



# **Innovative use of farm trees**

## **Australian marketing experiences**

**A report for the RIRDC/L&W  
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Joint Venture Agroforestry Program**

by Digby Race

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# Foreword

The considerable investment by government, industry and growers in agroforestry during the 1990s has sought to increase its adoption in many regions of Australia – due to its multiple socio-economic and environmental benefits. However, many landholders are delaying adoption or under-investing in farm vegetation due to the uncertainty of how they can effectively access viable markets for their products and services.

While grower cooperatives have gained attention as a possible marketing approach, this is not the only, nor necessarily the most effective, approach for all small-scale growers around Australia to optimise their commercial returns from the products and services of farm vegetation. Leading farmers around Australia have used a variety of approaches to using farm vegetation for profitable enterprises – all with different essential ingredients for their particular situations. Their experiences are of great benefit to others currently exploring and developing farm vegetation.

Many people throughout Australia are interested in creating productive and sustainable farming landscapes. Farmers have a long history of developing innovative strategies to maintain business viability by taking a creative view of how to use farm vegetation. This publication illustrates that many landholders are already successfully using farm vegetation to provide a wide range of products and services, and by doing so are creating distinctly Australian agricultural landscapes. This publication aims to inspire other landholders with ideas on how rural Australia can incorporate trees and shrubs – and make it pay.

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**Peter Core**

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# Summary

Australia is attempting to create productive and sustainable rural landscapes – landscapes based on the innovative use of farm vegetation. While continually looking for new products, there is also considerable interest in how farmers can capture the financial returns from the ‘services’ of farm vegetation, such as via carbon, salinity and biodiversity credits. Yet, many of the environmental services of farm vegetation are complex and are still to translate into direct payments to individual landholders. Consequently, many farmers are delaying adoption or under-investing in farm vegetation due to the uncertainty of how they can effectively access viable markets for their products.

Access to commercially viable markets for the many and varied products from farm vegetation is seen as being important for financing further investment in existing and new rural industries. However, access to markets can be difficult for small-scale growers who face commercial disadvantages (eg. distance from markets, new niche products, discontinuous supplies).

While grower cooperatives have gained attention as a possible marketing approach, this is not the only, nor necessarily the most effective, approach for all small-scale growers around Australia to optimise their commercial returns from the many agricultural enterprises. Leading farmers around Australia use a variety of approaches to make farm vegetation pay – all with different essential ingredients for their particular situations. This publication is based on examples that illustrate many landholders have already successfully designed farms that produce a diverse range of products and services from native and exotic vegetation.

The examples of enterprises included in this publication are taken from across Australia. They include a diverse mix of landholders, farm vegetation, agro-climatic conditions, and marketing strategies – all successful in their own way. The selection of examples is deliberately diverse – in terms of the type of farm vegetation and also how it is used to support a viable enterprise. It includes examples with people that sell products such as timber from farm plantations and native forest, wattle seed, eucalyptus oil and native food. They also include people who sell the ‘service’ of native vegetation, that is, the farm vegetation directly contributes to the services that some farmers sell, such as biodiversity, eco-tourism and wool (produced from grazing native saltbush).

A summary of the main tips for making farm vegetation pay drawn from the eight examples is provided, which include:

- carefully assessing prospective markets,
- appreciating the implications of long-term market trends,
- understanding the costs and returns of enterprises,
- matching the enterprise to your capacity,
- developing an appropriate marketing mix, and
- building rapport with potential buyers.

# Background

A recent estimate revealed that Australia faces a cost of \$60 billion to repair environmental degradation of our land, vegetation and inland waterways – largely as a result of excessive clearing of native trees and shrubs. A growing number of people advocate that we must develop new opportunities for farm vegetation that contributes to alternative land-uses that are financially profitable and ecologically sustainable. Recent work by CSIRO Land and Water *et al.* (2001) described the development of a new suite of forestry options as ‘... potentially the most relevant, effective and robust’ land-use option for managing salinity, yet they point to the lack of current markets of sufficient size and value that would stimulate widespread adoption of tree-based farming.

While there are numerous prospective enterprises based on farm vegetation, relatively few people have actually developed commercially viable farms that incorporate large areas of trees and shrubs. The examples in this publication illustrate some innovative approaches to creating profitable farming based on native and exotic vegetation. These examples are not intended to be directly replicated, but rather to encourage people to take an innovative view when exploring their local opportunities. Not all farm vegetation will lead to a viable enterprise, yet the challenge is to design a property so that it can make a positive contribution to the overall viability of the farm business.

There has been much recent research of how farmers can capture financial returns from the ‘services’ of farm vegetation, such as via carbon, salinity and biodiversity credits (Binning *et al.* 2002; Fung 2001; van Bueren 2001). However, many of these environmental services are complex and are still to translate into direct payments to individual landholders. Nonetheless, there are some very promising initiatives currently being trailed, including Hancock Timber Resource Group’s integrated forestry investment packages (combining payments for carbon sequestration and timber production), the Victorian Department of Natural Resources and Environment’s Bush Tender Trial (paying landholders to manage bush on private land).

We have entered a new era for our rural landscapes, where we must look at our farm vegetation with a new paradigm. Creating productive and sustainable farms must include the careful analysis of the environmental conditions and commercial realities that farmers face. These examples illustrate that many landholders are already successfully marketing a wide range of products and services from farm vegetation, and by doing so are creating distinctly Australian agricultural landscapes – that work for people and the environment. This publication aims to inspire you with ideas on how rural Australia can incorporate trees and shrubs with farming – and make it pay.

The considerable investment by government, industry and growers in farm vegetation during the 1990s has sought to increase the multiple socio-economic and environmental qualities that support prosperous rural communities across Australia. However, many landholders are delaying adoption or under-investing in farm vegetation due to the uncertainty of how they can effectively access viable markets for their products.

While grower cooperatives have gained attention as a possible marketing approach, this is not the only, nor necessarily the most effective, approach for all small-scale growers around Australia to optimise their commercial returns from agricultural enterprises. Leading farmers around Australia use a variety of strategies to make farm vegetation profitable – all with different essential ingredients for their particular situations. Their experiences are likely to be of benefit to others looking to incorporate more, or alternate, farm vegetation.

# Relevance and benefits

If farm forestry was to reach its full potential it could have a value of \$3.1 billion/year once a sustainable harvest is reached (CIE *et al.* 1996). However, overcoming the fundamental market difficulties faced by many small-scale growers in regional Australia remains a major challenge before tree-based farming is likely to near its full potential.

Several national surveys of growers or prospective growers have consistently reported that the difficulties of accessing viable markets remains one of the biggest barriers to the widespread adoption of tree-based farming across Australia (Prinsley 1991; AACM *et al.* 1996; Alexandra & Hall 1998; Curtis & Race 1998; Stirzaker *et al.* 2000; CSIRO *et al.* 2001). Nevertheless, some leading farmers have developed strategies to overcome considerable market disadvantages – allowing them to increase farm vegetation to develop viable farming businesses. Providing credible and practical strategies for overcoming the current market difficulties – whether through a marketing cooperative, joint venture, long-term contract, or growing niche products – is needed for the many landholders seeking to make their farm vegetation pay.

Access to viable markets for existing and new products and services is seen by many as being important for financing further investment in innovative new industries – industries much needed by rural Australia. However, access to markets can be difficult for small-scale growers who face commercial disadvantages (eg. distance from markets, new niche products, discontinuous supplies). Some leading farm forestry practitioners have developed strategies for overcoming many commercial disadvantages, thereby making farm vegetation a profitable venture.

This publication draws together the invaluable experiences of some leading landholders to assist others develop their own successful strategies for making farm vegetation pay. It is designed to be a useful companion to the related publication – ‘*Growing Successfully: Australian experiences with farm forestry*’ (Guijt & Race 1998), published by Greening Australia and the Joint Venture Agroforestry Program.

## **Diverse situations and common experiences**

The focus of this project was on eight farm businesses selected because they were using innovative strategies to make farm vegetation profitable. The selection of examples is deliberately diverse – in terms of the type of farm vegetation and also the approach to making it profitable. They include a diverse mix of landholders, farm vegetation, agro-climatic conditions, and marketing strategies – all can be successful in their own way. This publication contains just a fraction of the innovative thinking and strategies used by many farmers and business people who are making farm vegetation pay – both in conventional timber production and the many new products and services emerging across Australia.

The examples include people that sell products such as timber from farm plantations and native forest, wattle seed, eucalyptus oil and native food. They also include people who sell the ‘service’ of native vegetation, that is, the farm vegetation directly contributes to the services that some farmers sell, such as eco-tourism and wool (produced from grazing native saltbush). A summary of the landholders’ main lessons from their different approaches is compiled on page 33.

# *A Eucalypt for All Seasons*

David & Dianne Jenkins, Bridgetown, Western Australia.

David and Dianne Jenkins, now with children Adam and Hugh, began experimenting with a variety of species on their 235-hectare property ‘Glenford’ at Bridgetown as soon as they moved there in 1977. At first, their investment in farm forestry was driven not so much by a detailed economic analysis, but rather, a long-standing interest in trees and intuition that well managed trees could address a number of environmental problems emerging on the farm (eg. waterlogging, salinity). In the back of their minds they hoped that the trees they were planting would also provide future income. Little did they know that within 15 years the trees would help to double their farm income through the sale of timber. Although their forestry enterprise has been so successful, they still run their traditional farm enterprises of prime lamb, wool and vealer production – creating a truly integrated farm business. David explained “... that our farm forestry designs allow for flexible and creative management options for future market possibilities as well as continually adding value to our farm through their environmental and landscape benefits.”

David and Dianne appear to have an uncanny ability to ‘read’ their land, knowing how best to integrate particular species to match the varying microclimates throughout the farm. For example, David said “We have found that only a relatively small area of the farm is suited to growing Tasmanian blue gum (*Eucalyptus globulus*) and other eastern state timber species, after a number of drought failures in recent years. We are now trialing a number of different eucalypt species to find the best species for the shallower granite soils that predominate in

the mid slopes of the property.” However, this apparent intuition has been acquired through a long process of trial and error, as Dianne recalled “... all plantings have been a real learning journey into what our country can grow and the environmental conditions under which the different timber species will flourish, or fail.”



