



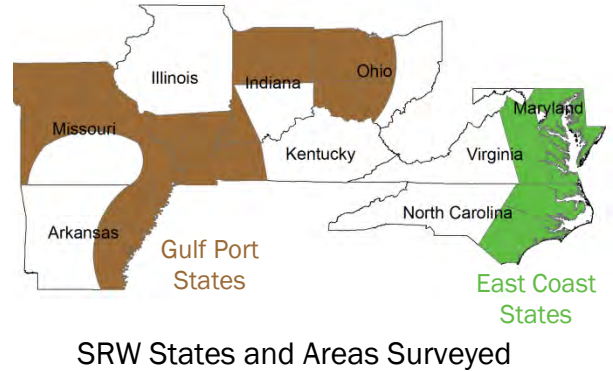
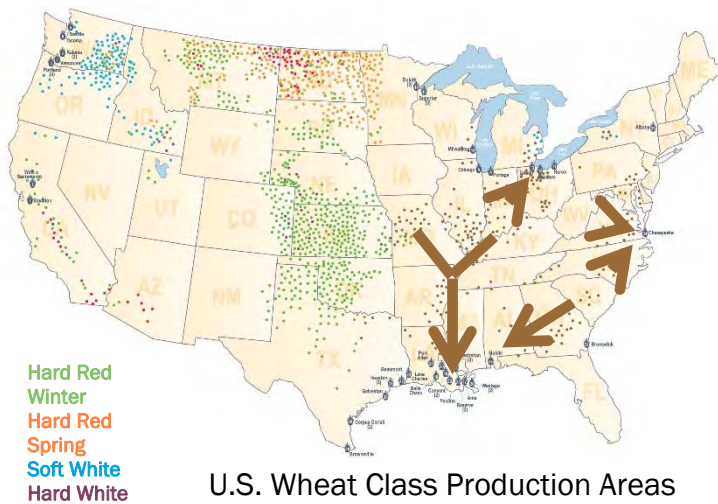
## **2015 Soft Red Winter Wheat Quality Survey**



**U.S. WHEAT  
ASSOCIATES**



## Survey Overview



**Weather and Harvest:** Soft red winter wheat (SRW) is grown over a wide area of the eastern United States. The area seeded to SRW in fall 2014 for the 2015 harvest was estimated by USDA at 7.6 million acres (3.0 million hectares), down from 8.5 million acres (3.4 million hectares) in 2014 and below the five-year average. Average yield per harvested acre is estimated to be down from the previous two years. The 2015 SRW production, estimated at 10.6 MMT, is down nearly 2 MMT from the 2014 crop and is the smallest SRW crop since 2010.

Much of the SRW growing area received excessive moisture throughout the spring and rain continued to cause lengthy harvest delays in many areas. Rains encouraged the development of diseases and reduced harvest quality in many areas. Drier weather in mid-June allowed harvest to progress in a more timely fashion in the East Coast states.

**Survey Methods:** Sample collection and analysis were conducted by the Great Plains Analytical Laboratory, Kansas City, Missouri. For 2015, 519 samples were collected from elevators in 18 reporting areas across nine states. Samples were collected at two different times, reflecting early and late harvest. Test weight, moisture, protein, thousand kernel weight, wheat ash and falling number were determined on all individual samples, and the remaining tests were determined on 36 composite samples. The results were weighted by five-year average production for the 18 reporting areas and combined into “Composite Average”, “East Coast” and “Gulf Port” values. Gulf Port states include Arkansas, Illinois, Indiana, Kentucky, Missouri, and Ohio and account for about 81% of production in the states surveyed. East Coast states include Maryland, North Carolina and Virginia and represent the remaining 19% of production in the states surveyed. The states surveyed typically account for 60-65% of total SRW production.

**Wheat and Grade Data:** The overall average grade of the samples collected for the 2015 SRW harvest survey is U.S. No. 3. Average test weight is below the 58 lb/bu limit for No. 2 in both Gulf Port and East Coast states, and total damage is above the limit for No. 2 in the Gulf Port states. Falling number values in the Gulf Port states are well below normal. Average protein is higher than last year and similar to the five-year average. Average dockage is above last year and the five-year averages. The samples from Gulf Port states show the

adverse effects of excessive moisture during growing and harvest while the East Coast states had somewhat better harvest conditions.

The overall average test weight of 56.9 lb/bu (75.0 kg/hl) is 1.1 lb/bu (1.3 kg/hl) below 2014 and 1.8 lb/bu (2.2 kg/hl) below the five-year average. Test weight averages are down for both Gulf Port and East Coast states. The average total defects value of 4.3% is 2.5 percentage points higher than last year and more than double the five-year average. The higher damage values are found mainly in the Gulf Port states; the East Coast damage and total defects are higher than 2014 but below the five-year averages.

Average wheat protein content of 10.0% (12% moisture basis) is slightly above last year and similar to the five-year average for both Gulf Port and East Coast states. Sedimentation and wet gluten are slightly above last year and the five-year averages. The overall average falling number of 265 is the lowest value reported since USW's SRW surveys were started in 1998. The low falling number values are found mainly in the Gulf Port states. The East Coast average of 324 is below last year but slightly above the five-year average. The overall DON average of 2.2 ppm is similar to 2014 but above the five-year average. The DON average for the six Gulf Port states is 2.6 ppm, similar to 2014 and about 1 ppm above the five-year average, while the average of 0.7 ppm for the three East Coast states is slightly below the five-year average.

**Flour and Baking Data:** Buhler laboratory mill flour extraction averages are above the five-year averages overall and for both East Coast and Gulf Port states, although flour ash values are also higher. The dough properties are nearly all similar to five-year averages. Farinograph peak, stability and absorption values are somewhat higher than 2014 and similar to five-year averages. Alveograph P and L are also higher than last year, but the overall W is similar to last year and below the five-year average. The overall cookie spread ratio is below last year but similar to the five-year average, while the overall average loaf volume is below last year and the five-year average.

**Summary:** The wet growing season affected the entire SRW growing area, and harvest rain delays more severely affected the six Gulf Port states in the survey, resulting in areas with reduced test weight, reduced falling numbers and increased DON values. Buyers are encouraged to review their quality specifications to ensure that their purchases meet their expectations.

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

**About U.S. Wheat Associates:** U.S. Wheat Associates (USW) is the industry's market development organization working in more than 100 countries. Its mission is to "develop, maintain, and expand international markets to enhance the profitability of U.S. wheat producers and their customers." USW activities are funded by producer checkoff dollars managed by 19 state wheat commissions and through cost-share USDA Foreign Agricultural Service market development programs. For more information, visit [www.uswheat.org](http://www.uswheat.org) or contact your state wheat commission.

**Nondiscrimination and Alternate Means of Communications:** USW prohibits discrimination in all its programs and activities on the basis of race, color, religion, national origin, gender, marital or family status, age, disability, political beliefs or sexual orientation. Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USW at 202-463-0999 (TDD/TTY - 800-877-8339, or from outside the U.S., 605-331-4923). To file a complaint of discrimination, write to Vice President of Finance, USW, 3103 10th Street, North, Arlington, VA 22201, or call 202-463-0999. USW is an equal opportunity provider and employer.

## Soft Red Winter 2015 Survey - All Samples

	Composite Average			East Coast*			Gulf Ports*		
	2015	2014	5-Year	2015	2014	5-Year	2015	2014	5-Year
<b>Wheat Grade Data</b>									
Test Weight (lb/bu)	56.9	58.0	58.7	57.3	58.7	58.9	56.9	57.8	58.6
Test Weight (kg/hl)	75.0	76.3	77.2	75.5	77.3	77.5	74.9	76.1	77.2
Damage - Total (%)	3.7	1.0	1.3	1.0	0.5	1.6	4.3	1.1	1.2
Foreign Material (%)	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2
Shrunken and Broken (%)	0.5	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.5
Total Defects (%)	4.3	1.8	2.0	1.6	1.1	2.2	4.9	2.0	1.9
Grade	3	2	2	3	2	2	3	3	2
<b>Wheat Non-Grade Data</b>									
Dockage (%)	0.7	0.4	0.6	0.8	0.4	0.7	0.7	0.4	0.6
Moisture (%)	13.2	13.0	13.0	12.4	12.7	12.9	13.3	13.0	13.0
Protein (%) 12%/0% mb	10.0/11.3	9.8/11.1	10.0/11.4	10.1/11.5	9.7/11.0	10.2/11.6	10.0/11.3	9.8/11.1	10.0/11.3
Wheat Ash (%) 14%/0% mb	1.43/1.66	1.52/1.77	1.52/1.77	1.39/1.61	1.51/1.76	1.49/1.73	1.43/1.67	1.52/1.77	1.53/1.77
1000 Kernel Weight (g)	31.9	31.3	32.6	32.6	33.4	33.9	31.7	30.8	32.2
Wheat Falling Number (sec)	265	311	319	324	340	318	251	304	319
Kernel Size (%) lg/med/sm	82/17/01	84/16/00	83/16/01	83/16/01	87/13/00	84/15/01	82/17/01	84/16/00	83/16/01
Single Kernel Hardness	18.5	22.5	23.5	15.7	20.3	22.0	19.2	22.9	23.8
Single Kernel Weight (mg)	32.9	31.1	32.4	33.2	32.1	33.3	32.8	30.9	32.3
Single Kernel Diameter (mm)	2.68	2.57	2.55	2.66	2.59	2.56	2.69	2.57	2.55
Sedimentation (cc)	13.2	12.2	12.2	13.6	12.5	13.6	13.1	12.2	11.9
DON (ppm)	2.2	2.2	1.4	0.7	0.6	0.8	2.6	2.5	1.5
<b>Flour Data</b>									
Lab Mill Extraction (%)	72.9	70.5	71.1	74.0	70.7	70.6	72.6	70.4	71.2
Flour Color - *L	91.5	91.3	92.9	91.8	92.7	93.1	91.4	91.0	92.8
Flour Color - *a	-3.0	-2.9	-3.0	-3.1	-3.0	-3.0	-3.0	-2.9	-3.0
Flour Color - *b	8.1	8.2	8.1	8.2	8.7	8.3	8.0	8.1	8.1
Flour Protein (%) 14%/0% mb	8.5/9.9	8.3/9.7	8.4/9.8	8.6/10.0	8.2/9.5	8.7/10.1	8.5/9.8	8.3/9.7	8.4/9.8
Flour Ash (%) 14%/0% mb	0.50/0.59	0.43/0.50	0.44/0.51	0.48/0.56	0.42/0.49	0.43/0.50	0.51/0.59	0.43/0.50	0.44/0.51
Wet Gluten (%)	22.6	22.2	22.4	22.9	21.3	23.1	22.5	22.5	22.2
Gluten Index	86.5	80.0	81.3	87.5	79.3	81.3	86.2	80.2	81.3
Falling Number (sec)	261	311	325	321	340	324	247	304	325
Amylograph (65g) (BU)	218	497	547	322	553	515	193	485	555
Starch Damage (%)	5.4	4.7	4.5	4.7	4.4	4.5	5.6	4.7	4.5
SRC: GPI	0.51	0.62	0.61	0.49	0.59	0.61	0.50	0.62	0.61
Water/50% Sucrose	57/111	54/103	55/106	59/111	56/107	56/107	58/108	54/103	55/104
5% Lactic Acid/5% Na <sub>2</sub> CO <sub>3</sub>	99/85	111/77	113/80	97/85	109/79	114/81	95/83	112/78	112/80
<b>Dough Properties</b>									
Farinograph Peak (min)	1.5	1.3	1.5	1.6	1.4	1.7	1.4	1.3	1.5
Farinograph Stability (min)	2.6	2.4	2.8	2.7	2.7	2.8	2.6	2.3	2.7
Farinograph Absorption (%)	53.4	52.0	52.6	53.3	52.9	53.0	53.5	51.8	52.5
Alveograph P (mm)	35	32	36	35	35	36	35	32	36
Alveograph L (mm)	88	79	88	86	75	94	88	80	86
Alveograph W (10-4 joules)	73	72	82	73	75	87	73	71	81
Alveograph P/L	0.40	0.41	0.41	0.41	0.47	0.39	0.40	0.40	0.41
Extenso Resistance (BU)	146	NA	NA	168	NA	NA	141	NA	NA
Extenso Extensibility (cm)	17.7	NA	NA	17.3	NA	NA	17.8	NA	NA
Extenso Area (sq cm)	44	NA	NA	50	NA	NA	43	NA	NA
<b>Baking Evaluation</b>									
Bake Grain and Texture	5.1	NA	NA	5.4	NA	NA	5.1	NA	NA
Bake Absorption (%)	55.3	NA	NA	54.4	NA	NA	55.6	NA	NA
Loaf Volume (cc)	704	724	714	726	729	726	699	723	711
Cookie Diameter (cm)	10.5	NA	NA	10.5	NA	NA	10.6	NA	NA
Cookie Spread Ratio	9.3	9.6	9.2	9.2	9.4	8.9	9.3	9.6	9.2
<b>% Area Production</b>	100.0%			18.9%			81.1%		

