Canadian Grain Commission
Commission canadienne des grains

Quality of western Canadian wheat exports

February 1– July 31, 2001

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Canada

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Introduction

This bulletin reports quality data for cargoes of all classes of western Canadian wheat exported by ship from February 1 to July 31, 2001. 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, 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 Canada Western Red Spring wheat and No. 1 and 2 Canada Western Amber Durum wheat, composites representing Atlantic and Pacific shipments are prepared and tested. For the other wheat classes and No. 3 Canada Western Amber Durum wheat, only one series of composites represents all cargoes (Atlantic and Pacific) exported from Canada during the period.

Canada Western Red Spring wheat

Canada Western Red Spring (CWRS) wheat is well known for its excellent milling and baking quality. Three 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 breads. It is also commonly used alone or in blends with softer wheats for the production of hearth breads, steamed breads, noodles, flat breads and common wheat pasta.

To qualify for the milling grades in this class, wheat must be a registered variety—a variety equal in quality to the statutory standard, Neepawa. Varietal standards and registration ensure that a high degree of uniformity in quality is maintained in export shipments.

Table 1 • Moisture content, test weight and other grade determining factors*
Atlantic export cargoes of Canada Western Red Spring wheat
Third and fourth quarters 2000-2001

	No. 1 CWRS		No. 2 CWRS			No. 3 CWRS
	Guaranteed minimum protein content					
	14.0	13.5	14.5	14.0	13.5	
Number of cargoes	6	10	5	38	24	11
Thousands of tonnes	36	56	55	343	312	176
Moisture content, %						
Weighted mean	12.8	13.0	13.3	13.6	13.6	13.7
Standard deviation	0.43	0.45	0.19	0.24	0.19	0.22
Minimum	12.3	12.0	13.0	12.6	13.2	13.4
Maximum	13.6	13.4	13.5	14.0	13.9	14.0
Test weight, kg/hL						
Weighted mean	82.2	81.3	80.2	80.1	80.4	79.0
Standard deviation	0.90	1.24	1.14	0.76	0.92	2.89
Minimum	80.6	80.3	78.7	78.1	77.8	70.4
Maximum	83.1	83.7	81.5	81.8	81.8	81.1
Wheats of other classes, %						
Weighted mean	0.25	0.35	0.37	0.44	0.27	0.61
Cereal grains other than wheat, %						
Weighted mean	0.09	0.10	0.21	0.19	0.19	0.30

* Canadian Grain Commission Industry Services data for official loading samples tested at time of loading

Table 2 • No. 1 Canada Western Red Spring wheat
Atlantic export cargo composites
Third and fourth quarters 2000-2001

	No. 1 CWRS	
	Guaranteed minimum protein content	
Quality parameter*	14.0	13.5
Wheat		
Weight per 1000 kernels, g	32.0	32.2
Protein content, %	14.3	13.6
Protein content, % (dry matter basis)	16.6	15.7
Ash content, %	1.68	1.64
α-amylase activity, units/g	6.0	6.5
Falling number, s	410	375
PSI, %	56	56
Milling		
Flour yield		
Clean wheat basis, %	75.9	76.0
0.50% ash basis, %	76.4	75.5
Flour		
Protein content, %	13.7	13.2
Wet gluten content, %	38.1	35.5
Ash content, %	0.49	0.51
Grade colour	-1.4	-1.8
AGTRON colour, %	69	72
Starch damage, %	7.2	7.2
α-amylase activity, units/g	2.5	3.5
Amylograph peak viscosity, BU	490	420
Maltose value, g/100 g	2.4	2.3
Farinogram		
Absorption, %	64.9	63.9
Development time, min	5.75	5.75
Mixing tolerance index, BU	30	35
Stability, min	9.5	8.5
Extensogram		
Length, cm	21	21
Height at 5 cm, BU	340	340
Maximum height, BU	655	640
Area, cm^2	180	180
Alveogram		
Length, mm	120	128
P (height x 1.1), mm	100	95
W, x 10^{-4} joules	415	405
Baking (Canadian short process baking test)		
Absorption, %	70	68
Mixing energy, W–h/kg	15.6	13.5
Mixing time, min	11.2	10.2
Loaf volume, cm^3/100 g flour	1040	1020

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

Table 3 • No. 2 Canada Western Red Spring wheat
Atlantic export cargo composites
Third and fourth quarters 2000-2001

