Overview

Lemon myrtle is one of the most cultivated and commercially mature species in the native food industry and shows wonderful potential as a specialist food ingredient, functional food and cosmetic ingredient.

It is a medium-sized native tree originating from coastal rainforest areas in Queensland, 50–800 metres above sea level.

The leaves are generally dried and milled to be used as tea or a flavour ingredient. Essential oil is also extracted from the leaf through steam distilling.

From a European perspective, lemon myrtle was first discovered by Baron Ferdinand von Müller in 1853.

Joseph H. Maiden reported on the potential use of lemon myrtle for commercial production in 1889 and the German company Schimmel & Co. was the first to identify the primary ingredient, citral, which gives the distinctive lemon fragrance and taste.

Its first commercial use for general consumption by the wider Australian population is reported to be in World War 2, when it was used by a soft drink company to flavour lemonade.

Lemon myrtle has struggled to compete with much cheaper essential oils from lemon grass and tropical verbena.

The industry was boosted by its rediscovery in the 1990s as a promising culinary herb in Australian cuisine, fusing native flavours into a number of dishes.

Lemon myrtle is high in antioxidants, vitamin E, calcium, zinc and magnesium. It also has anti-microbial and anti-fungal properties.

Wild harvest of lemon myrtle has practically ceased in favour of cultivated production. It performs well in the garden and has been used as an attractive ornamental tree in landscapes and home gardens for many years.

Most of the commercial crop is located in high rainfall areas of New South Wales and south-east Queensland, although there are some trees grown in Victoria and South Australia.

Lemon myrtle was over-supplied after mass plantings in the late 1990s, which led to some growers leaving the industry. However, there has been substantial market growth in Australia and internationally and more uses for lemon myrtle have been developed.

Annual production is now estimated at between 575 and 1,100 tonnes.

Growing conditions

Lemon myrtle prefers nutrient-rich soils of medium to heavy texture, and neutral instead of acidic soil, it is prone to yellowing in alkaline soils.

It performs best in a well-drained, wind-protected sunny position, as the trees succumb to waterlogging and are prone to wind damage.

Young trees are particularly frost and drought tender and require irrigation during dry spells, although they are relatively hardy once established.
**Harvesting**

Lemon myrtle can be harvested year round, although wet season should be avoided.

Several growers will harvest according to demand, picking fresh leaves once orders are secured, while other growers will undertake a major harvest a number of times per year.

Lemon myrtle leaves contain the highest amount of citral (>90%) of any plant known in the world, leading to a common description that it is ‘lemonier than lemon’.

Due to the high volatility of the citral component, lemon myrtle leaves must be dried quickly – ideally within one hour of harvest - to prevent them heating up and deteriorating. The drier should be set at low temperatures (less than 45°C) to prevent the loss of the essential oils.

**Storage**

Lemon myrtle leaves are usually ground and stored in cool, dry conditions for later use. The dried leaves can maintain the essential oils and flavours for years if stored in the appropriate conditions.

Steam distillation is used to produce essential oil from lemon myrtle leaf. The essential oil is very corrosive to certain plastics, so stainless steel and glass containers are most commonly used for storage. Aluminium canisters can also be used for short term storage and shipping.

**Uses**

Lemon myrtle is used in a variety of sweet and savoury dishes.

The milled leaves are often used to impart a distinctively clean and crisp citrus flavour in teas, drinks, syrups, glazes, cakes, biscuits, dressings, mayonnaises, sauces and ice creams. It can be used as a substitute to lemon grass in cooking, and is particularly popular as a flavour enhancer in curries and pastas.

Almost 90 per cent of lemon myrtle produced in Australia is exported in dried form, mostly to the European Union and the United States, where it’s used as a specialty tea.

Essential oil is used as a flavouring ingredient for products such as beverages, liqueurs, flavoured oils and sauces.

**Health benefits**

Lemon myrtle is exceptionally rich in calcium and high in antioxidants, lutein, vitamin E, zinc and magnesium. Scientists believe these minerals are required for synthesis and self-repair of human DNA.
Other uses

The essential oil is used as an ingredient in cosmetics and personal care items such as soaps, creams, toothpaste and shampoo and conditioners. Lemon myrtle has also been used for many years as a therapeutic aromatherapy product for oil burners or as a misting spray.

Lemon myrtle has antimicrobial and antifungal properties that are superior to those of the popular tea tree oil.

As a result, it has potential as a natural food preservative, as an antiseptic, surface disinfectant, and in the biological control of post-harvest diseases in fruits and vegetables.

**FLAVOUR PROFILE**

"...lemon lolly aroma, perfumed with some menthol notes...

contain[s] the highest amount of citral (>90%) of any plant known in the world and its flavour and aroma show refreshingly intense citrus notes, often described as lemonier than lemon

**NUTRITIONAL INFORMATION**

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<tr>
<th>(per 100g frozen puree)</th>
<th>(per 100 grams dry weight)</th>
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<tbody>
<tr>
<td>Energy 683 Kj</td>
<td>Zinc (Zn) 1.055 mg</td>
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<tr>
<td>H2O -</td>
<td>Magnesium (Mg) 188.4 mg</td>
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<tr>
<td>Protein 8.3 g</td>
<td>Calcium (ca) 1583.15 mg</td>
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<td>Total fat 18 g</td>
<td>Iron (Fe) 5.77 mg</td>
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<tr>
<td>Total saturated fatty acids 0.5 g</td>
<td>Selenium (Se) 0.0</td>
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<td>Carbohydrates 18 g</td>
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<tr>
<td>Sugar (total) 18 g</td>
<td>Sodium (Na) 19.20 mg</td>
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<tr>
<td>Fibre -</td>
<td>Potassium (K) 1258.7 mg</td>
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<td></td>
<td>Manganese (Mn) 128 mg</td>
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<td>Copper (Cu) 0.474 mg</td>
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<td></td>
<td>Molybdenum (Mo) 5.5 µg</td>
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<td>K : Na 65.5</td>
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Lemon Myrtle plants
For more information

This fact sheet is one of a series summarising Native Foods R&D from 2007 to 2012. In a partnership between government and industry, the Rural Industries Research and Development Corporation (RIRDC) and Australian Native Food Industry Limited (ANFIL) are working towards an innovative, profitable and sustainable Native Foods industry.

Australian Native Food Industry Limited (ANFIL) was formed in 2006 and is the peak national body which represents all interests in the rapidly growing Australian native food industry. ANFIL has taken the lead in working with industry, governments and other organisations to determine and prioritise research and market development strategies to progress the industry.

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The Rural Industries Research & Development Corporation (RIRDC) is a statutory authority established to work with industry to invest in research and development for a more profitable, sustainable and dynamic rural sector.

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