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

# 2015 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)	56.9	55.8	56.8	56.4	57.2	59.8	56.9	58.3	57.6
Count	55	47	66	72	105	38	58	39	39
<b>Wheat Grade Data - from Area Composite Samples</b>									
Test Weight (lb/bu)	56.3	56.3	57.1	55.8	56.4	59.6	56.4	57.9	57.2
Test Weight (kg/hl)	74.1	74.1	75.3	73.5	74.3	78.4	74.3	76.3	75.3
Damage - Total (%)	1.4	10.1	7.2	2.8	1.8	0.7	0.4	1.8	1.3
Foreign Material (%)	0.2	0.0	0.0	0.1	0.0	0.3	0.2	0.1	0.1
Shrunken and Broken (%)	0.9	0.7	0.5	0.4	0.4	0.4	0.6	0.5	0.4
Total Defects (%)	2.5	10.8	7.7	3.3	2.2	1.4	1.1	2.5	1.7
Grade	3	5	4	4	3	2	3	3	3
<b>Wheat Non-Grade Data - from Individual Samples</b>									
Moisture (%)	11.9	12.7	13.1	13.2	13.7	12.5	11.9	12.4	12.7
Protein (%) 12%/0% mb	10.5/11.9	10.0/11.4	9.7/11.0	9.7/11.0	9.7/11.0	10.2/11.6	10.6/12.0	9.6/10.9	9.9/11.2
Ash (%) 14%/0% mb	1.39/1.61	1.50/1.74	1.45/1.68	1.47/1.71	1.42/1.65	1.38/1.61	1.43/1.66	1.31/1.53	1.40/1.63
1000 Kernel Weight (g)	28.6	30.2	32.3	32.5	32.8	34.1	31.5	32.6	32.9
Wheat Falling Number (sec)	323	217	207	258	214	332	346	307	302
DON (ppm)	2.6	4.0	2.3	3.3	2.7	0.6	0.5	0.8	0.7
<b>Wheat Non-Grade Data - from Area Composite Samples</b>									
Dockage (%)	0.8	1.2	0.4	0.6	0.9	0.3	1.1	0.3	0.6
Moisture (Lab) (%)	12.0	13.9	13.2	13.8	14.1	13.0	12.3	12.9	12.6
Protein (Lab) (%)	10.6	10.1	9.6	9.7	9.7	10.3	10.8	9.8	10.0
Kernel Size (%) lg/med/sm	71/27/02	81/18/01	85/14/01	83/16/01	84/15/01	85/14/01	81/18/01	80/19/01	83/16/01
Single Kernel Hardness	22.0	19.6	16.7	16.7	18.5	22.9	16.8	15.4	14.8
Single Kernel Weight (mg)	29.7	31.9	33.5	33.0	33.5	35.8	32.3	33.2	33.1
Single Kernel Diameter (mm)	2.59	2.69	2.72	2.69	2.70	2.75	2.63	2.66	2.68
Sedimentation (cc)	13.5	13.4	10.8	12.2	14.3	15.5	15.9	13.1	12.0
DON (ppm)	2.8	3.8	2.7	2.9	2.7	0.3	0.7	0.6	0.5
<b>Flour Data</b>									
Lab Mill Extraction (%)	71.9	74.8	73.1	71.1	71.0	73.4	75.6	73.3	72.2
Flour Color - *L	92.0	90.2	91.1	91.3	91.2	92.9	92.1	91.8	90.6
Flour Color - *a	-2.9	-2.9	-2.9	-3.0	-3.2	-2.8	-2.9	-3.2	-3.2
Flour Color - *b	8.1	7.9	7.8	8.4	8.4	7.4	8.3	8.5	7.9
Flour Protein (%) 14%/0% mb	8.9/10.4	8.5/9.8	8.2/9.5	8.0/9.3	8.4/9.7	9.0/10.5	9.1/10.6	8.3/9.6	8.4/9.7
Flour Ash (%) 14%/0% mb	0.49/0.57	0.53/0.62	0.50/0.58	0.45/0.53	0.53/0.62	0.54/0.63	0.48/0.56	0.45/0.53	0.51/0.59
Wet Gluten (%)	25.0	21.7	21.4	21.4	20.5	26.4	25.4	22.4	20.4
Gluten Index	79.8	90.2	83.9	85.0	96.3	79.2	81.9	89.4	95.7
Falling Number (sec)	323	187	214	243	220	333	337	301	274
Amylograph (65g) (BU)	445	62	92	126	105	415	397	289	247
Starch Damage (%)	5.2	5.5	4.7	4.2	4.1	11.7	4.9	4.1	4.0
<b>Dough Properties</b>									
Farinograph Peak (min)	1.5	1.5	1.4	1.2	1.3	1.7	1.7	1.7	1.4
Farinograph Stability (min)	2.6	2.6	2.6	2.1	2.4	3.3	2.7	2.9	2.3
Farinograph Absorption (%)	52.8	54.1	53.5	52.6	53.3	54.6	53.4	52.5	53.5
Alveograph P (mm)	33	30	33	32	40	44	33	36	39
Alveograph L (mm)	92	92	93	92	79	79	78	101	91
Alveograph W (10-4 joules)	72	59	68	70	82	89	63	84	86
Alveograph P/L	0.36	0.33	0.35	0.35	0.51	0.55	0.43	0.35	0.43
Extenso Resistance (BU)	158	96	128	131	136	216	188	139	150
Extenso Extensibility (cm)	18.0	18.8	17.0	17.0	18.5	17.0	16.2	19.6	17.7
Extenso Area (sq cm)	49	30	36	39	45	62	50	52	48
<b>Baking Evaluation</b>									
Bake Grain and Texture	4.9	4.6	5.5	4.4	4.7	6.0	5.1	6.0	5.1
Bake Absorption (%)	55.1	56.7	55.4	54.8	56.0	55.0	53.6	54.2	56.9
Loaf Volume (cc)	701	648	712	698	733	686	734	718	740
Cookie Diameter (cm)	10.6	10.4	10.6	10.8	10.6	10.4	10.3	10.9	10.1
Cookie Spread Ratio	9.1	9.5	9.2	9.7	9.4	9.1	8.2	10.1	9.4



**Soft Red Winter 2015 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)	56.7	57.4	56.3	54.8	56.4	56.8	56.9	57.0	56.0	57.3	57.2	59.8	56.6	58.7	57.0	58.6	57.8	57.6
Count	14	24	17	24	23	39	27	34	38	27	78	38	32	26	11	28	9	30
<b>Wheat Grade Data - from Area Composite Samples</b>																		
Test Weight (lb/bu)	56.5	56.2	56.2	55.7	56.7	57.2	57.1	56.8	55.2	56.6	56.4	59.6	56.1	58.1	58.3	57.9	57.8	57.0
Test Weight (kg/hl)	74.4	74.0	74.0	73.3	74.6	75.3	75.2	74.8	72.7	74.5	74.2	78.4	73.9	76.4	76.7	76.2	76.0	75.1
Damage - Total (%)	1.7	1.3	1.4	12.5	8.7	10.8	4.3	3.7	2.2	2.4	1.7	0.7	0.4	0.7	4.9	1.0	3.0	0.7
Foreign Material (%)	0.2	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.2	0.2	0.0	0.2	0.0	0.2
Shrunken and Broken (%)	1.2	1.1	0.6	0.8	0.7	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.6	0.4	1.0	0.4	0.4	0.4
Total Defects (%)	3.0	2.6	2.1	13.3	9.4	11.3	4.7	4.1	2.7	2.7	2.1	1.4	1.1	1.3	5.9	1.6	3.4	1.2
Grade	3	3	3	5	4	5	3	3	4	3	3	2	3	2	3	3	3	3
<b>Wheat Non-Grade Data - from Individual Samples</b>																		
Moisture (%)	11.5	11.8	12.2	12.3	12.9	12.5	13.5	13.0	13.4	13.6	13.7	12.5	12.0	11.6	12.4	12.4	12.9	12.7
Protein (%) 12% mb	10.7	10.2	10.5	10.3	9.8	9.9	9.5	9.6	9.7	9.2	9.8	10.2	10.7	9.7	10.3	9.4	10.3	9.7
Ash (%) 14% mb	1.38	1.38	1.39	1.52	1.48	1.42	1.47	1.43	1.50	1.41	1.43	1.38	1.44	1.39	1.41	1.29	1.36	1.42
1000 Kernel Weight (g)	28.3	28.5	28.8	29.6	30.5	31.8	32.7	33.0	32.2	32.8	32.8	34.1	31.0	33.7	31.3	32.9	33.7	32.6
Wheat Falling Number (sec)	312	325	327	227	211	189	222	253	261	232	210	332	349	333	288	312	263	315
DON (ppm)	1.7	2.8	3.1	6.4	2.7	2.5	2.1	1.8	4.3	1.3	2.9	0.6	0.4	0.9	1.3	0.7	0.3	0.8
<b>Wheat Non-Grade Data - from Area Composite Samples</b>																		
Dockage (%)	0.7	0.8	0.8	1.6	1.0	0.4	0.5	0.5	0.8	0.6	1.0	0.3	1.2	1.1	0.5	0.3	0.4	0.7
Moisture (%)	12.1	12.0	12.1	13.5	14.1	12.7	13.6	13.7	13.9	14.3	14.1	13.0	12.3	12.0	12.8	12.9	12.6	12.6
Protein (%) 12% mb	10.9	10.5	10.5	10.8	9.7	10.1	9.2	9.6	9.7	9.5	9.7	10.3	11.0	9.6	10.0	9.7	10.7	9.8
Kernel Size Large (Over 7) (%)	73	67	76	80	82	85	86	86	81	83	84	85	80	88	76	82	83	84
Kernel Size Medium (Over 9) (%)	26	31	23	19	18	14	13	13	18	17	15	14	19	12	23	18	17	16
Kernel Size Small (Thru 9) (%)	2	2	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1
Single Kernel Hardness	18.0	22.3	24.4	19.9	19.4	14.2	18.7	14.6	18.2	20.2	18.2	22.9	17.1	15.2	15.2	15.5	16.4	14.3
Single Kernel Weight (mg)	29.7	29.0	30.4	31.0	32.4	32.6	34.3	34.1	32.3	31.9	33.8	35.8	32.0	34.2	33.8	33.0	33.4	33.0
Single Kernel Diameter (mm)	2.61	2.57	2.62	2.67	2.70	2.69	2.75	2.74	2.66	2.64	2.71	2.75	2.62	2.68	2.64	2.67	2.68	2.68
Sedimentation (cc)	15	13	13	14	13	10	12	11	13	13	15	16	17	13	16	13	15	11
DON (ppm)	1.8	2.9	3.4	6.1	2.5	3.6	2.0	2.5	3.2	0.6	3.0	0.3	0.8	0.5	1.2	0.5	0.6	0.5
<b>Flour Data</b>																		
Lab Mill Extraction (%)	73.1	71.4	71.8	75.6	74.5	72.5	73.7	74.1	69.1	70.5	71.2	73.4	75.9	74.2	71.4	73.9	72.7	72.1
Flour Color - *L	91.6	92.3	92.1	90.4	90.1	90.0	92.0	91.5	91.2	91.9	91.1	92.9	92.0	92.6	90.8	92.1	90.7	90.5
Flour Color - *a	-2.8	-2.9	-3.1	-2.9	-3.0	-3.1	-2.8	-2.9	-3.1	-3.5	-3.2	-2.8	-2.9	-3.1	-3.2	-3.3	-3.3	-3.2
Flour Color - *b	8.0	8.2	8.2	7.9	8.0	8.2	7.5	7.6	9.0	9.0	8.3	7.4	8.4	8.0	8.2	8.6	8.0	7.9
Flour Protein (%) 14% mb	9.0	8.8	9.0	8.7	8.3	8.0	8.3	8.2	7.8	8.0	8.4	9.0	9.2	8.5	8.8	8.1	8.8	8.2
Flour Ash (%) 14% mb	0.49	0.48	0.50	0.52	0.54	0.48	0.51	0.50	0.42	0.43	0.55	0.54	0.48	0.49	0.48	0.45	0.48	0.52
Wet Gluten (%)	25.5	24.9	24.9	22.4	21.4	21.3	21.4	21.1	21.6	19.6	20.7	26.4	25.9	22.5	22.4	22.4	22.7	19.7
Gluten Index	80.2	74.2	86.4	91.9	89.3	72.3	93.4	77.7	90.1	98.0	96.0	79.2	81.4	85.2	92.8	89.0	94.1	96.3
Falling Number (sec)	330	330	311	201	180	184	240	245	243	201	224	333	332	361	293	303	243	285
Amylograph (65g) (BU)	435	470	420	65	60	70	110	90	150	130	100	415	410	325	215	310	150	280
Starch Damage (%)	4.8	5.0	5.8	5.1	5.7	3.9	5.3	5.8	3.2	3.6	4.2	11.7	4.8	5.6	3.8	4.1	4.6	3.8
<b>Dough Properties</b>																		
Farinograph Peak (min)	1.5	1.4	1.6	1.5	1.6	1.3	1.5	1.2	1.3	1.6	1.3	1.7	1.8	1.5	1.9	1.6	1.6	1.3
Farinograph Stability (min)	2.7	2.4	2.8	2.8	2.6	2.2	2.9	2.5	1.9	2.4	2.4	3.3	2.7	2.8	3.4	2.8	2.7	2.1
Farinograph Absorption (%)	52.4	53.5	52.4	54.8	53.7	52.9	54.0	53.8	51.8	51.7	53.7	54.6	53.4	53.9	52.3	52.6	53.8	53.4
Alveograph P (mm)	35	33	33	29	31	27	38	35	30	45	40	44	32	35	35	36	40	39
Alveograph L (mm)	91	102	81	86	96	99	89	82	100	69	82	79	88	69	111	98	99	89
Alveograph W (10-4 joules)	76	77	63	53	63	54	80	68	72	101	78	89	66	60	77	87	91	85
Alveograph P/L	0.38	0.32	0.40	0.34	0.32	0.27	0.42	0.43	0.30	0.65	0.48	0.55	0.36	0.50	0.31	0.37	0.40	0.44
Extenso Resistance (BU)	162	164	148	88	100	102	150	116	142	180	127	216	206	172	155	134	154	149
Extenso Extensibility (cm)	18.9	18.0	17.5	18.1	19.2	17.8	16.4	17.2	16.9	18.6	18.5	17.0	16.6	15.8	19.5	19.6	17.8	17.7
Extenso Area (sq cm)	53	51	44	26	32	30	41	34	43	65	41	62	57	44	55	51	49	47
<b>Baking Evaluation</b>																		
Bake Grain and Texture	6.0	5.0	4.0	4.0	5.0	5.0	6.0	5.0	4.0	6.0	4.5	6.0	5.0	5.5	6.0	6.0	5.5	5.0
Bake Absorption (%)	54.0	55.0	56.0	57.0	56.5	54.6	56.0	56.5	53.6	53.5	56.5	55.0	53.6	53.5	55.0	54.0	56.5	57.0
Loaf Volume (cc)	697	725	675	645	650	675	743	713	688	713	738	686	738	713	738	713	713	750
Cookie Diameter (cm)	10.6	10.6	10.5	10.4	10.4	10.7	10.4	10.5	10.9	10.8	10.5	10.4	10.2	10.7	10.6	10.9	10.5	9.9
Cookie Spread Ratio	9.6	9.0	9.0	9.4	9.6	9.7	8.8	9.6	9.7	9.3	9.5	9.1	8.1	9.2	9.6	10.3	8.9	9.6

