

Newsletter

A publication of the Otway Agroforestry Network

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FARM TREE EXPO 2012

Agroforestry, so much more than trees

What a line up! OAN has put together a terrific array of speakers, demonstrations and activities for this year's Farm Tree Expo. Turn to page 3 for complete details on speakers and the days activities. Also available on line at www.oan.org.au.

A working Gasifier, making the trip all the way from Canberra, will be a feature of the day. Peter & Kerrie Davies from Real Power Systems, will talk and demonstrate one of their gasifiers

Gasification is an energy process, using combustible solids such as wood and even municipal waste, to produce a gas that can substitute for fossil fuels in highefficiency power generation or heat. Plus by- products of the process include: a small amount of low-grade activated carbon (biochar) which can be returned to the soil as a soil conditioner; and waste heat that can be used for water or space-heating, or for pre-drying the fuel for the gasifier.

The process of gasification could be one of the quickest ways to help many countries in reducing greenhouse gas emissions and to reduce climate change.

OAN Farm Tree Expo 2012 is on Friday 27th April at the Bambra Agroforestry Farm starting 10am.

Pictured clockwise from top: Cross-section diagram of a gasifier; loading wood into the gasifier; demo at Parliament House: Flare









FarmTree Expo 2012: what's on and when

Friday 27th April Bambra Agroforestry Farm, 165 Boonah-Bambra Road Bambra



BIOENERGY

Bioenergy is a diverse and rapidly growing field which is essentially about generating renewable energy. Although still a fledgling industry, exciting new bioenergy projects and proposals are popping up across the state as more and more people look for innovative ways to reduce our reliance on fossil fuels, reduce our Green House Gas emissions and diversify their agricultural enterprises.

Turning waste into energy: Bioenergy in Victoria - Where it's at: Liz Hamilton Senior Bioenergy Industry Officer, DPI. Liz undertook a Gottstein fellowship in 2009 to study developments in bioenergy in North America, and is in touch with all new bioenergy developments in Victoria.

Gasification: Peter & Kerrie Davies from Real Power Pty Ltd, Canberra, will talk and demonstrate their assifier.

Biochar: Doug Philips and Dave Warne, Greening Australia will present the research on the use of Biochar in accelerating growth rates of indigenous plants which can then be used as a Biofuel. A closed system that doesn't require external input once it is up and running.

Firewood: Phillipa Noble, Senior Farm Forestry Officer, DPI, will discuss growing, harvesting and the requirements for selling firewood.

BIODIVERSITY



Integrated Pest Management: Controlling pests is an essential part of food production, and can be done using chemicals and the natural enemies of pests - biological control.

Researchers at the University of Melbourne have shown that by minimizing chemical use, populations of the pest's natural enemies can be maintained which increases biodiversity.

Community Ecology: Richard is a widely published ecologist with specialist skills in wildlife conservation, forest and wetland management, landscape ecology, sustainable land use and conservation planning. Richard will talk about bird use of forestry plantations.

Birdlife Australia: In the field talking about the importance of birds in the broad agricultural landscape and the contributions that trees make to their survival.

Myrtle Rust and the implications for Victorian Vegetation: David Smith, DPI Biosecurity Scientist, Knoxfield. The fungus *Uredo rangelii* (Myrtle Rust), recently found in Victoria for the first time poses a threat to Victoria's nursery, forestry and beekeeping industries, as well as to public parks and gardens and native forests. It can potentially attack all species of the Myrtaceae plant family (such as Eucalyptus, Corymbia, Angophora, Leptospermum, Melaleuca).

Water Watch & Landcare: Demonstrations of macroinvertabrates that live in, and indicate the health of, waterways and wetlands by Water Watch. Active displays from Upper Barwon Landcare Network, Southern Otway Landcare Network & the Heytesbury Landcare Network.

BUSHFOODS & FOREST PRODUCTS



Mountain Pepper, Lemon Myrtle, Wattleseed and Muntries: to name a few. Find out how great these unique plants taste; how they grow and the wide range of uses they have. RIRDC research indicates that many of the species have amazing medicinal (antioxident, anticancer) and nutritional (vitamins) properties (if Blueberries are the benchmark for antioxidents then some native fruits have 30x that amount!) Material will be available from RIRDC and ANFIL.

Log-grown SHIITAKE: OAN members, Rob, Matt & Mike from Otway Forest Shiitake, will demonstrate how to inoculate and grow shiitake mushrooms on tree logs. Shiitake mushrooms sell in shops for around \$50/kilo and are sought after by fine restaurants in our region. A one-metre long log can produce more than 3 kilograms of mushrooms over the course of 3 years. Logs are inoculated with spawn imported from the USA. The OAN Log-grown Shiitake Growers Manual will be available for sale at the Expo for you to try yourself.

