

Making Headlines:

Yarra Yarra Oil Mallee Project

Products from your pines

Australian Sandalwood Network

Bioenergy in the Avon

Opportunities for Mallee Biomass

Carobs

Acacia Flour

Future Farm Industries CRC

Upcoming Events



AVONGRO

Wheatbelt Tree Cropping Incorporated

economic development and sustainable production

Edition 4

Autumn 2007

FOCUS ON A TREE FARMER

RAY FULWOOD - BRUSHWOOD GROWER

Ray Fulwood has been farming his 2,200 hectare property in Southern Brook just outside of Northam since 1979. He has a mixed farming operation, cropping 1,300 hectares and running an average of 3,500 sheep. Although Ray has a science degree majoring in Geology, he prefers farming.

Several years ago Ray saw a Brushwood fence and realised the potential to grow Brush on his farm. He has a vision for the Brushwood industry for the region and can see it integrating well with his, and other farmers', annual farming system. Ray has considered saltbush for grazing but wanted an additional enterprise to increase on-farm diversification.

Brushwood (*Melaleuca* species) grows well on water-gaining sites, often sandplain seeps. Ray first planted five hectares of Brushwood in 2000 with assistance from the Shire-employed Landcare Coordinator and with Natural Heritage Trust funding available through the Avon Catchment Council. It was a very dry year but Ray planted uphill from a creek on sandy soil with good results. In 2002 he planted a variety of species on a further seven hectares through the Department of Conservation and Land Management (now called the Department of Environment and Conservation) Search project. Water table monitoring bores were installed and regular readings have been taken.

Ray has been planting regularly since then, planting 35,000 in 2006 and now has about 25 hectares of Brushwood plantations on his property. In 2007 he will be planting 20,000 seedlings subsidised through the Avon Catchment Council. Ray has been trialling different methods with the assistance of the Avon's regional Farm Forestry Development Officer, Tim Emmott of Greening Australia (WA). Together they have tried direct seeding and a variety of plantation configurations. They have used a range of planting designs but Ray has moved to 4,000 stems per hectare planting four rows then leaving a three metre access gap. They will continue to refine spacings and plants per hectare however Ray stated that each site will need to be assessed individually. On his farm, Ray has also used a sub-two centimetre 'auto steer' system with Global Positioning on the tractor to ensure accuracy and close spacing between the rows by running the wheel as close to the previous row as possible.

With all this work, Ray has about 15 different provenances of Brushwood on his farm with some showing more potential for the Brushwood fencing industry than others. 'The best provenances for each site and for the industry as a whole still need to be identified' says Ray.

Another benefit of growing Brush species on this marginal land is that it can help suppress the weed *Juncus acutus* (spike rush). On Ray's farm, planting Brushwood has shown this can work by pushing the rush into a pile and burning it, then replanting the site to Brush in the same year.

Ray has approximately 100 more hectares that he is considering putting into Brush once there is a processing factory nearby.

The advantages of a perennial system are:

- Brush will grow on land that currently does not produce annuals well;
- It will benefit from summer rainfall;
- It lowers the watertable on these sites and those adjacent to them;
- Winter dormancy allows overspray with Glyphosate in year two and later for annual weeds;
- The Brush suppresses weed growth from about year five; and
- There is a once only establishment cost with Brush species that are of the coppicing variety.

AVONGRO

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W E S T E R N A U S T R A L I A

A Word from the Chairman



Ian Hall, Chairman of AVONGRO
Wheatbelt Tree Cropping

Welcome to this fourth edition of the AVONGRO newsletter. Once again it is being produced thanks to funding from the Avon Catchment Council.

Since AVONGRO has been operating full time we have really managed to make an impact and I am very pleased to announce that awareness of tree cropping in the region continues to rise. This is in no small measure due to the commitment of the region's Native Plant Industries Project Officer, Tim Emmott (also funded through the Avon Catchment Council and hosted by Greening Australia) and the work in the region by the Forest Products Commission in addition to the dedication of the AVONGRO committee.

The advantage with any tree crop is the once-off establishment cost. In a sense I feel that the Avon is fortunate that we have so few options to grow the more traditional tree crops such as sawlogs and blue gums. It allows for some lateral thinking and innovative technologies. In a recent study it was stated that the Avon 'is not a solid wood environment'. This in itself means that we can seriously look at alternatives that are suitable for our region. As a Private Forestry Development Committee (PFDC) we can explore non-wood products and these for us may prove to be the more viable options.

Elsewhere in this newsletter you will read about our *Bioenergy in the Avon* project. Keep an eye on the press or contact our Executive Officer if you would like to attend the public forum on Tuesday August 7th in York.

