The Australian Sandalwooder

Welcome to the 10th issue of the Australian Sandalwooder, a produced by the Australian Sandalwood Network Inc.

Summer 2010

From the Chair

Bruce Storer, ASN Chairman

Happy New Year.

While none of our members are rolling in profits from sandalwood yet there have been some significant developments over the past 12 months.

Firstly, the result from the first cultivated sandalwood tree that has been harvested by an ASN member is extremely encouraging. We thank Wescorp, CSRIO, and our tree donor very much. Also our volunteers.

There has been talk that the quality of our wheatbelt/inland spicatum) is no good, but this result has proven that we can grow very valuable trees. While there is a long way to go it is very pleasing to discover that we are on the right track. Wescorp has expressed their confidence in the timber we are growing and that speaks volumes.

Secondly, there have been developments in the nut market, as reported in the press. While no ASN members have been directly involved with the latest developments at Mt. Romance, and it is early days, the fact that sandalwood nuts are being used in cosmetics opens up many opportunities for us. The committee will continue to work towards implementing a long term market for sandalwood nuts and I am confident we will achieve this. Thirdly, FIRE!

At recent field days the topic of fire has come up for discussion many more than in recent years. What will it do to a plantation and what steps can we take to avoid it? It appears a fire is VERY detrimental to sandalwood. (No prizes for that deduction Bruce.). Some members have already experienced a fire and further reading follows in this newsletter. It is my belief that on the "catastrophic" days there may be nothing we can do to stop a fire. A fire break 200 metres wide may prove inadequate on these days. Therefore I think insurance is a realistic way of reducing the financial risk of growing sandalwood. We can insure most crops and sandalwood should be no different. At what cost remains to be seen.

Fourthly, falling membership. Over the past five years or so the ASN seems to attract new members and then lose them. This may be because people join, learn how to establish their plantation, and then leave, thinking we have no more to offer for 20 years or so.

I urge you all to maintain your membership going forward as the ASN is developing sound relationships in the industry, accessing research, providing plantation management solutions and discovering many other pitfalls and solutions along the way. In time to come I think members will benefit greatly from the work ASN does and the doors we will open. As the only private grower body in WA/Australia it is my firm belief members will reap significant rewards for their loyalty and support.

Wishing you all a happy and prosperous 2010

Dr Geoff Woodall speaking at Arthur river field day *Further info inside*

Bits and pieces

Steve and Michelle Fry Narembeen Our plantation is going great guns this year, as it seems to do most years, we have seed being produced off four year old trees for collection. Our plantation now has total ground cover with clover and grasses, and some native species now coming back after not having stock for so long. We take great delight in the native lid "Ornate Lizards" which seem to be all over our property

SANDALWOOD SEED FOR SALE

ANYONE WANTING GOOD QUALITY SANDALWOOD SEED FOR THIS SEASON PLEASE CONTACT THE ASN ON 9574 5882 OR BY EMAIL : exec@sandalwood.org.au

We can put you in contact with members who have excellent quality seed for sale from all parts of the wheatbelt

Bethan Lloyd Toodyay, 4ha bio diverse site established in 2005/06 450mm rainfall. Excellent late rainfall in October and early November made the sandalwood put on a late burst of growth with the diameter of the stems now varying from 30 -80 mm with an average height of 2m for trees which are still under 4 years, this is pretty good. I notice that the greatest growth is from those tree located closest to the greatest density of Acacia species rather than areas where the sheoaks dominate. We have had sporadic production of seed on these young trees but the seed is the biggest I have ever seen. The plan was to harvest host seed from the plantation this summer especially the upright form of Acacia saligna but there have been a large number of locusts through the plantation and although not in plague proportions instead of damaging the leaves of plants they have grazed almost entirely on the seed pods , reducing the harvest by 80%. See damage below

Exporting SEED???????????

Committee members have been having a robust discussion on the on the rights and wrongs of the export of Santalum spicatum seed out of Australia , specially to Asia. I f you have a view please send your comments to

exec@sandalwwod.org.au

Lessons learnt at Arthur River - Bethan Lloyd

With the threat of some serious weather pending we gathered on 11th September at Arthur River to undertake a tour of local Sandalwood Plantations in the area, led by Geoff Woodall.

