Lupin GRITS Technical Data Sheet

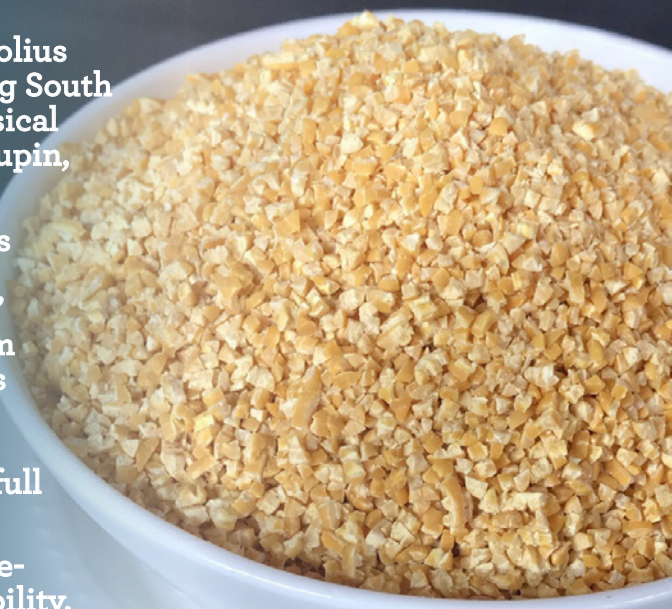
Origin: Western Australia, Australia

Product Description:

Australian Sweet Lupin (ASL) Grit is the Lupinus Angustifolius species, a very different species to bitter (Alkaloids) tasting South American and some European lupin species. Through classical breeding over 60 years, the ASL is a truly naturally sweet lupin, without the sugar.

Our lupin Grits are created by gentle removal of the fibrous husk from the endosperm to produce a Lupin Split, then through a series of additional steps, the Splits are 'cracked' and sieved to achieve a natural protein cube of approx 2mm in size - so this is a high value, natural protein. Our process is purely mechanical and operates at a temperature of less than 36°C, preserving the full value of the protein level availability – there is no denatured protein, so you get the full value as if you picked the bean straight off the plant.

Because of our focus on food safety our beans are all 'Single-Origin', providing un-equalled vertical integration, traceability, and quality systems from pristine Australian farming operations – perfect for every global family table.



Ingredients

Pure, natural, Australian Sweet Lupin and Australian Sweet Air - nothing else.

GMO status

GMO free.

Storage and Shelf Life

24 months – if stored cool, dark and dry.

Available sizes

- 500kg bulk bag/tote – spout top/spout bottom.
- 1,000kg bulk bag/tote – spout top/spout bottom
- Other packing options are available on request

HS Code

1106.10.00

Organoleptic Characteristics

- Flavour – neutral with no off flavour sometimes found with other legumes
- Aroma – Sweet, earthy, smells like the taste of wheat, dry with no off smell
- Texture – Leguminous, Uniform shaped cubes, nutty mouth feel

Physical

A soft golden colour, uniformly cubed at approx 2mm, easily cooked as a boiled condiment or simply add to any meal for the perfect plant-based protein. Usage like a carbohydrate, but isn't a carbohydrate.

Microbial Characteristics

- Clostridium Perfringens (CFU/g) - <10
- Coagulase Positive Staphylococci (CFU/g) - <100
- Ecoli (CFU/g) - <10
- Coliforms (CFU/g) - <10
- Enterobacteriacea (CFU/g) - <10
- Salmonella sp /25g – not detected
- Total Plate Count (CFU/g) – 10^4 (usually shown to be less than 10^2)
- Yeast (CFU/g) - $<10^3$ (usually shown to be less than 10^2)
- Mould (CFU/g) – $<10^3$ (usually shown to be less than 10^2)

Certifications

APPROVED FDA APPROVED · GMO FREE · AUSTRALIAN OWNED · HEART HEALTHY · ENDORSED BY COELIAC AUSTRALIA GLUTEN FREE · LOW CARB · HALAL AUSTRALIA · KETO FRIENDLY · HIGH PROTEIN · HACCP Hazard Analysis Critical Control Point

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Protein digestibility corrected amino acid score (PDCAAS): 0.53 **

Protein Digestibility Estimated: 90 [1,2]

Allergen Data

Like many other high protein foods, lupin is an allergen in Australia and some other countries. Our facility is Gluten-free and we test to a very sensitive level to ensure this is maintained. No other allergens are used in our facility.

Nutritional Facts

Compositional Analysis	Range
Moisture (%)	9- 10
Water Activity (Aw)	0.378
Energy (per 100gm)	1350kJ
Protein (%)	38 - 41
Fat (%)	6 - 7
-Saturated fat (% of fat)	20
-Polyunsaturated fat (% of fat)	45
-Monounsaturated fat (% of fat)	35
-Cholesterol (%)	0
Ash (%)	3 - 4
Digestible Carbohydrate (%)	2.5 - 4
Dietary Fibre (g/100g)	36 - 39
Calcium (mg/100g)	110
Sodium (mg/100g)	30
Potassium (mg/100g)	810
Iron (mg/100g)	3
Magnesium (mg/100g)	160

Food Standards Australia & New Zealand range	
Alkaloids (%)	<0.02
Phomopsin (ppm)	<5

Amino acid profile for lupin protein	(g/100g)
Alanine	1.40
Arginine	4.80
Aspartic acid	4.50
Cysteine	0.70
Glutamic acid	9.00
Glycine	1.60
Histidine	1.00
Isoleucine	1.60
Leucine	2.90
Lysine	1.50
Methionine	0.30
Phenylalanine	1.50
Proline	2.30
Serine	2.10
Threonine	1.80
Tryptophan	0.41
Tyrosine	1.60
Valine	1.50
Cyct + Meth	1.00
Tyr + Phen	3.10
Lutein & Zeaxanthin *	4,400

* micrograms per 100g

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*Independent NATA accredited laboratories are utilised at all times for compliance with the Foods Standards Australia & New Zealand Codes in particular 1.4.1 Clause 3 and Standard 1.4.1 Clause 5

[1] Villarino, C., Jayasena, V., Coorey, R., Chakrabarti-Bell, S. & Johnson, S. 2015. The effects of lupin (Lupinus angustifolius) addition to wheat bread on its nutritional, phytochemical and bioactive composition and protein quality. Food Res. Int. vol. 76, pp. 58-65. [2] Chew, P. G. Casey, A & Johnson, S. K. 2003, Protein quality and physico-functionality of Australian sweet lupin (Lupinus angustifolius cv. Gungurru) protein concentrates prepared by isoelectric precipitation or ultrafiltration. Food Chem. vol. 83, pp. 575-583. ** Determined by multiplying the protein digestibility (%) with the limiting amino acid score.