

Investigating Opportunities for Bush Foods



DPI Project on the Native Food Industry Queensland

Author: Gillian Johnston

Project Officer: Margaret Cruickshank

The purpose of this information is to aid you in conducting your own research into potential bush-food market-opportunities. This is not comprehensive market research. You should confirm these initial findings in greater detail to meet your own satisfaction before proceeding.

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Executive Summary

The Australian Native food industry is in a transition/capacity building phase where there are opportunities to assess or develop the capacity of existing stakeholders, introduce new players, build alliances, establish linkages and develop and acquire new resources. Much information about the industry in the past has been acquired through personal experience and/or personal research. However, considerable information has been published in books and magazines and on the Internet.

This resource is designed to assist motivated people to link to the bush food industry. Through researching an opportunity for production or processing, sufficient knowledge can be gained to enable a pre-feasibility study or business plan to be completed.

This resource document introduces the bush food industry, and explains how to define an opportunity and access the relevant information. The following areas are examined:

1. Resources available to realise a business opportunity.
2. Access to the appropriate market research - (the size of the market and the market analysis including buyers, competitors, trends and strategies). Internet site references lead to lists of bush food industry players, related groups, and bush food species.
3. Marketing strategies to be investigated - a series of questionnaire included to work through.
4. Opportunities for short term and long term profit can be identified through production analysis.
5. Outline on how to undertake a basic financial and economic analysis of the business opportunity.

Through research and additional knowledge, a motivated person can link with players in the bush food industry and fully investigate their ideas or business opportunity. This project was designed to assist people discover appropriate information, research their own pre-feasibility, and realise their opportunities.

Aim of this Resource

1. To develop a 'process' that is repeatable in any new agribusiness context.
2. To trial the process in the bush food industry.

DISCLAIMER: Information contained in this document is provided as general advice only. For application to specific circumstances, professional advice should be sought. The Department of Primary Industries Queensland has taken all reasonable steps to ensure appropriate inquiries were made to determine whether the information used in this document is correct for their particular situation.

Objectives

1. To provide a workbook that clients can work through at their own pace to identify an opportunity to develop a new business.
2. To provide access to specific bush foods contacts and offer a diagnostic to assess:
 - (a) market opportunities
 - (b) economics of the opportunity
 - (c) viability of the proposed business opportunity

This resource document has been developed as a support guide for motivated people to research their own opportunity in the Australian native food industry.

Entrepreneurial attitudes, characteristics and skills in assessing the feasibility of a business opportunity can be learned. These skills can be used to determine the success of an opportunity before substantial financial investment. Much of the information in a pre-feasibility can be used to prepare a business plan. The feasibility process is undertaken to research and analyse all possible options before making a decision on a particular course of action. The business plan summarises the plan of action after the decision has been made.

This document is not a comprehensive resource that will give you all the answers. To research your own opportunity is a greater learning experience than to have somebody do it for you. It will help you understand fully your new business before any initial investment is made, by allowing you to work out if the business will be feasible. The idea is to lead you to lists and information that will give you further contacts in the Australian bush food industry. You might choose to communicate with some people already growing or processing product to find out more information. You will find the more involved you become in the research, the more knowledge you will gain on your opportunity, and the easier it is to work out if your idea will be successful.

1. Introduction

1.1 What is bushfood?

Bushfood is the Australian terminology for the huge variety of Australian native foods that can consist of either plant or animal derived products. There are many different varieties of herbs, mushrooms, fruits, flowers, vegetables, animal, birds, and reptiles that are native to this country. Many Australian bush foods can be found growing or living in the wild. Some are found in people's backyards, and others in plantations. Our soil is suited to Australian plants and over the past 15 years there has been a growing interest in developing bush foods into Australian products in order to add new tastes and flavours to our diet.

Aborigines in Australia have been eating bushfood for 50,000 years. White settlers in colonial times who learned about local foods from Aborigines and used this knowledge, fared much better than others who did not. To many Australians today the plants are still quite a mystery, the grubs look unappetising, and Aboriginal cooking methods are not understood (Global Gourmet 2000).

The most popular bush foods developed by industry to date include:

Bush tomato - (*Solanum centrale*), very dry climate, fruit in approx 2 years.
Illawarra plum - (*Podocarpus elatus*), wet climate, fruit in 5 yrs approx.
Davidson plum - (*Davidsonia pruriens*), wet climate, fruits in winter.
Kakadu plum - (*Terminalia ferdinandiana*), fruit in 4-5 years
Lemon aspen - (*Acronychia acidula*), fruits in 3-4 years
Lemon myrtel - (*Backhousia citrifolia*) - fruits in 2 to 3 years
Muntries, Munthari -(*Kunzea pomifera*)- prefers wet climate and fruits in 3-5 years
Mentha australia and native aniseeds -(Prefers wet climate)
Native mountain pepper - (*Tasmania lanceolata*)
Quandong- (*Santalum acuminatum*) - Dry climate - Fruits in 5 years
Riberry - (*Syzygium leuhmannii*) - ripens late summer
Wild lime - (*Eremocitrus glauca*, *Microcitrus* sp.) - Dry climate - fruits yearly

Types of product being produced:

Raw product, chutneys, jams, oils, spreads, cordials, flavourings, liqueurs, pastry, butters, juice, pickles, ground herbs, essence, puree fruit, preserves.

1.2 The Australian Native Food Industry

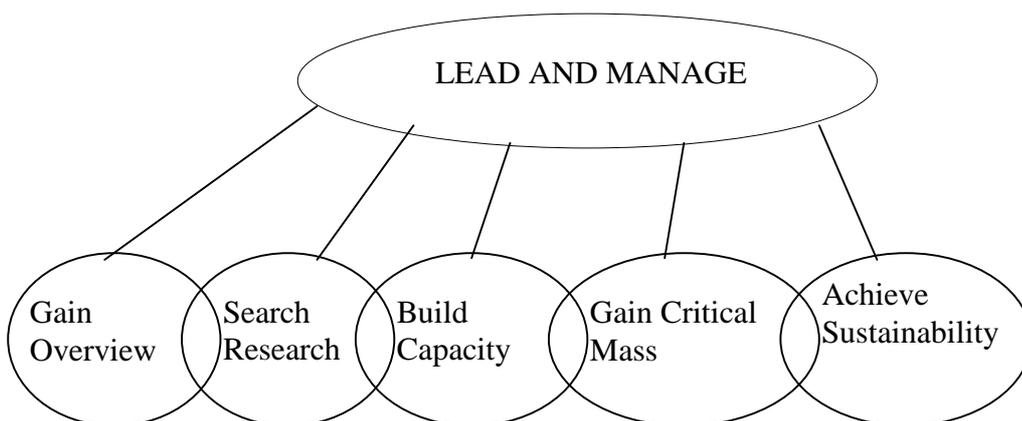
The Australian native food industry was estimated to be worth up to \$20 million per annum in September 2000. This figure however does not include the macadamia industry which alone is valued at \$80 million. Production within the industry has grown steadily over the last five years, however demand does not match this growth.