First stop was a property with 10 year old plantation established in a block with spacing of 3mx3m using a mixture of Acacia hosts. Good growth was seen on most of the sandalwood trees with the owners harvesting good quantities of Sandalwood seed over the last few years. The importance of good host selection was illustrated by many of the fine leaf variant of Acacia acuminata dead or dying at this site. The fine leaved jam is adapted to grow in low rainfall areas whereas this site has a high rainfall of 600mm. The spacing of the plantation was proving difficult for management access for thinning and seed collecting. The site produces good pasture growth and is used to graze sheep several times a year. The optimal time for grazing is from September to November. Grazing also keeps the lower parts of the trees trimmed improving access for seed collecting and reduces any potential fire hazard.

From here we moved on to look at the plantations established by Geoff by direct seeding over the last 12 years. As we looked at the first established to the most recent we could see the evolution of the process to what we all agreed was a fantastic result which was very impressive to us although Geoff probably thinks he can keep improving . Many of us agreed that even the early plantation was pretty impressive. For those early plantations it was case of experimenting with spacing and species which were available at the time, now there is a greater knowledge about host species and matching them to soil type . Selection of a particular species is not clear cut as the provenance it was collected in can give wide variations in performance , this was illustrated by the variation in the forms Acacia lasiocalyx that geoff had on the property.

We were shown differing forms of Acacia saligna , whilst upright forms are often recommended, the forest form is vulnerable in exposed sites and we saw a few which were which had split and were lying on the ground . If you can get the upright wheatbelt form it's probably the way to go for most of us. The coastal form seems to grow very wide and can interfere with plantation access

In the latest area that Geoff had planted the area was prone to waterlogging , as sandalwood is not tolerant of water logging, Geoff decided to use a site up slope to establish a share farm eucalypt plantation with to control recharge at the site so to ensure the site was protected . The field day was very useful to those interested in direct sowing and we were thankful to Geoff for hosting us for the day.

A acuminata narrow leaved variant dying in plantation with 600mm annual rainfall

Most recent bio diverse direct seeded plantation down slope from FPC eucalypt s

Friend or Foe

Insect life in your sandalwood plantation

Forestry magazines seem to be full of articles talking about the problems of pest and diseases in plantations... Most of these are monoculture Eucalyptus plantations .Thinking about undertaking revegetation it is always important to ensure you include plants from under, middle and overstorey species to provide a habitat and food source which supports a variety of species and prevents one species from dominating . Our bio diverse sandalwood plantations are fulfilling that role. Apart from some care during the establishment phase during the life of the plantation we do not need to regard every insect we see as a threat or every weed as something we need to control . In a balanced bio diverse community, nature sorts everything out not allowing any one organism to dominate. You may have something chewing away at the some of your plants but next week it has moved on to another stage of its life cycle or it has provided food for a species of bird nesting nearby.

Even mice plagues feeding on seed provide food for black shouldered kites and Australian kestrels. Which respond by breeding in large numbers which keep the numbers down.

Looking at the larval food plants of many of our native butterflies you find some of the species we us e in our plantations such Acacia figure highly on the menu . The ***Amethyst Hairstreak*** is listed as feeding on Ac saligna and acuminata and also Senna artemesiodies .The ***Turquoise Jewel*** has been found feeding on Acacia xanthina near Geraldton. The ***Northern purple azure*** has been found feeding on Amyena which is a mistletoe species found on Ac aneura. The ***Wattle blue*** is found all over Australia except the Nullarbor and as the name suggests feeds on a huge range of Acacia species which include Ac saligna .

Look out for the ***spotted jezebel*** which is commonly seen flitting about our sandalwood plantations , it has striking markings and lays its eggs directly on the Sandalwood leaves or the mistletoe species growing on the hosts . The caterpillar is brown with white spots the distinctive pupae looks like bird droppings.

