

2016

SOFT RED WINTER WHEAT

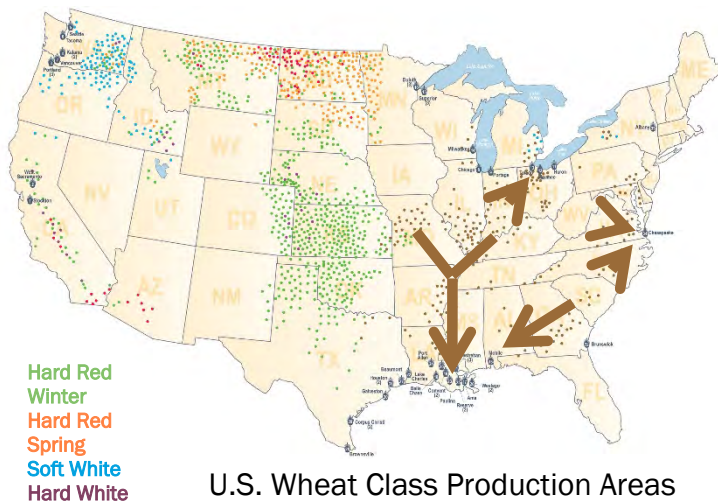


QUALITY SURVEY



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 2015 for the 2016 harvest is estimated by USDA at 6.6 million acres (2.7 million hectares), down from 7.1 million acres (3.0 million hectares) seeded 2014 and below the five-year average. Average yield per harvested acre, however, is estimated to be up from the previous two years. The 2016 SRW production, estimated at 9.4 MMT, is down 0.4 MMT from the 2015 crop and is below the five-year average.

Winter temperatures were generally mild, and much of the SRW growing area received ample to excessive moisture throughout the spring months. The rains benefited yields and quality in some states, but had adverse effects in others. The start of SRW harvest was also delayed by rain but harvest generally progressed rapidly once fields dried enough for it to begin.

Survey Methods: Sample collection and analysis were conducted by the Great Plains Analytical Laboratory, Kansas City, Missouri. For 2016, 484 samples were collected from elevators in 18 reporting areas across nine states. Samples were collected at two different times, reflecting early and late harvest, in all areas except those in Arkansas where the small planted area and limited production resulted in just one sampling per area this year. 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 33 composite samples. The results were weighted by the estimated production for each reporting area 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 79% of the 2016 SRW production in the states surveyed. East Coast states include Maryland, North Carolina and Virginia and represent the remaining 21% of production in the states surveyed. The states surveyed account for an estimated 64% of total SRW 2016 production.

Wheat and Grade Data: When weighted by production, the overall average grade of the samples collected for the 2016 SRW harvest survey is U.S. No. 2. The overall weighted average test weight is 58.6 lb/bu, similar to the five-year average and well above the 56.9 lb/bu average of 2015. The Gulf Port average of 59.3 is well above 2015 and the five-year average and reflects the favorable growing conditions in most of the Gulf tributary states. The East Coast test weight average of 56.0 lb/bu, reflects poorer growing conditions in

Maryland, Virginia and especially North Carolina. Other Gulf Port grade factors and moisture and dockage are more favorable than the five-year averages while the East Coast grade factors are similar to or slightly poorer than previous values.

The overall average wheat protein content of 9.4% (12% moisture basis) is below last year and the five-year average. The Gulf Port protein average of 9.1% is well below previous values, while the East Coast average of 10.4% is above 2015 and the five-year average. Sedimentation and wet gluten show similar relationships with the overall and Gulf Port averages below last year and the five-year averages and the 2016 East Coast values above last year and the five-year averages. The overall average falling number of 330 seconds is well above 2015 and the five-year average and indicates there is very little sprout damage in the crop. Only a very few samples had a falling number below 300 seconds in 2016. The overall DON average of 0.6 ppm is well below the 2015 value of 2.2 ppm and the five-year average of 1.4 ppm, indicating that the crop sampled is relatively free of DON. The Gulf Port DON value of 0.5 ppm is also well below last year and the five-year average while the East Coast value of 1.1 ppm is somewhat above both.

Flour and Baking Data: Buhler laboratory mill flour extraction averages are below the five-year averages overall and for both East Coast and Gulf Port states. Farinograph peak, stability and absorption values are all similar to five-year averages. Alveograph P values are similar to five-year averages, and the L and W values are all higher than the five-year averages. The overall and Gulf Port cookie spread ratios are higher than last year and the five-year average while the East Coast ratio is similar to past values. The overall, Gulf Port and East Coast average loaf volumes are all above last year and the five-year averages.

Summary: The mild winter and wet growing season affected the SRW growing area in different ways. Gulf Port states generally benefitted from very good growing conditions and had high test weights while excessively wet conditions in eastern states affected quality and caused much lower test weights in some areas. However, the entire crop in the states sampled is largely free of sprout damage, and the overall and Gulf Ports DON values are well below last year and the five-year averages. 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 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.

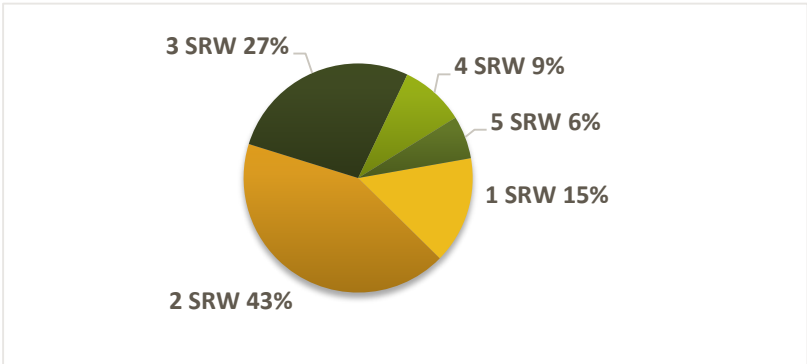
Soft Red Winter Production

for the major producing states (million metric tons)

	2016	2015	2014	2013	2012
Alabama	0.4	0.4	0.4	0.5	0.3
<i>Arkansas</i>	0.2	0.4	0.7	1.0	0.7
Georgia	0.3	0.2	0.3	0.6	0.3
<i>Illinois</i>	1.1	0.9	1.2	1.5	1.1
<i>Indiana</i>	0.7	0.5	0.7	0.9	0.5
<i>Kentucky</i>	0.8	0.9	1.0	1.2	0.8
<i>Maryland</i>	0.5	0.5	0.5	0.5	0.4
Michigan	0.8	0.7	0.7	0.8	0.7
<i>Missouri</i>	1.1	0.9	1.2	1.5	1.0
<i>North Carolina</i>	0.4	0.8	1.2	1.4	1.2
New York	0.2	0.2	0.1	0.2	0.1
<i>Ohio</i>	1.2	0.9	1.1	1.2	0.8
Pennsylvania	0.3	0.3	0.3	0.3	0.3
Tennessee	0.7	0.7	0.9	1.1	0.6
Virginia	0.3	0.4	0.5	0.5	0.4
Wisconsin	0.5	0.4	0.4	0.4	0.5
Surveyed-States Total*	6.0	6.0	8.0	9.8	7.0
Sixteen-State Total	9.0	8.9	11.1	13.7	9.7
Total SRW Production	9.4	9.8	12.4	15.5	11.4

Based on USDA crop estimates of September 30, 2016.

*Nine states denoted by italics were surveyed accounting for 64% of 2016 SRW production.



SRW 2016 Grade Distribution

Soft Red Winter 2016 Survey - All Samples

	Composite Average			East Coast*			Gulf Ports*		
	2016	2015	5-Year	2016	2015	5-Year	2016	2015	5-Year
Wheat Grade Data									
Test Weight (lb/bu)	58.6	56.9	58.5	56.0	57.3	58.4	59.3	56.9	58.5
Test Weight (kg/hl)	77.2	75.0	76.9	73.8	75.5	76.9	78.0	74.9	77.0
Damage - Total (%)	0.8	3.7	1.7	1.7	1.0	1.5	0.5	4.3	1.7
Foreign Material (%)	0.1	0.1	0.1	0.3	0.1	0.2	0.1	0.1	0.1
Shrunken and Broken (%)	0.5	0.5	0.5	0.7	0.5	0.5	0.5	0.6	0.5
Total Defects (%)	1.4	4.3	2.3	2.7	1.6	2.1	1.1	4.9	2.4
Grade	2	3	2	3	3	2	2	3	2
Wheat Non-Grade Data									
Dockage (%)	0.5	0.7	0.6	0.6	0.8	0.7	0.4	0.7	0.6
Moisture (%)	12.4	13.2	13.0	12.8	12.4	12.9	12.2	13.3	13.0
Protein (%) 12%/0% mb	9.4/10.7	10.0/11.4	10.0/11.3	10.4/11.8	10.1/11.5	10.1/11.4	9.1/10.4	10.0/11.4	9.9/11.3
Wheat Ash (%) 14%/0% mb	1.46/1.70	1.43/1.66	1.49/1.74	1.55/1.80	1.39/1.62	1.46/1.70	1.44/1.68	1.43/1.66	1.50/1.74
1000 Kernel Weight (g)	32.3	31.9	32.6	31.0	32.6	34.0	32.7	31.7	32.2
Wheat Falling Number (sec)	330	265	305	320	324	316	332	251	303
Kernel Size (%) lg/med/sm	83/16/01	82/17/01	83/16/01	80/19/01	83/16/01	85/14/01	84/15/01	82/17/01	83/16/01
Single Kernel Hardness	24.8	18.5	23.1	20.5	15.7	20.2	25.9	19.2	23.7
Single Kernel Weight (mg)	34.9	32.9	32.9	34.1	33.2	33.7	35.1	32.8	32.7
Single Kernel Diameter (mm)	2.61	2.68	2.64	2.61	2.66	2.64	2.61	2.69	2.64
Sedimentation (cc)	12.1	13.2	12.4	15.2	13.6	13.1	11.3	13.1	12.3
DON (ppm)	0.6	2.2	1.4	1.1	0.7	0.9	0.5	2.6	1.6
Flour Data									
Lab Mill Extraction (%)	67.3	72.9	71.7	66.9	74.0	71.8	67.5	72.6	71.7
Flour Color - L*	90.6	91.5	92.6	90.4	91.8	92.9	90.6	91.4	92.5
Flour Color - a*	-2.1	-3.0	-2.9	-2.1	-3.1	-3.0	-2.1	-3.0	-2.9
Flour Color - b*	9.3	8.1	8.1	9.5	8.2	8.3	9.3	8.0	8.1
Flour Protein (%) 14%/0% mb	7.6/8.9	8.5/9.9	8.4/9.8	8.4/9.7	8.6/10.0	8.5/9.9	7.4/8.6	8.5/9.9	8.4/9.8
Flour Ash (%) 14%/0% mb	0.43/0.50	0.50/0.58	0.45/0.52	0.44/0.51	0.48/0.56	0.44/0.52	0.43/0.50	0.51/0.59	0.45/0.53
Wet Gluten (%)	21.3	22.6	22.3	23.2	22.9	22.6	20.8	22.5	22.2
Gluten Index	87.6	86.5	81.6	84.6	87.5	81.0	88.4	86.2	81.7
Falling Number (sec)	319	261	306	320	321	317	319	247	304
Amylograph (65g) (BU)	588	218	447	488	322	444	614	193	448
Starch Damage (%)	4.4	5.4	4.7	4.3	4.7	4.5	4.4	5.6	4.8
SRC: GPI	0.61	0.51	0.59	0.61	0.49	0.58	0.61	0.50	0.59
Water/50% Sucrose	53/100	57/111	56/107	54/101	59/111	57/107	54/97	58/108	56/104
5% Lactic Acid/5% Na ₂ CO ₃	106/75	99/85	110/81	108/76	97/85	110/82	104/75	95/83	108/80
Dough Properties									
Farinograph Peak (min)	1.4	1.5	1.5	1.7	1.6	1.6	1.3	1.4	1.5
Farinograph Stability (min)	2.7	2.6	2.7	2.6	2.7	2.7	2.7	2.6	2.7
Farinograph Absorption (%)	52.6	53.4	52.9	53.5	53.3	53.2	52.4	53.5	52.8
Alveograph P (mm)	37	35	36	39	35	36	36	35	36
Alveograph L (mm)	96	88	88	111	86	90	92	88	87
Alveograph W (10-4 joules)	86	73	80	97	73	81	83	73	80
Alveograph P/L	0.38	0.40	0.41	0.35	0.41	0.40	0.39	0.40	0.41
Extenso Resistance (BU)	213	146	NA	200	168	NA	216	141	NA
Extenso Extensibility (cm)	15.7	17.7	NA	17.1	17.3	NA	15.3	17.8	NA
Extenso Area (sq cm)	59	44	NA	61	50	NA	58	43	NA
Baking Evaluation									
Bake Grain and Texture	5.4	5.1	5.1	4.9	5.4	5.1	5.5	5.1	5.0
Bake Absorption (%)	54.6	55.3	NA	55.6	54.4	NA	54.4	55.6	NA
Loaf Volume (cc)	718	704	708	743	726	722	711	699	704
Cookie Diameter (cm)	10.5	10.5	NA	10.4	10.5	NA	10.5	10.6	NA
Cookie Spread Ratio	9.6	9.3	9.3	9.2	9.2	9.2	9.7	9.3	9.3