The industry is addressing the image change and future marketing directions. Originally the market was stereotyped into images of witchetty grubs and survival food. From this perception the industry has developed into unique Australian products offering a difference that is available nowhere else in the world. Now with a growing export demand for bushfood product and expanding tourism potential in the local market, the uniqueness of the bushfood products are being recognised. There is now broad range of native plant foods which have potential for commercial development.

According to the Rural Innovation Management model, the industry has progressed through a number of phases, and is currently in the building capacity stage. New business structures are developing, new innovations are emerging, and there are new power dynamics amongst industry players. In the transition between phases, there is room for tactical decision making, new players, development of the capacity of existing stakeholders, the building of alliances, and developing and acquiring new resources as illustrated in figure 1. Linkages need to be established within the industry to facilitate this change, and resources need to be identified and assessed in order that the industry can grow.

Figure 1

The core RIM model



Source: Van Beck (1999)

2. Market opportunities and considerations.

2.1 Determine your aim or goal.

Before assessing the feasibility for a bush food opportunity, you need to be familiar with the market that exists. Only then can you work out the **aim or goal** you are hoping to achieve in the longer term and whether it is feasible.

This can be done by *defining the opportunity* or problem to which a pre-feasibility analysis will be applied. For example, if the opportunity is to 'to produce lemon myrtle products', the problem may well be 'to obtain an income from lemon myrtle plantations' therefore you would need to become familiar with the market for lemon myrtle products.

If the opportunity or problem is complex, then it can be broken into a number of issues that can be tackled over a time frame. It is important to look at the scope of the opportunity and determine which aspects of the opportunity or problem can be achieved by the skills you already have in your group.

Having decided on the opportunity, the next step is to turn the opportunity or problem into a *project aim*, and then break this down into project objectives. The aim of the project is a statement that tells people what the project is trying to achieve in the longer term. The *objectives* define what is going to be done in the short term to achieve the aim. They need to be realistic and achievable and worked to a time frame. For example, your project aim might be to establish a business growing bushfood herbs. Your objectives would be to undertake a feasibility study, prepare a business plan, register the business, purchase plants and equipment, and plant the herbs, within the next six months.

2.2 A market opportunity in any business requires the knowledge of the market.

Market research is the function that links the consumer, customer and public to the wholesaler or retailer - through information.

This information is used to:

- identify and define marketing opportunities and problems,
- generate and refine and evaluate marketing actions
- monitor marketing performance and
- improve understanding of the marketing process.

In short, marketing research will help you find your own answers and will assist in identifying those criteria for which no information is available.

Research can be obtained through many methods such as:

- surveys,
- the Internet,
- personal interviews,
- desktop research, or
- Statistics.

Should you use a consultant or just contact people in the same industry to find out more information? Should you test the market? Can easily access information on bushfood?

There is a lot of information available on the Internet, but the most valuable information in any industry is from the experienced grower or processor. They have already researched the opportunity, made mistakes, discovered better methods, and become an expert in their field. Much of this research is not recorded, but is extremely valuable to someone just starting to produce or process bush food.

Generally interest groups or Associations are the best method of contacting such knowledgeable people however some people are reluctant to give away their secrets. If you wish to test the market, the best way is to start as a small grower or processor and trial some products on the market. Producing small amounts of any bush food can give good indications of how a product will sell without too much initial investment. Consultant advice can be an expensive option.

ACTIVITY 1

To assist in obtaining information on the Bushfood Industry it is advisable to contact people already in the industry. **TABLE 1 on page 26** lists Bushfood Associations along with some web sites and telephone numbers and contacts in the industry. Try contacting people in your state for further information regarding your aim or goal.

What sort of information do you need? To answer this question we have defined a number of areas where knowledge would be beneficial in starting a new business. These areas include:

- A. Market growth and trends
- B. The buyers of bushfood
- C. Market competition
- D. New research
- E. Risk
 - (a) Legislation
 - (b) Safety
 - (c) Plant breeding

A. Market growth and trends

You would need to know if the market is in growth or decline. This would give an indication of how this industry is developing and which particular segments have been successful. You may have already discovered this information in Activity 1. However, the trends are always changing in an industry, particularly in an industry particularly in a new industry, so it is important to review this information quite regularly. Trends can be long-term waves or short term ripples. For example, a long-term trend might be that bushfood products are selling more in the restaurant market and tourism industry than in the local supermarkets this year. A short-term trend might incorporate the price you can obtain for product this week. Knowing what changes are happening in the current market and the current market trends will be a useful guide for your business. Look at the product already existing on supermarket shelves.

- What quality/quantity is offered at what price?
- Are there new value added products that you might be able to develop?

Talking to people already involved in the industry is always a good way to find out this information. A seminar in Queensland recently revealed the successes some graziers were having in the desert lime industry. These particular graziers had bush lime trees already growing on their property and harvested the fruit to sell frozen product to market. With little expenditure and trial and error they created a successful business. Bush Food Associations and specific Bush Food Industry Associations are another good source for information and seem to be always available to give advice and information.

ACTIVITY 2

Find out what type of goods and services exist that are similar to the product or service you wish to develop. The list that follows is a good source for finding information regarding different bushfood research reports, bushfood plants and their uses, current bushfood opportunities, and general information regarding developing a bushfood business. Turn to **table 4 page 32** where you will find some references for the Bushfood Industry.

B. The buyers of bush food.

What type of people would use your goods. Can you divide them into segments e.g. age, sex, income? Information needs to be gathered on the consumer who actually purchases a bush food product. Who are they? Where do they live? What do they buy and when? Are they all a particular age group, or are they all female, or maybe a high income group?

Knowing the target group is important, but keeping track of exactly who is currently buying the product and how they are using it can be difficult to work

out. By dividing the market into direct groups of buyers or by classifying customers into groups with different needs, characteristics or behaviour you are able to identify the segment of the market that you need to target. From this information you can also identify what amount of product they are currently purchasing and what size of product is preferred.

The commercial bush food industry currently comprises: nursery operators, commercial producers of raw produce, hospitality providers, retailers, food service operators and tourism operators. In particular, processors are also looking for some bush food product, however selling your product locally will save distress over distribution and reduce marketing costs.

ACTIVITY 3

You need to look for the buyers of bush food near your location. Find out who is buying products and when they are buying them. How much product is being bought. Pay particular attention to the market segment that you should be targeting. Are they people involved in restaurants in major cities, processors, international markets, or retailers. The retail market for bushfood in Australia is not large, and it might be more useful to contact restaurants, chefs, tourism outlets or processors.

