The Australian Sandalwooder

Welcome to the 12 th issue of the Australian Sandalwooder produced by the Australian Sandalwood Network Inc

Summer 2011

From the Chair

2010 has been an interesting year. The wash-up from the breakup of the Forest Products Commission is unknown. As yet we have no news on the ownership of their share farm interests, except that they are up for sale.

News of the development of the 2b young range containing sandalwood nut oil from Mt Romance and the discovery of the gene responsible for the synthesis of sandalwood oil are two amazing break throughs which will no doubt have resounding impacts on the sandalwood industry.

Last year (2009) we had a bumper crop of sandalwood seeds and in 2010 because of drought and prolonged frosts the harvest was low especially from plantations in lower and exposed areas. Those trees that did set seed aborted much of it before maturity and this has had to be cleared to make way for next è Ŝ l·dl0 ă

Some reports are that sandalwood seed sown in 2010 germinated very well, whether it survives through summer is a different matter. Falls of 20-30mm in mid December gave some relief. But I think we are all hoping for some summer storms.

Those members planning to put in sandalwood plantations this year should make sure they keep up to date with the incentive programs offered by the regional NRM groups such as NACC and WBNRM which can be used to establish sandalwood plantations in 2011. If you have a group of landholders interested the ASN can help with your application if you let us know early. Your project should involve protection of soils from wind erosion . Happy New Year to all members

Misletoe species flowering over Christmas

The ASN exec committee is thinking of setting up a pool or processing facility for seed to provide a certain and reliable market for our members. It is likely that large end users of seed whether it is for plantation establishment or other markets may want to deal with one supplier rather than lots of little ones. There are lots of ideas for and against but we have not definitely decided on anything yet but need to know if members think this is good idea. We could set it up for the 2011/12 season.
We may even be able to offer a service to collect or pick seed. We will probably aim to sell seed for plantation and processing services The exec officer will be looking for sources of funding to get this project going in 2011 probably through royalties for regions

If the project gets up we likely to have the facility in the central wheatbelt and we will have cool storage facilities and grading equipment... If you are keen to support this idea and have some good ideas for setting it up, please contact us on 9574 5882.

Annual General Meeting and spring fieldday, Beverley 1st October 2010

30 people attended our AGM at Beverley town hall on the 1st October. The business of holding the AGM was quickly dealt with the new committee being elected as last year but with one change in that the new Forest Products Commission representative is now Grant Pronk. Many thanks to all committee members for their past support and in anticipation of the help in the coming year.

After the AGM the chair asked Dr Geoff Woodall to give a brief out line on the recent developments in the discovery of the gene for sandalwood oil in three Santalum species . Please refer to the article in this newsletter by Professor Julie Plummer for details on this . Geoff then gave a talk on the realistic returns from sandalwood plantations in the wheatbelt based on samples of 14 year old trees harvested by ASN and CSIRO in the central wheatbelt.

Aaron Edmunds from WA Sandalwood plantations (WASP) then gave a presentation on the potential for products and markets for the nuts WASP is at present seeking expressions of interest from those who would like to sell their seed to them. Please see the form in this newsletter.

! Ŧ ű Ŝ NJ f dz y˝ Ŏ K ó Ŝ Ó ƛ ă ƛ ű Ŝ east of Beverley and Ron Mulder explained the set up , mgt and nut harvesting techniques he employs . Some new growers were very impressed. The frosts over the winter have reduced the nut harvest considerably this year especially in the lower valleys affecting pollination and nut set with many nuts aborting early. Ron advised growers not to leave aborted or old seed on the ground as will interferes with next years harvest. At Bert l· y˝ Ř b 2 NJ Y˝ l· Ω plantation we discussed mgt options on one of their plantations. They have replaced dying Acacia saligna hosts with Acacia anura a host with seemingly little effect on the sandalwood trees. We all had a go at the roll along harvester that everyone is using and it certainly does save you r back.

Many thanks to Geoff, Aaron, Ron Bert and Norma, and Bruce and all those who helped set up and tidy up in the hall I have had feedback from quite a few members who thoroughly enjoyed the day.

Aaron Edmunds talks about the options for sandalwood nuts at the AGM on the 1st October

AVONGRO
Wheatbelt Tree Cropping
Incorporated
economic development and sustainable production

Tree Crop Peer Mentoring Program

Funding is still available to provide one-on-one assistance to land managers in the Avon River Basin through the Tree Crop Peer Mentoring Program.

