Australian Farm Forestry

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Forest areas of Australia

Acknowledgements

THE editor wishes to acknowledge those who made editorial contributions to this supplement: Liona May, Nick Stephens, Mellissa Wood, Madeleine Baldwin, Murray Hansen, Don Cumming, Jim Donaldson, David Bush, Dr Digby Race, Aidan Flanagan, John Talbot, Tim Vercoe, Ewa Karpinska, Michael F. Ryan, Vanessa Elwell-Gavins, Julia Chalmers, Rowan Reid, David Spencer, Dave Carr, Annie Boutland, Vanessa Hill, John Bartle, Marilyn Chalkley, Dr UN Bhati, Professor Peter Kanowski and Robyn Sutton.
Foreword

IT IS with pleasure that I introduce this special supplement on farm forestry.

Farm forestry has for a long time occupied the middle ground between environmental plantings and the establishment of large-scale plantations for commercial purposes.

However, today it is no longer quite so simple. Australia’s pressing natural resource management problems have thrown the spotlight on the need to address farm productivity and remediate the landscape.

Revegetation using trees and woody perennials will contribute to the solution, but the scale of revegetation required to have a significant impact is unlikely to be achieved through environmental plantings alone. It needs to be economically viable.

At the other end of the spectrum, industrial plantations are beyond the scope of most private landholders.

Farm forestry – with its focus on multiple environmental and commercial benefits and its approach to engaging landholders – has much to offer. There is no longer any doubt that establishing trees on our farms and effectively managing our private native forests will deliver sustainable natural resource management outcomes.

This publication highlights key farm forestry initiatives over the past five years, many of which I am pleased to note have been supported by the Natural Heritage Trust. The articles illustrate the dynamism and creativity evident in the farm forestry sector – its practitioners, researchers and those who provide the information and advice. The Government is pleased to have supported many of these and other initiatives.

I would like to thank everyone who contributed their stories and the many other people out there who are working towards the development of farm forestry as a valuable contributor to the forest industry and towards the restoration of a healthy landscape at the farm enterprise level.

Senator Ian Macdonald
Minister for Forestry and Conservation

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Plantations of Australia – 2001 is the first report to recognise and quantify plantations owned by farmers and to acknowledge the important contribution of farm timber to regional wood supplies. “The partnerships established between corporate growers and landholders are also significant,” Stephens says. “The corporate growers are providing capital and the landholders land for plantations, through lease or joint venture arrangements.”

The National Farm Forest Inventory began promoting and facilitating farm forest data collection at the regional level in 1999.

During the past three years, it has established links with a large network of farm forest groups across Australia to encourage and assist with data collection activities.

Stephens hopes regional farm forestry groups will continue to improve on existing information and that future reporting will be more comprehensive. He believes the reports will enable individual growers to see where they fit into the regional picture and should promote greater coordination between growers within a region.

“It’s important that farm forestry coordination groups are able to collect and provide good quality timber resource information to prospective investors, processors or other interested parties,” Stephens says. “The information is also important for strategic planning at the regional level and for building common goals between growers.

“Farm forestry is highly dependent on coordination and a cooperative approach to management. If the majority of growers within a region have clear and consistent objectives from day one, there is a much greater chance of a region succeeding in commercial farm forestry.”

“That’s why we need strong grower networks and good regional-level information,” he says.

**Detailed snapshot of country’s plantations**

THE establishment of plantations in Australia has increased by 42% since 1994, according to the Plantations of Australia – 2001 report released by the Bureau of Rural Sciences.

The report provides an accurate and detailed snapshot of the extent, location, species, age class, previous land use and ownerships of Australia’s plantations at the regional and national levels. It shows that Australia’s combined plantation estate in September 2000 was 1.5 million hectares.

The National Plantation and the National Farm Forest inventories collected the data for the report from growers and grower representatives as part of the National Forest Inventory. The National Plantation Inventory’s work on providing detailed information on the plantation resource to growers, investors, government and the forest community began in 1992.

“The increase in plantations reflects significant investment by the rural sector, governments and industry,” Melissa Wood, acting National Forest Inventory manager, says. “Plantations are an important contributor to the Australian forest products industry and can play a key role in maintaining healthy and sustainable ecosystems.”

Among its key findings, the report identified that most of the 125,000ha of new plantations established in 2000 were on cleared agricultural land. Softwoods made up 65% of the plantation area, but more than two thirds of plantings since 1994 were hardwoods.

A complete copy of the unabridged Plantations of Australia – 2001 report can be obtained from <sales@brs.gov.au>, or by phoning 1800 244 129 or faxing 1800 244 130.

A free summary of the report is available from the National Forest Inventory executive officer, phone (02) 6272 4021 or e-mail <nfi.info@brs.gov.au>.

**Next plantation report due soon**

THE Bureau of Rural Sciences is about to release more information on Australia’s plantation resources.


It will provide estimates on the availability of wood from Australia’s plantations in five-year periods from 2001-05 to 2041-45, and will explore the implications of different management scenarios.
Farm forestry blends policies and people

POLICIES at all levels of government are increasingly focusing on the establishment and sustainable management of vegetation, according to Commonwealth Farm Forestry Program manager Madeleine Baldwin.

“There are compelling reasons for this,” she says. “Industry policies are seeking to enhance regional development and we need to urgently address natural resource management issues including salinity, water quality, biodiversity and greenhouse gas emissions.”

During the past five years, in particular, governments at all levels have created a mosaic of policies and instruments that mirrors the complexity of these issues. Revegetation is consistently identified as a key strategy for achieving the outcomes. Policy makers face two key challenges – bringing the initiatives together into an integrated policy framework and addressing the immense cost of restoring the landscape.

Farm forestry incorporates commercial tree planting into existing agricultural systems for multiple environmental and economic benefits. The Farm Forestry Program was a Commonwealth initiative under the 1992 National Forest Policy Statement to expand the plantation resource base on cleared agricultural land suitable for commercial tree growing. The program has contributed to a regionally integrated private forest industry, working in partnership with State and local governments, regional organisations, researchers, communities and, especially, with farmers.

Regional Plantation Committees established in the major plantation regions address planning and infrastructure issues, and facilitate industry development. The Natural Heritage Trust, through its One Stop Shop grant component, has also enabled regional and local groups to develop farm forestry projects that meet their needs and circumstances.

“The national component of the Program has focused on providing support for key strategic initiatives designed to enhance research and development, communication and information dissemination, national coordination and extension,” Baldwin says.

“The Joint Venture Agroforestry Program has delivered important research findings to optimise the benefits of tree planting, and especially to guide the design and layout of tree planting. The Australian Tree Seed Centre and the Australian Low Rainfall Tree Improvement Group are providing advice on species and seed selection. And the Master Tree Grower Program and Greening Australia deliver training and extension activities nationally.

“Forthcoming initiatives will include a National Farm Forestry Information Service and the appointment of a National Farm Forestry Coordinator who will work in partnership with the Regional Plantation Committees,” she says.

Farm forestry policy now encompasses sustainable management of private native forests and covers Australia’s mid to low rainfall regions. The Farm Forestry Roundtable developed a Low Rainfall Farm Forestry Strategy to develop viable, sustainable and productive farm forestry industries in the lower rainfall areas.

Baldwin speaks of the considerable progress made in developing farm forestry during the past decade, but says more work is needed to increase its adoption by landholders.

“In 2000, only 6% of farmers were practising commercial farm forestry,” she says. “Stronger partnerships with the agricultural sector may need to be forged for its potential to be realised.”

Farm forestry has made its greatest inroads in higher rainfall areas where landholders can take advantage of access to existing industry resources and infrastructure. Joint ventures between timber companies and private landholders now account for 13% of the national plantation resource.

A study by Colmar Brunton Social Research in 2000 indicated that another 12% of landholders would take up farm forestry if impediments could be removed. The main barrier was the cost of establishment. More work was needed to develop markets for the products of small-scale forestry and improve investment opportunities in the sector.