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

**Soft Red Winter 2015 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)	56.7	57.9	57.2	55.1	56.6	57.3	57.1	57.3	56.4	58.3	58.2	60.3	56.3	58.8	59.4	59.7	58.9	58.3
Count	8	12	9	14	14	21	13	17	19	14	40	18	15	13	4	14	4	15
<b>Wheat Grade Data - from Area Composite Samples</b>																		
Test Weight (lb/bu)	56.7	56.4	56.9	55.6	58.0	57.8	57.1	57.1	56.0	57.4	57.8	60.8	56.2	58.3	60.2	59.1	58.0	58.5
Test Weight (kg/hl)	74.7	74.3	74.9	73.3	76.4	76.1	75.2	75.2	73.8	75.6	76.1	80.0	74.0	76.7	79.2	77.8	76.4	77.0
Damage - Total (%)	2.0	1.3	0.7	10.7	5.3	7.9	1.3	1.3	3.0	2.0	1.3	0.7	0.0	0.7	0.6	0.0	3.9	0.7
Foreign Material (%)	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Shrunken and Broken (%)	1.5	1.0	0.5	0.9	0.6	0.4	0.3	0.3	0.4	0.3	0.2	0.3	0.6	0.5	0.5	0.4	0.5	0.4
Total Defects (%)	3.5	2.6	1.5	11.6	5.9	8.3	1.6	1.6	3.4	2.3	1.5	1.3	0.6	1.2	1.1	0.4	4.4	1.1
Grade	3	3	3	5	3	4	3	3	3	3	3	1	3	2	1	2	2	2
<b>Wheat Non-Grade Data - from Individual Samples</b>																		
Moisture (%)	11.7	12.3	12.5	12.3	13.1	12.4	13.9	13.1	13.4	13.8	13.8	12.4	12.4	11.5	12.4	12.5	12.2	12.6
Protein (%) 12% mb	10.8	10.3	10.6	10.5	9.8	9.9	9.6	9.5	9.6	9.2	9.6	10.1	10.8	9.7	10.3	9.4	10.6	9.6
Ash (%) 14% mb	1.44	1.40	1.43	1.55	1.45	1.43	1.51	1.38	1.48	1.44	1.38	1.38	1.45	1.32	1.42	1.28	1.33	1.41
1000 Kernel Weight (g)	28.7	28.9	29.1	29.3	30.4	31.6	33.6	33.5	32.5	34.0	33.0	33.6	30.9	33.8	33.5	33.1	33.4	32.2
Wheat Falling Number (sec)	306	334	334	229	212	203	218	263	265	260	238	337	349	337	328	325	294	334
DON (ppm)	2.0	2.3	2.9	7.0	2.5	2.2	2.1	1.8	4.2	1.5	3.5	0.4	0.4	1.0	1.5	0.4	0.6	0.5
<b>Wheat Non-Grade Data - from Area Composite Samples</b>																		
Dockage (%)	0.6	0.9	0.8	2.6	1.0	0.4	0.3	0.2	0.8	0.7	0.8	0.3	1.6	1.2	0.5	0.2	0.5	0.4
Moisture (%)	12.6	12.3	11.8	13.4	14.2	12.7	13.7	13.5	14.2	14.2	14.2	13.0	12.4	11.9	12.6	12.6	11.9	12.6
Protein (%) 12% mb	11.0	10.4	10.3	11.1	10.0	10.2	9.2	9.4	9.7	9.4	9.2	10.4	11.5	9.8	10.1	9.2	10.5	9.6
Kernel Size Large (Over 7) (%)	74	69	74	76	83	86	85	87	80	83	83	84	79	87	80	81	81	82
Kernel Size Medium (Over 9) (%)	25	29	25	22	16	13	15	13	19	17	16	15	20	12	19	18	18	17
Kernel Size Small (Thru 9) (%)	1	2	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1
Single Kernel Hardness	17.6	23.7	25.6	22.6	24.2	16.8	22.2	14.8	20.9	21.3	18.7	29.5	19.6	18.0	16.7	18.1	17.2	17.0
Single Kernel Weight (mg)	29.9	29.9	30.7	31.0	32.7	32.8	34.0	34.5	32.3	32.2	34.4	35.0	32.5	35.1	33.7	34.1	32.6	33.3
Single Kernel Diameter (mm)	2.63	2.58	2.62	2.66	2.71	2.69	2.72	2.74	2.66	2.67	2.71	2.74	2.63	2.70	2.64	2.68	2.67	2.68
Sedimentation (cc)	15	11	14	14	15	11	14	11	12	12	15	16	15	13	16	13	15	11
DON (ppm)	1.4	2.6	2.1	6.6	2.1	3.4	1.9	2.4	3.2	0.7	2.6	0.2	1.0	0.5	0.6	0.4	0.9	0.4
<b>Flour Data</b>																		
Lab Mill Extraction (%)	71.9	73.4	71.2	76.6	73.6	72.5	72.4	74.3	70.1	70.7	72.0	72.5	76.7	75.5	67.5	73.2	73.5	72.0
Flour Color - *L	92.7	91.8	91.8	90.8	90.4	90.4	92.4	92.3	91.4	92.3	91.3	92.9	91.7	92.3	91.0	92.4	91.0	91.0
Flour Color - *a	-2.8	-2.4	-2.7	-3.0	-2.8	-3.2	-2.7	-2.7	-2.8	-3.5	-3.2	-2.8	-2.8	-3.0	-3.0	-3.0	-3.2	-3.3
Flour Color - *b	7.8	8.2	8.5	7.7	7.5	8.1	7.0	7.1	9.0	9.2	8.3	7.9	9.1	8.1	7.9	7.9	8.5	8.1
Flour Protein (%) 14% mb	9.0	8.7	8.9	8.6	8.3	7.9	8.5	8.1	7.8	8.3	8.4	9.0	9.2	8.7	8.5	8.1	9.0	8.2
Flour Ash (%) 14% mb	0.52	0.46	0.52	0.52	0.55	0.47	0.52	0.50	0.41	0.42	0.53	0.52	0.49	0.48	0.48	0.49	0.49	0.52
Wet Gluten (%)	25.2	24.3	25.8	22.5	22.4	21.8	23.5	21.0	23.0	20.9	21.0	25.2	26.6	22.7	21.9	22.1	23.9	20.6
Gluten Index	75.5	63.3	76.1	92.6	84.0	54.9	89.1	66.5	83.1	97.0	96.3	76.4	76.2	86.1	91.6	93.3	93.9	96.3
Falling Number (sec)	343	326	327	205	192	182	233	251	256	231	248	338	344	365	312	302	259	296
Amylograph (65g) (BU)	440	500	480	70	80	60	90	110	170	190	120	440	500	290	250	240	180	360
Starch Damage (%)	4.2	4.2	5.3	4.9	6.6	3.0	5.3	6.2	3.4	4.2	4.6	16.0	3.4	6.6	3.4	4.9	4.2	3.0
<b>Dough Properties</b>																		
Farinograph Peak (min)	1.0	1.4	1.7	1.2	1.7	1.5	1.4	1.3	1.2	1.7	1.2	1.5	1.9	1.5	2.0	1.7	1.7	1.2
Farinograph Stability (min)	2.1	2.4	3.1	2.7	2.9	2.8	2.6	3.1	1.9	3.1	2.5	2.7	2.4	2.9	3.2	3.0	3.1	2.3
Farinograph Absorption (%)	52.9	54.0	52.1	55.1	53.9	53.5	54.8	53.5	52.1	52.2	53.8	54.5	53.5	54.1	52.1	53.2	53.9	52.8
Alveograph P (mm)	36	36	30	29	35	27	40	37	31	47	44	43	29	34	34	36	44	34
Alveograph L (mm)	95	101	90	86	90	100	95	78	97	66	84	86	104	69	105	94	92	98
Alveograph W (10-4 joules)	84	85	62	52	72	55	87	70	74	103	88	92	66	58	73	80	95	76
Alveograph P/L	0.38	0.36	0.33	0.34	0.39	0.27	0.42	0.47	0.32	0.71	0.52	0.50	0.28	0.49	0.32	0.38	0.48	0.35
Extenso Resistance (BU)	191	178	163	100	128	77	128	127	143	204	124	171	156	174	154	141	134	150
Extenso Extensibility (cm)	17.7	19.2	17.6	19	18.3	19.1	17.1	15.7	18.1	17.7	18.2	17.6	18.6	16.1	19.3	16.5	18.6	18.9
Extenso Area (sq cm)	59	59	50	30	41	24	37	33	47	67	40	52	51	46	53	40	44	50
<b>Baking Evaluation</b>																		
Bake Grain and Texture	4.0	5.0	5.0	5.0	5.0	4.5	6.0	6.0	5.0	6.0	6.0	5.0	5.0	4.0	5.0	6.0	6.0	6.0
Bake Absorption (%)	55.0	56.0	54.0	57.0	56.5	55.5	56.5	55.5	54.0	54.5	57.0	57.0	56.5	56.0	53.0	55.0	56.5	55.5
Loaf Volume (cc)	694	725	700	600	650	650	735	700	700	725	725	721	750	700	725	725	725	750
Cookie Diameter (cm)	10.4	10.5	10.5	10.3	10.4	10.5	10.4	10.4	11.2	10.8	10.7	10.7	10.3	10.7	10.5	11.0	10.4	10.7
Cookie Spread Ratio	9.7	8.3	8.7	9.0	9.6	9.5	9.1	9.3	10.3	9.2	9.3	9.9	8.3	9.1	9.5	9.9	9.6	9.9