Table 3 on page 30 details some of the buyers in the bushfood industry.

C. Who are your competitors?

What competition exists? Gathering information about your competition is important. Competitors do not always want to tell the opposition or potential opposition what they are doing. Knowing exactly who your competitors are, what products they are selling, their services, packaging, quality features, and pricing strategies will be invaluable when setting up your business. Your competitors do not necessarily come from the same industry. They may be selling a similar product in the organic food industry or non-organic food industry. You need to look widely for this information. (For example, if you were planning to investigate lemon myrtle flavourings, should you look for bush food lemon myrtle flavours already in production. Other lemon flavours already in the market place or artificial flavours at cheaper prices could be regarded as an alternative to your product and therefore competition.)

Research to discover competitors may take some legwork.

ACTIVITY 4

See what is offered at the local supermarket that might compete with your product. If you are planning to sell your products to restaurants, find out what they are currently using, and how you can improve on that product, for example, can you offer a cheaper price, a better quality, or a more suitable size package. Bush food is a niche market product and therefore could possibly sell at a premium price. Smaller local outlets might be a possibility.

D. New research - what is currently being discovered?

There is new research currently ongoing in the bush food industry. You may find the product you wish to develop has now a seedless variety available. Keep up with new information and find out what is actually happening in new research.

ACTIVITY 5

To assist in obtaining information about new developments in research, **Table 2 page 28** provides a list of places where current research is being undertaken. Look through this list and see if there are any areas that might apply to your business idea. You can investigate further by contacting the people or institution involved in the research.

E. Be aware of the risks

Are you willing to make the commitment financially? What if the crop fails? What if you are unable to sell your products? Are you still prepared to persevere? Do you know the law regarding harvesting and plant breeding? A look at some of the risk areas in the Bushfood Industry will reveal acknowledge of legislation, toxicity and plant breeding issues is imperative.

(a) New legislation. There are controls the collecting from the wild of certain plants and also the trade of some of these plants. The Nature Conservation Act 1992 and the Nature Conservation Regulation 1994 have recently become law in Queensland. There is a third part of this legislation that is the Nature Conservation (Protected Plants in Trade) Conservation Plan 1995. Under this law, the common plants to be protected are those where the harvest from the wild is large enough to pose a potential threat to the existence of the species. However, the possession of plants in a garden or recreational collection is not controlled¹ .

It is important to be aware of legislation that may affect plants you plan to use in your business. Try contacting the following:

Information regarding these laws can be obtained from:

The Department of Environment and Heritage in your State.

Further information on wild harvesting can be obtained from:

Graham, C. and Hart, D. 1997, Prospects for the Australian Native Bushfood Industry, Online, Available at <http://www.rirc.com.au> (p. 31).
Low, T. 1989, Bush Tucker, Australia's wild food harvest, Angus and Robertson, North Ryde.

(b) Safety - Toxicology. When manufacturing or value adding bushfood produce for sale, reference should be made to the ANZFA Food Standards Code. Requirements need to be met and toxicity issues investigated. (see <http://www.anzfa.gov.au>). Be careful ! Make sure you have all the information on toxicology. Many native plants have toxic elements and need to be processed with care.

Further information on toxicology and nutritional values can be obtained from:

ANZFA Food Standards Code <http://www.anzfa.gov.au>

Brand Miller, J., James, K.W. & Maggiore, P.M.A. 1993, 'Tables of Composition of Australian Aboriginal Foods', Aboriginal Studies Press, Canberra

Dowling, R. M. and McKenzie, R.A. 1993, *Poisonous Plants, a field guide*, Department of Primary Industries, Queensland

(c) Breeding plants.

If you are planning to breed plants make sure you have all the information related to plant breeding. This will include regulations involving hybridising, improved selections or cultivars and prove extremely important to any of the leading nurseries involved in plant propagation or breeding. Such information would assist to avoid controversy currently developing in the Industry and can be obtained from:

Further information on plant breeding can be obtained from:

Plant Breeders Rights, P. O. Box 858 Canberra, ACT 2601. Telephone:02 6272 4228 (RIRDC 2000)

2.3 Current Marketing Strategies

Businesses hope to achieve their objectives by developing successful marketing strategies. These strategies involve factors that affect your product such as age, income, packaging, lifestyle and beliefs. Such strategies require information such as the price being charged for the products you are producing or any changes in price in the last year and include target markets, marketing mix and marketing expenditure (Kotler, Chandler, Brown & Adam 1994). You will need to know what determines the price of a product? Do your customers want smaller packets or larger quantities of product? Are there some value adding prospects for your product?

Unprocessed bush food can be difficult to market, so it is important to check out who your customers will be, before you plant your seed. By analysing your market you can determine what amount of profit you can expect, and how to promote and market the bush food product (The New Crops Newsletter 1999). Care must be taken when assessing the worth of product as prices asked are not necessarily prices paid. Current buyers do exist, but they are very explicit about the species they want and the prices they will pay.

If you are selling a product in a particular season, there may already be enough of the product available through other outlets. Information on what plants fruit in which season can be found in the *Australian Bush foods Magazine, Issue 9, Sept-Oct 1998, p31*. However, if you plan to sell to restaurants or chefs, have a knowledge of your product, its uses, and what price you require for it before you

contact restaurants as your lack of knowledge may hinder your business. Further information can be found at the following site:

Graham, C & Hart, D. 1997, 'Prospects for the Australian Native Bushfood Industry', *RIRDC Report*, Online, Available at <http://www.rirdc.gov.au>. (List of tonnage traded and value added products).

ACTIVITY 6

With the information you have collected work through the following questions on marketing strategies. By developing the areas you have researched into a marketing strategy you will begin to understand the business and see if your opportunity is likely to succeed/or not succeed in the market place.

Your marketing strategies:	Your comments
What will attract customers to your product?	
What benefits does your product offer?	
What advantage does it have over the competition?	
What services will you provide?	
How will you package and warranty your products?	

A. Promoting your product

The main aim of promotion is to communicate to others that you have the product they want. To do this you need to communicate the entire package of the marketing mix which is promotion, product, and price, and this must be all coordinated in the right place. Promotion is the specific mix of advertising, personal selling, sales promotion and public relations a company uses to pursue its advertising and marketing objectives (Kotler et al. 1994). Five major promotion tools are advertising, personal selling, direct marketing, sales promotion and public relations. Within these categories you need to decide which tool would best apply to your product.

Some individual businesses have worked hard at introducing bushfood product to supermarkets. Specific tools such as point of purchase displays have been used by different bush food companies throughout Australia. However, what one company does may not be successful for your product.

