



Canadian Grain Commission
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Quality of Quebec wheat

No. 1 and No. 2 Canada Eastern Red wheat 1997 and 1996 composite samples

A report to the Committee on Eastern Grain Standards
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Quality of 1997 Canada Eastern Red Wheat New Crop Composites From Quebec

Composite samples representing 1997 new crop Canada Eastern Red (CER) wheat from Quebec were received from Industry Services, Montréal, for quality analysis at the Grain Research Laboratory in Winnipeg. Results are shown in Table 1. Data from the 1996 Quebec new crop survey are also shown for comparison.

The 1997 No. 1 grade composite shows higher test weight and lower kernel weight compared to the No. 2 grade. High falling number and amylograph peak viscosity values for the top grade indicate sound kernel characteristics while much lower values for the No. 2 grade suggest the presence of sprouted wheat resulting in high wheat and flour α -amylase activity. Protein content is high for both grades. The No. 1 grade is almost 1% higher in protein than last year's composite. Both composites show PSI and flour starch damage values characteristic of harder wheat types.

Milling properties of the 1997 composites are similar to 1996. The No. 1 grade shows lower flour yield but also lower flour ash and better flour colour than last year. Farinograph, extensigraph and alveograph characteristics suggest strong dough properties for both grades. The No. 1 grade is considerably stronger than last year while the No. 2 grades shows similar dough strength properties compared to last year.

High farinograph and baking absorption values for both composites and good overall Remix baking properties are consistent with their strong dough properties, high flour protein and high starch damage values.

Electrophoretic analyses of the composites by the Grain Research Laboratory indicate large differences in the variety distribution between grades (Table 2). The No. 1 grade composite shows Celtic, an American hard red spring wheat that was granted regional registration in 1990, as the predominant variety. By contrast, the No. 2 grade composite contains over 70% of the two varieties AC Voyaguer and Aquino. In 1996, Celtic, AC Pollet, AC Voyaguer and Max were present at levels above 15% in the No. 1 grade while in the No. 2 grade, major varieties included Celtic, AC Pollet, Roblin and Norseman.

Table 1 • Quality data for 1997 and 1996 composite samples representing red wheat grown in Quebec

Quality parameter ¹	No. 1 CE Red wheat		No. 2 CE Red wheat	
	1997	1996	1997	1996
Wheat				
Test weight, kg/hl	79.6	79.1	78.5	78.4
Weight per 1000 kernels, g	31.0	35.3	35.5	33.7
Protein content, %	14.5	13.6	14.7	14.3
Protein content, % (dry matter basis)	16.8	15.7	17.0	16.5
Ash content, %	1.86	1.81	1.81	1.83
α -amylase activity, units/g	7.5	25.5	80.5	27.0
Falling number, s	380	360	205	360
Flour yield, %	73.7	75.9	75.3	75.9
PSI	53	54	54	55
Flour				
Protein content, %	13.4	12.9	13.5	13.4
Wet gluten content, %	36.9	33.4	36.3	34.7
Ash content, %	0.55	0.59	0.57	0.57
Grade colour	0.5	1.3	1.5	1.9
AGTRON colour, %	52	48	47	45
Starch damage, %	6.8	6.7	7.2	6.1
α -amylase activity, units/g	3.0	4.0	33.5	5.5
Amylograph peak viscosity, BU	650	540	120	470
Farinogram				
Absorption, %	63.5	63.6	63.7	62.2
Development time, min	7.25	3.25	5.25	5.5
Mixing tolerance index, BU	30	55	45	30
Stability, min	10.5	5.5	8.5	9.5
Extensigram				
Length, cm	22	22	23	24
Height at 5 cm, BU	310	235	260	315
Maximum height, BU	590	385	470	580
Area, cm ²	170	110	145	185
Alveogram				
Length, mm	141	115	139	156
P (height x 1.1), mm	92	92	95	84
W, x 10 ⁻⁴ joules	437	361	439	437
Remix-to-Peak Baking Test				
Absorption, %	65	60	64	63
Remix time, min	2.7	2.0	2.9	2.1
Loaf volume, cm ³ /100 g flour	1000	890	1050	995

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

**Table 2 • Varietal composition of 1997 and 1996 Quebec harvest survey
No. 1 and No. 2 Canada Eastern Red Winter wheat**

Variety, % ¹	No. 1 CER		No. 2 CER	
	1997	1996	1997	1996
Celtic	88	16	8	16
AC Pollet	0	24	0	24
AC Voyaguer	2	22	42	2
Aquino	8	2	30	6
Max	0	16	0	8
Algot	0	4	0	0
Roblin	0	0	0	22
Norseman	0	0	8	22
SS Blomidon	0	0	12	0
Karat ²	0	12	0	0
Fundulea ²	2	0	0	0
Autres ³	0	4	0	0

¹ Based on electrophoretic analysis of 50 kernels.

² Winter wheat varieties.

³ Did not match pattern for any wheat variety in our catalogue.