Many of the butterfly species have developed a mutually beneficial relationship with attendant ant species with many species spending either their larval or pupal stage protected within the nest of the associated ant species which is usually located at the base of the Acacia . In return for this service the larvae often secrete substances which either attract or appease the ants or provide a food source similar to honey. Ants also have roll to play in protecting the Acacia from other leaf eating insects so it can be solely consumed by the butterfly larvae. Acacia species also produce little packs of food attached to the seed which encourages the ant to gather the seed which ensures the seed is widely distributed .

Spotted jezebel Delia ***aganippe***

You are more likely to see a wider range of species if you can incorporate as much bio diversity into your plantation as possible and hopefully everything will be in balance and therefore reduce the need for expensive chemicals.

In single host plantation one species can dominate so they are more vulnerable to build up of pests and diseases such as gall and mistletoe and leaf eating insects.

Turquoise jewel
Hypochrysops halyactus

Amethyst Hair streak
Jalmenus illicus

Wattle Blue
Thecklinesthes miskini

Reference

Butterflies of Australia by Michael F Braby, CSIRO publishing

Mt Romance introduces the 2BYoung Anti-aging range

made from Santalum spicatum nut oil

A market for the Sandalwood nut has been a long term goal for most of us growing *Santalum Spicatum*. While we are waiting for the long wood harvest, the seed is produced in large quantities from year five to ten and beyond. Until recently high prices were received for seed sold for sandalwood plantation establishment but a lower demand due to a slowdown in the area planted to sandalwood coupled with a large increase in supply has meant that demand and price have gone down.

The potential size of the market for this new product is up to 100t/pa. In the short term all growers should be excited by the product and the potential benefits it may bring to members of the ASN in the medium to longer term. This product line is in its infancy and the level of demand it creates for nuts will become clearer during 2010 and beyond.

Mt Romance has developed a process to extract the oil and protein from the nut. The product produced is concentrated rich syrup. Which contains the protein and oil from the nut? Trials have been conducted and have produced good results in reducing the visible effects of aging.

Apart from selling the product at the outlet in Albany the aim is to sell the base product to cosmetic manufacturers around the world who can then add it to their own moisturising products.

Mt Romance draws on the rich moisture of the Australian Sandalwood tree to bring you the unique 2BYoung Anti-aging range. Powerful active ingredients exclusive to Mt Romance are featured in the 2BYoung range:

Sandalwood Nut oil is shown to increase the skin's softness and smoothness up to 47%, Sandalwood Nut Protein provides structure for the skin and locks out pollutants to give firmer skin and reductions in transepidermal water loss of 28% have been observed along with increases in skin moisture levels of 19%. Sandalwood Oil is used for its amazing calming properties resulting in clearer/ younger looking skin.

The 3 step regime has been developed to reduce the visble signs of aging and is available for normal to dry skin and oily to combination skin.

Step 1. Firming Serum containing the Sandalwood Nut Oil and provides structure and support to increase the skin's firmness.

Step 2. Moisturising Cream SPF 15 offering sun protection and intensive moisture resulting in a smooth dewy, supple skin.

Step 3. The Eye Lift is gentle yet effective and helps reduce puffiness, fine lines and dark circles and features the unique protein and oil from the Sandalwood nut and tree.

Auscarbon Kent Broad kent@auscarbongroup.com.au or 0429812903

AusCarbon Pty Ltd is a privately owned business based in Nedlands, with more than 6000Ha of forest carbon sinks established in the more marginal areas of wheatbelt WA. AusCarbon's model for biosequestration is based on biodiversity with at least 30-40 different species used throughout the plantings. Acacia represents a major proponent of the species mix and therefore presents a unique opportunity for a secondary income stream with sandalwood. Because the majority of infrastructure costs have already been accounted for under the carbon regime, the additional expense of establishing sandalwood should be cost effective.

Along with a possible future bush tucker angle with our plantings, sandalwood helps AusCarbon increase the value in changing the land use from livestock/cropping to farm forestry. This would also help with any possible negative sentiment in 'locking up' food production areas, although by operating in the 300-325mm areas (and generally unviable soil types for 'normal' agriculture), this concern should not arise in the first place.