% Area Production

100.0%

20.6%

79.4%

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

2016 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)	56.9	58.9	59.4	58.7	60.0	59.2	54.3	57.0	57.1
Count	22	64	67	65	106	30	57	37	36
Wheat Grade Data - from Area Composite Samples									
Test Weight (lb/bu)	56.9	58.9	60.0	58.6	59.9	59.3	54.1	57.2	56.7
Test Weight (kg/hl)	74.9	77.5	78.9	77.2	78.8	78.0	71.3	75.4	74.7
Damage - Total (%)	1.3	0.8	0.4	0.9	0.1	0.4	2.7	1.2	1.5
Foreign Material (%)	0.2	0.2	0.1	0.1	0.0	0.0	0.7	0.3	0.0
Shrunken and Broken (%)	0.6	0.5	0.5	0.3	0.2	0.7	1.0	0.6	0.4
Total Defects (%)	2.1	1.5	1.0	1.3	0.4	1.0	4.3	2.0	2.0
Grade	3	2	1	2	2	2	4	3	3
Wheat Non-Grade Data - from Individual Samples									
Moisture (%)	11.8	11.7	11.8	12.8	13.2	12.1	12.0	12.9	13.0
Protein (%) 12%/0% mb	9.5/10.8	9.2/10.5	9.1/10.4	8.9/10.2	9.1/10.3	9.4/10.6	11.2/12.7	10.3/11.7	10.1/11.5
Ash (%) 14%/0% mb	1.43/1.67	1.46/1.70	1.46/1.70	1.42/1.65	1.46/1.69	1.40/1.63	1.64/1.91	1.50/1.74	1.52/1.77
1000 Kernel Weight (g)	30.6	31.7	31.0	34.0	34.0	33.9	27.6	31.8	33.4
Wheat Falling Number (sec)	328	333	333	331	335	328	324	328	308
DON (ppm)	0.5	0.5	0.9	0.5	0.3	0.2	1.2	0.9	1.2
Wheat Non-Grade Data - from Area Composite Samples									
Dockage (%)	0.6	0.4	0.7	0.3	0.4	0.4	0.7	0.4	0.4
Moisture (Lab) (%)	11.7	11.4	11.6	12.9	13.3	12.3	12.1	13.3	13.2
Protein (Lab) (%)	9.8	9.4	8.9	8.8	9.2	9.1	11.4	10.1	10.1
Kernel Size (%) lg/med/sm	87/12/01	82/17/01	80/19/01	86/13/01	89/11/00	83/16/01	73/25/02	80/19/01	87/12/01
Single Kernel Hardness	18.9	24.3	28.3	23.3	27.5	26.7	17.8	25.6	18.9
Single Kernel Weight (mg)	33.5	33.7	33.8	36.3	37.7	34.8	31.2	34.6	36.3
Single Kernel Diameter (mm)	2.59	2.58	2.58	2.67	2.65	2.58	2.53	2.64	2.66
Sedimentation (cc)	11.2	10.6	11.8	10.5	11.4	12.0	20.1	13.5	12.9
DON (ppm)	1.0	0.4	1.0	0.3	0.3	0.4	1.2	0.7	0.6
Flour Data									
Lab Mill Extraction (%)	68.7	67.7	66.6	67.1	67.4	68.1	65.9	67.4	67.6
Flour Color - *L	90.6	91.1	89.8	90.5	90.5	91.3	89.9	91.0	90.7
Flour Color - *a	-2.1	-2.1	-2.2	-2.2	-2.1	-2.1	-2.2	-2.2	-1.9
Flour Color - *b	8.7	8.9	9.8	9.1	9.5	8.9	10.1	9.5	8.8
Flour Protein (%) 14%/0% mb	7.7/8.9	7.7/9.0	7.4/8.6	7.3/8.5	7.4/8.6	7.3/8.5	9.1/10.5	8.2/9.6	8.0/9.3
Flour Ash (%) 14%/0% mb	0.42/0.49	0.45/0.52	0.43/0.50	0.43/0.50	0.44/0.51	0.43/0.50	0.43/0.50	0.42/0.49	0.43/0.50
Wet Gluten (%)	21.4	21.6	20.7	20.9	20.5	19.8	25.5	23.0	21.6
Gluten Index	84.8	88.8	82.6	81.0	91.6	97.7	83.8	85.5	94.3
Falling Number (sec)	313	323	326	287	331	315	325	315	319
Amylograph (65g) (BU)	478	624	581	573	685	613	496	441	547
Starch Damage (%)	4.6	5.2	3.7	4.0	4.4	4.4	4.1	4.3	4.2
Dough Properties									
Farinograph Peak (min)	1.4	1.3	1.3	1.1	1.4	1.3	1.8	1.8	1.5
Farinograph Stability (min)	2.1	2.8	2.5	2.2	2.8	3.4	2.5	3.0	2.7
Farinograph Absorption (%)	52.3	52.2	53.0	52.4	51.8	52.7	54.4	53.1	52.7
Alveograph P (mm)	34	36	34	36	37	40	39	37	40
Alveograph L (mm)	99	96	90	87	91	96	116	124	98
Alveograph W (10-4 joules)	86	82	76	79	87	94	94	99	101
Alveograph P/L	0.35	0.37	0.38	0.41	0.41	0.41	0.34	0.30	0.41
Extenso Resistance (BU)	204	206	188	203	253	230	174	251	201
Extenso Extensibility (cm)	16.1	15.2	15.4	15.4	14.9	15.5	17.7	16.4	16.8
Extenso Area (sq cm)	60	55	51	55	66	63	56	70	61
Baking Evaluation									
Bake Grain and Texture	5.4	6.0	5.6	5.2	5.0	6.0	4.5	5.0	6.0
Bake Absorption (%)	54.2	54.5	55.6	54.3	53.2	54.5	56.6	55.7	54.2
Loaf Volume (cc)	733	654	726	719	757	693	739	728	759
Cookie Diameter (cm)	10.4	10.4	10.8	10.4	10.3	10.6	10.3	10.4	10.5
Cookie Spread Ratio	9.0	8.6	10.4	9.5	10.0	10.3	8.7	9.1	9.9

Soft Red Winter 2016 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
Wheat Grade Data - from Individual Samples																		
Test Weight (Lab) (lb/bu)	55.4	56.7	57.9	58.4	59.2	59.3	59.5	58.3	59.0	58.7	60.2	59.2	53.8	55.9	56.1	57.4	58.0	56.8
Count	6	6	10	25	39	36	31	30	35	29	77	30	28	29	9	28	11	25
Wheat Grade Data - from Area Composite Samples																		
Test Weight (lb/bu)	55.3	56.7	57.8	58.1	59.3	60.0	60.0	58.1	59.1	58.7	60.1	59.3	53.6	55.9	56.6	57.6	58.1	56.3
Test Weight (kg/hl)	72.9	74.7	76.1	76.5	78.0	78.9	78.9	76.4	77.7	77.3	79.1	78.0	70.7	73.6	74.5	75.8	76.4	74.2
Damage - Total (%)	1.3	2.0	0.7	1.0	0.7	0.7	0.0	0.7	1.0	1.0	0.0	0.4	3.0	1.7	1.7	1.0	1.0	1.7
Foreign Material (%)	0.3	0.3	0.0	0.3	0.2	0.0	0.2	0.3	0.0	0.2	0.0	0.0	0.7	0.5	0.2	0.3	0.2	0.0
Shrunken and Broken (%)	0.6	0.7	0.5	0.5	0.6	0.6	0.5	0.5	0.2	0.4	0.2	0.7	1.0	0.9	0.6	0.6	0.4	0.5
Total Defects (%)	2.2	3.0	1.2	1.8	1.4	1.3	0.6	1.5	1.2	1.5	0.2	1.0	4.7	3.0	2.4	1.9	1.6	2.1
Grade	4	3	3	2	2	1	1	2	2	2	1	2	5	4	3	3	2	3
Wheat Non-Grade Data - from Individual Samples																		
Moisture (%)	12.1	12.0	11.6	11.8	11.6	11.9	11.7	12.3	13.1	12.5	13.3	12.1	11.9	12.2	12.9	12.8	13.0	13.0
Protein (%) 12% mb	9.4	10.1	9.0	9.4	9.1	9.2	9.1	9.1	8.8	9.0	9.1	9.4	11.4	10.4	10.6	10.1	10.4	10.0
Ash (%) 14% mb	1.40	1.52	1.36	1.46	1.46	1.49	1.42	1.44	1.40	1.47	1.45	1.40	1.67	1.55	1.51	1.49	1.42	1.55
1000 Kernel Weight (g)	29.0	30.5	31.4	30.8	32.2	30.6	31.4	31.8	35.5	34.1	34.0	33.9	27.0	29.7	30.4	32.6	35.3	32.7
Wheat Falling Number (sec)	313	349	315	336	331	336	331	340	325	331	335	328	323	327	333	326	309	307
DON (ppm)	1.1	0.4	0.4	0.5	0.5	0.6	1.3	1.1	0.2	0.3	0.3	0.2	1.1	1.3	0.3	1.2	1.0	1.2
Wheat Non-Grade Data - from Area Composite Samples																		
Dockage (%)	0.6	0.6	0.5	0.3	0.5	0.8	0.6	0.3	0.3	0.4	0.4	0.4	0.7	0.9	0.5	0.4	0.3	0.5
Moisture (%)	12.2	11.8	11.5	11.8	11.1	11.6	11.6	13.0	12.9	13.3	13.4	12.3	12.0	12.7	12.8	13.6	13.3	13.1
Protein (%) 12% mb	9.1	10.8	9.1	9.6	9.3	9.0	8.7	8.9	8.7	8.7	9.2	9.1	11.7	10.1	10.5	9.8	10.2	10.0
Kernel Size Large (Over 7) (%)	74	95	86	80	83	79	82	78	91	88	89	83	73	75	77	82	87	87
Kernel Size Medium (Over 9) (%)	24	5	13	19	16	20	17	21	8	12	10	16	25	23	22	18	12	12
Kernel Size Small (Thru 9) (%)	2	1	1	1	1	1	1	1	0	1	0	1	2	2	1	1	1	1
Single Kernel Hardness	21.3	18.9	17.8	24.1	24.5	28.7	27.9	28.6	19.7	24.9	27.9	26.7	16.9	21.0	26.3	25.3	20.7	18.3
Single Kernel Weight (mg)	31.2	33.0	35.2	32.7	34.3	32.9	34.8	34.1	37.8	37.0	37.8	34.8	30.6	33.2	33.1	35.3	38.7	35.6
Single Kernel Diameter (mm)	2.51	2.55	2.67	2.54	2.60	2.57	2.59	2.59	2.72	2.64	2.65	2.58	2.51	2.60	2.58	2.67	2.74	2.63
Sedimentation (cc)	12	12	10	12	10	12	12	12	10	11	12	12	22	16	16	13	14	13
DON (ppm)	2.8	0.6	0.6	0.5	0.3	0.9	1.2	0.7	0.1	0.5	0.3	0.4	0.9	2.1	1.1	0.5	0.8	0.5
Flour Data																		
Lab Mill Extraction (%)	69.3	68.0	69.0	67.6	67.8	67.0	66.2	68.3	66.3	67.2	67.5	68.1	65.8	66.4	67.6	67.4	67.5	67.7
Flour Color - *L	90.4	90.6	90.7	91.1	91.1	89.8	89.9	91.1	90.2	91.0	90.5	91.3	89.9	89.8	90.8	91.1	90.7	90.7
Flour Color - *a	-2.1	-2.0	-2.1	-2.1	-2.1	-2.2	-2.2	-2.1	-2.2	-2.1	-2.2	-2.1	-2.2	-2.3	-2.2	-2.2	-1.9	-2.0
Flour Color - *b	9.0	8.9	8.4	8.9	9.0	9.8	9.9	8.9	9.4	9.1	9.6	8.9	10.1	10.4	9.4	9.6	8.6	8.8
Flour Protein (%) 14% mb	7.8	7.8	7.5	7.7	7.7	7.4	7.4	7.6	7.1	7.4	7.3	7.3	9.3	8.4	8.2	8.3	8.1	8.0
Flour Ash (%) 14% mb	0.44	0.40	0.43	0.42	0.46	0.43	0.43	0.44	0.42	0.43	0.44	0.43	0.42	0.47	0.43	0.42	0.43	0.43
Wet Gluten (%)	21.4	22.7	20.0	22.6	21.0	21.0	20.4	22.0	20.2	19.0	20.8	19.8	26.0	23.7	23.7	22.7	23.1	21.2
Gluten Index	75.3	81.4	92.9	84.9	91.2	85.5	78.9	74.2	85.7	92.2	91.5	97.7	89.5	64.9	80.9	87.8	92.1	95.1
Falling Number (sec)	309	324	303	337	315	336	314	318	267	331	331	315	326	322	322	312	323	318
Amylograph (65g) (BU)	385	557	442	655.5	606	555	614.5	480.5	637.5	580	703	612.5	520.5	414.5	595.5	366.5	615.5	525
Starch Damage (%)	4.6	4.6	4.6	5.4	5.1	3.6	4.0	4.4	3.8	4.4	4.4	4.4	4.0	4.6	4.3	4.3	4.1	4.2
Dough Properties																		
Farinograph Peak (min)	1.5	1.5	1.3	1.3	1.4	1.4	1.3	1.3	1.0	1.1	1.5	1.3	1.9	1.8	1.6	1.9	1.5	1.5
Farinograph Stability (min)	2.3	2.3	1.8	2.4	3.0	2.5	2.5	2.5	2.0	1.9	3.0	3.4	2.6	2.1	2.9	3.0	2.5	2.8
Farinograph Absorption (%)	52.3	52.1	52.5	52.5	52.1	53.5	52.4	52.4	52.4	52.9	51.7	52.7	54.6	54.1	53.2	53.1	53.6	52.5
Alveograph P (mm)	34	34	35	39	34	35	33	33	38	37	38	40	41	38	39	36	39	40
Alveograph L (mm)	108	102	92	91	99	94	86	101	77	106	88	96	130	105	118	128	99	98
Alveograph W (10-4 joules)	90	90	81	84	81	78	73	75	82	97	86	94	107	84	99	99	100	102
Alveograph P/L	0.31	0.33	0.38	0.42	0.35	0.37	0.38	0.32	0.49	0.35	0.43	0.41	0.31	0.36	0.33	0.28	0.39	0.41
Extensio Resistance (BU)	194	198	214	192	214	187	190	208	199	190	264	230	174	174	190	281	192	204
Extensio Extensibility (cm)	16.5	16.2	15.9	15.5	15.1	15.7	15.0	15.1	15.6	15.3	14.8	15.5	18.4	17.2	18.8	15.2	18.6	16.2
Extensio Area (sq cm)	56	60	61	53	56	51	51	54	56	51	69	63	60	52	67	72	68	59
Baking Evaluation																		
Bake Grain and Texture	5.0	5.0	6.0	6.0	6.0	6.0	5.0	4.0	6.0	5.0	5.0	6.0	5.0	3.0	5.0	5.0	6.0	6.0
Bake Absorption (%)	54.0	54.0	54.4	54.5	54.5	56.0	55.0	54.0	54.5	54.5	53.0	54.5	56.5	56.8	55.0	56.0	55.0	54.0
Loaf Volume (cc)	750	760	698	616	678	735	715	736	708	743	760	693	740	735	725	729	727	770
Cookie Diameter (cm)	10.3	10.3	10.5	10.4	10.4	10.8	10.8	10.5	10.3	10.5	10.3	10.6	10.3	10.3	10.4	10.5	10.3	10.6
Cookie Spread Ratio	9.0	8.3	9.8	8.5	8.7	10.6	10.1	9.5	9.6	9.7	10.1	10.3	8.7	8.5	9.0	9.2	9.2	10.1