	No. 2 CWRS		
	Guaranteed minimum protein content		
Quality parameter*	14.5	14.0	13.5
Wheat			
Weight per 1000 kernels, g	29.6	30.4	30.9
Protein content, %	14.6	14.2	14.0
Protein content, % (dry matter basis)	16.9	16.4	16.2
Ash content, %	1.71	1.70	1.70
α-amylase activity, units/g	37.0	16.0	21.5
Falling number, s	265	335	310
PSI, %	56	59	58
Milling			
Flour yield			
Clean wheat basis, %	75.4	75.1	75.6
0.50% ash basis, %	73.9	74.6	74.6
Flour			
Protein content, %	13.7	13.6	13.3
Wet gluten content, %	37.8	37.8	36.7
Ash content, %	0.53	0.51	0.52
Grade colour	-0.4	-0.8	-1.0
AGTRON colour, %	63	65	67
Starch damage, %	7.0	7.1	7.1
α-amylase activity, units/g	13.0	10.0	8.0
Amylograph peak viscosity, BU	165	170	190
Maltose value, g/100 g	2.7	2.7	2.7
Farinogram			
Absorption, %	63.8	63.6	63.9
Development time, min	5.25	5.25	4.75
Mixing tolerance index, BU	35	35	30
Stability, min	8.0	8.0	8.0
Extensogram			
Length, cm	24	24	24
Height at 5 cm, BU	290	305	300
Maximum height, BU	570	585	560
Area, cm^2	185	190	180
Alveogram			
Length, mm	152	138	129
P (height x 1.1), mm	86	97	91
W, x 10^{-4} joules	435	441	396
Baking (Canadian short process baking test)			
Absorption, %	67	69	68
Mixing energy, W–h/kg	14.4	17.0	16.0
Mixing time, min	9.9	11.5	11.2
Loaf volume, cm^3/100 g flour	1090	1100	1100

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

Table 4 • No. 3 Canada Western Red Spring wheat
Atlantic export cargo composite
Third and fourth quarters 2000-2001

Quality parameter*	No. 3 CWRS Not segregated by protein content
Wheat	
Weight per 1000 kernels, g	31.5
Protein content, %	13.9
Protein content, % (dry matter basis)	16.1
Ash content, %	1.70
α-amylase activity, units/g	49.0
Falling number, s	250
PSI, %	57
Milling	
Flour yield	
Clean wheat basis, %	74.9
0.50% ash basis, %	74.4
Flour	
Protein content, %	13.2
Wet gluten content, %	36.1
Ash content, %	0.51
Grade colour	-0.8
AGTRON colour, %	65
Starch damage, %	7.2
α-amylase activity, units/g	20.0
Amylograph peak viscosity, BU	95
Maltose value, g/100 g	3.4
Farinogram	
Absorption, %	63.3
Development time, min	4.5
Mixing tolerance index, BU	40
Stability, min	7.0
Extensogram	
Length, cm	24
Height at 5 cm, BU	295
Maximum height, BU	565
Area, cm^2	185
Alveogram	
Length, mm	117
P (height x 1.1), mm	90
W, x 10^{-4} joules	373
Baking (Canadian short process baking test)	
Absorption, %	67
Mixing energy, W–h/kg	15.5
Mixing time, min	10.4
Loaf volume, cm^3/100 g flour	1115

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

Table 5 • Moisture content, test weight and other grade determining factors*
Pacific export cargoes of Canada Western Red Spring wheat
Third and fourth quarters 2000-2001

	No. 1 CWRS			No. 2 CWRS					No. 3 CWRS
	Guaranteed minimum protein content								
	14.5	13.5	12.5	14.5	14.0	13.5	13.0	12.5	
Number of cargoes	2	41	3	12	24	70	29	10	10
Thousands of tonnes	12	689	49	62	325	987	465	68	175
Moisture content, %									
Weighted mean	11.7	12.7	12.5	13.0	13.4	13.5	13.4	13.2	13.6
Standard deviation	0.21	0.48	0.15	0.48	0.20	0.26	0.31	0.33	0.14
Minimum	11.5	11.7	12.4	12.2	13.0	12.4	12.8	12.5	13.4
Maximum	11.8	13.9	12.7	13.8	13.8	14.1	14.0	13.7	13.8
Test weight, kg/hL									
Weighted mean	79.4	81.4	82.3	79.9	80.5	80.3	80.2	80.7	80.1
Standard deviation	0.35	0.64	0.45	0.56	0.60	0.63	2.11	0.59	0.62
Minimum	79.1	79.8	81.8	79.1	79.0	78.9	69.6	79.5	78.5
Maximum	79.6	82.4	82.7	80.8	81.5	81.8	81.5	81.4	80.8
Wheats of other classes, %									
Weighted mean	0.45	0.26	0.47	0.31	0.53	0.39	0.42	0.33	0.64
Cereal grains other than wheat, %									
Weighted mean	0.16	0.15	0.15	0.16	0.17	0.26	0.28	0.23	0.39