The tricky part in our operation is in accounting for the carbon component of sandalwood, whether we include it under a harvesting regime under the proposed Carbon Pollution Reduction Scheme (CPRS), or exclude it altogether from the carbon side of our business. Also, measuring a biodiversity forest carbon sink for carbon sequestration is difficult, time consuming and expensive and may not be within an individual landholder's capacity to achieve.

A word of caution should be mentioned to all landholders before they sign any legal forms to do with carbon rights, carbon covenants and tree plantation agreements. **Please** get professional advice and then get a second opinion before signing. Most of the agreements are for 70 years+ and have certain restrictions attached (and ultimate liability to the landholder for maintaining the plantation if the owners of the carbon rights go into insolvency). Also, some companies are offering a 'one off' payment with no trailing income, which may be attractive short term, but a negative when the price of carbon goes up.

In March this year, AusCarbon contracted to get sandalwood nuts planted into approx. 100Ha of regenerated 8-10 year old acacia stands. This was done with an 'Egad' machine towed behind a Ute in between (where possible) the 3-4m acacia trees. The sandalwood germinated quite readily in early August (site only received 140mm May-Aug) and is now 20-40cm tall and looking healthy, although rabbits have enjoyed the new growth (and wiped out) in concentrated areas.

For any information related to this article, please contact Kent Broad: kent@auscarbongroup.com.au or 0429812903

Sandalwood seeded into 10 yo + Acacia regrowth areas

Seeded in April, 2009, seedlings emerged in early Aug, approx. 30cms high at time of photo (Mid Dec 09)

Sandalwood Seed Harvester

Bert and Norma Wansborough

Fellow Sandalwooders

Following a conversation with Bethan Lloyd whose mention of a nut harvester seen on the internet and subsequent fax on the information was what started the ball rolling in our quest for a suitable means of harvesting Sandalwood seed on our property, other than hand picking? Enquiries made by us to the sole distributor for this American manufactured machine, located in Tasmania, yielded amazing results.

The harvester is designed to collect Walnuts. Hazelnuts, Macadamias etc (certainly not sandalwood!!!!!!) but proved to be more versatile than originally intended. With 3 sizes large, intermediate and small, we chose intermediate after discussions with the distributor.

After an initial trial on Sandalwood, we were amazed at the efficiency and speed of operation, almost halving collection time, with no stopping and bending required, apart from the occasional need to move nuts from close to the stem of the tree and NO pressure needed to propel collector.

No leaves or other debris were gathered up, but sorting later to remove aborted seed was required.

To empty collected seed position the harvester over a bucket and gently twist on tool provided, which fits on the side of the bucket. A reasonably weed controlled site would prove more efficient in collection.

We can certainly say we are extremely pleased and now have 6 harvesters for 6 pickers as this year we had a bumper crop of seed.

Good harvesting! And wishing all members a very prosperous 2010 .we look forward to renewing old friendships and making new ones.

