

One Paddock Challenge: Deep Ripping and Lime Applications



An interest in doing things differently drove Noel Keding, Mallee Rise, Gairdner, to look at the effects of different tillage techniques as well as lime applications on a paddock that is believed to be mildly non-wetting. The trial area was 19 ha, and the Latrobe Barley crop was seeded using a John Deere 1830 tyne machine. Noel has been increasing his use of liquid fertiliser in his cropping system, and part of this One Paddock Challenge trial was to look at whether there was a difference between Lancelin lime and a liquid lime, such as Hi-Cal. As can be seen in the table right, the liquid option out-yielded the granular product. A soil pit was dug at FBG's 2017 Spring Field Day dissecting a deep-ripped and no-ripped strip. It was seen that in Noel's soils, there was no difference in root penetration between the two.

Continued on page 2

Application	Chemical	Date of Application	Rate (kg or L/ha)	Yield (t/ha)
Pre-emergent	Paraquat	4/05/2017	2	
	Treflan		2.5	
	Hammer		0.015	
	Wetter		0.01	
Seeding	Ferti-tech Seed Enhancer	4/05/2017	375	
	Macro-pro Extra		60	
	Flexi-N		20	
	Calsap		5	
Top-dressing	Ferti-tech Agro Trace		5	
	Flexi-N	18/05/2017	20	
	Tigrex		0.5	
Top-dressing	Multi-Trace		3	
	NS 3:1	15/06/2017	70	
Plot B	MOP Blend		10	4.79
	Hi-Cal	4/05/2017	1	4.77
Plot C	Hi-Cal	4/05/2017	1	4.78
	Deep-ripping	29/03/2017		
Plot D	Lancelin lime	28/03/2017	2	4.6
	Lancelin lime	28/03/2017	2	4.57
Plot E	Deep-ripping	29/03/2017		
	No Macro-pro in first 100m	4/05/2017		
Plot F				

Continued from page front page.

Deep ripping at a glance

- Deep ripping of compacted soils is likely to be more effective in sandy soils and where compaction is in the upper parts of the soil profile. It can increase grain yields by up to 40% in deep sands, with protein also improving by up to 1.4%.
- Deep ripping is less effective in heavy clay soils unless also combined with gypsum applications on sodic soils.
- It will provide little benefit to other subsoil constraints such as salinity, sodicity or acidity.
- Recent developments, including slotting and deep placing of other soil ameliorants (such as organic matter) combined with deep ripping may increase financial and agronomic effectiveness of this approach.
- Costs are in the range of \$40-50/ha for sandplain soils (mostly relating to draft force required to pull ripping implement, as well as impact on fuel, power and labour). It is also generally an additional operation near seeding and may be a competing factor. Timing options include:
 - Deep ripping after seeding but before disturbing
 - plant establishment (generally within three days)
 - Deep ripping the inter-row, when sown on wide rows, during the growing season
 - Opportunistic deep ripping after out-of-season rainfall
- To be effective, ripping tines need to penetrate just below the compacted soil layer, and soil should be moist enough to allow penetration, but without causing fracturing or smearing of the soil.
- One of the largest potential downsides is around haying off when soil water reserves are low and there is a dry finish to the season. Faster water use and increased biomass caused by deep ripping can leave inadequate moisture for grain fill.
- Can be used successfully in a controlled traffic farming system.

References

- <http://www.farmingahead.com.au/wp-content/uploads/2016/10/FA146-28.pdf.pdf>
- <https://www.agric.wa.gov.au/soil-compaction/deep-ripping-soil-compaction>
- https://grdc.com.au/_data/assets/pdf_file/0028/91756/grdc_fs_deepripping_lr.pdf.pdf



FBG FARMER UPDATES

Wednesday 7th March 2018

12.00pm - 5.30pm

Jerramungup CRC Conference Room

Presentation on Co Operatives Stirlings to Coast Farmers

Marketing and Economic Outlook Rabobank

Harvest wrap up, NVT trial results and new products Kyran Brooks - Landmark

One Paddock Challenge results and FBG projects update Maddy Wylie - FBG

Farmer Insights Local farmer TBC

Ag Technologies Ben White and Josh Giumelli - Kondinin Group

The afternoon will be followed by a sundowner
For further information or to RSVP please call the FBG Office on
9835 1127 or email Jess Bailey at admin@fbg.org.au



agrimaster



Rabobank



SOUTHCOAST



Department of
Primary Industries and
Regional Development



natural resource
management program



Australian Government



National
Landcare



STIRLINGS TO COAST
FARMERS



The Native Snail Trail opening

Sunday 18th March

Well it's nearly done and dusted. We will finally be opening the interpretative stage of a link in the Shire's dual use path along Wellstead Rd; the Native Snail Trail. The opening will be celebrated on the morning of Sunday 18th March at 9.30am. Come and join us for some yummy morning tea and, weather permitting, a lovely stroll.