*David amongst some of their earliest plantings of blue gum.*

## **Farm forestry activity**

Over the years, they have established more than 60,000 trees (80 hectares) for shelter, wildlife, amenity and timber production benefits. Each year, David and Dianne establish small areas, between 1 to 5 ha, which allows them to keep pace with the silvicultural (pruning and thinning) needs to produce high-quality timber. The farm forestry is integrated in the property, taking account of terrain, watercourses, aspect, remnant vegetation and farm management. Most of the trees are eucalypts (*E. globulus*, *E. saligna*), although some recent plantings include spotted gum (*Corymbia maculata*), pine (*Pinus radiata*), and blackwood (*Acacia melanoxylon*), with selected trees pruned

to improve wood quality for sawlogs and enhance pasture production – by letting more light in under the trees’ canopy.

Advice from Bunnings and the WA Department of Conservation and Land Management provided initial guidance on silviculture and market prospects, together with experiences from tree growers in New Zealand. As their own silvicultural experience increased, David and Dianne improved their pruning practices and matched specific sites on the property to particular species. Keeping track of tree deaths and poor vigour provided a clear indication of unsuitable tree selection. Their early experimentation and good silviculture has been rewarded with the sale of the thinnings to the expanding blue gum pulpwood industry.

Back in the mid-1980s, agroforestry was still a novelty in terms of practical application for Australian farming, so David and Dianne gleaned what they could from others and learnt as they went. For one block of trees, David recalled “We planted 3 rows of trees (4 metres between rows and 2 metres between trees, 2 Tasmanian blue gum trees planted for every 1 Sydney blue gum) separated by a 25-metre wide bay for cropping and grazing. The tree rows run north-south to maximise winter sunlight reaching our pastures and a stocking of 450 trees per hectare established across the 26 hectare paddock.” As the trees have matured, agricultural production has declined due to shading of the pasture and tree roots drawing moisture from the topsoil in the bays. Recent thinning of the trees, in 1995, 1997 and 1999, have allowed a small increase in the livestock carrying capacity due to the increased light and moisture available for the pasture.

“Forest growth is largely determined by how the mix of plants respond to the soil and climate in which they are growing. Silvicultural design and intervention allows us to direct this growth to where it has the most economic, environmental or aesthetic value. There are four aspects of silviculture that farmers need to consider:

- the genetic composition of the trees,
- modification of the physical environment,
- management of the competition between the trees, and
- treatment of individual trees.”

*Rowan Reid & Peter Stephen, ‘The Farmer’s Forest’, (2001, p.84-86).*

## Markets and returns

The sale of timber in 1995 and 1997 was an important boost to the farm’s income. The sale of eucalypt thinnings for hardwood pulp and small sawlogs to Bunnings provided their first financial return from timber – allowing the purchase of a new tractor for the farm. They have also sold a small quantity of pine thinnings for softwood pulp. In 1999 and 2001, the Jenkins sold more timber, which included eucalypt thinnings, sawlogs and poles. Part of this timber was high-quality, as David mentioned “10 cubic metres of the Sydney blue gum was sawn into some exceptionally attractive paneling by a local miller at Manjimup.” David and Dianne have seen their gross farm income double since they began selling timber.

The Jenkins have managed their farm forestry to produce a range of timber products, including:

- hardwood (eucalypt) thinnings for copper chrome arsenic-treated posts;
- hardwood thinnings for pulpwood (2,360 tonnes);
- hardwood sawlogs (100 tonnes);
- hardwood poles (47 poles);
- softwood (pine) thinnings for chip-logs (200 tonnes); and
- softwood sawlogs milled on-farm with a portable Lucas mill.

They have also milled jarrah, marri and pine for their own use, contract-milled for other landholders, and plan to sell specialty timber (eg. blackwood) sawlogs for furniture and panelling.



*A mix of open farmland and forest is needed to control rising groundwater*

Where a large proportion of the recharge area has been planted with trees (eg. more than 30%), the Jenkins have noticed formerly salty creeks have later flowed with fresh water. Additionally, they have been surprised at just how effective the trees have been at reducing the groundwater level and so reducing the salinity threat (one of WA's most pressing environmental issues). The WA Department of Agriculture has established a series of bores to assess the impact of the trees in controlling rising groundwater, with recent estimates indicating the water table has dropped 3 metres below the planted areas. This compares favourably with neighbouring cleared areas showing no change in groundwater levels.

As they plant only small areas each year (ie. 1 to 5 hectares per year), they are able to do all of the silviculture themselves, and fit this work in around the needs of the grazing enterprises – which are equally important. Tree pruning and thinning has the same priority as shearing, and are critical management tools for producing high-quality sawlogs. They have also sought to reduce the risk of wild fires with careful grazing during summer. From their experiences with wild fires in the district, their well-managed trees considerably reduced the speed of winds spreading fire and allowed fires to be brought under control.

## **Lessons on marketing**

David compared the returns at stumpage (price for standing trees) and at the mill door (delivered to the processor), with Tasmanian blue gum pulpwood prices in their region averaging \$20-25 per tonne at stumpage and \$44-47 per tonne at the mill door. Although the payments are clearly higher at the mill door, it is not always clear whether it is more profitable for farmers to undertake the harvesting, loading and transport themselves. David reflected “while the mill door prices were well over double the stumpage price and made our thinning operation profitable, once cartage and loading costs (\$9 per tonne) were taken into account, the mill door price only just covered our labour and machinery costs.”

To make farm forestry pay, David and Dianne have always taken the time to explore new markets for their timber. This appeared to pay off when they sold a trial load on timber to a local electricity company as power poles, receiving a stumpage price of \$50 per cubic metre (although these poles met all the required specifications at harvest, the drying degrade due to the young age of the trees). Despite ultimately being unsuitable for use as power poles, their silviculture had produced timber that met the stumpage specifications for this purpose – no defects or branching in the first 4 metres of the pole. David mentioned “What has been important in all the thinning operations is the ability to sell relatively small quantities of timber. This has meant taking time to understand what our buyers need, and also in establishing a personal relationship with those buying our timber, such as WA Plantation Resources, who can appreciate what we are attempting to do and are keen to support our endeavours.” They are currently looking for a local market to take sawlogs from their next thinning operation.

Their property has become increasingly recognised in WA and beyond as an innovative and viable example of farm forestry. The property has attracted interest from hundreds of small-scale growers, industry and government staff, who frequently visit. With little information available on ‘best practice’ farm forestry when they started, they accepted the need to undertake their own, sometimes costly, research. It needs to be noted that reliable results only come from well-designed and carefully recorded research, with the suggestion that landholders seek the advice of trained scientists to ensure on-farm research will produce the desired information. David and Dianne have on-going trials as they continue to refine their farm forestry design and management to suit the local environment and markets. David explained “We need to find commercial enterprises that incorporate landcare benefits ... we all need to develop a farming ethos that is suited to Australia.”

“Farmers who undertake research on their own farms have the most to gain from the results. ... farmers who are able to critically and objectively evaluate their management can immediately use the knowledge gained to refine or adapt their farm forestry projects. When the results are supported by conventional scientific research and understanding, farmers can be confident in their application. Farmers can engage in on-farm research by:

- observation and exploration,
- recording and documenting,
- testing and adapting,
- measurement and analysis, and
- comparison of treatments.”

*Rowan Reid & Peter Stephen, ‘The Farmer’s Forest’, (2001, p.134).*

David and Dianne are widely acknowledged as agroforestry pioneers in Australia – as people who have made it work as a viable enterprise that complements traditional farming operations. So frequently are they consulted for their practical experience that they have formed a small part-time business, Jenkins Agroforestry Developments, to handle the growing number of enquiries ... another unintended benefit of successful farm forestry.

## ***Sowing seeds, selling timber***

Noongar community, south-west Western Australia.

The Noongar Aboriginal community takes a long-term view of managing their country, as practised for many thousands of years by Aboriginal Australians. While having a strong and undeniable spiritual connection to their country, they are also pragmatic about what needs to happen for its rehabilitation from dryland salinity and other degradation, largely caused by the relatively short period of European agriculture. Not only does the Noongar community have the challenge of establishing and managing vegetation in an area with just 300 millimetres of annual rainfall, they must also create and maintain a strong cohesive vision that is embraced by the whole community – in part through the Bush Products Project.

For those working with these indigenous people to rebuild the health of the natural ecosystems in the Noongar's country, the Project has also become a powerful act of reconciliation between Aboriginal and non-Aboriginal Australians. This farm forestry venture has captured the enthusiasm of many, including the elders of the Noongar community, Bud Coe (Southern Aboriginal Corporation, Albany), Julia Levinson (the Regional Plantation Committee, Timber 2002), Kelly Flugge (natural resource management indigenous facilitator, Agwest), Graham Townley (Great Southern Development Corporation) amongst many others. The Project continues to attract supporters, with increasing interest shown by the wider forest industries.

As with other the other case studies, this farm forestry enterprise exists within a broader socio-economic context. In this case, the enterprise is influenced by the Noongar Country Regional Council's policy to provide work for unemployed community members in activities which assist the individuals in acquiring skills which benefit the community, develop business enterprises and lead to viable employment.

“Indigenous custodianship of land is extensive at 15-20% of Australia and must be a significant element of national efforts to improve the sustainable management of Australia's natural resources. Some innovative rural enterprises run by indigenous Australians have had unplanned community benefits ... increased self-confidence and self-esteem, training, collection of traditional knowledge, and improved nutrition through increased consumption of bush food.”

*Philippa Rowland, Agriculture, Fisheries and Forestry – Australia, 2001.*

### **Farm forestry activity**

Trading of forest products is not new to the Noongar community, historically they have traded in sandalwood and tannins. However, this Project is new in that they are building a fully integrated enterprise – from seed collection and propagation, tree planting and bushland management, through to timber processing and selling of high quality furniture. Although just a small quantity of furniture has been produced at this stage, largely for

production and marketing trials, there appears good demand for high quality chairs, bench seats and tables.