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

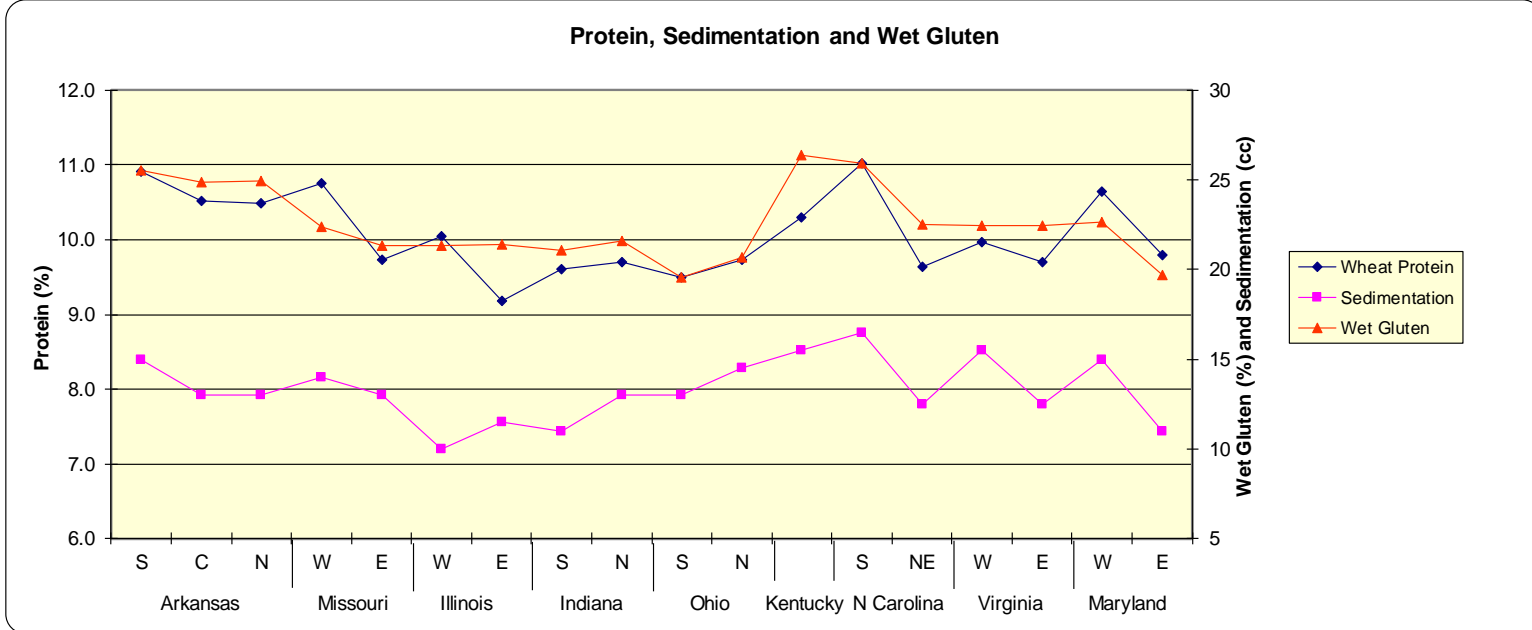
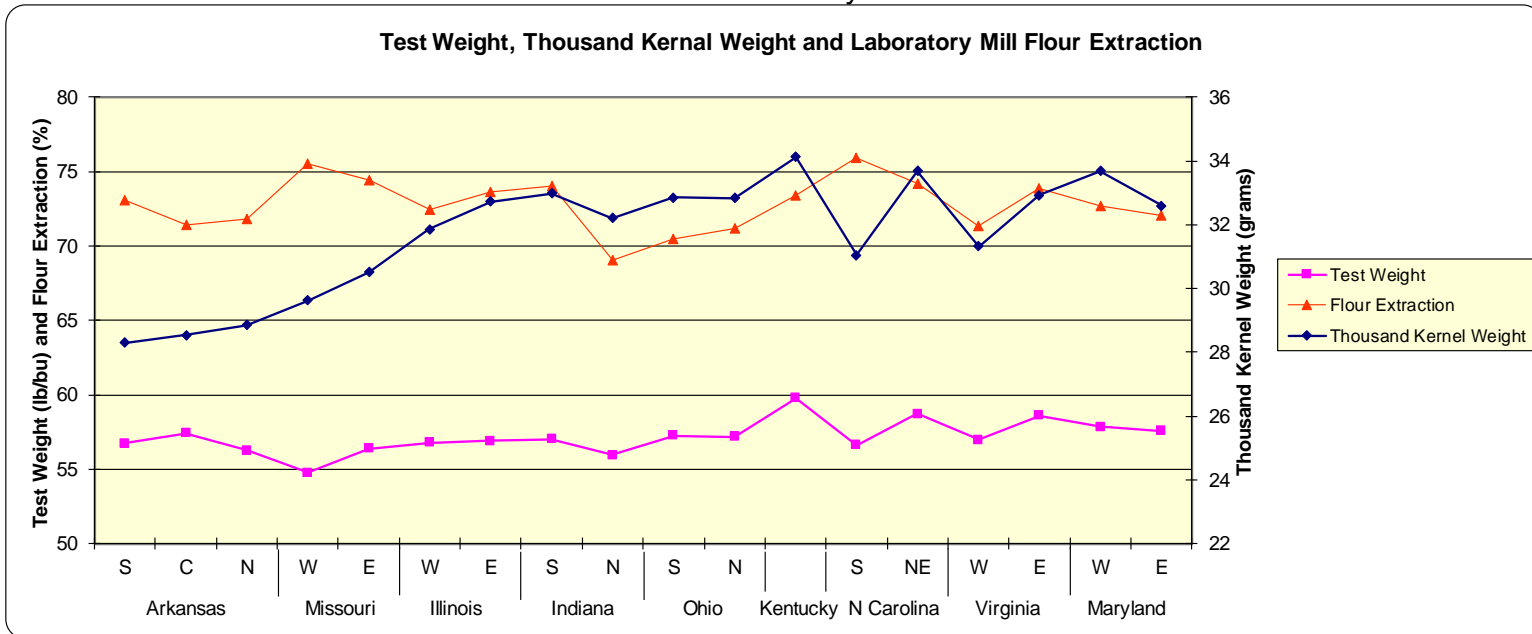
**Soft Red Winter 2015 Survey - Late Samples**

	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)	56.8	56.9	55.2	54.4	56.1	56.2	56.7	56.8	55.5	56.1	56.1	59.3	56.9	58.7	55.6	57.5	57.0	56.8
Count	6	12	8	10	9	18	14	17	19	13	38	20	17	13	7	14	5	15
<b>Wheat Grade Data - from Area Composite Samples</b>																		
Test Weight (lb/bu)	56.3	56.0	55.5	55.7	55.3	56.6	57.1	56.5	54.3	55.7	54.9	58.4	56.0	57.8	56.4	56.6	57.5	55.5
Test Weight (kg/hl)	74.2	73.8	73.1	73.4	72.9	74.5	75.2	74.4	71.6	73.4	72.3	76.9	73.8	76.1	74.3	74.5	75.7	73.1
Damage - Total (%)	1.3	1.3	2.0	14.3	12.1	13.7	7.2	6.0	1.3	2.7	2.0	0.7	0.7	0.7	9.1	2.0	2.1	0.7
Foreign Material (%)	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.3	0.3	0.0	0.3	0.0	0.3
Shrunken and Broken (%)	0.8	1.2	0.6	0.6	0.7	0.5	0.6	0.6	0.4	0.4	0.7	0.4	0.6	0.3	1.5	0.4	0.2	0.3
Total Defects (%)	2.4	2.5	2.6	14.9	12.9	14.2	7.8	6.6	2.0	3.1	2.7	1.4	1.6	1.3	10.6	2.7	2.3	1.3
Grade	3	3	4	5	5	5	4	3	4	4	4	2	3	3	4	3	3	4
<b>Wheat Non-Grade Data - from Individual Samples</b>																		
Moisture (%)	11.3	11.4	12.0	12.2	12.7	12.7	13.1	12.9	13.5	13.4	13.6	12.5	11.7	11.7	12.4	12.4	13.4	12.8
Protein (%) 12% mb	10.5	10.2	10.5	10.0	9.9	9.8	9.3	9.7	9.8	9.3	9.9	10.3	10.6	9.7	10.3	9.5	10.1	9.8
Ash (%) 14% mb	1.31	1.36	1.36	1.48	1.54	1.42	1.42	1.48	1.53	1.37	1.48	1.38	1.42	1.45	1.40	1.30	1.38	1.43
1000 Kernel Weight (g)	27.8	28.1	28.5	30.1	30.6	32.1	31.9	32.5	31.9	31.6	32.7	34.6	31.2	33.5	30.1	32.7	33.9	33.0
Wheat Falling Number (sec)	320	316	320	225	209	173	225	243	256	202	181	327	348	330	266	300	238	297
DON (ppm)	1.3	3.2	3.3	5.4	3.1	2.8	2.1	1.8	4.3	1.1	2.3	0.8	0.4	0.8	1.2	1.0	0.2	1.1
<b>Wheat Non-Grade Data - from Area Composite Samples</b>																		
Dockage (%)	0.8	0.7	0.8	0.6	0.9	0.3	0.6	0.8	0.7	0.4	1.1	0.2	0.7	1.0	0.5	0.3	0.2	0.9
Moisture (%)	11.7	11.7	12.3	13.5	14.0	12.8	13.5	13.9	13.6	14.4	13.9	12.9	12.3	12.1	13.0	13.2	13.3	12.7
Protein (%) 12% mb	10.9	10.6	10.7	10.5	9.5	9.9	9.2	9.8	9.7	9.6	10.2	10.2	10.6	9.5	9.9	10.2	10.8	10.0
Kernel Size Large (Over 7) (%)	72	66	78	83	81	85	87	86	81	82	85	87	80	88	71	82	84	85
Kernel Size Medium (Over 9) (%)	26	32	21	16	19	14	12	14	18	17	14	13	19	11	27	17	15	14
Kernel Size Small (Thru 9) (%)	2	2	1	1	0	1	1	1	1	1	0	1	1	0	2	1	0	0
Single Kernel Hardness	18.5	20.9	23.1	17.2	14.6	11.6	15.3	14.5	15.4	19.2	17.7	16.3	14.6	12.4	13.6	12.9	15.5	11.6
Single Kernel Weight (mg)	29.4	28.2	30.1	31.1	32.1	32.4	34.6	33.6	32.4	31.6	33.2	36.7	31.4	33.4	33.8	32.0	34.2	32.6
Single Kernel Diameter (mm)	2.58	2.56	2.61	2.68	2.68	2.69	2.77	2.73	2.66	2.61	2.71	2.76	2.61	2.66	2.64	2.65	2.69	2.68
Sedimentation (cc)	15	15	12	14	11	9	9	11	14	14	14	15	18	12	15	12	15	11
DON (ppm)	2.2	3.2	4.7	5.6	2.9	3.7	2.0	2.7	3.1	0.6	3.5	0.4	0.5	0.5	1.9	0.6	0.3	0.5
<b>Flour Data</b>																		
Lab Mill Extraction (%)	74.3	69.4	72.4	74.5	75.3	72.4	74.9	73.8	68.0	70.2	70.3	74.3	75.1	72.8	75.2	74.5	71.9	72.1
Flour Color - *L	90.5	92.7	92.3	90.0	89.8	89.6	91.6	90.6	90.9	91.5	90.9	92.9	92.3	92.9	90.5	91.7	90.4	90.0
Flour Color - *a	-2.7	-3.3	-3.4	-2.8	-3.1	-2.9	-2.9	-3.1	-3.3	-3.5	-3.1	-2.8	-2.9	-3.2	-3.3	-3.5	-3.4	-3.0
Flour Color - *b	8.2	8.1	7.9	8.1	8.4	8.2	8.0	8.0	9.0	8.8	8.3	6.9	7.6	7.9	8.4	9.2	7.5	7.7
Flour Protein (%) 14% mb	8.9	9.0	9.1	8.9	8.3	8.1	8.1	8.3	7.9	7.7	8.5	9.1	9.2	8.3	9.0	8.2	8.5	8.3
Flour Ash (%) 14% mb	0.47	0.50	0.48	0.52	0.53	0.49	0.50	0.50	0.44	0.44	0.58	0.56	0.47	0.50	0.47	0.40	0.48	0.52
Wet Gluten (%)	25.9	25.4	24.1	22.3	20.3	20.8	19.4	21.3	20.2	18.3	20.3	27.6	25.3	22.4	23.0	22.8	21.5	18.8
Gluten Index	84.8	85.0	96.7	91.1	94.5	89.7	97.6	88.8	97.1	99.0	95.7	82.0	86.5	84.2	94.0	84.7	94.2	96.3
Falling Number (sec)	316	334	294	196	167	185	246	238	229	171	199	327	320	357	273	304	227	273
Amylograph (65g) (BU)	430	440	360	60	40	80	130	70	130	70	80	390	320	360	180	380	120	200
Starch Damage (%)	5.3	5.8	6.2	5.3	4.9	4.9	5.3	5.3	3.0	3.0	3.7	7.4	6.2	4.6	4.2	3.4	4.9	4.6
<b>Dough Properties</b>																		
Farinograph Peak (min)	2.0	1.4	1.4	1.7	1.4	1.1	1.5	1.0	1.4	1.4	1.3	1.9	1.7	1.4	1.7	1.5	1.5	1.4
Farinograph Stability (min)	3.2	2.3	2.5	2.9	2.2	1.5	3.2	1.9	1.8	1.6	2.2	3.8	3.0	2.7	3.6	2.5	2.3	1.9
Farinograph Absorption (%)	51.9	52.9	52.7	54.5	53.4	52.3	53.1	54.1	51.5	51.2	53.5	54.6	53.2	53.6	52.5	51.9	53.7	54.0
Alveograph P (mm)	33	29	35	29	27	26	35	33	29	42	35	44	35	35	35	36	35	44
Alveograph L (mm)	86	102	71	85	101	98	82	86	102	71	79	71	72	69	117	102	105	80
Alveograph W (10-4 joules)	68	69	63	54	53	52	72	65	70	99	68	86	66	62	80	93	87	93
Alveograph P/L	0.38	0.28	0.49	0.34	0.27	0.27	0.43	0.38	0.28	0.59	0.44	0.62	0.49	0.51	0.30	0.35	0.33	0.55
Extenso Resistance (BU)	162	164	148	88	100	102	150	116	142	180	127	216	206	172	155	134	154	149
Extenso Extensibility (cm)	18.9	18.0	17.5	18.1	19.2	17.8	16.4	17.2	16.9	18.6	18.5	17.0	16.6	15.8	19.5	19.6	17.8	17.7
Extenso Area (sq cm)	53	51	44	26	32	30	41	34	43	65	41	62	57	44	55	51	49	47
<b>Baking Evaluation</b>																		
Bake Grain and Texture	6.0	5.0	4.0	4.0	5.0	5.0	6.0	5.0	4.0	6.0	4.5	6.0	5.0	5.5	6.0	6.0	5.5	5.0
Bake Absorption (%)	54.0	55.0	56.0	57.0	56.5	54.6	56.0	56.5	53.6	53.5	56.5	55.0	53.6	53.5	55.0	54.0	56.5	57.0
Loaf Volume (cc)	700	725	650	690	650	700	750	725	675	700	750	650	725	725	750	700	700	750
Cookie Diameter (cm)	10.8	10.7	10.5	10.5	10.5	10.9	10.4	10.7	10.7	10.8	10.4	10.2	10.2	10.7	10.7	10.8	10.7	9.2
Cookie Spread Ratio	9.4	9.6	9.2	9.8	9.5	9.8	8.4	9.9	9.1	9.4	9.6	8.2	7.8	9.3	9.6	10.6	8.2	9.2

