



Quality of western Canadian wheat exports, 2015

Wheat, Canada Western Red Spring

Quality parameter

Wheat, Canada Western Red Spring - Atlantic export cargo composites - Third and fourth quarters 2014-2015 - Bühler mill

Quality parameter ¹	No. 2 CWRS	No. 3 CWRS
	Guaranteed minimum protein content, %	
	12.7 - 13.9	13.1-13.4
Wheat		
Test Weight, kg/hL	81.8	81.5
Particle Size Index, %	57	56
Protein content, %	13.3	13.4
Protein content, % (dry matter basis)	15.4	15.5
Ash content, %	1.61	1.67
Falling number, s	380	380
Milling Flour Yield		
Clean wheat basis, %	75.8	74.9
0.50% ash basis, %	77.8	76.4
Flour - 74% extraction		
Protein content, %	12.4	12.4
Wet gluten content, %	33.4	32.8
Gluten Index, %	96.8	97.1
Ash content, %	0.46	0.47
Dough sheet (water) brightness, ³ L* at 2h	78.27	78.16
Dough sheet (water) redness, ³ a* at 2h	3.04	3.00
Dough sheet (water) yellowness, ³ b* at 2h	24.28	24.20
Starch damage, %	7.9	8.0
Amylograph Peak Viscosity, BU	420	345
Farinogram		
Absorption, %	63.5	63.3
Dough Development time, min	5.50	5.00
Stability, min	8.0	7.5
Mixing tolerance index, BU	35	40
Extensogram (135 minutes)		
Maximum resistance, BU	385	398
Extensibility - Length, cm	22.8	21.9
Area, cm ²	119	112
Alveogram		
P (height x 1.1), mm	96	94
Length, mm	116	121

W, x 10 ⁻⁴ joules	353	349
Baking (Canadian Short Process baking test)		
Absorption, %	67	66
Mixing time, min	4.7	4.7
Mixing energy, W-h/kg of dough	10.8	11.3
Loaf volume, cm ³ /100g flour	990	1010

¹ Data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour.

Wheat, Canada Western Red Spring - Pacific export cargo composites - Third and fourth quarters 2014-2015 - Bühler mill

Quality parameter ¹	No. 1 CWRS	No. 2 CWRS		No. 3 CWRS
	Guaranteed minimum protein content, %			
	13.0-14.0	12.7-13.9	14.0-14.9	
Wheat				
Test Weight, kg/hL	82.8	81.2	81.1	80.5
Particle Size Index, %	57	59	59	58
Protein content, %	13.4	13.5	14.1	13.6
Protein content, % (dry matter basis)	15.5	15.6	16.3	15.7
Ash content, %	1.48	1.57	1.54	1.64
Falling number, s	445	400	405	390
Milling Flour Yield				
Clean wheat basis, %	76.2	76.1	76.3	76.0
0.50% ash basis, %	79.2	78.1	79.8	77.5
Flour - 74% extraction				
Protein content, %	12.8	12.7	13.4	12.8
Wet gluten content, %	36.0	35.1	37.9	35.5
Gluten Index, %	95.1	93.8	91.2	90.4
Ash content, %	0.44	0.46	0.43	0.47
Dough sheet (water) brightness, ³ L* at 2h	79.47	78.90	78.60	77.86
Dough sheet (water) redness, ³ a* at 2h	2.93	2.94	2.98	2.93
Dough sheet (water) yellowness, ³ b* at 2h	24.56	24.57	24.08	23.93
Starch damage, %	7.9	7.5	7.1	7.4
Amylograph Peak Viscosity, BU	540	495	465	430
Farinogram				
Absorption, %	64.4	63.5	64.3	64.3
Dough Development time, min	5.75	5.75	6.00	4.25
Stability, min	8.0	7.0	6.5	7.0
Mixing tolerance index, BU	35	35	35	30
Extensogram (135 minutes)				
Maximum resistance, BU	454	426	465	383
Extensibility - Length, cm	21.1	21.0	21.6	23.1
Area, cm ²	126	120	130	115
Alveogram				
P (height x 1.1), mm	98	91	91	89
Length, mm	125	123	126	134
W, x 10 ⁻⁴ joules	371	343	355	350
Baking (Canadian Short Process baking test)				

