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Quality of western Canadian wheat exports

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Canada

Quality Innovation Service

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Quality of western Canadian wheat exports
February 1–July 31, 2009

Introduction

This bulletin reports quality data for cargoes of all classes of western Canadian wheat exported by ship from February 1 to July 31, 2009. Two types of information are presented:

- Distribution tables for moisture content, test weight and other grade determining factors assessed during grading of individual cargoes by Industry Services, Canadian Grain Commission (CGC), at time of vessel loading.

- Quality data (wheat and flour characteristics, milling, end-use quality) for weighted composite samples that represent all cargoes of a given grade (and protein segregate where appropriate) exported during the six-month period. For Wheat, Canada Western Red Spring and Wheat, Canada Western Amber Durum, composites representing Atlantic and Pacific shipments are prepared and tested. For the other wheat classes only one series of composites representing all cargoes (Atlantic and Pacific) exported from Canada during the period are reported. Quality data are not available for classes or protein segregates where insufficient sample was received for compositing due to low/no tonnage exported.

Variety registration and class designation lists ensure that a high degree of uniformity in quality is maintained in export shipments. Under the authority of the *Canada Grain Act*, the CGC establishes and maintains lists of wheat varieties eligible to be graded into each wheat class. A listing of varieties included in the CGC variety designation list for each class may be found on the CGC website at http://grainscanada.gc.ca/legislation-legislation/orders-arretes/ocgcm-maccg-eng.htm

Methodology

Methodology used to obtain quality data is described in a separate report available on the CGC website at http://grainscanada.gc.ca/wheat-ble/method-methode/wmtm-mmab-eng.htm.

Wheat, Canada Western Red Spring

Wheat, Canada Western Red Spring (CWRS) is well known for its excellent milling and baking quality. Four milling grades are available, the top two of which are further segregated according to protein content. Guaranteed minimum protein content is reported on a 13.5% moisture basis.

Higher protein CWRS wheat is highly suitable for blending and for the production of high volume pan bread. It is also commonly used alone or in blends with other wheat for the production of hearth bread, steamed bread, noodles, flat bread and common wheat pasta.

Currently, the predominant varieties of Wheat, Canada Western Red Spring grown are Lillian, Harvest, Superb, AC Barrie and McKenzie.

Table 1 - Moisture content, test weight and other grade determining factors[1]
Atlantic export cargoes of Wheat, Canada Western Red Spring
Third and fourth quarters 2008-2009

	No. 1 CWRS				
	Guaranteed minimum protein content, %				
	14.0	13.5	13.0	12.5	1 CWRS[2]
Number of cargoes	1	10	3	1	7
Thousands of tonnes	6	120	64	3	114
Moisture content, %					
Weighted mean	13.5	13.3	13.3	13.7	13.7
Standard deviation	0.00	0.18	0.25	0.00	0.15
Minimum	13.5	13.0	13.0	13.7	13.5
Maximum	13.5	13.6	13.5	13.7	13.9
Test weight, kg/hL					
Weighted mean	82.1	82.6	82.5	82.8	82.4
Standard deviation	0.00	0.32	0.67	0.00	0.36
Minimum	82.1	82.0	81.6	82.8	81.8
Maximum	82.1	83.2	82.9	82.8	82.8
Wheats of other classes, %					
Weighted mean	0.100	0.125	0.200	0.100	0.118
Cereal grains other than wheat, %					
Weighted mean	0.070	0.097	0.155	0.070	0.100

	No. 2 CWRS						No. 3 CWRS[2]
	Guaranteed minimum protein content, %						
	14.5	14.0	13.5	13.0	12.5	2 CWRS[2]	
Number of cargoes	1	5	16	2	1	37	3
Thousands of tonnes	11	46	148	22	16	772	23
Moisture content, %							
Weighted mean	14.3	13.6	13.7	13.9	13.4	13.8	14.1
Standard deviation	0.00	0.24	0.30	0.35	0.00	0.21	0.15
Minimum	14.3	13.4	13.1	13.4	13.4	13.2	14.0
Maximum	14.3	14.0	14.1	13.9	13.4	14.2	14.3
Test weight, kg/hL							
Weighted mean	81.3	82.1	81.8	82.1	82.9	81.7	81.2
Standard deviation	0.00	0.58	0.70	0.57	0.00	0.68	0.81
Minimum	81.3	81.2	79.7	82.0	82.9	80.2	80.3
Maximum	81.3	82.6	82.6	82.8	82.9	83.4	81.9
Wheats of other classes, %							
Weighted mean	0.300	0.106	0.195	0.206	0.400	0.195	0.200
Cereal grains other than wheat, %							
Weighted mean	0.080	0.069	0.131	0.136	0.120	0.129	0.251