The notion that tree crops tie up land and financial resources for many years stems from those regions working in the 'solid wood' environment and in much longer term rotations than we face in the Avon. If a farmer plans his tree cropping program well he should have something to harvest every year. I still believe that tree crops will bring many new industries and employment opportunities to the region. I hear that local nurseries are full to capacity and that a large number of the seedlings that have been ordered are tree crop species.

All the best for this year's seeding and planting season. The marris have flowered prolifically – we'll see if the proverb holds true. Look out for the next AVONGRO newsletter in July.

Ian Hall
AVONGRO Chairman

'A sustainable commercial tree crops industry integrated with existing regional land use systems which enhances the social and environmental benefits for the Avon River Basin.'

Avon Catchment Council - Expressions of Interest Sought

Contact Catherine von Pirch, Salinity Coordinator: (08) 9690 2250 or email cvonpirch@agric.wa.gov.au

Avon Region Salinity Tender – Round Two Funding Offer

The Avon Catchment Council is once again offering landholders the opportunity to tender for funding to implement on-ground salinity management strategies. Following a successful round in 2006, in which 43 farmers were funded to manage recharge on middle and upper landscapes, the Tender has been expanded to incorporate management works within the valley floor, in addition to works on slopes.

If you are interested in receiving information regarding Round Two of the Salinity Tender as it becomes available, please register your interest by contacting Catherine.

Yarra Yarra Oil Mallee Project

by Jo Ashworth, Project Manager: p: 9666 1033 or e: wjashworth@bordnet.com.au

A partnership between the Central and Midwest Oil Mallee Regions, Kalannie Distillers and Yarra Yarra Catchment Management Group has been successful in obtaining funding from the National Action Plan for Salinity and Water Quality. This is a 50/50 State and Commonwealth government initiative. The project funded is to develop incentives to revegetate by establishing a commercially successful oil mallee industry. The project which runs for three years is currently in its second year.

The two project areas radiate one hundred kilometres from Kalannie and Canna. Funding has been made available for:

- seedling subsidies;
- subsidies to mulch oil mallees too large or uneconomical to harvest;
- modification of existing Kalannie Distillers harvesting and distillation equipment to increase efficiencies;
- the establishment of a biomass transfer system, to bring the harvested biomass to a centrally located still.

Seedling subsidies and mulching subsidies were oversubscribed in the first year, with nursery space the limiting factor for seedlings in the second year.

Image 1

Right is the modified Kalannie Distillers Harvester. Kalannie Distillers harvest mallees, and distill eucalyptus oil from biomass, returning \$1/kg of oil produced to the grower. Currently it is able to harvest trees up to three metres tall and with approximately 70mm trunk diameter.



Image 2

Re Coppiced *Eucalyptus loxophleba ssp lissophloia* (Loxliss) seven months after autumn mulching. Trees were up to seven metres tall before mulching. Mulching can increase oil production in subsequent harvest by up to 20%. These trees will be harvested approximately 18 months to two years after mulching, depending on regrowth rates and seasonal conditions over the next year.



Image 3

The Braddon Mulching machine behind trees about to be mulched. Any size tree is able to be mulched with the rate inversely proportional to size. On average between 750 and 1200 trees/hour can be mulched.



Findings of the trials to date as well as information on machinery available to mulch large trees are available from Project Manager, Jo Ashworth.

PRODUCTS FROM YOUR PINES

Although pines will not grow everywhere in the Avon, there are some very suitable sites that have the potential to provide land managers with an income stream. But what happens to the pines once they have been harvested?

Wesbeam – Wesbeam is located at Neerabup. It is a large, purpose built, highly sophisticated plant which manufactures Laminated Veneer Lumber (LVL) from plantation grown pine, exclusively *Pinus pinaster*. The plant currently employs 110 people throughout the operation. The range of products is versatile and exported nationally and internationally as well as used locally. The plant can produce 55,000 cubic metres of LVL per year and will need a continuous supply of the raw materials to do so. Wesbeam can take logs from 150 to 600mm in diameter. These are first debarked, cut to length and stacked in bays according to diameter.

The logs are then put on a type of spindle lathe, spun very quickly and ‘peeled’ into a continuous sheet 3mm thick. This very long sheet is cut into uniform 1200mm wide sheets. The sheets are then dried and graded automatically by strength and visual properties. Each sheet is photographed and imperfections logged on the computer system. Ultrasonic sensors and lasers pick up major defects which are then removed and used elsewhere. The green sheets are stacked according to their properties and sent for drying. The sheets are glued then cold and hot pressed, the long LVL billets are cut to order.

