



## **The Native Food Industry in SA**

### **Introduction**

Australia is endowed with a wonderful range of native fruits, nuts, berries, herbs, spices and vegetable crops and Australian aborigines have relied upon these foods for many thousands of years. Although coming from an ancient culture and continent, the delicious flavours, smells, colours and textures of many of these native ingredients are truly new and novel on the world food market.

The modern commercial Australian native (plant) food industry commenced in the late 1980's and is currently estimated to be worth around \$16M per annum. Compared to many conventional food crops, where supply often outstrips demand, the industry is generally encountering good domestic and export market interest and has significant potential for expansion, with this growth being somewhat constrained at present by the volume, quality and reliability of supply of raw ingredients.

Historically, much of the native foods industry has been based on wild harvested product. However, requirements for consistency and reliability of supply as well as environmental and food safety and quality concerns are causing a shift to cultivated production which, while posing its own unique set of problems, also presents a range of potentially profitable farming opportunities.

### **The market for native foods**

There are currently several native foods market niches being exploited, including minimally processed and further valued-added products; with 'bush tucker', 'bushfoods', 'native foods' or 'Australian cuisine' positioning; in tourist souvenir, tourism experience, foodservice, gourmet and supermarket segment placements in both Australia and overseas.

In contrast to most other horticultural crops, where the product is usually traded and consumed in its fresh form, currently there is little retail trade in fresh native foods. This is due to the relatively small volume currently traded, which makes it uneconomic to invest in fresh market chain education in use, storage and handling; the inherent characteristics of many products (such as small size) which makes the fresh form less acceptable to consumers and the strong demand from the processing/foodservice sectors.

However, for a few crops which have generally acceptable characteristics (such as muntries and native citrus) this is likely to change and a fresh market will develop as volume increases.

There are minimally processed product (eg dried spice) retail sales, while most native foods are probably used in more detailed value-added processing, for products such as sauces and jams, and secondly by the food service sector, as an ingredient in restaurant meals. The processing usage is likely to continue to be the most significant volume outlet.

### **South Australian production**

Compared to other States, South Australia is relatively advanced in native food cultivation and has a range of factors working in concert to produce a comparative advantage for this State, including:

## ***History of use***

As well as an ancient culture of use by aboriginal owners, South Australia has a modern history of native food consumption, ranging from childhood memories of quandong pies at bush relatives or muntries collection at seaside holidays, to the innovative Australian Native Cuisine of Andrew Fielke and Adelaide's Red Ochre Restaurant.

## ***Production areas***

South Australia has a range of diverse production areas that currently or are potentially able to produce aridzone, temperate and rainforest environment native foods. These include the Yorke and Eyre Peninsulas and Northern Agricultural area, which have significant plantings of quandongs and bush tomatoes; the Adelaide Hills-Southern Vales-Fleurieu Peninsular areas, which have plantings of muntries, mountain pepper, ribberries and lemon myrtle; the Riverland, with quandongs, native citrus, wattleseed and bush tomatoes; and Kangaroo Island and the South-East, both of which have significant potential for a range of crops.

## ***Producer profile***

A feature of production in South Australia is the relatively ready acceptance of native foods as diversification opportunity by mainstream farmers. Quandongs, bush tomatoes, wattleseed and native citrus are all commonly produced by conventional horticulturists or broadacre farmers, who bring a range of management skills as well as capital resources to the industry. An example of this agribusiness approach to production is the successful development of mechanical harvesting techniques for bush tomatoes.

As in other States, the industry also attracts new and part-time farmers who add to the production base and often contribute to industry knowledge by trialing new crops in new areas.

## ***Current research***

A recently commenced research project will further boost the expansion of the South Australian industry by providing important information on the suitability and management of native food crops in various locations.

The project is being undertaken by CSIRO Land and Water and is funded by Rural Industries Research and Development Corporation, Australian Native Produce Industries Pty Ltd, the Aboriginal Education Employment Development Branch of South Australian Government and the CSIRO.

The project has established and will monitor plantings that include quandong, acacia, native citrus, riberry, mountain pepper, bush tomato, lemon aspen, lemon myrtle and muntries in a range of climate and soil types, that range from Moonta and Peterborough in the North to Port McDonald in the South.

## ***Distribution channels***

South Australia is home to Australian Native Produce Industries Pty Ltd, one of Australia's larger native food processors and marketers. This company produces a range of sauces under the 'Red Ochre<sup>®</sup>' brand that are sold in supermarkets domestically and in the UK. The company has contract arrangements with growers of native citrus, quandongs, muntries and bush tomatoes, some of which involve Plant Breeders Rights protected material from its Riverland nursery. The company also buys a range of other native foods and has a foodservice and industrial ingredient supply arm in Adelaide.

Native foods ingredients are also supplied locally by the Southern Vales Bushfood. On Kangaroo Island, Ildoura Wild Fruits produce a range of processed products, based on local ingredients. Several processors and producer/processors also operate in the quandong

industry, including Shoalmarra at Tumby Bay, Imgoodtucka Foods at Quorn and Nectarbrook Discovery Plantation near Port Augusta.