[1] Canadian Grain Commission, Industry Services data for official loading samples tested at time of loading.
[2] Not segregated by protein content

Table 2 - Wheat, Canada Western Red Spring
Atlantic export cargo composites
Third and fourth quarters 2008-09

	No. 1 CWRS		No. 2 CWRS			No. 3 CWRS[2]
	Guaranteed minimum protein content, %					
Quality parameter[1]	13.5	1CWRS[2]	14.0	13.5	2CWRS[2]	
Wheat						
Weight per 1000 kernels, g	35.0	35.7	34.6	32.8	35.6	35.4
Protein content, %	13.8	13.8	14.4	14.0	14.0	14.3
Protein content, % (dry matter basis)	16.0	16.0	16.6	16.2	16.2	16.5
Ash content, %	1.57	1.68	1.56	1.61	1.60	1.65
Falling number, s	445	440	415	410	420	420
PSI	53	53	53	53	53	53
Milling						
Flour yield						
Clean wheat basis, %	76.8	76.0	76.2	76.3	76.3	75.8
0.50% ash basis, %	76.3	75.0	76.7	75.8	75.3	75.3
Flour						
Protein content, %	13.3	13.2	13.7	13.3	13.3	13.5
Wet gluten content, %	36.8	36.4	38.7	37.0	36.8	37.4
Ash content, %	0.51	0.52	0.49	0.51	0.52	0.51
Grade colour, Satake units	-2.3	-2.3	-1.8	-1.9	-1.8	-1.4
AGTRON colour, %	76	76	72	74	73	70
Starch damage, %	7.8	7.9	7.4	7.7	7.7	7.8
Amylograph peak viscosity, BU	590	600	510	450	390	385
Maltose value, g/100g	2.4	2.4	2.2	2.4	2.6	2.5
Farinogram						
Absorption, %	66.2	66.5	66.7	66.5	66.4	66.4
Development time, min	7.00	6.00	6.50	6.50	6.00	7.50
Mixing tolerance index, BU	25	25	20	20	25	35
Stability, min	11.0	9.5	10.0	10.0	10.0	9.0
Extensogram						
Length, cm	19	21	22	22	20	22
Height at 5 cm, BU	315	290	270	280	265	235
Maximum height, BU	525	485	455	490	460	440
Area, cm^2	130	130	130	140	120	125
Alveogram						
Length, mm	102	92	100	110	109	101
P (height x 1.1), mm	118	127	121	109	110	106
W, x 10^{-4} joules	399	398	409	385	386	352
Baking (Canadian Short Process baking test)						
Absorption, %	65	65	65	65	65	65
Mixing energy, W-h/kg	9.0	9.2	8.4	8.4	8.6	7.6
Mixing time, min	3.8	3.8	3.6	3.5	3.5	3.4
Loaf volume, cm^3/100 g flour	1100	1075	1120	1100	1125	1185

[1] Unless otherwise specified, data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour.
[2] Not segregated by protein content

Table 3 - Moisture content, test weight and other grade determining factors[1]
Pacific export cargoes of Wheat, Canada Western Red Spring
Third and fourth quarters 2008-2009

	No. 1 CWRS					
	Guaranteed minimum protein content, %					
	14.0	13.5	13.0	12.5	12.0	1CWRS[2]
Number of cargoes	3	5	3	14	1	19
Thousands of tonnes	47	83	23	172	4	378
Moisture content, %						
Weighted mean	13.2	13.2	13.1	13.2	12.8	13.1
Standard deviation	0.15	0.36	0.36	0.24	0.00	0.21
Minimum	13.1	12.9	12.5	12.6	12.8	12.7
Maximum	13.4	13.7	13.2	13.5	12.8	13.4
Test weight, kg/hL						
Weighted mean	82.5	82.8	83.2	83.2	83.7	82.7
Standard deviation	0.35	0.29	0.75	0.37	0.00	0.33
Minimum	82.2	82.3	81.9	82.6	83.7	82.1
Maximum	82.9	83.1	83.2	83.7	83.7	83.4
Wheats of other classes, %						
Weighted mean	0.206	0.275	0.162	0.331	0.500	0.311
Cereal grains other than wheat, %						
Weighted mean	0.100	0.155	0.164	0.148	0.170	0.132