The Bush Products Project has identified the first target commercial product to be high quality ‘bush’ furniture, which aims to capitalise on the growing demand for furniture displaying the natural qualities (eg. colour, shape) of native timber. Also, with the steady long-term growth of tourism in regional Western Australia, locally produced ‘bush’ furniture appeals as an ideal gift for visitors to take home. It also has strong credentials as ‘clean, green and fair’ – as it is made by the local landholders, from low-impact harvesting, uses highly skilled yet traditional building techniques, and contributes to the socio-economic enrichment of indigenous Australians.

Another important element of the Project is that this type of furniture is best made in a small business environment with small teams of workers, making the enterprise logistically and administratively manageable. When selling through galleries and to small businesses, clients prefer the furniture to have its own distinctive features that are not replicated elsewhere. That is, there is a small segment of the consumer market that will pay high prices for a piece of furniture’s high quality and individualism. This type of furniture cannot be mass-produced as is suited to the style of enterprise being developed with the Noongar community.

A valuable addition to the Project has been the work by Arpad Kalotas, a consultant from Mundaring (WA). Arpad has been working with the Noongar community to develop clear business plans that highlight how local people will be employed and its value in meeting their socio-economic interests. He is also instrumental in negotiating and preparing a ‘knowledge bank’ of the distribution and qualities of native flora used by the Noongar people. The Noongar Ethno-botanical Database, which has the support of the Noongar elders, will provide an important foundation for developing current and future farm forestry enterprises. It has also been valuable for others to appreciate the complex ethical and legal issues of commercialising traditional Aboriginal knowledge, such as the Noongar people’s vast knowledge of the local plants.

There are several important points related to cultural and intellectual property rights when developing commercial enterprises based on their knowledge, including:

- how Noongar plant knowledge should be documented and incorporated into the enterprise development process;
- how and who should nominate the appropriate Noongar people to verify and contribute to the Noongar ethno-botanical knowledge;
- what guidelines should be prepared for the control and use of information in Noongar ethno-botanical records, particularly if utilized by non-Noongar people; and
- how will business opportunities based on the ethno-botanical records be developed with the involvement of the Noongar community.

As elsewhere, traditional Aboriginal knowledge of plants will benefit many others in society, both directly and indirectly. How this knowledge is used, and benefits shared, needs to be clearly negotiated and clarified before it is documented. Recently, Green Skills has begun work with the Noongar community to identify local plants with properties suitable for processing into cosmetic, pharmaceutical, food and timber products that will attract interest from investors and growers (with support from the federal Department of Employment,

Workplace Relations and Small Business, WA Department of Training and Employment, and Great Southern Development Commission). They hope that this will lead to new and sustainable agricultural enterprises that can co-exist within the landscape's ecological parameters.

“There are some actual opportunities and many potential opportunities to use commercial trees on farms in the mid- and low-rainfall zones ... each opportunity has many other outcomes and issues associated with it that need to be assessed case by case.”

*CSIRO Land and Water et al. (2001, p.45).*

## From trees to production

The target product by the Project at this stage, high-quality ‘bush’ furniture, is generally made from debarked saplings, with the main species in the area being brown mallet (*Eucalyptus astringens*), wandoo (*E. wandoo*), karri (*E. diversicolor*), salmon gum (*E. salmonophloia*) and flat topped yate (*E. occidentalis*). The success of the Project relies on carefully understanding what level of harvesting the native bush can sustain, as it will be important to have a steady and continuous supply of raw material.

Initially at least, it is planned that most of the forest resource will be sourced from the Noongar's land, harvested from regenerating native vegetation. This will allow much of the forest material to be collected at minimal cost to the business. In the future, supplies could feasibly come from the extensive pruning and thinning operations amongst the established plantation resource in the Great Southern region of Western Australia. Another possibility being discussed is to work with other Aboriginal communities, such as the Maruwayura people in Wiluna, who have large areas of mulga (*Acacia aneura*). Mulga grows extensively across the dry inland of Australia and has a dark dense timber, making it a popular craftwood.

When matching products to prices, the standard retail prices for boutique furniture sold through galleries include a single chair for \$250 and a bench seat for \$800, through outdoor stores BBQ furniture at \$200 for individual items and \$1,500 for complete settings, and sturdy outdoor furniture purchased by local government for \$150-500 for individual bench seats and tables. It is likely the Project will commission a marketing agent to negotiate sales to retail outlets or end-users, so together with additional packaging and transport costs, a gross return of 50-70% of the retail/final price could be expected by the Noongar community.

“Specialty timbers ... are likely to be very competitive when grown in low rainfall areas, as high density, highly featured wood is desirable. However, the demand for such timbers is limited ...”

*CSIRO Land and Water et al. (2001, p.37).*

## **Lessons from marketing**

The major role of the Project's steering group is to provide the contacts with the appropriate people in the commercial world, maintain the networking to ensure everyone involved remains informed and supportive, and facilitate any strategic planning and training sessions that may be necessary. For instance, Julia Levinson (Timber 2002) organised much of the marketing work through her contacts with the regional timber industry and craft galleries.

The Project is exploring the use of a distinctive Noongar label of their products and becoming involving in national timber shows. Already the project is blending initiative, hard work and commitment to achieve the long-term rewards. Also, in the future, the Noongar community aims to establish a revolving enterprise incubator fund to encourage further enterprise development, with enterprises having their own registered trading name and be able to pay wages and operating costs.

The most critical ingredient with this Project is the people – the Noongar community as well as the many Project supporters. With so many people involved – and needing to be involved to make it work – it is nothing short of an ambitious task. People have to be:

- understanding of the yields for sustainable harvests from native vegetation
- highly motivated by the Project's potential,
- accepting of others' views,
- understanding of different cultures and contexts,
- talented with craft and furniture making, and
- patient with the incremental process of the project's development.

How the Noongar people appraise the project's potential and make collective decisions can be quite different to that of European culture, just as the subtle communication and business networks can be quite mysterious to indigenous Australians. Although an ambitious farm forestry project – in its social and commercial complexity – it has attracted enthusiastic support from a diverse range of people and organizations. While there is still a long road ahead, the concepts and lessons from this project could hold the key to bridging cultures and repairing landscapes – something desperately needed by rural inland Australia.

## ***Eucalypt oil from Emu Ridge***

Larry & Bev Turner, Kangaroo Island, South Australia.

It takes something special to still have a vibrant farm business on the remote Kangaroo Island, SA, in the competitive business world of the 21<sup>st</sup> century. Larry and Bev Turner, fourth generation farmers on the family property – ‘Emu Ridge’ - have taken the raw natural ingredients of their environment to create a new era for the Turner family farm. Larry and Bev have converted the erstwhile conventional sheep farm into an oil distillery, value-adding centre, and educational experience for the thousands of people who visit each year.

The foundation to the farm’s business is local native tree, Kangaroo Island mallee (*Eucalyptus cneorifolia*), from which they distil eucalyptus oil. Today, they have the only commercial eucalyptus distillery in South Australia. This species grows predominantly on the eastern side of the island, and due to its very high oil content, causes most of the koalas to be found on the western side where they can forage on other eucalypts, which have lower oil concentrations.

“This species of eucalypt (*Eucalyptus cneorifolia*) has been identified as a good producer of oil from the distillation of its leaves. Oils are used in various products, such as deodorants, germicides, body oils, soaps, etc. Also cineole can be extracted from the oil and used as an additive in motor fuel or as a solvent. Multi-purpose *Eucalyptus* oil has a wholesale value of \$3 to \$6 per litre.”

*Neville Bonney, Greening Australia – South Australia (1997, p.83).*

### **Oil production**

Although Larry and Bev only began their eucalypt oil enterprise about 10 years ago, eucalypt oil was once one of Kangaroo Island’s major industries. Bev recalled the history of the industry and their farm and said “It started around the 1880s and reached its peak in the 1930s, when there were 48 privately owned distilleries employing over 600 people all over the island – which is quite a large percentage when you consider that our population on the island today is only a little over 4,000. At this time a company from Adelaide named F.H. Fauldings & Co. were buying the oil from these small distilleries. In 1923, the company decided to establish eucalypt plantations to provide a continuous supply of oil, and bought the farm here. It was then called ‘Windy Ridge’, but the company renamed it ‘Emu Ridge’ after their famous ‘Emu Brand’ Eucalyptus oil, which always had an emu on the label. So that is why our property is called Emu Ridge.”

The first eucalypt plantation (12 hectares) established in the early 1920s on Kangaroo Island for oil was largely considered a failure, as they used the seeds from poor oil-yielding parent trees. Larry reported “By the time they were successful, companies from overseas had taken Australia’s seeds and were producing the oil at much better prices only because of cheaper labour. Today, over 90% of the eucalypt oil we use in Australia is imported from overseas – from countries like China, India, Portugal and Spain.”

“Eucalyptus oil production in Australia is currently about 110 tonne/year, whilst world production is 3,000 tonne per year. The industry is dominated by low cost oil from *Eucalyptus globulus* in China (1,600 tonne per year).”

*Michael Slee, ANU Forestry – the Australian National University (1999, p.1).*

After the 1930s there was a boom in wool prices and sheep farming took over, being easier work and much better money.” Bev continued “Fauldings & Co. sold this farm in 1952 and that was the end of the commercial oil industry on Kangaroo Island. However, as the golden era of wool ended and sheep farming became a financially marginal enterprise, Larry and Bev decided to rekindle Kangaroo Island’s eucalypt oil industry to keep the farm viable. In the beginning, they started with a small still and a caravan. Over the years, the business has expanded and has, as much as possible, been made from recycled materials to keep the capital costs down. For instance, they converted the area’s original post office into their first shop.