I want to thank all those involved in what has been a slightly convoluted process, and a patience taxing experience for most....but we got

there thanks to you all not giving up. We should always recognize that this project was funded by the Great Southern Development Commission and LotteryWest, with strong support from Greenskills, the Shire of Jerramungup, the Fitzgerald Biosphere Group and the tireless army of locals. It is an initiative of the Bremer Bay Trails Committee.

I'm looking forward to seeing more people, locals and visitors included, taking the opportunity to learn more and appreciating how wonderful our very special backyard is. If nothing else, we can inhale a breath of fresh air and move some muscles. Make sure your kids slow down and read the panels *every time* and they might just commit them to memory, ensuring a good chance that the future of our environment is safe in their hands.

As we get closer more details will be confirmed so stay tuned and feel free to contact me.

Therese Bell
Bremer Projects Officer



Top right: The common Native Snail (Bothriembryon melo), which is found in the bushland around the trail, was the inspiration for a newly installed sculpture. Above left: the shell of the shell! Middle: installing the snail (with thanks to the Shire of Jerramungup for their assistance); Above right: sculptor Peter Hill making finishing touches. Left: Trail Coordinator Nathan McQuoid, Peter Hill and the Federal Member for O'Connor, Rick Wilson, MP.

Woohoo! Bremer Bay Weed Audit

With a bit of excitement FBG can announce that they have been successful in their application for a Bremer Bay weed audit (Thank you Leonie!). With \$40,000 received from a State NRM Community Action Grant, it's planned that a thorough assessment of environmental weeds in Bremer Bay be carried out: species, distribution, best management practises and priority actions, and a summary of previous weed control projects. The audit will culminate in a pamphlet giving identification and management strategies. The plan can be used by the whole community to improve awareness and implement the suggested actions. The project will also include a strategic hit on a tea tree site in Bremer Bay. I think this is going to keep me reasonably busy for 2018.



Polygala: an environmental weed in Bremer Bay

Cheers Therese Bell
Bremer Projects Officer



natural resource management program



Bremer Bay Trails

Weed time-of-removal trial – Jerramungup

Jerramungup received 66 mm of rain from the 10th to 11th February 2017. Post this rain event, an opportunistic spray trial was implemented at Trent and Tina Parsons property south of Jerramungup. The trial compared three different times of weed removal with the spray dates, 16th March, 4th April and 20th April. Soil nitrogen and moisture, and crop yield were measured.

In 2016 the site was in canola and prior to the first time of spray there were very low weed numbers. At the last time of spray, unsprayed plots had greater than 30 per cent coverage of weeds with the main weeds being marshmallow, goosefoot, clover, volunteer canola, melons (Afghan and paddy) and stinking lovegrass. Soil cores were taken to 40 cm at 10 cm increments on the 20th April at the time of last spray application. Soil moisture at 0-10 cm was 12 per cent for the first time of spray, 11 per cent for the second and 10 per cent for the third (figure 1). There was a significant difference between the first and third time of spray. Deeper layers showed no difference in soil water content due to soil type variation between replicates. There was no difference in 0-10 cm mineral nitrogen between the three different times of spraying.

Trojan wheat was sown on 7th May. Establishment counts were very similar between each time of spray with 107 plants/m² (first time of spray), 111 plants/m² (second time of spray) and 112 plants/m² (third time of spray). However, tiller (taken 12th July 2017) and head counts (taken 5th October 2017) declined from the first time of spray to the second and the third times (figure 2).

