

## Properties of Commercially Stone Milled Red Lentil<sup>1</sup> Flours

Flour Properties <sup>2,3</sup>	Split Flour	Whole Flour
Special Crops Code:	SC211-12	SC212-12
Particle Size Distribution:		
d (0.1) $\mu\text{m}$	25.6 $\pm$ 3.85 <sup>b</sup>	64.1 $\pm$ 1.26 <sup>a</sup>
d (0.5) $\mu\text{m}$	320.8 $\pm$ 1.25 <sup>b</sup>	383.4 $\pm$ 0.90 <sup>a</sup>
d (0.9) $\mu\text{m}$	626.4 $\pm$ 1.61 <sup>b</sup>	710.4 $\pm$ 7.44 <sup>a</sup>
Volume Weighted Mean, $\mu\text{m}$	333.4 $\pm$ 1.76 <sup>b</sup>	400.3 $\pm$ 3.05 <sup>a</sup>
Composition <sup>4</sup> :		
Protein, %	29.0 $\pm$ 0.11 <sup>a</sup>	27.0 $\pm$ 0.04 <sup>b</sup>
Total Starch, %	44.8 $\pm$ 0.71 <sup>a</sup>	38.5 $\pm$ 0.38 <sup>b</sup>
Total Dietary Fibre, %	6.5	12.4
Soluble Fibre, %	0.8	1.5
Insoluble Fibre, %	5.8	10.9
Pasting Properties:		
Peak Viscosity, RVU	122	152
Hot Paste Viscosity, RVU	120	149
Breakdown, RVU	2	2
Final Viscosity, RVU	228	267
Setback, RVU	107	118
Pasting Time, min	5.78	5.45
Functional Properties:		
Starch Damage, %	1.50 $\pm$ 0.00 <sup>a</sup>	1.08 $\pm$ 0.04 <sup>b</sup>
Water Absorption Capacity, g/g	1.14 $\pm$ 0.04 <sup>b</sup>	1.43 $\pm$ 0.08 <sup>a</sup>
Oil Absorption Capacity, g/g	0.63 $\pm$ 0.04 <sup>a</sup>	0.68 $\pm$ 0.01 <sup>a</sup>
Foam Stability, % 10 min	94.6 $\pm$ 4.10 <sup>a</sup>	91.3 $\pm$ 2.55 <sup>a</sup>
30 min	86.7 $\pm$ 4.74 <sup>a</sup>	81.7 $\pm$ 11.31 <sup>a</sup>
60 min	71.0 $\pm$ 2.19 <sup>a</sup>	61.7 $\pm$ 5.37 <sup>a</sup>
120 min	56.5 $\pm$ 1.34 <sup>a</sup>	49.5 $\pm$ 17.89 <sup>a</sup>
Foam Capacity, %	25.0 $\pm$ 1.41 <sup>a</sup>	17.5 $\pm$ 3.54 <sup>a</sup>
Emulsifying Activity, %	37.6 $\pm$ 1.63 <sup>a</sup>	39.7 $\pm$ 4.17 <sup>a</sup>
Emulsifying Stability, %	15.4 $\pm$ 6.29 <sup>a</sup>	7.8 $\pm$ 4.53 <sup>a</sup>
Colour:		
L*	70.9 $\pm$ 0.00 <sup>a</sup>	65.1 $\pm$ 0.00 <sup>b</sup>
a*	15.90 $\pm$ 0.01 <sup>a</sup>	7.38 $\pm$ 0.01 <sup>b</sup>
b*	30.4 $\pm$ 0.00 <sup>a</sup>	22.8 $\pm$ 0.00 <sup>b</sup>

<sup>1</sup> Whole seed variety: CDC Maxim; Split seed variety: unknown.

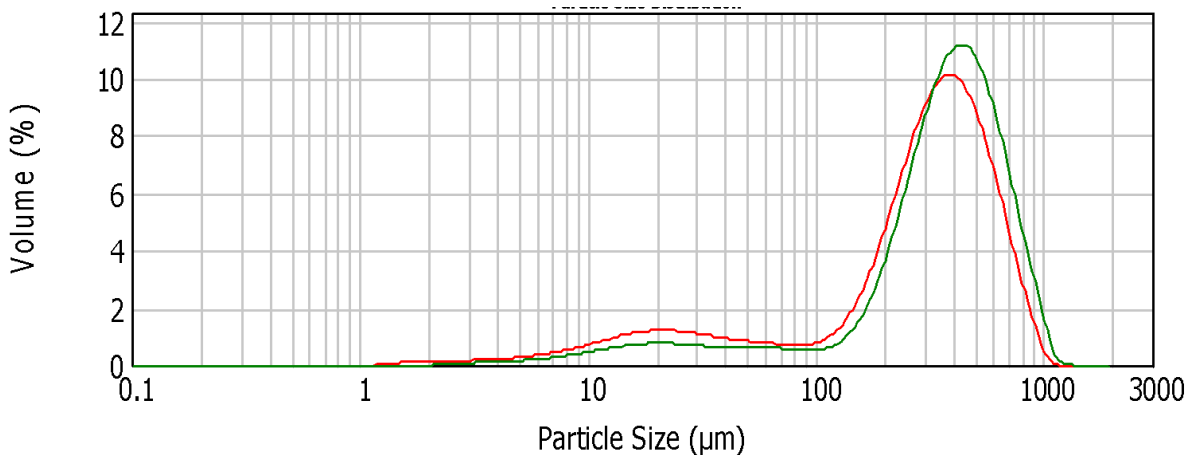
<sup>2</sup> For explanation of testing methodology refer to Glossary of Analytical Terminology.

<sup>3</sup> Values with the same letter within a row are not significantly different ( $p < 0.05$ ). Significant differences for fibre and pasting properties not established.

<sup>4</sup> Dry weight basis.



## Particle Size Distribution Curves for Commercially Stone Milled Red Lentil Flours



- Split Red Lentil Flour
- Whole Red Lentil Flour

### CONTACT US

To learn more about the Cigi Pulse Milling Project or to discuss your application needs please contact:

**Heather Maskus, MSc**  
Project Manager  
Cigi Pulse Milling Project  
Tel: 204-984-3139  
hmaskus@cigi.ca

**Lindsay Bourré, MSc**  
Technical Specialist  
Cigi Pulse Milling Project  
Tel: 204-984-1063  
lbouurre@cigi.ca

### Project Partners and Funders