Walnuts and Truffles: Chris and Helene Bell and son James from Corunnun will talk about growing Walnuts and Truffles and demonstrate truffle sniffing with their specially trained truffle dog!

Cut flowers: There is a huge range of cut flowers and foliage that can be integrated into your farming system. See amazing Banksias, Leptospermums, foliage and more

Sandalwood: a semi-parasitic Australian native species with enorous environmental and commercial propsects. Ben Boxall will discuss what this can mean for agroforesters.

CARBON & CLIMATE









Climate Dogs: Graeme Anderson DPI's Senior Specialist for Climate will talk about the influences on Australian climate with the aid of the now famous Climate Dogs. The award winning Climate Dogs series, which is part of DPI's climate program, was developed to better explain the latest scientific insights into the key drivers of Victoria's seasonal rainfall variability. While the four existing Climate Dogs - ENSO, INDY, SAM and RIDGY (El Nino Southern Oscillation, Indian Ocean Dipole, Southern Annular Mode and Sub-tropical Ridge) - are the key climate drivers that affect Victoria's seasonal rainfall, bringing wetter or drier conditions, in East Gippsland their effect on annual rainfall can often be masked by East Coast lows. The new Eastie animation was a collaboration between DPI Victoria and DPI New South Wales, who worked with scientists from the Bureau of Meteorology to come up with this clever cartoon.

Climate Institute/ Jigsaw Farms: Mark Wootton with his wife, Eve own and manage Jigsaw Farms. Located north of Hamilton, Jigsaw Farms is a mixed operation of beef and wool with various combinations of biodiversity and agroforestry plantings which act as a carbon sink. They are building into their farming practices ways to lessen the impact of climate change. Mark is Chairperson of the Climate Institute and is a board member for the Victorian Ministerial Reference Council on Climate Change Adaptation. Mark is also Chair of the Glenelg Hopkins Catchment Authority.

Soil Carbon: Camperdown Composts will talk about putting the life back into soils: increase efficiency of water usage; reduce reliance on fertiliser inputs; understand the role of beneficial biology in plant growth; integrate biology into your fertility management.

QUALITY TIMBER



Rowan and friends will demonstrate felling a tree, snigging the log and milling into boards.

Furniture makers and craftsmen will show the beautiful products that can be made, including musical intruments and maybe even a boat!



Please refer to OAN website for more details

www.oan.org.au

PRESENTATION TIMES

10am Bioenergy - Liz Hamilton C

Myrtle Rust - David Smith M

Water Watch O

Cut flowers & Bush Foods - Mike Edwards O

10.30am Fire wood - Phillipa Noble O

Growing Shiitakes on logs - Rob Wertheimer O

Productive landcare - Rowan Reid O

11.00am Gasifier - Peter & Kerrie Davies C

Truffles - Chris Bell M

Pruning - Rowan Reid/Andrew Stewart O

11.30am Truffle Dog - James Bell O

Planting trees - Mike Robonson-Koss O

Felling & Snigging - Rowan Reid O

12.00am Biochar - Doug Philips & Dave Warne C

Birds - Richard Lyons M Milling - Rowan Reid O

12.30pm Lunch - with music by Jarvis Brown O

1.00pm Rowan will talk about 25 years of the

Bambra Agroforestry Farm O

1.30pm Carbon - Mark Wooton C

Water Watch O

Cut flowers & Bush Foods - Mike Edwards O

Exoctics Walk - Rowan Reid O

2.00pm Climate Dogs - Graemem Anderson C

Planting trees - Mike Robinson - Koss O

Pruning Euclaypts - Rowan Reid O

2.30pm Myrtle Rust - David Smith M

Firewood - Phillipa Noble O

Gasifier - Peter & Kerrie Davies O

3.00pm Sandalwood - Ben Boxhall C

Tree felling & Snigging - Rowan Reid O

Growing Shiitakes on logs - Rob Wertheimer O

3.30pm Truffles - dog O

Milling - Rowan Reid C

4.00pm Exoctics Walk - Rowan Reid O

C = classroom M = marquee O = outdoors

FarmTree Expo 2012: what's on and when

From 6pm Friday 27th After dark with Shane Howard



After dark with Shane Howard

From 6pm the festivities continue with BBQ dinner, bonfire and music.

Join Rowan and the OAN team for the evening. Tickets \$25.