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

Soft Red Winter 2016 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
Wheat Grade Data - from Individual Samples																		
Test Weight (Lab) (lb/bu)	55.5	57.1	57.1	59.0	59.3	59.5	59.5	58.6	59.2	58.8	60.1	59.8	53.2	56.7	56.8	58.7	58.8	57.2
Count	5	1	2	15	19	19	16	16	17	16	39	13	15	15	4	14	6	13
Wheat Grade Data - from Area Composite Samples																		
Test Weight (lb/bu)	55.3	NA	NA	58.1	59.5	60.0	59.8	59.0	59.3	58.6	60.0	59.8	53.3	57.1	57.6	58.8	58.6	56.3
Test Weight (kg/hl)	72.9	NA	NA	76.5	78.3	78.9	78.7	77.6	78.0	77.1	78.9	78.7	70.3	75.2	75.8	77.4	77.1	74.2
Damage - Total (%)	1.3	NA	NA	0.7	0.0	1.3	0.0	1.3	0.7	0.7	0.0	0.0	3.0	1.3	2.0	1.3	0.7	1.3
Foreign Material (%)	0.3	NA	NA	0.3	0.3	0.0	0.3	0.3	0.0	0.3	0.0	0.0	0.7	0.7	0.3	0.3	0.3	0.0
Shrunken and Broken (%)	0.6	NA	NA	0.4	0.6	0.6	0.6	0.6	0.2	0.5	0.2	0.6	1.1	1.0	0.7	0.6	0.7	0.4
Total Defects (%)	2.2	NA	NA	1.4	0.9	1.9	0.9	2.2	0.9	1.5	0.2	0.6	4.8	3.0	3.0	2.2	1.7	1.7
Grade	4	NA	NA	2	2	1	2	2	2	2	1	2	5	3	3	2	2	3
Wheat Non-Grade Data - from Individual Samples																		
Moisture (%)	12.4	11.1	11.4	11.9	11.6	12.2	11.9	12.6	13.4	12.5	13.5	12.3	11.9	12.0	13.0	13.0	13.3	13.3
Protein (%) 12% mb	9.3	8.9	9.6	9.4	9.1	9.2	9.1	8.9	8.8	8.9	9.2	9.1	11.4	10.4	10.7	10.0	10.2	9.9
Ash (%) 14% mb	1.39	1.74	1.37	1.43	1.46	1.48	1.35	1.48	1.42	1.46	1.45	1.37	1.74	1.57	1.59	1.46	1.42	1.61
1000 Kernel Weight (g)	29.4	33.2	26.8	31.4	31.9	30.3	32.0	32.0	35.7	34.1	33.3	33.9	27.1	30.2	29.5	32.2	36.6	31.8
Wheat Falling Number (sec)	316	404	333	338	333	335	336	344	324	331	336	323	326	328	347	340	317	308
DON (ppm)	1.1	NA	NA	0.3	0.4	0.5	1.6	1.1	0.1	0.4	0.3	0.3	1.6	1.4	0.4	0.9	0.2	1.4
Wheat Non-Grade Data - from Area Composite Samples																		
Dockage (%)	0.6	NA	NA	0.3	0.4	0.8	0.5	0.3	0.2	0.3	0.4	0.5	0.8	1.2	0.4	0.4	0.2	0.4
Moisture (%)	12.2	NA	NA	12.2	10.8	11.6	12.1	13.1	13.0	13.2	13.1	12.4	11.7	12.7	12.7	13.9	14.3	12.7
Protein (%) 12% mb	9.1	NA	NA	9.3	8.8	9.0	8.8	9.0	8.7	8.4	9.6	8.8	11.7	10.2	10.4	9.8	10.2	9.6
Kernel Size Large (Over 7) (%)	74	NA	NA	81	83	80	82	79	91	89	88	82	71	77	76	81	88	88
Kernel Size Medium (Over 9) (%)	24	NA	NA	18	16	19	17	20	9	11	11	17	27	21	23	18	11	11
Kernel Size Small (Thru 9) (%)	2	NA	NA	1	1	1	2	1	0	0	0	1	2	2	1	1	1	0
Single Kernel Hardness	21.3	NA	NA	23.9	26.8	30.0	27.5	32.2	20.7	27.1	26.7	25.4	16.2	23.6	31.1	34.5	27.0	15.3
Single Kernel Weight (mg)	31.2	NA	NA	34.0	34.2	33.1	36.3	33.6	36.4	37.4	37.9	35.6	29.5	33.4	35.0	34.8	40.2	35.6
Single Kernel Diameter (mm)	2.51	NA	NA	2.59	2.62	2.59	2.64	2.58	2.71	2.64	2.66	2.56	2.45	2.60	2.62	2.65	2.76	2.64
Sedimentation (cc)	12	NA	NA	12	10	12	13	13	9	10	12	12	28	19	15	13	14	14
DON (ppm)	2.8	NA	NA	0.5	0.1	0.6	0.8	0.1	0.1	0.7	0.3	0.3	1.0	1.6	1.6	0.4	0.8	0.8
Flour Data																		
Lab Mill Extraction (%)	69.3	NA	NA	68.4	68.2	66.5	65.5	68.7	66.3	66.0	65.3	67.6	66.0	66.8	67.0	67.5	66.9	68.5
Flour Color - *L	90.4	NA	NA	91.1	91.0	89.5	89.7	91.0	90.2	91.1	90.0	91.2	89.0	88.9	91.0	91.1	90.9	90.5
Flour Color - *a	-2.1	NA	NA	-2.1	-2.1	-2.2	-2.2	-2.0	-2.2	-2.1	-2.2	-2.0	-2.1	-2.3	-2.2	-2.2	-2.0	-1.9
Flour Color - *b	9.0	NA	NA	8.9	9.0	9.9	10.0	8.4	9.4	9.2	9.9	8.8	9.9	10.5	9.4	9.8	8.8	8.7
Flour Protein (%) 14% mb	7.8	NA	NA	8.1	7.6	7.5	7.6	7.6	7.2	7.6	7.1	7.2	9.0	8.4	8.0	8.4	8.0	8.2
Flour Ash (%) 14% mb	0.44	NA	NA	0.41	0.48	0.42	0.42	0.47	0.42	0.42	0.42	0.42	0.43	0.53	0.41	0.40	0.41	0.42
Wet Gluten (%)	21.4	NA	NA	21.8	20.5	21.4	21.3	22.1	20.5	20.9	22.4	20.1	25.0	23.3	23.2	23.1	23.1	21.1
Gluten Index	75.3	NA	NA	92.8	92.8	84.0	75.4	71.6	78.6	86.8	92.6	98.2	85.4	57.4	87.5	89.7	92.0	97.0
Falling Number (sec)	309	NA	NA	326	300	338	328	325	274	338	324	330	313	316	318	352	330	323
Amylograph (65g) (BU)	385	NA	NA	630	569	598	597	499	585	490	750	637	478	410	618	542	676	508
Starch Damage (%)	4.6	NA	NA	4.9	4.9	2.5	3.8	4.6	3.4	4.6	4.2	4.2	4.2	4.6	3.8	4.9	3.4	4.6
Dough Properties																		
Farinograph Peak (min)	1.5	NA	NA	1.5	1.5	1.3	1.5	1.0	1.0	1.3	1.5	1.3	1.8	1.8	1.8	2.0	1.5	1.5
Farinograph Stability (min)	2.3	NA	NA	2.8	3.0	2.0	3.5	2.5	2.0	2.3	3.5	3.5	2.8	2.3	2.8	3.0	2.5	2.5
Farinograph Absorption (%)	52.3	NA	NA	52.9	51.5	52.1	51.4	52.7	52.5	52.9	50.9	52.9	54.1	53.1	53.3	54.3	53.2	53.0
Alveograph P (mm)	34	NA	NA	44	30	37	35	33	39	38	36	41	41	37	40	40	41	46
Alveograph L (mm)	108	NA	NA	85	106	95	94	99	73	107	88	96	130	115	107	123	97	93
Alveograph W (10-4 joules)	90	NA	NA	91	78	82	79	76	81	100	82	96	113	87	95	108	102	122
Alveograph P/L	0.31	NA	NA	0.52	0.28	0.39	0.37	0.33	0.53	0.36	0.41	0.43	0.32	0.32	0.37	0.33	0.42	0.49
Extenso Resistance (BU)	194	NA	NA	192	236	210	222	305	179	226	264	238	185	170	252	220	204	226
Extenso Extensibility (cm)	16.5	NA	NA	15.5	15.7	15.5	15.4	12.9	15.4	14.6	14.8	15.1	18.1	16.4	15.3	17.5	14.5	16
Extenso Area (sq cm)	56	NA	NA	53	65	59	61	62	50	58	69	62	64	49	64	70	52	67
Baking Evaluation																		
Bake Grain and Texture	5.0	NA	NA	6.0	5.0	4.0	5.0	5.0	5.0	6.0	5.0	5.0	6.0	6.0	4.0	5.0	4.0	5.0
Bake Absorption (%)	54.0	NA	NA	54.5	53.0	54.0	55.0	54.4	54.0	55.0	53.0	54.5	53.0	56.0	56.0	56.0	55.0	55.0
Loaf Volume (cc)	750	NA	NA	650	670	720	750	715	690	750	770	683	720	750	700	750	750	765
Cookie Diameter (cm)	10.3	NA	NA	10.5	10.3	10.8	10.9	10.1	10.6	10.2	9.9	10.7	10.2	10.3	10.4	10.5	10.3	10.7
Cookie Spread Ratio	9.0	NA	NA	8.9	8.5	10.6	10.4	8.9	9.8	8.7	9.7	10.5	8.7	8.7	8.6	8.9	9.3	9.6

