



Walnut Kernel Specification Document

V2.1
May 2024

Document Name:	Walnut Kernel Specification		
Business Unit:	Quality Assurance SU	Category:	Specification Document
Document #:	QAS-USE-NOA-QAL-027	Last Update:	2024-05-14
Revision #:	V2.1	Approval:	

1. Producer Information

Business Name	Rotondo Walnuts (Pty) Ltd
Physical Address	Rotondo Farm 1093 Rouxville District Rouxville 9958 South Africa
Telephone	+27 53 0300 151
Email	admin@rotondo-walnuts.co.za

2. Producer Contacts

Name	Ian Steyn	Nduduzo Maseko	Stacey Spilsbury
Role	Commercial Manager	QA Manager	Sales Manager
Number	+27 83 302 2297	+27 79 1829 570	+27 84 829 4542
Email	ian@rotondo-walnuts.co.za	nduduzo@rotondo-walnuts.co.za	stacey@rotondo-walnuts.co.za

3. Product Description

Walnut is the nut of any tree of the genus *Juglans* (family Juglandaceae). The nut is the edible seed of a drupe, after full ripening when the shell has been discarded, it is used as a garnish or a snack.

Physical and Technological Description

Walnuts are rounded, single-seeded stone fruits of the walnut tree commonly used for the meat after fully ripening. After ripening, the removal of the husk reveals the wrinkly walnut shell. The shell encloses the kernel or meat made up of two halves separated by a septum. The seed kernels – commonly available as shelled walnuts – are enclosed in a brown seed coat which contains antioxidants.

4. Nutritional Information

Nutrient	Average per 100g
Calories	654 kcal
Total Fat	65.21 g
Saturated Fat	6.13 g
Sugars	2.61 g
Protein	15.23 g
Potassium	441 mg
Polyunsaturated	47.17 g
Monounsaturated	8.93 g
Cholesterol	0 mg
Dietary Fibre	6.7 g
Total Carbohydrate	13.71 g
Sodium	2 mg
https://fdc.nal.usda.gov/fd-app.html#/food-details/170187/nutrients	

5. Organoleptic Properties

Aroma	Nutty
Teste	Fairly mild - tannins
Appearance	Homogeneous
Texture	Firm

6. Chemical Tolerance

Attributes	Limit
Moisture Content	≤ 6%
Water Activity	0.6
Free Fatty Acid	0.5%
Peroxide Value	5 meq/kg
Aflatoxin B1	5 µg/kg
Total Aflatoxin (B1, B2, G1 & G2)	10 µg/kg
<i>Pesticides and heavy metals as per RSA Legislation</i>	

7. Microbial Tolerance

Attributes	Limit
Total Plate Count	100,000 cfu/g
Coliforms	1,000 cfu/g
Yeast	10,000 cfu/g
Mould	10,000 cfu/g
Salmonella sp. detect	Absent
E. coli O157 detect	10 cfu/g
<i>SA Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972) EC Regulation No 2073/2005 on microbiology criteria for foodstuffs.</i>	

8. Walnut Kernel Classification

Style	From	To	Description
Halves			The kernel half with no more than 12.5% broken off.
Chipped Halves			A kernel half with between 12.5% and 37.5% broken off.
Large Pieces			A kernel half with between 37.5% and 62.5% broken off.
Medium Pieces			Kernel which measures between 6-9mm
Small Pieces			Kernel which measures between 3-6mm
Bakers Mix			Kernel which measures between 3-6mm
Flour or Meal			Kernel which measures less than 3mm

9. Kernel Style Tolerances

Style	Halves	Large Pieces	Medium Pieces	Small Pieces	Flour
Hand Cracked 90%	90%			≤ 10%	
Halves 80%	80% of which ≤ 12.5% Chipped Halves	≥ 12%	≤ 6%	≤ 1.8%	≤ 0.2%
Halves 50%	50% of which ≤ 12.5% Chipped Halves	≥ 30%	≤ 15%	≤ 4.5%	≤ 0.5%
Large Pieces		≥ 80%	≤ 15%	≤ 4%	≤ 1%
Medium Pieces			≥ 80%	≤ 19%	≤ 1%
Small Pieces				≥ 98%	≤ 2%
Bakers Mix				≥ 98%	≤ 2%
<i>2017 Edition UNECE Standard DDP-02, Walnut Kernels, DFA of California Walnut Inspection Manual - Rev 2017-08-22</i>					

