



Australian Native Foods



Desert Lime Puree

A new desert lime product is now available – desert lime puree. The puree is made from pure whole desert lime fruit. There are no additives or preservatives. It retains the distinctive intense flavor of the desert lime fruit and is in a form which is convenient for use in food service and manufacturing. Aseptic packaging is used which provides an 18 month shelf life at ambient temperatures, thus reducing storage and freight costs. Potential use is in beverages, condiments, confectionery, ice cream and sorbets.

About Desert Limes

Desert limes are the fruit from a tree species of true citrus, native to Australia - *citrus glauca*. Fruit is small and has an intense, distinctive and refreshing flavor. This citrus species evolved and occurs naturally across the challenging outback. Trees exhibit interesting desert adaptation characteristics being the only citrus which is a xerophyte – the ability to withstand drought by shedding its leaves. *Citrus glauca* is the quickest citrus species in the world to set fruit after flowering. They protect themselves from grazing animals with sharp thorns. However, after growing above the browse height of large kangaroos the trees grow no more thorns. Desert lime trees are tolerant of heat, frost, drought and salinity. Desert lime fruit was eaten by aborigines and has been used by generations of outback people to make cordials, sauces, marmalades, pickles and chutneys.

Recent increased availability has seen rising food industry appreciation with chefs using the fruit in many ways and desert limes used as an ingredient in gelato, sorbets and in beverages.



Product Specification

Analytical Values of Juice Unit Average Fluctuations

Soluble solids refract. °Brix (20C°) 11

pH value (20°) 3 + or - 0.2

Microbiological Values (Values refer to unopened aseptic packages)

Reference: DMG Microlabs Certificate No.: 06057 5th October 2010

Standard Plate Count 300

Yeast <100

Mold <100

E. coli <10

Coliforms <10

Salmonella Not detected

Lactic Acid Bacteria <100

Units of Packaging

Aseptically in bags/cartons 22kgs

Durability Aseptically packed goods - 18 months at ambient temperatures. (Durability refers to unopened packages)





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Health Points of Interest

Research by CSIRO on the presence of health-enhancing qualities of Australian native foods has recently been undertaken. Desert limes have been found to have important health enhancing characteristics with high levels of natural Vitamin C, Lutein, Folate (Vitamin B9) and the antioxidant Vitamin E. Analysis has been undertaken and comparisons made with the **blueberry** which has wide food industry recognition for health enhancing characteristics.

The desert lime is superior to the blueberry in a number of important aspects.

From:
Health Benefits of Australian Native Foods RIRDC Publication No. 09/133

Vitamin content per 100g DW

Australian desert lime compared with blueberry (dry weight analysis)

Numbers represent the level of micronutrient per 100 gram dry weight (mg or µg/100g DW).

	Australian Desert Lime	Blueberry
Vitamin C (mg)	962.3	64.6
Vitamin B9 or Folate (µg)	420	39.6
Vitamin E (mg)	4.0	3.8
Zinc(mg)	1.06	1.05
Magnesium (mg)	94.5	39.6
Selenium (mg)	4.7	1.8
Potassium (mg)	1288	508



Vitamin C is a water soluble highly effective antioxidant that even in small amounts can protect indispensable molecules in the body from damage such as DNA, RNA, proteins, lipids, and carbohydrates.

Folate plays an important role in production of red blood cells, wound healing, building muscles, maintenance of the nervous system and for every function that requires cell division. It is very important for pregnancy in women. Folate is required for the repair and synthesis of human DNA and for chromosome segregation.

Vitamin E is an important antioxidant that neutralizes free radicals in the body; essential for normal reproduction.

Research Results

In this study the antioxidant activity of desert lime measured 52.4 % of inhibition of β-carotene bleaching and showed a free radical scavenging activity of 4.5 % DPPH. The total phenolic content was 67.9 mg of GAE/L using the Folin-Ciocalteu procedure.

In a study by Konczak et. al. (2009) Desert limes show an outstanding amount of Vitamin C: 1% DW- 962 mg/100g DW.

Vitamin E content measured 3.999 mg/100g DW) with 88.6% contributed to α -Tocopherol, a powerful lipophilic antioxidant.

Lutein measured 1.50 mg/100g DW, which is more than the Australian “Hass” Avocado regarded as one of the primary sources of lutein.

Desert limes are a rich source of Ca 384.2 mg/ 100 g DW, which is almost ten times the Calcium content of Blueberries. A high potassium: sodium (K:Na) ratio, which may be beneficial to reduce hypertension was also discovered.



Of twelve commercially grown and tested native food plants, Desert lime showed the highest source of folate (420µg/100g DW), which is double the recommended daily intake in 100g DW and over 10 times greater than Blueberries.

Research conducted by Zhao and Agboola (2007) showed desert lime has strong activity against the common food spoilage bacteria in a methanol and water extract: *Acinetobacter baumannii*, *Bacillus subtilis*, *Pseudomonas aeruginosa*.

The activity of desert lime methanol extract against common food-borne human pathogens showed strong activity against the cholera-causing bacterium *Vibrio cholerae* and *Clostridium perfringens*, which in the past has caused food poisoning outbreaks. Other strong activity was measured against *Aeromonas hydrophila*, *Bacillus cereus*, *Campylobacter jejuni*, *Escherichia coli* 0157:H7, *Shigella sonnei*, *Salmonella enteritidis* and *Yersinia enterocolitica*.

Source:

Zhao, J. and Agboola. S., (2007) Functional Properties of Australian Bushfoods, RIRDC Pub. No. 07/030.

Konczak, I., Zabaraz, D., Dunstan, M., Aguas, P., Roulfe, R., Pavan, A., (2009) Health Benefits of

Australian Native Foods, RIRDC Pub. No. 09/133.



Australian Native Foods

GoWild Australia globally represents and markets growers of the highest quality organic, natural, Australian Native Foods "Superfruits", herbs & spices, extracts, oils, powders, raw ingredients, natural antimicrobials preservatives and more.

Applications

Food & Beverage, Flavoring, Nutritional, Medicinal & Vitamin Supplements, Nutraceuticals, Bio Chemical, Personal Care, Skin/Hair Care Products, Cosmetics

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