

Introducing.... Australian Macadamia Oil



Macadamias



Macadamia Oil - The "No Cholesteroil"





The fact that the macadamia nut had its origins in Australia is not widely known. Our "Australian Bush Nut" was first discovered by Allan Cunningham in 1828 but it wasn't until the late 1880s that serious cultivation of these evergreen trees began. The early 1900s marked the beginning of an exciting new industry, when a group of American horticulturists transported some macadamia seeds to Hawaii and began growing and grafting selections of these nuts to develop today's agricultural success story. It wasn't until the 1960s that Australians realized the potential of this indigenous tree nut and began local cultivation. Trees, grafted from successful Hawaiian varieties, were brought to the rolling hills of north eastern New South Wales and south eastern Queensland where over 40% of the world's production is now grown. Australian macadamias have developed a world-wide reputation for the finest quality, flavour and texture.

Macadamia nut trees grow best in sub-tropical climates where rainfall is gentle and plentiful during the spring flowering season and early autumn just prior to harvest. Cold climates are not suitable for macadamias as frost can severely damage the root system which is fairly close to the ground surface. Most varieties of macadamia trees take approximately 10 years to reach maturity and maximum yields of nut-in-shell. Root stock is cultivated from nursery seedlings during the first two years then grafted to create specific tree varieties prior to transplanting to the farm in years 3 and 4. Careful attention to good farm management during these formative years is critical if the long wait is to produce good commercial results. Approximately 250 - 300 trees are planted per hectare, depending on desired spacing, to create the neat and tidy plantations that are the hallmark of the Australian industry. Mature macadamia trees grow to heights of 12-15 metres; they have dark, shiny leaves and bear sprays of long, delicate, sweet smelling white blossoms, called racemes.

The annual growing cycle takes some 9 months. The first flowering occurs in early spring with nut formation in clusters during early summer. Each spray of 40-50 flowers produces from 4 - 15 "nutlets" which eventually ripen into nuts. By early autumn large clusters of plump green nuts are very visible and harvesting commences in late autumn and through the winter months.

Macadamia nuts are allowed to fall to the ground naturally as shaking the trees can damage the delicate root system and negatively affect future production. Modern machinery is now used to gather the nuts and the soft outer husk is then removed on the farm before the nuts are placed in storage silos awaiting delivery to the processing plant. The hard, round, nut-in-shell is transported by truck to the factory where they are weighed and samples from each farm are analysed by the laboratory for quality and moisture content. At a suitable time nuts are moved from storage silos to drying silos where heat is applied to dry them down from 10-15% moisture to 3% moisture in preparation for cracking.

After drying, a specially designed cracker breaks the rock hard shell with minimal damage to the delicate kernel. Both shell fragments and kernel travel along conveyors past an air separation system and through modern, hi-tech, electronic colour sorters which separate the shell fragment from the kernel. These sorters differentiate between the dark brown colour of shell and the creamy colour of kernel and remove the shell fragments with a burst of compressed air. A final hand sorting inspection is carried out, to remove poor quality kernel, just prior to grading the kernel for packing.

Macadamia kernel is graded into "Styles" numbered from 0 to 8 which represent the sizes of the kernel pieces. Style 0 is large whole kernel, style 2 is a mixture of wholes and halves, style 4 is primarily half kernels and higher numbers, 5-8 relate to various sizes of chips and small pieces. Once sorted into styles the kernel is vacuum packed into poly lined, foil bags then into sturdy shipper cartons ready for sale to manufacturers of various value added products such as chocolates, biscuits, snack packs and ice cream.



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Australian Macadamia Oil is a high quality, 100% PURE Virgin Oil obtained from the kernel of the world's most delicious nuts, grown and processed in their native area of Northern New South Wales and Southern Queensland. Through the cold pressing process Australian Macadamia Oil retains its unique flavour and aroma making it an ideal ingredient for salad dressings and sauteed foods. Because it is 85% monounsaturated and contains NO CHOLESTEROL it is a healthy alternative to other cooking oils. Australian Macadamia Oil also contains high levels of palmitoleic acid and it has been pharmaceutically approved for use in cosmetics and skin preparations.



Nutritional Information	Per 100ml
Energy	3700kj
Protein	Trace
Fat - Total	100g
Polyunsaturated	2.5g
Monounsaturated	80.9g
Saturated	16.6g
Carbohydrates - Total	0g
Sugar	0g
Potassium	0g
Cholesterol	0g

Typical Fatty	Acid Profile	%
Oelic Palmitoleic Palmitic Eicosenoic Stearic Linoleic Arachidic Myristic Behenic Lauric	18:1 16:1 16:0 20:1 18:0 18:2 20:0 14:0 22:0	55 - 67 15 - 21 7.0 - 9.5 1.5 - 3.0 2.0 - 5.5 1.0 - 3.5 0.5 - 3.0 0.5 - 1.6 0.1 - 1.0 < 0.5



Free Fatty Acids	less than 1.005% (Oleic)
Acid Value	less than 1.0mg KOH/g oil
Peroxide Value	less than 2.0meg/kg oil
lodine Value (Wijs)	75 - 82
Refractive Index @ 40°C	1.46 - 1.48
Specific Gravity	0.91 - 0.93 @ 25°C
Saponification Value	190 - 200
Solidification Point	-12°C
Melting Point	4°C
Smoke Point	200°C - 210°C
	(Decreases with the age of oi

Note: Specifications are subject to change periodically. Up-do-date specifications are available on request.





Macadamia Oil

The flavor of macadamia oil is clean, intense and rich. Macadamia oil has one of the highest levels of monunsaturated fats of any tree nut oil and contains no cholesterol. It is arguably one of the most versatile oils available for food service applications yet remains little known due more to the popularity and abundance of other vegetable oils.