* Canadian Grain Commission Industry Services data for official loading samples tested at time of loading

Table 6 • No. 1 Canada Western Red Spring wheat
Pacific export cargo composites
Third and fourth quarters 2000-2001

	No. 1 CWRS		
	Guaranteed minimum protein content		
Quality parameter*	14.5	13.5	12.5
Wheat			
Weight per 1000 kernels, g	29.0	32.3	31.4
Protein content, %	14.9	13.9	12.9
Protein content, % (dry matter basis)	17.2	16.1	14.9
Ash content, %	1.53	1.59	1.58
α-amylase activity, units/g	11.0	6.5	5.0
Falling number, s	330	380	380
PSI, %	55	57	55
Milling			
Flour yield			
Clean wheat basis, %	76.1	75.7	76.0
0.50% ash basis, %	76.1	76.2	76.5
Flour			
Protein content, %	14.3	13.3	12.2
Wet gluten content, %	38.5	36.0	32.8
Ash content, %	0.50	0.49	0.49
Grade colour	-1.0	-1.7	-2.0
AGTRON colour, %	68	71	75
Starch damage, %	6.8	7.2	7.6
α-amylase activity, units/g	5.5	2.5	2.5
Amylograph peak viscosity, BU	305	465	440
Maltose value, g/100 g	2.4	2.5	2.6
Farinogram			
Absorption, %	64.7	64.5	63.7
Development time, min	6.0	5.5	5.0
Mixing tolerance index, BU	35	35	30
Stability, min	7.5	9.0	8.0
Extensogram			
Length, cm	23	23	19
Height at 5 cm, BU	335	335	360
Maximum height, BU	630	645	635
Area, cm^2	195	195	165
Alveogram			
Length, mm	103	130	115
P (height x 1.1), mm	100	108	113
W, x 10^{-4} joules	376	465	428
Baking (Canadian short process baking test)			
Absorption, %	70	69	68
Mixing energy, W–h/kg	17.1	15.8	13.3
Mixing time, min	12.2	11.2	10.0
Loaf volume, cm^3/100 g flour	1130	1060	1015

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

Table 7 • No. 2 Canada Western Red Spring wheat
Pacific export cargo composites
Third and fourth quarters 2000-2001

	No. 2 CWRS				
	Guaranteed minimum protein content				
Quality parameter*	14.5	14.0	13.5	13.0	12.5
Wheat					
Weight per 1000 kernels, g	31.5	31.4	32.1	32.3	32.4
Protein content, %	14.8	14.3	13.8	13.3	12.9
Protein content, % (dry matter basis)	17.1	16.6	15.9	15.4	14.9
Ash content, %	1.65	1.66	1.62	1.61	1.62
α-amylase activity, units/g	16.5	19.5	16.5	18.0	20.0
Falling number, s	335	310	330	300	305
PSI, %	57	55	56	55	55
Milling					
Flour yield					
Clean wheat basis, %	75.1	74.9	74.7	75.3	75.3
0.50% ash basis, %	74.6	73.9	75.2	76.3	75.8
Flour					
Protein content, %	13.9	13.5	13.2	12.7	12.2
Wet gluten content, %	38.2	37.4	35.9	34.5	32.8
Ash content, %	0.51	0.52	0.49	0.48	0.49
Grade colour	-1.2	-0.7	-1.5	-1.7	-1.6
AGTRON colour, %	68	64	70	71	73
Starch damage, %	7.0	7.4	7.2	7.3	7.5
α-amylase activity, units/g	8.0	10.5	6.5	7.0	7.5
Amylograph peak viscosity, BU	215	175	250	235	205
Maltose value, g/100 g	2.6	2.9	2.8	2.7	2.9
Farinogram					
Absorption, %	64.9	64.8	64.4	64.1	64.2
Development time, min	5.75	5.5	5.25	5.25	3.75
Mixing tolerance index, BU	35	35	35	40	35
Stability, min	7.5	8.5	9.0	8.0	7.0
Extensogram					
Length, cm	22	23	22	21	22
Height at 5 cm, BU	320	290	335	355	295
Maximum height, BU	600	555	620	650	530
Area, cm^2	180	175	180	185	165
Alveogram					
Length, mm	141	134	128	111	113
P (height x 1.1), mm	98	98	108	103	106
W, x 10^{-4} joules	441	434	460	392	399
Baking (Canadian short process baking test)					
Absorption, %	69	69	68	67	68
Mixing energy, W–h/kg	14.7	16.2	16.6	15.6	16.4
Mixing time, min	10.0	10.6	10.9	10.3	11.2
Loaf volume, cm^3/100 g flour	1125	1095	1065	1040	1055