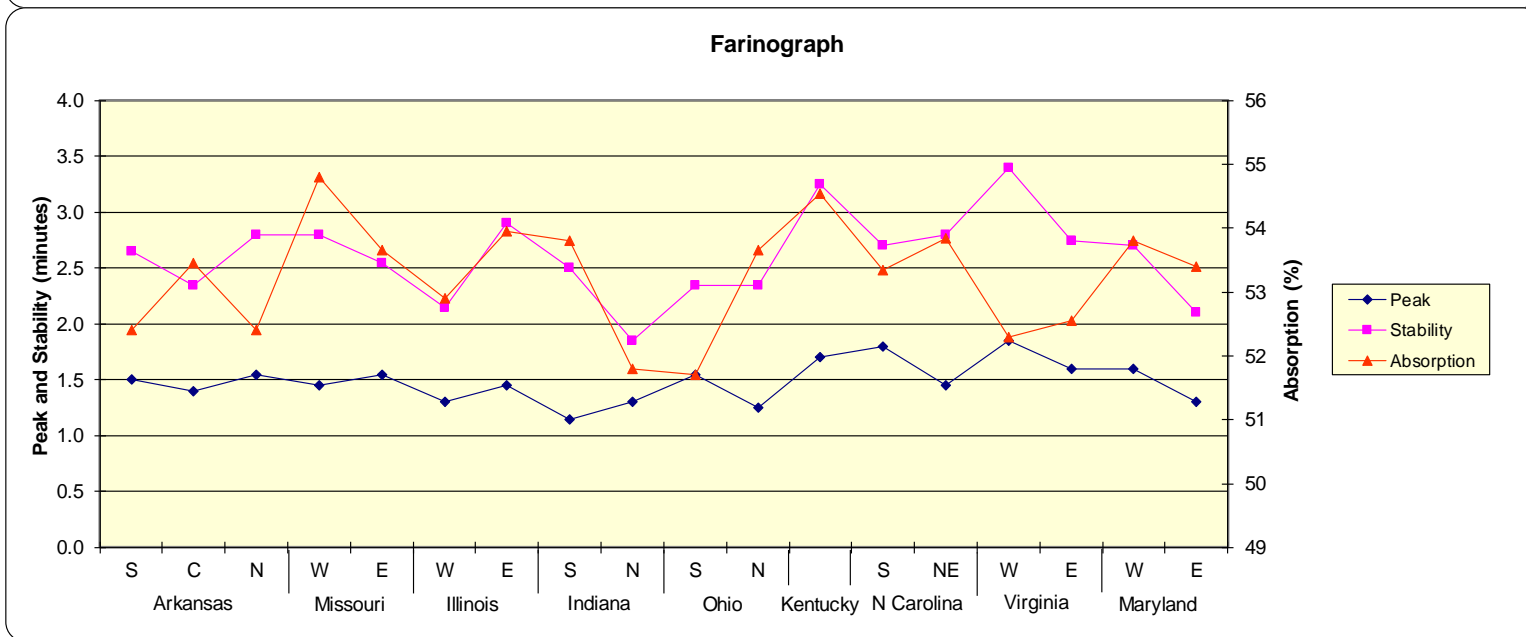
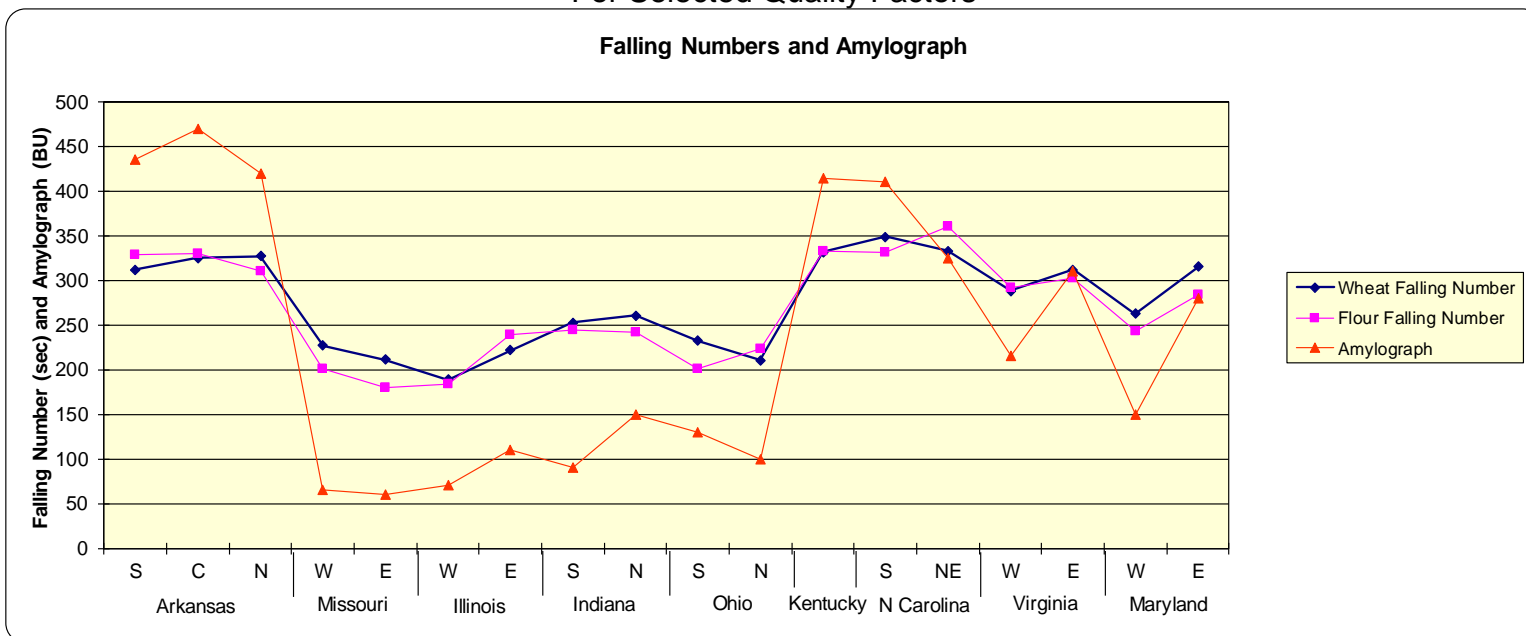
N-North, S-South, E-East, W-West, C-Central, NE-North East, NA-Not Available