Peer Mentors are 12 farmers who are keen advocates of tree crops and are willing to share their experiences with others to help them on the way to including tree crops as part of ther farming systems.

The Program is funded by Wheatbelt NRM, through their Soil Conservation Incentives Program as part of the Australian Government's Caring for our Country Program.

To be put in touch with a Peer Mentor, contact AVONGRO: 9291 8249, mdurcan@iinet.net.au

wheatbelt natural resource management

CARING FOR OUR COUNTRY

Wheatbelt NRM₮dzy⁄Rλy⁄∃ ₮2ℕJ ¢ℕJSS /ℕJ2LJă 5±5Ωă

Many thanks to Wheatbelt NRM from ASN for funding of $15,000 under their community grants scheme to produce a DVD about Sandalwood. The DVD is called Sandalwood, The Golden Harvest. Filming took place in the NE and central wheatbelt and around the Stirling ranges and at Mt Romance in Albany. The idea was to explain the long history of sandalwood and promote the economic and NRM benefits for landholders. Direct seeding is discussed as a cost effective method of achieving landscape scale revegetation. Bob Huxley and Geoff woodall feature in the DVD and explained various aspects of history setting up the plantations host selection and market products etc. The DVD also looks at the markets for sandalwood and the products which are made presently made from the wood oil and nuts. There is also a section where you can click on question and hear D Ŝ 2 ₮ ₮ Ψ ă See for yourself. A copy is included with this newsletter for all grower members. Further copies from the exec officer and it will be on our website soon.

DℕŜŜyŜℕ I 2ℕλÎ2yãΩ for the Wheatbelt DVD produced by Avongro.
Also funded by WBNRM, this DVD stars five farmers from the Avon Wheatbelt who have embraced tree cropping as part of their production systems. These land managers each have different approaches to trees as part of agric and tell their own stories standing on their farms in amongst their trees. There are a range of tree crops represente in the DVD with a notable focus on sandalwood as a tree crop with significant potential.
The DVD features Andrew and Suzi Sprigg of Wailki, Michael Hogan of Bencubbin, Ian Hall of Aldersyde, N Trudi Quicke of Kulin and Kingsley and Sandy Vaux of Ongerup. Each has a different story to tell about why ar they have incorporated tree crops, the benefits to the land and their vision for the future of tree crops for their business and their commuty..

For a copy of the Avongro DVD contact Taryn Beagley at Wheatbelt NRM: 9690 2257 taryn.beagley@agric.wa.gov.au

Archival pictures from the state library used in the sandalwood DVD

REGISTERING AN INTEREST IN BECOMING A NUT SUPPLIER TO WA SANDALWOOD PLANTATIONS

This document is an INFORMAL registration of interest in becoming a potential supplier of Australian sandalwood (*Santalum spicatum*) nuts to WA Sandalwood Plantations (WASP).

This is NOT a commitment to supply nuts, but it will give growers the ability to participate in supplying future sandalwood nut markets WASP are currently developing.

Nut prices will be available to growers when WASP has a clearer indication from end users what quantities are needed to fill their likely needs.

Grower Name: _____

Phone: _____

Email: _____

Estimate of Annual Nut Crop (optional): _____ kg

Approximate Sandalwood Hectares (optional): _____ ha

WA Sandalwood Plantations PO Box 221
Subiaco 6904
www.wasandalwood.com

Lotterywest supports biodiversity study into sandalwood and brushwood systems

.A comprehensive body of work has been carried out by CSIRO on oil mallee systems which showed their significant habitat value. Building on the work with oil mallees, this project will also build on a study which has already been done on reptile diversity in sandalwood plantations in the Arthur river area. . AVONGRO Wheatbelt Tree Cropping Incorporated has successfully applied to Lotterywest for funding to investigate the biodiversity sandalwood and brushwood systems.

Many of us with multihosts sandalwood plantations can provide anecdotal evidence to suggest that these plantations will have even greater biodiversity than monocultures of oil mallees. This study will apply scientific rigour to the theory and give greater weight to using Western Australian sandalwood (*Santalum spicatum*) and brushwood (Melaleuca species) in your farming system. Findings on those beneficial insects such as predatory wasps which parasitise or predate on agricultural pests will be of particular interest.