	No. 2 CWRS					No. 3 CWRS[2]
	Guaranteed minimum protein content, %					
	14.0	13.5	13.0	12.5	12.0	
Number of cargoes	12	12	35	41	1	24
Thousands of tonnes	146	136	1181	1343	49	368
Moisture content, %						
Weighted mean	13.6	13.5	13.6	13.6	13.7	13.5
Standard deviation	0.22	0.21	0.32	0.27	0.00	0.16
Minimum	13.2	13.2	13.0	13.0	13.7	13.2
Maximum	14.0	13.8	14.1	13.8	13.7	13.8
Test weight, kg/hL						
Weighted mean	82.1	82.5	82.9	83.4	83.6	82.9
Standard deviation	0.33	0.49	0.45	0.29	0.00	0.52
Minimum	81.7	81.7	81.7	82.5	83.6	81.6
Maximum	82.8	83.3	83.6	83.9	83.6	84.1
Wheats of other classes, %						
Weighted mean	0.432	0.399	0.352	0.440	1.000	0.736
Cereal grains other than wheat, %						
Weighted mean	0.186	0.244	0.204	0.215	0.150	0.420

[1] Canadian Grain Commission, Industry Services data for official loading samples tested at time of loading.
[2] Not segregated by protein content

Table 4 - Wheat, Canada Western Red Spring
Pacific export cargo composites
Third and fourth quarters 2008-09

	No. 1 CWRS			No. 2 CWRS				No. 3 CWRS[2]
	Guaranteed minimum protein content, %							
Quality parameter[1]	13.5	12.5	1 CWRS[2]	14.0	13.5	13.0	12.5	
Wheat								
Weight per 1000 kernels, g	36.0	35.8	37.6	36.7	36.9	36.5	35.7	37.7
Protein content, %	13.6	12.9	13.9	14.3	13.8	13.5	13.0	13.1
Protein content, % (dry matter basis)	15.8	14.9	16.0	16.5	16.0	15.6	15.0	15.1
Ash content, %	1.51	1.53	1.52	1.55	1.52	1.56	1.49	1.49
Falling number, s	430	430	430	405	430	420	430	400
PSI	51	50	52	51	51	51	50	50
Milling								
Flour yield								
Clean wheat basis, %	76.2	76.8	76.6	75.8	76.4	76.7	76.4	76.0
0.50% ash basis, %	76.2	75.8	76.1	75.3	75.9	75.7	75.9	76.0
Flour								
Protein content, %	13.2	12.4	13.3	13.7	13.2	12.9	12.4	12.6
Wet gluten content, %	36.7	33.8	36.7	38.5	36.8	34.9	33.8	34.4
Ash content, %	0.50	0.52	0.51	0.51	0.51	0.52	0.51	0.50
Grade colour, Satake units	-2.3	-2.3	-2.2	-2.0	-1.9	-1.9	-2.0	-1.8
AGTRON colour, %	77	76	76	74	75	75	76	72
Starch damage, %	8.4	9.0	8.5	8.2	8.5	8.8	8.9	9.1
Amylograph peak viscosity, BU	610	550	635	440	465	495	545	460
Maltose value, g/100g	2.5	2.9	2.6	2.6	2.7	2.7	2.8	2.9
Farinogram								
Absorption, %	68.0	68.1	66.3	68.5	68.4	68.2	67.8	68.4
Development time, min	6.75	5.25	8.75	5.50	6.50	6.50	6.75	5.50
Mixing tolerance index, BU	30	30	20	20	30	30	30	30
Stability, min	8.0	8.0	14.0	9.0	8.0	8.5	10.0	9.0
Extensogram								
Length, cm	19	18	17	21	21	20	18	19
Height at 5 cm, BU	280	275	425	280	285	300	315	285
Maximum height, BU	475	420	645	450	470	495	480	445
Area, cm^2	110	100	135	125	130	125	115	110
Alveogram								
Length, mm	109	81	101	111	93	104	98	84
P (height x 1.1), mm	142	153	146	133	155	142	149	151
W, x 10^{-4} joules	477	419	473	466	472	475	465	428
Baking (Canadian Short Process baking test)								
Absorption, %	67	68	66	68	68	67	67	68
Mixing energy, W-h/kg	8.5	7.8	7.1	8.4	7.8	8.4	8.3	8.2
Mixing time, min	3.8	3.9	3.4	3.7	3.5	3.7	3.9	3.9
Loaf volume, cm^3/100 g flour	1085	1000	1050	1120	1100	1070	1070	1070

