



**2008 Harvest**  
**U.S. PACIFIC NORTHWEST**  

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*Soft White Wheat Quality Report*

*This project is funded by the wheat commissions  
of Idaho, Oregon, and Washington,  
Wheat Marketing Center, Inc.,  
and U.S. Wheat Associates*

# THE PACIFIC NORTHWEST



**U.S. soft white wheat is grown in the Pacific Northwest, which includes the states of Idaho, Oregon, and Washington.**

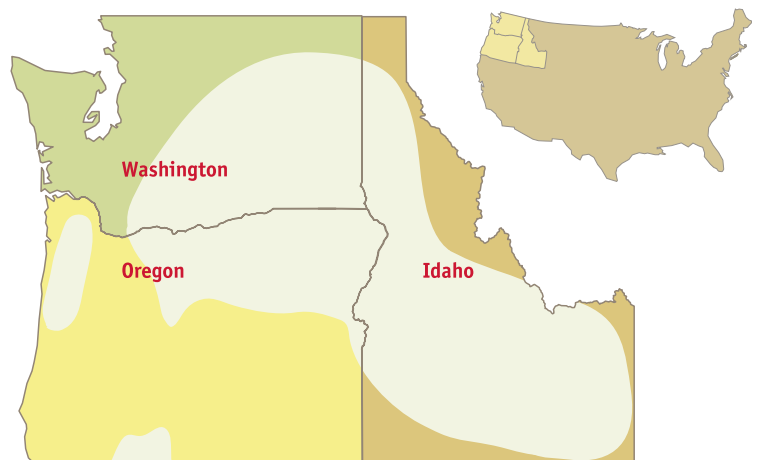
**P**acific Northwest soft white wheat is known for its white bran, low moisture content, and weak dough strength characteristics. Soft white wheat is well suited for products such as cakes, pastries, cookies, crackers, pancakes, sponge cakes, snack foods, flat breads, and steamed breads.

The soft white wheat class includes the subclasses of white club wheat and western white wheat. White club wheat has very weak gluten characteristics. Western white wheat is a blend of the white

club wheat subclass and soft white wheat. The amount of white club wheat in western white wheat ranges from 10-90%. The minimum percentage of white club wheat in

western white wheat is 10% and any higher amounts are contract specifications that are negotiated between the buyer and seller.

## WHEAT GROWING AREAS OF THE PACIFIC NORTHWEST



# WHEAT PRODUCTION ZONES



## Wheat Samples

At harvest, National Agricultural Statistics Service collected 367 soft white wheat and 53 white club wheat samples this year, based on wheat production. Federal Grain Inspection Service (FGIS) graded each wheat sample. Wheat Marketing Center conducted wheat, flour, and

finished product tests on composites based on production zones and protein levels.

The major soft white wheat varieties were Eltan, Madsen, Stephens, and Tubbs.

## Weather

The Pacific Northwest had dry conditions at planting. Most of the wheat production

area received adequate rainfall during winter and early spring. Generally cool temperatures prevailed during the early growing season with high temperatures predominating later on. Dry conditions prevailed during the wheat harvest with some intermittent rain showers.



## 2008 Soft White and White Club Wheat Production

*By production zone*

*Wheat production estimates courtesy of Washington Wheat Commission*

Production Zone	Million Metric Tons (MMT)	Million Bushels
North Central	1.44	52.9
Northeast	1.71	62.8
Central	1.23	45.3
Southeast	0.72	26.4
Southwest	0.17	6.3
Northwest	0.02	0.8
<b>Total</b>	<b>5.29</b>	<b>194.5</b>