You can promote a product along with others or you can find your own avenues for promotion. Remember there are many methods of promotion. You need to consider what would be more beneficial for your type of product. Have you thought about something different, for example: speciality advertising, trade shows, field days, demonstrations, catalogues, literature, press kits, posters, contests, premiums and coupons.

Your promotional methods:	Your comments
Do you visit people or make phone calls?	
Do you advertise?	
Do you hold seminars, home parties, workshops, or trade shows?	
Do you sell direct to restaurants, chefs, or tourist industry?	
Do you try personal selling?	

(B) Distribution. A distribution channel moves goods from producers to consumers. It overcomes the major time, place and possession gaps that separate goods and services from those who would use them (Kotler et al. 1994). In such a small niche market as the bushfood industry numerous distribution issues need to be taken into account. Fresh bushfood does not have a long life and generally is distributed in a frozen, dried or bottled state. Dried and bottled products are much easier to handle. Frozen product can be a concern when you try to distribute it across the country.

Some of the issues that have arisen recently are concerned with problems associated with transporting frozen product. Refrigerated vehicles distributing product have been known to turn off the freezer while travelling, and this has been quite a problem to some growers in the industry. You need to be able to trust those with whom you are dealing. You need distributors to be reliable and you also need to be available when the product is to be transported. Such problems arise when running a bushfood business from an isolated location. Distribution is one area where research should be thorough. Quality product is important if you are going send it to market.

What methods of distribution will work best:	Who will you use?
Refrigerated trucks	
Transport company	
Rail transport	
Air transport	
Distributors and brokers	
Retailers	
Direct sales	
Supermarkets.	

(c) The price of the product. In the bush food industry many people appear to be advertising product that is well beyond the marketable price for processing. Don't be fooled by the prices they are demanding. That may not be the price they are receiving. It is necessary for you to do your own research. When selling to companies processing product you need to consider that their final product has to compete with other markets and if you are trying to sell something like Desert Lime to a fruit processor for at \$30 to \$40 per kilo, the processor will not be able to afford to process it into a marketable product.

Prices change regularly so it is important to stay in touch with buyers of bushfood and note the prices of other processed bushfood products.

What methods of pricing will work best?	Comments
Discount parity or premium pricing?	
Quantity discounts?	
Pricing units - by weight, number or volume?	
Terms and conditions of sales?	
Will you display your products?	

Part B The economics of the opportunity

Resources. You need to examine exactly what resources you already own or what is available for your use in your new enterprise. A lot of expense can be saved if a resource is already available. Resources include physical, human, financial and market resources that may be owned by you or available for your use.

ACTIVITY 7

Identify what is available to you or what are the best alternatives that can be considered by completing the following tables.

Resources available to you	List what might be useful in your new enterprise.
Physical Resources	
Buildings	
Machinery	
Equipment	
Land and soils	
Water, sewerage	
Electricity, natural gas	
Road access	
Products that can be further processed	
Local under-utilised facilities in your area?	

Other resources:

Resources available	List your available resources here
<p>Market resources Distance from markets Processing facilities available Wholesalers available Direct markets - any opportunities</p>	
<p>Management and labour resources Technical business and management skills in group Availability to training schemes Local workforce Government assistance with business Development</p>	
Resources available	available resources here
<p>Local market resources Local consumers Processors Wholesalers Distributors Retailers</p>	

Adapted from: National Landcare Program, 2000,

Potential for production

It is important to understand the current market opportunities by researching what the market demand for your product is in Australia. The bushfood market is a niche market and you might find this information may be difficult to obtain. There is a lot of information available on the Internet regarding the bush food industry.

Size of the Industry.	Further information can be obtained from:
<p>The total turnover for the industry is estimated to have a farm-gate value of \$14 million per annum (RIRDC, 1997a).</p>	<p>Atech Group and Total Earth Care 'Bushfood Production and Marketing Information' Online, Available at http://www.rirdc.gov.au.</p>
	<p>Dyer, K., 1998, Promoting Australian Native Foods for Community Change, p. 17. Online, Available at: http://www.dpie.gov.au/agfor/pbr.html.</p>

ACTIVITY 8

Use the information you have obtained to calculate an Economic Analysis of your opportunity by following the steps below.

Economic Analysis

Decide on units of product to be sold (bunches, bottles, punnets etc)

Decide on capital outlay figure needed to commence the new enterprise and apply this figure to year 0.

Calculate the number of units of product to be sold and prices that will be received for the product.

Estimate expense costs for each year.

Then calculate the cash receipts that will be banked each year.

An example of how to fill out this form is provided on the first three lines.

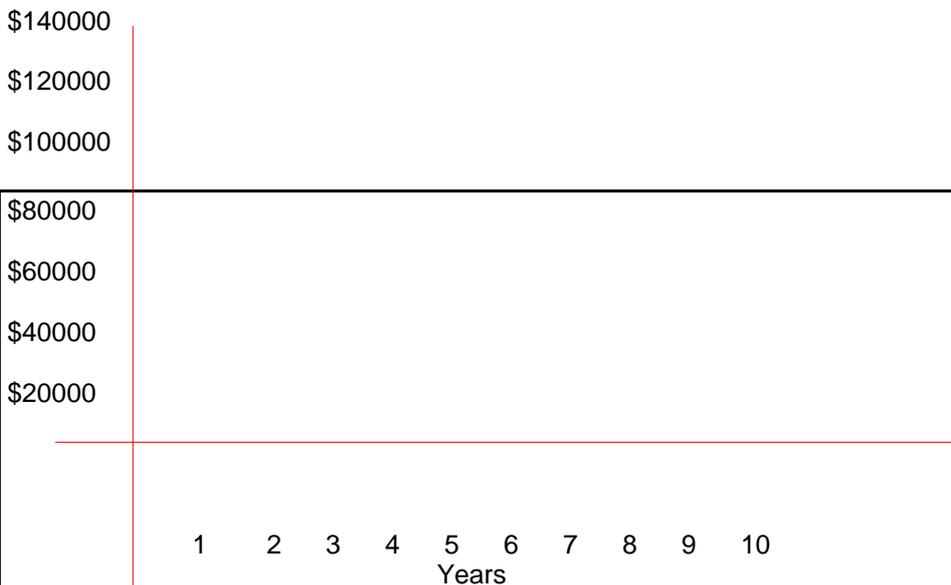
Remember Return - Costs = Cash Flow

Net Profit Value is obtained by adding cash flow amount for that year to the previous year figure for NPV.

Year	Units of Product	Capital outlay	Costs	Cash receipts banked	Cash flow	NPV
0		\$50000			(\$50000)	
1	15000		\$50000	\$80000	\$30000	(\$20000)
2	15000		\$50000	\$80000	\$30000	\$10000
3						
4						
5						
6						
7						
8						
9						
10						

Fill out this section for the ten year projection.