Bert and Norma Wansborough Beverley

Picture of pickers with the harvesters below

Australian Distributor

John Pethybridge

'Emara' 437 Ironcliffe road, Penguin,

7316, Tasmania

PH /fax 6347 2600

Mob 0407 847 170

Email John.pethybridge@gmail.com

www.nutharvester.com.au

Cost $176 plus $19 postage and

packing

Quality Analysis of Cultivated Sandalwood Trees from the Wheat Belt Region

Of Western Australia for ASN by Wescorp

Tim Coakley & Dhanushka (Danny) Sugeeshwara Hettiarachchi

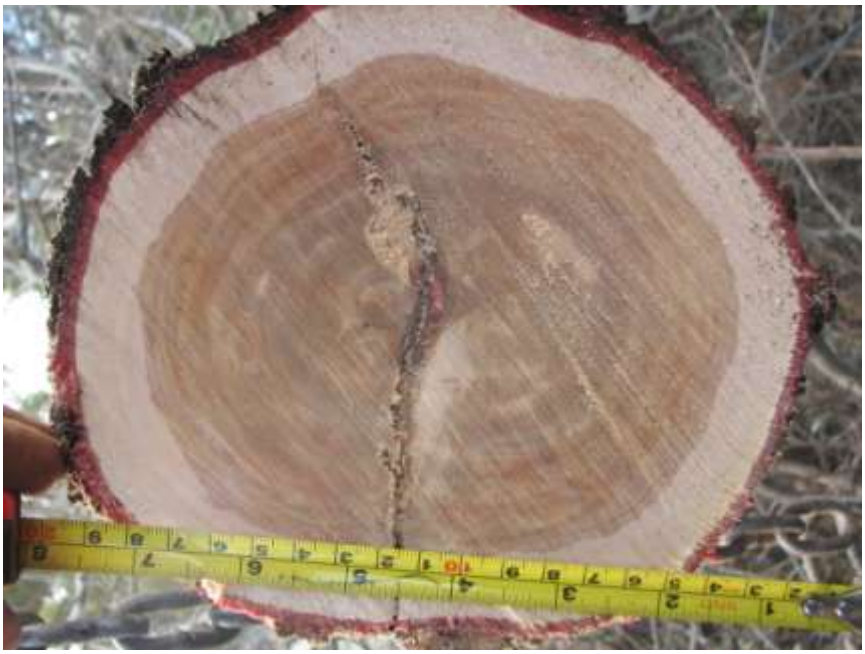
Plantation Sandalwood trees (*Santalum spicatum* R.Br.) cultivated by the Australian Sandalwood Network (ASN) was supplied to analyse the quality and provide a brief market potential report upon the findings. This is a summary of the report which covering the general laboratory findings with brief technical discussion followed by market analysis for the potential of similar wood. A full copy of the report is available to grower members of the ASN.

Heartwood formation was measured and area percentage was calculated at the best transverse section. Sapwood was not removed following the standard practise in Western Australian sandalwood industry. Whole sample was size reduced in a pilot scale hammer mill; particles between 4-40 mesh sizes were selected.

Samples were hydro-distilled using Dean-Stalk method and dried over anhydrous sodium sulphate, percentage yield was calculated as weight percentage.

Oils samples were analysed for the chemical composition using gas chromatographic (GC) analysis using a 5% diphenyl 95% dimethyl polysiloxane column. Identified compounds were quantified using area normalisation method. Any further details such as method, sample preparation and chromatographs of GC could be provided upon request. All the provided samples are clearly recognised as young trees with low heartwood formation. Sapwood contributed to the majority of the total weight and timber. It has been reported that *S. spicatum* has a decrease in santalol levels and oil composition towards the longitudinal growth (Piggot *et al.* 1997, Brand *et al.* 1999). The biscuits were selected from the ground level (butt) of the tree and also from usual 150mm or 300mm distances from the ground level as practised in sandalwood industry.

Sapwood wasn't removed as mentioned in methods, instead followed the standard industrial practice. Actual oil content in heartwood should be much higher than the given values as it is a mix of sap and heartwood. *S. spicatum* sapwood contains a minute quantity of oil and its composition isn't much different to that of heartwood (Hettiarachchi, 2008). Visual identification of sapwood to heartwood was previously practised by several researchers. Density of the heartwood will increase with the age of the tree when compared to the sapwood, further more it's the volume or the bulk of sapwood which will affect the industry more than the actual weight of the sapwood.



Some interesting results.

First tree has given very high quality oil with significant yields at 300mm (1 ft) above the ground level even to its branches. Root material was better in quality than the logs as predicted. One tree younger than the previous two still contained very good quality oil.

Cross section of 14year old sandalwood from central wheatbelt

Quality Analysis of Cultivated Sandalwood Trees from the Wheat Belt Region of Western Australia for ASN by Wescorp (continued)

In conclusion we could identify these trees could provide better quality timber. In a future study several more biscuits to be cut from further up in known distances to be analysed. That could give a better picture of total quality heartwood which could be harvested from these trees, then to be matched against their age.