# WHEAT QUALITY

Production Zone	Wheat Protein Range 12% mb %	Grade	Test Weight lb/bu	Dockage %	Whole Kernel Moisture %	Falling Number 14% mb seconds	Ash 14% mb %	Thousand Kernel Weight 14% mb g	SKCS Kernel Hardness Index	Whole Meal Wet Gluten 14% mb %	
<b>North Central</b>	<8.5	2SWH	59.8	0.4	10.0	295	1.20	34.9	25	14.1	
	8.5-9.4	1SWH	60.0	0.3	9.7	303	1.17	32.0	28	17.0	
	Soft White	9.5-10.4	1SWH	60.1	0.6	9.3	321	1.25	32.0	32	22.6
	Wheat Estimated	10.5-12.0	2SWH	59.6	0.6	9.1	329	1.26	32.2	33	27.9
	Production =	>12.0	2SWH	59.1	0.5	9.0	343	1.34	30.4	33	32.0
	1.31 MMT	<b>2008 Av.</b>	<b>2SWH</b>	<b>59.6</b>	<b>0.5</b>	<b>9.3</b>	<b>328</b>	<b>1.27</b>	<b>31.8</b>	<b>32</b>	<b>25.9</b>
		2007 Av.	1SWH	60.1	0.6	9.1	330	1.25	33.5	29	20.7
	3 Year Av.	1SWH	60.2	0.5	9.1	332	1.29	32.9	32	23.1	
<b>Northeast</b>	<8.5	2SWH	59.4	0.3	9.7	304	1.31	34.9	35	16.1	
	8.5-9.4	3SWH	57.2	0.7	10.7	289	1.40	31.1	20	18.6	
	Soft White	9.5-10.4	3SWH	57.9	0.7	10.9	314	1.39	33.5	29	23.8
	Wheat Estimated	10.5-12.0	2SWH	58.4	0.6	10.2	316	1.36	32.0	29	27.3
	Production =	>12.0	3SWH	57.1	0.6	9.7	330	1.43	28.6	31	34.4
	1.69 MMT	<b>2008 Av.</b>	<b>3SWH</b>	<b>57.5</b>	<b>0.7</b>	<b>10.1</b>	<b>309</b>	<b>1.41</b>	<b>30.6</b>	<b>30</b>	<b>29.5</b>
		2007 Av.	2SWH	59.7	0.5	9.0	345	1.37	32.2	40	25.6
	3 Year Av.	2SWH	58.9	0.6	9.3	330	1.41	31.5	37	26.6	
<b>Central</b>	<8.5	2SWH	59.0	0.8	10.1	281	1.32	36.2	31	11.5	
	8.5-9.4	1SWH	60.0	0.3	9.3	323	1.28	36.5	40	16.8	
	Soft White	9.5-10.4	2SWH	59.2	0.6	9.1	323	1.31	34.0	37	23.0
	Wheat Estimated	10.5-12.0	2SWH	59.3	0.5	9.1	333	1.30	33.9	39	26.2
	Production =	>12.0	2SWH	58.4	0.6	8.9	351	1.43	32.0	36	30.6
	1.18 MMT	<b>2008 Av.</b>	<b>2SWH</b>	<b>59.1</b>	<b>0.6</b>	<b>9.1</b>	<b>332</b>	<b>1.34</b>	<b>33.8</b>	<b>37</b>	<b>25.3</b>
		2007 Av.	2SWH	59.9	0.6	9.5	326	1.35	38.3	38	22.5
	3 Year Av.	2SWH	59.7	0.6	9.1	332	1.37	36.4	38	23.7	
<b>Southeast</b>	<8.5	1SWH	61.3	0.7	8.7	305	1.59	37.7	27	13.6	
	8.5-9.4	1SWH	60.5	0.9	9.3	307	1.52	39.5	27	16.5	
	Soft White	9.5-10.4	1SWH	60.5	0.7	9.6	320	1.54	37.1	31	22.3
	Wheat Estimated	10.5-12.0	2SWH	59.7	1.4	9.4	310	1.61	36.7	30	24.7
	Production =	>12.0	2SWH	58.3	1.7	9.1	328	1.61	29.1	26	33.5
	0.72 MMT	<b>2008 Av.</b>	<b>2SWH</b>	<b>59.7</b>	<b>1.2</b>	<b>9.3</b>	<b>315</b>	<b>1.58</b>	<b>35.4</b>	<b>29</b>	<b>24.3</b>
		2007 Av.	1SWH	60.3	1.1	9.5	326	1.57	38.7	27	21.0
	3 Year Av.	1SWH	60.1	1.2	9.3	320	1.58	36.4	28	22.5	
<b>Southwest</b>	<8.5	2SWH	59.6	0.6	12.7	300	1.33	42.4	35	14.7	
	Soft White	8.5-9.4	1SWH	61.3	0.4	12.2	325	1.38	45.5	39	17.0
	Wheat Estimated	9.5-10.4	1SWH	61.2	0.7	11.3	359	1.34	37.7	42	26.2
	Production =	<b>2008 Av.</b>	<b>1SWH</b>	<b>60.4</b>	<b>0.6</b>	<b>12.0</b>	<b>309</b>	<b>1.41</b>	<b>41.6</b>	<b>36</b>	<b>20.6</b>
0.17 MMT											
<b>White Club</b>	<b>2008 Av.</b>	<b>1WHCB</b>	<b>58.8</b>	<b>1.0</b>	<b>9.5</b>	<b>303</b>	<b>1.29</b>	<b>29.6</b>	<b>34</b>	<b>21.8</b>	
	<b>Wheat</b>	2007 Av.	1WHCB	60.2	0.8	8.9	337	1.28	31.0	37	19.8
	Estimated	3 Year Av.	1WHCB	59.7	0.8	8.9	326	1.31	30.4	36	20.0
Production =											
0.20 MMT											