Bookings essential. T: 5236 2086 E: contact@oan.org.au

FarmTree Expo 2012: what's on and when

10am Saturday 28th post-Expo Tour - 2005 Winchelsea Road Deans Marsh

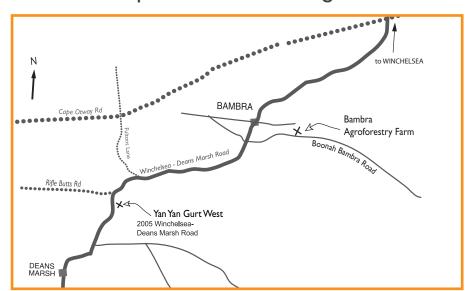
Take this opportunity to view an excellent example of how well agroforestry works in a traditional farming system.

Andrew & Jill Stewart's "Yan Yan Gurt West", 2005 Winchelsea Road, Deans Marsh, is a grazing farm which has invested considerable time in farm forestry.

15% of the farm has been revegetated with a variety of commercial and non-commercial trees with a strong focus on landcare issues, improving farm productivity and commercial opportunities from sawlogs, pulp and seed production.



FarmTree Expo 2012: How to get there





Australian Native Food Plants

The Australian native food industry has enormous potential for the development and delivery of authentic Australian foods for both Australian and international communities. The rich Australian flora, containing over 25,000 native species, provides opportunities for the selection of traditionally consumed sources that, besides being new attricative foods, possess significant health-enhancing properties. Initially only a selection of the more well-known native food plants have been focused on by the industry and the Rural Industries Research & Development Corporation (RIRDC).

- O the fruit types: Kakadu Plum, Davidson's Plum, Desert Lime, Riberry, Lemon Aspen and Quandong;
- O and the herb/spice types: Mountain Pepper (berry and leaf), Bush Tomato, Anise Myrtle, Lemon Myrtle and Wattleseed

Not all these species grow well in our climate, but those that do can be integrated easily into an agroforestry farming system adding greater productivity.

The Health Benefits of Native food

The RIRDC's reserach is exciting! Developed to provide the industry with reliable information on the levels of health benefiical constituents, and antioxidant capacities, the research is showing the native species evaluated have superior antioxident capacity; the presence of potentially bioactive phytochemicals (phenolic compunds and caroteniods); and selected vitamins.

ANTIOXIDANT CAPCITY

Blueberries were chosen as a control to compare the native species, as it is generally considered worldwide as the "health-promoting fruit".

Most native fruit, herbs and spices were exceptionally high in antioxidants, as well as various minerals and vitamins.

The winner of them all is the Kakadu Plum which is the richest source in antioxidant compounds of all tested by far, it also contained high levels of vitamin C ,E ,folate and lutein. It also contains essential minerals,Mg, Ca,Zn and Fe. Kakadu plum extract was shown to kill cancer cells in the laboratory trials.

The Mountain Pepper leaf tested many times higher than the control and one of the highest tested in anti oxidants and many minerals especially zinc. The leaf tested higher than the berry.

MINERALS

Among the herbs and spices tested Mountain Pepper leaf and wattle seed can be considered the richest source of Mg, Zn and Ca with Lemon myrtle exceptionally high in Ca and Anise myrtle very high in Mg.

Among the fruits Quandong is the richest source of Mg and Zn while Kakadu plum provides Mg and Ca, and Lemon Aspin 7n

Riberry, while not the highest in many tests for minerals was a good all rounder being well ahead of the blueberry control samples.

LUTEIN

Lutein is a chemical important to eye health improving visual function and macular degeneration. Of the herbs and spices Anise Myrtle had the highest level followed by Lemon Myrtle and Mountain Pepper leaf. Of the fruits Kakadu plum , Australian Desert Lime and Davidson Plum were identified as having levels of lutein higher and often many times higher than "Hass" Avocado which is considered the primary source of lutein.

FOLATE

Folate (also known as Vit B9) Folate deficiency results in the increased risk of cardiovascular disease and dementia as well as neural tube defects. All samples of native foods tested contained folate. The highest in the herbs and spices was Mountain Pepper leaf, Anise Myrtle, Bush Tomato and Wattleseed followed by Mountain Pepper berry and Lemon Myrtle.

VITAMINS

Vitamin E: The highest levels were found in Anise Myrtle, Lemon Myrtle and Mountain Pepper leaf. (Many times higher than Blueberry and even the "Hass"Avacado.)

(ref p21 Health benefits of Australian Native foods by RIRDC)

Mountain Pepper leaf was the sole source of b-carotene and Vitamin A of the samples tested.

So far all native foods tested have been outstanding in their health and nutrition benefits which ads weight to the need to promote native foods as part of our diet and grow them more to use both at home and in restaurants .

