Canada Western Red Spring (CWRS) wheat

Harvest quality data for No. 1 CWRS, western prairie aggregates[1]

Quality parameter [2]	2025		2024	
Wheat				
Test weight, kg/hL	83		82	
Weight per 1000 kernels, g	35.0		31.0	
Protein content, %	13.7		14.4	
Protein content, % (dry matter basis)	15.9		16.7	
Ash content, %	1.43		1.51	
Falling Number, seconds	406		416	
Particle size index, % [3]	50		52	
Milling flour yield - Bühler laboratory mill				
Clean wheat basis, %	76.5		75.9	
Flour, extraction (%) for analysis	**74**	**60**	**74**	**60**
Protein content, %	12.9	12.7	13.6	13.5
Protein loss, %	0.8	1.0	0.8	0.9
Wet gluten content, %	35.5	35.1	37.4	36.4
Gluten index	95.9	95.1	95.1	97.1
Ash content, %	0.44	0.39	0.44	0.38
Dough sheet brightness (L*) at 2h	76.2	77.5	75.8	77.1
Dough sheet redness (a*) at 2h	2.1	1.6	1.9	1.7
Dough sheet yellowness (b*) at 2h	26.0	26.0	25.8	26.7
Starch damage, %	8.8	8.5	7.9	7.7
Amylograph peak viscosity, BU	594	654	672	742
Farinogram, 50 g bowl				
Absorption, %	65.9	65.4	65.2	64.7
Dough development time, minutes	7.0	8.8	7.9	17.3
Stability, minutes	10.2	19.8	13.6	28.3
Mixing tolerance index, BU	25	13	18	5
Farinogram, 300 g bowl				
Absorption, %	67.7	66.7	66.1	65.1
Dough development time, minutes	6.9	11.6	8.9	10.3
Stability, minutes	16.0	41.3	19.6	50.1
Mixing tolerance index, BU	13	7	17	0
Extensogram (135 minutes), standard method [4]				
Maximum resistance, BU	615	842	713	880
Extensibility (length), cm	20.2	18.0	20.1	19.8
Area, cm^2	163	186	178	211
Extensogram (90 minutes), pin mixer method [5]				
Maximum resistance, BU	484	547	567	679
Extensibility (length), cm	17.6	18.1	18.5	17.9
Area, cm^2	111	129	129	151
Alveogram				
P (maximum over pressure), mm H_2O	134	145	120	131
L (length), mm	112	107	124	120
P/L	1.20	1.36	0.97	1.09
W (deformation energy), 10^{-4} joules	488	503	502	535
Ie (elasticity index), %	60.0	59.6	64.2	64.0

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Baking (Canadian short process)				
Absorption, %	69	68	67	67
Mixing time, minutes	4.9	4.8	5.3	5.8
Mixing energy, Wh/kg	13.1	12.3	14.0	15.1
Loaf volume, cm^3/100 g flour	956	959	980	984
Baking (Sponge and dough)				
Absorption, %	65	64	63	63
Mixing time, minutes	3.3	3.6	4.1	4.3
Mixing energy, Wh/kg	6.5	7.5	7.3	7.4
Loaf volume, cm^3/100 g flour	1119	1075	1154	1106

[1] No. 1 CWRS samples were obtained from the Canadian Grain Commission's Harvest Sample Program. Western prairies aggregate region includes British Columbia, Alberta and western Saskatchewan (regions 5, 7-10 on crop region map).

[2] Data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour, except Alveogram results which are reported on a 15% moisture basis. For more information refer to Methods and tests used by the Canadian Grain Commission to measure the quality of wheat.

[3] Particle size index is based on whole wheat meal generated with ZM 200 ultra centrifugal mill, details are available at Wheat methods and tests.

[4] The Farinograph used to mix dough for the Extensograph was replaced with a new model in 2024. For comparison purposes, the 2023 aggregate samples, which had been stored in freezer, were retested with the 2024 aggregate samples after mixing with the new Farinograph model. The 2025 aggregate samples were assessed with the ExtensoGraph, previously Extensograph-E was used.