# FLOUR QUALITY

Production Zone	Wheat Protein Range 12% mb %	Flour Yield %	Flour Ash 14% mb %	Flour Protein 14% mb %	Flour Color			Wet Gluten 14% mb %	Falling Number 14% mb seconds	Amylograph Peak Viscosity BU	
					L*	a*	b*				
<b>North Central</b>	<8.5	72.1	0.34	7.4	93.1	-2.6	8.0	14.4	332	657	
	8.5-9.4	72.2	0.35	7.6	93.0	-2.6	8.0	17.6	325	673	
	Soft White	9.5-10.4	71.3	0.40	9.0	92.8	-2.6	8.4	21.6	350	638
	Wheat Estimated	10.5-12.0	71.8	0.41	10.0	92.8	-2.5	8.1	24.3	351	625
	Production =	>12.0	69.5	0.40	11.5	92.6	-2.4	7.8	27.6	374	685
	1.31 MMT	<b>2008 Av.</b>	<b>70.9</b>	<b>0.39</b>	<b>9.8</b>	<b>92.8</b>	<b>-2.5</b>	<b>8.0</b>	<b>23.2</b>	<b>354</b>	<b>661</b>
		2007 Av.	67.3	0.41	8.2	92.5	-2.4	8.4	19.1	338	540
	3 Year Av.	69.1	0.40	8.7	92.6	-2.4	8.1	20.9	341	595	
<b>Northeast</b>	<8.5	71.7	0.40	7.5	92.8	-2.7	8.8	18.8	338	551	
	8.5-9.4	71.4	0.38	8.0	93.0	-2.5	7.9	19.0	299	399	
	Soft White	9.5-10.4	71.3	0.39	8.3	92.8	-2.4	7.7	21.4	326	488
	Wheat Estimated	10.5-12.0	71.8	0.41	9.6	92.8	-2.4	7.9	24.5	297	481
	Production =	>12.0	70.2	0.42	11.7	92.4	-2.3	8.1	30.7	348	578
	1.69 MMT	<b>2008 Av.</b>	<b>71.1</b>	<b>0.41</b>	<b>10.2</b>	<b>92.6</b>	<b>-2.4</b>	<b>8.0</b>	<b>26.4</b>	<b>323</b>	<b>522</b>
		2007 Av.	68.1	0.39	9.2	92.5	-2.2	8.2	23.8	331	594
	3 Year Av.	69.9	0.40	9.5	92.5	-2.3	8.1	24.7	330	536	
<b>Central</b>	<8.5	73.3	0.43	7.8	92.8	-2.6	8.6	16.4	302	581	
	8.5-9.4	71.2	0.38	8.0	93.0	-2.7	8.7	20.2	326	562	
	Soft White	9.5-10.4	71.9	0.39	8.9	92.8	-2.6	8.5	23.8	349	578
	Wheat Estimated	10.5-12.0	71.1	0.39	9.8	92.6	-2.5	8.5	23.6	333	614
	Production =	>12.0	70.1	0.40	11.6	92.6	-2.4	7.8	30.2	321	664
	1.18 MMT	<b>2008 Av.</b>	<b>71.1</b>	<b>0.39</b>	<b>9.8</b>	<b>92.7</b>	<b>-2.5</b>	<b>8.3</b>	<b>24.9</b>	<b>333</b>	<b>610</b>
		2007 Av.	67.8	0.42	8.5	92.4	-2.3	8.3	20.6	355	540
	3 Year Av.	69.7	0.41	9.0	92.5	-2.4	8.2	22.3	348	549	
<b>Southeast</b>	<8.5	71.7	0.50	7.1	92.7	-2.4	8.0	17.1	329	666	
	8.5-9.4	73.3	0.44	7.5	92.8	-2.5	8.1	18.0	316	574	
	Soft White	9.5-10.4	71.7	0.43	8.7	92.9	-2.5	7.9	20.2	303	536
	Wheat Estimated	10.5-12.0	72.0	0.43	9.4	92.8	-2.3	7.7	24.4	330	529
	Production =	>12.0	68.8	0.43	11.3	92.7	-2.3	7.4	28.3	297	666
	0.72 MMT	<b>2008 Av.</b>	<b>71.4</b>	<b>0.43</b>	<b>9.2</b>	<b>92.8</b>	<b>-2.4</b>	<b>7.7</b>	<b>22.7</b>	<b>312</b>	<b>572</b>
		2007 Av.	68.6	0.44	8.4	92.4	-2.2	7.8	22.4	335	543
	3 Year Av.	69.7	0.44	8.8	92.5	-2.3	7.7	22.6	323	539	
<b>Southwest</b>	<8.5	73.1	0.49	7.2	92.7	-2.6	8.7	15.0	332	422	
	Soft White	8.5-9.4	73.5	0.44	8.0	92.7	-2.5	8.2	16.2	361	424
	Wheat Estimated	9.5-10.4	72.5	0.43	9.0	92.9	-2.3	7.5	21.7	336	554
	Production =	<b>2008 Av.</b>	<b>73.2</b>	<b>0.45</b>	<b>8.1</b>	<b>92.8</b>	<b>-2.5</b>	<b>8.1</b>	<b>17.5</b>	<b>349</b>	<b>459</b>
0.17 MMT											
<b>White Club</b>	<b>2008 Av.</b>	<b>74.1</b>	<b>0.41</b>	<b>9.8</b>	<b>92.3</b>	<b>-2.3</b>	<b>7.6</b>	<b>24.8</b>	<b>336</b>	<b>581</b>	
	<b>Wheat</b>	2007 Av.	70.0	0.42	9.0	92.3	-2.1	7.9	18.3	325	562
	Estimated	3 Year Av.	71.8	0.42	9.1	92.2	-2.2	7.6	20.3	335	588
Production =											
0.20 MMT											

