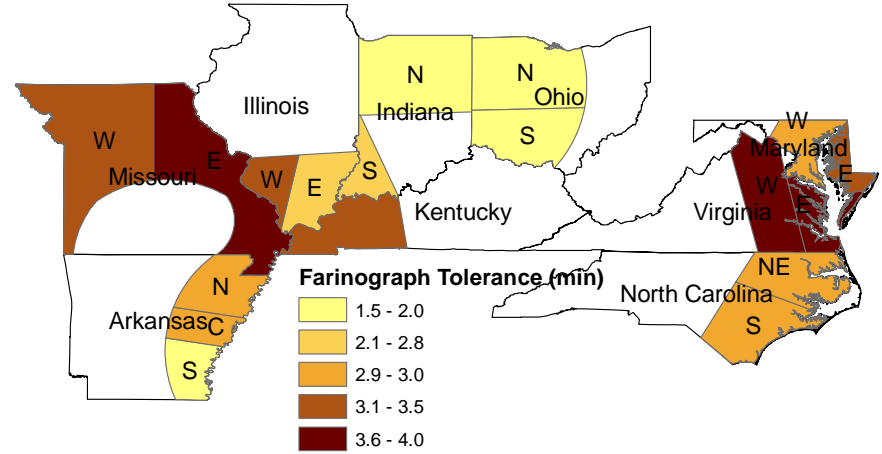
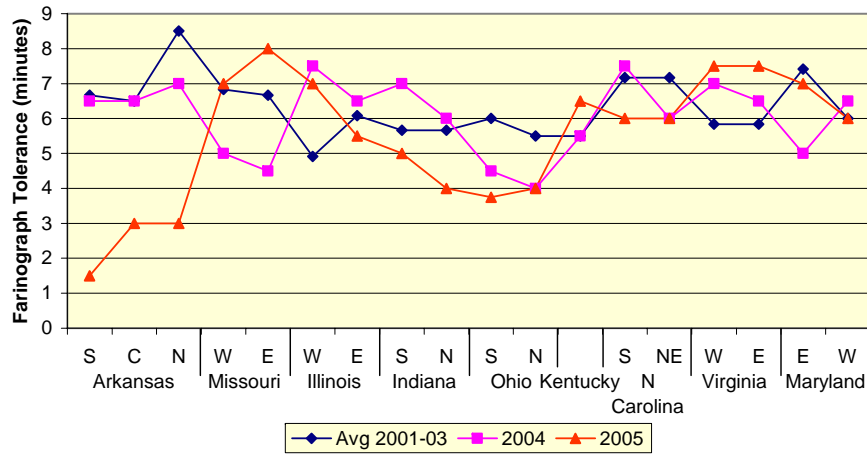
**Gluten Index**





## Distribution of 2005 Results and Comparisons with Previous Years For Selected Quality Factors

### Farinograph Tolerance



### Alveograph W Value