Interstate, Cherikoff The Rare Spice Company, based in Sydney, is probably the modern commercial native food industry's oldest processor and marketer. Robins Bush Food in Melbourne also produces a large range of processed products.

### **'Best Bet' crops**

There are hundreds of Australian native plants that are or were used as food sources by indigenous communities. This seeming plethora caused selection problems in the early stages of the commercial native food industry and, to a lesser extent, continues to be an issue today.

Several efforts have been made over recent years to identify those crops with potential for commercial cultivation. In general, native plants with the greatest potential are likely to possess the following core characteristics:

- They taste good.
- They are easy to harvest, handle, transport and store, or at least not present any major difficulties in these areas.
- They are easy to process.
- They have an existing, or likely potential, market demand.
- They are relatively easy to propagate.
- Their likely agronomy is reasonably well understood, and does not appear to pose any major obstacles to successful cultivation.

Today, the concept of around a dozen or so 'best bet' crops is widely accepted by many industry participants, although the exact composition of the dozen may vary somewhat from person to person, with the variation often due to geographical bias. For South Australia, the 'best bets' are likely to be:

**Native Citrus** (principally *Citrus glauca* and *Citrus australasica*, as well as *Citrus australasica* hybrids): Australia has six species of true native citrus. Fruit (to-date primarily from wild-harvested Desert Lime – *Citrus glauca*) is used in a range of sweet and savoury processed products, such as marmalades and sauces, and is in demand by restaurants. Commercial orchard production has also commenced and, because of quality and reliability of supply factors as well as environmental concerns, will eventually replace wild harvested fruit, with the Riverland likely to be a focal point for production.

**Quandong** (*Santalum acuminatum*): The quandong tree has a wide native distribution in semi-arid Australia. The tart-tasting fruit can be eaten fresh or, more commonly, halved and dried and then reconstituted and used in a range of sweet and savoury products, such as preserves, sauces and chutneys, as pie filling or in cordials and liqueur. The kernel is also edible.

Limited supplies of quandong fruit are available from wild-harvest and orchard production. The largest single planting in Australia (at Tumby Bay in South Australia) is reported to be around 7,000 trees.

**Acacia:** There is a growing food industry demand for wattleseed, particularly for seed from the Elegant Wattle (*Acacia victoriae*), which is roasted and milled to produce a highly palatable and nutritious flour. It is a very versatile ingredient, excellent in a broad range of sweet and savoury applications such as casseroles, curries, breads, dampers, cakes, biscuits, pastries, scones and pancakes, dessert sauces, ice cream and cream.

Other factors may also contribute to the further development of wattleseed production, including the potential use of Acacias for dryland salinity mitigation.

**Muntries** (*Kunzea pomifera*): In the wild the muntries plant occurs as a shrub along the southern coast of Australia, from Portland in Victoria to the Eyre Peninsula and Kangaroo Island in South Australia. It produces clusters of berries which can be used fresh in desserts and fruit salads, or cooked in pies, chutneys, jams and sweet or savoury sauces.

Most fruit that reaches the market is harvested from the wild. Some plantations have been established in the Adelaide Hills and there is potential for further expansion in areas such as Kangaroo Island and the far South East of SA. Market demand, combined with concerns over the environmental impact of wild harvesting in the often fragile coastal dune systems, means that cultivated plantings are increasing in importance. As cultivated supplies increase a fresh market outlet should also develop for higher quality fruit.

**Bush Tomato** (*Solanum centrale*): The bush tomato is a perennial evergreen shrub that occurs naturally in central Australia (SA, WA & NT). Fruits ripen any time of the year and may be eaten fresh or dried.

Prior to use, ripe fruits are usually dried to “chip-dry” in the sun (on or off the bush) and the product is used whole or in a coarse-ground granular form. It has an intense, earthy-tomato flavour of great piquancy and pungency. It is added sparingly as a condiment to spice up sauces, marinades, chutneys, soups, stews, casseroles and salads.

Commercial production, which in several cases incorporates mechanical harvesting that utilises converted conventional cereal headers, has commenced in South Australia.

**Mountain Pepper** (*Tasmannia lanceolata*): A shrub or small tree, native to moist temperate forest areas in Tasmania, Victoria, Southern NSW and the ACT. The plant’s fruits and foliage contain a hot chilli/pepper-like factor (polygodial), with a unique aroma and flavour. The peppercorn-like fruits, produced only on female plants, may be dried, ground or preserved in brine and leaves of both male or female plants are dried and milled and used to flavour sauces, chutneys, meats, cheeses, pate, breads, dampers, pastas etc. Extracts from the plant are added to chewing gum in Japan and are being examined for their anti-microbial activities.

Virtually all Mountain Pepper leaves and berries currently used are harvested from the wild from forestry concessions in Tasmania, though there is potential for cultivated production and some trial plantings have been established in the Adelaide Hills. Other cooler areas in South Australia may also have potential.