“Farm forestry’s focus on the multiple benefits of a commercial approach has increasing relevance in the broader context of natural resource management policy developments,” Baldwin says. “Farm forestry has potential as a cost-effective method of achieving revegetation targets for salinity and water quality outcomes, especially in lower rainfall regions.

“The emphasis in farm forestry policy needs to shift to reflect this and focus even more on providing an economic driver for environmental revegetation and services.

“This can best be achieved if farm forestry maintains its links with the forestry industry. The knowledge, skills and experience of the broader forest industry provide the platform for the development of farm forestry,” she says.
Design and layout are key success factors

Design and layout of trees are key factors in the successful implementation of a farm forestry project, according to Rural Industries Research and Development Corporation research manager Dr Roslyn Prinsley.

She says design and layout have a dual purpose – to meet the farmer’s objectives and to suit the landscape.

Leading experts on the best designs for trees to impact positively on land degradation and other fields of land management have outlined their ideas in the publication, *Design Principles for Farm Forestry*, produced by the Joint Venture Agroforestry Program. It provides the information farmers need to obtain the best results from their investment in tree planting.

“Many factors trigger tree planting on farms,” Prinsley says. “Some farmers are diversifying their enterprises by planting commercial timber blocks or adding to areas of remnant vegetation.

“Many are trying to enhance the productivity of traditional farming systems based on annual crops by planting windbreaks, shelterbelts and fodder trees for stock. Others see the need to address environmental issues such as biodiversity conservation, salinity, waterlogging and erosion.”

Whatever the reasons behind planting trees, agroforestry designs may capture more than one benefit while minimising negative effects. It requires careful planning and *Design Principles for Farm Forestry* outlines the principles farmers should follow when deciding on tree planting and management.

*Design Principles for Farm Forestry* can be obtained from the Rural Industries Research and Development Corporation website <www.rirdc.gov.au>. A hard copy can be purchased for $16, plus $6 postage and handling – phone (02) 6272 4819.

The corporation has released two new research updates to assist landholders develop commercially viable farm forestry.

*Trees, Water and Salt: An Australian guide to using trees for healthy catchments and productive farms* discusses a range of tree planting systems suitable for differing situations where salt is a problem. It also covers the impact of tree plantings on crop/pasture yields and rising water tables.

The second report, *Emerging products and services from trees in lower rainfall areas*, profiles current research to improve the economic viability of low rainfall agroforestry. It discusses the range of potential products from this type of agroforestry, including timber products, biomass for energy and other industrial products, eucalyptus oil extraction and activated carbon, and food production for animal and human consumption.

*Trees, Water and Salt: An Australian guide to using trees for healthy catchments and productive farms* is a precursor to a new book published in March 2002 under the same title. The book provides greater detail on the design guidelines used in planning farm forestry where salinity is an issue.

The reports are available from the Rural Industries Research and Development Corporation website <www.rirdc.gov.au> or phone (02) 6272 4819.

**Joint Venture Agroforestry Program**

Dryland salinity, especially in many lower rainfall areas, is one of Australia’s most pressing environmental problems.

Planting trees and other deep-rooted perennial plants can assist in managing dryland salinity by helping to lower water tables.

Identifying new commercially driven tree-production systems suitable for low-rainfall areas is essential to encourage tree planting on the scale required.

The Joint Venture Agroforestry Program supports research into alternative systems and products for low rainfall areas.

Research on commercialising environmental services is also under way, including pilot catchments seen as markets for the development of environmental services.

Joint funding for the program, established in 1993, comes from the Rural Industries Research & Development Corporation, Land & Water Australia and the Forest and Wood Products Research and Development Corporations.

The Grains R&D Corporation, the Australian Greenhouse Office, the Murray Darling Basin Commission and the Natural Heritage Trust also contribute to the program.
Salinity action plan funding under way

THE first projects under the $1.4 billion National Action Plan for Salinity and Water Quality are under way in South Australia and Victoria, with further funding to flow over the next few months to most of the 21 regions around Australia.

Overall, the Action Plan’s goal is to prevent, stabilise and reverse trends in dryland salinity affecting production sustainability, biological diversity conservation and the viability of our infrastructure. It’s also aimed at improving water quality and securing reliable allocations for human uses, industry and the environment.

“During the past year the Commonwealth and most States have negotiated bilateral agreements on how the Plan will be implemented.” Tom Aldred, a Canberra-based senior executive with the Commonwealth’s Joint Implementation Team for the National Action Plan for Salinity and Water Quality, says.

Under the National Action Plan, the Commonwealth will spend $700 million over seven years, matched by the States and Territories. The central plank of the National Action Plan is plans developed by regions as a basis for investment by governments.

The Commonwealth and the respective State will jointly accredit regional plans, but each plan will be locally developed, giving regions ‘ownership’ of the process. This will allow regions and regional bodies to operate with much greater levels of autonomy and responsibility, responding to key issues raised by communities over the past two years.

Where necessary, the Action Plan will provide foundation funding to help regions identify their specific natural resource management issues, gather information, and prepare their plans in consultation with the community and stakeholders.

“Some regional plans are already well under way,” Aldred says. “In South Australia, for example, which was the first State to sign a bilateral agreement with the Commonwealth, work has begun in three regions on a range of locally-identified projects.

“These include work to improve Adelaide’s drinking water, improving agricultural practices, rehabilitating run-down irrigation systems, drainage improvement, trialing new water re-use technology, water and stream-flow monitoring, soil and pasture improvement and preventing stream-bank erosion through fencing, tree planting and other works.”

Larger scale projects include investigation of possible salt interception schemes, mapping some of the State’s worst-affected salinity areas and using airborne electromagnetics and other techniques to gather information about salt movement in the land and water.

In South Australia, interim natural resource management groups were set up to develop regional plans, with foundation funding provided to cover operational and administrative costs as well as some communication and information collection activities.

The status of regional bodies varies between different States and Territories and will be a key factor in how quickly planning and implementation progresses.

Victoria, for example, has a well-established network of Catchment Management Authorities, while some other States have no equivalent bodies.

People in the 21 National Action Plan regions are encouraged to become actively involved in the planning process. They include land managers, industry organisations, catchment groups, Landcare groups, environmental organisations and indigenous people.

The 21 regions identified under the Action Plan are considered the most at risk from salinity or where early action can prevent major degradation in the future (see map).

Last year, the National Land and Water Resources Audit reported that more than a quarter of Australia’s rivers were close to, or beyond, sustainable extraction limits.

The Audit also reported that nearly six million hectares of Australian farmland are at risk of dryland salinity. It said this could treble in 50 years to 17m ha.

“The National Action Plan is a major first step in tackling these issues,” Aldred says.
CAREFULLY planned farm forestry has an important role to play in the conservation of Australia’s unique diversity of flora and fauna.

Much of the country’s biodiversity, which has evolved over millions of years, has become degraded during the past 200 years for a variety of reasons. Among them are farm-management practices designed for use in Europe, where environmental conditions are very different.

The conservation of biological diversity, including protecting remnant vegetation and revegetating degraded areas, is a high priority for the Commonwealth Government.

Under the Natural Heritage Trust’s Bushcare and Landcare programs, local groups and communities have replanted degraded areas with native vegetation, especially to reverse the effects of salinity and erosion.

At the same time, the Trust’s Farm Forestry Program has encouraged farmers and landholders to incorporate tree growing and management into their farming systems for a range of commercial production and natural resource management objectives.

Farm forestry broadly incorporates commercial trees and shrubs, except for horticultural species, into farm operations. It takes many forms, including timber belts, alleys and revegetation projects, and timber production, as well as a wide and diverse range of products such as oils, flowers and fodder, and agricultural productivity. It also helps tackle land degradation and encourages wildlife.