Bev described the process “This is a traditional eucalypt oil distillery; we make our oil exactly the same way it was made 100 years ago. Staff go out each day and cut young eucalypt re-growth to the ground with a chainsaw and bring back the foliage. These trees can be harvested every 1 to 2 years and are kept at the height of a shrub, about 1-2 metres. We have a great renewable resource. The branches are gathered and loaded into the back of the trailer and brought back here to the still site. This takes around 2 hours. The hand sickle is all they had to harvest with in the old days. It is still used today, but only to trim taller branches.” The larger branches are used as a fuel for the fire, with small sections also cut up and used to make souvenirs to sell in the shop.

Larry continued “The pot is one quarter filled with water, with two chains looped in the bottom to act like a basket for the leaf, and the leaves are thrown into the pot and packed down by foot. The lid is then clamped into place and the fire lit underneath. From there, the water in the bottom of the pot will boil, steam will rise up through the oil cells in the leaf, which will vaporize them. The vapour, containing the oil, rises to the top of the pot and travels into the cooling tank, where it will travel through a system of pipes and is cooled by water. It will slowly return to a liquid and runs out of the outlet pipe as oil and water. As oil is lighter than water, it floats to the top of the collection container and the water sinks to the bottom. The oil is then run into a separate container and the water into a tank, where it is recycled and pumped back into the pot. It takes around 5 hours to complete this process.”

They make the bulk of the oil in summer when they extract about 30 litres of oil per day, with the amount reducing to 5 to 10 litres per day in the winter (the new growth during spring and summer contains a lot more oil than in the older leaves). Larry and Bev continue to breed and select seed from high oil-yielding trees to progressively increase the oil production from their plantation.

“The increased use of plantations and the development of breeding programs demand full understanding of the species performance under different conditions and of its variation, especially genetic variation.”

*Michael Slee, ANU Forestry – the Australian National University (1999, p.1).*

After distilling, the oil is refined to purify it and bring it up to the required standard for sale. The refining process mainly removes the tannins from the bark and wood. They also do all their own bottling, labeling and packaging – all by hand. Most of their sales are to health food/lifestyle shops in South Australia, with small quantities sold to similar businesses in Switzerland, Singapore, Taiwan and Japan.

## **Many plants, multiple values**

Once the process has finished, the boiled leaf is removed from the pot and used as a mulch to keep weeds away from the new trees. Some is also used to help start the fire the next day. Bev says “... there’s no waste product what soever!” Larry and Bev’s desire to create a viable and environmentally-friendly business led them install alternate means of power supply, with the farm now powered by a mix of solar, steam and` wind generation.

From a small, experimental enterprise 10 years ago, the success of the business has now radically changed the way Larry and Bev farm. They have moved away from wool production and instead, plan to farm the native flora and fauna. They have established a wide range of native plants for commercial use, including attractive wildflowers to sell as fresh flowers, tea-tree for tea-tree oil and brush fencing, berries to make jams, sauces and chocolates, and bee hives for honey. They have designed the mix of enterprises so that all can be systematically harvested at different times of the year to minimise the clash for labour and equipment.

“... the industry is growing, particularly in fresh flower exports. While it must be acknowledged that the dried flower component of the industry is declining (representing 18% of the total industry), we can take heart in the fact that the industry as a whole is not and that all major markets are growing. The demand for Australian flowers centers predominantly on native species, and it is this, which has proven to be Australia’s great floral resource. Australian fresh flowers are exported all over the world ... Japan (48% total weight exported), USA (27%), the Netherlands (11%), Canada (3%) and Germany (3%).”

*Peter Brooks, Flower Export Council of Australia (2000, pp.12-14).*

Larry and Bev have gone back to the past to find a future. That is, they have re-established a eucalypt oil business that reflects what was historically important for Kangaroo Island many decades ago. A critical reason for doing this is that it is based on a locally native plant and so maximizes one of the ecological advantage of Kangaroo Island, the vigorous growth of the

Kangaroo Island mallee. They have also shown that low technology, such as the distillation process and equipment can still produce a high quality product.

Their approach to business has been innovative – by selling the product as well as the process, by giving farm tours to the many visitors that travel to the picturesque Kangaroo Island. For them, the transformation from the declining business of running a conventional sheep farm to a vibrant mix of enterprises based on locally grown native plants that are processed into high value boutique products has put Emu Ridge back on the right track.

# ***From wattle seeds, big things grow***

Barry Clugston, Stawell, Victoria

Barry Clugston is living proof that there is still plenty of room in agriculture for those willing to combine innovation with hard work. Barry has spent the last decade on his property beneath the majestic Grampians mountains (*Grampians National Park* or *Gariwerd*) experimenting with wattle seed and ornamental foliage enterprises alongside the family's traditional interest in fine wool merinos. By reading the farming landscape, Barry has taken notice of where sheep prefer to graze and shelter, and what areas they rarely use. The under-utilised areas on the family's property also support good growth of native trees and shrubs. This gave Barry the idea of making native vegetation an active part of their farming business, even though they are outside the industrial forestry zone and have an annual rainfall of only 525 millimetres.

The family's farm is situated in the Wimmera of Victoria, an area which is renowned for producing some of the world's finest wool. It was one of the first areas to be selected for farming by Europeans during the 19<sup>th</sup> and early-20<sup>th</sup> centuries due to its reliable temperate climate and fertile soils. However, after 150 years or more of industrious farming, the landscape is showing clear signs of stress – dieback of the remnant river red gum (*Eucalyptus camaldulensis*), loss of native fauna, and encroaching dryland salinity on some of the best farmland. The noticeable decline in the health of the areas' landscape prompted the Potter Farmland Project in the Western District – which in many respects was the learning ground for the subsequent National Landcare Program.

## **Farm forestry activities**

Some old Cootamundra wattle (*Acacia baileyana*) trees, planted 30-40 years ago, were regenerating easily by seed on one of the bare patches on the farm. Barry has since recognized that these trees do particularly well on the drier outcrops – where there is little competition from perennial pastures and little interest from grazing sheep. At first, Barry fenced off a small block of the trees from the sheep and allowed the livestock access only for shelter during occasional harsh weather. Sometime later, he noticed that the trees were healthy and prolific producers of seed, so explored the possibility of collecting and selling the wattle seed. Cootamundra wattle is one of 50 or more acacias known to have been a valuable food source for Australia's Aboriginal people for thousands of years, making this species of interest to the emerging native food market (eg. specialty restaurants, alternate food markets).

In the early-1990s, Barry added a touch of adventurism to his mix of personal qualities and decided to grow Cootamundra wattle in a systematic way to produce wattle seed for what he considered should be a commercially viable market. He began by selecting the best trees that had already regenerated and planting new seedlings over about 1 hectare. Afterwards, he continued to plant about the same sized area each year until he had a total of 4 hectares of Cootamundra wattle. During this time Barry also turned to a locally native wattle – golden wattle (*Acacia pycnantha*), and began establishing a similar sized area. Today, the family has an 8-hectare block of wattle trees, which produces a flush of gold in the landscape during the flowering months of August and September.

Developing their entrepreneurial flair further, the Clugston family has also established a viable cut flower and foliage enterprise over the last five years. Again, with a focus on native plants (eg. thryptomene, banksias and heaths), they cultivate selected species for the local and Melbourne florist market and broombush for garden fences. They have about 2 hectares of plants for the flower trade and 1 hectare of broombush.

The combination of farm forestry activities has become sufficiently profitable that the family is breaking with tradition and reducing their reliance on the wool market. Although they are in the middle of a prime wool region, they have reduced their flock size down to just a few hundred sheep – perhaps creating a new farming tradition for the property!

## Managing the trees

The silviculture – how the wattle trees are established and managed – has an important influence on seed production and the overall viability of the enterprise. To establish new trees, Barry breaks the dormancy of the wattle seed by soaking the seeds in hot water for up to 24 hours, then uses a direct-seeding machine to sow the seed just below the soil surface in late-winter, along rows 5 to 6 metres apart. In late-spring and following good germination, Barry removed the poorer performing seedlings from each row, leaving the most vigorous to grow with minimal competition.



*Barry harvesting wattle seed.*

The removal of poor performing trees is continued yearly, leaving the best trees anywhere from 2 to 8 metres apart within the rows. Barry applies the rule that when neighbouring trees begin to touch canopies, he goes through another process of thinning until the approximate spacing of 2 metres by 6 metres is achieved for each tree.

Barry carefully prunes each tree to create his ‘target’ tree – a single straight trunk with a bushy crown, with no lower branches or tall leading stems. He irrigates judiciously using a polypipe drip system to maximise the seed yield during particularly dry periods, and is experimenting with fertilising the trees. Barry believes the extra attention he gives to the trees pays off with heavier seed yields and a longer production life, with healthy trees still yielding well after a decade. In retrospect, Barry would have planted fewer trees and adopted his typical tree care from the beginning – with the area of trees becoming more like a horticultural orchard.

As the trees grow, it is possible to re-introduce the sheep to graze freely amongst the trees after 5 to 6 years, although this is determined by tree growth rather than a set time. That is, if the trees grew a lot slower, then stock may not be introduced for grazing until a much later

time. Barry believes their wattle seed and wool enterprises are a perfect complement – with the busy times for each enterprise not coinciding (eg. pruning the wattle trees during winter; shearing during autumn; seed harvesting during summer). Also, the sheep benefit from the trees' shelter during harsh weather, and the trees benefit from the sheep grazing down pasture grasses and weeds to reduce competition for soil moisture. All prunings are put through a heavy-duty chipper and returned as mulch below the trees.

While Barry does most of the silviculture himself, he employs a few local people to help him harvest during the summer months. The seed is harvested by hand – using poles to knock the branches and cause the ripe seed to fall on to tarpaulins laid out below (not during windy conditions). As not all the seed on an individual tree will ripen at once, several visits can be made to the heavy bearing trees over a 2 to 3 week period. Tree seed production of individual trees seems to be cyclic from year to year, with each tending to have a heavy crop of seed every 2 to 3 years, regardless of the seasonal conditions (ie. appears closely related to the timing of rainfall, with long dry periods causing lower yields). The Cootamundra wattle seeds are usually ripe for harvesting during December and the golden wattle during January.