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

Table 8 • No. 3 Canada Western Red Spring wheat
Pacific export cargo composites
Third and fourth quarters 2000-2001

Quality parameter*	No. 3 CWRS Not segregated by protein content
Wheat	
Weight per 1000 kernels, g	32.8
Protein content, %	13.6
Protein content, % (dry matter basis)	15.7
Ash content, %	1.67
α-amylase activity, units/g	22.0
Falling number, s	285
PSI, %	56
Milling	
Flour yield	
Clean wheat basis, %	74.0
0.50% ash basis, %	74.5
Flour	
Protein content, %	12.8
Wet gluten content, %	34.6
Ash content, %	0.49
Grade colour	-1.0
AGTRON colour, %	64
Starch damage, %	7.8
α-amylase activity, units/g	12.5
Amylograph peak viscosity, BU	135
Maltose value, g/100 g	3.0
Farinogram	
Absorption, %	65.3
Development time, min	5.0
Mixing tolerance index, BU	40
Stability, min	8.0
Extensogram	
Length, cm	21
Height at 5 cm, BU	330
Maximum height, BU	595
Area, cm^2	165
Alveogram	
Length, mm	124
P (height x 1.1), mm	117
W, x 10^{-4} joules	455
Baking (Canadian short process baking test)	
Absorption, %	69
Mixing energy, W–h/kg	14.5
Mixing time, min	9.8
Loaf volume, cm^3/100 g flour	1085

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

Canada Western Amber Durum wheat

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 throughout its grain system. 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 variety of Canada Western Amber Durum wheat is Kyle.

Table 9 • Moisture content, test weight and other grade determining factors*
Export cargoes of Canada Western Amber Durum wheat
Third and fourth quarters 2000-2001

	No. 1 CWAD		No. 2 CWAD		No. 3 CWAD	
	Atlantic	Pacific	Atlantic	Pacific	Atlantic	Pacific
Number of cargoes	14		44	16	28	6
Thousands of tonnes	235		458	100	425	51
Moisture content, %						
Weighted mean	11.7		13.0	11.9	13.4	12.9
Standard deviation	0.41		0.20	0.47	0.18	0.51
Minimum	11.1		12.5	11.4	13.0	12.4
Maximum	12.6		13.4	13.1	13.7	13.8
Test weight, kg/hL						
Weighted mean	82.0		82.1	81.0	80.5	80.8
Standard deviation	0.81		0.51	0.67	0.43	1.13
Minimum	80.5		80.7	80.1	79.8	79.0
Maximum	83.5		83.3	82.4	81.4	82.2
Hard vitreous kernels, %						
Weighted mean	83		68	74	54	56
Wheats of other classes, %						
Weighted mean	0.69		0.93	1.06	1.31	1.31
Cereal grains other than wheat, %						
Weighted mean	0.17		0.17	0.24	0.25	0.21

NO CARGOES SHIPPED

* Canadian Grain Commission Industry Services data for official loading samples tested at time of loading

Table 10 • Canada Western Amber Durum wheat
Export cargo composites
Third and fourth quarters 2000-2001