Market Potential

The unique quality of the S. spicatum is that to produce good quality oil you don't have to remove the sapwood from the product before you pre-grind and do the oil extraction. This is not the case with other sandalwood species as the sapwood oil is detrimental to the heartwood oil. Another important difference between the S. spicatum sapwood and other sandalwood sapwood is the difference in aroma each one gives off when burnt in agarbatti. Other sandalwoods have a very "nothing" aroma in the sapwood, whereas the spicatum gives off a "pepper" aroma that the market would prefer not to have. This is why the market will pay marginally more for other sandalwood sapwood than spicatum sapwood. Never the less, spicatum sapwood still has an established market which Wescorp are supplying. The attraction is that it is still sandalwood (used as filler) and the golden colour of the spicatum sapwood (if kept out of light) is better looking than the "mouldy" white colour of the other sandalwoods.

In one of the older samples the alpha was very good with the Butt reaching 41%. This is very high when compared to a typical sandalwood tree harvested from the pastoral regions of the Goldfields. The average Butt oil alpha from the Goldfields would generally be around 25%. In this tree the farnesol is favourably low too. The other tree sample showed typical qualities of an older Goldfields tree with the Roots giving both a higher yield and quality of santalol than the Butt of the same tree.

The obvious difference is the yield when compared with the Goldfields. A butt from the Goldfields will generally give you around 3%, while the samples are around 1%. This is to be expected due to the age of the samples and volume of sapwood compared to the heartwood. Yield affects the aroma that can be produced from the sandalwood when it is burnt in the agarbatti industry. Low yields significantly affect the value of the product even if the quality of the oil is excellent as displayed in the pink and green samples. Because of the low yields, we would expect the sandalwood to be far too young to harvest and we look forward to seeing the same type of samples in another 10 years when we believe the yield should at least double. The most important finding is the quality of the oil and the future looks very exciting for plantation S. spicatum from the wheatbelt. If Wescorp was to buy these older samples produced and it was in large quantities with regular supply, then we could pay the farmers $1,000 per tonne de-barked, delivered to our factory. One tree weighed a total of 40kg be-barked. This makes this tree worth $40. The other tree weighed a total of 28kg debarked and is therefore worth $28.

Wescorp does not know how old the trees are from the samples, but we would expect a significant increase in value with 10 more years of growing and particularly with that type of santalol and improvements in the yield to at least 2%. ASN can reveal these trees are 14 years old growing in the 350mm rain fall zone in the Central wheatbelt.

Fire Insurance for Tree Crops by Tom Sweeney

Those who have an interest in farm forestry can take heart that insurance is available to cover them against fire. This is one of the frequently asked questions by those contemplating a move into farm forestry and was raised as an impediment, at a tree meet in March, as part of a Caring for Country project, which explored attitude to planting trees.

However there are only a limited number of companies who offer this service and as with other insurance measures taken in life, there are rewards offered if one is loyal and continues a policy over a number of years. It is also important to point out that to get insurance with a company, one may have to first negotiate with a broker.
In looking through the possible insurers, the following information was obtained;

- Private planting for farm forestry are covered by the policies
- For the purpose of insurance, oil mallees, sandalwood and brushwood are referred to as 'hardwood' species
- Fire, lightning, hail, windstorm, cyclone and aircraft damage are all covered
- The value insured is the agreed value, which is determined at the time the cover is placed. This is also known as the net present day value. Valuations can be listed as either high, medium or low, depending on the site productivity, available markets and initial costs. Owners are asked for reasons for their selection of a category.
- Discounts are available for both no claim bonuses and continuity of policy, that can amount up to 42% of the premium.
- Extension to policies that cover public liability are possible
- Some policies offer a reduced cost, by insuring 'net of salvage' or by allowing for replanting only.
- All policies have an excess.

Currently premiums cost approximately 1% of the plantation value per year. Along with purchasing a fire insurance policy, it is also suggested that the following efforts will be rewarded as far as safeguarding against the likelihood of fire; firebreaks, grass control, good water supplies, access, burn-offs and good neighbourly relations.