“... harvesting is generally effected by hand and is very labour intensive. The development of an efficient and economic harvester for extensive wattle seed production is one of the key constraints to achieving a low production cost of seed and a large portion of the R&D required in regards to wattle seed production will need to be aimed at reducing the cost of harvesting.”

*Sarah Simpson and Peter Chudleigh, Agtrans Research, 2001.*

The seed is collected and stored in wool packs for 2 to 3 weeks in the summer heat to ensure the pods have opened, making seed removal easier. The seed is separated from the chaff using an old thresher, with a gravity table removing any remaining material and damaged seeds, resulting in a final product purity of 99% seed.

## **Lessons from production and marketing**

There are few people around with first-hand experience of regularly selling wattle seed – even fewer when Barry began this enterprise! Barry sought out various contacts within the restaurant trade with an interest in using wattle seed, gradually building up a stable business relationship with a handful of clients over the years. At this stage, the marketing of wattle seed is relatively easy as demand appears to be well in excess of supply. While having good storage potential, they have always sold each year's seed soon after harvest without any difficulty.



*Harvesting wattle seed using poles and tarpaulin.*

Wattle seed has several valuable inherent qualities for a largely new and emerging market. Firstly, it is a sturdy seed (ie. not crushed easily) that can be stored for at least a couple of years (ie. has a hard seed coat). Secondly, wattle seed is a reasonably flexible product in that it is used as a flavouring agent for a wide variety of foods (eg. bread, ice cream), ground into flour and even roasted and ground as a coffee substitute. It also has commercial value for its medicinal properties and in the horticultural trade for propagating. The product flexibility may prove to be important if they need to consider alternate markets.

Achieving a reliable high-grade supply of wattle seed is critical to maintaining the trust Barry has established with his small number of clients. Poor forecasting of yields, or not meeting expectations of quality would jeopardize the enterprise's viability and, quite possibly, that of other wattle seed producers. Already, Barry has developed their 8 hectares of wattle trees to yield up to 1 tonne (1,000

kilograms) annually, with a gross return between \$25 to \$45 per kilogram. The challenge is to see this price stabilize (although Barry believes the long-term price will be below \$25 per kilogram) and will continue to make the whole enterprise more efficient.

"Currently, the market for wattle seed is almost solely as a bushfood. Wattle seed has been identified as one of the ten most commercially acceptable species of the bushfood industry. Total product used by processors in 1995/96 was 6 tonnes at a wholesale price of approximately \$30 to \$35 per kilogram for clean roasted seed, and \$53 to \$59 per kilogram for ground clean roasted seed. A separate, more recent estimate is that the current demand for wattle seed is between 12 to 20 tonnes, with a farm-gate price of between \$12 to \$25 per kilogram of clean seed."

*Sarah Simpson and Peter Chudleigh, Agtrans Research, 2001.*

Barry always has an eye to reducing production costs, with the single biggest cost being the annual harvesting. To improve production efficiency, Barry hopes to share equipment with neighbours or other local growers. For instance, the chipper, thresher and grading table could all be owned cooperatively and easily transported within the region. The whole process of establishing the trees, selecting and pruning the best trees, organizing harvesting, seed grading and packaging all needs to be done as efficiently as possible, keeping any outlay and production costs to a minimum (eg. adapt existing farm equipment, share tasks and equipment with neighbours). This also includes careful analysis of the opportunity cost of changes to the current land management, the farm's enterprise mix, and finances and time otherwise spent. Others would call this 'thinking about the comparative advantage of yourself and farming property' – such as, what can you do well and what does your farm produce best?

“... there are three key drivers of the economic viability of wattle seed production:

- harvesting method and cost;
- yield; and
- farm-gate price.”

*Sarah Simpson and Peter Chudleigh, Agtrans Research, 2001.*

If anything, the commercial value of wattle seed may be undermined by the very limited supply – rather than maintaining a high price for a limited product, it may well suffer from never having a large enough supply to become a mainstream food ingredient. If it does remain a novelty or niche food ingredient, it may lose some of its popularity if the culinary fashion moves in another direction. It is for this reason that Barry encourages others to consider developing their own wattle seed orchards, with the hope that they will share his taste for a truly golden wattle.

## ***Converting ex-dairy land into native food farming***

Gil, Meredith & Rhys Freeman, South Gippsland, Victoria.

Gil, Meredith and their son, Rhys Freeman have taken the best part of 20 years to convert ex-dairy farmland into a model ‘bushfood’ farm. They have been at the forefront of taking bushfood – or more recently termed native Australian food – farming beyond the simple rhetoric and making it into a commercial reality. While Gil and Meredith are quick to point out that it is still very much an emerging and niche industry, native food farming is an important part of the growing demand by consumers and producers to re-shape Australian agriculture to match our environment and culture.

The lessons learned by Gil and Meredith reflect the opportunities and costs of being innovative entrepreneurs – where their passion for a new way of farming must sit beside the hard day-to-day grind of making a small farm viable. Today, they’ve a lot of practical experience and some powerful messages on farm management and marketing – messages that translate across agroforestry systems. The small family farm enjoys the productive soils, cool-temperate climate and the high rainfall of the area (1,100 millimetres per year) – the important dairy and vegetable growing region of Gippsland, in Victoria. While the agro-ecological environment allows for most farming enterprises to flourish, making a viable business from growing native Australian food has been nothing short of challenging.

“Native foods are now an established industry variously valued at \$1- to 16 million/year, although the industry has reached something of a watershed in terms of achieving economically sustainable growth. ... While native ingredients are now consistently included in the menu repertoires of a wide cross section of chefs and have featured in a number of new products launched by major food manufacturers, there is a need to broaden the market further into the mainstream.”

*Vic Cherikoff, ‘Marketing the Australian Native Food Industry’, (2000, p.1).*

### **Designing an integrated farm business**

By their own admission, Gil and Meredith began their farming days as frustrated gardeners with a strong interest in Landcare and natural ecology, and along with two other families, purchased 1.8 hectares in 1982. The three families planted 250 hazelnuts and an assortment of fruit trees, along with native trees and shrubs primarily for shelterbelts – using the concepts of ‘permaculture’ as a guide. Their thinking, and as a consequence their farm, has evolved since those early days into developing a farming business based on the native flora that naturally thrives in the conditions of the region. They soon realised during the late-1980s that much of the published knowledge on culinary native plants was patchy and largely based on the sub-tropics. So in the early-1990s, Rhys and Meredith undertook a serious study of native food plants and adapted what information they had to their local environment, and a trial plantation was established. After a few years, it was readily

apparent which species were suited to their farm and harvesting regime. On the strength of this newly acquired knowledge and the expanding market for native Australian food, they bought an additional 4 hectares. During this time, they were instrumental in forming the Southern Bushfood Association, with Gil becoming the inaugural President, which gave them invaluable access to other growers and market contacts.



*Overlooking the Freemans' picturesque property.*

Conscious of the limited time they had for day-to-day farming (both Gil and Meredith are periodically employed within the education sector), Gil, Meredith and Rhys took care to design a farm that minimised the growth of weeds, allowed machinery access for harvesting and re-planting, and aimed for ecological balance with mixed-species plantings. They have concentrated their work on cultivating native plants that produce culinary herbs (native pepper, river mint, round-leaf mint), vegetables (warrigal greens, island celery), fruits (dianella, appleberry, native elderberry) and wattle seed (wirilda, *Acacia retinoides*). All these plants occur naturally within about a 50-kilometre radius of the farm. Also, instead of dairy cows, chickens have become the livestock that roam the hills!

They have carefully designed the business, so that their various crops and products are ready for market at different times, to make the most efficient use of their time and capital resources. It is of little surprise that there is a considerable input of labour with a farm of this type. For instance, they have planted over 5,000 trees, and these generate timber for sawing into fencing and firewood (winter tasks), and fruit that is processed into a range of products (eg. jams, sauces) (summer-autumn tasks). Also, there is continual re-planting each year of plants that have passed their productive potential (spring task). While there is some harvesting all-year round, the main harvesting corresponds to the peak growing times in the warmer months. They have attained a Grade A certification for organic produce from the property, which has implications for how they undertake weed and pest control.

“While bushfood has been the staple of Australia’s Aboriginal people for millennia, the impetus for the establishment of a *bushfood industry* has been attributed to pioneers such as Vic Cherikoff and to the restaurateurs Jean-Paul Bruneteau and Jennifer Dowling who introduced native foods into their menus during the early and mid-1980s. In addition to being novel and Australian, such food was perceived to be clean, healthy, organic and environmentally friendly.”

*RIRDC, ‘R&D Plan for the Native Foods Industry 2001-2006’, (2001, p.2).*

## **Business and marketing lessons**

Farming of native Australian foods tends to be small-scale and intensive – in terms of labour and capital. Gil and Meredith have taken a cautious approach to developing their business, with its incremental development that takes account of the latest market trends and avoids over-capitalisation. They have a disciplined approach to how much they spend on the farm, spending only from what income the property generated the year before. This has minimised the financial risk and need to service on-going loans. Since 1995, the development of the farm has largely been completed and the business has reached a steady state of production and income. Today, Gil and Meredith spend about 80% of their time working on the farm business and are able to employ some casual staff. They have developed an extensive vegetable garden and orchard, which they estimate produces 90% of their food.

“As with many young industries, understanding of existing and potential markets for native food and the forces that drive these markets is often poor. This situation can lead to participants not focusing their energies and scarce resources on the potentially most rewarding sectors of the market. This issue is particularly important now that the potential supply of some foods is thought to outstrip likely demand.”

*RIRDC, ‘R&D Plan for the Native Foods Industry 2001-2006’, (2001, p.4).*

There are numerous buyers and markets available for native Australian food, and the main challenge with growers being able to produce a continuous, sufficient and high-quality supply. Gil and Meredith make weekly trips to Melbourne to supply 10 to 12 outlets – food producers (eg. *Robins Australian Native Foods*), health food shops and specialised gourmet restaurants. This allows them to establish a trusted long-term relationship with a small number of buyers – crucial in understanding the dynamic nature of the retail food sector and informing their clients of seasonal fluctuations. Initially, they prepared samples of the produce they knew they could reliably grow and took these to selected outlets interested in preparing native Australian food. These samples encouraged chefs to experiment to create new and distinctive dishes, thereby stimulating on-going demand. Today, their produce closely corresponds to the desires of their regular 10 to 12 customers.