Absorption, %	67	68	68	67
Mixing time, min	4.2	4.4	4.4	4.3
Mixing energy, W-h/kg of dough	10.8	9.9	11.2	10.7
Loaf volume, cm ³ /100 g flour	955	985	980	985

¹ Data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour.

Moisture content, test weight and other grade determining factors

Atlantic export cargoes of CWRS wheat, third and fourth quarters, 2014-2015

Grade determining factors assessed during grading of individual cargoes by Industry Services, Canadian Grain Commission, at time of vessel loading.			
	No. 2 CWRS		
	Guaranteed minimum protein content, %		
	11.5	13.5	Not segregated by protein content
Number of cargoes	6	3	61
Thousands of tonnes	127	18	966
Moisture content, %			
Weighted mean	14	14.1	14
Standard deviation	0.14	0.06	0.2
Minimum	13.8	14.1	13.5
Maximum	14.2	14.2	14.4
Test weight, kg/hL			
Weighted mean	82.6	82.2	82.4
Standard deviation	0.43	0.44	0.65
Minimum	82.3	81.7	80.9
Maximum	83.4	82.5	83.8
Wheats of other classes, %			
Weighted mean	0.566	0.534	1.006
Cereal grains other than wheat, %			
Weighted mean	0.052	0.06	0.063

Grade determining factors assessed during grading of individual cargoes by Industry Services, Canadian Grain Commission, at time of vessel loading.	
	No. 3 CWRS
	Guaranteed minimum protein content
	Not segregated by protein content
Number of cargoes	12
Thousands of tonnes	224
Moisture content, %	
Weighted mean	13.9
Standard deviation	0.23
Minimum	13.6
Maximum	14.5
Test weight, kg/hL	
Weighted mean	82
Standard deviation	0.54

Minimum	81.4
Maximum	83.3
Wheats of other classes, %	
Weighted mean	1.385
Cereal grains other than wheat, %	
Weighted mean	0.091

Pacific export cargoes of CWRS wheat, third and fourth quarters, 2014-2015

Grade determining factors assessed during grading of individual cargoes by Industry Services, Canadian Grain Commission, at time of vessel loading.		
	No. 1 CWRS	
	Guaranteed minimum protein content, %	
	14.0	Not segregated by protein content
Number of cargoes	1	30
Thousands of tonnes	30	816
Moisture content, %		
Weighted mean	13.2	13.3
Standard deviation	0	0.25
Minimum	13.2	12.8
Maximum	13.2	14
Test weight, kg/hL		
Weighted mean	83.2	83.1
Standard deviation	0	1.1
Minimum	83.2	77.8
Maximum	83.2	84
Wheats of other classes, %		
Weighted mean	0.22	0.251
Cereal grains other than wheat, %		
Weighted mean	0.126	0.071

Grade determining factors assessed during grading of individual cargoes by Industry Services, Canadian Grain Commission, at time of vessel loading.					
	No. 2 CWRS				
	Guaranteed minimum protein content, %				
	13.0	13.5	14.0	14.5	Not segregated by protein content
Number of cargoes	1	2	1	1	166
Thousands of tonnes	63	63	50	10	3885
Moisture content, %					

Weighted mean	13.8	13.5	13.4	13.6	13.3
Standard deviation	0	0.35	0	0	0.3
Minimum	13.8	13.2	13.4	13.6	12.2
Maximum	13.8	13.7	13.4	13.6	14
Test weight, kg/hL					
Weighted mean	83.1	81.1	82.1	81.3	81.7
Standard deviation	0	0.52	0	0	1.06
Minimum	83.1	80.7	82.1	81.3	71.1
Maximum	83.1	81.5	82.1	81.3	83.3
Wheats of other classes, %					
Weighted mean	0.5	0.674	0.3	0.2	0.505
Cereal grains other than wheat, %					
Weighted mean	0.086	0.153	0.146	0.183	0.113