Then graph the figures for the Net Profit Value over the ten year period



Adapted from DPI 1999 and Hassall and Associates 2000

Other steps used in establishing a new crop business include forming of groups, coming to agreement within these groups, monitoring, reviewing and marketing. Experimental production will also give an indication as to whether a business will be successful.

Part C

4.0 The viability of the opportunity

4.1 Production Analysis

It is necessary to review all of the factors that are involved in the growing and/ or production stage of a new enterprise. This can be used as an indication as to how your new business will compare to other enterprises and help establish a budget for the future. The stages that need to be investigated are those for which you have financial responsibility. (The grower should assess all the production factors until the plants leave his property. The processor should assess all factors to do with processing up to delivery to market). However with the smallness of the industry some growers are finding it more profitable to process their own product.

4.2 Short term profits

Growing bush food is a long-term project as many species take a number of years before obtaining their first crop (see literature review). Farm business planning in bush food should take this time restriction into account. There are other options for short-term production of bush food through wild harvesting. Some legislation restricts this practice, by limiting access to the removal of plant material. For wild harvest to be a viable option, there needs to be sufficient supply of raw product.

4.3 Longer term projects

The choice of bush food species is generally based on selection of a plant that will give you the highest gross margin. This requires calculation of price, yield, and operating costs. Many of these variables are not known with any certainty. Once returns become uncertain the amount of risk increases and the plant may provide a lower than expected income. For better returns on new bushfood research, the uncertainties of risk need to be reduced. This can be achieved to a degree through research and contact with people or groups already involved in the industry.

Once a bush food plantation is established, there are many different types of businesses that can be based on bush food products. The simplest is selling the raw product to the market. This method would reduce packaging, labelling, bottling and processing. However, if you wish to take the business a step further into value adding, there is a lot more research necessary before you can set up the business.

Problems people have in setting up processing have not been documented. Many normal processes do not produce the products wanted because of the strong flavours of bush foods. An example is that of a bush food liqueur producer in Brisbane. After sampling and testing his liqueurs based on ethanol for many years he found that white rum gave a preferable taste when added to bush food essences. This bush food producer took four years of problems before Government licensing requirements were satisfied to enable him to produce liqueurs, generally these factors are not documented and require contact with industry players to obtain such information.

There are also considerably different methods of processing the different fruits, roots, leaves etc. Some methods apply to normal food processes, others require adaption. I have found some articles regarding processing in magazines and there are many different people you can contact for further information.

Articles and contacts for some processing information	
Principles of Oil Extraction	Australian Bushfood Magazine Issue 11, June/July 1999
Bush Jams	Australian Bushfood Magazine Issue 6, Mar/April 1998
Essential Oil Extraction	Australian Bushfood Magazine Issue 6, Mar/April 1998
The 'Lundomatic' seed cleaner	Australian Bushfood Magazine Issue 12, Aug/Sept, 1999
Jeff Allen- bearoma@cni.com.au	Information on Stills for distillation of essential oils and for extraction of active compounds from herbs, fruit, leaves, flowers, bark and roots.
Australian National University Dr. Mike Slee Canberra ACT 2601 Telephone: 02 6249 2224	The ANU have been involved in a number of research projects relevant to the native foods industry such as propagation of oil producing Eucalyptus species from cuttings. Mike himself is working on breeding better selections of the Blue Mallee for its commercial oil potential.
Australian Food Plants Study Group (S.G.A.P.) Lenore Lindsay 323 Philip Avenue Frenchville Qld 4701 .	Have a series of publications going back to about 1983 on the uses of native plants and people who have been researching various species and their potential throughout the country
Central Lands Council (CLC) Jock Morse PO Box 3321 Alice Springs NT 0871 or 75 Hartley Street Alice Springs NT 0870 Telephone: 08 8952 9413 Fax: 08 8952 9429 Email: jmorse@clc.org.au	Collating information on potential of commercial production of plants used by Central Australian Aboriginals.

D Cash costs (Recurrent inputs)

For the selected unit of production (e.g. hectare of growing area) estimate all input costs. Use extra lines if necessary for other or multiple items; for instance, different chemicals. Total the cost column by multiplying the Unit number by the amount and price per unit.

	Units	Number required	Price \$	Cost \$
Soil preparation/cult/fert				
Seed stock				
Irrigation/Water				
Fertilisers				
Crop protection				
Harvesting (bunches)				
Pack/Processing (bunches)				
Transport (local market)				
Marketing				
Permits, etc				
Maintenance				
Other fuel/insur/labour				
TOTAL				_____
ha.				\$ per

E Fixed costs

Administration			\$	
Membership fees				
Accounting				
Repairs and maintenance				
Rates				
Insurance				
Miscellaneous				
Total fixed costs			_____	\$

Farm cash income = (C -(D+E))

Adjusted by:

Build up in trading stock (+)

Less Depreciation - (B)

Less Labour -operator, manager, family costs

= Farm business profit

Return on investment = (farm profit x 100) ÷ A

Return to producer = C - (D+E+B)

Adapted from DPI 1999 and Hassall and Associates 2000

5. Conclusion

The Australian bush food industry has moved into a capacity building phase where there are opportunities to develop new business enterprises. New innovations are emerging, and there are changing power dynamics amongst industry players. As the bush food industry builds in capacity new faces are appearing in the industry and linkages need to be established to facilitate this change. Resources need to be developed so the industry can grow. This resource document has explained:

- how to define an opportunity and
- how to research the opportunity in order to be able to assess its full potential.

It has investigated the market for bush food leading the researcher to lists of industry players. It has included investigations into market research, market analysis, financial analysis and economic analysis briefly looking at opportunities for short term and long term profit. Through research and knowledge it is hoped this document will assist a motivated person to link with industry players in the bush food industry and realise their opportunities.