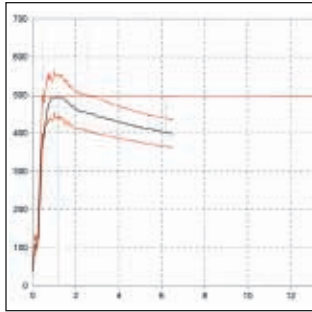
# PHYSICAL DOUGH PROPERTIES

Production Zone	Wheat Protein Range 12% mb %	Farinograph			Alveograph			
		Absorption 14% mb %	Peak Time minutes	Stability minutes	P mm	L mm	P/L	W 10 <sup>4</sup> joules
<b>North Central</b>	<8.5	53.9	1.2	2.8	50	86	0.58	133
	8.5-9.4	53.9	1.5	3.3	55	81	0.68	141
Soft White	9.5-10.4	54.3	1.5	5.2	53	114	0.46	160
Wheat Estimated	10.5-12.0	55.8	2.9	6.5	52	129	0.40	177
Production =	>12.0	57.8	3.4	5.8	50	160	0.31	190
1.31 MMT	<b>2008 Average</b>	<b>55.8</b>	<b>2.5</b>	<b>5.2</b>	<b>52</b>	<b>127</b>	<b>0.44</b>	<b>170</b>
	2007 Average	52.7	1.6	4.5	43	104	0.48	113
	3 Year Average	53.9	1.9	4.8	47	108	0.47	138
<b>Northeast</b>	<8.5	54.9	1.4	2.2	57	62	0.92	109
	8.5-9.4	54.0	1.5	2.8	39	102	0.38	104
Soft White	9.5-10.4	53.1	1.5	4.1	42	124	0.34	133
Wheat Estimated	10.5-12.0	55.2	2.2	4.1	42	147	0.29	132
Production =	>12.0	56.1	3.8	6.6	44	192	0.23	182
1.69 MMT	<b>2008 Average</b>	<b>55.3</b>	<b>2.7</b>	<b>5.1</b>	<b>43</b>	<b>159</b>	<b>0.29</b>	<b>152</b>
	2007 Average	54.1	1.9	4.5	44	121	0.37	122
	3 Year Average	54.5	2.1	4.8	43	132	0.34	132
<b>Central</b>	<8.5	55.2	1.5	2.2	45	54	0.83	77
	8.5-9.4	55.5	1.4	2.9	55	64	0.86	100
Soft White	9.5-10.4	55.8	1.5	2.9	68	70	0.97	133
Wheat Estimated	10.5-12.0	56.2	2.2	3.9	43	107	0.40	111
Production =	>12.0	57.5	3.0	4.6	55	117	0.47	153
1.18 MMT	<b>2008 Average</b>	<b>56.3</b>	<b>2.1</b>	<b>3.6</b>	<b>55</b>	<b>93</b>	<b>0.66</b>	<b>127</b>
	2007 Average	54.3	1.7	2.7	42	90	0.44	88
	3 Year Average	55.0	1.9	3.2	47	94	0.51	107
<b>Southeast</b>	<8.5	53.9	1.2	2.3	34	76	0.45	63
	8.5-9.4	54.2	1.4	1.9	35	71	0.49	59
Soft White	9.5-10.4	54.7	1.8	3.9	41	102	0.40	88
Wheat Estimated	10.5-12.0	54.7	2.3	4.0	38	122	0.31	96
Production =	>12.0	55.1	3.0	5.2	36	204	0.18	146
0.72 MMT	<b>2008 Average</b>	<b>54.7</b>	<b>2.1</b>	<b>3.9</b>	<b>38</b>	<b>124</b>	<b>0.34</b>	<b>98</b>
	2007 Average	52.5	1.7	3.3	32	109	0.27	68
	3 Year Average	53.4	1.9	3.6	35	119	0.29	86
<b>Southwest</b>	<8.5	54.8	1.2	2.1	42	72	0.58	79
	8.5-9.4	56.3	1.5	2.0	46	70	0.66	82
Soft White	9.5-10.4	55.5	1.7	4.2	56	104	0.54	159
Wheat Estimated	<b>2008 Average</b>	<b>55.8</b>	<b>1.5</b>	<b>2.6</b>	<b>48</b>	<b>80</b>	<b>0.61</b>	<b>102</b>
Production =								
0.17 MMT								
<b>White Club</b>	<b>2008 Average</b>	<b>51.6</b>	<b>1.3</b>	<b>2.0</b>	<b>24</b>	<b>93</b>	<b>0.26</b>	<b>44</b>
<b>Wheat</b>	2007 Average	52.1	1.7	2.3	27	77	0.35	43
Estimated	3 Year Average	52.2	1.4	2.0	27	82	0.33	46
Production =								
0.20 MMT								

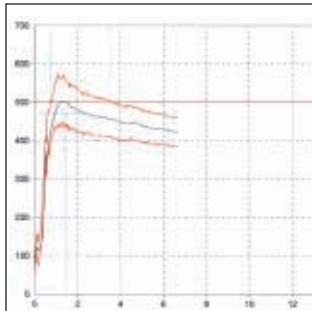
# FINISHED PRODUCTS

Production Zone	Wheat Protein Range 12% mb %	Sugar Snap Cookie			Sponge Cake		Chinese Southern Type Steamed Bread		
		Spread cm	Spread Factor width/height	Top Grain Score	Volume cc	Total Score	Specific Volume cc/g	Total Score	
<b>North Central</b>	<8.5	8.5	9.9	3.5	1248	55	2.38	68	
	8.5-9.4	8.2	8.5	2.0	1170	43	2.13	59	
	Soft White	9.5-10.4	8.2	7.9	0.5	1154	43	2.41	67
	Wheat Estimated	10.5-12.0	7.7	6.2	0.0	1134	39	2.53	64
	Production =	>12.0	7.8	7.4	0.0	1216	49	2.79	67
	1.31 MMT	<b>2008 Average</b>	<b>8.0</b>	<b>7.6</b>	<b>0.7</b>	<b>1184</b>	<b>46</b>	<b>2.53</b>	<b>65</b>
		2007 Average	8.3	8.8	2.2	1212	45	2.57	67
	3 Year Average	8.2	8.1	1.5	1192	47	2.53	68	
<b>Northeast</b>	<8.5	8.3	8.2	3.0	1238	51	2.32	64	
	8.5-9.4	8.3	7.8	2.0	1246	49	2.60	62	
	Soft White	9.5-10.4	8.5	8.8	3.0	1183	48	2.62	68
	Wheat Estimated	10.5-12.0	7.9	6.8	0.0	1167	50	2.59	67
	Production =	>12.0	8.0	7.2	0.0	1185	50	2.67	66
	1.69 MMT	<b>2008 Average</b>	<b>8.0</b>	<b>7.3</b>	<b>0.5</b>	<b>1180</b>	<b>50</b>	<b>2.62</b>	<b>66</b>
		2007 Average	8.0	7.6	0.7	1232	51	2.65	68
	3 Year Average	8.0	7.5	0.6	1191	50	2.58	68	
<b>Central</b>	<8.5	8.1	8.5	3.0	1181	52	2.31	58	
	8.5-9.4	7.8	6.7	1.0	1174	50	2.34	63	
	Soft White	9.5-10.4	7.8	6.6	0.0	1163	52	2.41	64
	Wheat Estimated	10.5-12.0	7.8	7.4	0.0	1143	48	2.57	65
	Production =	>12.0	7.8	6.7	0.0	1157	49	2.30	62
	1.18 MMT	<b>2008 Average</b>	<b>7.8</b>	<b>6.9</b>	<b>0.2</b>	<b>1157</b>	<b>50</b>	<b>2.42</b>	<b>63</b>
		2007 Average	8.1	7.6	1.6	1201	52	2.43	64
	3 Year Average	8.0	7.2	0.9	1167	50	2.43	65	
<b>Southeast</b>	<8.5	8.4	9.3	4.0	1181	60	2.47	64	
	8.5-9.4	8.1	8.1	2.0	1242	60	2.29	67	
	Soft White	9.5-10.4	8.1	7.1	1.0	1206	59	2.40	67
	Wheat Estimated	10.5-12.0	8.1	7.6	0.5	1159	52	2.45	69
	Production =	>12.0	8.4	8.6	0.5	1147	49	2.87	68
	0.72 MMT	<b>2008 Average</b>	<b>8.2</b>	<b>7.8</b>	<b>1.0</b>	<b>1184</b>	<b>55</b>	<b>2.50</b>	<b>68</b>
		2007 Average	8.4	8.9	2.8	1238	53	2.35	66
	3 Year Average	8.3	8.2	1.7	1197	53	2.42	68	
<b>Southwest</b>	<8.5	8.2	8.8	3.0	1207	54	2.36	63	
	8.5-9.4	7.8	7.5	1.0	1161	50	2.35	67	
	Soft White	9.5-10.4	8.0	7.4	1.0	1108	35	2.41	72
	Wheat Estimated	<b>2008 Average</b>	<b>7.9</b>	<b>7.7</b>	<b>1.4</b>	<b>1155</b>	<b>47</b>	<b>2.37</b>	<b>68</b>
	Production =								
0.17 MMT									
<b>White Club</b>	<b>2008 Average</b>	<b>8.4</b>	<b>9.8</b>	<b>1.5</b>	<b>1213</b>	<b>48</b>	<b>2.74</b>	<b>65</b>	
	<b>Wheat</b>	2007 Average	8.5	10.0	4.5	1263	53	2.90	67
	Estimated	3 Year Average	8.5	9.6	2.7	1232	51	2.75	67
Production =									
0.20 MMT									