ó This funding will engage Dr to do the research so we can produce credible findings on the biodiversity value of AVONGRO Chairman Ian Hall, i

ó We believe that by demonstrating the biodiversity broader adoption of tree crops. If we want a minimum of 10% of the currently cleared landscape to be planted to perennials, we need to show their benefits to the env

Dr Gove has over 10 years experience in insect ecol

ñSo far I have been surveying tree crop systems, sampling insects and recording birds in three main locations: New Norcia- Wongan Hills area, Northam - Toodyay, and Arthurs Ridv e. In each location, I've ó sampled both brushwood and sandalwood systems, including single and biodiverse hosts wherever possible. In terms of insects, my focus will be some of the flying Hymenoptera - the bees and wasps. Wasps in particular are an important group as they play so many important ecological roles including the parasitism of crop pests. While processing the samples, I will also keep an eye-out for other important groups, such as the lady beetles.ô

The sampling involves two trap types: a malaise trap, which is a tent like structure which relies on insects' tendency to fly upwards once they hit a surface - insects are all collected in a vile in the roof of the malaise trap. The second trap is a simple pan trap - a plastic bowl with painted surface (blue or yellow) containing water and a little detergent, to break the surface tension. Many insects think they are visiting a flower, and get stuck in the water. It has been interesting to get out and become more familiar with these crop systems and meet some of the owners and managers involved in getting them established. I look forward to sampling again next yearô s Dr Gove.

Pictures below show a malaise trap and Aaron talking at one of the sampling sites in Southern Brook.

Mungangabby Sandalwood Establishment and Maintenance Project

Bencubbin farmer, Michael Hogan, is just one of (WNRM) recent funding rounds under their Soil Conservation Incentives Program (SCIP). Michael has received funding to revegetate a large paddock that is located high in the landscape, does not achieve a return from annual crops and has been prone to wind erosion. receiving the funding he is obligated to hold two small field days to share his knowledge and experience with others.

Recently Michael, with the assistance of Bob Huxley and local NRMO Tracey Hobbs, held a very successful field day, bringing in WA direct seeding expert, Dr Geoff Woodall. 30 interested farmers and enthusiasts attended to see just what has been achieved with the direct seeding of sandalwood hosts in conjunction with the planting of seedlings on this previously poor performing site.

Dr Woodall has been working for 12 years perfecting direct seeding methods with a focus on establishing large scale sandalwood plantations. óThe agricultural i precision sow seeds of varying sizesô, said Dr Woo precision seeding equipment for large scale revegetation projects. The area requiring revegetation in the WA Wheatbelt is massive and cannot be done successful

Dr Woodall advises those just starting out experimenting with direct seeding to still plant seedlings, however at a reduced density. óAs individuals gain confidenc seedlings planted. There will always be a role for nursery grown seedlings but we can revegetate larger areas more cost effectively using direct seeding ï provided it is done properlyô.

Michael took an interest in sandalwood, particularly for this wind erosion prone unproductive paddock high in the landscape. óWhile we are planting sandalwood is important because without them I would still have an unproductive paddock. If everyone in the district would plant unproductive areas like this to sandalwood, we would soon have enough resource in the district for a new industry, particularly since sandalwood trees produce an annual nut crop while we are waiting for the high value timber to matureô.

Michael Hogan and Bob Huxley are both part of the tree cropping Peer Mentoring program funded by WNRM as part of their SCIP program and administered by AVONGRO Wheatbelt Tree Cropping Incorporated. Through the Peer Mentoring Program, Michael, Bob and 10 others are available to chat with other farmers interested in exploring tree crops, to share their experiences and connect them up with the information they need to get started.

WNRMôs SCIP program is funded through the Australian Go more information contact Dan Ferguson at Wheatbelt NRM on 9690 2250.

Submissions sought for Carbon Farming Initiative

The Australian Government has released a framework for how farmers, foresters and landholders will be able to generate carbon credits under the Carbon Farming Initiative (CFI).

Industry groups are being invited to share feedback with the Government by making a submission to the Department of Climate Change and Energy Efficiency by January 21, 2010.Further information is available at

www.climatechange.gov.au

If members have F R P P H Q W V D Q G Z D Q W W R S X W L Q D n individual submission please send to the exec office to include in our submission.