Farm forestry ranges from large-scale industrial plantations at one end to small-scale farm plantings at the other.

“Many farms carry remnant vegetation, which is important for biodiversity conservation,” Jim Donaldson, Environment Australia’s former Landscape Conservation manager, says. “Farmers can protect and enhance these remnants while maintaining a profitable farm.

“There are also important opportunities to integrate biodiversity conservation elements into plantation and farming activities, which provide benefits to landholders and the community.”

Farm forestry can have positive and negative impacts on local biodiversity.

“On the plus side, it increases the diversity of plant species, introduces plant species that make the vegetation more suitable as wildlife habitat and conserves the local genetic diversity of plants and animals,” Donaldson says. “It also buffers existing native vegetation, provides connecting corridors between patches of bush and improves water quality, which in turn increases stream biodiversity.”

He lists among the negative impacts the occupation by commercial plantations of sites that would otherwise carry native bush and the degradation of adjacent native vegetation through management practices such as fertiliser application and run-off, biocide application and soil disturbance.

Farm forestry can also have indirect effects by altering drainage patterns, leading to changes in erosion rates and stream sedimentation. And farm forestry species, such as willows and radiata pine, may become agricultural and environmental weeds in some circumstances.

There is a limited amount of information available publicly to help farmers decide how to consider conserving biodiversity in farm planning, especially in trading off environmental and production aspects.

However, Greening Australia is undertaking a farm forestry support project, which will provide some initial information to the community. The project includes a booklet containing case studies on successful and innovative farm forestry operations, which have biodiversity and social benefits. The Department of Agricultural, Fisheries and Forestry – Australia’s Farm Forestry Program is funding the project.

The Joint Venture Agroforestry Program is producing guidelines, which will include targets and steps for conserving and promoting biodiversity in particular regions.
The search is on for key low-rainfall trees

FORESTRY in Australia's southern low rainfall zone – part of the 'sheep-wheat belt' – is becoming increasingly attractive as a way to diversify farm business and address environmental problems such as dryland salinity. However, farmers need trees that withstand environmental stresses and produce a direct return if they are to plant on a wide scale in the zone, which has an annual rainfall of 400-600 millimetres.

ALRTIG, the Australian Low Rainfall Tree Improvement Group (see box below), which produces genetically improved tree seed for commercial low-rainfall forestry, sees tree breeding as a solution to the problem. It is providing genetically improved seed for a selection of 'key species' that are tough and will produce valuable end products.

ALRTIG is concentrating on two main softwood species and five hardwood eucalypt types.

One of the two main softwoods, maritime pine (Pinus pinaster), is more drought hardy than radiata pine (P. radiata). Maritime pine's sawn timber has found a ready market in Western Australia.

“Maritime pine has already been genetically improved in Western Australia,” David Bush, ALRTIG’s national coordinator, says. “We are assessing its potential in the eastern States in a series of trials at 10 sites, established in winter last year.”

Australia does not have extensive plantings of the second softwood species, Brutian pine (P. Brutia), though it is commonly grown for sawn timber production in its natural range in the Mediterranean and western Asia (see separate story, A tough softwood that thrives in drier areas, page 18).

“ALRTIG has produced a ‘breeding strategy’ for the species and established three clonal seed orchards,” Bush says. “They are plantings of clones of Australia’s 30 best Brutian pine trees that will produce improved seed within five years.”

The five eucalypt types ALRTIG selected are: river red gum (Eucalyptus camaldulensis), spotted gum (Corymbia maculata and C. variegata), red ironbark (E. tricarpa and E. sideroxylon), sugar gum (E. cladocalyx) and swamp yate (E. occidentalis).

“They were selected to suit a wide range of types within the low rainfall zone,” Bush says. “In the past two years, we have produced breeding strategies for each of the species and established 15 seedling seed orchards. They are part of ALRTIG’s long-term program to produce continuous genetic gains.”

ALRTIG is meeting short-term seed supply through seed stands and further development of resources held by its partners. Because of the rapidly increasing demand for some species, especially spotted and sugar gums, ALRTIG has begun supplying seed for pilot plantation programs. During the next two years, it will start assessing the magnitude of genetic gains made in the hardwood species.

ALRTIG

THE Australian Low Rainfall Tree Improvement Group (ALRTIG) is a cooperative of State and Commonwealth government partners formed in 1999 to produce genetically improved tree seed for commercial low-rainfall forestry. The project partners are: CSIRO Forestry and Forest Products; Department of Natural Resources and Environment Victoria; Forest Products Commission WA; ForestrySA; Primary Industries and Resources SA; Private Forests Tasmania; and State Forests of NSW. The partners and the Natural Heritage Trust support ALRTIG through the Joint Venture Agroforestry Program.
Many landholders want pay-off from their trees

Many Australian landholders are holding off from taking up farm forestry until they can work out how to make it pay, according to community and farm forestry specialist Dr Digby Race.

Race is a lecturer and research fellow at ANU Forestry, and the farm forestry analyst for the Cooperative Research Centre for Sustainable Production Forestry.

In a research project supported by the Joint Venture Agroforestry Program, he is drawing together the marketing experiences of some leading farm foresters to help others develop successful paying strategies.

“If farm forestry were to achieve its full potential, it could have a value of $3.1 billion a year once a sustainable harvest is reached,” Race says.

He says recent estimates suggest about 5000 landholders across Australia are actively exploring farm forestry’s potential.

However, many were holding off or under-investing because of uncertainty about effective access to viable markets for their products.

“Some leading farm forestry practitioners have developed clever strategies to overcome considerable market disadvantages, allowing them to develop viable enterprises,” Race says.

“Many current and prospective farm practitioners, who want to make it pay, need credible and practical strategies to overcome the market difficulties.

“These can include marketing cooperatives, joint ventures, long-term contracts or growing niche products.

“While grower cooperatives have gained attention as a possible marketing approach, this is not the only nor necessarily the most effective method.

“Leading farm foresters around Australia have used a variety of marketing approaches, using different essential ingredients.”

Access to viable regional markets was difficult for small-scale growers who faced commercial disadvantages, Race said. These included distance from markets, new niche products and discontinuous supplies.

“AUSTRALIA is well positioned to take advantage of expanding wood and fibre markets domestically and within the Asia-Pacific region,” John Talbot, of the Commonwealth Department of Agriculture, Fisheries and Forestry – Australia, says.

Talbot, who’s the Forest Industries general manager, says Australia’s good position is the result of an integrated investment strategy that targets import replacement and international markets.

“Future opportunities to use the wood resources include a world-scale chemical pulping operation, and additional capacity in various solid wood processing and reconstituted panel production,” he says.

“The scale of investment opportunities in the forest and wood products industries throughout Australia varies.

“They include a number of niche-type activities all over the country.

“By 2010, additional opportunities should arise for processing the expanding hardwood plantation resource.”

The Department has released two reports, which will assist those considering investment opportunities in Australia’s expanding $14 billion forest and wood products industries.

The opportunities include direct investments in the forest plantations or wood processing and manufacturing industries, or indirectly through equities, managed funds and superannuation schemes.

Investment Opportunities in Australia’s Forest and Wood Products Industry provides an in-depth coverage of Australia’s wood resources, identifying market opportunities and potential investment opportunities for wood processing.

Jaako Pöyry Consulting prepared the report for the Department in November last year.

Forest Industries developed the other report, Australia’s Forest and Timber Industries: Resources and Opportunities.

The report provides details on Australia’s timber resource and processing activities, and potential investment opportunities in forest industries.

Both reports are on the Department’s website, <www.affa.gov.au/forestry>, under industry development and investment opportunities.