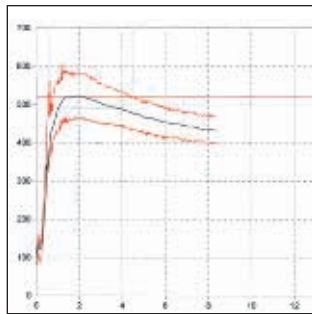
# FARINOGRAPH



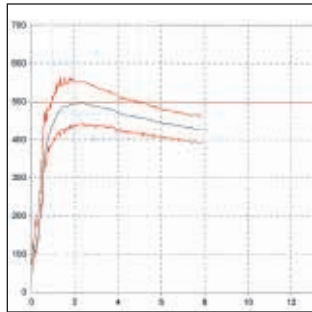
<8.5 % Wheat Protein Range



8.5-9.4% Wheat Protein Range

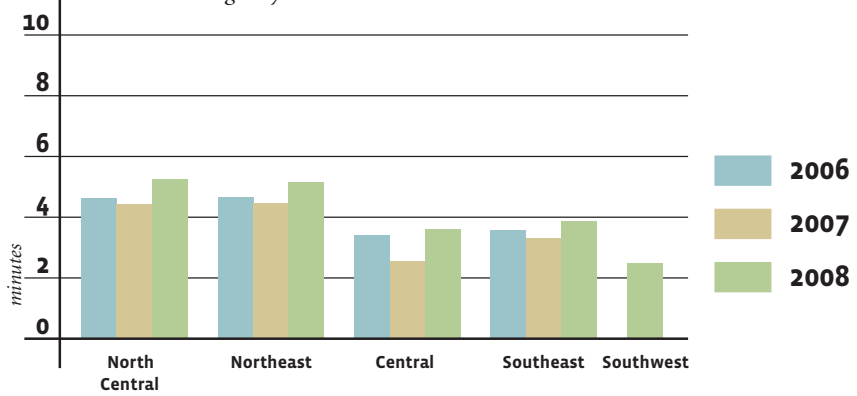


9.5-10.4% Wheat Protein Range

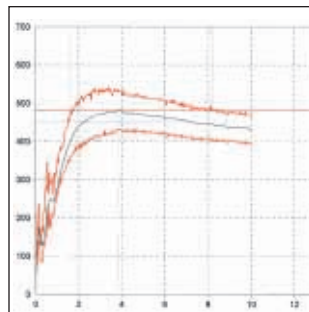
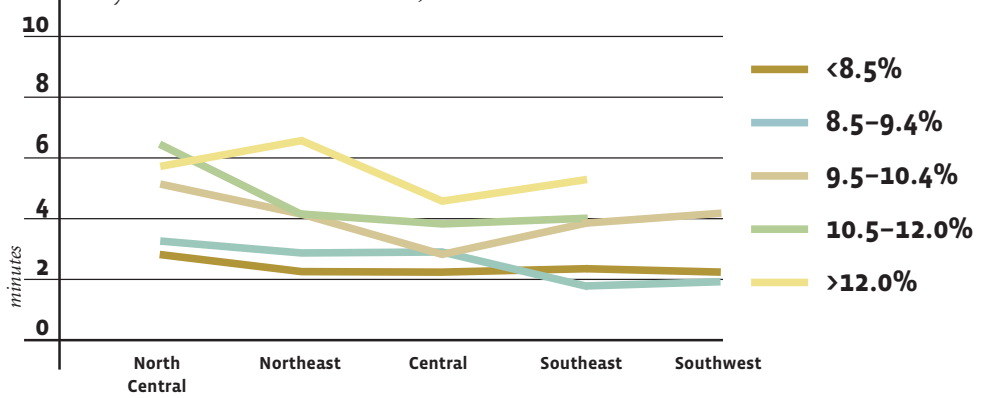