Trialling new production systems for the central wheatbelt using sandalwood

. The Southern Brook Landcare Group were very interested in trialling ópasture cropping belts of sandalwood and brushwood so decided to combine the techniques and were successful with securing funding from Wheatbelt NRM. Recent funding through Wheatbelt NRM (SCIP) has enabled a local catchment group to trail new production systems

Pasture cropping is a concept creating some excitement in the Northern Agricultural Region and in the Eastern States. In a nutshell it is about establishing perennial pastures and then cropping into the pasture ï this whole system seems to have symbiotic advantages regardless of whether the land manager intends to graze the site or not. Reportedly crops grow better and in the longer term require fewer inputs ï time will tell. The trial will be closely monitored by the Department of Agriculture and Food WA with updates available periodically through Wheatbelt NRM.

Another important part of the trial is to see in what situations other tree crops can be grown in belts similar to the design made popular through the oil mallees ï wide spaced belts of perennials with crops or pastures in-between. The oil mallee industry has long been promoting tree belts across large paddocks to provide wind protection for crops and stock. While with mallees stock can go onto a site as early as the second year it may be that for brushwood and certainly for sandalwood this will take longer. For land managers with few or no stock it seems that belts of other tree crops can provide just as much protection giving land managers more options depending on the conditions in the paddock.

Sandalwood is a parasite and can host off a range of species. In a biodiverse sandalwood system any number of suitable hosts can be planted to create windbreaks across paddocks. Sandalwood systems are designed to enable the harvesting of the annual nut crop while the sandalwood trees and their hosts can remain in the landscape for thirty years or more. As the majority of hosts are Acacias, or nitrogen fixing, this could resolve some of the órobbingô issues experienced with some tree crops that are promising a financial return to land managers in the short and long term ï while providing NRM benefits along the way.

An interested group of land managers and natural resource management officers recently attended a field day to see the recently established trials and take home some ideas. The trials will run until winter of 2013 and there will be several more field days during that time. Anyone with an interest in the results will be welcome to attend. For information on the progress of the trials or to obtain a copy of the field day hand out containing details and costs of putting in the systems, contact AVONGRO Executive Officer, Monica Durcan on: 0418 934 870 or mdurcan@iinet.net.au. WNRMôs SCIP funding comes from the Australian Government our Country program.

Beltsof sixyearsold bio diverse sandalwood in Southern brook

Everything in balance

Many native animals fulfil important roles in nature in keeping things in balance. We all know about the caching of sandalwood seeds by woylies is responsible for the natural regeneration of the sandalwood species. Many small mammals are important for the dispersal of other seeds and fungi. The Australian Wildlife conservancy (AWC) has discovered at some of their sanctuaries where they have introduced native mammals that it has resulted in for the reduction of fuel loads reducing the need for hazard reduction burns. Recent reading of a bushland mgt handbook revealed that the encouragement and provision of habitat for possums whether they are ringtailed or brush tailed has another positive benefit for our sandalwood plantations by controlling the spread of mistletoe. Further research revealed that apparently one of their favourite foods is the new ă K 2 s 2 f ú mistletoe (Acmena sp) which has become a considerable worry in many plantations in which rely mostly on the typical jam for their host . I often wondered why some areas of typical Jam seemed unexplainably covered in mistletoe but there were no signs of it on my property despite typical jam being the dominant host . Recently on night spotlighting session I discovered a small band of brush tails live in my small yorkgum remnant. In order to encourage or retain possums on your property you need to protect old and mature trees in remnants around your property which will have hollows for them to nest in during the day . Although York ∃ dz Y ă h ă 2 k f ú hollows like salmon gums or wandoo, they are big enough for possums. Possums forage on blossoms, leaves and bark and may be suffering during this very dry spell as many nectar bearing flowers have dried up early. I have recently found two dead. Another threat is farmers burning off if they allow trees to be scorched this may kill resting possums as they hide in their hollows. Elimination of any feral bees nests can provide hollows not only for possums but other birds too. Some people have problems with possums coming into the homes but if their hollows are protected or provided the nuisance may reduce. It is important for all wildlife not to clean up logs and dead branches but possums those trees which fall against trees provide safe means of transferring from tree to tree. A tangled mass of crossing branches is ideal for them.

