CWAD
Canada Western Amber Durum

Canada is the world's leading exporter of durum wheat. CWAD is recognized for its high protein content and semolina yield. Development of new CWAD varieties has resulted in improvements in yellow colour and gluten strength.

Top Five CWAD Varieties Grown in 2024

1. Transcend
2. CDC Defy
3. AAC Stronghold
4. CDC Precision
5. AAC Grainland

2024 EXECUTIVE SUMMARY

PRODUCTION
(5-year average, 2019-2023)

4.9 million tonnes

% of TOTAL WHEAT GROWN IN CANADA

15%

Advice from an Expert

Semolina milled from the 2024 CWAD crop has high yellow pigment content with good gluten strength and extensibility, and good processing quality.

Grading Factors

A high proportion of the 2024 CWAD crop graded No. 1 or No. 2.

Protein

Protein content of No. 1 CWAD is similar to the 5-year average, while No. 2 and No. 3 CWAD have higher-than-average protein contents.

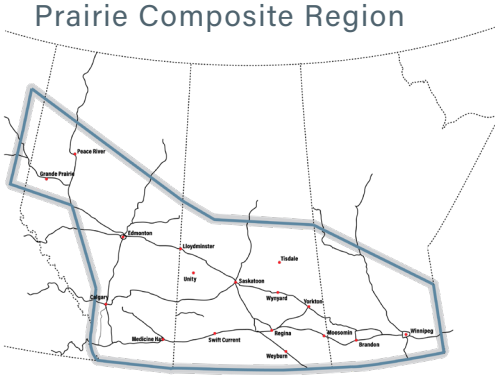
Milling Quality

CWAD has a high percentage of hard vitreous kernels and low speck counts across all grades.

Application Performance

Spaghetti has excellent cooking quality, texture and bright yellow colour.

FIGURE 2
2024 Western Canada Prairie Composite Region



PRAIRIE COMPOSITE

No. 1 CWAD
Canada Western Amber Durum

Quality Parameter [a]	Prairie Composite [b]		
Wheat	2024	2023	5 yr avg.
Test Weight, kg/hL	81	81	81
Weight Per 1000 Kernels, g	34.4	37.9	38.1
Hard Vitreous Kernels, %	92	95	94
Protein Content, %	14.7	15.4	14.9
Protein Content, % (dry matter basis)	17.0	17.8	17.3
Wet Gluten Content, %	32.3	33.2	33.7
Gluten Index, %	78	73	71
Ash Content, %	1.58	1.52	1.60
Falling Number, s	479	418	463
Particle Size Index[c], %	41	40	-
Milling Semolina Yield Bühler Laboratory Mill			
Total Milling Yield, %	67.5	67.0	68.4
Semolina Yield, %	63.3	63.1	64.1

PRAIRIE COMPOSITE

No. 2 CWAD
Canada Western Amber Durum

Quality Parameter [a]	Prairie Composite [b]		
Wheat	2024	2023	5 yr avg.
Test Weight, kg/hL	79	79	79
Weight Per 1000 Kernels, g	32.8	35.7	35.7
Hard Vitreous Kernels, %	93	92	89
Protein Content, %	15.7	15.7	15.3
Protein Content, % (dry matter basis)	18.2	18.1	17.7
Wet Gluten Content, %	34.3	35.6	34.7
Gluten Index, %	84	67	71
Ash Content, %	1.69	1.51	1.64
Falling Number, s	441	386	426
Particle Size Index[c], %	42	40	-
Milling Semolina Yield Bühler Laboratory Mill			
Total Milling Yield, %	65.1	64.9	66.9
Semolina Yield, %	60.4	60.9	62.3

PRAIRIE COMPOSITE

No. 3 CWAD
Canada Western Amber Durum

Quality Parameter [a]	Prairie Composite [b]
Wheat	2024
Test Weight, kg/hL	78
Weight Per 1000 Kernels, g	31.4
Hard Vitreous Kernels, %	95
Protein Content, %	16.5
Protein Content, % (dry matter basis)	19.1
Wet Gluten Content, %	36.2
Gluten Index, %	79
Ash Content, %	1.77
Falling Number, s	481
Particle Size Index[c], %	43
Milling Semolina Yield Bühler Laboratory Mill	
Total Milling Yield, %	65.6
Semolina Yield, %	61.1

[a] Data are reported on a 13.5% moisture basis.

[b] Refer to crop region map (Figure 2).

[c] Unable to calculate 5-year average for particle size index due to change in method.