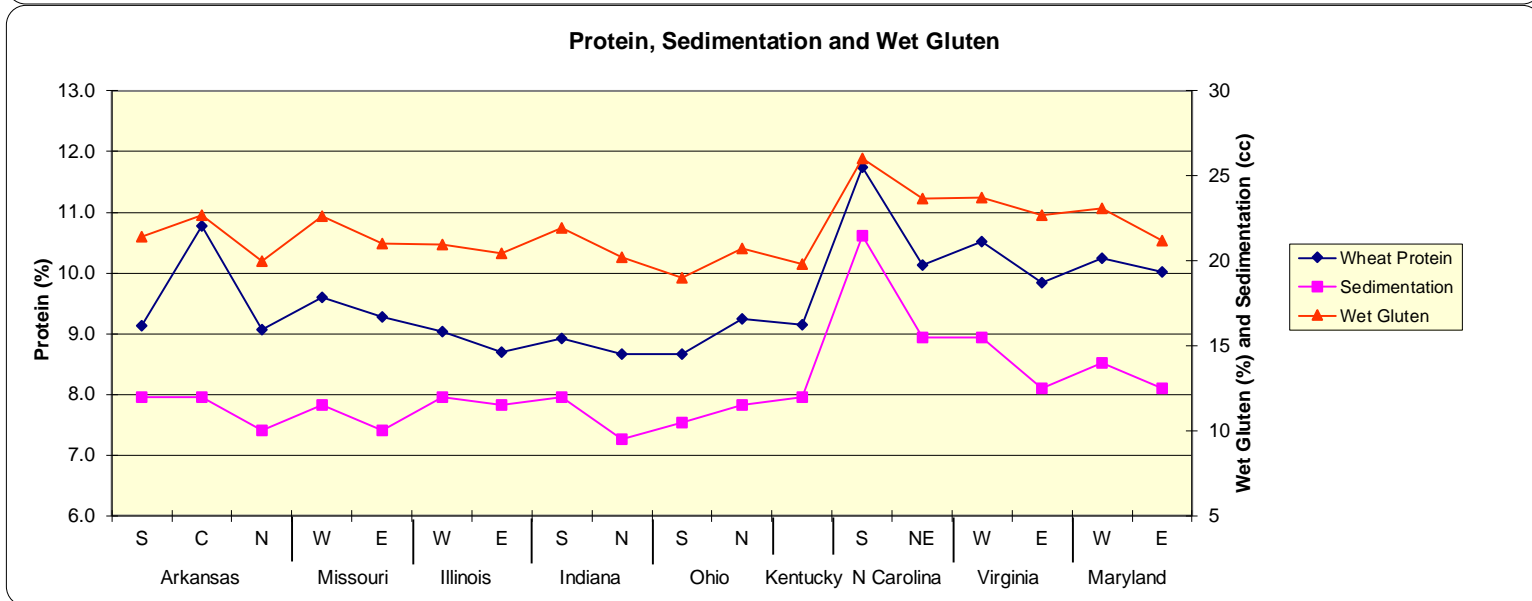
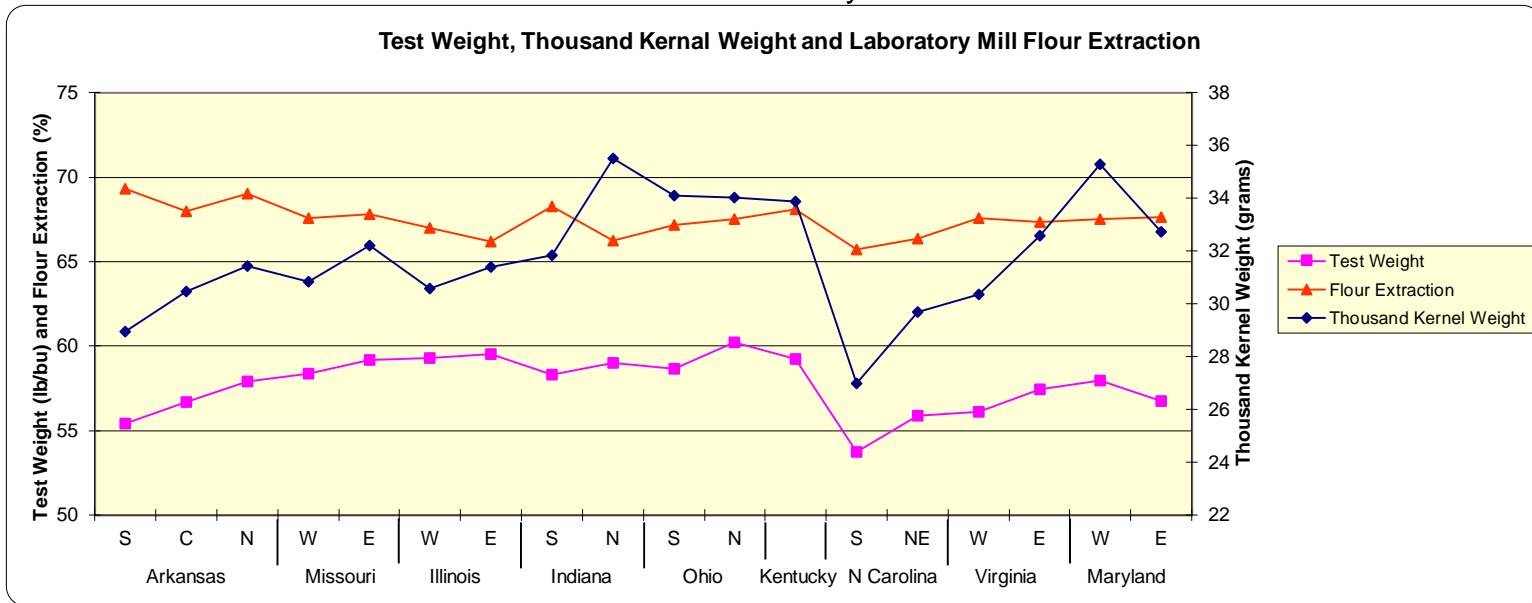
N-North, S-South, E-East, W-West, C-Central, NE-North East, NA-Not Available