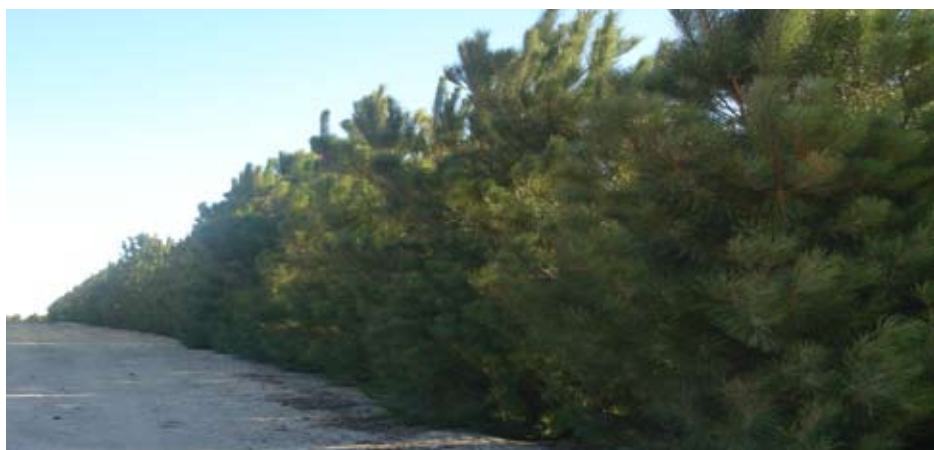
A wide range of products can be made from LVL, and the market is growing.



The building industry globally needs timber grown from sustainable sources and there are many areas in the Avon that would be suitable to grow pines to supply the resource for these industries.



The Forest Products Commission are still looking for 100 hectares for the 2007 planting season to form commercial partnerships with landholders in sharefarming arrangements. Contact the Forest Products Commission: 9302 7488 or visit their website: www.fpc.wa.gov.au for more information.



PRESENTING - THE AUSTRALIAN SANDALWOOD NETWORK (previously known as the Avon Sandalwood Network)

by Tim Emmott: p: 9621 2400 or e: temmott@gawa.org.au
and Geoff Woodall: p: 9892 8427 or e: gwoodall@agric.wa.gov.au

Increasing risk to annual agricultural systems through climate change, unfavorable seasonal conditions and rising input costs is creating renewed farmer interest in alternative production systems. A native plant currently showing the most potential to provide additional income for farmers is the WA sandalwood (*Santalum spicatum*).

For the past three years, sandalwood has been the most widely planted dryland tree crop in the areas of southern Western Australia receiving less than 500mm annual rainfall. By the end of 2007, the total area planted to *S. spicatum* will be over 8,000 hectares (investment of approximately \$50 million), most of which has been established in the Wheatbelt of southern Western Australia. Plantation growth is being driven by managed investment schemes, investors, primary producers and government programs.

Although plantations are primarily being established to produce high value oil bearing wood over a twenty year rotation, from age five plantations will produce large quantities of oil rich nuts. By 2009 nut production from plantation sandalwood is expected to reach or exceed 250 tonnes per year. In the medium term it is estimated that at least 20,000ha of sandalwood will be established, producing on average 2,100 tonnes of nuts (seed) per year.

Currently most of the seed produced is used to establish new plantations, but within a few years the supply of seed will exceed the demand created by ongoing plantation establishment. A key issue for the developing Australian sandalwood industry is targeted research and development to ensure that the emergence of new products and markets coincides with the expected surplus of fruit that will occur when the demand created by ongoing plantation establishment diminishes, and production rapidly increases.

To support sandalwood growers, address key industry issues, and foster the continued adoption and sustainable growth of the industry, the Australian Sandalwood Network has been formed.

Representing growers of Australian sandalwood (*S. spicatum*) with over 140 members, the Australian Sandalwood Network (ASN) aims to drive the plantation industry forward in the WA Wheatbelt and support private growers. The ASN focuses on strengthening grower networks, fostering innovation and extending key silviculture and market information to growers. In 2007 the ASN is further developing research partnerships and with Wheatbelt Development Commission funding is initiating a sandalwood plantation industry development plan in conjunction with the Forest Products Commission and industry stakeholders to ensure sustainable and focused industry development.

The ASN aims to continue supporting sandalwood growers and drive industry development to maximise returns to growers and achieve triple bottom line outcomes for rural Western Australia. The native sandalwood system is a unique dryland native tree crop that can play a vital role in achieving truly sustainable agricultural systems.