**Some marketing tips**

1. Carefully assess prospective markets before you make a large investment in your trees.
2. Understand where the costs and returns (e.g. profit margins) lie within a farm forestry enterprise, and carefully assess the benefits if you develop farm forestry for either commodity or specialty products.
3. Make your farm forestry enterprise match what you can successfully handle in terms of establishment and on-going maintenance, and commercial risk.
4. Understand long-term market trends and translate this into how you manage your farm forestry.
5. Consider joining with other growers to create a larger and continuous supply of your product, perhaps through a growers’ marketing cooperative.
6. Consider contracting a marketing agent or distributor on your behalf.
7. Keep in touch with your potential buyers.
8. Allow potential buyers to sample your product.
Support is there for would-be farm foresters

DIVERSIFYING into farm forestry is one thing. Turning it into a commercial success is another. To make a go of it, farmers who want to diversify into commercial farm forestry need information and support on seed for trial tree plantings and advice on issues such as species selection and tree management. The information and support they are after is coming from a major initiative launched in 1999.

Scientists from CSIRO Forestry and Forest Products and the Australian National University are collaborating in the three-year project ‘Seed and Information Support for Commercial Farm Forestry’. The project includes research to develop new commercially viable options for using farm-grown wood.

The project’s sponsors are the Joint Venture Agroforestry Program of the Rural Industries, Land and Water Resources and Forest and Wood Products R&D Corporations, the Natural Heritage Trust and the Department of Agriculture, Fisheries and Forestry – Australia, as well as CSIRO.

Since it began, the project has responded to inquiries from 220 groups and individuals across Australia on species provenance selection and site matching. It has provided growers with about 750 seed lots of around 180 species for testing under a range of conditions.

Assistance from the project, including workshops and training, has resulted in the design and planting of 70 trial sites, involving around 120 hectares of trials, all owned and managed by local groups. Many of the trials are in low-rainfall areas.

The project works closely with Regional Plantation Committees and other local coordinating groups in identifying suitable land for tree planting, the best species for particular areas and potential markets for the wood.

To increase the economic attractiveness of farm forestry, project researchers are focusing on potential uses of wood residues and young timber cut from plantings during thinning or other operations. CSIRO Forestry and Forest Products is researching the production of composite products and pulp from a range of new species, while colleagues at the Australian National University have examined the curing of cement in the presence of wood particles from the same species.

The scientists have completed reports on the quality and suitability of a range of species for pulp and composite wood products and looked at the potential uses for residues and thinnings from sawlog plantations of these species. They have produced climate suitability profiles for a range of species to assist in matching them to appropriate sites. To support work on productivity estimates, they have collected performance and environmental data from a range of species and sites, and expanded the TREDAT tree performance database to cover farm plantings.

Work has begun on a directory detailing key features of about 25 tree species specially suited to farm forestry. A book is being written detailing species and management for saline land.

Initial findings on tree survival are emerging from trials established across Australia during the past three years to test the potential of a wide range of species and provenances for commercial farm forestry.

“We have helped establish a self-help network of trials, which are now a community resource,” Tim Vercoe, project leader of CSIRO’s Australian Tree Seed Centre, says. “They will be an information resource for the next two decades, providing survival, then growth, then product information about trees for farm forestry.”

While landholders are managing and monitoring the trials, the information on which trees grow best where, and on the potential for producing different products, will be generally available. Many species grow in a large number of the project’s trials, making it possible to compare performances across widely varying sites.

“Each group managing trial plantations is mainly interested in its own results, but we can look across the trials and make use of the pooled information,” Vercoe says. “This will be of value to people both within and outside those areas.”

He says the project hopes to identify species and provenances that perform well over wide areas. If large numbers of farmers grow trees from the same seed source, it will enhance prospects for establishing industries to use their products.

Contact: Tim Vercoe, Officer in Charge, Australian Tree Seed Centre, CSIRO Forest and Forest Products, Canberra, telephone 02 6281 8218, e-mail <Tim.Vercoe@csiro.au>.
Regional Plantation Committees play major role in farm forestry

Regional Plantation Committees were established in 1996 to promote farm forestry and plantations in regions of Australia with the best growing prospects.

The committees are one of the keys to the regional development of farm forestry and plantation industries. Since 1998, they have also played an increasingly important role in the sustainable management of private native forests.

Regional Plantation Committees work with local and regional stakeholders, including landholders, local, State and Territory governments and industry. Among their roles, they address planning, infrastructure and coordination issues, undertake feasibility studies and develop regional plantation and farm forestry strategies to encourage commercial forest-based industries in the region.

They also put together related marketing, investment and wood-flow plans, improve information flows on plantation marketing and management, and help coordinate the efforts of landholders, industry, and local, State and Territory governments.

Within regions, the committees oversee the coordination of farm forestry projects and enable farmers, industry and governments to communicate effectively with each other and collaboratively address common issues.

The Regional Plantation Committees often integrate with regional bodies responsible for land and water planning, economic development planning and infrastructure development. The organisational structure of each committee is different. Their membership comprises industry and government agency representatives, as well as individuals with an interest in the industry.

The Wood and Paper Industry Strategy provided the initial funding for the Regional Plantation Committees from 1996 to 2000. The Natural Heritage Trust’s Farm Forestry Program funded the committees from 2000 to 2002. The State/Territory governments matched the Trust’s funding.

### Organisation

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<td>03 5866 2847</td>
<td>0428 895 783</td>
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<td>0419 873 436</td>
<td><a href="mailto:dfisken@netconnect.com.au">dfisken@netconnect.com.au</a></td>
</tr>
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### Key to Regional Plantation Committee regions

1. **South West Western Australia**
2. **Great Southern Western Australia**
3. **South East Western Australia**
4. **Tasmania**
5. **Green Triangle**
6. **Mt Lofty Ranges (now Kangaroo Island)**
7. **Central Victoria**
8. **North East Victoria**
9. **Murray Riverina**
10. **North West Victoria**
11. **Gippsland**
12. **South East New South Wales**
13. **Southern Tablelands**
14. **Central Tablelands**
15. **Northern Tablelands**
16. **Northern Rivers**
17. **Mid North Coast**
18. **South East Queensland**
19. **North Queensland** (also Central Queensland)
20. **Northern Territory**

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<th>Region</th>
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<th>Phone 1</th>
<th>Phone 2</th>
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<tr>
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**Farm forestry in the States**

**NEW SOUTH WALES**

THE State Government is committed to developing a thriving private plantation industry and is actively working to encourage private investment in plantations, particularly on cleared agricultural land.

A major step forward is the introduction of the Plantations and Reafforestation Act. The Act simplifies the regulatory and approval processes that apply to plantation developments in New South Wales. A formal Code of Practice, introduced in December 2001, underpins it. The code details the requirements for establishing, managing and harvesting plantations.

New South Wales has established an Office of Private Forestry as a first point of contact within government for investors and landholders seeking information on forestry investment in the State.

**Contact:** NSW Office of Private Forestry, 1 Prince Albert Road, Queens Square, PO Box 15, Sydney 2001, phone (02) 8258 7471, fax (02) 8258 7449, website <www.opf.nsw.gov.au>.

**VICTORIA**

THE State has a comprehensive approach to forestry on private land. It recently revised the Private Forestry Strategy, which includes all forms of forestry, from industrial scale down to niche-market woodlots. The strategy explores future directions in the sustainable management of native forest on private land.

The joint industry-government document also focuses on the social and environmental, as well as economic, impacts of private forestry.

**Contact:** Department of Natural Resources and Environment (NRE), Customer Service Centre, phone 136-186 or John Houlihan, Manager, Private Forestry, NRE, e-mail <john.houlihan@nre.vic.gov.au>.

**TASMANIA**

THE Tasmanian Government set up Private Forests Tasmania (PFT) under the Private Forests Act 1994. It promotes, fosters and assists private forestry in Tasmania to sustainably manage native forests, encourages the expansion of plantations and fosters the use and value of trees in land management.

PFT assists large and small landowners and investors, maintains a Statewide private forest inventory, takes part in extension, research and education, advises on private forestry policy, assists market development and represents private forest interests nationally.