Refined macadamia oil is a popular ingredient in cosmetics where the natural anti-oxidant qualities of the oil and high levels of palmitoleic acid make it ideal for application to the skin. Macadamia oil contains approximately 60% oleic acid, 17% palmitoleic acid, 2% linoleic acid and 1% linolenic acid. It also contains 3% omega-6 and 3% omega-3.

Macadamia oil's rich, cushiony skin feel, high oxidative stability and high palmitoleic content make it especially suitable for medicated creams and suncare formulations. Derivative of Macadamia oil in cosmetics include the light emollient Ethyl Macadamiate and water soluble PEG-16 Macadamia Glycerides.



Macadamia Paste

Macadamia paste is a new addition to our family of fine products. Created from roasted kernel it is ideally suited to applications in ice cream, confectionery soft centres and bakery products. Macadamia paste is also available for application in savoury products like satay sauces and pestos. With a shelf life of 12 months from production this product is dry roasted and milled to customer specifications.



Wholesale Products

Macadamia Kernel is used in various market segments including:

- •InSnacks: Whole and half kernel blends, raw, roasted and salted or flavored are packed alone or in blends for sale in retail outlets around the world.
- •gredients for chocolates: Whole kernels (<u>Style 1</u>) for enrobing, <u>Styles 2</u> and <u>4</u> for macadamia caramel and chocolate clusters, small chips and pieces (<u>Styles 6</u>, <u>7</u> & <u>8</u>) for chocolate bars and toppings. Macadamia Paste, made to specifications for pralines.
- •Ingredients for biscuits and cakes: <u>Style 4</u> macadamias are ideal for large cookies and biscuits. <u>Styles 5 & 6</u> are excellent for finer, smaller biscuits, granola bars and for inclusion in cakes. Macadamias in a Christmas cake are superb.
- •Ingredients for ice cream: The popularity of the candy coated macadamia chip in ice cream has grown tremendously in the USA and Japan. We can supply a wide variety of small chip kernel for any application by dicing to specification.
- •Ingredients for food service: Awareness of the versatility of macadamias has extended their use into all areas of food service. Restaurants in Australia and overseas are creating exciting new menu items with macadamias. Style 4, halves, in salads; Style 4, halves, in salads; Styles 7 & 8) as toppings for meat and food dishes. Link to Recipes Page.





Health & Nutrition

Clinical research undertaken at the University of Newcastle, Australia, and published by The American Society for Nutritional Sciences indicates that daily consumption of macadamias may have a beneficial effect in reducing cholesterol and decreasing the risk of heart disease.

http://jn.nutrition.org/cgi/reprint/133/4/1060.

Macadamias have the highest percentage of monounsaturated fats of any tree nuts and also contain antioxidants in the form of Omega 3 that are noted to be beneficial to health. As with all tree nuts they contain no cholesterol.

Contrary to popular belief consumption of tree nuts is not fattening. The following mechanisms are cited in favour of the health aspects of tree nuts:

- 1. Absorption of tree nuts may be incomplete, so that part of their fat content might not be absorbed by the human body and would instead be excreted.
- 2. Tree nut consumption may have a certain satiating effect, so leading to a reduction in the consumption of other foods and helping to control total energy ingestion.
- 3. Though it is not proved, an adaptation of the metabolism may take place, so that energy consumption may be more efficient and the body may be able to burn more energy, so avoiding an accumulation of body fat. Source: http://www.nucis.org/fsipes_eng.htm

Other sources of information on the health benefits of tree nuts can be found at the following websites:

http://www.nuthealth.org

http://www.nutsforlife.com.au

http://www.nucis.org/index eng.htm

http://macadamias.org/index.php?p=7

http://www.thefreelibrary.com/Nuts+to+you!+Good+for+your+heart%2c+bu

t+watch+your+waistline-a0138223967

http://www.thefreelibrary.com/Nutty+Nutrition-a065130420











Nutritional Values

Macadamia Kernels

Australian macadamia kernel is high in nutritional value. The natural oil content is primarily mono-unsaturated, which makes macadamias a favored food with dieticians. More importantly, macadamias contain no cholesterol: a significant benefit to persons at risk of disease.

Nutrient	Per 100g
Energy Protein Fat - Total Saturated Monounsaturated Polyunsaturated Trans fatty acid	3040kj 9.20g 76g 9.50g 63.84g 2.66g 0.00mg
Dietry Fibre	7.0g
Carbohydrates - Total Sugars	10.0g 4.6g
Cholesterol	0.00mg



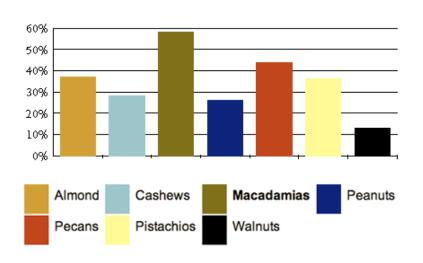
Approximate Composition

Nutritional Information	Per 100ml
Riboflavin (B2) Niacin Calcium Iron Phosphorus Magnesium Potassium	0.22mg 0.12mg 1.60mg 53.00mg 2.00mg 241.00mg 149.00mg 409.00mg 3.00mg



Varietal and seasonal conditions can cause variations in the above values.

Mono Unsaturated Fat Content





Products Using Macadamias

Macadamias are a vital ingredient in many different types of products throughout the world including some famous brand names. They feature in numerous brands of snack nuts, flavored or salted, alone or in combination with other nuts, as well as in a wide range of chocolates and other confectionary products. Macadamias are also widely used in biscuits and cookies, in ice cream and by restaurants to create exciting new menu items. The photographs below illustrate some of the many products that you will find on your supermarket shelves.















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