BIOENERGY IN THE AVON

by Monica Durcan: p: 9291 8249 or e: mdurcan@iinet.net.au

The Sustainable Energy Development Office (SEDO) has granted \$37,500 to AVONGRO to investigate opportunities for producing energy from woody biomass grown in the Avon. AVONGRO has commissioned bioenergy experts, Col Stucley of Enecon Pty Ltd and Dr Stephen Schuck of Bioenergy Australia to carry out the study.

Biomass can provide a renewable, greenhouse neutral fuel, and with rising oil prices and a sense of urgency that greenhouse gas emissions need to be drastically reduced, bioenergy from woody biomass is currently receiving much attention worldwide.

The Avon NRM region is 11.8 million hectares in size, of which 8.4 million hectares is currently used for agriculture or conservation. To balance regional groundwater tables to the extent required to halt the spread of salinity, many millions of perennials need to be planted. In addition there is a need to find innovative yet commercially viable uses for the perennials that our landscape so desperately needs. Biomass bioenergy may just provide these new and exciting opportunities.

Some of the innovative techniques and uses being developed for biomass bioenergy nationally and internationally which may have relevance for the Avon are pellets for heat production, biomass to drive steam turbines to generate electricity, ethanol, pyrolysis (fast and slow) bio oil and potentially many specialist chemicals that might be by-products of some of these processes. It is hoped that the new bioenergy technologies will provide potential export commodities and new employment and business opportunities for the Avon region.

The report is scheduled to be released at a public forum on Tuesday August 7th in the York Town Hall. The Minister for Energy, Francis Logan, is expected to attend the event which will be hosted by the Shire of York. The public forum is open to everyone.

Bioenergy in the Avon
Public Forum and Launch
Tuesday August 7th 2007
9:30am - York Town Hall

First full-scale Integrated Wood Processing Plant for regional Western Australia within two years!

A report by Verve on the findings of the trial Integrated Wood Processing (IWP) plant at Narrogin has revealed that a full-scale IWP plant can be commercially viable. All of the technical issues have been identified and they now know how a full-scale, five MegaWatt IWP plant will work. Verve will not be going to public offer but have issued an Information Memorandum and will be seeking Expressions of Interest from specific investors who have the capability to invest at a large scale. The vision is to start building the first fully functioning plant within two years at a cost of approximately \$40million, probably near Narrogin. The process requires Ministerial approval and Verve Energy is hoping for an April launch of the Information Memorandum.

Verve's Renewable Energy Scientist, Don Harrison, conjectures at a recent field day that the only truly sustainable energy system is to make the energy production in your own lifetime. 'Mallee energy should be recognised as a low emission option for creating energy, on a similar basis to Nuclear and so-called clean-coal, both of which have their own set of problems', said Don, 'Bioenergy is the only truly sustainable energy there is when we start talking of periods of hundreds of years.'

One point stressed though, was the need for a continuous harvesting system. The project can not proceed to commercial scale without the guarantee of a harvesting system in place by the commencement of commissioning.

Anyone with an interest in the findings of the IWP trial work will be able to access the information through the Verve Energy Web site: www.verveenergy.com.au.