TABLE 1

Bushfood Associations
ARBIA (Australian Rainforest Bushfoods Industry Association) The Secretary, P. O. Box 6407, South Lismore NSW 2480.
Australasian Ethnobotanical Foundation, Gareth Wise, Director PO Box 11, West Ryde NSW 2114.
Australian Quandong Industry Association (AQIA) Daniel J. Mathews, PO Box 236, Upper Sturt SA 5156 AQIA was formed in 1983 with the aim of being recognised as the governing body that unites and assists quandong growers with research and development, quality assurance, marketing, other growers and customers. AQIA members believe that quandong production will grow into a multi-million dollar industry over the next 2-3 decades. Telephone: 02 9804 7437
Arid Land Growers Association (ALGA) Graham Herde Nectar Brooks Station via Port Augusta SA 5700 Telephone: 08 8634 7077
Fraser Coast Essential Oils Association - P. O. Box 26 Maryborough, Qld 4650 Telephone: 07 4121 4588 Fax: 074121 4566
Henry Doubleday Research Association of Australia Inc. 816 Comleroy Road Kurrajong NSW 2758. Web site: http://www.hawkesbury.uws.edu.au/research/affiliates/HDRC/hdmembers.html .
Native Food Growers Group Incorporated - Elizabeth Shannon 1358 Triamble Road, Hargraves NSW 2850 (A recently formed rural group that have raised their own funding and are planning to trial quantities of native food plants in 5 different regions west of the Hunter district in NSW).
Northern Bushfood Association Inc. Secretary: Larry Geno 434 Ilkley Road Ilkley QLD 4554 Telephone/fax: 07 5478 8815
Queensland Bushfood Cooperative (QBC) Interim Chair: John King Secretary: David Cooke, PO Box 358 Beerwah Queensland 4519 Phone: 07 5494 3812 Email: bushfood@hotmail.net.au or contact John King, Telephone: 07 3284 2202
Rainforest Seed Collective Coordinator: Yahana Treweeke Private Mail Bag, Bellingen NSW 2454.
Seed Savers Network PO Box 975 Byron Bay NSW 2481 Telephone 0266856624
Society for Growing Australian Plants Queensland PO Box 586, Fortitude Valley Queensland, 4006.
Society for Growing Australian Plants NSW 860 Henry Lawson Drive Picnic Point, NSW. 2213.
Society for Growing Australian Plants Food Study Group - Lenore Lyndsay

323 Philp Avenue Frenchville Queensland 4701

South East Sustainable Bushfood Industry Group

Secretary: Terence Carpenter

443 Kameruka Lane, Candelo, NSW. 2550 Telephone: 02 64932227

Southern Bushfood Association (SBA)

David Thompson, RMB 7390A, Wartook Victoria, 3401.

Telephone/fax: 03 5383 6247

Email: dinkumfare@hotmail.com

Source: RIRDC 1998

TABLE 2

Some examples of current research:
<p>Conservation Commission of the Northern Territory - Glenn Wightman (Extensive information compilation of plants used by Aboriginal communities in the northern part of the NT. Includes the production of almost a dozen excellent publications on species used for food, medicines and implements.)</p>
<p>Australian Native Bee Research Centre, PO Box 74, North Richmond, NSW. 2754 -Fax 02 4576 1196 Email: anbrc@zeta.org.au (Promoting the awareness, preservation and enjoyment of Australian Native Bees. Publishes 'Aussie Bee' four times annually.)</p>
<p>Society for Growing Australian Native Plants (SGAP) -NSW. Sector W. Payne, 860 Henry Lawson Drive, Picnic Point, NSW. 2213 Email: sgap@ozemail.com.au (SGAP has access to extensive research information on native plant species covering the last 20-30 years perhaps longer. Many members have been responsible for providing valuable information to leading players currently involved in the native foods industry.)</p>
<p>Bureau of Resource Sciences – Canberra. ACT. Helen Desmond - Telephone: 02 6272 5273 Helen is currently compiling a report on Aboriginal involvement in the native foods industry funded by ATSIC.</p>
<p>Centre for New Industries Development - Agriculture Western Australia Jeff Hastings, 3 Baron-Hay Court, South Perth, WA. 6151 Telephone: 08 9368 3682 Fax 08 9368 3791 (Part of the New Industries program established in 1996 as an initiative of Agriculture WA in response to changes which were occurring in agricultural production, processing and marketing. Its aim is to develop industries which can contribute to the diversity and sustainability of the agricultural sector in WA.)</p>
<p>Monash University, Melbourne - Canberra, ACT. The institution has been involved in publications such as Tables of Composition of Australian Aboriginal Foods, Brand Miller, James, Maggiore, Aboriginal Studies Press, 1993.</p>
<p>Wildlife and Ecology - Tom Irvine normally QLD based and G. Griffen PO Box 84, Lyneham ACT 2602 (Extensive research on Quandongs, Acacia species and Citrus Cultivars - contact Steve Sykes, Mildura CSIRO or ANPI).</p>
<p>Department of Conservation and Land Management (CALM) WA 50 Haymen Road, Como WA 6152 (Currently involved in the commercialisation of native resources in WA and the publication of a series of 'Bush Books' which includes native foods.)</p>
<p>Department of Primary Industries (DPI) Qld Contact: Margaret Cruickshank Telephone: 07 46881331 (Involved in a number of native food research projects.)</p>
<p>Tree Crops Centre, David Noel, PO Box 27, Subiaco, WA. 6904 Telephone: 08 9388 1965 Fax: 08 9388 1852 (An excellent resource provider for those requiring literature/information on</p>

everything edible/useable and the methodology of how to cultivate it including some coverage of native species.)

University of Tasmania

Chris Read

(Currently researching the leaf extracts of *Tasmania lancoelata*, Mountain Pepper.

Professor Robert Menary is also investigating its potential. He works at the same institute.) Telephone: 03 6226 2999.

Source: RIRDC 1998

TABLE 3

Lists of Some Buyers of Bush Food and their Locations	
<p>Atech Group and Total Earth Care ‘Bush food Production and Marketing Information’ Online, Available at http://www.rirdc.gov.au.</p> <p>‘Australian Bushfood’ Online, Available at http://www.rirdc.gov.au/programs/bushfood4.html.</p> <p>ATCROS Table W - http://www.aoi.com.au/atcros/ RIRDC Australian Bushfoods, Online, Available at http://www.rirdc.gov.au/programs/bushfood2.html</p>	<p>RIRDC Bushfood Processors, Online, Available at http://www.rirdc.gov.au/programs/bushfood3.html</p> <p>Bush Tucker Supply Australia Pty Ltd Online, Available at http://www.bushtucker.com.au/Restaur.htm.</p> <p>The Australian New Crops Newsletter Issue 11, January 1999, Online, Available at http://www.newcrops.uq.edu.au/newslett/ncnl1129.htm</p>

Some Buyers of Bush Food	
<p>Arid Land Growers Association (ALGA) President : Brenton Zubrinich Telephone 08 86436102</p>	<p>Queensland Bushfood Cooperative (QBC) Interim Chair: John King Telephone: 07 5494 3812 Email: bushfood@hotmail.net.au or contact John King, Tel 07 3284 2202</p>
<p>Australian Native Produce Industries Andrew Beale P.O. Box 163 Paringa SA 5340 Telephone: 08 85951611</p>	<p>Robins Foods /Juleigh Foods Factory 1/No8 Braeside Drive Braeside Vic 3195 Telephone: 03 9587 8820 Fax 03 9587 8821 Juleigh is another pioneer in the industry and has recently released an excellent recipe book which includes species uncommon in the industry.</p>
<p>Arnhem Bushtucker P.O. Box 39111 Winnellie NT 0821 Telephone 08 89419930</p>	<p>Jean-Paul Brunteau Ribberries Restaurant Telephone: 02 93614929</p>
<p>Australian Native Foods/Bushfoods of Australia Brian Milgate Telephone 07 4946 4433</p>	<p>R.A.H Hospitality/Bush Tucker Distributors Stacey Carpenter Penrith NSW 2750 Tel 02 9630 6427 (9am-5pm) 047 338 064 Recently established suppliers and growers.</p>