10.5-12.0% Wheat Protein Range

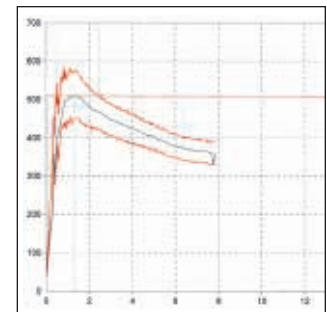
**PNW Soft White Wheat Farinograph Stability**  
3 Year Averages by Production Zone



**PNW Soft White Wheat Farinograph Stability**  
by Protein and Production Zone, 2008



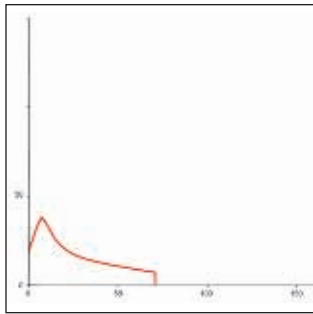
>12.0% Wheat Protein Range



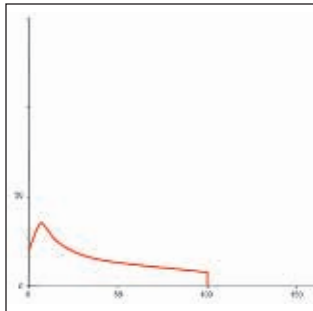
White Club Wheat



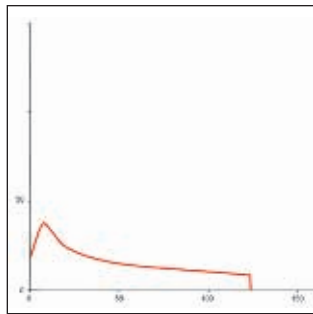
# ALVEOGRAPH



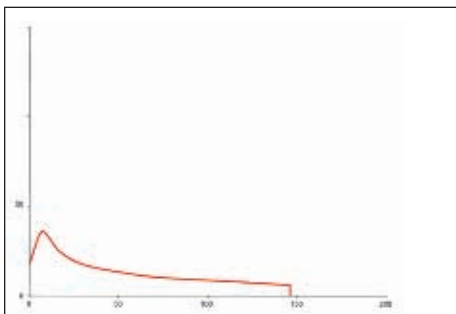
<8.5% Wheat Protein Range



8.5-9.4% Wheat Protein Range

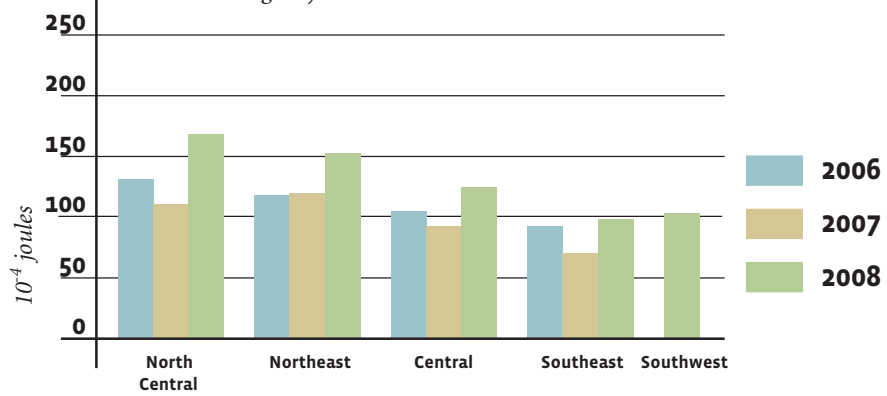


9.5-10.4% Wheat Protein Range

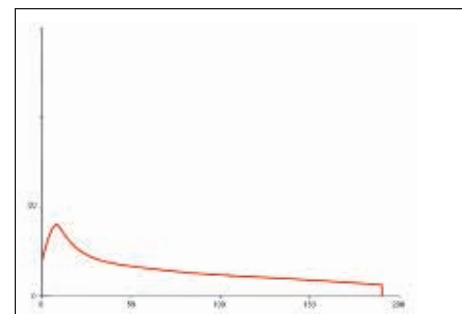
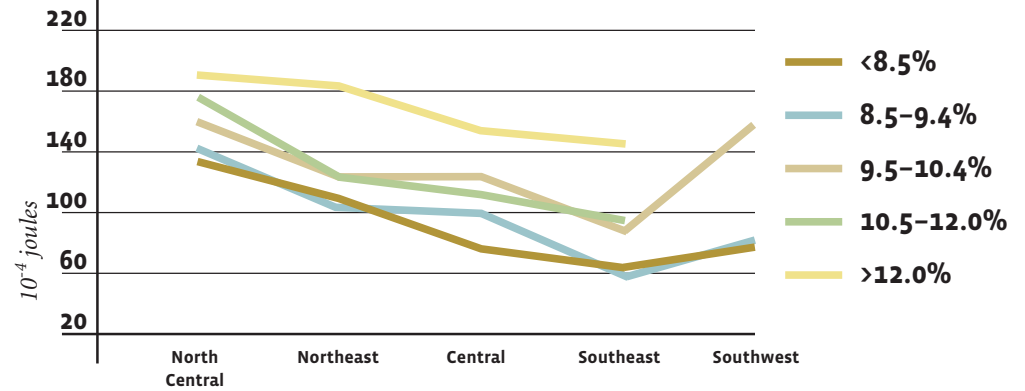


10.5-12.0% Wheat Protein Range

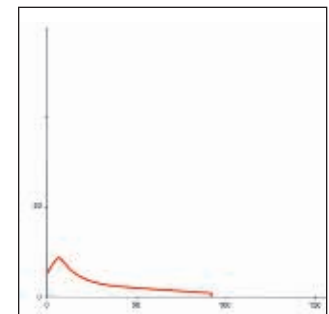
**PNW Soft White Wheat Alveograph "W" Value**  
3 Year Averages by Production Zone