Grain yields declined with delayed spraying but were not significant at the five per cent level. Yields were 3.8, 3.6 and 3.4 t/ha for the first to

last spray timings (figure 3). A difference of 450 kg/ha between the first and third time of spray was

noticeable considering the site had good weed management and did not suffer moisture stress until spring, as

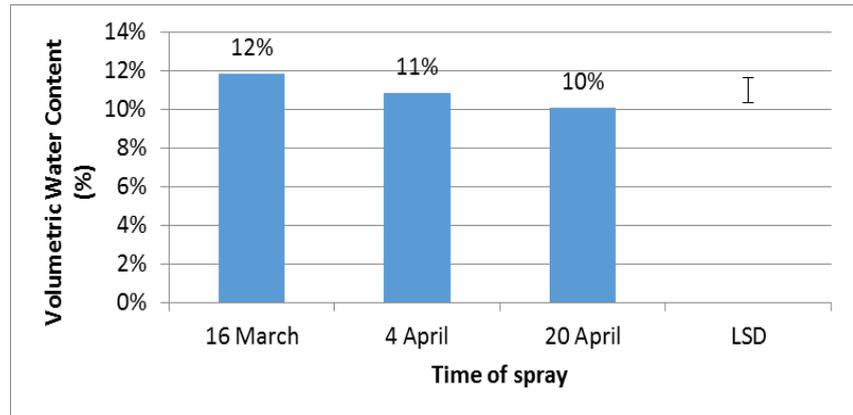


Figure 1. Volumetric water content (%) of 0-10 cm soil cores taken for three different spray times of summer weed removal.

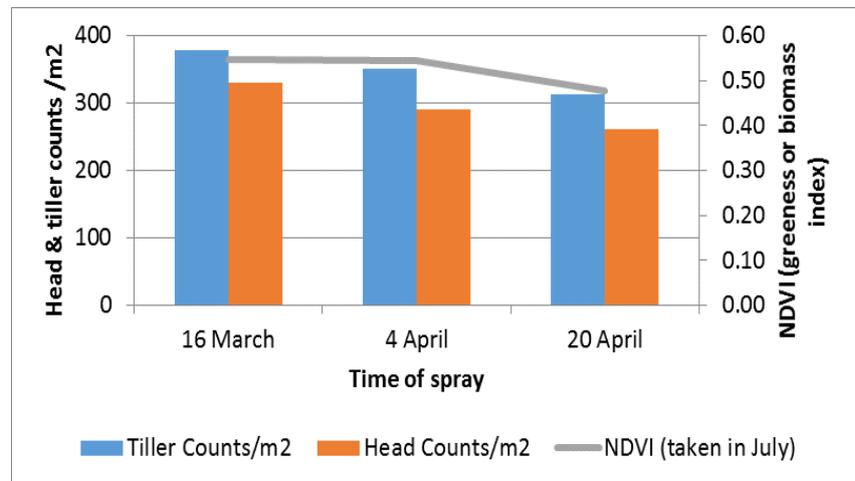


Figure 2. NDVI (greenness or biomass index), tiller and head counts of Trojan wheat at three different times of spray for summer weed removal.

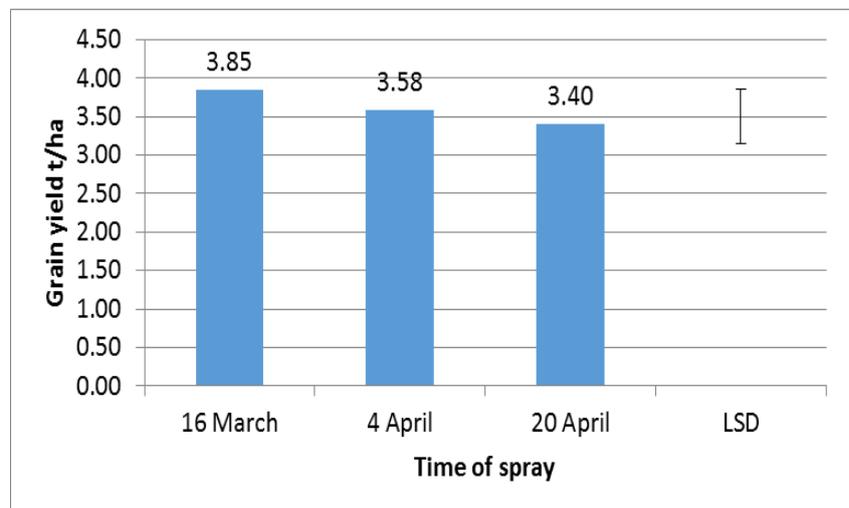


Figure 3. Trojan wheat grain yield at three times of summer weed removal, Jerramungup 2017.

indicated by the soil moisture probe located near the site (figure 4). Similar trials were implemented in Merredin and Esperance. Merredin had significant results with 1.04 t/ha in the unsprayed treatment versus 1.33 t/ha in the sprayed treatment (only two treatments). In the wet 2017 growing season in Esperance, there was no significant yield response.