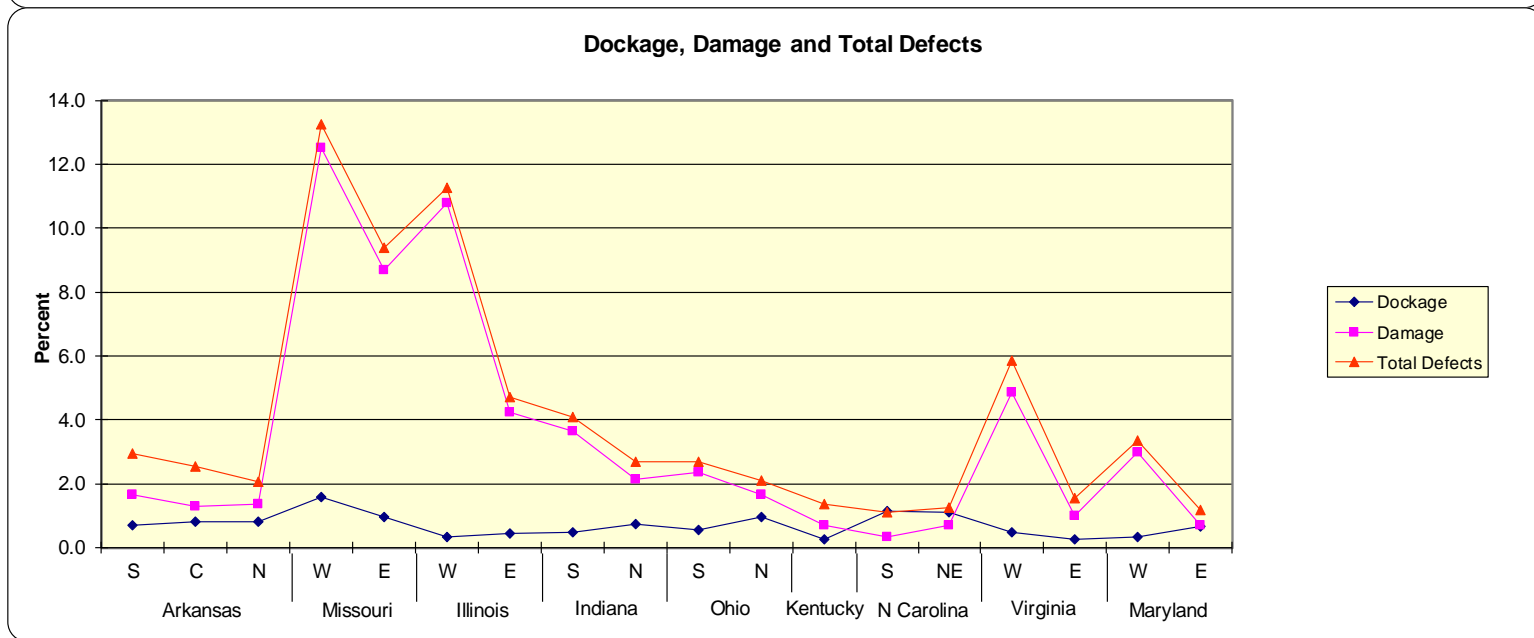
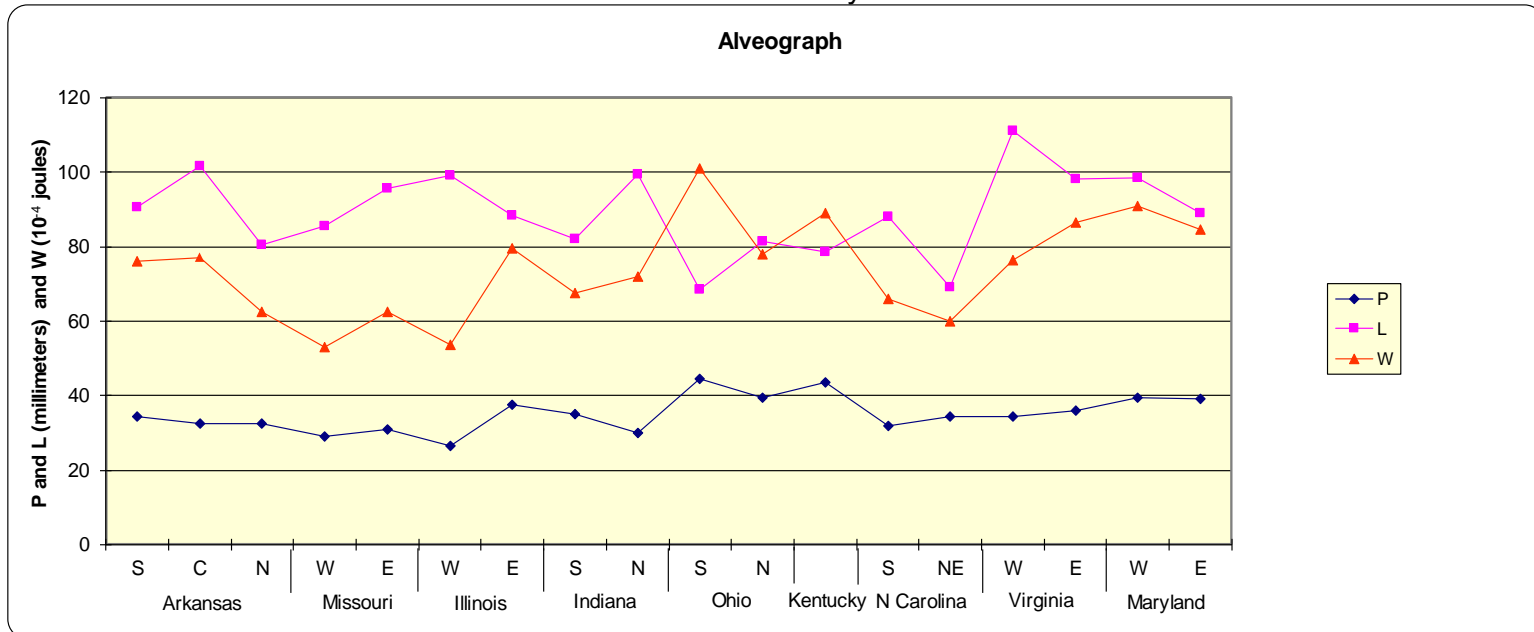
## Comparisons of 2015 Results For Selected Quality Factors



# Comparisons of 2015 Results For Selected Quality Factors



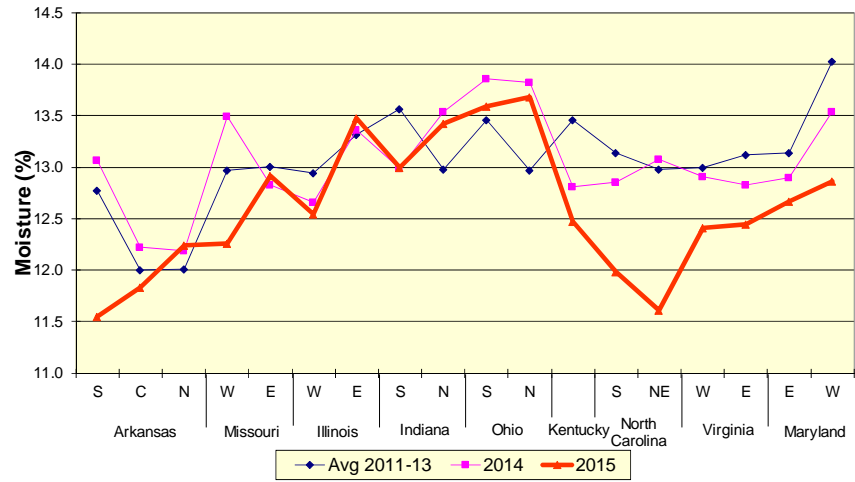
## Comparisons of 2015 Results For Selected Quality Factors



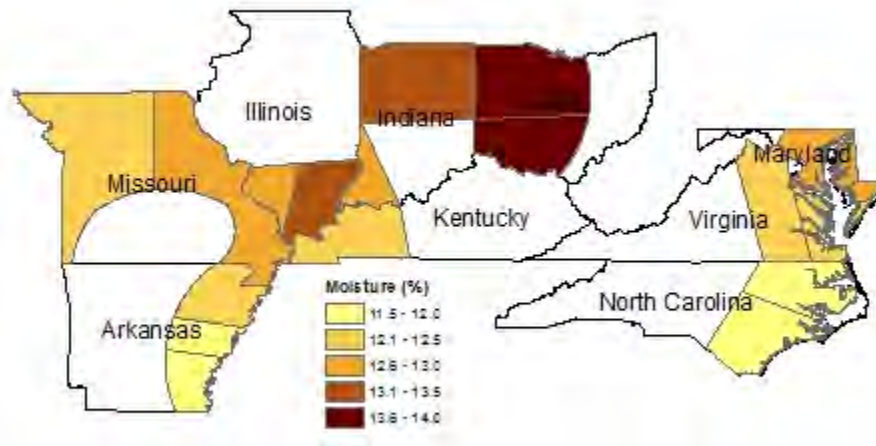
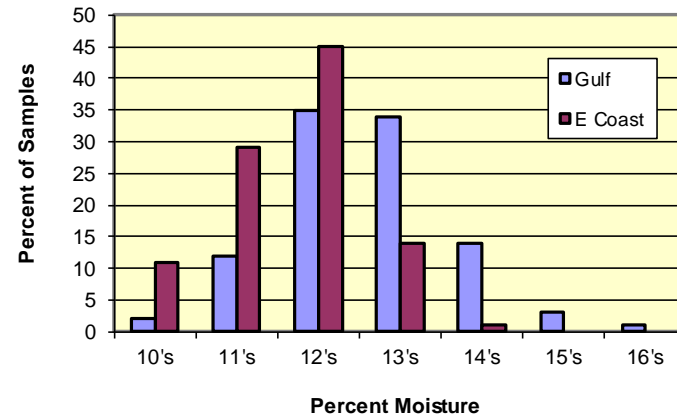
# Distribution of 2015 Results and Comparisons with Previous Years

## For Selected Quality Factors

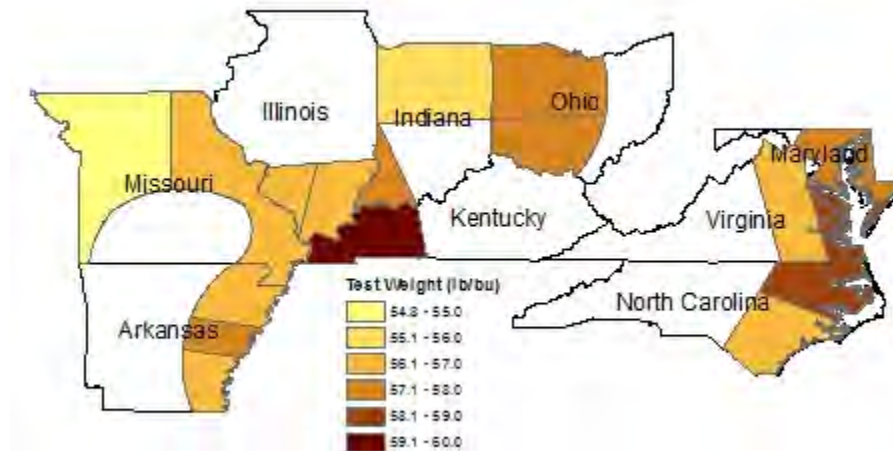
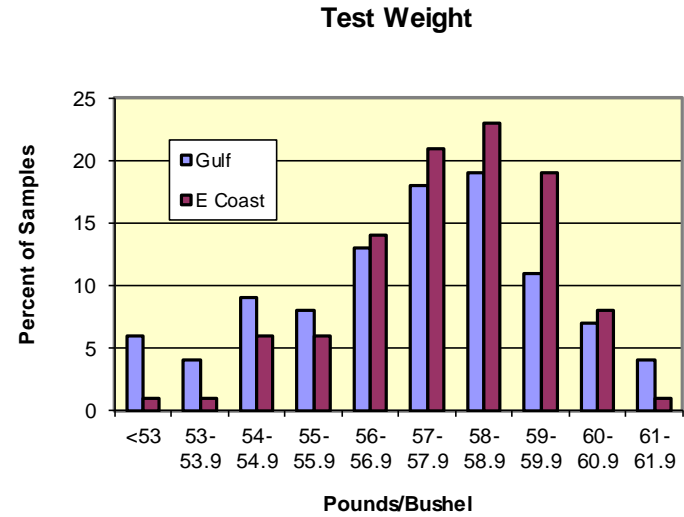
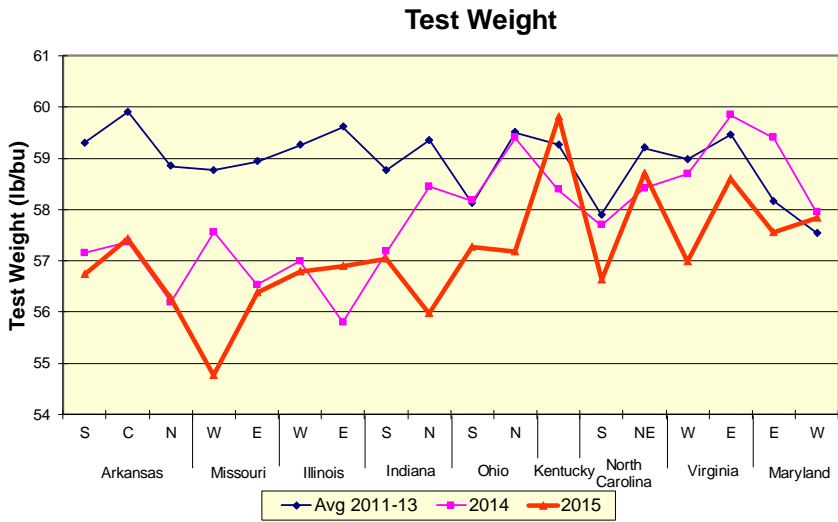
**Moisture**