<p>Byron Bay Native Produce Erika Birmingham Telephone: 02 6687 1087</p>	<p>Red Ochre Restaurants Andrew Fielke 129 Gouger Street Adelaide SA 5000 Telephone: 08 8212 7266 The leading native foods restaurant in Australia, and works closely with ANPI to assist in the cultivation of desirable species.</p>
<p>Cherikoff Pty Ltd Vic Cherikoff P. O. Box B 103 Boronia Park NSW 2111</p>	<p>Shoalmarra Quandong Products Ben Macnamurra Via Whites River Road PO Box 21 Tumby Bay SA 5605 Specialising in Quandongs/cut flowers as a grower and value adding producer/exporter; generally source and cultivate their own fruit.</p>
<p>Dinkum Fare and Wartook Café David and Judith Thompson Telephone: 03 53836305</p>	<p>Southern Vales Bushfood Growers Group Michael Brandwood PO Box 344 Clarendon SA 5157 Telephone: 08 8383 6481</p>
<p>Francesca's Bush Spices Siena Pty Ltd 77-79 Orsmond Street Hindmarsh SA 5007 Telephone: 08 83469131</p>	<p>Taste of Australia Niche Solutions International Pty Ltd 2 Railway Walk Brighton Beach VIC 3188 Manufacturers of biscuits with native food ingredients including wattleseed and lemon myrtle shortbread.</p>
<p>Quandong Cafe and Bush Bakery Bob and Sue Tulloch Copley (Northern Flinders Ranges) SA 5732 Telephone: 08 8675 2683 Approximately 14 years in the business, specialising mainly in Quandongs but are interested in other products. Generally buy from Aboriginal communities and produce some of their own.</p>	<p>The Australian Macadamia Society Suite 5/76 Woodlark Street Lismore NSW 2480 Telephone: 02 6622 4933 Fax 02 6622 4932 Generally considered an outsider to the industry but perhaps offers a successful model which may provide valuable information for current industry operators. May be keen to actually start utilising a variety of bushfood products many of which are extremely compatible with macadamias, particularly wattle seed. companies in the industry, and closely linked to the Red Ochre restaurant chain.</p>
<p>Walkabout Foods Tel/Fax 08 8227 1818 Suppliers and exporters of a small range of native gourmet foods.</p>	<p>Triak Beverages Pty Ltd 1219 High Street Armadale Vic 3143 Telephone: 03 9822 9100 Fax 03 9822 4108 Producers of the Witjuti label of Australian bushfood.</p>

Source: RIRDC 1998

TABLE 4

Some references for the Bush food Industry can be found in the following books and Internet sites:
Atech Group and Total Earth Care, 1999, 'Improving access to bush food production and marketing information', <i>RIRDC Report</i> , Online, Available at http://www.rirdc.gov.au
Carey, M. & Gow, P. 1998, <i>Bushfood Plants: Useful and Edible Plants for the South East</i> , Sapphire Coast Producers Association.
Cribb, A. B. and Cribb, J. W. 1989, <i>Useful Wild Plants in Australia</i> , Collins, Sydney.
Douglas, K. and Swete K. D, 1998, <i>An introduction to the bush food industry on the Sunshine Coast and Hinterland areas</i> , DPI Information Series Q198060 Queensland.
Leiper, G. 1984, <i>Mutooroo: Plant use by Aboriginal People</i> , Eagleby South State School.
Low, T. 1989, <i>Bush Tucker, Australia's wild food harvest</i> , Angus and Robertson, North Ryde.
Palethorpe, J. 1997, ed. <i>Bush Tucker Magic</i> , Fremantle Arts Centre Press.
Phelps, D. G. 1997, Feasibility of a Sustainable Bush Food Industry in Western Queensland, <i>RIRDC research Paper Series No. 97.37</i> .
Ringer, S. & Ringer, B. 1998, eds. <i>The Bushfood Starter Kit: A resource guide</i> . Australian Bushfoods Magazine.
Robins, J. 1997, <i>Wild lime – cooking from the bushfood garden</i> . Allen and Unwin.
Robins, J. & Robins, I. 2000, <i>Wild Classics, Traditional and easy recipes with a bush food difference</i> , Allen & Unwin Pty. Ltd., St. Leonards, NSW.
Sked, J. 1985, <i>Go Native Wild Food Cookbook</i> , Pine Rivers SGAP.
Smith, K. & Smith, I. 1999, <i>Grow your own bushfoods</i> , New Holand Publishers.

TABLE 5

Lists available	Further information and Internet sites:
<p>List of nurseries for Australia and NZ</p> <p>Lists of useful plants and bushfood plants.</p>	<p>ATCROS Table http://www.aoi.com.au/atcros</p> <p>Greening Australia (GA) Head Office: Canberra ACT Telephone: 02 6253 3035 GA have considerable experience in information collation and dissemination as a national organisation. The Canberra head office provides an excellent overview of GA's role in the industry and their information service which even if not specifically about native foods is significant. http://www.greenwork.org.au/nursery.htm http://www.greenwork.org.au/bushfood.htm</p> <p>Australian Bushfood Magazine Issue 12, Aug-Sept 1999, p 39 email bushfood@hotkey.net.au</p> <p>ANCA useful plants at http://www.anca.gov.au/plants/manageme/</p> <p>Ringer, S. 2000, 'Bush Food Species for Temperate Regions', Australian Plants, Online, Available at: http://farrer.riv.csu.edu.au/ASGAP/APOL12/dec98-2.html</p>
<p>Bushfood Plants for sale</p>	<p>Nindethana Seed Service PO Box 2121 Albany WA 6332 Telephone: 08 9844 3533 Fax 08 9844 3573 Email: nindseed@fullcomp.com.au One of the largest suppliers of Australian native seeds with over 3,000 species available. Information regarding fruiting times, mechanisation used to collect food bearing species, viability of seed, improved genotypes or heavy and consistent producing selections is information of value to seed collectors and the native food industry.</p>
<p>Bushfood flavours</p>	<p>http://www.bushflavours.tassie.net.au/</p>

Source: RIRDC 1998

TABLE 6

Some useful sites and contacts for information on competitors	
List of Queensland Food Companies and their products	Queensland Food http://www.food.qld.gov.au/
List of bushfood processors (See Appendix 3)	http://www.rirdc.gov.au/programs/bushfood4.html
Australian Native Produce Industries (ANPI) One of the leading commercial companies in the industry, fully integrated and closely linked to the Red Ochre Native Foods restaurant chain.	Andrew Beale PO Box 163 Paringa SA 5340 Tel 08 8595 1611 Fax 08 8686 4511 Email: foods@anpi.com.au
Blue Gum Fine Foods	http://www.bluegumfinefoods.com/
Bush chocolates	http://www.softcom.com.au/mall/bushchoc
Cherikoff Pty Ltd Vic Cherikoff PO Box B 103 Boronia Park NSW 2111 Tel 02 9818 2800 Fax 02 9818 2900 Email: info@bushtucker.com.au Web site: http://www.bushtucker.com.au/	One of the first commercial suppliers of native food products. Offers a substantial range of products from around 36 different species as well as internet information covering many topics from recipes to processed product.