Harvest assessment composites represent grain available for export and were prepared from samples received up to October 15, 2024. Composites were graded according to Export Grade Determinant Tables in the Official Grain Grading Guide (https://www.grainscanada.gc.ca/en/grain-quality/official-grain-grading-guide/). Milling, analytical and end-product analysis was conducted by Cereals Canada following the Methods of Analysis on Cereals Canada's website (https://cerealscanada.ca/analytical-methods/).

CEREALS CANADA
Commission canadienne des grains
Canadian Grain Commission
Canada

No. 1 CWAD Prairie Composite[b]

Semolina [a]	2024	2023	5-Year Average
Protein Content, %	13.9	14.5	14.1
Protein Loss, %	0.8	0.9	0.8
Wet Gluten Content, %	35.0	35.6	36.3
Gluten Index, %	85	80	76
Ash Content, %	0.78	0.70	0.74
Yellow Pigment Content, ppm	11.6	11.3	11.4
Colour, b* (yellowness)	33.0	32.6	32.6
Granulation			
> 425 µm, %	1.7	1.1	1.1
> 250 µm, %	52.7	52.7	51.1
> 180 µm, %	30.2	30.3	31.3
> 150 µm, %	7.8	7.7	8.0
< 150 µm, %	7.6	8.1	8.5
Semolina Speck Count per 50 cm^2			
Total Specks	5	5	6
Dark Specks	0	1	1
Large Specks (≥0.06 mm^2)	3	3	4
Alveograph			
P (height x 1.1), mm	101	110	100
L (length), mm	128	91	98
P/L	0.79	1.21	1.07
W, 10^{-4} J	367	316	308
Ie, %	55.8	53.8	55.8
Spaghetti			
Firmness, g	764	790	843
Cooking Loss, %	4.87	4.83	4.76
Colour L*	72.2	71.3	72.2
a*	4.91	4.04	4.86
b*	65.5	64.1	65.5

[a] Data are reported on a 14.0% moisture basis for semolina except Alveograph which is reported on a 15.0% moisture basis.
[b] Refer to crop region map (Figure 2).

2024
No. 2 CWAD Prairie Composite[b]

Semolina[a]	2024	2023	5-Year Average
Protein Content, %	14.7	14.8	14.3
Protein Loss, %	1.0	0.9	1.0
Wet Gluten Content, %	35.9	37.4	36.4
Gluten Index, %	87	72	77
Ash Content, %	0.79	0.69	0.75
Yellow Pigment Content, ppm	11.5	11.3	11.6
Colour, b* (yellowness)	32.8	32.4	32.4
Granulation			
> 425 µm, %	1.2	0.5	0.8
> 250 µm, %	52.2	54.5	50.5
> 180 µm, %	31.2	29.0	31.6
> 150 µm, %	7.8	7.4	8.1
< 150 µm, %	7.6	8.6	9.0
Semolina Speck Count per 50 cm²			
Total Specks	6	6	7
Dark Specks	1	2	1
Large Specks (≥0.06 mm²)	3	3	4
Alveograph			
P (height x 1.1), mm	99	106	98
L (length), mm	138	96	104
P/L	0.72	1.10	0.98
W, 10^{-4} J	390	314	319
Ie, %	58.0	53.5	57.0
Spaghetti			
Firmness, g	798	753	868
Cooking Loss, %	4.82	4.63	4.78
Colour L*	72.2	71.3	72.3
a*	5.50	4.12	5.11
b*	65.7	64.3	66.0

2024
No. 3 CWAD Prairie Composite[b]

Semolina[a]	2024[c]
Protein Content, %	15.7
Protein Loss, %	0.8
Wet Gluten Content, %	37.1
Gluten Index, %	87
Ash Content, %	0.82
Yellow Pigment Content, ppm	11.8
Colour, b* (yellowness)	32.8
Granulation	
> 425 um, %	1.3
> 250 um, %	51.2
> 180 um, %	31.2
> 150 um, %	8.0
< 150 um, %	8.3
Semolina Speck Count per 50 cm²	
Total Specks	6
Dark Specks	1
Large Specks (≥0.06 mm²)	3
Alveograph	
P (height x 1.1), mm	103
L (length), mm	130
P/L	0.79
W, 10^{-4} J	398
Ie, %	58.5
Spaghetti	
Firmness, g	873
Cooking Loss, %	4.80
Colour L*	71.5
a*	5.55
b*	66.2

[a] Data are reported on a 14.0% moisture basis for semolina except Alveograph which is reported on a 15.0% moisture basis.
[b] Refer to crop region map (Figure 2).
[c] A No. 3 CWAD composite was not prepared in 2023 therefore no comparative data is available.