[5] An additional test reported on starting in 2024. The fully developed dough was prepared using a Swanson-type pin mixer to 10% past peak time with 1% salt (flour weight basis) and Farinograph absorption of plus 4%. For more information refer to our Extensogram - pin mixer method

Farinogram and Extensogram Curves

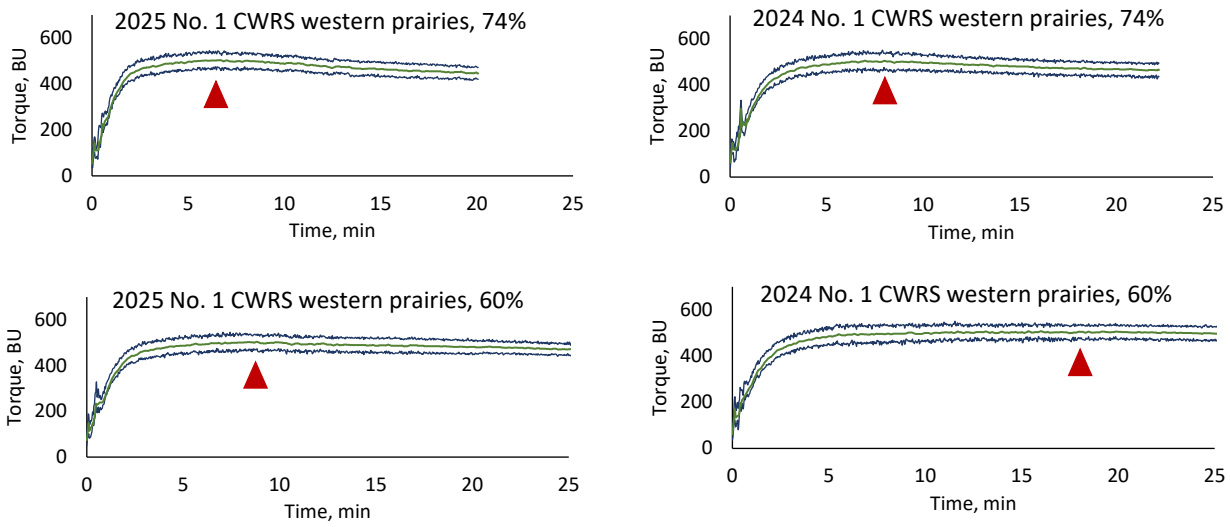

Figure 1. Examples of Farinograms (50 g bowl) generated from flour with extraction rates of 74% and 60% for western prairies aggregate samples of No. 1 CWRS from the 2025 and 2024 crop years. Minimum and maximum torque values (blue), mean torque values (green) and dough development time (red arrow) are shown.

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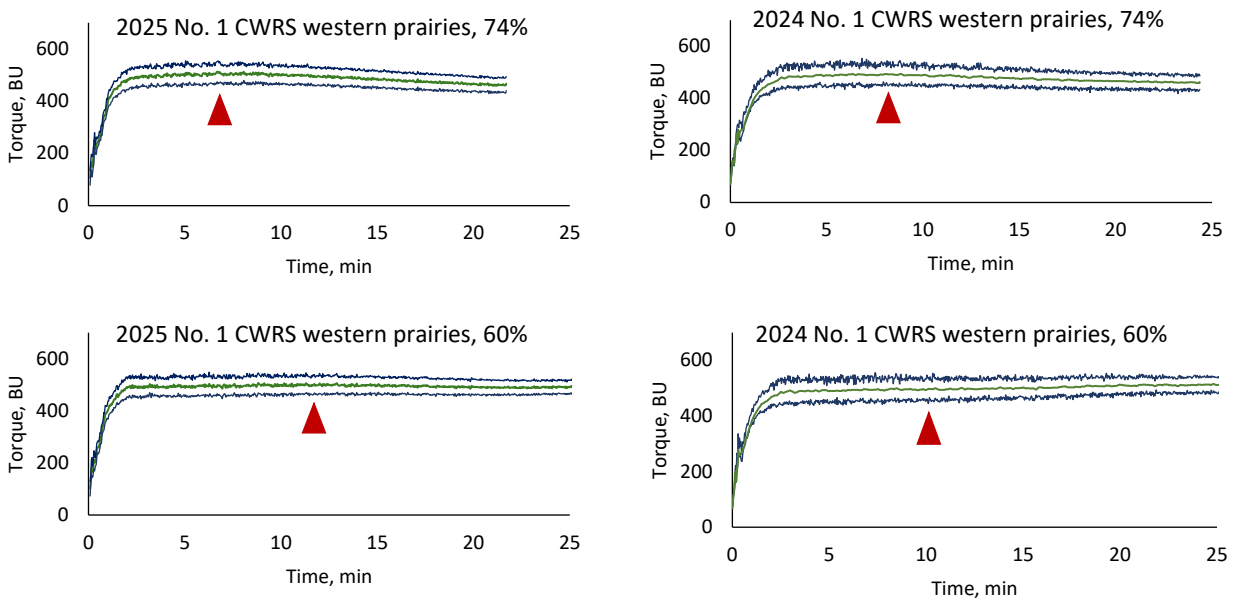