Source: RIRDC 1998

Appendix 1

Literature Review

Most commonly used species and most commonly in demand

Products	Sources and Comments made on Products					
	Graham, C. and Hart, D. 1997, Prospects for the Australian Native Bushfood Industry, RIRDC Research Paper No. 97/22	Bush Tucker Supply Australia	Graham and Hart, 1997, Bushfoods, A handbook for farmers and investors, RIRDC Report, pp. 227-234	Nagle, J. 1996, Production of bush foods (Bush Tucker), Bush Food Production, Greening Australia	Dyer, K. 1998, Promoting Australian Native Foods for Community Change, University of Adelaide, S.A.	Commercial Bushtucker production - a North Queensland Perspective, DPI Choices Seminar, August 1995.
Bush tomato (Solanum centrale), very dry climate, fruit in approx 2 years.	Commercial plantings, approximately 12000. Used as spice or flavouring in soups, casseroles, tarts and pies.	Can be obtained whole or ground with the ground products easily added to bread mixes, salads, sauces, cheese dishes, chutneys, stews, or mixed into butter	Spice or flavouring addition for tomato dishes		Grown in large cultures. Laboratory based work being undertaken http://www.uts.edu.au/new/archives/1998/february/0.9.html	
Illawarra plum (Podocarpus elatus), wet climate, fruit in 5 yrs approx.	Commercial plantings 500 or greater. Used in savoury applications: illawarra plum and chilli sauce, chutneys, marinades	Can be sauced, performs extremely well with chilli or ginger. Used in preserves, cheesecakes, muffins and other deserts.	Plum/pine flavour			
Kakadu plum (Terminalia ferdinandiana) fruit in 4-5 years	Commercial plantings: none known - Used with apples or pears in jams, sauces, or glazes and for chutney making	Flesh used to garnish fish or added to sauces or fruit compotes. Plums pickle well in hot vinegar flavoured with native herbs. Suitable for BBQ sauce flavouring.				

Most commonly used species and most commonly in demand						
Products	Sources and Comments made on Products					
	Graham, C. and Hart, D. 1997, Prospects for the Australian Native Bushfood Industry, RIRDC Research Paper No. 97/22	Bush Tucker Supply Australia	Graham and Hart, 1997, Bushfoods, A handbook for farmers and investors, RIRDC Report, pp. 227-234	Nagle, J. 1996, Production of bush foods(Bush Tucker), Bush Food Production, Greening Australia	Dyer, K. 1998, Promoting Australian Native Foods for Community Change, University of Adelaide, S.A.	Commercial Bushtucker production - a North Queensland Perspective, DPI Choices Seminar, August 1995.
Lemon aspen (Acronychia acidula) Fruits in 3-4 years	Commercial plantings 5000 or greater. Used with limes or lemons. Marinades, butters, icecream, curds, butter sauces, shortbreads.	Use whole lemon aspen fruits. Juice can be used in pastries, desserts, sauces, and marinades and pulp can also be used to flavour. Available as frozen whole, as pulp or juice				Harvested in large quantities for restaurant trade - sauces and sorbets
Lemon myrtel (Backhousia citriodora) - Fruits in 2 to 3 years	Commercial plantings 5000 or greater. Used in teas, sorbets, Asian dishes, shortbreads, hollandaise, dressings, sauces with fish and chicken.		Essential oils in leaves giving perfume and taste: flowers and seed used in dried, fresh, shredded, ground or crushed form berries.		By 2001 production will exceed 500 tonnes dry weight. B. citriodora	

Most commonly used species and most commonly in demand						
Products	Sources and Comments made on Products					
Muntries, Munthari (Kunzea pomifera) prefers wet climate and fruits in 3-5 years	Commercial plantings approximately 5000- Used - apple-sultana tasting berries with salad and deserts. Could be interchanged with apples in strudels, relishes, pies, muffins, teacakes or in stuffing/sauces.	Native cranberries. Granny smith apple flavour- compliment apples in pies, flans and desserts. Make excellent sauces, garnishes, preserves. Ideal fruit to serve with cheese.				
	Graham, C. and Hart, D. 1997, Prospects for the Australian Native Bushfood Industry, RIRDC Research Paper No. 97/22	Bush Tucker Supply Australia	Graham and Hart, 1997, Bushfoods, A handbook for farmers and investors, RIRDC Report, pp. 227-234	Nagle, J. 1996, Production of bush foods (Bush Tucker), Bush Food Production, Greening Australia	Dyer, K. 1998, Promoting Australian Native Foods for Community Change, University of Adelaide, S.A.	Commercial Bushtucker production - a North Queensland Perspective, DPI Choices Seminar, August 1995.
Native herbs (prostanthera rotundifolia)	Commercial plantings unknown.		Native Mint (frost hardy)			
Mentha australia and native aniseeds (Prefers wet climate)	Commercial plantings unknown	50 fold increase in production	Potential as native herbs		By 2005 production will exceed 120 tonnes B anisata (aniseed myrtle)	
Native mountain pepper (Tasmania lanceolata)	Commercial plantings up to 5000. Coarsely cracked black pepper (intense flavour).		Berries			

Most commonly used species and most commonly in demand

Products	Sources and Comments made on Products					
<p>Quandong (Santalum acuminatum) - Dry climate – Fruits in 5 years</p>	<p>Commercial plantings 40-50000. Combined with muntries/munthari, peaches, figs, bananas in sweet or savory dishes such as sauces, pies and cakes.</p>		<p>Fruits with large pitted kernel</p>		<p>Produce from grafting on best rootstock, thrive on irrigation (saline water)</p>	
<p>Riberry (Syzygium leuhmannii)</p>	<p>Commercial plantings up to 5000 Combine with red berries in a fruit salad or with rhubarb, plums or peaches in crumble, strudel, muffins, scones. Blends well in sauces.</p>		<p>Fruit is clove and spice flavoured</p>			

References

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- DPI 1999 'Organic Meat Chicken Opportunity - Draft Copy', Rural Industry Business Services, DPI Queensland.
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