Grade determining factors assessed during grading of individual cargoes by Industry Services, Canadian Grain Commission, at time of vessel loading.	
	No. 3 CWRS
	Guaranteed minimum protein content, %
	Not segregated by protein content
Number of cargoes	20
Thousands of tonnes	508
Moisture content, %	
Weighted mean	13.5
Standard deviation	0.24
Minimum	12.9
Maximum	14
Test weight, kg/hL	
Weighted mean	80.8
Standard deviation	0.82
Minimum	78.8
Maximum	82.1
Wheats of other classes, %	
Weighted mean	0.962
Cereal grains other than wheat, %	
Weighted mean	0.155

Wheat, Canada Western Amber Durum

Wheat, No. 2, 3 and 4 Canada Western Amber Durum - Export cargo composites

Quality parameter²	No. 2 CWAD	No. 3 CWAD	No. 4 CWAD
Wheat			
Test weight, kg/hL	82.0	80.4	79.6

Weight per 1000 kernels, g	40.5	40.2	39.4
Vitreous kernels, %	77	66	63
Protein content, %	12.9	12.6	12.6
Ash content, %	1.54	1.61	1.61
Falling number, sec	365	265	220
Milling - Allis-Chalmers Mill			
Total milling yield, %	74.9	74.7	73.7
Semolina yield, %	65.6	64.8	63.8
Speck count per 50 cm²			
Total specks	23	33	42
Dark specks	3	6	9
Large specks (≥ 0.06 mm ²)	12	16	21
Semolina³			
Protein content, %	12.0	11.7	11.7
Wet gluten content, %	31.4	30.3	30.5
Gluten index, %	77	78	77
Ash content, %	0.68	0.71	0.73
Yellow pigment content, ppm	9.3	9.1	9.1
Yellowness, b*	30.4	29.4	28.6
Dough sheet colour at 24 hrs			
Brightness, L*	77.3	79.0	78.2
Redness, a*	-0.2	0.1	0.2
Yellowness, b*	34.8	31.3	32.0
Alveogram			
P (height x 1.1), mm	72	72	75
Length, mm	76	77	75
P/L	0.95	0.94	1.00
W, x 10 ⁻⁴ joules	180	181	186
Spaghetti colour dried at 85°C			
Brightness, L*	75.1	70.7	69.4
Redness, a*	5.6	6.9	7.8
Yellowness, b*	62.1	60.5	59.5
Spaghetti texture dried at 85°C			
Peak cutting force, g	574	558	519
Dry strand diameter, mm	1.68	1.68	1.68
Cooked strand diameter, mm	2.44	2.46	2.45

² Data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour.

³ Semolina analysis is conducted using granular products with a constant extraction rate of 70%.

Wheat, Canada Prairie Spring Red

Quality parameter

Wheat, Canada Prairie Spring Red - Bicoastal export cargo composites - Third and fourth quarters 2014-2015 - Bühler mill

Quality parameter ⁴	No. 1 CPSR	No. 2 CPSR
Wheat		
Test Weight, kg/hL	81.5	81.4
Particle Size Index, %	59	60
Protein content, %	11.8	11.9