[1] Unless otherwise specified, data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour.
[2] Not segregated by protein content

Wheat, Canada Western Amber Durum

Canada has an international reputation as a reliable supplier of high quality durum wheat, furnishing about two thirds of the world's exports in recent years. The attributes of Canadian durum that attract demand are reliability of supply, cleanliness, uniformity and consistency within and between shipments, and excellent end-product quality.

Canada has a strong commitment to quality. This extends to strict varietal control to protect the inherent quality of all grades of amber durum wheat and to strict adherence to wheat grade standards. The requirement that only durum varieties of high intrinsic quality are registered is a cornerstone of the Canadian grading system.

Currently, the predominant varieties of Wheat, Canada Western Amber Durum grown are Strongfield, AC Avonlea, AC Navigator and Kyle.

Table 5 - Moisture content, test weight and other grade determining factors[1]
Export cargoes of Wheat, Canada Western Amber Durum
Third and fourth quarters 2008-2009

	No. 1 CWAD		No. 2 CWAD		No. 3 CWAD	
	Atlantic	Pacific	Atlantic	Pacific	Atlantic	Pacific
Number of cargoes	28	5	40	9	40	4
Thousands of tonnes	460	61	441	42	641	26
Moisture content, %						
Weighted mean	12.7	12.6	13.0	12.9	13.2	13.0
Standard deviation	0.17	0.16	0.25	0.24	0.17	0.10
Minimum	12.4	12.5	12.2	12.5	12.7	12.9
Maximum	13.0	12.9	13.7	13.4	13.5	13.1
Test weight, kg/hL						
Weighted mean	82.8	82.6	82.6	82.7	82.1	82.1
Standard deviation	0.67	0.49	0.54	0.79	0.55	0.41
Minimum	80.8	82.0	81.0	81.7	81.1	81.6
Maximum	83.5	83.3	84.2	84.0	83.4	82.4
Vitreous kernels, %						
Weighted mean	83.4	86.8	74.2	82.7	68.0	69.6
Wheats of other classes, %						
Weighted mean	0.593	0.696	0.797	1.130	0.806	1.555
Cereal grains other than wheat, %						
Weighted mean	0.115	0.106	0.147	0.180	0.154	0.371

[1] Canadian Grain Commission, Industry Services data for official loading samples tested at time of loading.

Table 6 - Wheat, Canada Western Amber Durum
Export cargo composites
Third and fourth quarters 2008-09

Quality parameter[1]	No. 1 CWAD		No. 2 CWAD		No. 3 CWAD	
	Atlantic	Pacific	Atlantic	Pacific	Atlantic	Pacific
Wheat						
Weight per 1000 kernels, g	44.5	44.0	43.8	46.8	45.8	44.0
Protein content, %	13.3	13.4	13.1	13.2	13.4	13.3
Protein content, % (dry matter basis)	15.4	15.5	15.1	15.2	15.5	15.3
Ash content, %	1.51	1.49	1.56	1.53	1.57	1.53
Yellow pigment content, ppm	9.1	8.9	9.0	8.8	8.8	8.8
Falling number, s	400	415	330	400	265	300
Milling yield, %	75.7	75.9	75.9	75.8	76.0	75.3
Semolina yield, %	67.3	67.6	67.1	67.4	67.3	66.8
PSI, %	38	39	40	39	39	40
Semolina						
Protein content, %	12.3	12.6	12.0	12.0	12.4	12.1
Wet gluten content, %	31.2	31.7	30.6	30.6	31.6	30.7
Dry gluten content, %	10.8	11.1	10.8	10.7	11.2	11.0
Ash content, %	0.65	0.65	0.66	0.65	0.67	0.66
Yellow pigment content, ppm	8.5	8.4	8.5	8.3	8.2	8.2
AGTRON colour, %	77	76	75	75	71	73
Minolta colour:						
L*	86.7	86.6	86.6	86.8	86.7	86.6
a*	-2.8	-2.8	-2.9	-2.9	-2.9	-2.8
b*	33.2	32.9	32.5	32.6	32.2	31.8
Speck count per 50 cm^2	27	26	39	35	47	44
Falling number, s	510	470	415	445	335	390
Spaghetti - Dried at 70°C						
Minolta colour:						
L*	Data not yet available					
a*						
b*						
Firmness, g-cm						