The information here has been extracted from the publication called Health Benefits of Australian Native Foods (An evaluation of healthenhancing compounds) produced by Rural Industries Research Development Corporation. Pub No 09/133

Native food plants that may grow in our climate

Native food plants are easily integrated into agroforestry plantings adding greater productivity to the farming system. Those listed here are some of the more well known that will grow in our climate, and plants can be sourced through the Otway Agroforestry Network



Mountain Pepper



River Mint



Lemon Myrtle



Muntries



Round Leaf Mint



Riberrie

Mountain Pepper (Tasmannia lanceolata)

Mountain Pepper grows naturally in the cool wet areas of Victoria, NSW and Tasmania and is used extensively as a flavouring. It has natural anti bacterial and fungicidal qualities which give it the potential to be used commercially as a food preservative. Leaves can be used fresh or dried while the berries can be dried and ground as pepper. Oil can also be extracted from the leaves. Demand for Mountain Pepper is currently higher than supply and local markets are virtually unexplored. Mountain Pepper requires a well drained but moist and shaded site, as mentioned it is naturally a wet forest understorey plant and due to its primitive root system suffers from harsh dry winds and heat. It grows well under drip irrigation with mulch to keep the roots cool. Partial shade can also assist in summer conditions. To ensure survival of seedlings it is best to use larger potted plants with well developed root systems rather than tube-stock of recently struck cuttings. Plants from 10cm or 14 cm pots seem to establish better but still need some water and care in the first couple of years. Mountain Pepper can be harvested or "hedged" if planted in rows.

River Mint (Mentha australis)

Indigenous to the damper areas of Victoria, NSW, and Tasmania, River Mint is a low-creeping groundcover that naturally grows in and around waterways. It grows in shade or full sun and prefers free draining soil.

It can be harvested 3-5 times per year, dried quickly in the dark and is used in cheeses and teas. It can also be eaten fresh as a salad flavouring.

Lemon Myrtle (Backhousia citriadora)

Naturally occurring in NSW and Queensland Lemon Myrtle is a subtropical rainforest species but can adapt to temperate areas where frost is not severe. The leaves have an exceptionally powerful lemon taste and aroma. They are used fresh or dried in a wide range of products. The essential oil from Lemon Myrtle is used in cosmetics, soaps, deodorants etc. It has shown to be an antimicrobial agent and has poweful antifungal properties.

Muntries (Kunzea pomifera)

Muntries are indigenous to south west Victoria and generally grow in sandy areas around the coast and in the Mallee. Until trained on a trellis they grow prostrate producing a crop of fruit similar in appearance to small apples. Berries are green to red with a purplish tinge, up to 1cm. The flavour is likened to that of apple cinnamon. Muntries can be used in a wide range of value added products: chutneys, jams, flavourings, muffins, specialty breads and fresh in salads.

Round Leaf Mint (Prostanthera rotundifolia)

Growing naturally in the Grampians in full sun or shade, it grows to 2-3 meters. It is very tough and has an 8-10 year life span but does not like wet feet. It is a good hedging plant that suppresses weeds. It also has natural antifungal and anti bacterial qualities. Round Leaf Mint produces around 0.5kg of dried leaf per plant per harvest (around 1.5kg/year) and is used as a food flavouring and tea.

Riberry (Syzygium luemannii)

The most popular of the Lilly Pillies in cultivation, growing to about 10m and produces pear shaped pink to red berries that have a clove like flavour. The fruit can be added to fruit salads or blended in sauces and served with native meats. Riberries can be frost tender, are adaptable to a range of soil types but prefer good drainage and moisture. The berries ripen sequentially and should be picked daily. Fruit is traded frozen or fresh in season. An added bonus is that birds dislike the berry fruit!

Around the Network

by Andrew Stewart

New Zealand Landcare

Landcare in New Zealand is strongly focused on sustainable farming systems. This is what Jill and Andrew Stewart learnt when attending "Landcare in Action: National Landcare and Catchment Management Conference 2012", held in March at Waikato University in New Zealand's north Island. Priority is being directed to supporting farming innovation and solution generation for social, economic and environmental sustainability, with recognition of vital need for economic outcomes.

The Northern Totra Working Group presented on the management of naturally regenerating Totra forests as a resource for commercial timber production. There is great potential to promote Totra as it likes steep slopes and poor pastures. It regrows readily and seen as a weed but should be reconceptualised as a unique native forest type. The presenter, Paul Quinlan, said there needs to be a movement away from the tradition of spatial separation of production and conservation, and farmers need to be encouraged to integrate trees into their farming systems. It has been shown that thinning and pruning increases growth rates and timber quality. The New Zealand Forest Act applies to milling of naturally regenerated Totra and it has been shown that logging using continuous cover practices complies with the Forest Act.