Soft Red Winter 2016 Survey - Late Samples

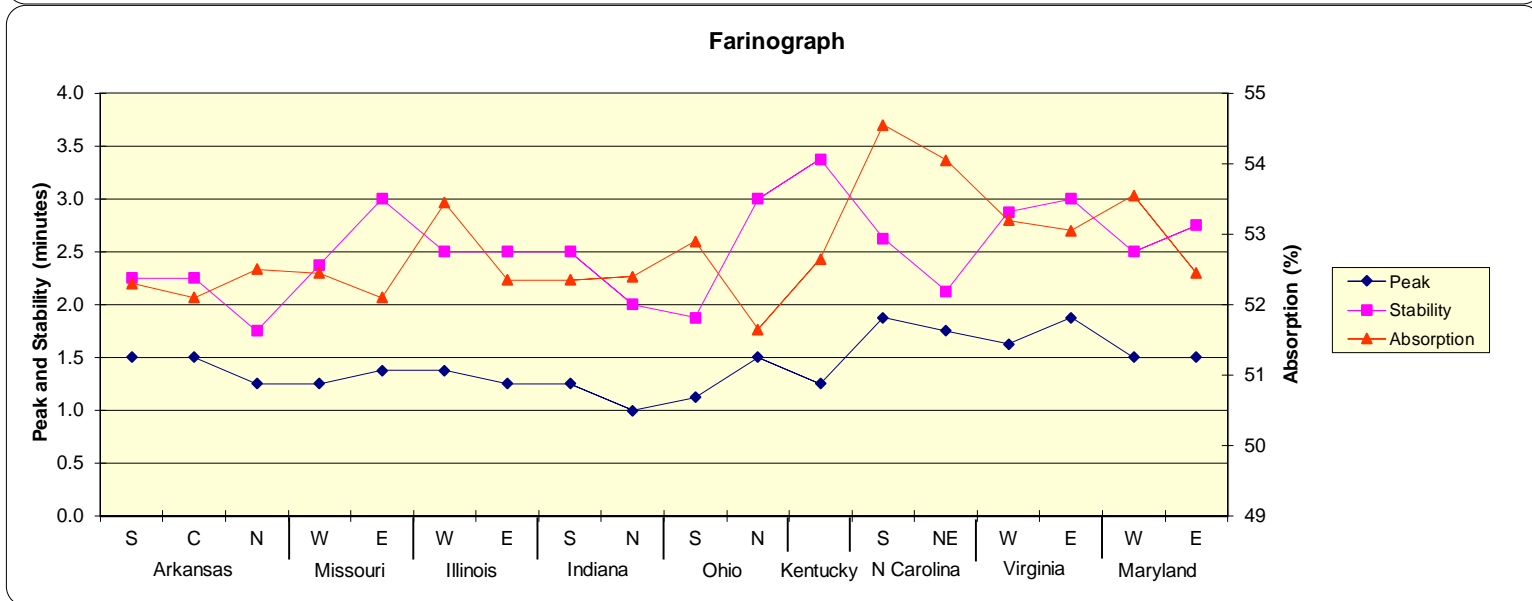
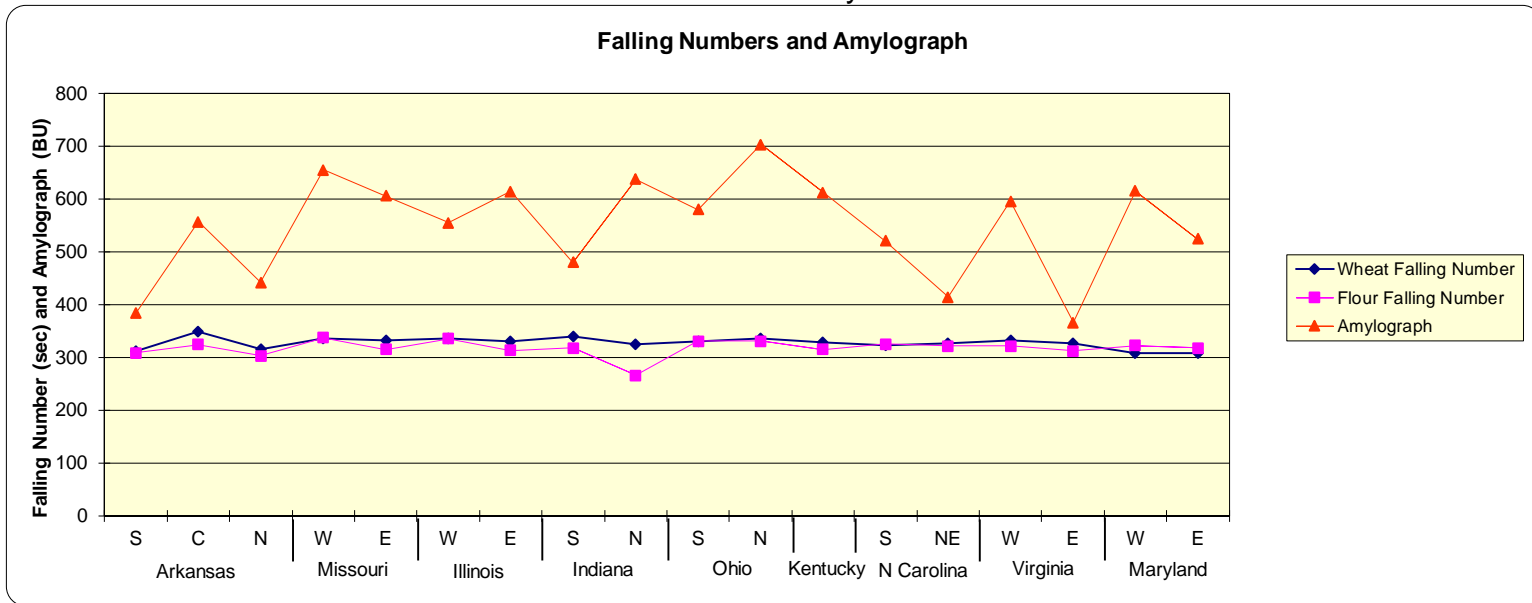
	Arkansas			Missouri		Illinois		Indiana		Ohio		Kentucky	North Carolina		Virginia		Maryland	
	S	C	N	W	E	W	E	S	N	S	N		S	NE	W	E	W	E
Wheat Grade Data - from Individual Samples																		
Test Weight (Lab) (lb/bu)	54.9	56.6	58.1	57.5	59.1	59.1	59.5	58.0	58.8	58.5	60.3	58.8	54.4	55.1	55.6	56.2	57.0	56.3
Count	1	5	8	10	20	17	15	14	18	13	38	17	13	14	5	14	5	12
Wheat Grade Data - from Area Composite Samples																		
Test Weight (lb/bu)	NA	56.7	57.8	58.1	59.1	60.0	60.2	57.1	58.8	58.8	60.2	58.7	53.9	54.6	55.5	56.3	57.5	56.3
Test Weight (kg/hl)	NA	74.7	76.1	76.5	77.8	78.9	79.2	75.2	77.4	77.4	79.2	77.3	71.1	72.0	73.1	74.2	75.7	74.2
Damage - Total (%)	NA	2.0	0.7	1.3	1.3	0.0	0.0	0.0	1.3	1.3	0.0	0.7	3.0	2.0	1.3	0.7	1.3	2.0
Foreign Material (%)	NA	0.3	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.7	0.3	0.0	0.3	0.0	0.0
Shrunken and Broken (%)	NA	0.7	0.5	0.5	0.5	0.6	0.3	0.4	0.2	0.2	0.2	0.7	0.9	0.7	0.5	0.5	0.1	0.5
Total Defects (%)	NA	3.0	1.2	2.1	1.8	0.6	0.3	0.7	1.5	1.5	0.2	1.4	4.6	3.0	1.8	1.5	1.4	2.5
Grade	NA	3	3	2	2	1	1	3	2	2	1	2	5	4	4	3	3	3
Wheat Non-Grade Data - from Individual Samples																		
Moisture (%)	10.5	12.2	11.6	11.7	11.6	11.5	11.5	12.0	12.8	12.3	13.2	11.9	11.9	12.4	12.9	12.7	12.5	12.6
Protein (%) 12% mb	10.2	10.3	8.9	9.4	9.0	9.3	9.0	9.3	8.9	9.2	9.0	9.6	11.5	10.4	10.5	10.2	10.6	10.1
Ash (%) 14% mb	1.43	1.48	1.36	1.51	1.45	1.50	1.49	1.38	1.38	1.47	1.46	1.42	1.58	1.52	1.45	1.52	1.41	1.49
1000 Kernel Weight (g)	26.7	29.9	32.6	29.9	32.5	30.9	30.8	31.6	35.3	34.1	34.7	33.8	26.9	29.2	31.1	32.9	33.7	33.8
Wheat Falling Number (sec)	295	338	311	333	330	336	325	335	327	329	335	333	320	327	321	313	298	306
DON (ppm)	NA	0.4	0.4	0.8	0.5	0.8	1.0	1.1	0.2	0.3	NA	0.2	0.6	1.2	0.2	1.4	2.0	1.0
Wheat Non-Grade Data - from Area Composite Samples																		
Dockage (%)	NA	0.6	0.5	0.3	0.5	0.7	0.6	0.3	0.3	0.4	0.4	0.3	0.6	0.6	0.5	0.3	0.3	0.6
Moisture (%)	NA	11.8	11.5	11.4	11.5	11.7	11.1	12.9	12.8	13.3	13.6	12.2	12.2	12.7	12.9	13.2	12.4	13.5
Protein (%) 12% mb	NA	10.8	9.1	9.9	9.8	9.1	8.6	8.9	8.7	9.0	8.9	9.4	11.8	10.1	10.7	9.9	10.3	10.4
Kernel Size Large (Over 7) (%)	NA	95	86	80	83	78	82	78	91	86	90	84	75	72	78	82	86	86
Kernel Size Medium (Over 9) (%)	NA	5	13	20	16	21	17	21	8	13	10	15	24	26	21	17	13	14
Kernel Size Small (Thru 9) (%)	NA	1	1	1	1	1	1	1	0	1	1	1	2	2	2	1	1	1
Single Kernel Hardness	NA	18.9	17.8	24.3	22.2	27.4	28.4	25.0	18.7	22.6	29.2	28.1	17.6	18.4	21.5	16.1	14.4	21.3
Single Kernel Weight (mg)	NA	33.0	35.2	31.4	34.4	32.8	33.4	34.6	39.2	36.6	37.6	34.0	31.6	33.0	31.2	35.8	37.2	35.6
Single Kernel Diameter (mm)	NA	2.55	2.67	2.48	2.58	2.55	2.54	2.60	2.73	2.64	2.64	2.59	2.56	2.59	2.54	2.68	2.71	2.62
Sedimentation (cc)	NA	12	10	11	10	12	10	11	10	11	11	12	15	12	16	12	14	11
DON (ppm)	NA	0.6	0.6	0.5	0.4	1.2	1.6	1.2	0.1	0.4	0.3	0.5	0.8	2.5	0.6	0.7	0.8	0.3
Flour Data																		
Lab Mill Extraction (%)	NA	68.0	69.0	66.8	67.4	67.5	66.9	67.8	66.2	68.3	69.7	68.6	65.5	65.9	68.1	67.2	68.1	66.8
Flour Color - *L	NA	90.6	90.7	91.1	91.1	90.0	90.1	91.1	90.2	90.9	90.9	91.3	90.8	90.6	90.6	91.0	90.4	90.8
Flour Color - *a	NA	-2.0	-2.1	-2.0	-2.1	-2.2	-2.2	-2.2	-2.2	-2.0	-2.1	-2.1	-2.3	-2.2	-2.1	-2.2	-1.8	-2.0
Flour Color - *b	NA	8.9	8.4	8.8	9.0	9.7	9.7	9.3	9.3	8.9	9.2	9.0	10.2	10.2	9.4	9.4	8.4	8.9
Flour Protein (%) 14% mb	NA	7.8	7.5	7.4	7.9	7.2	7.2	7.6	6.9	7.3	7.5	7.4	9.5	8.4	8.4	8.1	8.2	7.8
Flour Ash (%) 14% mb	NA	0.40	0.43	0.43	0.44	0.44	0.44	0.42	0.42	0.43	0.46	0.43	0.41	0.40	0.44	0.43	0.45	0.45
Wet Gluten (%)	NA	22.7	20.0	23.5	21.5	20.5	19.6	21.8	19.9	17.1	19.2	19.5	27.1	24.0	24.2	22.3	23.1	21.2
Gluten Index	NA	81.4	92.9	77.0	89.5	87.0	82.4	76.8	92.8	97.6	90.3	97.2	93.6	72.3	74.2	85.9	92.1	93.1
Falling Number (sec)	NA	324	303	348	330	333	299	310	259	324	337	300	338	328	326	272	315	312
Amylograph (65g) (BU)	NA	557	442	681	643	512	632	462	690	670	656	588	563	419	573	191	555	542
Starch Damage (%)	NA	4.6	4.6	5.8	5.3	4.6	4.2	4.2	4.2	4.2	4.6	4.6	3.8	4.6	4.9	3.8	4.9	3.8
Dough Properties																		
Farinograph Peak (min)	NA	1.5	1.3	1.0	1.3	1.5	1.0	1.5	1.0	1.0	1.5	1.3	2.0	1.8	1.5	1.8	1.5	1.5
Farinograph Stability (min)	NA	2.3	1.8	2.0	3.0	3.0	1.5	2.5	2.0	1.5	2.5	3.3	2.5	2.0	3.0	3.0	2.5	3.0
Farinograph Absorption (%)	NA	52.1	52.5	52.0	52.7	54.8	53.3	52.0	52.3	52.9	52.4	52.4	55.0	55.0	53.1	51.8	53.9	51.9
Alveograph P (mm)	NA	34	35	33	38	33	31	32	37	36	39	38	40	38	37	32	37	34
Alveograph L (mm)	NA	102	92	97	91	92	78	102	81	104	88	96	130	94	128	132	101	102
Alveograph W (10-4 joules)	NA	90	81	76	83	74	67	73	82	93	89	92	101	80	102	89	97	81
Alveograph P/L	NA	0.33	0.38	0.34	0.42	0.36	0.40	0.31	0.46	0.35	0.44	0.40	0.31	0.40	0.29	0.24	0.37	0.33
Extensio Resistance (BU)	NA	198	214	222	214	187	190	208	199	190	202	230	174	174	190	281	192	204
Extensio Extensibility (cm)	NA	16.2	15.9	15.4	15.1	15.7	15.0	15.1	15.6	15.3	14.8	15.5	18.4	17.2	18.8	15.2	18.6	16.2
Extensio Area (sq cm)	NA	60	61	59	56	51	51	54	56	51	53	63	60	52	67	72	68	59
Baking Evaluation																		
Bake Grain and Texture	NA	5.0	6.0	3.0	6.0	6.0	5.0	4.0	6.0	5.0	5.0	6.0	5.0	3.0	5.0	5.0	6.0	6.0
Bake Absorption (%)	NA	54.0	54.4	54.0	54.5	56.0	55.0	54.0	54.5	54.5	54.5	54.5	56.5	56.8	55.0	56.0	55.0	54.0
Loaf Volume (cc)	NA	760	698	581	685	750	680	757	725	735	750	703	760	720	750	708	704	775
Cookie Diameter (cm)	NA	10.3	10.5	10.3	10.4	10.7	10.6	10.8	10.0	10.7	10.7	10.4	10.4	10.3	10.4	10.4	10.3	10.4
Cookie Spread Ratio	NA	8.3	9.8	8.1	8.9	10.6	9.8	10.0	9.3	10.6	10.5	10.0	8.7	8.3	9.4	9.4	9.0	10.6