OPPORTUNITIES FOR MALLEE BIOMASS

by Dr Hongwei Wu, Curtin University: p: 9266 7592 or e: h.wu@curtin.edu.au

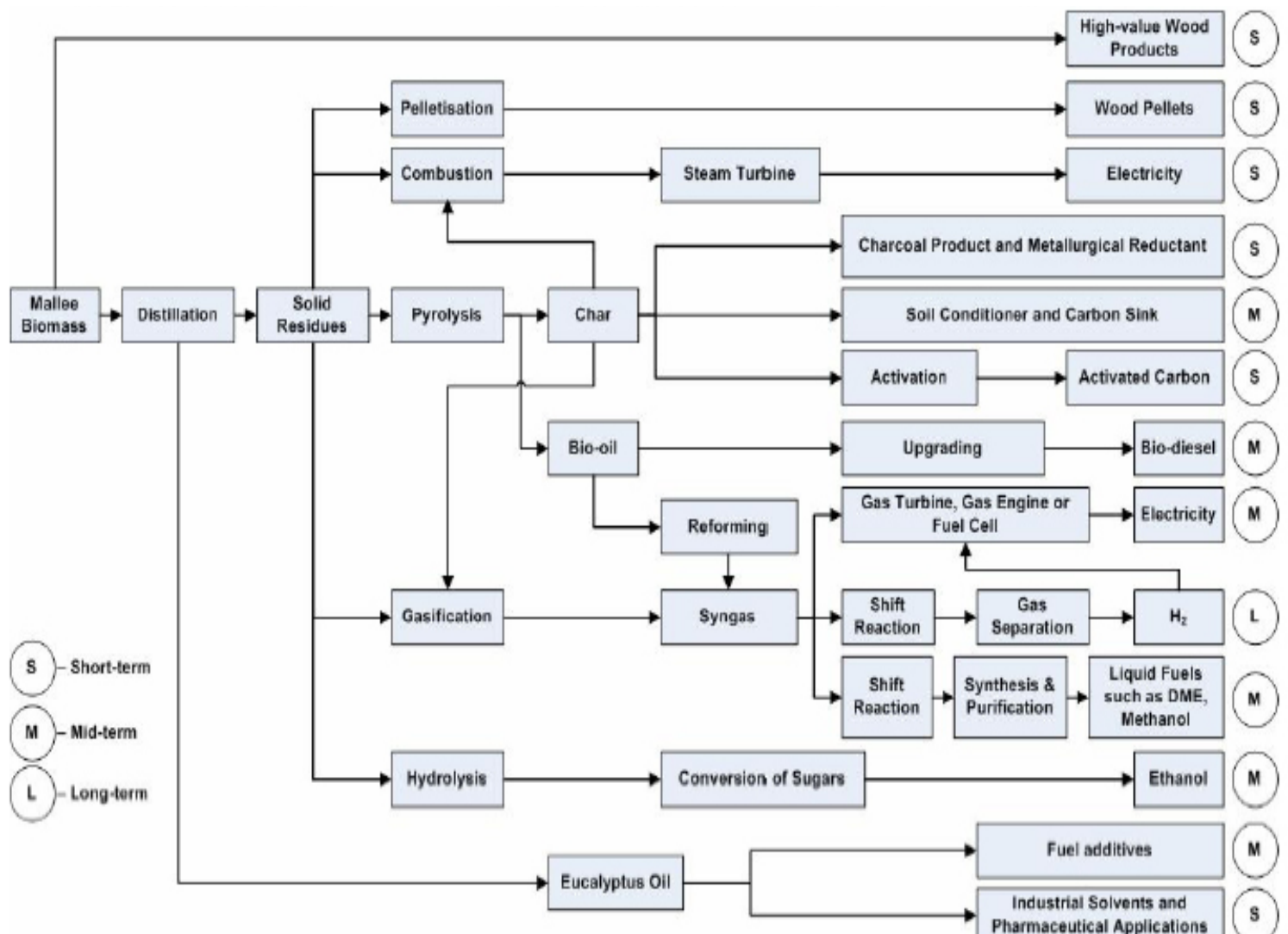
In WA, several species of mallee eucalypts are being developed as woody crops to address dryland salinity. Besides tackling dryland salinity, mallee could supply renewable mallee biomass. It has a short harvest cycle, can rapidly regenerate from coppice, has low production costs and is amenable to efficient large-scale supply chain (from harvest to central processor) development. Mallee biomass has the potential to become a fuel for base-load energy generation to complement declining use of fossil fuels. Potential supply of mallee feedstocks in WA would be about ten million dry tonnes of biomass per year.

There are a number of technical options for mallee biomass utilisation, as shown in the diagram below, which can be categorised as large-volume-high-value, large-volume-low-value / small-volume-high-value and small-volume-low-value, from most to least preferable options. The fundamental bottom line is to achieve two goals:

- 1) effective and efficient utilisation of the vast quantity of mallee biomass; and
- 2) significant economic diversification of farm activities into products that do not have adverse terms of trade.

While high-value application is generally coupled with small-volume, such as eucalyptus oil production, large-volume utilisation options are favoured.

The extent of economic diversification would be greatly enhanced by adopting mallee biomass as the large - volume mainstream source of feedstocks for energy production. This is because a profitable low value residue use like energy (e.g. electricity or ethanol) production would underwrite the commercial development of other higher value products from woody biomass. This is the concept being pursued at Verve Energy Integrated Wood Processing demonstration plant at Narrogin, where the energy product in this case is electricity. The higher value products at the Narrogin plant are activated carbon and eucalyptus oil. There are other large-volume products that might be derived from mallee biomass, including other energy products e.g. bio-oil, charcoal as a metallurgical reductant and charcoal as a soil amendment and conditioner. Other higher value products may include panel board products, paper and pulp, chemicals and manufactured animal feeds. Another major potential advantage of woody crops is that they sequester carbon, both in the form of the average biomass of the standing crop and in root systems. If tradable carbon rights are formally adopted in Australia this will provide an additional income stream at no additional cost.