Quality parameter*	No. 1 CWAD		No. 2 CWAD		No. 3 CWAD	
	Atlantic	Pacific	Atlantic	Pacific	Atlantic	Pacific
Wheat						
Weight per 1000 kernels, g	41.7		39.5	38.2	38.3	2.3
Protein content, %	12.9		12.1	13.2	12.0	11.7
Protein content, % (dry matter basis)	14.9		14.0	15.3	13.9	13.5
SDS sedimentation, mL	42		34	44	31	33
Ash content, %	1.54		1.66	1.53	1.65	1.58
Yellow pigment content, ppm	7.8		7.6	7.9	8.0	7.6
Falling number, s	410		390	385	280	345
α-amylase activity, units/g	5.5		10.5	9.5	45.5	24.0
Milling yield, %	75.5		74.8	75.0	74.3	74.7
Semolina yield, %	67.4		66.3	66.8	65.6	65.5
PSI, %	38.0		40.0	39.0	41.0	41.0
Semolina						
Protein content, %	12.0	NO CARGOES SHIPPED	11.2	12.2	11.3	11.0
Wet gluten content, %	30.8		28.5	31.0	28.3	27.9
Dry gluten content, %	10.3		9.7	10.6	9.5	9.5
Ash content, %	0.69		0.67	0.68	0.69	0.68
Yellow pigment content, ppm	7.2		6.9	7.2	7.0	6.7
AGTRON colour, %	77		76	77	72	75
Minolta colour:						
L*	87.8		87.6	87.4	87.4	87.9
a*	-2.9		-3.0	-2.8	-2.8	-3.0
b*	30.6		29.3	30.3	28.7	28.6
Speck count per 50 cm^2	29		31	28	42	37
Falling number, s	530		455	465	345	395
α-amylase activity, units/g	2.5		5.0	3.5	20.0	9.5
Spaghetti						
Dried at 70°C						
Minolta colour:						
L*	77.1		76.9	76.5	75.6	76.7
a*	2.6		2.5	2.6	3.3	2.6
b*	61.8		61.3	62.6	56.1	59.9
Cooking quality, CQP	47		37	41	41	34

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

Canada Western Extra Strong wheat

Canada Western Extra Strong (CWES) wheat is a red spring wheat. The most widely grown cultivar is Glenlea.

Flour milled from this wheat is characterized by very strong gluten. Dough made from CWES wheat flour cannot be properly developed at the normal farinograph speed of 63 rpm and must be tested at the higher speed of 90 rpm to obtain a true mixing peak.

The strong physical dough properties of CWES wheat make it ideal for blending and for specialty products in which very high gluten strength is needed.

Two milling grades have been established for this class.

Table 11 • Moisture content, test weight and other grade determining factors*
Export cargoes of Canada Western Extra Strong wheat
Third and fourth quarters 2000-2001

	No. 1 CWES	No. 2 CWES
Number of cargoes		5
Thousands of tonnes		44
Moisture content, %		
Weighted mean		13.1
Standard deviation		0.44
Minimum		12.7
Maximum		13.8
Test weight, kg/hL		
Weighted mean		79.7
Standard deviation		0.70
Minimum		79.0
Maximum		80.9
Wheats of other classes, %		
Weighted mean		1.01
Cereal grains other than wheat, %		
Weighted mean		0.43

NO CARGOES SHIPPED

* Canadian Grain Commission Industry Services data for official loading samples tested at time of loading

Table 12 • Canada Western Extra Strong wheat
Export cargo composites
Third and fourth quarters 2000-2001

Quality parameter*	No. 1 CWES	No. 2 CWES
Wheat		
Weight per 1000 kernels, g		40.6
Protein content, %		12.5
Protein content, % (dry matter basis)		14.5
Ash content, %		1.51
α-amylase activity, units/g		29.0
Falling number, s		265
Flour yield, %		75.2
PSI, %		51
Flour		
Protein content, %	NO CARGOES SHIPPED	12.0
Wet gluten content, %		27.5
Ash content, %		0.53
Grade colour		-0.7
AGTRON colour, %		62
Starch damage, %		8.6
α-amylase activity, units/g		8.5
Amylograph peak viscosity, BU		215
Maltose value, g/100 g		3.4
Farinogram		
Absorption, %		62.6
Development time (90 rpm), min		6.25
Extensogram		
Length, cm		25
Height at 5 cm, BU		370
Maximum height, BU		700
Area, cm^2		240
Alveogram		
Length, mm		91
P (height x 1.1), mm		117
W, x 10^{-4} joules		409
Baking (remix-to-peak baking test)		
Absorption, %		64
Remix time, min		4.0
Loaf volume, cm^3/100 g flour		910

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

Canada Prairie Spring Red wheat

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

The most commonly grown varieties eligible for milling grades of CPSR are AC Taber and Biggar.