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

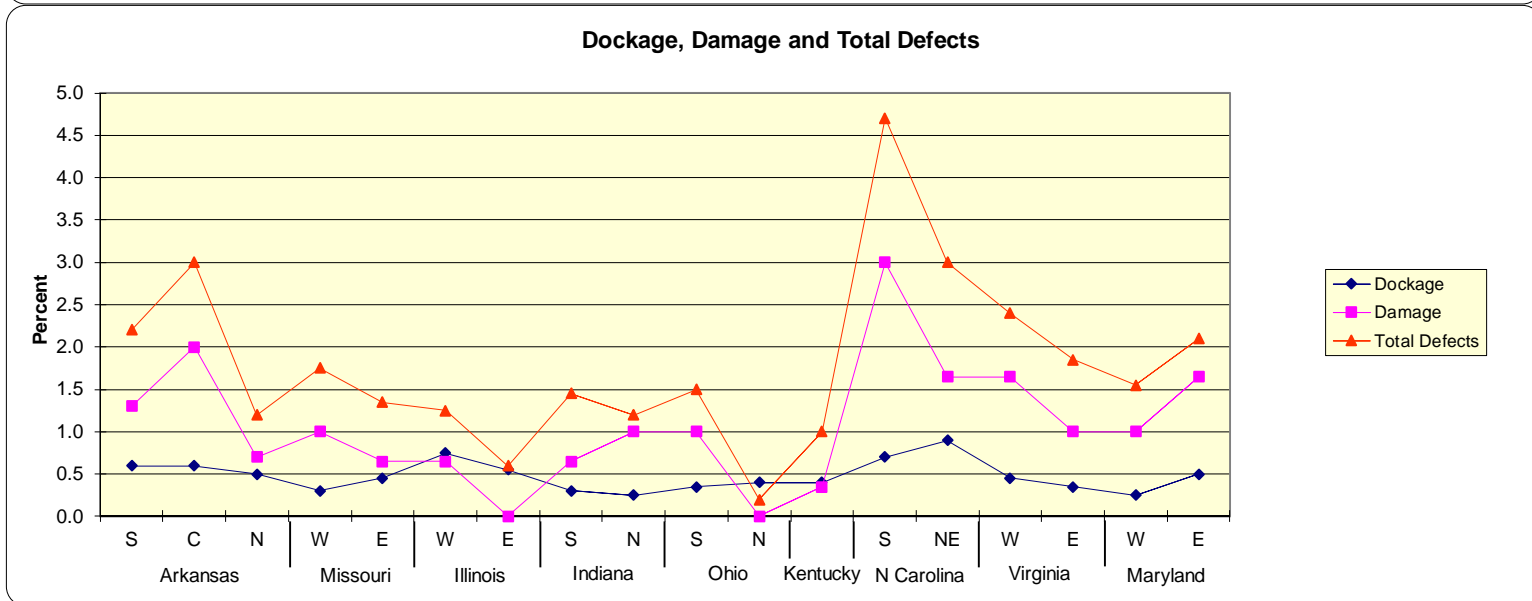
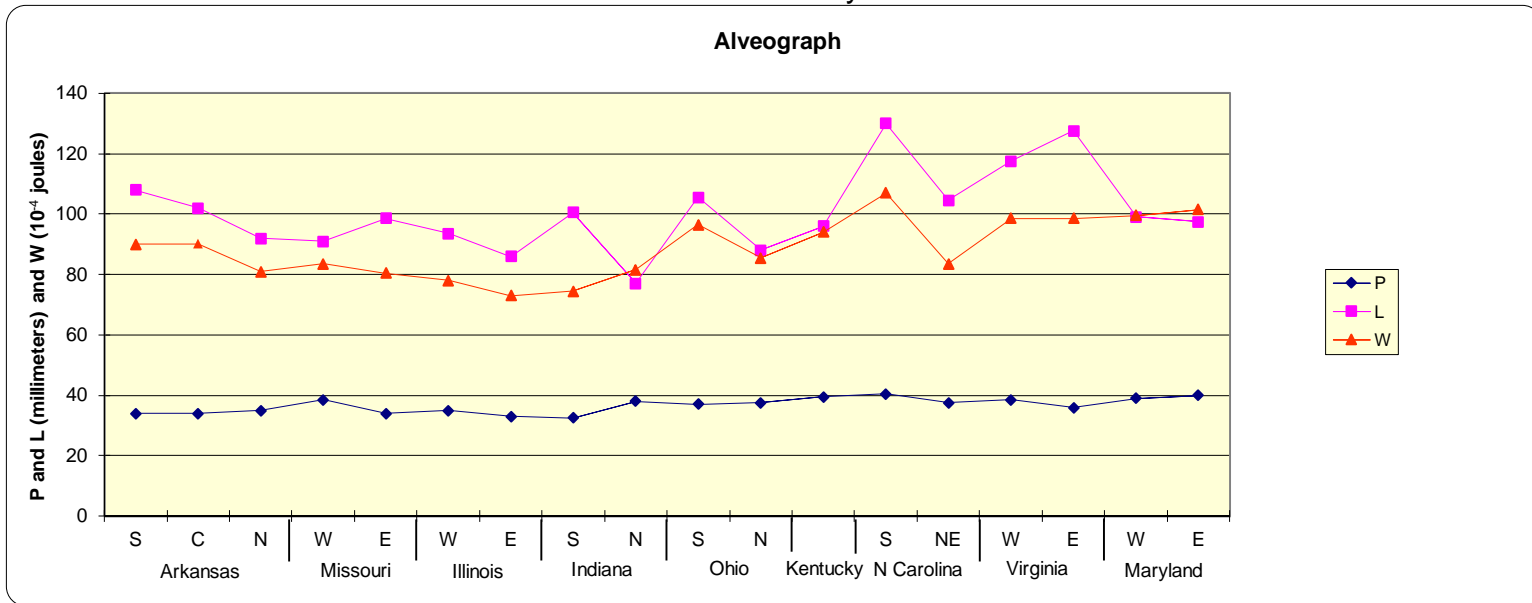
Comparisons of 2016 Results For Selected Quality Factors



Comparisons of 2016 Results For Selected Quality Factors

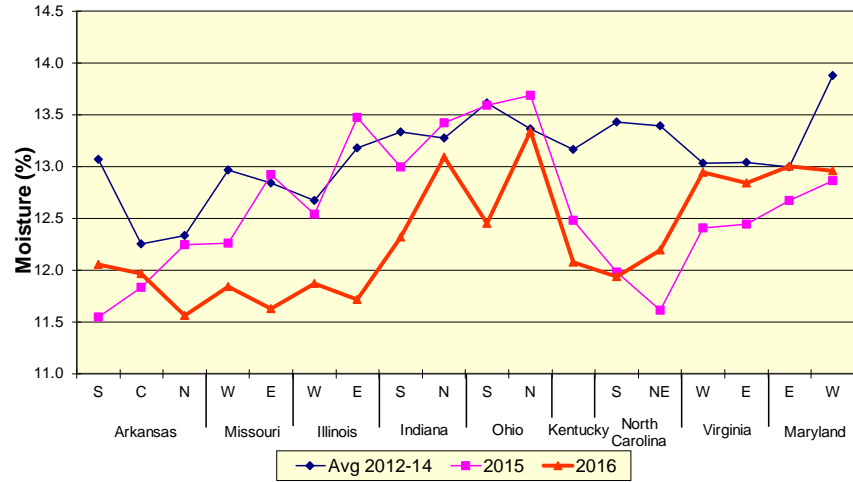


Comparisons of 2016 Results For Selected Quality Factors

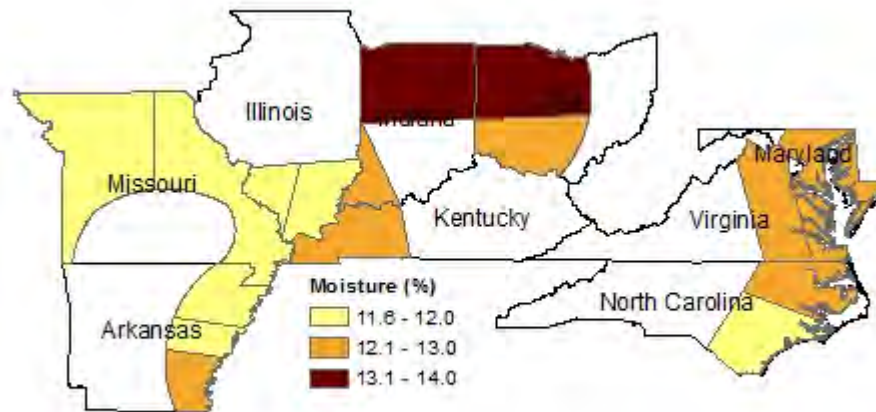
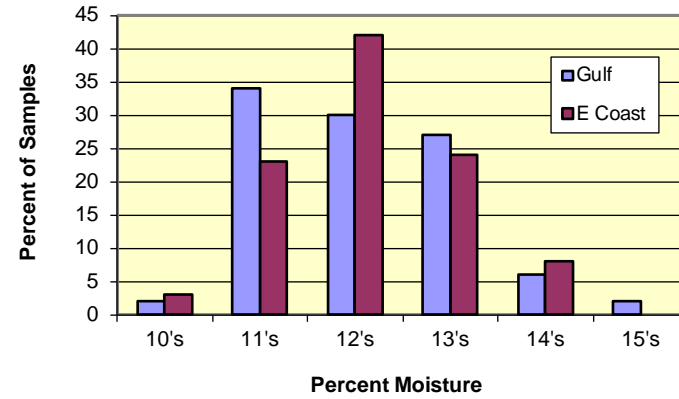


Distribution of 2016 Results and Comparisons with Previous Years For Selected Quality Factors

Moisture

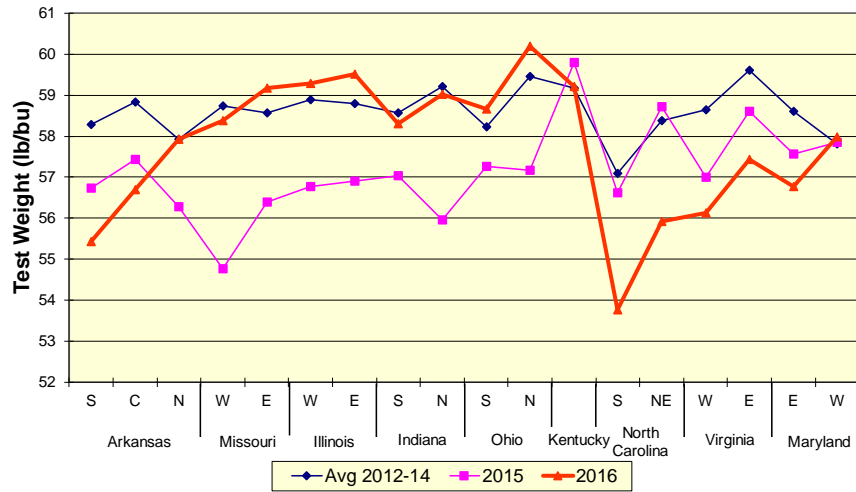


Moisture

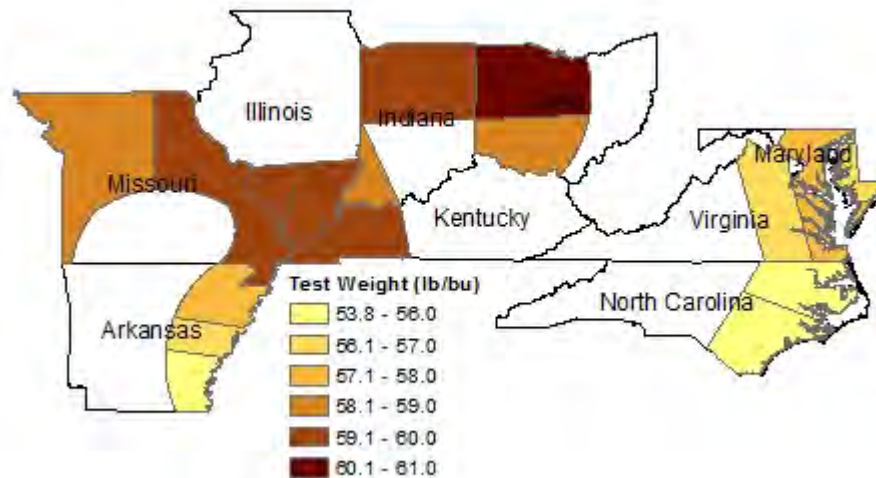
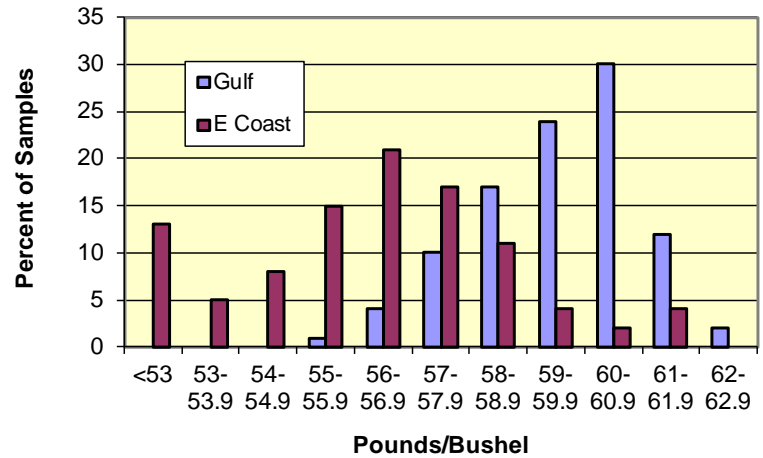


Distribution of 2016 Results and Comparisons with Previous Years For Selected Quality Factors