[1] Unless otherwise specified, data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for semolina.

Wheat, Canada Western Hard White Spring

Wheat, Canada Western Hard White Spring (CWHWS) is a hard white spring wheat with superior milling quality producing flour with excellent colour. It is suitable for bread and noodle production.

There are three milling grades in the CWHWS class.

The most commonly grown variety of CWHWS is Snowbird.

Table 7 - Moisture content, test weight and other grade determining factors[1]
Export cargoes of Wheat, Canada Western Hard White Spring
Third and fourth quarters 2008-2009

	No. 1 CWHWS	No. 2 CWHWS	No. 3 CWHWS
Number of cargoes	1	3	2
Thousands of tonnes	5	27	10
Moisture content, %			
Weighted mean	13.1	13.6	13.9
Standard deviation	0.00	0.21	0.14
Minimum	13.1	13.4	13.8
Maximum	13.1	13.8	14.0
Test weight, kg/hL			
Weighted mean	82.1	81.5	81.4
Standard deviation	0.00	0.40	0.00
Minimum	82.1	81.0	81.4
Maximum	82.1	81.8	81.4
Wheats of other classes, %			
Weighted mean	0.083	0.198	1.845
Cereal grains other than wheat, %			
Weighted mean	0.020	0.076	0.056

[1] Canadian Grain Commission, Industry Services data for official loading samples tested at time of loading.

Wheat, Canada Prairie Spring Red and Wheat, Canada Prairie Spring White

Wheat, Canada Prairie Spring Red (CPSR), used alone or in blends, has quality characteristics suitable for the production of various types of hearth bread, flat bread, noodles and related products.

The most commonly grown varieties eligible for milling grades of CPSR for the 2008-09 crop year are 5700PR, AC Foremost, AC Crystal and 5701PR.

Wheat, Canada Prairie Spring White (CPSW), used alone or in blends, has the quality characteristics suitable for the production of various types of flat bread, noodles, chapatis, crackers and similar products.

Table 8 - Moisture content, test weight and other grade determining factors[1]
Export cargoes of Wheat, Canada Prairie Spring Red and Wheat, Canada Prairie Spring White
Third and fourth quarters 2008-2009

	No. 1 CPSR	No. 2 CPSR
Number of cargoes	2	21
Thousands of tonnes	41	313
Moisture content, %		
Weighted mean	14.0	13.9
Standard deviation	0.00	0.21
Minimum	14.0	13.4
Maximum	14.0	14.4
Test weight, kg/hL		
Weighted mean	82.6	83.0
Standard deviation	0.14	0.41
Minimum	82.5	82.1
Maximum	82.7	83.6
Wheats of other classes, %		
Weighted mean	0.451	0.549
Cereal grains other than wheat, %		
Weighted mean	0.284	0.371

[1] Canadian Grain Commission, Industry Services data for official loading samples tested at time of loading.

Table 9 - Wheat, Canada Prairie Spring Red
Export cargo composites
Third and fourth quarter 2008-09

Quality parameter[1]	No. 2 CPSR
Wheat	
Weight per 1000 kernels, g	42.1
Protein content, %	11.6
Protein content, % (dry matter basis)	13.4
Ash content, %	1.39
Falling number, s	340
Flour yield, %	75.6
PSI	53
Flour	
Protein content, %	10.8
Wet gluten content, %	27.2
Ash content, %	0.48
Grade colour, Satake units	-2.0
AGTRON colour, %	72
Starch damage, %	8.4
Amylograph peak viscosity, BU	480
Maltose value, g/100g	2.8
Farinogram	
Absorption, %	64.7
Development time, min	7.50
Mixing tolerance index, BU	35
Stability, min	10.0
Extensogram	
Length, cm	17
Height at 5 cm, BU	440
Maximum height, BU	660
Area, cm^2	140
Alveogram	
Length, mm	87
P (height x 1.1), mm	133
W, x 10^{-4} joules	384
Baking (Remix-to-Peak baking test)	
Absorption, %	61
Remix time, min	2.5
Loaf volume, cm^3/100 g flour	820

[1] Unless otherwise specified, data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour.