**Contact:** Launceston, phone (03) 6336 5300, Hobart (03) 6233 7448, Camdale (03) 6434 6319, e-mail <wendy.bowman@privateforests.tas.gov.au>.

**QUEENSLAND**

VARIOUS agencies provide services to farm forestry in Queensland mainly under Natural Heritage Trust funding. The Department of Primary Industries coordinates their activities.

**Contact:** DPI Call Centre, phone 13 25 23.

**SOUTH AUSTRALIA**

RESPONSIBILITY for supporting the development of farm forestry lies with two agencies, Primary Industries and Resources SA (PIRSA) and ForestrySA.

PIRSA is the State’s largest plantation owner and plays a major role in the south east region, where there is a strong plantation industry. ForestrySA encourages small and large forestry developments, and has primary responsibility for the Forest Property Act.

PIRSA has taken the lead in developing farm forestry in the Adelaide Hills and Fleurieu Peninsula where there is a greater need for integration of environmental impacts and alternative land uses because of their close-ness to Adelaide.

In the south east region, ForestrySA is developing commercial farm forestry options for the drier areas to help combat serious environmental problems resulting from rising water tables and dryland salinity. Projects include genetic selection trials, tree water use, development of resource data and growth rates of pines and eucalypts in areas receiving less than 650 mm of rainfall a year.

ForestrySA has led the development of bluegum plantations in the Green Triangle region. Regional Plantation Committees are active in farm forestry development in the Green Triangle (south east) and Kangaroo Island.

**Contact:** ForestrySA – Mick Underdown, Coordinator Private Forestry, phone (08) 7722 2780, e-mail <underdown.mick@saugov.sa.gov.au>; PIRSA Rural Solutions – Martyn England, Leader Farm Forestry Development, phone (08) 8556 4848, e-mail <england.martyn@saugov.sa.gov.au>.

**WESTERN AUSTRALIA**

THE Department of Conservation and Land Management (CALM) and the Department of Agriculture (DoA) are active in many aspects of farm forestry research and development, and extension.

The State Salinity Strategy Farm forestry recognised salinity control as an essential component of natural resource management. The two departments are participants in the new Salinity Cooperative Research Centre that will expand research and development on low-rainfall tree crops.

CALM is extending existing industries such as maritime pine, bluegum and eucalypt sawlogs into lower rainfall areas. A decade of innovative development of mallee as a low rainfall tree crop is close to commercial fruition. DoA has undertaken and promoted research and development into the integration of farm forestry with traditional cropping and grazing enterprises. It is focusing on the development of sustainable agricultural systems for the medium-to-low rainfall zones (less than 650 mm).

An important, emerging role for the department is the verification and extension of information relating to the hydrological impacts, tree/crop interactions and the commercial viability of proposed systems.

In partnership with CALM and the Forest Products Commission, and in consultation with Regional Plantation Committees, DoA is developing a legislative framework for a viable farm forestry industry that benefits private enterprise and regional communities.

**Contact:** John Bartle, Manager, CALM, Como, phone (08) 9334 0321, e-mail <johnb@calm.wa.gov.au>; Richard Moore, Technical Manager, CALM, Busselton, phone (08) 9752 1677, e-mail <richardmo@calm.wa.gov.au>; Dr. Peter Taylor, Research Hydrologist and Project Manager, Farm Forestry & Revegetation, DoA, Manjimup, phone (08) 9777 0000, e-mail <pj.taylor@agric.wa.gov.au>.
The next stage in assessing Australia’s native forests

The Bureau of Rural Sciences expects to have preliminary results late this year from a regional pilot inventory of privately owned native forest in south east Queensland.

The pilot is a component of a major project to learn about the condition, growth stages, habitat value, timber production value, minor forest produce extraction and basic management of this privately owned forest. The other components include the development of a framework for inventory applicable in other areas and integration into the National Forest Inventory.

“From the mid-1990s to 2000, there were extensive assessments of Australia’s forest estate through the Regional Forest Agreement process, the National Forest Inventory and other related projects, such as the National Vegetation Information System,” project officer Michael F Ryan says. “The programs have contributed greatly to Australia’s understanding of its forest estate, but have concentrated on publicly owned and managed land.

“Private ownership accounts for 27% of Australia’s forest. Private management of publicly owned forests under leasehold arrangements accounts for another 42%. This makes nearly 70% of Australia’s forests privately managed in some form or other.

“This land estate has considerable economic and environmental importance.”

Parts of Australia, especially northern New South Wales, south east Queensland and Tasmania, rely heavily on privately owned forests for timber. These forests provide about half the volume of timber used by the industry.

In 1997-98, 455 Australian sawmills relied entirely on private timber and another 397 sourced timber from public and private forests.

From 1994-95 to 1999-2000, the average annual contribution of timber from privately owned forests to Australian sawmills and pulpwod processing facilities was 720,000 cubic metres of sawlogs and 1.7 million tonnes of pulpwod. This makes about 20% of the total national industry requirement.

“There are also a large number of forested ecosystems in private ownership that are poorly represented on public land, giving them great conservation significance,” Ryan says. “The forests have substantial value from a community point of view in salinity mitigation, biodiversity conservation, timber production, grazing, minor forest produce extraction and their aesthetic value.

“Basic growth staging and ecological vegetation class classification exist for the key timber production regions covered under the Regional Forest Agreement program, but there is little information beyond this.”

Because of the information gap, the Bureau of Rural Sciences – through the Commonwealth Farm Forestry Program – is exploring undertaking inventory work regionally to assess a number of the privately owned native forest values.

It is concentrating on developing appropriate methods to assess key forest data at a regional scale to indicate potentially available timber supplies, growth stages, forest condition and other important forest values. The information will contribute to forest industry development and planning for regional conservation. It will also provide a framework for information collecting to meet State, national and international reporting requirements.

“The assessment will provide a snapshot in time,” Ryan says. “But, with modern technologies in remote sensing and location finding, we can easily update assessments to monitor change in time.

“This may be especially important as we identify other forest values, such as carbon, biodiversity and salinity credits, which are another potential income stream for landowners actively managing private native forest.”

The Bureau of Rural Sciences is seeking expressions of interest to design and implement the pilot, and to integrate the results into the National Forest Inventory.

Contact: Michael F Ryan, phone (02) 6272 4937, e-mail <Michael.F.Ryan@brs.gov.au>.
Farm foresters use their nous to solve problems

GREENING Australia plans to showcase some of the ways the country's farmers use commercial trees to meet their economic, agricultural, social and environmental needs.

The non-government vegetation management agency will publish a book of case studies this year highlighting the many ways individuals have solved environmental problems using commercial trees.

“One of Greening Australia’s tasks is to communicate these innovations to other landholders,” Vanesssa Elwell-Gavins, the agency’s policy and program development manager, says. “The 22 case studies will highlight the motivations of these individuals, as well as the rewards, pitfalls and experiences along the way.”

The studies will show, for example, how innovative landholders are successfully establishing farm forestry in low-rainfall or monsoon zones. They have a combination of objectives, including making money from tree products, conserving biodiversity and/or tackling salinity and erosion.

The case studies will all demonstrate models of farm forestry fully integrated within the landholder’s farm business and whole-farm plan. “The momentum to plant and manage trees for commercial reasons on private land has never been stronger in Australia,” Elwell-Gavins says. “We recognise the diversity of farming systems and the varied needs of individual farmers. Our staff help develop farm forestry systems to match this diversity.”

Greening Australia has four goals for farm forestry and addresses them through its national extension and research project, ‘Farm Forestry Support’. Its goals cover providing commercial incentives, strengthening social and environmental values, integrating commercial forestry and natural resource management, and increasing farm and regional income.

The agency provides its farm forestry extension services and products in all States and Territories (see box).