CAROBS

by Dr Henry Esbenshade: p: 9381 7820 or e: henrye@graduate.uwa.edu.au

The Carob tree (*Ceratonia siliqua*) was introduced by seed brought from the Mediterranean in the early 1900's and is now widely distributed across the southern, eastern and western parts of Australia. The Carob industry has been undergoing steady development over the past twenty years. New developments in processing have resulted in the potential of carob pods being extended to not only livestock but also human food. In particular, there have been improvements made in the processing of carob powder and syrup, as well as the discovery of a lesser known sugar called Pinatol with pharmaceutical and sporting benefits. The number of carob plantings has steadily increased due to these new industry developments, the availability of grafted cultivars and more information being available.

The carob tree provides shade and shelter as well as autumn stock feed which can be harvested directly by animals or collected and stored as drought fodder reserve. There is considerable potential for domestic and export sales of carob powder, syrup and seeds due to improved processing methods developed over the last decade. Carob trees are evergreen, have a deep taproot and are capable of tolerating poor soils and drought, and often reach heights of 10 - 15 metres. The trees usually come into production within 10 years, bearing bean-like pods during the autumn months which fall to the ground and are favoured by all livestock. Carob pods are traditionally fed to most livestock as a sweetener, with similar results to molasses. This can be done by direct substitution of equivalent amounts by weight of pods for barley. Yield per tree ranges from 10 - 60 kg or more, depending on tree age, location, rainfall and variety (nursery website = www.carobtrees.com).

Carobs Australia Inc is interested in hearing from farmers in the Avon area:

- Have you seen carobs bearing pods?
- Would you like to learn where carob trees are already growing near you?
- Are you interested in more details?

Please send your name, phone, fax and/or email contact details to Monica Durcan, AVONGRO Executive Officer ph/fax 9291 8249 or email mdurcan@iinet.net.au

Yes please, I/we would like to receive more information on carobs:

Name: _____

Address: _____

Town: _____ State/Post code: _____

Phone: _____ Fax: _____

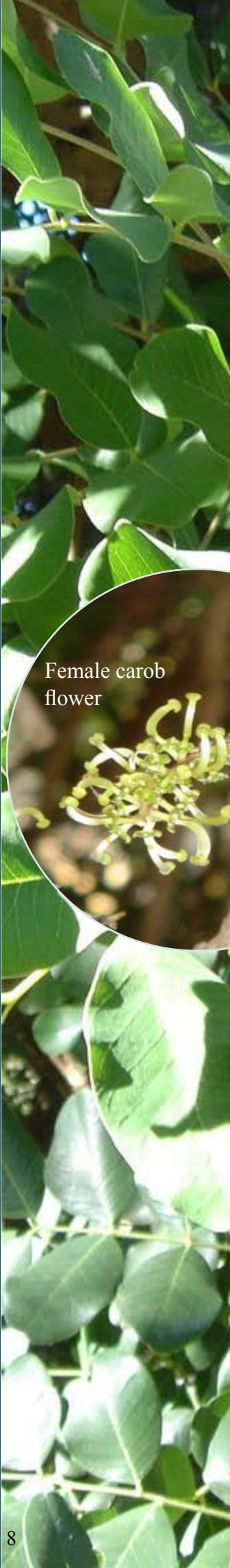
Email: _____

I have seen carob trees:

At: _____

Number: _____

Approximate age: _____



Female carob flower

ACACIA FLOUR

by Phil Bellamy, *Trees Midwest*: p: 9651 8091 or e: philbellamy@bigpond.com.au

Acacia microbotrya, 'manna gum tree' has been included in many revegetation projects in the WA wheatbelt landcare projects. It was a common natural plant in agricultural land and grows well in a wide range of soils and climatic conditions. It is being planted, along with *Acacia acuminata*, *Acacia saligna* and *Acacia aneura* as the hosts for sandalwood, *Santalum spicatum*.

What isn't generally known is that the flour made from *Acacia microbotrya* is edible. It has many benefits as a food in that it has ~22% crude protein, ~25% available carbohydrate, a high Glycemic Index and best of all tastes great. The flour is used commercially as flavouring in biscuits, cookies, cakes and even added to icecream. The Anzac cookies on Qantas international flights are wattle-seed flavoured.

Acacia flour can be purchased in some health food shops, with the vast majority of flour available coming from *Acacia victoriae*.

One concept is to grow it as a row crop in association with the current sandalwood plantings in the wheatbelt, moving to a mechanical harvest situation. Making every third row an *Acacia microbotrya* row would still provide a host for the sandalwood and potentially provide an additional income stream.

The demand for wattle-seed flour is growing and with marketing domestically and overseas, could become a sustainable market due to the combination of being a native Australian plant that produces a healthy food with other commercial benefits. The use of native Australian foods promotes the reestablishment of local provenance species.