With a shift to more summer rainfall this series of trials demonstrates it is crucial to remove weeds early in low rainfall areas and seasons. Although grain yield response was not significant in this Jerramungup experiment, there are benefits to controlling weeds in medium rainfall areas. Grain yield responses are less likely from early summer weed control in high rainfall areas. Results from summer weed control can be dependent on growing season water supply in response to rainfall patterns.

Extended version: <https://www.agric.wa.gov.au/grains-research-development/weed-time-removal-trial-%E2%80%93-jerramungup>

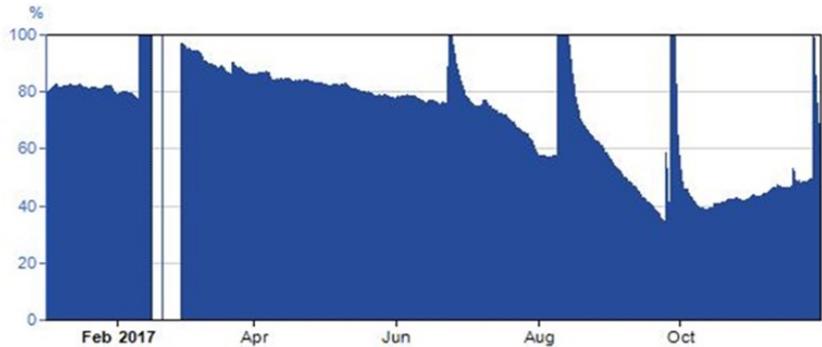


Figure 4. Jerramungup soil moisture probe displaying current moisture as a % of field capacity for 2017

Acknowledgments: Trent and Tina Parsons for the trial site and Emma Clarke (DPIRD) for assistance.

GRDC Project Number: DAW00256 Building crop protection and production agronomy R&D capacity in regional Western Australia

Important disclaimer

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Alice Butler, Department of Primary Industries and Regional Development, Albany



Department of Primary Industries and Regional Development

Low Stress Stock Handling Course 27th & 28th March 2018

Low Stress Stock Handling trainer Graham Rees has been invited to Jerramungup to conduct the course. **There are only a few spaces left. To date we have 15 confirmed attendees and we need a minimum of 20 participants to proceed. If you are interested please contact Jess Bailey at the FBG as soon as possible.**
Ph: 98351127 or email admin@fbg.org.au.

The course is hands on. We will work with sheep although the methods are the same for cattle.

For more information go to

<http://onpasture.com/2016/01/11/the-case-for-low-stress-livestock-handling/>

Indicative costs (including GST) for a two-day course are:

First person in a business \$880

Second person and thereafter: \$660

Children under 16: \$440

Low Stress Stock handling Pty Ltd offers a 100% money back guarantee “if you are not completely satisfied with your investment at the end of the school you attended”.

BUSH HERITAGE AUSTRALIA TO START CONSTRUCTION OF FIELD STATION

Bush Heritage Australia is about to further consolidate its commitment to the local landscape and community, with construction of its long-awaited Field Station on Red Moort Reserve on Monjebup Road imminent. South Coast Landscape Manager Simon Smale says, "It's been a long road securing the funding, but we now have a builder lined up and are very close to pushing 'Go'". Bush Heritage currently has a portfolio of six properties between Stirling Range and Fitzgerald River National Parks, and a substantial work program of property management, large-scale ecological restoration, flora and fauna survey and monitoring, and research collaboration that's presently focused on feral cats and Black-Gloved Wallabies. The program is serviced by two staff, with Simon's role supported by ecologist Angela Sanders. "Thanks to Angela's monitoring work, we have what is almost certainly the most robust data that exists anywhere in Australia on the outcomes we're achieving through our restoration work in particular", Simon said. Simon and Angela are based in Albany, where they are hosted by South Coast NRM. "It's an excellent arrangement that works well both ways", says Simon, "but the lack of an operational base out in our project area has now become a key factor limiting our capacity to further grow our Fitz-Stirling operation". The Field Station project was first mooted several years ago as the platform that's now required to help take collaborative conservation work

