Overview

The name lemon aspen has commonly been used in the native food industry to refer to two species which have a yellow fruit approximately 20-25 millimetres in diameter, characterised by a star shaped core with small dark seeds encased in husks as in apples.

Widely regarded as the ‘true’ lemon aspen, Acronychia acidula is native to tropical north Queensland and the Atherton Tablelands where it is also known as ‘pigeon berry’. The majority of research has been conducted on this species.

While the fruit can be eaten whole, its strong lemon and grapefruit flavour most commonly lends itself to use in a range of value-added products, including flavouring in drinks and both sweet and savoury products.

The other species, Acronychia oblongifolia, grows on the east coast from northern Victoria to southern Queensland in sub-tropical areas where rainfall exceeds 600mm. It is also known as southern lemon aspen or white aspen and is less intense in flavour and therefore more likely to be eaten whole.

Lemon aspen was regularly consumed by Indigenous communities in north-eastern Queensland, although details are scarce. Today, there is some continuing involvement in its cultivation in far north Queensland.

Wild harvest has been an important source of supply but is gradually being replaced by cultivation, which largely takes place on the Atherton Tablelands.

Lemon aspen has higher anti-oxidant capacity than blueberries and is a very good source of folate, zinc and iron.

Lemon aspen grows naturally in a tropical climate, usually in well-developed upland and mountain rainforest, and is common in rainforest regrowth after disturbance. It is found naturally in coastal areas from central to northern Queensland.

Commercial production is dominated by producers on the Atherton Tablelands, although there are some growers in south-east Queensland and northern New South Wales.

Demand for lemon aspen currently exceeds supply, leaving many in the industry positive about its potential. Production is estimated at 2.5-5 tonnes per year.

Growing conditions

While its natural range is tropical, lemon aspen seems to tolerate quite low temperatures and mild frost, particularly after establishment.

The tree can grow up to 15 metres and grows well in different types of soil. Sandy soils benefit from organic matter and clay-based soils need to be well drained, while extremely dry soils should be avoided.

Maximising sunlight should be a priority, both in selecting the aspect of the slope and the orientation of rows.

Lemon aspen needs to be pruned within the first year to provide a “shrubby” shape consisting of several main trunks, and can then be lightly shaped in subsequent years to allow light to penetrate the canopy. (continues overleaf)
Focus on: native foods R&D

Flavour Profile

“A fresh citrus aroma, conifer leaf, some chemical notes. Spicy citrus aroma and a strong, acidic lemon flavour…”

Fruit just picked from 4 year old lemon aspen
photo Rus Glover

(from previous)

The majority of fruit is produced on or near the ends of growth that has matured during the year.

Plants are susceptible to wind, particularly during the flowering and fruiting period, and natural windbreaks work well.

Harvesting

Fruit is generally produced from January to mid-April, although the season is later in the south.

Yields vary with variety and climate but generally increase each year after planting. Mature trees have been known to produce up to 80 kilograms.

For most producers, harvesting of fruit is done by hand. The use of nets under trees has also been trialled successfully. In the future, it is expected that the increase in cultivation will lend itself to greater mechanisation of the harvesting process.

Storage

Once picked, the fruit needs to be sorted, washed and refrigerated within 12 to 24 hours. It will keep in the refrigerator for up to three weeks. It maintains colour and taste when frozen and can be stored this way for up to two years.

Food uses

Lemon aspen is generally traded frozen whole or as a juice and is primarily used in its processed form, although it can be eaten fresh.

Its strong lemon and grapefruit taste lends itself to use as fruit flavouring in both sweet and savoury products. It is used in an increasing range of value-added products, including sauces, dressings, jellies, chutneys and relishes. Lemon aspen is a common flavouring in juice, mineral water, cordial and fruit wine. In its dried form, lemon aspen can also be ground into a spice mix.

Health benefits

Compared to some other native fruits, lemon aspen is a rich source of folate, iron and zinc. It also contains magnesium and calcium.

Lemon aspen also has superior antioxidant capacity compared to blueberry, renowned worldwide as the ‘health-promoting fruit’.

Antioxidants are believed to hold a number of benefits for human health, potentially preventing and delaying diseases such as Alzheimer’s disease, autoimmune and cardiovascular disease, cancer, and diabetes.
**NUTRITIONAL INFORMATION**

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<th>(per 100g frozen puree)</th>
<th>(per 100 grams dry weight)</th>
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<tr>
<td>Energy 120 Kj</td>
<td>Zinc (Zn) 3.925 mg</td>
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<tr>
<td>H2O</td>
<td>Magnesium (Mg) 147.6 mg</td>
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<tr>
<td>Protein 2.0 g</td>
<td>Calcium (Ca) 133.35 mg</td>
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<td>Total fat 0.9 g</td>
<td>Iron (Fe) 13.25 mg</td>
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<tr>
<td>Total saturated fatty acids 0.2 g</td>
<td>Selenium (Se) 0.0</td>
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<tr>
<td>Carbohydrates 19 g</td>
<td>Phosphorus (P) 129.0 mg</td>
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<tr>
<td>Sugar (total) 19 g</td>
<td>Sodium (Na) 45.05 mg</td>
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<tr>
<td>Fibre -</td>
<td>Potassium (K) 1512.9 mg</td>
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<tr>
<td></td>
<td>Manganese (Mn) 10.025 mg</td>
</tr>
<tr>
<td></td>
<td>Copper (Cu) 0.834 mg</td>
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<tr>
<td></td>
<td>Molybdenum (Mo) 12.9 µg</td>
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<td></td>
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**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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