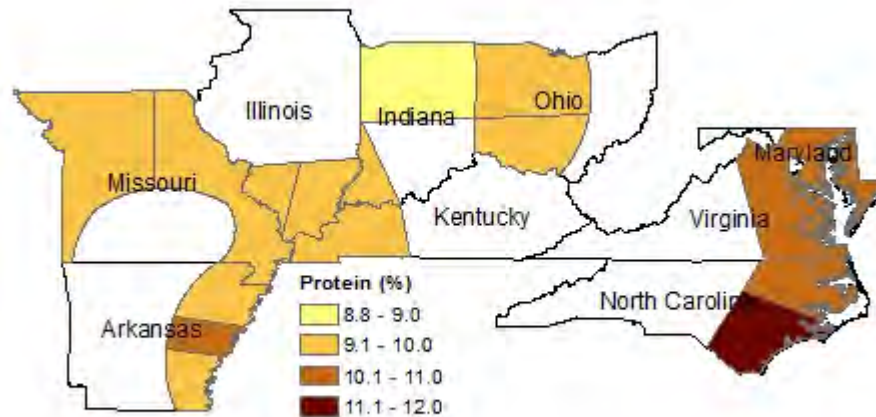
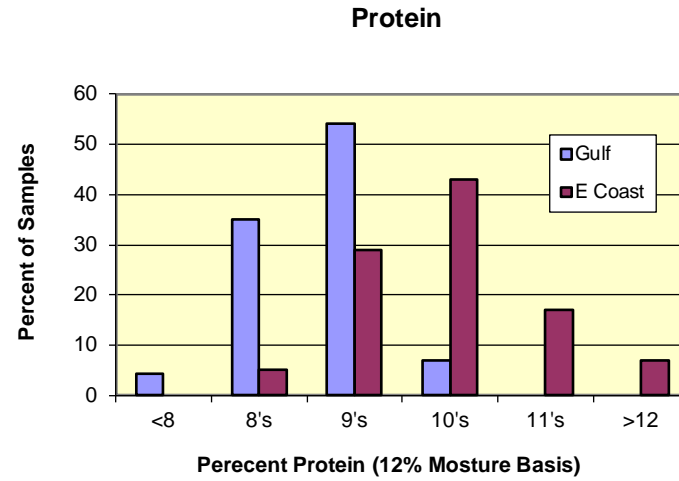
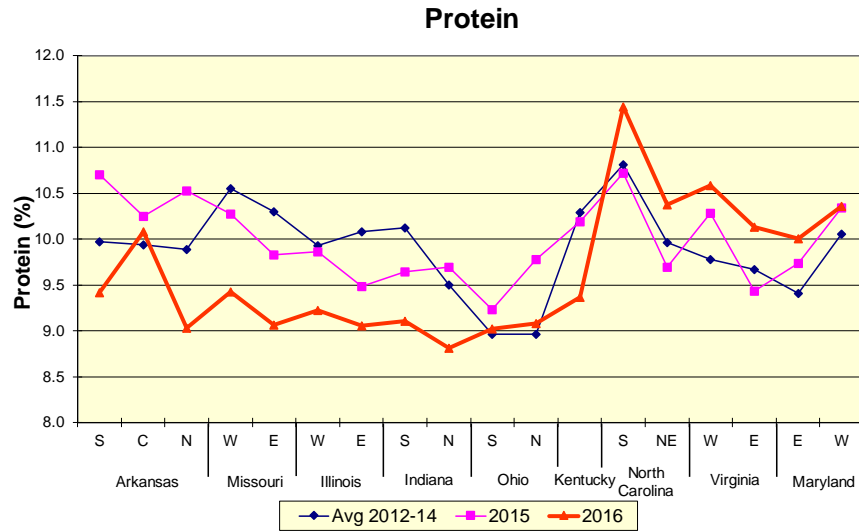
Test Weight



Test Weight

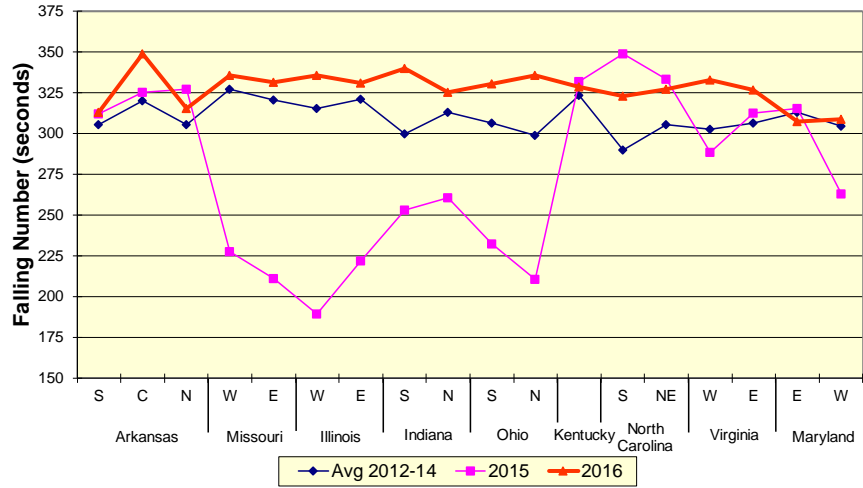


Distribution of 2016 Results and Comparisons with Previous Years For Selected Quality Factors

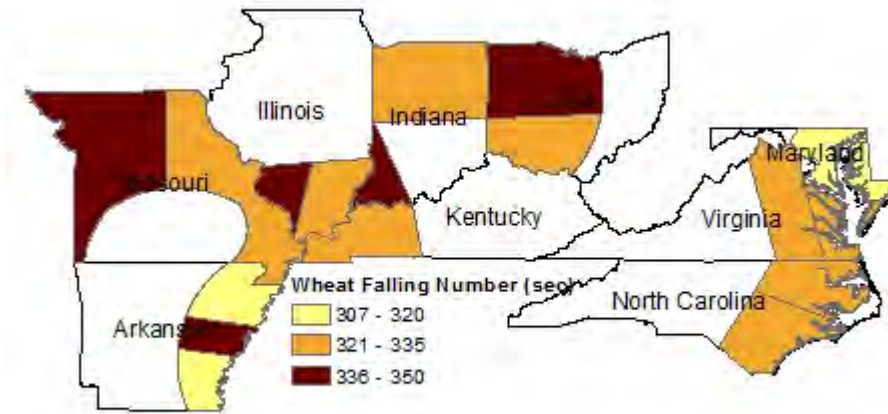
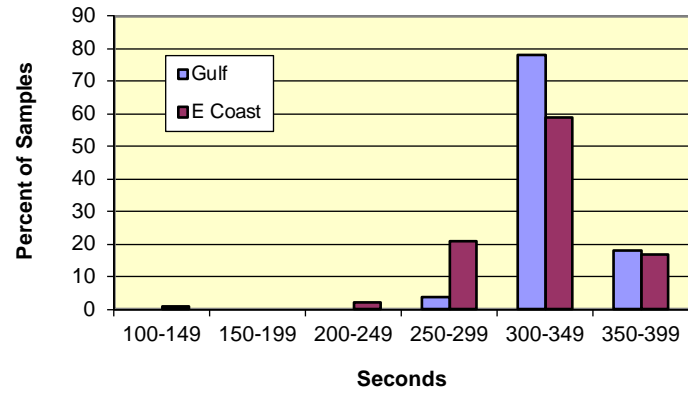


Distribution of 2016 Results and Comparisons with Previous Years For Selected Quality Factors

Falling Number

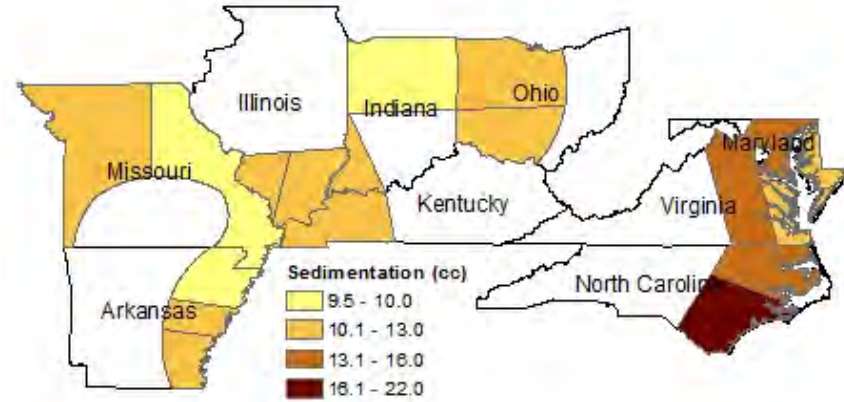
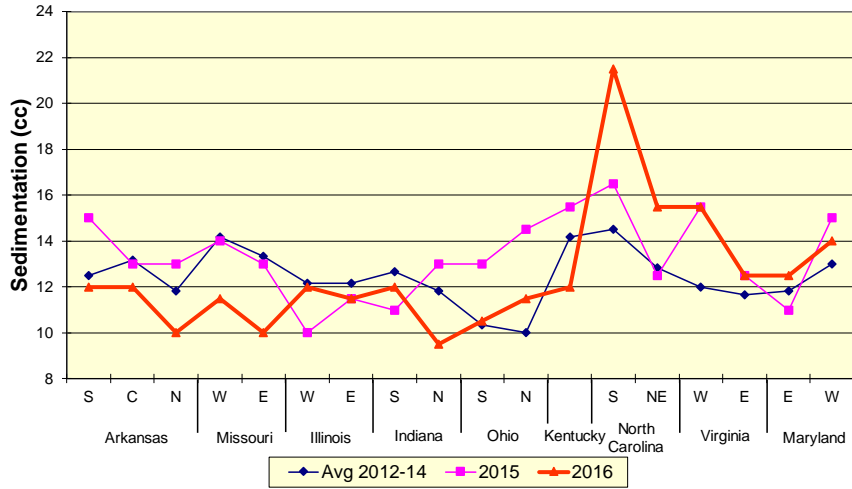


Falling Number

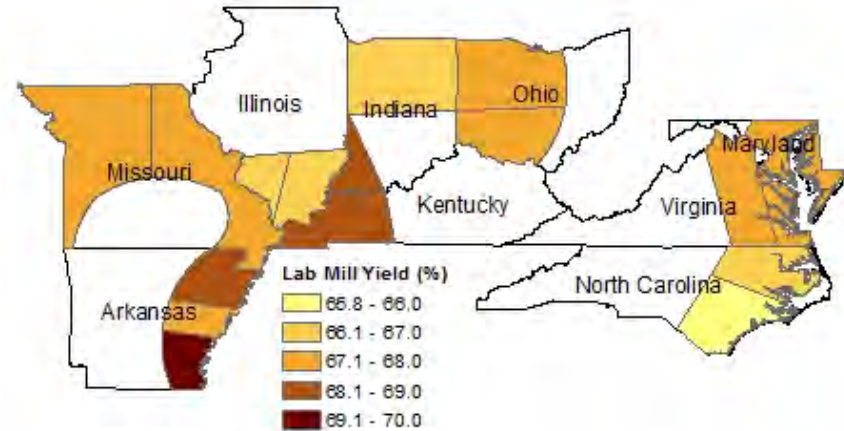
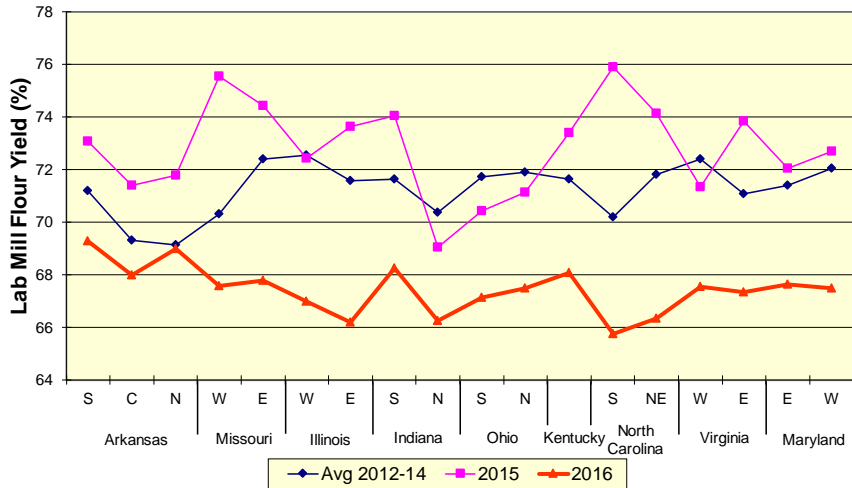


Distribution of 2016 Results and Comparisons with Previous Years For Selected Quality Factors