in the area to the next level. Working with Albany-based H+H Architects and consulting with a range of stakeholders who are likely to make use of the facility, a modest complex has been designed that will provide Simon and Angela with an operational base, will allow Bush Heritage to greatly extend opportunities for volunteer and research involvement in the project through the provision of accommodation and work space, and will serve as a destination for the many day visitors including supporters, donors and philanthropists. "Perhaps most importantly", says Simon, "the Field Station will stand as a tangible sign of our presence as a permanent feature in the local landscape, and our commitment to further building our contribution to the life of the local community". The Field Station will be located on one of Bush Heritage's properties on Monjebup Road. Known as 'Bob's Bush' when the property was purchased, it has since been renamed 'Red Moort Reserve' in recognition of its significance as a stronghold for the red-flowered Corackerup Moort *Eucalyptus vesiculosa*. 'Moort' is also the Noongar word for 'family'. Simon notes, "So that's also a nice cultural marker. We operate very much as a collaborative out here, including with traditional owners. We've had

Noongar elders and a Noongar ranger training crew involved in the Cultural Heritage Survey we undertook to ensure protection of cultural sites and values as we undertake this development. So they're now connected with the project, and the Field Station will complement the Noongar programs that are run out of the nearby Nowanup property on Normans Road". Fundraising has been a challenge, but a convergence of interest and belief in the merits of the project by both Lotterywest and major Bush Heritage donor Michael Tichbon has secured the great bulk of the resources required to get the Field Station built. "We've had great support from the Shire of Jerramungup, who clearly see the potential for the Field Station and the activities it supports to further build diversity and resilience in the economy and community of the Shire. Our immediate neighbours are informed and excited. And our professional colleagues and collaborators are excited. But no-one's more excited than we are to be finally poised to make the Field Station a reality, establishing us for the long haul business that is biodiversity conservation and sustainable natural resource management. We look forward to sending out invites to an opening not too far down the track!"



Aerial view of the Field Station facility from the northeast.



Economically Driven Revegetation

Field Walk

Friday 9th March 8.30am-2:30pm



FBG

FITZGERALD
BIOSPHERE GROUP

FBG is proud to host an information day on economically driven revegetation strategies with native plant agronomist Geoff Woodall.

The workshop will see us visiting existing sites within the Shire of Jerramungup that have been successfully revegetated with the added value of sheep forage and sandalwood production.

Topics covered on the day include:

- Investigate the use of native forage and fodder shrubs in revegetation systems that provide anthelmintic health benefits to your livestock
- Protection and prevention of erosion and salt encroachment
- Plant for the future - Sandalwood, how you can get started!
- Diversify your business - honey production, timber, harvestable seeds, native food, native flowers
- Sustainable crop pollination - Provide habitat for bees and other pollinators

Sites visited on the day will be:

- Native fodder and forage site planted 2016 - Paul and Lisa Hislop
- Native fodder and forage, and hosts for sandalwood planted 2017- Quent and Tash Brown
- Mature 20+ yrs sandalwood plantation - Lawson Grains 'Jerry South' (previously Cullam's property)
- Planting sandalwood seeds into existing high value remnant hosts - Tony and Georgina Griffiths



Morning Tea and Lunch Provided

RSVP essential by Monday March the 5th to Reaghan at nrmprojects@fbg.org.au or phoning FBG Office on 98351127



Farewell Georgina and welcome Reaghan

Georgina Griffiths has run the FBG's NLP program since November 2013 and it was with regret that we farewelled her in January 2018. Georgina has been an indispensable member of the FBG team; a reliable, well organised and highly knowledgeable project coordinator and we will miss her greatly. We wish her all the best in her life post FBG.

We welcome on board Reaghan Shalders, who will take the NLP program through its final stages to the end of June. The NLP Program is funded by the Federal Government through South Coast NRM. We have been liaising with South Coast NRM to apply for the continuation of this program through the next round of funding (NLP2) with the view to it starting in July 2018.



Georgina Griffiths



Reaghan Shalders

Meet the inventor of the MyMobTracker App

Katanning sheep producer and creator of 'MyMobTracker', Allan Wilson, will travel to Jerramungup in mid April to meet with producers who want to know more about the app. We will only ask Allan to come if there is sufficient interest so please RSVP to the FBG office asap if this is of interest to you.

This will be an informal gathering that offers the opportunity to see the app in action, to ask questions and to discuss pros and cons over a few beers.