10. Physical Defects Tolerance by Class

	Hand Cracked	Extra	Class 1	Class 2	Bakers Mix
Defects					
Mouldy	0.1%	0.5%	1%	2%	3%
Rancid or foreign smell or taste	0.1%	1%	1%	2%	3%
Decay or deterioration	0%	0.5%	1%	2%	3%
Insect damage	0%	1%	1%	2%	3%
Living pests	0%	0%	0%	0%	0%
Shrivel (>25% of the kernel)	0%	2%	2.5%	2.5%	3%
Foreign Material					
Shell and foreign material of the product origin	0%	0.05%	0.5%	1%	1.5%
Foreign material of non-product origin	0%	0%	0%	0%	0%
Colour Tolerance					
Out of colour classification	5%	15%	15%	15%	ND
Percentage of scuffing on halves	0%	10%	20%	ND	ND
Percentage of scuffing on L, M & S pieces	0%	ND	ND	ND	ND
<i>Tolerance allowed percentage of defective produce by weight.</i>					
<i>ND – Not considered as a defect. 2017 Edition UNECE Standard DDP-02, Walnut Kernels, DFA of California</i>					
<i>Walnut Inspection Manual - Rev 2017-08-22</i>					

11. Recommended Storage and Shelf Life

Cool store	≤ 7°C
Relative humidity	≤ 70%
Shelf life	12 to 24 months

12. Recommended Transportation Requirements

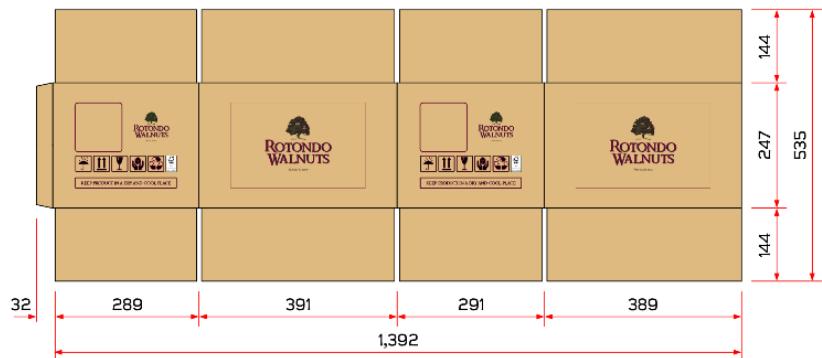
Transport in a clean, dry, covered, vehicle (protected from weather elements) with no volatile products in the same vehicle.

13. Product Net Weights

Product	Net Weight
Hand Cracked 90%	10.0 kg
Halves 80%	11.5 kg
Halves 80% Extra Large	11.5 kg
Halves 50%	12.0 kg
Large Pieces [1/4]	12.5 kg
Medium Pieces [1/8]	15.0 kg
Small Pieces [1/16]	15.0 kg
Bakers Mix	15.0 kg
Flour	16.0 kg

14. Carton Dimensions

Internal	388 x 288 x 240 (l x w x h)
External	394 x 294 x 252 (l x w x h)
Flue Profile	195K/150B/195K
Corrugation	Vertical



15. Carton Material

Material	Cardboard
Grade	Food grade
Color	Brown
Weight	0.408 g
Method of closure	Polypropylene tape 48mm x 40mm x 28 μ
Printing/ labelling	Non-toxic laser

16. Carton Inner Liners

Material	Polythene food grade
Grade	Food grade
Color	Transparent
Dimension	700mm x 700mm
Strength	100 μ m
Weight	0.118 g
Method of closure	Vacuum seal

17. Palletizing

Cartons per layer	10
Layers per pallet	8
Cartons per pallet	80
Carton Layer Support	Pallet-wrap 20 μ m & Cardboard Pallet edge
Pallet Material	Wood - heat treated
Pallet Dimensions	1,000mm x 1,200mm

18. Marking & Labeling Identification

Producer & Packer	Rotondo Walnuts (Pty) Ltd
	Rotondo Farm 1093
	Rouxville District
	Rouxville 9958
	South Africa
Nature of Product	Walnut Kernels
Produce Origin	South Africa

19. Carton Label Specification

Class	
Size/Style	
Harvest Year	
Best before date	
Batch code	
Production Unit Code (PUC)	
Official Control Mark	
Trace code	
Net Weight	

20. Supplier Declaration

This standard applies to dried walnut kernels from cultivars grown from *Juglans regia* L. intended for direct consumption without further processing. This standard does not apply to walnut kernels that are processed by bleaching walnut kernels, salting, sugaring, flavoring, or roasting.

**Stacking Configuration
Cartons on a Pallet**