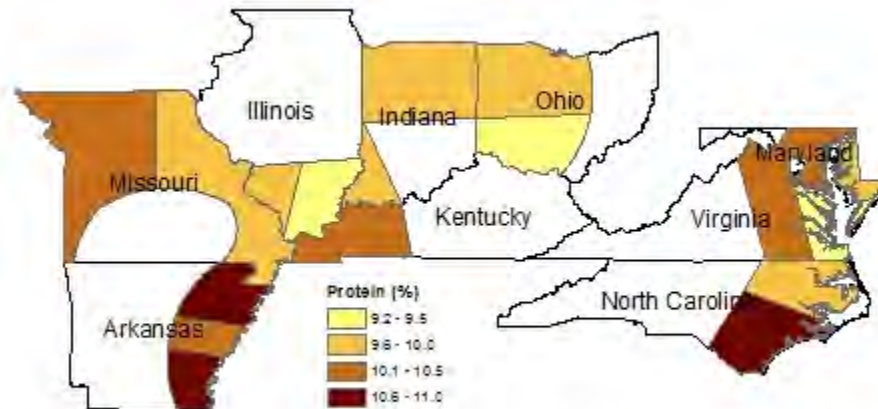
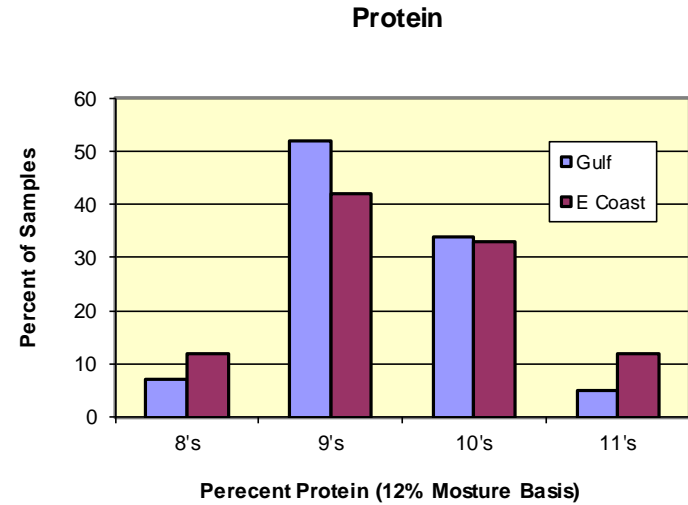
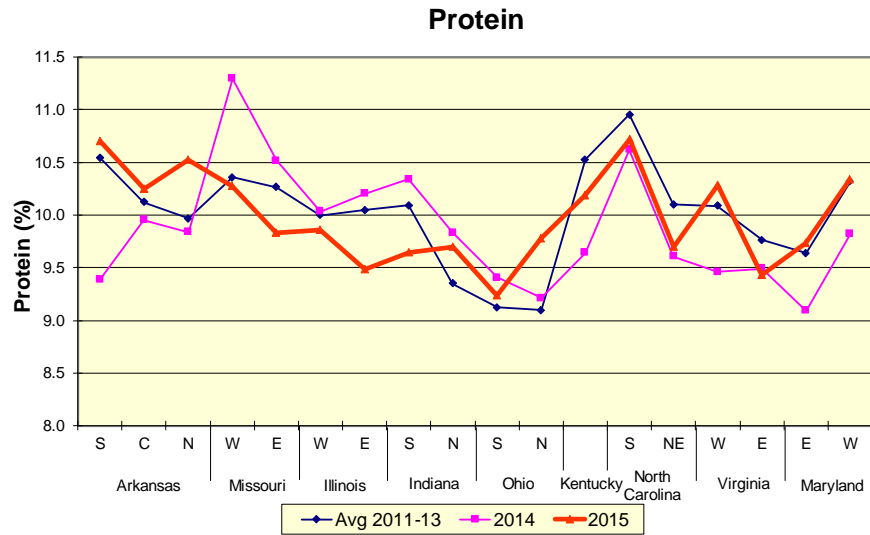
**Moisture**



## Distribution of 2015 Results and Comparisons with Previous Years For Selected Quality Factors



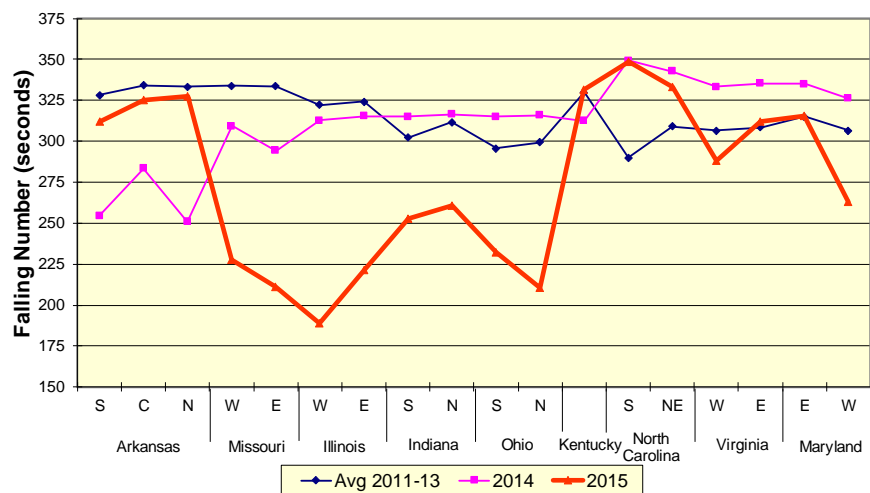
## Distribution of 2015 Results and Comparisons with Previous Years For Selected Quality Factors



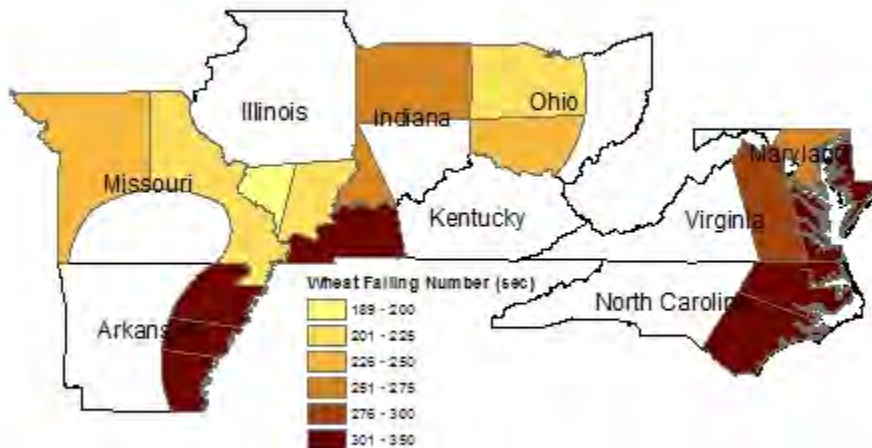
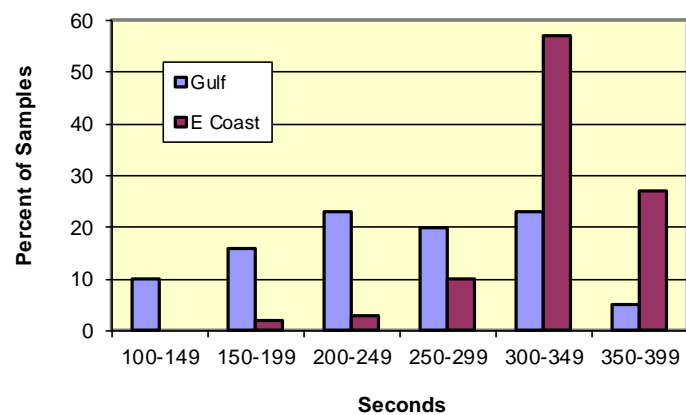


## Distribution of 2015 Results and Comparisons with Previous Years For Selected Quality Factors

**Falling Number**

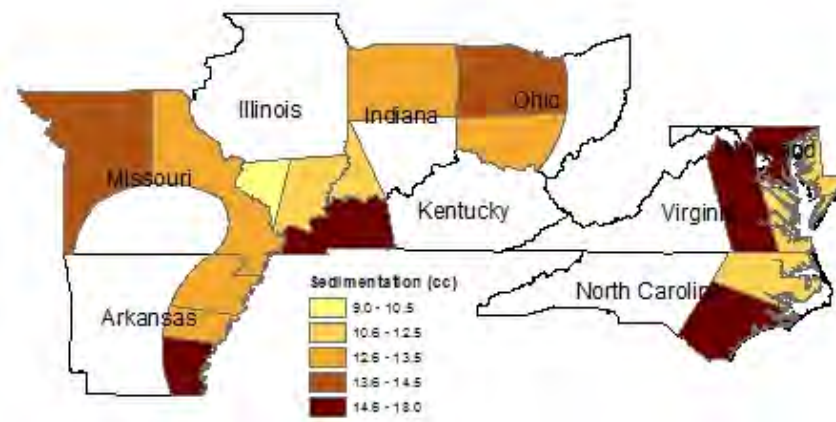
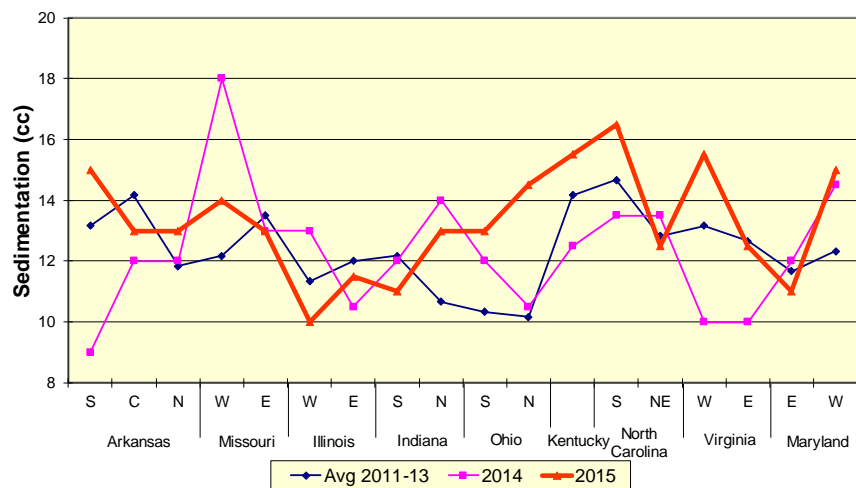


**Falling Number**

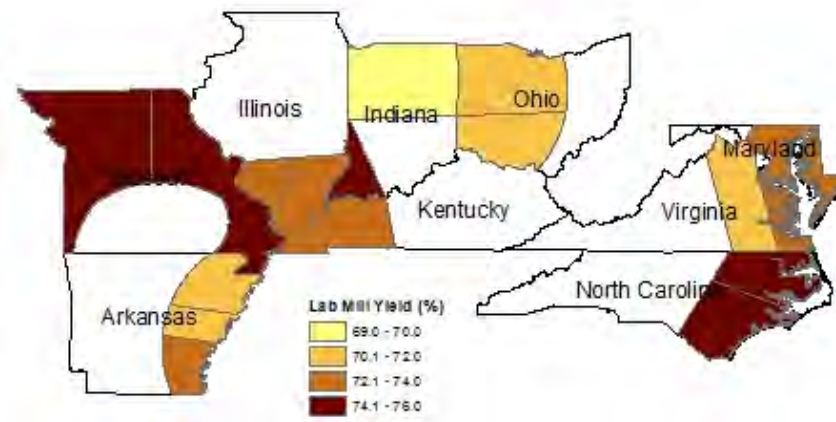
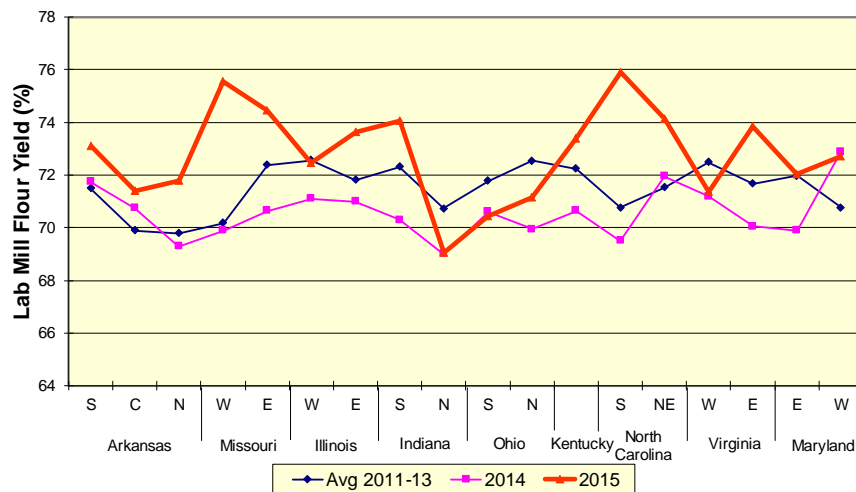