For more information, there are some good youtube videos at www.mymobtracker.com.au



Grass fed lamb feasibility study ends

The FBG's feasibility study into consumer preferences for grass fed lamb has come to an end. John Gountas, Associate Professor in Marketing at Murdoch University, provided the group with his final report in December 2017. As indicated in his previous updates, John identified definite opportunities for FBG producers to create a supply chain based on the grass-fed lamb concept. He recommended that a small number of producers develop the concept initially, with a significant upfront investment in a mobile abattoir, brand development and a marketing plan. The final report and John's main recommendations were sent out to those key producers who attended the grass fed lamb meetings throughout the course of the study. The future of the project was discussed at the recent FBG Board meeting and the decision was made not to pursue further funding



Department of Agriculture and Food



ROYALTIES FOR REGIONS



Regional Development Australia

Increased starling incursions near Esperance

The Department of Primary Industries and Regional Development's seasonal surveillance has been extended for starlings following ongoing detections of the pest bird in the Esperance Region. Surveillance recommenced on 15th January 2018 with lure traps.

Fourteen adult starlings have been caught in 14 different lure traps between 26th October and 15th December last year. Trap locations range from west of Condingup through to Hopetoun – over a distance of 230 km.

The Department's starling control program currently has in place 74 lure traps between Hopetoun and Cape Arid, ranging across 280 km. Prior to the recent detections only one starling had been found in the previous four years.

Additional surveillance has been carried out to search properties within 15 km of each detection that have swamps and historical nesting sites. To date, no populations have been found.

Samples from the captured starlings have been sent for DNA testing and they have been assessed to determine

for it in the absence of any further interest from the key producers.

The Board noted that John's report is comprehensive, including a large amount of detailed research, and that it is of interest not only to FBG members but also to the wider community. With this in mind, the report will be made publicly available when the funding has been acquitted.

We'd like to thank John for his immense contribution to this project, and also the project funders:

Agricultural Sciences Research and Development Fund, administered by the Department of Primary Industries and Regional Development (DPIRD) and supported by Royalties for Regions investment. Many thanks also to Paul Sanford, Senior Research Officer, DPIRD, for his assistance throughout. We also acknowledge Regional Development Australia Great Southern WA, which provided financial support for the surveys conducted in China.

sex and breeding status. Of the 11 birds assessed, all were female and none showed signs of breeding. DNA results will be available early February 2018.

At Eucla, there also continues to be an unprecedented incursion, with 161 starlings caught as of 12th December 2017.

Early detection and control is critical to preventing an established population in Western Australia.

TO REPORT SUSPECT SIGHTINGS:

- Call **9368 3080** or email padis@dpiird.wa.gov.au
- Got to mypestguide.agric.wa.gov.au
- Visit the Department's [Facebook page](#) or [website](#) for more information on starlings.



Temporary fence protects foreshore

Anyone who has been on the bar on Main Beach in Bremer Bay will have noticed that the temporary fence across the estuary is back in place. Its purpose is to protect the fragile foreshore environment that is the nesting and feeding ground of resident Hooded Plovers and other shorebirds. Thanks to Anne Gadsby whose vigilance over many years has contributed much to the health of the foreshore and the survival of the local Hooded Plover population, Councillor Joanne Iffla and Therese Bell and family for putting the fence up and maintaining it over the busy summer holidays.

Left: Saffron Iffla and Andrew Bell maintaining the temporary fence.

Leonie McMahon

Registrations are now open for Talkin' Soil Health Conference

Calling for expressions of interest for anyone wanting to attend. FBG will arrange transport to Katanning if enough people are interested.

Register at www.soilhealth.com.au or for further information contact Dave Broadhurst, South Coast NRM, 98458529 or link via FBG website.



Talkin' Soil Health

When: 13-14th March 2018
Where: Dalwallinu, WA

When: 15-16th March 2018
Where: Katanning, WA

SAVE THE DATE

WA's farmers, graziers and researchers are coming together to talk SOILS.

Natural resource management groups across regional Western Australia are joining forces to bring you the 2018 Talkin' Soil Health conference.

Sharing soil knowledge, innovations & new technologies

For more information: Dalwallinu - Callum Love, 9938 0116
Katanning - David Broadhurst, 9845 8529



Last days...

Fitzgerald Biosphere Photo Competition

Closing Sunday 18th February.

To celebrate the successful UNESCO renomination of the Fitzgerald Biosphere, the Fitzgerald Biosphere Community Collective (formerly the Biosphere Implementation Group) is running a photo competition!