Table 13 • Moisture content, test weight and other grade determining factors*
Export cargoes of Canada Prairie Spring Red wheat
Third and fourth quarters 2000-2001

	No. 1 CPSR	No. 2 CPSR
Number of cargoes	NO CARGOES SHIPPED	7
Thousands of tonnes		54
Moisture content, %		
Weighted mean		14.0
Standard deviation		0.23
Minimum		13.5
Maximum		14.2
Test weight, kg/hL		
Weighted mean		80.8
Standard deviation		0.56
Minimum		79.7
Maximum		81.2
Wheats of other classes, %		
Weighted mean		0.84
Cereal grains other than wheat, %		
Weighted mean		0.38

* Canadian Grain Commission Industry Services data for official loading samples tested at time of loading

Table 14 • Canada Prairie Spring Red wheat
Export cargo composite
Third and fourth quarters 2000-2001

Quality parameter*	No. 1 CPSR	No. 2 CPSR
Wheat		
Weight per 1000 kernels, g		40.1
Protein content, %		11.2
Protein content, % (dry matter basis)		12.9
Ash content, %		1.54
α-amylase activity, units/g		19.5
Falling number, s		285
Flour yield, %		74.6
PSI, %		57
Flour		
Protein content, %		10.4
Wet gluten content, %		27.2
Ash content, %		0.48
Grade colour		-1.2
AGTRON colour, %		66
Starch damage, %		6.9
α-amylase activity, units/g		7.0
Amylograph peak viscosity, BU		240
Maltose value, g/100 g		2.5
Farinogram		
Absorption, %		61.0
Development time, min		5.0
Mixing tolerance index, BU		55
Stability, min		7.0
Extensogram		
Length, cm		19
Height at 5 cm, BU		315
Maximum height, BU		510
Area, cm^2		135
Alveogram		
Length, mm		120
P (height x 1.1), mm		86
W, x 10^{-4} joules		309
Baking (remix-to-peak baking test)		
Absorption, %		58
Remix time, min		2.4
Loaf volume, cm^3/100 g flour		720

NO CARGOES SHIPPED

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

Canada Western Red Winter wheat

Canada Western Red Winter (CWRW) wheat 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 breads (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.

Production of CWRW wheat is concentrated in the southern region of the province of Alberta where milder winters reduce the incidence of winter kill.

The most commonly grown varieties for milling grades of CWRW are CDC Kestral and CDC Clair.

Table 15 • Moisture content, test weight and other grade determining factors*
Export cargoes of Canada Western Red Winter wheat
Third and fourth quarters 2000-2001

	No. 1 CWRW	No. 2 CWRW
Number of cargoes		3
Thousands of tonnes		39
Moisture content, %		
Weighted mean		14.1
Standard deviation		0.25
Minimum		13.9
Maximum		14.4
Test weight, kg/hL		
Weighted mean		81.0
Standard deviation		0.21
Minimum		80.8
Maximum		81.2
Wheats of other classes, %		
Weighted mean		1.56
Cereal grains other than wheat, %		
Weighted mean		0.21

NO CARGOES SHIPPED

* Canadian Grain Commission Industry Services data for official loading samples tested at time of loading

Table 16 • Canada Western Red Winter wheat
Export cargo composite
Third and fourth quarters 2000-2001

Quality parameter*	No. 1 CWRW	No. 2 CWRW
Wheat		
Weight per 1000 kernels, g		30.3
Protein content, %		10.5
Protein content, % (dry matter basis)		12.1
Ash content, %		1.46
α-amylase activity, units/g		53.5
Falling number, s		235
Flour yield, %		76.3
PSI, %		63
Flour		
Protein content, %		9.5
Wet gluten content, %		22.5
Ash content, %		0.45
Grade colour		-0.9
AGTRON colour, %		67
Starch damage, %	NO CARGOES SHIPPED	5.2
α-amylase activity, units/g		21.0
Amylograph peak viscosity, BU		110
Maltose value, g/100 g		2.5
Farinogram		
Absorption, %		55.5
Development time, min		2.25
Mixing tolerance index, BU		55
Stability, min		5.0
Extensogram		
Length, cm		21
Height at 5 cm, BU		260
Maximum height, BU		420
Area, cm^2		125
Alveogram		
Length, mm		121
P (height x 1.1), mm		56
W, x 10^{-4} joules		216
Baking (remix-to-peak baking test)		
Absorption, %		54
Remix time, min		2.4
Loaf volume, cm^3/100 g flour		710

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

Canada Prairie Spring White wheat

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

The most commonly grown varieties eligible for milling grades of CPSW are AC Karma and Genesis.