Protein content, % (dry matter basis)	13.7	13.8
Ash content, %	1.42	1.42
Falling number, s	370	350
Milling Flour Yield		
Clean wheat basis, %	76.3	75.7
0.50% ash basis, %	78.8	78.2
Flour - 74% extraction		
Protein content, %	10.9	11.0
Wet gluten content, %	29.6	29.3
Gluten Index, %	98.0	97.9
Ash content, %	0.45	0.45
Dough sheet (water) brightness, ³ L* at 2h	78.77	78.69
Dough sheet (water) redness, ³ a* at 2h	2.40	2.35
Dough sheet (water) yellowness, ³ b* at 2h	21.64	21.24
Starch damage, %	6.9	6.8
Amylograph Peak Viscosity, BU	475	525
Farinogram		
Absorption, %	60.6	60.9
Dough Development time, min	5.25	6.50
Stability, min	7.0	9.0
Mixing tolerance index, BU	40	30
Extensogram (135 minutes)		
Maximum resistance, BU	582	565
Extensibility - Length, cm	20.9	20.4
Area, cm ²	157	147
Alveogram		
P (height x 1.1), mm	87	83
Length, mm	134	135
W, x 10 ⁻⁴ joules	346	335
Baking (Canadian Short Process)		
Absorption, %	65	65
Mixing time, min	5.3	5.3
Mixing energy, W-h/kg of dough	15.5	11.8
Loaf volume, cm ³ /100 g flour	940	945

⁴ Data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour.

Moisture content, test weight and other grade determining factors

Export cargoes of CPSR wheat, third and fourth quarters, 2014-2015

Grade determining factors assessed during grading of individual cargoes by Industry Services, Canadian Grain Commission, at time of vessel loading.		
	No. 1 CPSR	No. 2 CPSR
Number of cargoes	4	22
Thousands of tonnes	121	444
Moisture content, %		
Weighted mean	13.6	13.6
Standard deviation	0.21	0.29
Minimum	13.4	12.9

Maximum	13.9	14.3
Test weight, kg/hL		
Weighted mean	81.9	81.5
Standard deviation	0.44	0.61
Minimum	81.4	80
Maximum	82.4	82.5
Wheats of other classes, %		
Weighted mean	0.618	2.28
Cereal grains other than wheat, %		
Weighted mean	0.211	0.276

Wheat, Canada Western Soft White Spring

Quality parameter

Wheat, Canada Western Soft White Spring - Bicoastal export cargo composites - Third and fourth quarters 2014-2015 - Bühler mill

Quality parameter ⁵	No. 2 CWSWS
Wheat	
Test Weight, kg/hL	81.9
Particle Size Index, %	72
Protein content, %	9.9
Protein content, % (dry matter basis)	11.5
Ash content, %	1.42
Falling number, s	370
Milling Flour Yield	
Clean wheat basis, %	76.7
0.50% ash basis, %	74.2
Flour - 74% extraction	
Protein content, %	9.1
Wet gluten content, %	25.3
Gluten Index, %	74.1
Ash content, %	0.55
Starch damage, %	4.2
Amylograph Peak Viscosity, BU	325
Alkaline Water Retention Capacity, %	66.8
Farinogram	
Absorption, %	54.2
Dough Development time, min	2.00
Stability, min	1.5
Mixing tolerance index, BU	130
Alveogram	
P (height x 1.1), mm	32
Length, mm	71
W, x 10 ⁻⁴ joules	48
Cookie Test	
Sugar-snap, width, mm	81.2
Sugar-snap, ratio (width/thickness)	8.5

⁵ Data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour.

**Moisture content, test weight and other grade determining factors
Export cargoes of CWSWS wheat, third and fourth quarters, 2014-2015**

Grade determining factors assessed during grading of individual cargoes by Industry Services, Canadian Grain Commission, at time of vessel loading.		
	No. 2 CWSWS	No. 3 CWSWS
Number of cargoes	7	4
Thousands of tonnes	98	77
Moisture content, %		
Weighted mean	13.6	13.7
Standard deviation	0.14	0.1
Minimum	13.4	13.6
Maximum	13.7	13.8
Test weight, kg/hL		
Weighted mean	82.7	81.6
Standard deviation	0.51	0.3
Minimum	82.1	81.3
Maximum	83.5	82
Wheats of other classes, %		
Weighted mean	1.212	0.057
Cereal grains other than wheat, %		
Weighted mean	1.708	0.071