Other aspects of fires that may be of interest are;

Most plantation fires start elsewhere and burn into a plantation

- Once established, a plantation fire spreads at a slower pace than a grass fire under similar conditions
- Fires spread more quickly uphill than along a flat or downhill.
- Fuel – as provided by needles, leaves, twigs, shrubs, weeds, bark, branches and trunks – is a key ingredient in fire behaviour
- It is strongly recommended that landowners have a 'fire risk management plan'. This will include a physical plan of the trees showing access tracks, water-points, turning areas, fuel reduced areas and safe areas.

Plantation Policies of interest to ASN Members available from the Exec officer

Guidelines for plantation fire protection by FESA The objective of these standards is to produce acceptable fire management standards based on best practice solutions that optimise community protection as well as site productivity. The fire protection standards are designed so as to identify minimum standards for plantation. However if the proponents requires flexibility, there is the option to modify the solutions to still meet the standards.

Code of Practice for Timber Plantations purpose is to provide goals and guidelines for plantation operations in WA are conducted in a manner that is in accordance with accepted principles for good plantation mgt which recognises the primary aim of plantations to be economically viable and sustainable.

Tree Crop Planning Policy developed by South East Avon Voluntary Regional Organisation of Councils (SEAVROC) member local governments, who , wish to maximise the benefits and opportunities associated with tree crops, such as new industry development and regional investment, while minimising any potential negative impacts. They also recognise that having consistent policy across the region can facilitate planning approvals and provide landowner and investor confidence.

Plantation Fire - Are you ready ?

David McMillan, Senior Forester, Forest Products Commission

With the recent spate of fires in the agricultural areas it is probably a good time to look again at the preparedness of individual plantations.

As a minimum, all plantations should adhere to their local government bylaws. These bylaws should outline the size of firebreaks required. Growers are advised to obtain a copy of the Guidelines for Plantation Fire Protection outlining further preparation that should be implemented in any plantation.

The recent fire at Badgingarra destroyed 460 ha of plantation sandalwood. The landowner had excellent firebreaks, 15 metres wide surrounding the plantation and 8 metre firebreaks between each section. When the landowner saw the fire heading towards his property, he returned as quickly as possible only to find it entering the plantation. He attacked the flank fire with his 500 litre fire unit and brought the fire very nearly under control on the edge of the plantation, he then ran out of water and had to go back and refill the unit. During this period the fire burnt the rest of the plantation.

Growers living in a location with an active brigade should be mindful that, depending on the size of the fire, they may not always get the timely response they would normally expect.

Remember, the legal requirements placed on plantations are only a minimum. It is far better to be over prepared than to lose your investment. Guidelines for Plantation Fire Protection are available from your local FESA office or by phoning FESA on 9323 9857.

THOUGHTS ON FIRE INSURANCE **Bruce Storer** The recent fires at Badgingarra and Toodyay have brought home some stark realities of life in WA. Fire can strike us all... At a cost of somewhere between $400 and $800 a hectare to establish a plantation, the loss of a plantation like that at Badgingarra is between $180,000 and $360,000,. The lost potential is even more staggering. One could argue that this plantation could have returned a gross earning of about $13,000,000 after 25 years. Now it has been destroyed. As I mentioned in the Chairman's' report, there ARE going to be days when, if a fire breaks out, no amount of effort will stop it. Fire breaks assist farmers, fire fighters, beaurocrats and low level fires but I don't believe they can stop a fire on those "catastrophic "days.

To date we have discussed fire but this is the first real loss I know of. Some members have experienced a fire already but these seem fairly small in dollar terms, albeit upsetting. It has made me ponder the fact that 25 years is a long time to wait for your money without ever experiencing a fire. Not all fires are fatal to Sandalwood but this depends on the location, rainfall, whether the fire was a "hot" fire or not and the age of the tree. However I think it is unrealistic to think a plantation will "survive" a fire. Anecdotal evidence suggests fire is the end of your plantation. So, what do we do about it?