Also keeps dogs away from known possum areas as they disturb them. If you have remnants or small patches of trees, think about extending them with buffer planting to provide hollows into the future and fence them from stock to ensure regeneration occurs. Although Eucalyptus species are not sandalwood hosts their role in providing habitat for mammals birds and reptiles is important in keeping pest and diseases in check. Possums are easy to see with a torch at night as they tend to freeze and just sit there blinking at you.

Typical York gum possum habitat below

Sandalwood nut market update

Aaron Edmonds Business Development Manager WASP

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forgiven for thinking the current state of the Australian sandalwood industry is in a bit of a bind. Recent developm
regards to the sandalwood nut are providing reason to be optimistic over the future of this crop in the Wheatbe

The sandalwood nut as essentially an oilseed which is rich in a unique fatty acid called ximenynic acid (or santalb
This particular fatty acid is unique to the sandalwood family of plants and is currently utilised by a number of cosm
companies in existing product lines. Traditionally ximenynic acid has been sourced from the Ximenia tree in Africa
this supply has been small and costly to extract. As sandalwood producers we are now able to produce this nove
quantity and cost effectively to make it viable for end users to switch their focus to Australian sandalwood nuts and
adjust their anticipated requirements to a larger oil producing plantation base.

For many cosmetics manufacturers the supply of raw materials is a key consideration when evaluating the launch of new
products. There is no point any company beginning a new product line if there is not sufficient quantity of feedsto
available to back up production. The current market surplus of sandalwood nuts is frustrating to all trying to build
inventory, but the reality is as an industry, we have needed to reach this point in order to attract the interest of son
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As Business Development Manager for WA Sandalwood Plantations (WASP) and a passionate sandalwood nut produ
myself I have been given the responsibility of working on realising new opportunities for the sandalwood nut. Thro
my role at WASP I have been working with a number of potential end users forwarding samples of kernels for evaluatio
and from this work have moved to a stage where order requirements and price negotiations are proceeding. Whil
WASP have their own nut inventories to move, we are confident that our work will lead to end users seeking
surplus to our own production and it is aimed we will then go to members of the ASN and other nut producers to h
orders.

It is hard to know where ultimate nut prices are going to end up. Needless to say we share the same goal as ASN
members and are aiming to maximise the ultimate nut price achievable. WASP has invested in developing its own
dehusking infrastructure which allows industrial volumes of nuts to be dehusked and graded to remove seconds n
(around about 2 tonne per day). We aim to be able to offer this service to ASN members on a contract basis. We a
looking for partners to further process down to deshelled kernels, and oil and protein isolates.

In order to help WASP to work with end users by providing indications of likely nut volumes available to trade I would
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as much or as little information as you like and it does NOT commit you to supply us but we are more likely to contact
those potential ASN suppliers who provide us with the most information as it makes our task of matching orders to
supply much easier.

When it comes to the storage of sandalwood nuts it is important to keep nuts in a cool dry place. Nuts can be stored
successfully like this for up to 5 years without affecting nut quality. Whether you are using small grain bags or the
bulka bags it is essential to store these on a plastic crate base to ensure rats and mice are unable to damage both your
bags and nuts. Wooden crates can be problematic if they are stored on the ground where termites can eat their way
through to nuts.

I wish all growers the best for the coming nut harvest and hope 2011 brings more rain than what 2010 delivered.

aedmonds@wasandalwood.com

Sandalwood
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Sandalwood yield, quality, price and market observations

Summary of Geoff Woodall presentation from AGM on 1st October

Original estimates were that a мл15т year old plantation wood would realise Рнллл тон but actually 14yr old wheat belt grown tree harvested by ASN realised $1000 when analysed by Wesp o. Yields (on a per tree basis) were higher than expected.

Wild Wheatbelt wood vs cultivated

Best 14 year old cultivated material had 45% heartwood
Koorda wild tree had 67% heartwood not sure of age
Oil content 1% in the cultivated tree versus 3% wild tree
Heartwood extent localised in cultivated wood but more extensive in wild trees

Market dynamics

Market in a state of flux Low quality album may be having an impact on sales of low quality spicatum
Now three major oil distillers in WA
Still good prices for quality wood

Key points

What is your break even sandalwood price?
Are you really on track to produce 4t/ha from all parts of your plantation estate?
Have you kept your costs of establishment and management low?