“An important decision for new farm foresters is determining what species to grow,” Elwell-Gavins says. “Finding information can be difficult, especially in low rainfall areas. Many research organisations, State agencies and universities conduct species trials to provide this information.”

While Greening Australia also undertakes species trials specifically for farm forestry, it works in places not traditionally recognised as forestry areas such as low-rainfall, monsoonal or cold-temperate zones.

These trials respond to requests from rural communities, who wish to use commercial farm forestry to enhance their farm, supplement and diversify their income, or solve land degradation problems,” Elwell-Gavins says.

Contacts
ACT: James Gray, phone (02) 6253 3035
NSW: Annabel Kater, phone (02) 4934 5739
NT: Mike Clark, phone (08) 8981 1344
Qld: Geoff Borschmann, phone (07) 3902 4444
SA: Neville Bonney, phone (08) 8372 0120
Tas.: Rob Downie, phone (03) 6223 6377
Vic.: Jim Robinson, phone (03) 9450 5320
WA: Tim Emmott, phone (08) 9690 2257
National: Julia Chalmers, phone (02) 6281 8585
Website: <www.greeningaustralia.org.au>
FARMERS have different motives for taking up farm forestry. Some see it as a means of making extra income. Others do it for social and environmental reasons. For most, it’s actually a combination of things.

But, no matter why, a growing number of farmers realise they can use all the help they can get to make a success of farm forestry. Many of them have turned to the Australian Master TreeGrower Program for help.

The Joint Venture Agroforestry Program, the Natural Heritage Trust and the Myer Foundation financially support the Australian Master TreeGrower Program, managed by Rowan Reid and Peter Stephen of the University of Melbourne.

Since 1996, more than 750 people and 25 partner organisations have taken part in 38 Master TreeGrower programs conducted across Australia. Each program includes eight days of training and support in designing, marketing, measuring and managing farm forestry systems. The emphasis is on assisting farmers to develop multipurpose options that match their resources and interests, encouraging them to be ‘master tree growers’ in their own right.

“Each program is different,” Reid says. “They are run independently and are tailored to the needs and requirements of the organising bodies and landowners to suit regional needs and requirements. The success of the program lies in the diversity, knowledge and enthusiasm that all the landholders bring to it.

“The Master TreeGrower Program is not an introductory program into farm forestry. It’s for those committed landholders who can make a genuine contribution to the development of farm forestry in their region.”

The focus is on education, but the program is more than just a short course in farm forestry for farmers. It’s a comprehensive package with a number of features. The program aims to help landholders recognise and critically evaluate commercial tree-growing opportunities. At the same time, it encourages them to play a more active role in farm forestry development by providing knowledge that instils confidence. It also encourages strong communications between participants, extension officers, research and industry.

In the long run, the program enables them to be actively involved in the design and management of trees and forests for all their benefits by providing peer support, shared experiences, access to regional networks and the opportunity to take part in the development of farm forestry in their region. The program also provides ongoing support for the farmers and extension agents through direct information support over the phone or e-mail, its worldwide web site, its publication The Farmer's Forest, and the coordination of outreach and extension events.

For the program managers the real value of the program lies in the support and encouragement it provides leading farmers.

“As a result of the Master TreeGrower Program, there are many practising farm foresters from across Australia taking on a leading role in the development of regional extension programs, research projects, market development and farmer networks,” Reid says. “Some have also developed a national profile and are sought out by government agencies, industry and interest groups.

“For farm forestry to achieve its full potential, it must become part of the farming culture. I have faith that these farmers will achieve this,” Reid says.

Contact: Rowan Reid, Australian Master TreeGrower Program, Melbourne, phone (03) 8344 5011, e-mail rfr@unimelb.edu.au, program’s website <www.mtg.unimelb.edu.au>.
A tough softwood that thrives in drier areas

AUSTRALIAN scientists and farmers are looking for a ‘tough’ tree and have found at least one that looks like meeting their criteria.

For a start, it will survive, and thrive, in drier areas like Australia’s sheep-wheat belt where annual rainfall seldom tops 650 millimetres. It grows well and produces desirable wood products.

And, because it is a softwood, or conifer, it meets another one of their criteria.

Why a softwood? Well, the demand for softwood products in Australia is steadily increasing as softwoods take over from native-forest hardwoods for many uses. On present estimates, softwood supply will not meet future demand, making conifer production economically and environmentally attractive.

Radiata pine (*Pinus radiata*) is probably the first conifer that springs to mind because it is the most common softwood produced in Australia. But it performs poorly in most environments where annual rainfall is below 650mm. And that is what led to the search for species other than radiata pine to create new softwood plantations in Australia’s drier areas.

Brutian pine (*P. brutia*) is one of the preferred candidates (see box). Tests in Australia and many other dry areas in the world have demonstrated the tree has good growth, survival and the ability to produce desirable wood products.

David Spencer, of CSIRO Forestry and Forest Products, says using conifers on farms will help increase profitability and longer-term sustainability from traditional on-farm activities, as well as provide an income from selling the timber.

“Some conifer species have already demonstrated growth rates likely to provide the first financial return within 20 years,” he says. “Selective breeding can improve yields by as much as 20%.

“Many farms in the drier areas need tree species for niche plantings such as degraded landscapes, groundwater recharge sites and windbreaks to mitigate soil erosion and protect pastures as well as amenity plantings.”

Spencer believes the establishment of softwood plantings on a major scale in the drier areas could attract associated industries, such as sawmills, harvesting operations and support businesses, as well as infusion money and people into small rural townships.

“Conifers suited to dry land areas can be established in farm forestry operations,” Spencer says. “Potential benefits will accrue not only in the usual commercial/economic way, but through mitigation of rising water tables and possible salinity.”

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*Pinus brutia* summary

BRUTIAN pine/Brutia/Red-pine/ Turkish pine/Calabrian pine.

Common in the eastern Mediterranean through north east Greece, the Black Sea, Turkey, Crete, Cyprus, Syria and Lebanon.

Grows from sea level to 1500 metres. Reasonably strong apical dominance. Straight stems and flat angled branches.

The effect of provenance on form is very strong. Withstands cold, high temperatures and drought. Tolerant of alkaline soils.

Grown successfully in plantations in the 600mm rainfall zone at Wirrabara, South Australia.

Performs well at wide spacing as well as at closer spacing. A good pulping species with long fibres; the solid wood properties are similar to those of radiata pine.

Conifers in a 30-year-old agroforestry trial at Wagga Wagga. The radiata pine (left) has died from drought. The Brutian pine (right) is growing well.
Researchers examine a wide range of farm forestry issues

RECENT research has found that farm plantation forestry is a significant new industry on cleared agricultural land in high-rainfall areas.

The researchers examined the experiences of four local government areas in south west Western Australia and the Green Triangle region of South Australia and Victoria.

The research project, which the Natural Heritage Trust’s Bushcare program will fund, will lead the researchers and farm forestry practitioners to hold a national workshop to discuss the benefits and constraints arising from the case studies and identify the key issues.

The project will produce a range of publications aimed largely at farmers and other landholders involved in farm forestry. The publications will also provide information for others interested in farm forestry, including researchers and government policy makers.

For further information, contact Denise White, Environment Australia, e-mail <Denise.White@ea.gov.au>.

Linking biodiversity to business solutions

RESEARCH is about to get under way on how to incorporate nature conservation into farm forestry planning and development.

Dr Digby Race, Australian National University Forestry lecturer and research fellow, will lead the research project, which the Natural Heritage Trust’s Bushcare program will fund.

Race and his fellow researchers will look at case studies that are leading examples by farmers and other landholders to find a balance between biodiversity conservation and farm forestry.

They will examine the processes from farm to commercial operations, and study how different landholders have tried to integrate biodiversity and what they have learned. They will also highlight the range of opportunities for action and the types of constraints or trade-offs that may be involved.