Sedimentation

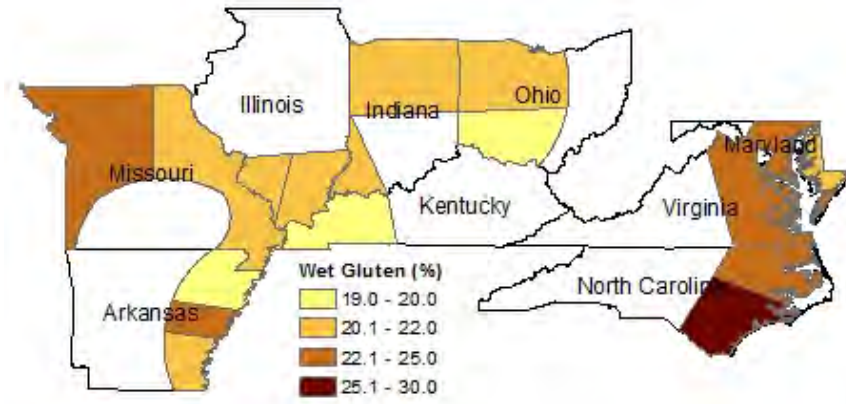
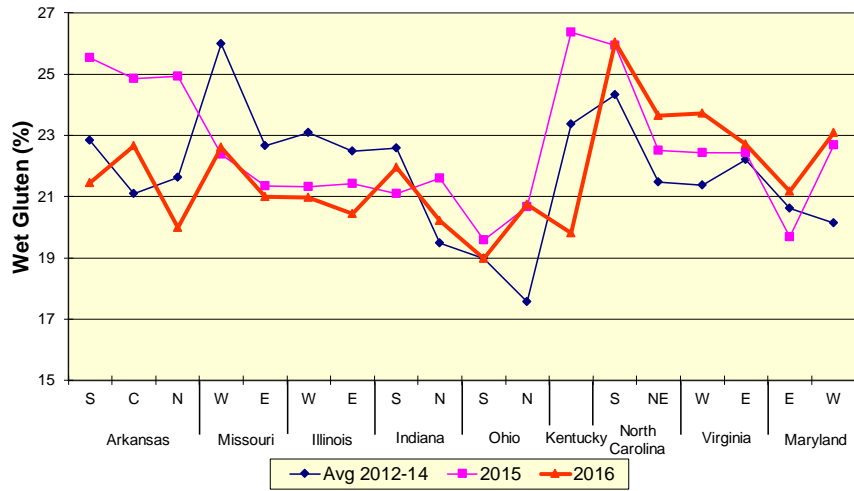


Laboratory Mill Flour Yield

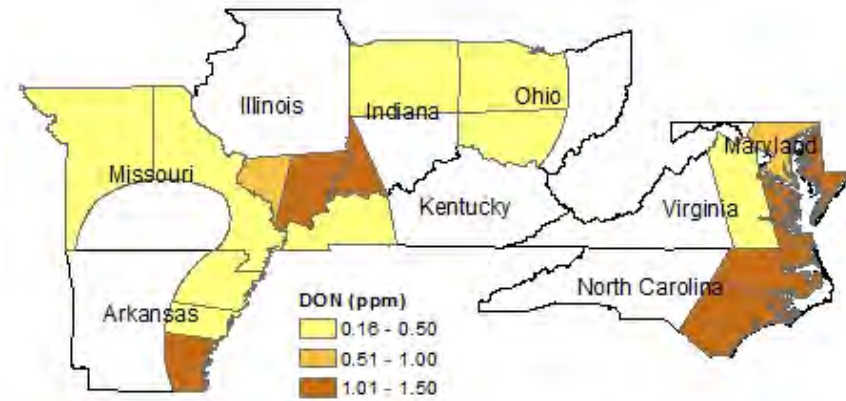
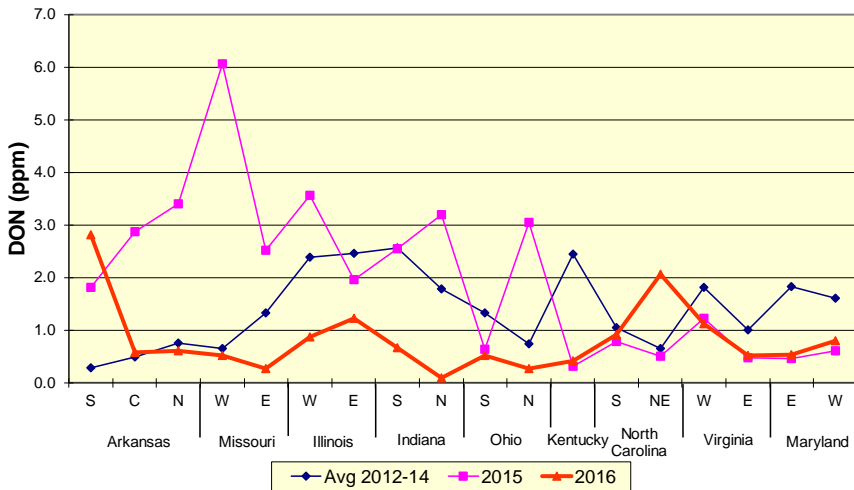


Distribution of 2016 Results and Comparisons with Previous Years For Selected Quality Factors

Wet Gluten

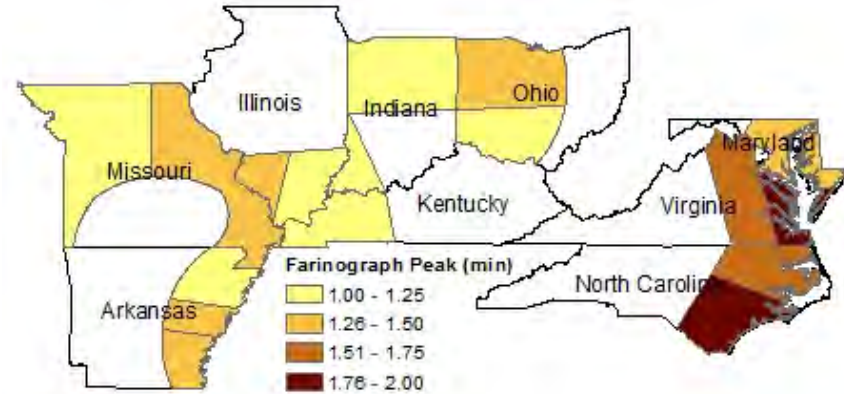
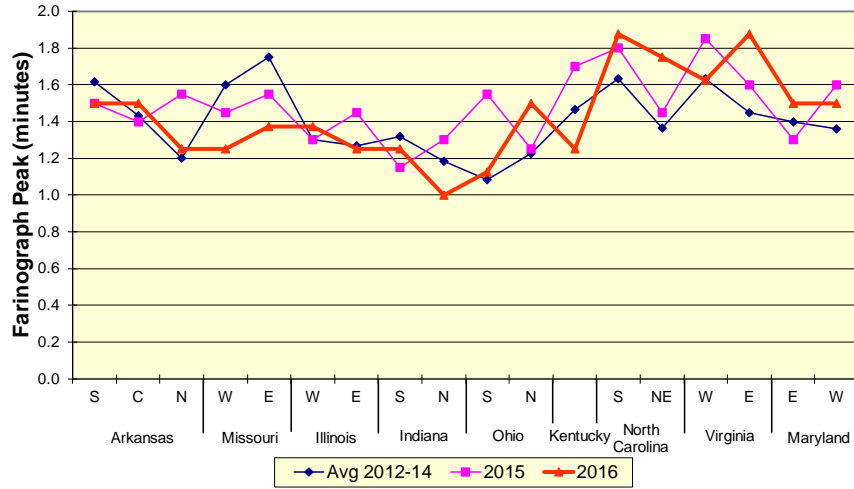


DON

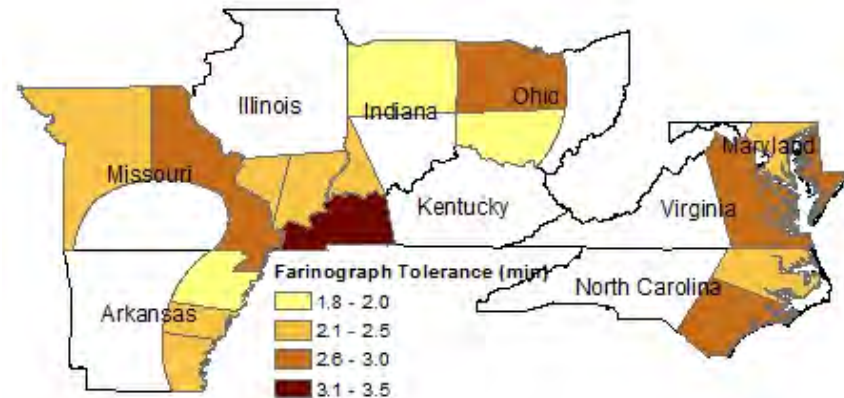
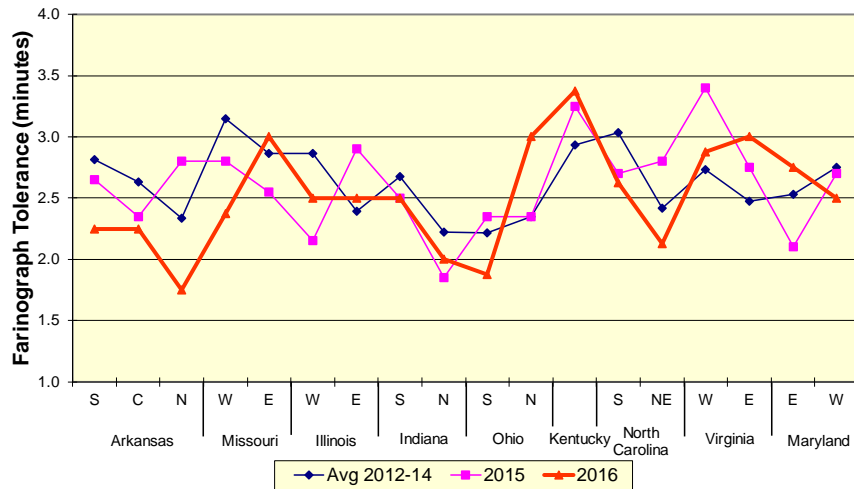


Distribution of 2016 Results and Comparisons with Previous Years For Selected Quality Factors

Farinograph Peak

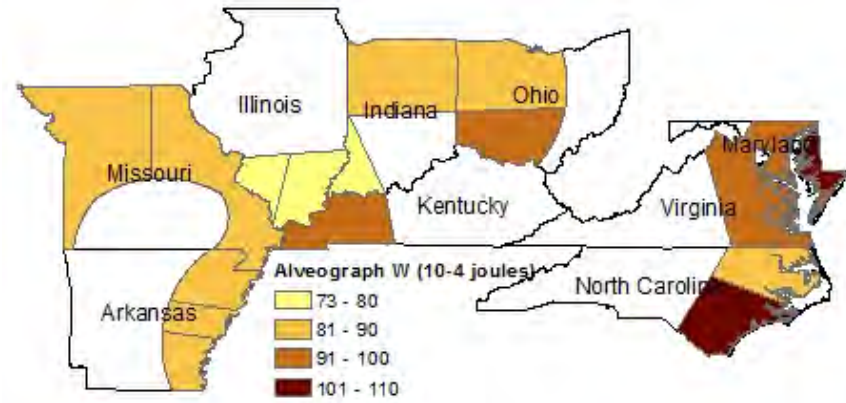
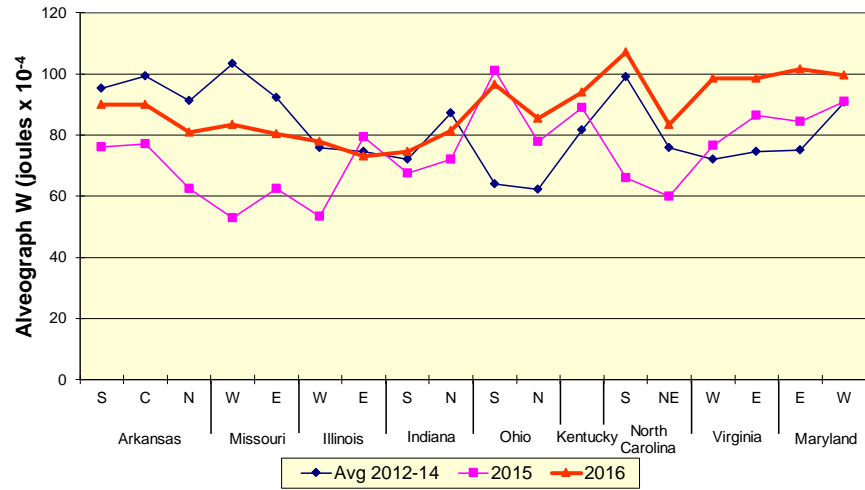


Farinograph Tolerance



Distribution of 2016 Results and Comparisons with Previous Years For Selected Quality Factors

Alveograph W Value



Alveograph P/L