**PNW Soft White Wheat Alveograph "W" Value**  
by Protein and Production Zone, 2008

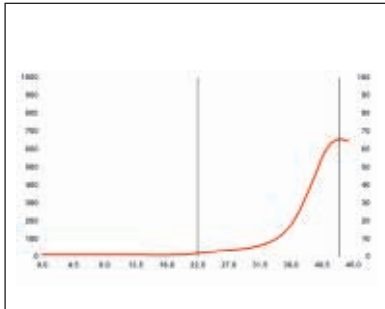


>12.0% Wheat Protein Range

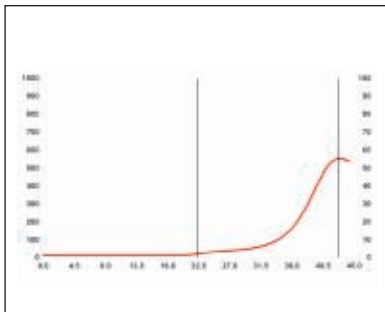


White Club Wheat

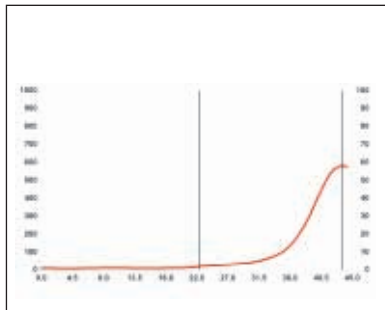
# AMYLOGRAPH



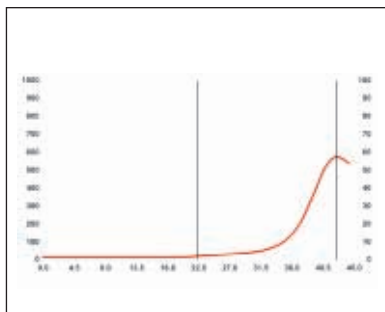
North Central Production Zone



Northeast Production Zone

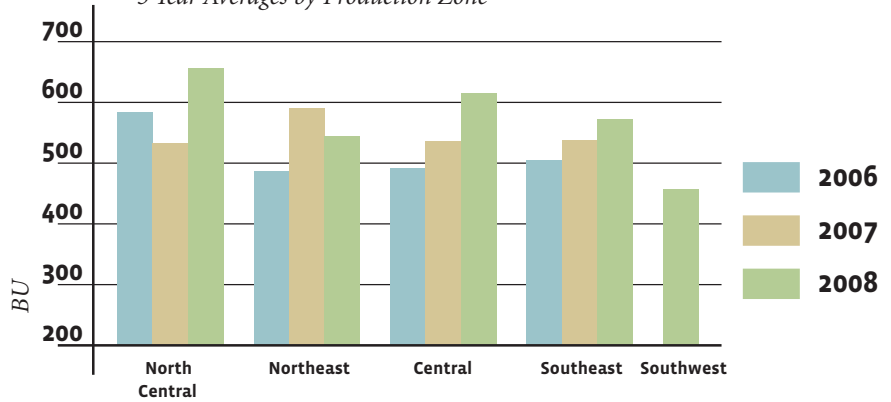


Central Production Zone

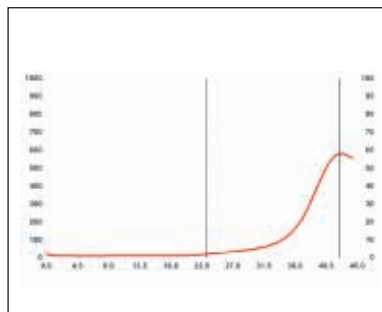
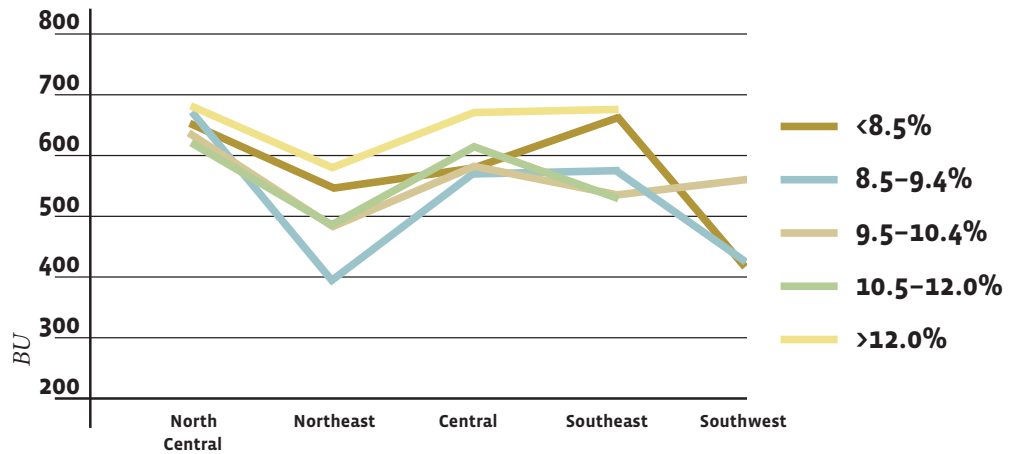


Southeast Production Zone

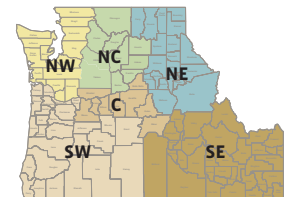
**PNW Soft White Wheat Amylograph Peak Viscosity**  
3 Year Averages by Production Zone