The case studies are likely to identify examples of the number of ways forest growers have tried to incorporate biodiversity values. This could be on site as part of a plantation, on parts of their land not suitable for commercial production or where, through design, farm forestry fits into a whole farm management approach.

The whole farm management approach has links into broader natural resource management at the regional level. Often, with little additional cost or simply better design, there are opportunities to improve the outcome for native biodiversity and produce multiple benefits.
‘Carbon farming’ may provide an answer

‘CARBON FARMING’ may not be the ultimate answer to coping with the growing level around the world of atmospheric gases, including carbon dioxide, that could increase the greenhouse effect.

However, scientists in many quarters see carbon farming’s contribution as a means of helping to manage the international problem.

The concept is simple enough – based as it is on cultivating trees to store, or sequester, carbon. There’s a bit more to it than that, but first things first.

Carbon dioxide is absorbed in the production of plants, or biomass, and it’s possible that storing carbon dioxide in various biological ‘sinks’ can offset emissions.

Enter the ‘carbon farmers’, who would cultivate trees to sequester carbon and then obtain tradeable rights in it.

Through ‘carbon trading’, they would sell these rights to emitters of carbon dioxide and other interested parties.

Hassall & Assoc. senior consultant Dr David McClintock says many countries, including Australia, are considering markets for rights in sequestered carbon. In these markets, industries and other institutions may offset their carbon dioxide emissions by buying rights to the carbon absorbed in or by biomass production, mainly timber in plantations.

“At this stage, there is still some uncertainty about the suitability of carbon trading for Australian farmers,” McClintock says.

However, a recent project, supported by the Joint Venture Agroforestry Program provides landholders with access to a practical guide to the concept of carbon trading.

The Carbon Farmer project includes a computer model that allows for greater exploration of its potential. The model can assist advisers and farmers to decide whether it is worth engaging in carbon farming.

“It allows farmers to explore the physical and financial consequences of different assumptions about the productivity and management of plantations, cultivation and administration costs, and the possible future trading price for the sequestered carbon, as well as the timber,” McClintock says.

The Carbon Farmer report and model are available from the Rural Industries Research and Development Corporation website <www.rirdc.gov.au> or phone (02) 6272 4819.

Farm forestry a flexible tool for managing the land

“WE WANT to make it better, so what can we do?” Brendon and Felicity Perrin asked about their recently purchased 41-hectare lifestyle block.

The couple already had a comprehensive business plan for the property. Their question referred to what they should do to improve the regrowth native forest patches on their land, which lies just past the edge of town in north west New South Wales.

The answers to their question came from the Natural Heritage Trust’s ‘Better biodiversity and timber outcomes through native regrowth forest management’ project run by Greening Australia. The project involves establishing forest management trials on cooperating landholders’ properties. It has dual aims – to improve timber quality and enhance biodiversity management.

The Perrins’ New England stringybark (Eucalyptus caliginosa) forests are in a relatively unproductive condition, typical of many native forests with unrealised timber-production potential. The trees are mainly 40 to 70-year-old stands regrown from past ringbarking, clearing and exploitive timber extraction.

A long history of sheep grazing has left only a few understorey shrubs on the property.

With help and advice from many sources, including Greening Australia, the couple are thinning regrowth stands to improve their productivity, retaining large hollow-bearing trees for wildlife shelter, and reserving several stands for conservation purposes on a quarter of the land. The livestock on the property has gone to encourage natural regeneration of native trees and shrubs.

They have direct-seeded a mixture of understorey shrub species in much of their treated forests, established acacia woodlots in some of the forest clearings, enlarged a dam and done some earthworks to control gully erosion.

All in all, it’s a good example of using farm forestry as a tool for land management flexible enough to accommodate timber production and biodiversity improvement.
Species trials program adds to knowledge pool

GREENING Australia's species trial program may add new trees to those used by farm foresters.

“We have drawn on the experience of our project staff and consulted with landholders to select species for the trials,” Dave Carr, the agency's species trialing officer, says. “Many of them have not been tried before, so the species trials will provide new information for growers and other research agencies.”

Greening Australia also consults other researchers about species selection to ensure the trials add to the pool of knowledge about the more commonly used species.

Eight trials in Western Australia are testing various combinations of species. Most of the trials include Eucalyptus rudis (flooded gum) or species closely related to it such as a hybrid (E. rudis-E. camaldulensis) and E. camaldulensis (river red gum) from Silverton. Other trials include E. occidentalis (swamp yate) and a hybrid (E. occidentalis-E. platypus).

Eucalyptus cladocalyx (sugar gum), a South Australian endemic species, features in several of the trials in the State’s four planted sites. The plantings also include E. occidentalis, E. camaldulensis, Casuarina obesa (swamp oak) and C. pauper (black oak).

Acacia salicina, A. acuminata and A. pendula feature at two of the South Australian sites. The agency is testing Santalum spicatum (sandalwood) and S. acuminatum (quandong) using the acacias as host trees to determine which best suit the low-rainfall conditions.

Greening Australia is also trialing at Port Augusta a range of species that occur naturally in the State's arid zones to determine those most suitable for the production of firewood, fencing material, oils and other products in this environment.

Trials in Tasmania’s three sites in the lower Midlands will determine the most suitable species for farm forestry in the drier parts of the State. Species used in the trials include Pinus pinaster, P. radiata, Eucalyptus globulus, E. nitens, E. cladocalyx, E. tricarpa, E. argophloia, Callitris rhomboidea and Allocasuarina stricta.

A trial at Birchip in north west Victoria will select species for alley cropping farm forestry. The trial, on a large cropping demonstration property, will compare a range of species in alleys and in blocks.

Greening Australia’s farm forestry clients are landholders and community groups, including Indigenous communities, mostly in lower rainfall regions with less than 600 millimetres annual rainfall and the monsoon zone.

“Our clients want to achieve multiple objectives,” Carr says. “Many have an interest in sustainable management of native forests on private land to combine commercial and environmental objectives.”

Greening Australia concentrates its extension services in Queensland’s Gympie region, the Northern Tablelands, North Coast, Hunter, Central West and Southern Tablelands of New South Wales, the Mallee, Wimmera and North Central Victoria, Tasmania’s Midlands and East Coast, South Australia’s Northern Agricultural Zone, Western Australia’s Wheatbelt and the Northern Territory’s Top End.
Firewood may give farm forestry a boost

THE wait for a return on their investment can often make landholders think twice about establishing small-scale farm forestry plantations. But a move by Commonwealth and State Environment Ministers to encourage a market for firewood from small-scale farm forestry plantations may help them change their minds.

The Ministers have endorsed a tool kit, the National Approach to Firewood Collection and Use in Australia, for governments to promote a more sustainable firewood industry. It’s a response to mounting scientific evidence about the detrimental impact of firewood collection on Australia’s native wildlife, especially in dry forests and substantially cleared woodlands.

However, rather than stopping the collection and use of firewood, the National Approach sets about making the firewood industry more sustainable. A major objective is to encourage a firewood industry increasingly based on plantations and sustainable production.

Firewood can be produced from almost any forest type, using simple, affordable technologies. It can be easily produced either as a by-product from forestry operations or in a coppice rotation system.

The firewood industry also provides an opportunity to market a range of excellent firewood species that have promise for farm forestry in drier regions of Australia.

A survey in Ballarat, Victoria, in 1997 indicated that 94% of firewood-using households would be more likely to buy plantation-grown firewood because of the perceived environmental benefits.

According to the Corangamite Farm Forestry Project’s Liz Hamilton, the demand for plantation-grown firewood in Victoria exceeds supply.

Hamilton says plantation-grown sugar gum firewood, which has 15% higher heat output than red gum, retails in Melbourne for the same price as yellow and grey box. Melbourne firewood merchants are paying up to $110 a tonne for blocks of dry, unsplit sugar gum delivered to the woodyard.