Figure 2. Examples of Farinograms (300 g bowl) generated from flour with extraction rates of 74% and 60% for western prairies aggregate samples of No. 1 CWRS from the 2025 and 2024 crop years. Minimum and maximum torque values (blue), mean torque values (green) and dough development time (red arrow) are shown.

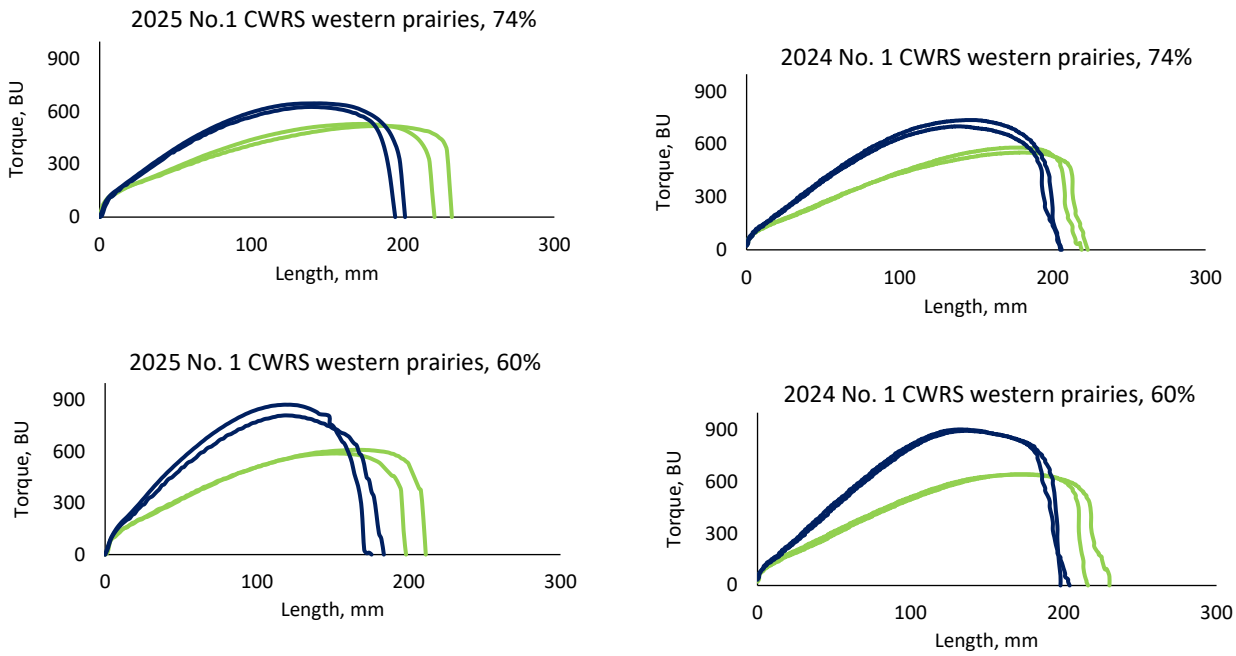

Figure 3. Examples of Extensograms at 45 minutes (green) and 135 minutes (blue) generated from flour with extraction rates of 74% and 60% for western prairies aggregate samples of No. 1 CWRS from the 2025 and 2024 crop years.