They are always on the look-out for prospective buyers and particularly value close networking amongst other food producers for this reason. For instance, they are regular

stallholders at the recently formed South Gippsland Farmers' Market. While amongst the 20 to 25 food producers at the monthly market, they had a meeting with a producer of goat cheeses who was looking for new flavouring ingredients – leading to the Freemans supplying sample herbs for a special bushfood cheese that could be released shortly. Another local contact was with a pasta manufacturer and together a 'bush' pasta has been developed and is distributed widely across Australia.

Gil believes that a loose affiliation with other growers on a local or regional basis has much to offer small-scale producers in this emerging, yet niche, industry. This approach – or a formal co-operative – offers growers the opportunity to aggregate their produce for larger and more continuous supplies, which is more likely to attract firm contracts with major buyers. Also, this would reduce much of the risk for buyers relying on a single grower, in case their entire crop is lost due to a severe climatic event.



*A view of their native herb production area.*

The native Australian food industry is largely comprised of numerous small-holdings (part-time farmers) with intensive production, rather than broadacre farms that are highly capitalised and produce large volumes. This approach also offers the opportunity for neighbouring growers to share equipment.

The important lessons for Gil and Meredith are:

- co-ordinate amongst other growers (formally or informally) to create a bigger supply of high-quality produce;
- establish reliable market outlets based on strong relationships with a small number of buyers;
- create business efficiency by carefully designing the enterprise-mix that suits local growing conditions and personal capabilities, in an integrated system that allows a degree of adaptation to keep pace with the evolving marketplace; and
- avoid over-capitalisation, especially with a new and emerging industry.

“The industry is small, fragmented and frequently under-capitalised. Bush harvesting is the dominant means of production with half a dozen species still wild collected but cultivation is expanding. Some participants favour the production of native food by mainstream agricultural and horticultural methods whereas others prefer alternate approaches that are perceived to be more environmentally friendly than conventional methods. The absence of registered chemicals for native species means that organic methods are the norm. Native foods generally comprise only a part of the overall business activity for many of those involved in the industry.”

*RIRDC, 'R&D Plan for the Native Foods Industry 2001-2006', (2001, p.2).*

# ***Co-operating for better markets***

Ross Henderson & Farmwood Tasmania Co-operative.

Tree grower co-operatives have existed in Tasmania, Victoria and Western Australia for many years now, with many people describing the Farmwood Tasmania Co-operative (FTC) as the most effective. A critical ingredient to the apparent success of the FTC has been the enduring commitment of a small core of its members to create a viable market for themselves and others. Without the vast voluntary input needed to get a growers' co-operative operating in the competitive marketplace, many small-scale growers would still be wondering whether their old pine plantation in the back paddock is worth anything. Today, there is clear evidence that the FTC has significantly improved the financial returns from forestry for its members – the ultimate benchmark.

Australian agriculture has a long history of grower co-operatives, with some of the dairy co-operatives still a powerful player in a multi-billion dollar industry. However, given the different history of Australian forestry and its focus on State governments as the dominant grower, timber grower co-operatives did not form until after the mid-1980s. The aim behind the formation of timber grower co-operatives was, and remains, to aggregate supplies and improve the marketability of timber from small-scale private growers. FTC's Manager, Ross Henderson, remembers the mid-1970s when he and a number of others in northern Tasmania were encouraged to establish pine plantations to supply the local mill. As the years went by, changes in markets and technological advances reduced the value of Ross' 40-hectare pine forest to the local mill to the point where they offered him little more than the cost of harvesting. Sensing that their own inaction would leave them as 'price takers', Ross and his neighbouring growers in the early-1990s began exploring the potential of a grower co-operative as a means to increase their market strength.

“Forming a group or seeking strategic alliances can reap benefits by letting others concentrate on what they do best, leaving you to concentrate on what you do best. Other advantages of co-operation are increased negotiating strength in sales and purchases, as well as a greater ability to provide customer confidence in supply, especially when taking on larger and more stable markets.”

*Peter van Herk, Australian Design Hardwoods Pty. Ltd. (2001, p.11).*

## **Historical viewpoint**

Ross has made the success of the growers' co-operative as something of a crusade for small-scale timber growers across Australia. The FTC did not have instant success; it has come slowly through the hard work of its core members building a business foundation during the 1990s. The FTC was formed in October 1999, when the three tree growing co-operatives in Tasmania merged into a single, larger and more organised entity. Ross was the inaugural chairman of the North West Treegrowers' Co-operative (NWTGC), which made some successful negotiations on behalf of its member and inspired two other regional co-operatives to form. The commercial pressures that act on any business – organisational

efficiency and economy of scale – encouraged the formation of FTC. The FTC now has 430 members and expects to sell about 100,000 tonnes of hardwood and pine during the current harvesting season, including 10,000 tonnes of high-quality sawlog and veneer timber. FTC will also organise the reforestation of 2,000 hectares across members' properties. FTC has five staff, including two part-time field foresters and employs 10 contracting gangs. The staff have a combined expertise in plantation and farm forestry management, timber marketing, supervision of contractors, and office administration. While the cooperative is considering strategies to diversify its income, the core business is likely to remain as selling timber.

The FTC has been able to improve the returns for growers by efficiently coordinating harvesting, haulage and loading operations, and having access to domestic and international markets. Over the years, Ross estimates that FTC and the earlier NWTGC have increased the prices paid to members by four-fold for softwood and two- to three-fold for some hardwood, well above what industry would typically pay individual small-scale growers with remote, irregular timber supplies.

The FTC is largely funded through a 10% levy on the stumpage prices paid for members' timber. The levy pricing system appears a popular method of payment amongst members, as there is a strong financial incentive for the co-operative to maximise its revenue, and in doing so, maximise returns to growers. As one member commented "... I feel like the Co-op. is working for me, whereas the timber companies are working for themselves and their shareholders"

## **Business action**

Ross has spent considerable time developing FTC's links within Asia, particularly with buyers in Korea, India and China, for exporting pine and hardwood. Recent domestic sales have delivered prices that gave growers returns of \$27 to \$32 per cubic metre for hardwood (eucalypts) sawlogs and \$12 per cubic metre for pulpwood. More recently, FTC has been developing markets for members with high-quality timber and craftwood. For instance, growers have been receiving an average of \$80 per cubic metre for veneer-grade pine and \$50 per cubic metre of native forest hardwood. Small supplies of craftwood have attracted \$80 per cubic metre for blackwood (*Acacia melanoxylon*) and myrtle beech (*Nothofagus cunninghamii*), and \$60 per cubic metre for casuarina (*Allocasuarina* species) and wild cherry (*Exocarpos cupressiformis*).

Despite the success of the FTC, many of the other timber growers co-operatives around Australia struggle to make a discernible difference to markets. Grower co-operatives are considerably limited in value if unable to attain a sufficient resource to negotiate beyond regional monopolies. As such, co-operatives will still need to adhere to the common business maxim of achieving commercial efficiency and economy of scale, which are the cornerstones of market strength. Co-operatives will also need to minimise cross-subsidising areas and activities that are not viable. Co-operatives should not be viewed as an easy way to sell small, discontinuous volumes of low-grade wood, as a diverse supply (eg. due to quality, location, or quality) attracts higher administrative, handling and processing costs – regardless of who owns it or how it is sold. The FTC imposes a harvesting and haulage fee to overcome this discrepancy. Conversely, small-scale growers with a good quality, high yielding 10-40 ha resource located close to a major processor

will be highly marketable, with a grower co-operative possibly providing little advantage compared to direct negotiation with industry, or negotiation by a commissioned broker.

Features of an effective grower co-operative include:

- having well-scheduled planning, establishment, silvicultural and harvesting operations;
- employing the right mix of staff on a flexible basis – so the business can respond to fluctuating demands of members' through-put and markets;
- developing good organisational leadership, with management and negotiation expertise;
- ensuring reliable agents are contracted for international trading; and
- building a reputation for quality, reliability and integrity.

Ross says the FTC has built a reputation for being reliable suppliers, which has helped to open doors to new markets, "... we do what we say we're going to do in terms of both quantity and quality."

It is reasonable to expect that more grower co-operatives will form and be an important element of farm forestry development in Australia; however, careful regional appraisals are needed to identify the extent co-operatives can actually improve the prospects for small-scale growers. It is noteworthy that timber grower co-operatives are popular in the Scandinavian countries, yet they have not been a dominant feature of New Zealand's buoyant farm forest industry. Nevertheless, Ross Henderson and the FTC have shown that given the Australian context, grower co-operatives on average can negotiate better prices for timber production than if small-scale growers acted alone.

# ***Regenerating saltbush leads to better grazing***

Robert Meares, and  
Stephen & Ebba Holschier, Womboota, New South Wales.

The blue-grey hue spreading out across the dry inland of NSW is a sign that the country is getting back to good health – in more ways than one. Robert Meares and neighbours, Stephen and Ebba Holschier, are at the cutting edge of bringing back the native saltbush across the grazing land of the central-southern Riverina. Grazing the native saltbush is far from being a new farming enterprise – as it has been practiced since the first graziers moved into the region during the 1880s. However, actively planting and encouraging its regeneration to meet the twin goals of increasing farm viability and improving the health of the landscape represents a new way of viewing agroforestry in this type of country – the concept of integration of trees and farming.

Developing agroforestry, or farm forestry, in low-rainfall areas of Australia requires a creative approach regarding how best to integrate trees and shrubs with farming. This case study explores how a growing number of graziers are taking an innovative approach to increasing the native vegetation on their farms for several reasons. The native saltbush, old-man saltbush (*Atriplex nummularia*), is well adapted to an annual rainfall of just 400 millimetres and is a perennial shrub that is deep rooted and tolerant of long periods with little rainfall, it reduces soil erosion by binding the topsoil and reducing wind, and is palatable to livestock – an ideal plant for integrating with farming.



