

Properties of Commercially Roller Milled Red Lentil¹ Flours

| Flour Properties ^{2,3} | Refined Flour | Unrefined Flour |
|------------------------------------|---------------------------|----------------------------|
| Special Crops Code: | SC001-13 | SC010-13 |
| Particle Size Distribution: | | |
| d (0.1) µm | 11.7 ± 0.35 ^b | 15.1 ± 0.28 ^a |
| d (0.5) µm | 44.0 ± 0.07 ^b | 93.3 ± 5.03 ^a |
| d (0.9) µm | 113.8 ± 0.15 ^b | 754.7 ± 58.68 ^a |
| Volume Weighted Mean, µm | 54.4 ± 0.13 ^b | 260.3 ± 22.91 ^a |
| Composition⁴: | | |
| Protein, % | 25.7 ± 0.04 ^a | 25.5 ± 0.04 ^b |
| Total Starch, % | 58.7 ± 0.78 ^a | 48.0 ± 1.24 ^b |
| Total Dietary Fibre, % | 4.8 | 12.4 |
| Soluble Fibre, % | 0.4 | 1.7 |
| Insoluble Fibre, % | 4.4 | 10.7 |
| Pasting Properties: | | |
| Peak Viscosity, RVU | 167 | 126 |
| Hot Paste Viscosity, RVU | 147 | 113 |
| Breakdown, RVU | 21 | 13 |
| Final Viscosity, RVU | 290 | 196 |
| Setback, RVU | 143 | 83 |
| Pasting Time, min | 5.05 | 4.78 |
| Functional Properties: | | |
| Starch Damage, % | 4.56 ± 0.01 ^a | 3.26 ± 0.10 ^a |
| Water Absorption Capacity, g/g | 0.85 ± 0.03 ^b | 1.20 ± 0.01 ^a |
| Oil Absorption Capacity, g/g | 0.78 ± 0.08 ^a | 0.99 ± 0.05 ^a |
| Foam Stability, % 10 min | 95.1 ± 6.93 ^a | 92.0 ± 1.91 ^a |
| 30 min | 83.7 ± 7.99 ^a | 72.8 ± 10.18 ^a |
| 60 min | 71.0 ± 10.75 ^a | 58.3 ± 11.81 ^a |
| 120 min | 63.8 ± 10.82 ^a | 50.2 ± 9.12 ^a |
| Foam Capacity, % | 21.0 ± 7.07 ^a | 18.5 ± 2.12 ^a |
| Emulsifying Activity, % | 40.9 ± 0.92 ^a | 40.0 ± 0.00 ^a |
| Emulsifying Stability, % | 19.9 ± 7.07 ^a | 9.9 ± 0.00 ^a |
| Colour: | | |
| L* | 73.0 ± 0.00 ^a | 62.5 ± 0.00 ^b |
| a* | 15.20 ± 0.01 ^a | 6.23 ± 0.00 ^b |
| b* | 32.1 ± 0.01 ^a | 20.0 ± 0.00 ^b |

¹ Whole seed variety: CDC Maxim; Split seed variety: unknown.

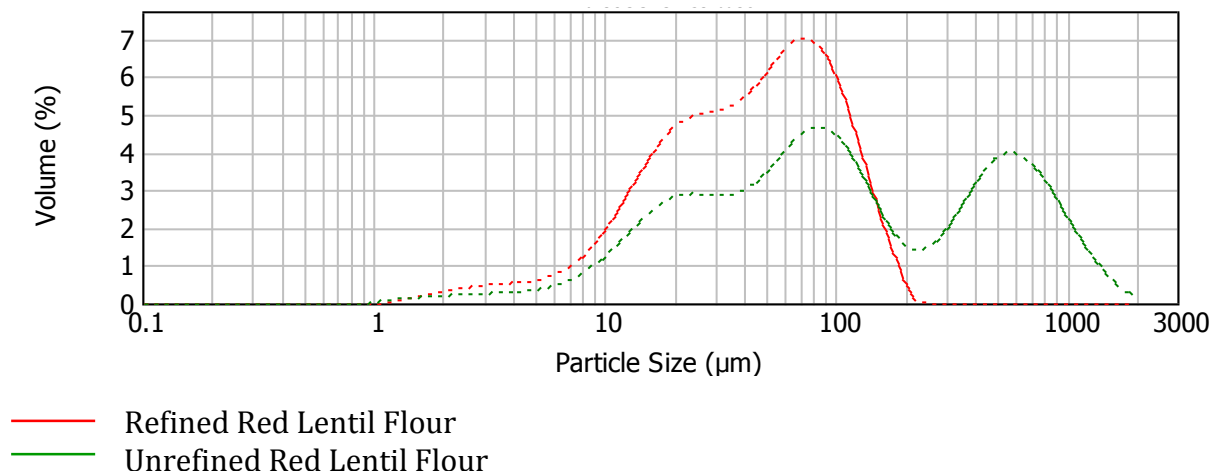
² For explanation of testing methodology refer to Glossary of Analytical Terminology.

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

⁴ Dry weight basis.



Particle Size Distribution Curves for Commercially Roller Milled Red Lentil Flours



CONTACT US

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