**Lemon Myrtle** (*Backhausia citriodora*): Occurs naturally in sub-tropical and tropical rainforest areas of Qld, but, under irrigation, may have potential in South Australia. The strongly lemon flavoured leaves are becoming sought after by the restaurant and food processing industries. Fresh leaves, dried leaves, and essential oil are used to flavour seafoods, salads, savoury sauces, hot and cold beverages, desserts, dairy products and chocolates.

**Lemon Aspen** (*Acronychia acidula*): Trees occur naturally in highland rainforests from central to north Queensland, which are the source of current primarily wild-harvested supply. Fruit have a spicy citrus aroma and a strong, acidic lemon flavour. They are used by restaurants and food processors in savoury products, such as sauces, chutneys and salad dressings, and in sweet products such as pie and tart fillings, icecreams and confectionary. Despite its rainforest origin, Lemon Aspen adapts to warm dry climates if supplied with irrigation and protected from frost when young and may have potential in South Australia.

**Riberry** (*Syzygium luehmanii*): Occurs naturally in sub-tropical and tropical Qld and NSW and used as a street tree in Melbourne, Sydney and Brisbane. Fruit is strongly flavoured, tasting of cloves and spice. Used in jams, relishes, glazes, sorbets, ice cream etc. Increasing demand for restaurant and food processing uses. Although a sub-tropical to tropical species, it may have cultivation potential in more temperate South Australian climates if irrigated.

## Industry organisations

There are currently one regional and one crop-based native food industry organisation operating in South Australia:

Southern Vales Bushfood  
PO Box 344 Clarendon SA 5157  
Ph: 08 8383 6481

Australian Quandong Industry Association Inc.  
PO Box 1160 Loxton SA 5333  
[www.aqia.mtx.net](http://www.aqia.mtx.net)

## Future development

While current market indications and grower interest are generally positive, the growth of native food production in South Australia is not guaranteed and is likely to depend on a range of government and private enterprise actions and interactions.

A common and favoured approach to industry development often involves tackling marketing, which is also important for native foods, however the industry's current situation means that these demand issues need to be addressed hand-in-hand with, and examined in the light of, raw ingredient supply channel, volume and quality problems.

Investment in the production side of native foods, required for the growth of the industry and potentially offering good financial rewards, is currently being limited by technical and distribution chain risk factors.

For some crops, such as quandong and bush tomato, the uncertainty over a number of basic disease, management, varietal and flowering and fruiting behaviour issues forms a risk scenario that is placing a brake on further plantings. The outcomes and benefits of a relatively modest research, development and extension effort in these areas are likely to be large, due to the dual effects of significant increases in plantings as producers gain confidence in the management of these crops and the large increases in production efficiencies and levels that could result from addressing some simple current constraints.

The relatively small number and size of distribution channel partners, who operate from limited capital resource bases, also places a constraint on the rate of development of the industry in general.

## Further information

Further information on native crops is contained in the other publications in this series:

*Australian Native Citrus – Wild Species, Cultivars and Hybrids*

*Bush Tomato Production*

*Miscellaneous Native Food Crops – Davidson and Illawarra Plums*

*Miscellaneous Native Food Crops – East Coast Tree Species with Potential in SA*

*Miscellaneous Native Food Crops – Herbs and Vegetables with Potential in SA*

*Mountain Pepper Production*

*Muntries Production*

*Native Food Background Notes*

*Native Food Crops – Frequently Asked Questions*

*Native Food Crops – Sources of Information*

*Quandong Production*

*Sunrise Lime Dieback*

These fact sheets are also available for download from the Australian Native Produce Industries website at [www.anpi.com.au](http://www.anpi.com.au)

## **Acknowledgements**

The assistance and input of Andrew Beal, Managing Director and Graham McNaughton, Nursery Manager, Australian Native Produce Industries Pty Ltd in the preparation and review of this publication is gratefully acknowledged.

## **The Author**

Anthony Hele's qualifications include a Bachelor of Science in Agriculture from the University of Sydney and a Graduate Diploma in Agribusiness from Monash University.

His previous work has strongly focussed on new and alternative horticultural crops and industries and includes six years as an Extension Horticulturist with the NSW Department of Agriculture, providing a comprehensive advisory service in technology and management to individual horticultural producers, groups and organisations; two years as a Research Horticulturist / Farm Manager with Western Australia's Murdoch University, conducting crop nutrition and water use studies and provided day-to-day management and long-term technical and business planning on a commercial orchard; and six years as a private Consultant, providing technical and business management services to horticultural producers, agribusinesses and the government and educational sector.

In January 2000 he commenced as Industry Development Consultant – Native Foods, a position jointly funded by Primary Industries and Resources South Australia and Australian Native Produce Industries Pty Ltd. The position aims to assist in the sustainable economic development of the native foods industry in South Australia.

**Last update: November, 2001**

**Agdex: 350/20**



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