*A view of a paddock with healthy saltbush*

## Building a new agroforestry enterprise

Robert Meares has led the way in taking a new approach to an old plant. Robert has established about 320 hectares of saltbush, as a complement to 1,000 hectares of irrigated fodder and cereals, and another 1,080 hectares of general grazing land. He began in the late-1980s by planting 150,000 seedlings on mildly saline land. He continued to plant saltbush annually and is an enthusiastic advocate of its potential, reporting that it has increased the grazing capacity by 5 to 8-fold on land that formerly grew mainly barley grass and rye grass. Robert estimates that saltbush has increased productivity from about 2 DSE<sup>1</sup> up to 17 DSE (an increase of \$144,000/year<sup>2</sup>), with him grazing about 7,000 wethers on saltbush during the critical autumn period of 3 to 4 months when there is a feed shortage.

While palatable to livestock, the barley and rye grasses are very dependent on rainfall during the warmer months for productivity and have distinct flushes of growth. This reduces the value of wool by causing a fluctuation in wool growth and an increase in wool 'breaks'. Saltbush appears to tap into the groundwater 4 to 5 metres below the soil surface, allowing it to grow all-year and so make the property 'drought proof', in terms of providing a fodder reserve that is always available. So enthusiastic is Robert about the potential of the native saltbush for this type of country that he said "... it's the most under-rated plant in Australia."

Just down the road live Stephen and Ebba, who have systematically established 140 hectares of saltbush by thoughtful planting and careful management of their property to encourage natural regeneration. In all, the area of saltbush represents over 10% of their property, with the balance being 1,240 hectares dedicated to sheep grazing on conventional pastures, and cropping of wheat, barley and canola. Stephen and Ebba have been able to achieve significant agricultural production from a previously salted and eroding gully through their use of saltbush. Since they began to actively establish saltbush the gully in 1993, they have built up the livestock carrying- capacity to 800 to 1,000 merino wethers (occasionally cattle are used to graze the tops of saltbush that have grown beyond the grazing height of sheep). They now receive \$24,000 to \$30,000/year from an otherwise degraded area. This figure is a conservative calculation, as it does not include the value of the saltbush lowering the watertable under the surrounding area – clearly a significant environmental benefit with indirect financial returns.

This magnitude of gain doesn't just happen through good luck. It has involved spending considerable time learning from others, experimenting with different planting techniques and grazing strategies on small areas, and plenty of hard work! Robert estimates that they have planted about 800,000 saltbush seedlings at a cost of \$600 per hectare, while Stephen and Ebba built their own nursery, propagated and planted 400,000 seedlings over a 6-year period.

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<sup>1</sup> Dry Sheep Equivalent (DSE) is a term used to describe the livestock carrying capacity of farmland. The number of DSE equates to the number of adult 'dry' sheep that can be maintained on 1 hectare for 1 year.

<sup>2</sup> Based on net wool value of \$30/year/wether.

## Managing the saltbush

Stephen and Ebba established about 2,600 plants per hectare. At their best, they were planting nearly 10,000 plants per day with a small team using a planting machine pulled behind the farm tractor. Their preferred planting approach for an eroding gully with a hard subsoil (and showing mild signs of salinity) is to deep-rip and rotary hoe along rows 3 metres apart, planting seedlings 1.5 metres apart within 2 close rows, which grow to form a single hedgerow. Once the hedgerows have established after 18 months to 2 years, grazing can begin, with sheep foraging directly on the hedgerows. Occasionally a mechanical hedge pruner is used to cut down to about knee height any foliage growing straight up and beyond the sheep's grazing reach. Ideally, the saltbush is kept as bushy low-growing hedgerows, with native grasses encouraged to flourish in the bays between the hedgerows – giving a feed composition of 80% saltbush and 20% native grasses.



*Saltbush following grazing*

There is much valuable knowledge shared amongst those with saltbush-grazing systems. For instance, Steve and Ebba have learnt that saltbush doesn't perform well under set-stocking, as plants need time to regenerate. They have adopted a rotational grazing strategy, with the wethers placed in 1 of 12 paddocks for about 2 weeks before being moved to the next door paddock for the next 2 weeks, with this pattern continued. This strategy gives each paddock a 'rest' for 5 months, vital for allowing the saltbush to regenerate.

Also, it is critical to manage the native grasses along with the saltbush, as livestock do best with a diverse diet in this type of country. Using this grazing strategy, Stephen and Ebba don't have to provide any additional feed for the wethers.

Not only have they increased the carrying capacity of their property, but Stephen believes they have been able to increase the quality of their wool clip with a drop of 1.5 microns, down to the 18-19 micron range.

"As a fodder plant (saltbush) is high in protein and very succulent for animals such as sheep. Good fodder insurance in drought-prone areas ... This plant is excellent in helping to reduce salinity. It can also act as a fire retardant ... Once established, stock can graze on the material for approximately 4 months of the year. The remaining time allows for plants to re-shoot foliage and strengthen root growth."

*Neville Bonney, Greening Australia – South Australia,(1997, p.33).*

## Lessons from production and marketing

This agroforestry system is suited to ‘dry’ sheep (eg. wethers), as it appears that lactating ewes (ie. ewes with lambs) are unable to maintain their condition. Also, as the saltbush becomes an established shrub it can provide harbour for foxes in remote paddocks, making new lambs vulnerable to attack.

Andrew Sippel, Director of Grazing Systems Management (GSM), who combines experience in the horticultural and agricultural industries, believes the success of saltbush is related more to careful grazing management than the physiology of the plant. He employs about 15 people to help him propagate 3 to 5 million saltbush seedlings per year for distribution largely to farmers in the dry inland triangle of New South Wales, South Australia and Victoria. During the last 16 years, Andrew and his team have worked with more than 380 landholders to establish commercial areas (larger than 20 ha) of saltbush. Professional support from GSM is given to all landholders who purchase their seedlings to establish large areas of saltbush, to help ensure the saltbush is established and managed correctly.

While those establishing saltbush face a high initial cost (\$600/ha) compared to conventional grazing systems, they are usually rewarded quickly, with a financial break-even period of 3 to 4 years (earlier if dry seasonal conditions are experienced, as this reduces the opportunity costs). A saltbush plant has a commercial life of at least 50 years. An important point with the grazing management is that the period of grazing is determined by the environmental/climatic conditions, rather than a set period of time. Andrew believes the period of grazing should be calculated by assessing the growth rate of the saltbush. Not only does the rotational grazing or strategic de-stocking allow the saltbush to recover from grazing – this strategy appears critical in reducing the grazing pressure on existing pastures, and allowing the natural regeneration of native grasses and other species over 5 to 10 years.

“The average increase in grazing productivity from saltbush compared to conventional pastures in the dry lands of Australia should be 4 to 5 fold. This equates to about a 12% Internal Rate of Return.”

*Andrew Sippel, Grazing Systems Management, December 2001.*

GSM now offers 12-year joint ventures with landholders, where GSM supplies and establishes the saltbush and the farmer manages the day-to-day operations of the grazing enterprise. GSM and the farmer share the returns from the grazing enterprise. From Andrew’s experience, farmers tend to establish saltbush over a 4 to 5 year period to cover 10% to 40% of their properties. As with other commercial enterprises, farmers choose to diversify the sources of fodder to reduce the commercial risk associated with having only a single supply of feed (70-80% of seedlings sold by GSM go to existing customers).

These financial returns are a direct result of their hard work and persistence, and illustrates that an innovative approach to integrating trees and shrubs with grazing can pay handsomely – even in the drier farming areas of Australia.

## ***Sustainable selling of native timber and tea-tree oil***

Robert & Libby Dyason, near Casino, New South Wales.

Juggling several demanding enterprises isn't everyone's idea of a good life, but Rob and Libby Dyason are the type of people who thrive on a challenge. Not content to manage their 1,400-hectare (largely forested) cattle property in the Northern Rivers of NSW for livestock production alone, Rob and Libby have spent the past 25 years developing a vibrant mixed-farming property. Today, their farming involves harvesting timber from native regrowth, tea-tree oil production, and the lease of grazing land.

Native forests on farms are an important component of Australia's native forest sector. They account for around one quarter of the area of productive native forest in Australia. Their contribution to the value of forest production is less clear, but can be as high as half the value of logs produced in some regions. There is an increasing ... recognition of the commercial opportunities of forest management as part of agricultural businesses."

*Mark Parsons, FORTECH (1999, p.ix).*

### **Native forest enterprise**

Rob is considered amongst Australia's pioneering breed of foresters, as he is developing what he terms is an 'eco-production' model for native forestry. His approach involves culling trees with poor timber quality to allow the better trees more space to grow. Also, where the genetic pool amongst surrounding trees is poor, Rob considers re-stocking with genetically improved seedlings. This approach is designed to counter the historical practice of continually logging the best trees from private native forests – with little silviculture to encourage timber production in subsequent years. Many think that the long history of removing the best trees without any replenishment (via strategic silviculture or re-planting), progressively degraded the genetic and physical potential of much of the private forest estate across the country.

"The thinning regime chosen will vary depending on the end product required. This project concluded that the 'selection method' of thinning offered the most flexibility to the landholder. It is especially suited to uneven-aged stands of native forest and can create conditions for growth and regeneration, which improves the yield of a range of forest products. It also maintains natural patterns of species and communities resulting in improved biodiversity."

*Jeanette Murray & David Thompson, 'Native Regrowth – A farmer's guide ...' (2000, p.vi).*

Since moving to the property in 1975, Rob and Libby have carefully managed their native forest to improve its commercial timber potential and retain its biodiversity qualities. Realising that local data is critical to making the best decision, they have established 46 plots to monitor the forest's growth rate – as managing a mixed-species regrowth forest can be more complex than a uniform plantation. Rob says the information from these plots helps them identify appropriate thinning operations, calculate how much to harvest, and provides an independent way to verify contractors' estimates. Selective harvesting of high-quality timber now makes up about 30% of their income, with Rob estimating that good management of native forest in their region can return on average about \$40 per hectare each year.