Wheat, Canada Western Red Winter

Wheat, Canada Western Red Winter (CWRW) is a hard wheat exhibiting excellent milling quality. It is available in two milling grades. Flour produced from high grade CWRW wheat performs well in the production of hearth bread (such as French-style bread) and certain types of noodles, and is also suitable for the production of various types of flat bread, steamed bread and related products.

Table 10 - Moisture content, test weight and other grade determining factors[1]
Export cargoes of Wheat, Canada Western Red Winter
Third and fourth quarters 2007-2008

	No. 1 CWRW	No. 2 CWRW
Number of cargoes	7	16
Thousands of tonnes	68	228
Moisture content, %		
Weighted mean	12.7	13.0
Standard deviation	0.35	0.44
Minimum	12.2	12.4
Maximum	13.1	13.7
Test weight, kg/hL		
Weighted mean	83.1	82.8
Standard deviation	0.91	0.63
Minimum	81.7	81.4
Maximum	84.2	83.6
Wheats of other classes, %		
Weighted mean	0.830	0.527
Cereal grains other than wheat, %		
Weighted mean	0.113	0.176

[1] Canadian Grain Commission, Industry Services data for official loading samples tested at time of loading.

Table 11 - Wheat, Canada Western Red Winter
Export cargo composites
Third and fourth quarter 2008-09

Quality parameter[1]	No. 1 CWRW	No. 2 CWRW
Wheat		
Weight per 1000 kernels, g	31.3	31.1
Protein content, %	10.8	10.7
Protein content, % (dry matter basis)	12.4	12.3
Ash content, %	1.35	1.46
Falling number, s	365	385
Flour yield, %	76.4	76.2
PSI	55	56
Flour		
Protein content, %	10.1	9.8
Wet gluten content, %	25.5	24.4
Ash content, %	0.47	0.47
Grade colour, Satake units	-2.2	-2.1
AGTRON colour, %	76	75
Starch damage, %	7.0	6.8
Amylograph peak viscosity, BU	380	370
Maltose value, g/100g	2.3	2.2
Farinogram		
Absorption, %	58.3	57.3
Development time, min	5.00	5.25
Mixing tolerance index, BU	35	40
Stability, min	8.0	7.5
Extensogram		
Length, cm	18	17
Height at 5 cm, BU	385	350
Maximum height, BU	560	500
Area, cm^2	130	110
Alveogram		
Length, mm	98	106
P (height x 1.1), mm	82	79
W, x 10^{-4} joules	269	263
Baking (Remix-to-Peak baking test)		
Absorption, %	55	54
Remix time, min	2.2	2.2
Loaf volume, cm^3/100 g flour	760	785

[1] Unless otherwise specified, data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour.

Wheat, Canada Western Soft White Spring

Wheat, Canada Western Soft White Spring (CWSWS) is a lower protein, soft wheat with weak dough properties. Flour milled from this wheat is suitable for producing cookies, cakes, biscuits and related products. Alone or in blends with stronger wheat, CWSWS wheat can also be used to produce crackers, flat bread, steamed bread and certain types of noodles.

The most commonly grown variety of CWSWS is AC Andrew.

Table 12 - Moisture content, test weight and other grade determining factors[1]
Export cargoes of Wheat, Canada Western Soft White Spring
Third and fourth quarters 2008-2009

	No. 2 CWSWS
Number of cargoes	5
Thousands of tonnes	52
Moisture content, %	
Weighted mean	13.8
Standard deviation	0.23
Minimum	13.6
Maximum	14.2
Test weight, kg/hL	
Weighted mean	81.5
Standard deviation	0.80
Minimum	80.6
Maximum	82.7
Wheats of other classes, %	
Weighted mean	1.049
Cereal grains other than wheat, %	
Weighted mean	0.180

[1] Canadian Grain Commission, Industry Services data for official loading samples tested at time of loading.