The Fitzgerald Biosphere is all about how we balance the goals of conserving biological diversity, promoting economic development and maintaining cultural values. We are after images that help us tell the story of the Fitzgerald Biosphere.

The photo competition has three categories: Open, Drone and Youth (aged 16 and under). Winners from each category will receive their image quality- printed on canvas as well as a \$50.00 (adult) or \$25.00 (youth) voucher at their choice of local business in either Hopetoun, Ravensthorpe, Jerramungup or Bremer Bay.

To enter, simply send your image/s as an attachment to clearsouth@bigpond.com by Sunday 18th February 2018 and provide a very brief description (i.e. where it was taken, the subject and what it means).

Winners announced on Friday 23rd February 2018.

For full details and terms and conditions go to the Fitzgerald Biosphere Facebook page [Please note: this is a different Facebook page to the Fitzgerald Biosphere Group's page]

For more details, contact Johanna Tomlinson on 0429 960 810.



KATANNING ENVIRONMENTAL NURSERY
Operated by Katanning Landcare

Katanning Landcare is pleased to announce it has taken over the operations of the Blyth Tree Farm and is taking orders for seedlings for the 2018 winter planting season.

Please contact Katanning Landcare on 9821 4327 or hello@kattanninglandcare.org.au
To discuss your native seedling or saltbush requirements for this season.

A selection of popular melaleucas, callistemons, casuarinas, eucalypts, saltbush, and other natives will be available for the upcoming planting season. A species list and order forms are available through the FBG office.

For questions about local species, to place an order or to discuss your needs, please contact the FBG office on 9835 1127 or email nrmprojects@fbg.org.au.





SAVE THE DATE FITZY FOX SHOOT 2018

Needilup Shoot FRIDAY 13th April
6am Sat 14th Breakfast at Needilup Pavilion

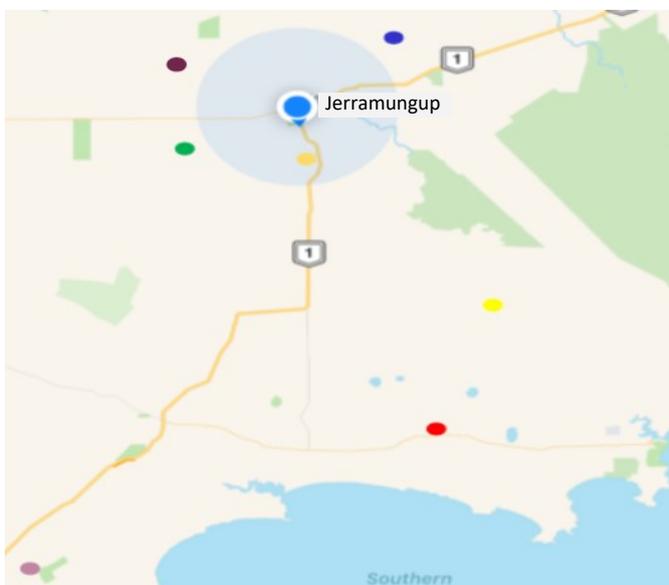
Bremer Bay Shoot FRIDAY 13th April
6am Sat 14th Breakfast at Anthony Thomas's

REGISTRATIONS NOW OPEN!

Contact Jess Brown at the FBG office on 9835 1127
or email communications@fbg.org.au to register today!



Jerramungup district rainfall



Location	Nov	Dec	2017 Total	Jan	Total
Jerry Sth	60	26	475	0	0
Needilup Nth	28.5	13.5	386.5	20	20
Needilup Sth	26	10.5	430	13	13
Jacup	12	17	356	9.5	9.5
Bremer-Boxwood Rd	21.5	34.5	609	2.5	2.5
Gairdner	41	20	496	6.5	6.5
Mettler	21.8	30.6	875.7	8.7	8.7

MARK THESE DATES IN YOUR CALENDAR

FBG UPCOMING EVENTS

The following events are on the horizon and we will be shortly sending you detailed information about them.

- FBG Farmer Updates— 7th March
- Revegetation Field Walk— 9th March
- Talking Soil Health— 15th-16th March— Katanning
- Low Stress Stock Handling— 27th-28th March
- Biosphere Launch— 23rd March— Hopetoun
- Fitzy Fox Shoot— 13th April

REGIONAL EVENTS

- Crop Updates— 26th-27th February— Perth

Contact FBG for more details ph. 9835 1127
Email: admin@fbg.org.au

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FBG Acknowledges the support of