Sugar gum, or Eucalyptus clado-calyx, has been widely planted in shelterbelts in drier regions of Victoria since the late 1800s. The Corangamite Farm Forestry Project is experimenting with a range of silvicultural options for sawlogs and firewood from sugar gum plantations.

As sugar gum coppices well, one option is to thin the plantation for firewood at around 10-15 years, and retain remaining trees for sawlogs and a second firewood crop from coppice regrowth at around age 30.

Investor groups and landholders are considering establishing large-scale firewood and sawlog-firewood plantations in the medium-to-low rainfall areas of western Victoria. Areas where serious land degradation problems have rendered some land virtually unproductive for traditional agriculture could well suit firewood plantations.

For more information on the Corangamite Farm Forestry Project, phone Liz Hamilton on (03) 5233 5550. For more information on the National Approach to Firewood Collection and Use in Australia, contact Environment Australia’s Community Information Unit on 1800 803 772, or check the firewood website at <www.ea.gov.au/firewood>.

FarmBis offers chance to improve management skills

FARMBIS has provided 70,000 Australian primary producers with the opportunity to undertake education and training activities.

FarmBis helps eligible primary producers, including those involved in farm forestry activities, to undertake business and natural resource management activities to enhance their skills.

Generally, it does not assist commercial forestry operations such as State forestry agencies, and commercial native forest or plantation timber companies.

FarmBis assists with the cost of courses such as risk management, marketing, financial management, human resources and natural resource management.

FarmBis’s State and Territory agencies can provide further information and eligibility criteria: NSW: NSW Rural Assistance Authority 1800 678 593; Vic: Rural Finance Corporation 03 9243 2600; Qld: Qld Rural Adjustment Authority 1800 623 946; SA: Primary Industries and Resources SA 1800 182 235; WA: Dept. of Agriculture 1800 198 231; Tas.: Dept. of Primary Industries, Water and Environment 1300 368 550; NT: Dept of Business, Industry and Resource Development 08 8999 2317.

Or contact the Commonwealth Department of Agriculture, Fisheries and Forestry – Australia on 1800 686 175 or <www.affa.gov.au/farmbis>.
Where once they ripped, now they’re sowing

AUSTRALIAN farmers used to rip out Mallee eucalypts to make way for crops and grazing animals. But the wheel has turned full circle as they plant the trees in their millions in Western Australia’s wheatbelt. During the past eight years, 900 farmers in the Western Australian wheatbelt have planted 20 million Mallees on 8800 hectares.

Initiated by the State Department of Conservation and Land Management (CALM) in 1993, the Oil Mallee Project, as it’s known, is the first substantial perennial crop development attempted in Australia’s wheatbelt. It’s aimed at creating a large-scale profitable short-rotation crop for wheatbelt farmers to help control salinity. CALM’s John Bartle says that, after forming a representative body in 1995, growers took over the development of the industry. They eventually formed the Oil Mallee Company to manage the commercial aspects of industry development.

“From its inception, the project development strategy revolved around ‘industry exploration’ – building the technical, environmental and commercial pre-conditions to the point where commercial feasibility investigation would be warranted,” Bartle says.

“Industry exploration was underwritten to some degree by the momentum behind landcare revegetation. Mallee growers were prepared to take more risk with the commercial outcome because they had landcare as a fallback.”

“However, the main objective was to build up a united grower constituency prepared to work together and spread the cost and risk of investment in a new industry development.”

The market potential for eucalyptus oil as industrial solvents was there. The big question for growers was whether they could produce the raw material at a low enough price to make it feasible.

Detailed economic analysis showed there was little chance of competing in solvent markets using traditional technology and scale. That meant embracing as a priority the development of new technologies for large-scale, low-cost harvest and oil extraction, which would also find commercial uses for the wood and leaf residues.

A feasibility study in 1998 assessed the viability of ‘integrated processing’ to convert Mallee feedstock to activated carbon, electricity and eucalyptus oil products. The Western Power Corporation and the Joint Venture Agroforestry Program funded the study.

“A 20% scale demonstration plant will be built at Narrogin this year to test the operational performance of the integrated process,” Bartle says.

For further information, contact John Bartle, CALM WA, phone (08) 9334 0321, e-mail <johnb@calm.wa.gov.au>, website <www.oilmallee.com.au/>, or Madeline Baldwin, Farm Forestry Program, AFFA, phone (02) 6272 4339, e-mail: <Madeleine.Baldwin@affa.gov.au>.

Handshake deal still strong after 20 years

NEW South Wales mixed farmers, Robert and Libby Dyason, have found the marketing edge they needed to make farm forestry work for them.

The couple run a 1400-hectare mixed-farming business near Casino. They make their income from harvesting timber from native regrowth, producing tea-tree oil and leasing grazing land.

“Careful management of the native regrowth forest makes up about 30% of our income,” Robert Dyason says. “About 50% comes from distilling our own and other people’s tea-tree and other oils under contract.”

The couple's marketing approach is to regularly produce tea-tree oil for their purchaser, who undertakes to buy the oil at a reasonable market price.

“When oil prices are high, the purchaser benefits because market prices may be higher than the price we receive, and he has a guaranteed supply,” Dyason says.

“When there’s 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.”

Their continued profitability results partly from the relative ease of growing tea-trees, harvesting them and processing the oil on the farm, using equipment with low capital value. They also control 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. In addition, the timber industry tends to require high inputs and outputs, which means a high production turnover.

“We don’t really value-add beyond producing green sawn timber,” Dyason says.

“We sell directly to end users, such as builders and other retail consumers of green sawn timber. Our sawmill edgings are used as fuel in our tea-tree distillery.”

The couple’s next project is to produce and sell sharpened tomato stakes.

“I think in any market you need an edge,” Dyason says. “Admittedly, this isn’t always easy if you grow for a commodity market. But, if you produce a quality product, your market won’t disappear when hard times inevitably arrive.”

Farm Forest Line available soon

THE Farm Forest Line, which will be available soon, will provide farmers, forest growers, extension agents, investors and industry members with up-to-date information about farm forestry.

It will highlight new developments and opportunities, and the service will include a web site, information phone line and e-mail advice.

For further information, contact <www.farmforestline.com>, e-mail <info@farmforestline.com>, phone (02) 6232 7676, fax (02) 6260 6555, mail PO Box 3142, Manuka, ACT 2603.
Market reports help growers plan for future

“How can I invest when I don’t know what the prices are now, let alone in 20 or 30 years?” a potential forestry investor asks.

“The lack of reliable information from an independent source on log prices and on forestry markets in general is a common frustration for farm forest growers,” Dr UN Bhati, of the Australian National University’s Department of Forestry, says.

“This and other impediments have held them back from expanding or even taking up farm forestry,” he says.

“Growers and the community at large have been the losers.”

The ANU Forestry Market Report project aims to advance the interests of farm forest growers by providing them with independent and reliable information on log prices and the markets.

The project has published 18 quarterly market reports on a variety of topics.

The Australian Farm Journal is one of a number of magazines and newsletters that regularly publish the ANU market reports. They are also available on the internet.

To further lift the veil on log prices, the project seeks information on log prices received by farm forest growers.

“Information contributions will be published in the market reports, while keeping the identities of log sellers and buyers confidential,” Bhati says.

“Knowledge gained from the market reports will empower growers to benefit more fully from farm forestry.”

Those who can contribute log price information or want more detail on the project can contact Dr Bhati at: ANU Forestry, School of Resources, Environment and Society, The Australian National University, Canberra ACT 0200, fax (02) 6125 0746, e-mail <un.bhati@anu.edu.au>, website: <http://sres.anu.edu.au/associated/marketreport/index.html>.

Major supporters of the project include: the Joint Venture Agro-forestry Program, Private Forestry Council Victoria, the Department of Agriculture, Fisheries and Forestry – Australia, Plantations for Australia – the 2020 Vision, ABARE and Farmwood Australia Co-operative Society Ltd.