## Distribution of 2015 Results and Comparisons with Previous Years For Selected Quality Factors

### Sedimentation

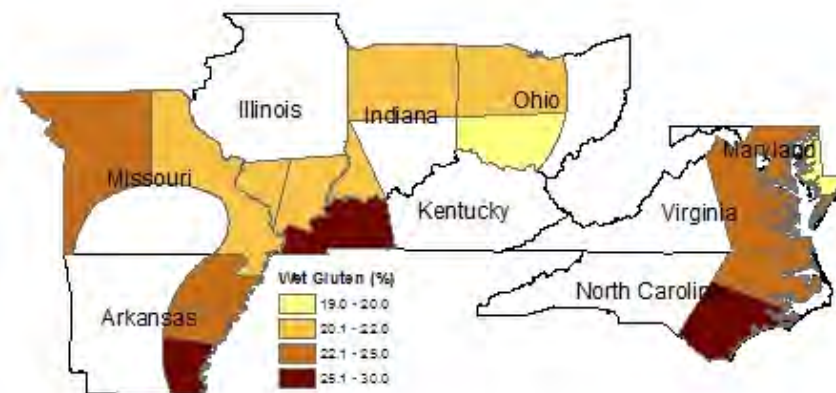
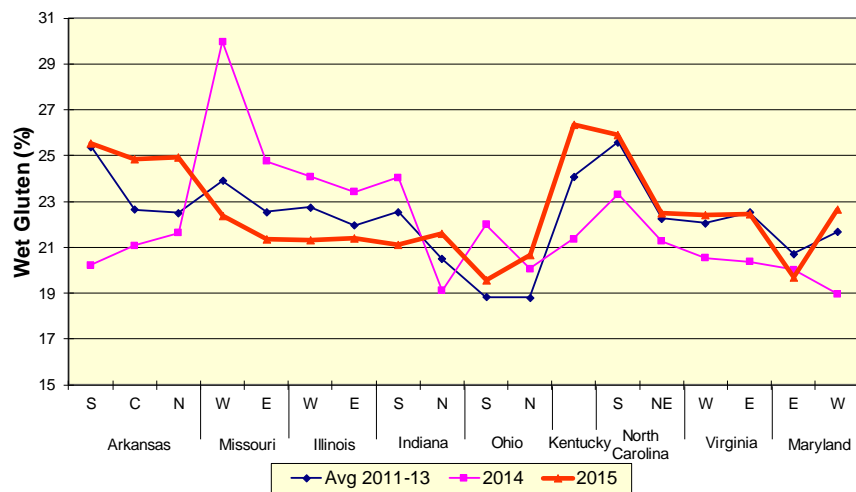


### Laboratory Mill Flour Yield

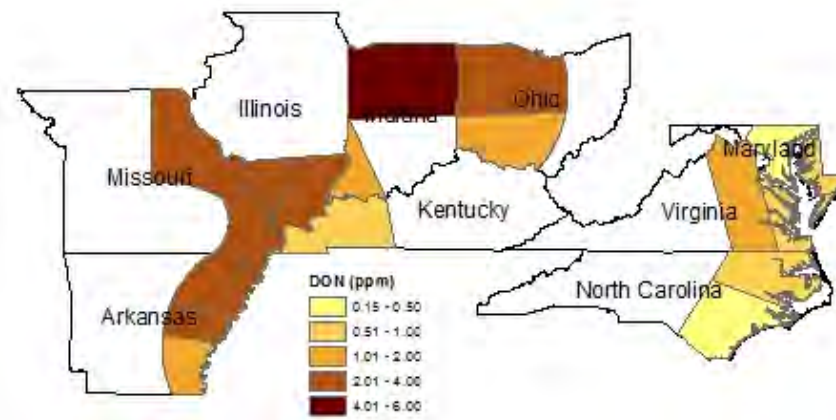
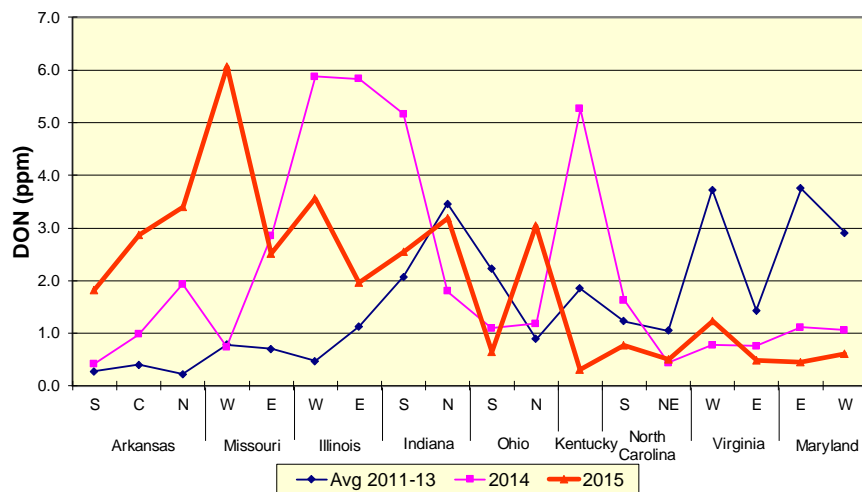


## Distribution of 2015 Results and Comparisons with Previous Years For Selected Quality Factors

### Wet Gluten

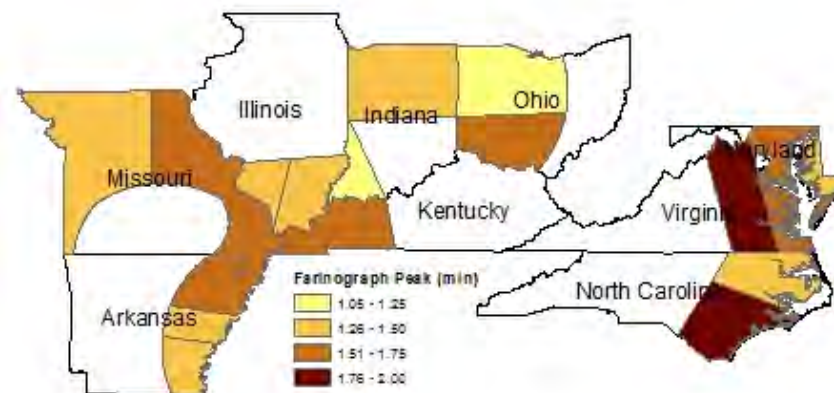
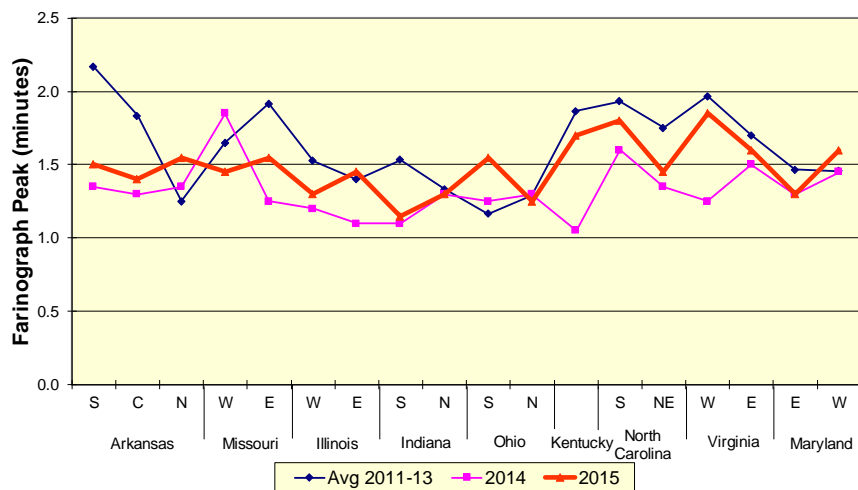


### DON

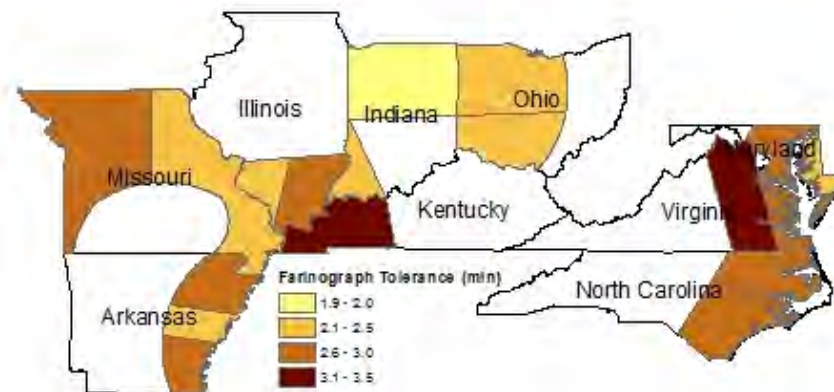
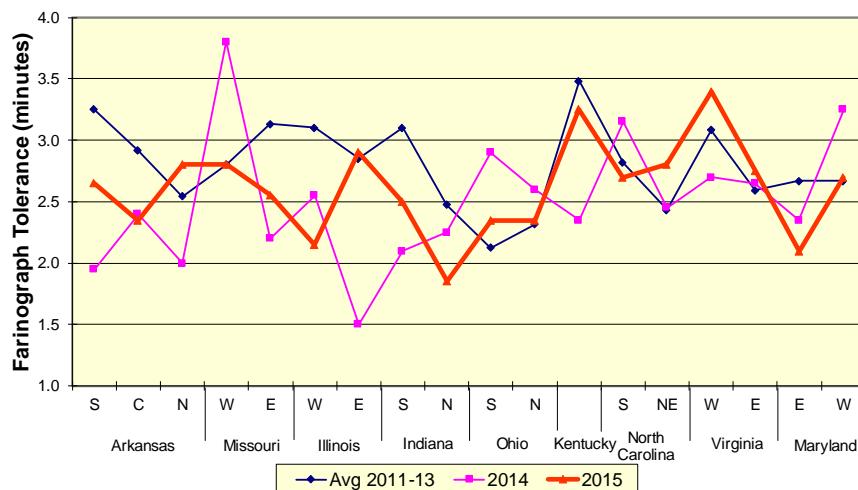


## Distribution of 2015 Results and Comparisons with Previous Years For Selected Quality Factors

### Farinograph Peak

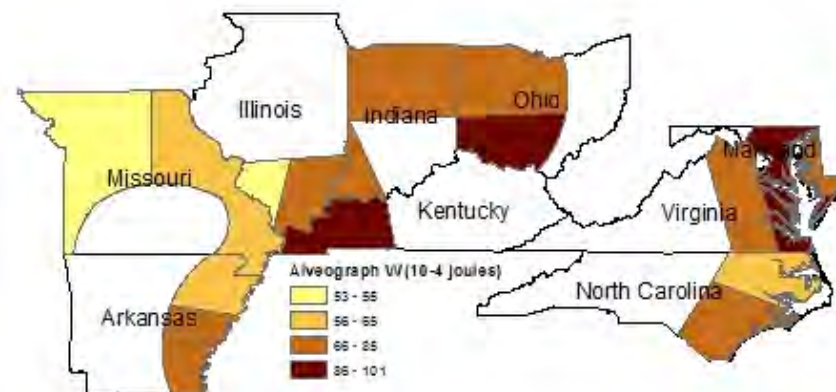
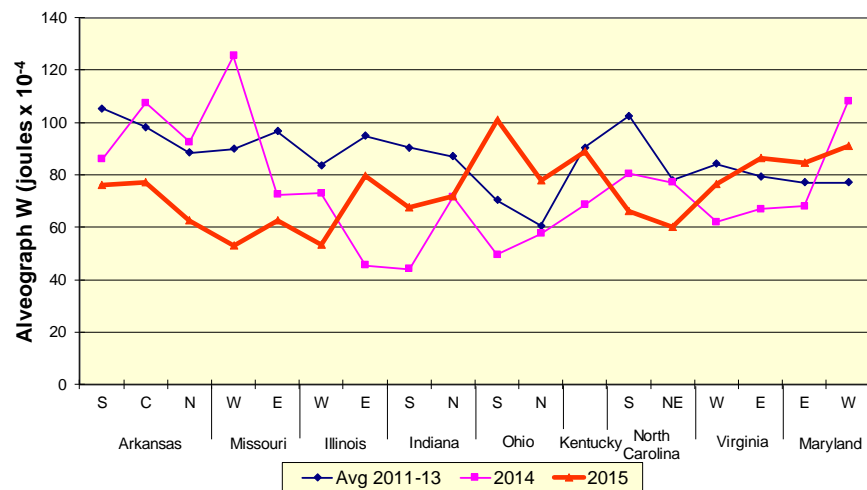


### Farinograph Tolerance



## Distribution of 2015 Results and Comparisons with Previous Years For Selected Quality Factors

### Alveograph W Value



### Alveograph P/L