“Any strategy to promote farm forestry through sustainable management of native forests on farms must be pursued in conjunction with improved information on private native forests.”

*Mark Parsons, FORTECH (1999, p.15).*

## Good oil from tea-tree

Rob and Libby are also committed growers of native tea-tree and producers of oil. Tea-tree oil is produced by distilling the leaves of a native tea-tree, *Melaleuca alternifolia*. The tea-tree oil industry began as a small 'backyard' industry in northern New South Wales, where tea-tree foliage was harvested from natural stands. The first plantations of tea-tree were established in the late-1970s, including Rob and Libby's, and developed for increasing yields and mechanised harvesting. During this early phase of the industry, there was much experimentation by an innovative group of growers. This has provided the basis to understanding the physiological and commercial aspects of tea-tree oil production.

“A lot of work has been done in northern New South Wales including research on weed control, planting density, insect control, irrigation, harvesting and distilling practices. However, there are still many unanswered questions in regards to maximising oil production, factors affecting oil concentration and irrigation requirements. For instance, environmental factors (climate, soil type) can influence oil concentrations. The yield and quality of oil from seedling tea-trees has found to be highly variable indicating large scope to improve yields by selection and breeding.”

*J. Drinnan, Development of the North Queensland Tea-tree Industry (2000, p.5).*

Rob and Libby derive about 50% of their income from contract distilling of their oil and that of others (tea-tree and other oils). Rob explained their approach to marketing the essential oils as “...we undertake to produce tea-tree oil on a regular basis and to make it available to our purchaser, who in turn undertakes to purchase the oil at a reasonable market price. At a time of high oil prices the purchaser benefits from the arrangement because market prices may be higher than the price we receive, and he has a guaranteed supply. At a time of low demand or falling prices, we benefit because a sale is assured at a reasonable price. We made this arrangement about 20 years ago on a handshake.”

A well-managed tea-tree plantation in northern NSW is capable of producing 150 kilograms of oil per hectare each year from established plants experiencing average climatic conditions, with the actual yield of oil being about 80% of the fresh weight of harvested material. In the last two years, growers have been able to attract the low sale price of \$18.50 per kilogram at the farm gate, leaving a net return of just \$900 per hectare for the more efficient operators.

Interestingly, Rob and Libby have found the comparative profitability of the two enterprises – native timber and tea-tree oil – to be quite different. Tea-tree oil is still profitable at the present market prices even though they are presently at their lowest level ever in real, inflation-adjusted terms. A major reason for its continued profitability is the relative ease with which tea-tree can be grown, harvested and processed on the farm using equipment with low capital value. Also, the farmers stay in control of much of the process. By comparison, few farmers have succeeded in efficiently harvesting timber that matches the processor's requirements of log quality, volume and price. Also, the timber processing industry tends to operate on a high level of inputs and outputs, requiring a high production turnover – difficult if timber production is just one of the farm's enterprises.

Rob has become quite an authority on developing successful business strategies to cope with the fluctuating tea-tree oil market – ideas he believes are just as applicable to other agroforestry enterprises. When market prices are low, growers need to assess whether it is worth:

- minimising input costs and continuing at a reduced level of harvesting;
- spending time in off-farm employment rather than on a loss-making farm enterprise; or
- diverting time and money to a more profitable farm enterprise.

Of course, there is no single strategy that will suit every business, as business cost structures, opportunity costs and personal situations differ for everyone. Also, not all markets are competitive and responsive, and long-term contracts, economies of scale, and too few buyers and/or sellers are all factors that affect the extent people receive clear signals from a well-functioning market. One suggestion Rob makes for all farmers is to "...examine carefully the level of capitalization. For example, most tea-tree farms purchased machinery at a time of high oil prices and so could be over-capitalized. Some of this machinery may now be surplus to requirements. Reducing capitalization is one way of freeing up money, thereby cutting leasing and borrowing costs."

According to Rob "We are now seeing the first and most violent oscillation in what could be a long term cyclical price variation for tea-tree oil between 10% to 20% above the cost of production. This will be a universal phenomenon and the cheapest producers, whether or not they are in Australia, will have the best chance of remaining in the industry and the least efficient will become at best, part-time producers."

## Lessons from production and marketing

In assessing their situation, Rob explained “We don’t really value-add beyond producing green sawn timber. We considered kiln drying but decided our output of sawn timber was too low to warrant the construction of a kiln. We sell directly to end-users such as builders and other retail consumers of green sawn timber. Also, our sawmill edgings are all used as fuel in our tea-tree distillery. We also use the waste from one other sawmill and one planing mill for this purpose. At present I am building a tomato stake sharpener, with the objective of selling sharpened stakes. A group of local mills, including us as very small contributors, sells about 5,000 to 10,000 stakes per month. The intention is to sell the same number of stakes for substantially more money once they are sharpened.” He added “I think in any sort of market you need an edge. Admittedly, this isn’t always easy if you grow for a commodity market. If you produce a quality product, your market won’t disappear when hard times inevitably arrive.”

Deciding how far to value-add to timber can be complex, as Rob explained “We sell logs when we feel that a simple royalty sale represents better value than processing logs in our sawmill. Other factors impinge on whether we decide to go down this path, such as the availability of labour, our commitments to distil tea-tree oil and the regulatory environment in NSW for harvesting trees from private native forests. Long-term contracts are great if you are able to supply a quantity of wood that’s sufficient to justify a contract for a reasonable length of time. There is some possibility that individuals might need to collectivise to make this one a goer.”

“The most significant contribution from private native forests in New South Wales has been hardwood sawlogs, which, in recent years, have yielded on average about 370,000 cubic metres per year. This represents an average of about 28% of the total yearly sawlog yield from all tenures in New South Wales.”

*Mark Parsons, FORTECH (1999, p.17).*

The need to value-add to your product, even to the point of retailing, can be a misleading idea advocated by some with no experience. Rob and Libby caution growers taking on too many tasks in pursuit of value-adding, especially if these tasks detract from what they are good at (ie. growing a high-quality product). They have carefully analysed how much of the production-processing-marketing chain they do themselves and at what point it is better to involve others with different expertise. In regard to their tea-tree oil enterprise, they said that “... the difference between the farm gate price and the price for oil delivered to overseas customers is not worth the extra cost and trouble. Think about what you have to do or pay for post-farm gate ... buy drums, freight to the capital city, filtering, drying, testing, batching, freight to the port, shipping, insurance, letter of credit and other financial arrangements to ensure you get paid, freight from the port to the customer, through customs twice, advertising, marketing trips, storage in the destination country if it’s not sold already, ringing up when something goes wrong ... and so it goes on. The people who take our tea-tree oil do all of this, and they do it very cheaply. So we just concentrate on producing high-quality tea-tree oil in its raw state.”

They explained that their approach to marketing timber has changed over the years and made the comment “We are a bit more discriminating now. Originally we attempted to produce and sell anything that was ordered. Now we are much more choosy, knowing that some lines are just not profitable. There are certain sizes and specifications which suit our sawmill configuration, so we try to stick to those.”

The key lessons Rob and Libby have learnt from marketing timber and tea-tree oil include:

- don’t accept a large order if you think you may have trouble filling it;
- identify and focus on the needs of your best customers; and
- carefully assess the difference between the farm-gate price and the price for delivering a value-added product, as the latter may not be worth the extra cost and difficulties.

The following suggestions for making farm vegetation a profitable part of farming, particularly when focusing on new or emerging markets, are drawn from the eight examples included in this publication. Each of the examples has a different strategy for making the best use of farm vegetation, yet there are many ideas that they have in common.

## Tips for making farm vegetation pay

1. **Carefully assess prospective markets** before you make a large investment in farm vegetation. For instance, learn about product requirements, harvesting and transport costs, competitiveness of the market for buyers and sellers, contingencies if your envisaged market declines, your personal (eg. skills) and property's (eg. has some under-utilised areas) comparative advantage, and the additional non-commercial benefits of farm vegetation that are important to you.

2. **Appreciate long-term market trends** and translate this into how you manage your farm vegetation. For instance, how are product specifications or customer expectations (eg. certification of ecological sustainability) changing over time.

3. **Understand the costs and returns** (eg. profit margins) associated with farm vegetation. For instance, not all additional processing by a grower leads to value-adding – as sometimes it can simply add to your workload and increase your costs. Also, carefully assess the benefits if you develop farm forestry for commodity products (eg. established processing technology and reliable market demand) or specialty products (eg. new and growing markets).

4. **Match the enterprise to your capacity** – make sure that the enterprise based on farm vegetation matches your capacity to successfully handle the requirements of establishment and on-going maintenance, and minimises the commercial and environmental risks. This may mean:

- staggering the development of the enterprise over a number of years,
- contracting casual labour or specialist expertise,
- maintaining alternate sources of household income (eg. other farm enterprises, off-farm employment),
- developing enterprise flexibility (to take account of climatic variations, changes in markets),
- following recommended practices that reduce the prospects for environmental damage (eg. from fire, pests).

5. **Develop an appropriate marketing mix** – marketing is much more than just selling, as it includes the whole process of promoting and facilitating a commercial exchange. Developing the right 'marketing mix' (ie. product, price, place and promotion) means having a focus on satisfying your buyer (or prospective buyer). Importantly, marketing is most critical when supply exceeds demand. In this situation, growers should consider joining with other growers to create a larger and continuous supply of a similar product, perhaps through a growers' marketing co-operative. Alternatively, it may be worth contracting a marketing agent or distributor on your behalf, as they can have extensive commercial networks (amongst buyers and growers) and strong negotiation skills to efficiently and effectively make the connection between buyers and growers.

6. **Build rapport with potential buyers** – keep in touch with your potential buyers, even if harvesting is many years away. This will allow you and they know what each other is doing and how markets are evolving. Also, allow potential buyers to sample your product, by sending a small complimentary sample so they can better understand the capability of your particular product.

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## **Personal communication**

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- Andrew Sippel, Director – Grazing Systems Management, personal interview during December 2001.