The Great Oil Mallee Roundup

Over the years, millions of oil mallees have been planted right across the Western Australian Wheatbelt, however many plantings have not been registered with the Oil Mallee Association (OMA). To this end the Association is contacting growers to update their existing database to determine just how much resource is in the ground, its condition, where it is located and whether owners will want their mallees to be harvested.

If you are not contacted but would like register your plantings on the OMA database and be kept informed of new opportunities, contact AVONGRO Executive Officer (9291 8249 or mdurcan@iinet.net.au).

All information will be held as confidential.

To find out more about oil mallees visit: oilmallee.com.au

Economic development and sustainable production



High and low rainfall farm forestry

Wood and non-wood products

WA's PFDCs work collaboratively and cross regionally

Trees Mid West

Phil Bellamy
 Phone/Fax: (08) 9651 8091
 Email: PhilBellamy@bigpond.com.au
 Address: RSM 742 COOMBERDALE WA 6512

Trees South West

Leonie Offer
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 Fax: (08) 9780 6136
 Email: loffer@agric.wa.gov.au
 Address: PO Box 1231 BUNBURY WA 6231



AVONGRO Wheatbelt Tree Cropping

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Timber 2020

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 Address: PO Box 5305 ALBANY WA 6332

South East Forest Foundation

Ted English
 Phone: (08) 9083 1123
 Fax: (08) 9083 1100
 Email: teenglish@agric.wa.gov.au
 Address: PMB 50 ESPERANCE WA 6450



Key activities of Western Australia's other PFDCs:

<p>Trees South West:</p> <ul style="list-style-type: none"> • Project Managers for the \$700, 000 New industries for managing salinity with woody perennials project funded by the South West Catchment Council • Assistance with the development of the State Strategy for Plantations and Farm Forestry • Trees South West Plantations and Water Working Group-meets bimonthly • Project Managers for the Farm Forestry Development Officer-Bob Hingston funded by the South West Catchment Council • Funding of South West courses for Forest Products Commission Education Coordinator-Judi Pitcher • Development of MERI frameworks for all Trees South West projects and associated social capacity projects 	<p>Timber 2020:</p> <p>High rainfall – Industry development focused:</p> <ul style="list-style-type: none"> • Progressing with industry development at the Mirambeen Timber Processing Precinct • \$300M Lignor ESL® Plant, Bioenergy Pelletising Plant, two contenders for a bioenergy electricity plant with a capacity to produce over 35MW renewable energy • Consultancy - employment and training opportunities in the transition from schools to the workforce • Small business liaison with regard to assisting in attracting employment <p>Low rainfall – farm forestry</p> <ul style="list-style-type: none"> • Saltland farm forestry project investigating <i>Casuarina obesa</i> into the landscape for multiple purpose plantings • Sandalwood Investment Group investigating investment opportunities for <i>Santalum spicatum</i> in the Great Southern • Supporting all commercial forestry plantings in the medium to dry rainfall sector of the Great Southern
<p>South East Forest Foundation:</p> <ul style="list-style-type: none"> • 4th January 2007 “Storm of the Generation” and the subsequent cleanup of downed trees throughout the region. This highlighted to the local treegrowers the importance of selection of tree specie, location e.g. soil types, rainfall etc and impact of management (or lack of) on financial return. • 12th March 2007 - Farm Forestry Toolbox workshop in Esperance with Andy Warner • 22nd March 2007 - Esperance sandalwood workshop and Field Tour with Geof Woodall, attended by approximately 20 farmers • 15th March 2007 - Esperance - Lake Warden Perennial Field Day attended by approximately 40, including local 25 farmers. 	<p>Trees Mid West:</p> <ul style="list-style-type: none"> • Feasibility study into a timber treatment plant to process thinnings from pine plantations • Acacias for Medium Density Fibreboard

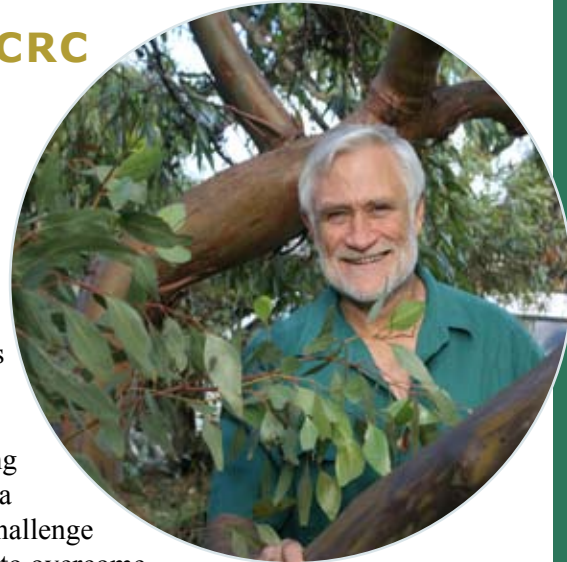
Our major funders and supporters

All Private Forestry Development Committees are funded primarily by the federal Department of Agriculture, Fisheries and Forestry through the Natural Heritage Trust with matching cash and in-kind support from a range of State Government agencies. In Western Australia the Forest Products Commission and the Department of Agriculture and Food contribute financially as well as in -kind.