During the conference the Minister for Environment, Nick Smith, acknowledged the trail-blazing collaborative endeavors of the New Zealand Landcare Trust as enabling the creation of the Land and Water Forum. There was interest in increasing the collaboration between Australia, New Zealand and other islands in the Oceania region. The Australian Master TreeGrower Program was highlighted as an innovative program, which could be run in New Zealand.

For further information on the conference got to www.landcare.org.nz.

East Africa Landcare Master Class

An East African Landcare Master Class was completed in March 2012. The class involved key people from existing Landcare activities in East Africa as well as engaging new partners who could assist in building sustainable country Landcare programmes in the region. The Crawford Fund supported a number of skilled Landcare trainers, including Rowan Reid, to travel from Australia to teach part of the class and prepare training materials that can be used for future African Landcare Master Classes in building sustainable country Landcare programs in the region. Within East Africa Landcare provides a viable mechanism to strengthen rural grassroots organisations and networks while introducing new and relevant technologies to simultaneously improve their livelihoods and the natural resource base on which they depend. The class was held in Uganda with field visits to Kapchorwa to learn from the existing successful Landcare groups and Landcare Network.

After the Landcare Master Class Rowan visited the World Agroforestry Centre in

Nairobi, Kenya. We are all looking forward to his story and impressions on his return.

Jakob returns to Germany, but may return

Jakob Degan returned to Germany last month. Readers may recall the article he wrote for the last OAN newsletter (summer edition) where he described his positive experience with OAN whilst undertaking an internship as part of his International Forest Ecosystem Management course. On his departure, and after being with OAN for five months, he passed on his best wishes and gratitude to OAN for its hospitality and said he may return one day to further his studies and research into agroforestry.

Agroforestry Expo

OAN's management team has been very busy organizing the OAN Farm Tree Expo 2012, which will be an educational and fun event on Friday 27th April. There will be something of interest to everyone by showcasing the great diversity of services and products that agroforestry offers to farming systems, landscapes and rural and urban communities. The Expo is also a 25 year celebration of Rowan and Claire Reid's purchase of land, now known as the Bambra Agroforestry Farm. Invite some friends to join you at the Expo to experience this open and friendly event and even have a picnic, which can be pre-booked, amongst the 40 varieties of trees and shrubs. Refer to other information in this newsletter or got to www.oan.org.au and follow links.



www.oan.org.au

OAN Office & Treehouse Gallery, 55 Main Street, Birregurra, VIC 3242, Ph: 03 5236 2086 Fri-Mon 11am-4pm

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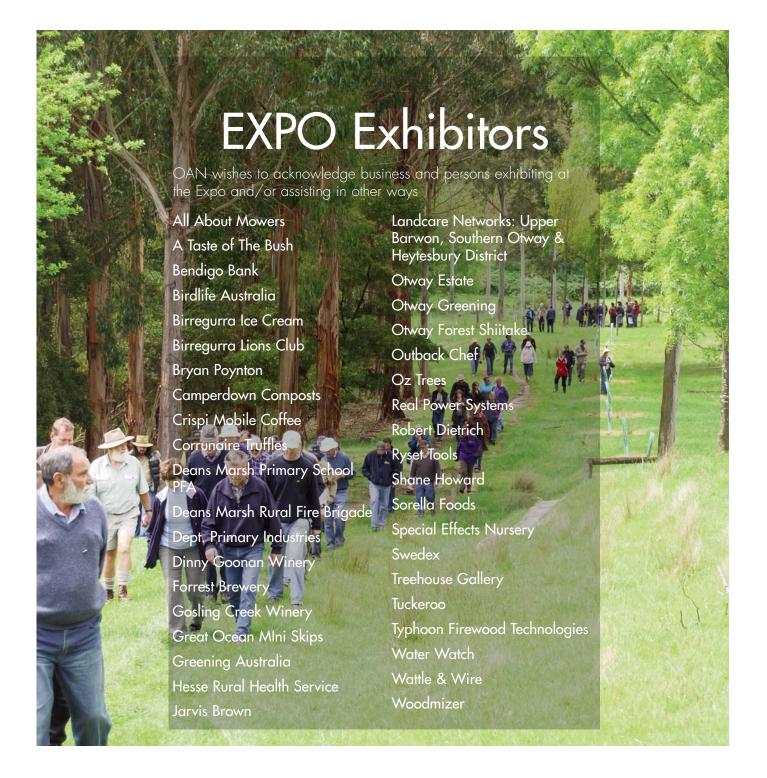
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