It is possible to insure a sandalwood plantation against fire and this seems the only logical way to reduce the financial burden of seeing your plantation destroyed. Currently this type of insurance is based on the standard crop insurance model. You insure the plantation for an agreed value for 12 months. Your premium is about 1% of this value. That is fine in year 1, when you might agree on a value of $400 to $800/Ha. About $4 to $8 /Ha in premium. If this model is used for the life of the plantation then at year 20 you may be paying around $200/Ha. By year 25, $300/ Ha. The last 5 years could cost you a combined premium of about $1500/Ha yet this is the age when fuel is greatest and the plantation most valuable. The ASN is proposing to obtain insurance on a statewide/national membership basis. The theory being that as with all insurance the cost is proportional to the risk. A "safety in numbers" approach if you like. By this method it is hoped premiums could be reduced. Discussions with underwriters are in progress and it is hoped that a valuable service may be provided to members. It would of course be strictly limited to members and may have to be tiered according to area. We will keep you informed of developments.

What's happening in 2010?

In 2010 we will be assisting with two field days in March for the Yarra Yarra Catchment group in Dalwallinu and Morawa and a group from there will be visiting some of our plantations in the Avon. If you would like to show case your plantation to these growers, please call the exec officer. A large percentage of these growers will be joining the ASN and will be seeking advice from our Peer mentor group. We will also hold a field day in Cunderdin and organise a tour around Wescorp's facility for those interested later in the year.

Farming Landscapes For The Future

Farming Landscapes for the Future' – Caring for our Country update

From previous newsletters you will be aware that the Caring for our Country project between AVONGRO and CSIRO with considerable support from the ASN is coming to a close. The growth and other data gathered as part of the project has been fed into CSIRO's modelling tools and the resulting interactive planning tool will be released through a series of workshops (see dates below).

The tool builds on CSIRO's Scenario Planning and Investment Framework (SPIF) and Agricultural Production Simulator (APSim) modelling tools, and is specially calibrated for the Avon Wheatbelt to help land managers and their advisors develop new agricultural enterprise combinations for the future.

SPIF 'mines' through multiple layers of information (soils, rainfall, transport…) to create scenarios at farm and landscape scales with this version based on the data gathered in the Avon Wheatbelt during 2009. This includes agricultural enterprise information in conjunction with growth and carbon sequestration data for Sandalwood, Brushwood and oil mallees. Land managers will be able to generate reports for different scenarios and compare the economics of multiple scenarios before making a decision to act.

Individual farm photos with underlying data layers will enable each land manager to run a range of 'what if' scenarios:

- 'What if I keep my current rotations and the rainfall is less?'
- 'What if I incorporate brushwood/sandalwood/mallees on that part of my paddock?'
- 'What if…?'

Developing 'Farming Landscapes for the Future' has been a $400,000 collaborative Caring for our Country project involving CSIRO, AVONGRO Wheatbelt Tree Cropping, Department of Agriculture and Food WA, Australian Sandalwood Network, Oil Mallee Association, and Wheatbelt Brushwood Growers.
Sincere thanks to all ASN members for your support of the project, we hope to see many of you during the workshop series. To book a place, contact Tom Sweeny at DAFWA: 9690 2154 or thomas.sweeny@agric.wa.gov.au.

2010 Dates	Times	Venues
Tues Feb 23	8.30 - 11.30am	Northam Dept of Agriculture and Food
Tues Feb 23	1.30 - 5pm	Kellerberrin TAFE
Wed Feb 24	8.30am - 12	Northam Dept of Agriculture and Food
Wed Feb 24	1.30 - 5pm	Quairading Telecentre
Thurs Feb 25	8.30 - 11.30am	Merredin Dept of Agriculture and Food
Thurs Feb 25	1.30 - 5.30pm	Bencubbin
Tues Mar 2	1.30 - 4.30pm	Theatrette, Dept of Agriculture and Food, South Perth
Wed Mar 3	9am - 12	Wongan Hills Telecentre
Wed Mar 3	1.30 - 4.30pm	Dowerin Lesser Hall
Thurs Mar 4	8.30 - 11.30am	Corrigin
Thurs Mar 4	1.30 - 4.30pm	Northam Dept of Agriculture and Food

Many thanks to all those who contributed to this the 10th Newsletter of the Australian Sandalwooder