Table 17 • Moisture content, test weight and other grade determining factors*
Export cargoes of Canada Prairie Spring White wheat
Third and fourth quarters 2000-2001

	No. 1 CPSW	No. 2 CPSW
Number of cargoes	NO CARGOES SHIPPED	3
Thousands of tonnes		23
Moisture content, %		
Weighted mean		13.6
Standard deviation		0.30
Minimum		13.1
Maximum		13.7
Test weight, kg/hL		
Weighted mean		80.8
Standard deviation		0.76
Minimum		80.6
Maximum		82.1
Wheats of other classes, %		
Weighted mean		2.73
Cereal grains other than wheat, %		
Weighted mean		0.22

* Canadian Grain Commission Industry Services data for official loading samples tested at time of loading

Table 18 • Canada Prairie Spring White wheat
Export cargo composites
Third and fourth quarters 2000-2001

Quality parameter*	No. 1 CPSW	No. 2 CPSW
Wheat		
Weight per 1000 kernels, g		39.6
Protein content, %		11.1
Protein content, % (dry matter basis)		12.8
Ash content, %		1.53
α-amylase activity, units/g		5.5
Falling number, s		390
Flour yield, %		74.8
PSI, %		56
Flour		
Protein content, %		10.4
Wet gluten content, %		28.1
Ash content, %		0.52
Grade colour		-1.3
AGTRON colour, %		70
Starch damage, %	NO CARGOES SHIPPED	7.1
α-amylase activity, units/g		3.5
Amylograph peak viscosity, BU		460
Maltose value, g/100 g		2.5
Farinogram		
Absorption, %		63.0
Development time, min		3.25
Mixing tolerance index, BU		70
Stability, min		4.5
Extensogram		
Length, cm		23
Height at 5 cm, BU		220
Maximum height, BU		310
Area, cm^2		105
Alveogram		
Length, mm		98
P (height x 1.1), mm		91
W, x 10^{-4} joules		252
Baking (remix-to-peak baking test)		
Absorption, %		58
Remix time, min		1.6
Loaf volume, cm^3/100 g flour		660

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

Canada Western Soft White Spring wheat

Canada Western Soft White Spring (CWSWS) wheat 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 breads, steamed breads and certain types of noodles.

Most CWSWS wheat is grown under irrigation to maximize yield and minimize protein content.

Table 19 • Moisture content, test weight and other grade determining factors*
Export cargoes of Canada Western Soft White Spring wheat
Third and fourth quarters 2000-2001

	No. 1 CWSWS	No. 2 CWSWS
Number of cargoes		
Thousands of tonnes		
Moisture content, %		
Weighted mean		
Standard deviation		
Minimum		
Maximum		
Test weight, kg/hL		
Weighted mean		
Standard deviation		
Minimum		
Maximum		
Wheats of other classes, %		
Weighted mean		
Cereal grains other than wheat, %		
Weighted mean		

NO CARGOES SHIPPED

* Canadian Grain Commission Industry Services data for official loading samples tested at time of loading

Table 20 • Canada Western Soft White Spring wheat
Export cargo composite
Third and fourth quarters 2000-2001

Quality parameter*	No. 1 CWSWS	No. 2 CWSWS
Wheat		
Weight per 1000 kernels, g		
Protein content, %		
Protein content, % (dry matter basis)		
Ash content, %		
α-amylase activity, units/g		
Falling number, s		
Flour yield, %		
PSI, %		
Flour		
Protein content, %		
Wet gluten content, %		
Ash content, %		
Grade colour		
AGTRON colour, %		
Starch damage, %		
α-amylase activity, units/g		
Amylograph peak viscosity, BU		
Maltose value, g/100 g		
AWRC, %		
Farinogram		
Absorption, %		
Development time, min		
Mixing tolerance index, BU		
Stability, min		
Alveogram		
Length, mm		
P (height x 1.1), mm		
W, x 10^{-4} joules		
Cookie test		
Spread, mm		
Ratio (spread/thickness)		

NO CARGOES SHIPPED

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