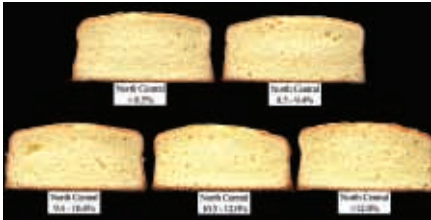
**PNW Soft White Wheat Amylograph Peak Viscosity**  
by Protein and Production Zone, 2008



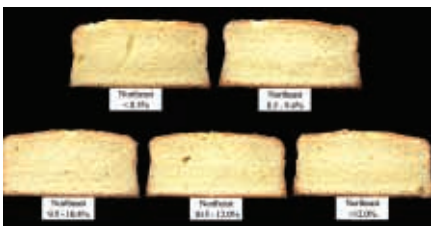
White Club Wheat



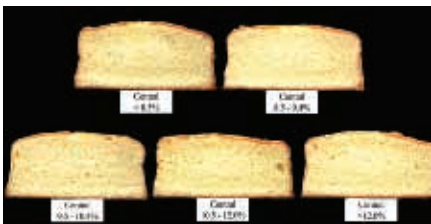
# SPONGE CAKE



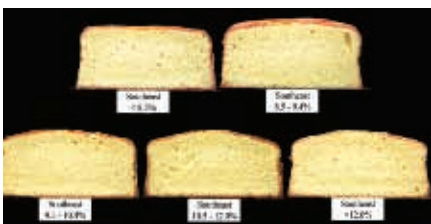
North Central Production Zone



Northeast Production Zone



Central Production Zone



Southeast Production Zone

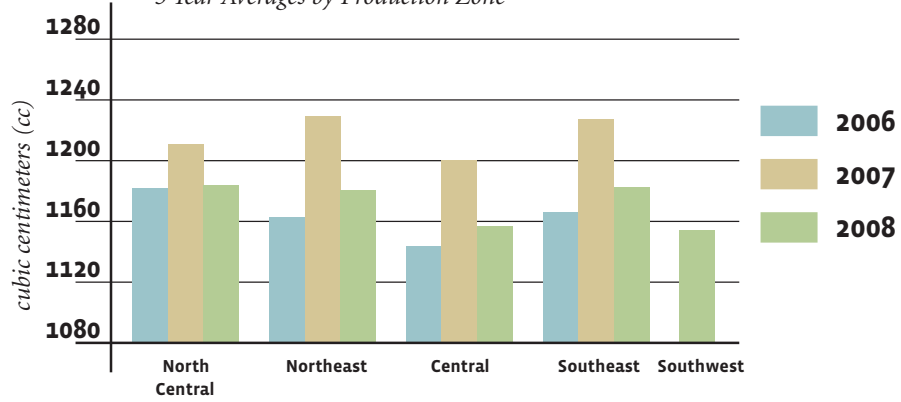


Southwest

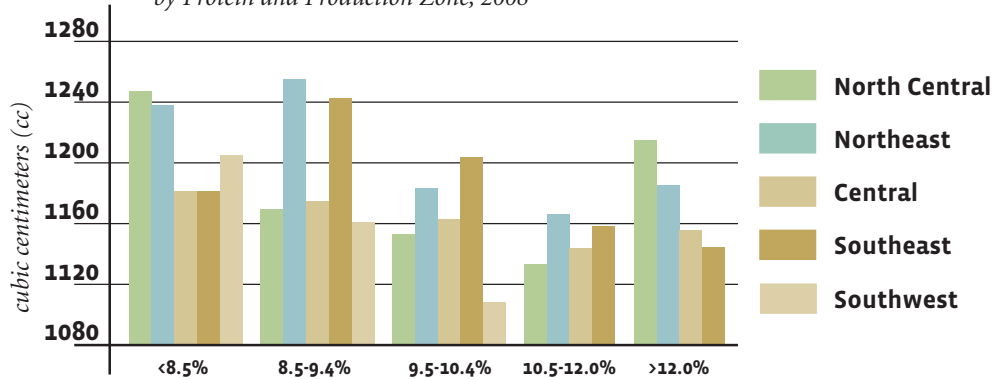


White Club Wheat

**PNW Soft White Wheat Sponge Cake Volume**  
3 Year Averages by Production Zone



**PNW Soft White Wheat Sponge Cake Volume**  
by Protein and Production Zone, 2008



## SUMMARY

These results were from composite samples of the Pacific Northwest soft white wheat and white club wheat harvest. Composite samples were prepared by production zone and protein levels. These composite samples were analyzed for wheat and flour quality, physical dough properties, and finished product characteristics. Information on the 2008 harvest is summarized as follows:



### Wheat Quality

Wheat data indicated lower test weights at most protein levels in most production zones when compared to the 2007 averages. Generally higher dockage levels were evident in production zones. Generally, low moisture wheat, less than 10%, prevailed in the major wheat producing zones of North Central, Central, and Southeast. Low wheat ash contents were present in the North Central and Central Production Zones. Wheat samples from all production zones had lower thousand kernel weights when compared to last year.

### Flour Quality

Flour quality parameters indicated higher wet gluten contents in wheat samples with higher protein levels. Average falling number values in the North Central, Northeast, Central, Southeast, and Southwest production zones were greater than 300 seconds at most protein ranges. Amylograph peak viscosities above 500 BU were present in most protein ranges in samples from North Central, Northeast, Central, and Southeast production zones.

### Physical Dough Properties

Physical dough property tests indicated generally lower water absorption and weaker gluten strength, as measured by the farinograph, in samples with lower protein content. Longer gluten extensibility, as shown by alveograph L values, was observed in samples with higher protein content. White club wheat had weaker gluten strength than soft white wheat, as indicated by alveograph W values.

### Finished Products

Within a production zone, lower protein samples made better sugar snap cookies. Average sponge cake volumes were higher in samples from the North Central, Northeast, and Southeast production zones. Steamed bread specific volumes generally increased with increasing protein content.

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