FUTURE FARM INDUSTRIES CRC

Contact John Bartle: e: john.bartle@dec.wa.gov.au

The Future Farm Industries Cooperative Research Centre, successor to the CRC for Plant-based Management of Dryland Salinity, gained Commonwealth Government funding in December. This opens the door to seven more years of research, beginning in July, and will include a major program on woody crops. Acting program leader is the Department of Environment and Conservation's John Bartle who has led the CRC Salinity's Woody Perennials subprogram.



The Woody Perennials subprogram within CRC Salinity focused on screening prospective native woody species for crop and product potential, generating a short-list of promising species and products for wheatbelt conditions. The challenge facing New Woody Crop Industries, Program three within FFI CRC, will be to overcome impediments to commercial performance of biomass supply with a cost structure to meet anticipated demand.

John Bartle said commercial interest in woody biomass resources had increased strongly coinciding with major changes in global markets associated with climate change, concern over carbon dioxide emissions and escalating energy costs. "We aim to develop woody perennials systems that will be profitable, provide a sink for surplus water from adjacent agricultural land, and deliver biodiversity protection or enhancement and other improvements in natural resource management," John said.

Impediments to rapid commercial development are seen as:

- Selecting the right superior cultivars from the vast range of native species;
- Planting design to maximise capture of additional water to maximise yield in dry environments; and
- Low cost harvesting equipment for short-cycle crops.

Current private sector participants in the CRC include Enecon Pty Ltd, Renewable Oil Corporation and The Oil Mallee Company. Besides the *New Woody Crop Industries*, other major programs in the new CRC will cover *Future Livestock Production, Future Cropping Systems, Farming Saline Landscapes, Biodiversity and Water, and Economic, Social and Policy Analysis*.

AVONGRO Membership Form

ABN: 33 120 830 918

Membership to AVONGRO is open to anyone with an interest in tree cropping.

Membership fees (includes GST):

State Government	\$550
Commercial Industry (more than 5 employees)	\$275
National not-for-profit organisations and smaller businesses (less than 5 employees)	\$110
Volunteer groups (LCDCs, Conservation Groups...)	\$55
Farmers/growers/community members	\$20

Post this form with your payment to:
Monica Durcan, Executive Officer
56 Broadway Road
BICKLEY WA 6076

Yes please, I/we would like to join AVONGRO:

Name: _____

Address: _____

Town: _____ State/Post code: _____

Phone: _____ Fax: _____

Email: _____

Signature: _____ Date: _____

Payment of \$ _____ is enclosed

AUTUMN FIELD DAYS and EVENTS - coordinated by the Greening Australia/Avon Catchment Council Native Plant Industries Project



Koorda Oil Mallee Field Day, February 22



Introduction to Farm Forestry, March 14 & 15



Harrismith Oil Mallee Field Day, March 30



Toodyay Sandalwood Field Day, April 3

AVONGRO Associates:

Avon Catchment Council
Tel. Andrew Prior 9690 2250
www.avonnrm.org.au

Forest Products Commission
Tel. Mike Carter 9302 7488
www.fpc.wa.gov.au

Greening Australia (WA)
Tel. Tim Emmott 9621 2400
www.greeningaustralia.org.au

Department of Environment and Conservation
Tel. Dan Huxtable 9334 0186
www.dec.wa.gov.au

Department of Agriculture and Food
Tel. Mr Kim Brooksbank 9892 8444
www.agric.wa.gov.au

Oil Mallee Company
Tel. Simon Dawkins 9433 1244
www.oilmallee.com.au

Oil Mallee Association
Tel. Mike Kerkmans 9961 1242
www.oilmallee.com.au

State PFDC Liaison Officer
Tel. Richard Moore 9780 6100
www.fpc.wa.gov.au

Australian Sandalwood Network
Tel. Tim Emmott 9621 2400

Upcoming Events, 2007

Bioenergy in the Avon public forum

Tuesday August 7th in the York Town Hall from 9:30am - free entry.

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