

UNFS UPDATE



Upper North Farming Systems Newsletter

December 2015

2015. Interesting trial results, great events and a strong start planned for 2016. UNFS in Review.

Ruth Sommerville

2015 has been a busy and productive year for Upper North Farming Systems Group. We started the year with the Precision Agriculture Field Day and the Strategic Planning Session with a Members Dinner to celebrate the success of the Water Use Efficiency Project that was awarded the Eureka Award for Science in 2014.

The Strategic Planning brought a new enthusiasm to the committee and myself to make this group the best it can be for the farmers and community of the Upper North. As a result we implemented the constitutional changes required to bring us up to date and implemented a two committee structure of management to the organisation. We also re-established the social network within the group with the launch of the Nelshaby, Jamestown, Booleroo, Melrose, Wilmington, Gladstone/Laura, Morchard/Orroroo/Pekina/Black Rock, New Farmers and Ladies on the Land Hubs.

These hubs have started to gain momentum with the Booleroo and Melrose hubs holding a post harvest catch up last week and the Ladies on the Land Hub creating a buzz on Facebook, reaching over 495,000 people with one of their posts! It is with great excitement that I announce that we have signed Grain Growers Limited and Rabobank as sponsors of the Hub Groups. This will enable the hubs to hold events and facilitate getting a speaker along if that is the desire of the hubs. In addition Grain Growers Limited will be providing us with an annual subscription to ProductionWise, their paddock monitoring tool, to run a competition between the hubs for the 2016 growing season. There will be workshops held on Tuesday the 8th of March for those that would like to learn more about ProductionWise and/or be involved in our little competition between the hubs.

Our other events this year included a Farming Sustainably Field Day, our Members Expo and Spring Crop Walk in addition to a number of smaller workshops. The initial results from the Post Pasture Sowing Demonstrations are showing significant differences between worked and un-worked strips and as a result of other variables modified at each site such as speed and seeding rate. Case studies on these will be produced early in 2016.

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HOW MUCH MOISTURE AND NITROGEN IS WASTED ON WEEDS OVER SUMMER?

With Colin McMaster, Research and Development Agronomist, NSW DPI

In winter-dominant rainfall areas, less attention is given to the value of the rain that falls over summer and the contribution that the fallow period makes to nitrogen mineralisation and nitrogen removal via the weed. Likewise, little attention is given to controlling weeds growing over summer, provided they were 'cleaned-up' prior to planting crops in autumn.

Colin McMaster, NSW DPI and a group of other researchers have recently shared data from trials conducted in 2011–12 that shed some light on exactly how much soil moisture and nitrogen is wasted if weeds are allowed to grow over summer.

"We reckon that controlling summer weeds is like 'buying a spring'," says Colin. "Our trials in central NSW showed that summer rainfall and fallow nitrogen contribute to 50 per cent of the following winter crop's



yield potential, and reduce the probability of moisture stress during the spring."

Colin McMaster, NSW DPI says that controlling summer weeds is like 'buying a spring'. A trial in central NSW showed that summer rainfall and fallow nitrogen contribute to 50 per cent of the following winter crop's yield potential, and reduce the probability of moisture stress or severity during the spring.

"In the two trial years an extra 86 mm (2011) and 50 mm (2012) of rainfall was stored in the profile when weeds were controlled compared to the control sites," he says. "An additional 69 kgN/ha (2011) and 45 kgN/ha (2012) was also available for the following crop. In summary, for every millimeter of moisture that was lost through summer fallow weed growth, mineral nitrogen levels reduced by 0.56 kgN/ha. The economic benefit of every dollar/ha spent on herbicides to control those weeds was \$8/ha."

The results of this trial in central NSW support the findings of other trial work conducted in Victoria and

HOW MUCH MOISTURE? Cont...

How much extra grain was produced when weeds were controlled over summer?

Short answer: an extra 1 t/ha of canola, and between 0.5 and 1.7 t/ha for wheat.

Longer answer: As a result of excellent summer weed control the canola was planted into a profile with an additional 85 mm of plant available water (PAW) and 69 kgN/ha, giving the crop the best possible start. More soil moisture promotes more rapid mineralisation of nitrogen so the two go hand in hand. For every extra mm of stored soil moisture, an additional 0.6 kgN is mineralised. Water and nitrogen increase grain yield through grain number (more tillers and more grains per head) and grain size. Controlling weeds is



even more beneficial than maintaining stubble.

Crops grown after a weed-free fallow (background) benefit enormously from the additional stored soil moisture and nitrogen that would otherwise be wasted on growing summer weeds.

Does the presence of weeds have an impact on other nutrients such as P, K and S?

Short answer: not as much as on nitrogen.

Longer answer: Summer weeds do not appear to extract large amounts of P, K or S to a depth of 90 cm.

Is there a difference in the returns on applied nitrogen when weeds are controlled over summer?

Short answer: Yes, there is a considerable financial benefit.

Longer answer: When weeds are not controlled in summer, side-dressing winter crops returns \$1 for each \$1 spent on fertiliser application. Where weeds are controlled over summer, each \$1 spent on side-dressing returned \$3 in grain value. The benefits of summer weed control on profitability and resource efficiency have been confirmed.

How to ask a WeedSmart question

Ask your questions about the value of controlling summer weeds in the southern regions on [Facebook](https://www.facebook.com/pages/WeedSmart-Innovations) <https://www.facebook.com/pages/WeedSmart-Innovations> or





Southern Region June 2015

Nitrogen in focus

Mineralisation, uptake and timing

Nitrogen is a significant cost for grain growers - up to one-third of the variable cost of growing wheat and canola.

This Paddock Practice compiles the GRDC's recent articles, videos, case studies and resources for growers wanting to learn more about how to get the most out of N, including how it is mineralised, the environmental and soil factors that affect N uptake, and the benefits of legumes versus fertilisers.

Know your environment to get the most out of N

Growers who want to get the most out of their nitrogen applications need to focus on knowing their soils and the climate, according to Queensland University of Technology's Peter Grace.



Read the full article or the Q&A with Peter Grace on the GRDC website: www.grdc.com.au

Understand the factors that affect mineralisation

Free nitrogen - everyone wants some of it but determining how much nitrogen will be mineralised in soil is easier said than done. CSIRO Research Fellow Dr John Angus has spent his career trying to better understand the factors Influencing mineralisation.

He explains how it occurs and the challenges with in-crop mineralisation. Read the articles on "Understanding the Factors that Affect Mineralisation" and "Model your Nitrogen to account for in-crop mineralisation".

<https://www.grdc.com.au/Media-Centre/Media-News/South/2015/01/Understand-the-factors-that-affect-mineralisation>

<http://www.grdc.com.au/News-ModelInCropN-0615>



Yield Prophet and PAWC a profitable combo

At about 30 percent of the variable cost of growing wheat and canola, nitrogen is one of the single largest costs in a continuous cropping program, so it is no surprise that grain growers are looking for a way to manage their nitrogen more profitably.

With that in mind, recent research conducted by Rural Management Strategies' Chris Minehan in New South Wales has found that managing nitrogen separately across varying soil types using Yield Prophet and plant available water capacity (PAWC) mapping can be more profitable than applying a blanket rate of nitrogen due to savings in fertiliser costs.

Read the full article at: <http://grdc.com.au/Media-Centre/Media-News/South/2015/05/Yield-Prophet-and-PAWC-mapping-a-profitable-combo>



Rural Management Strategies consultant Chris Minehan says using Yield Prophet and plant available water capacity mapping to manage nitrogen can be more profitable than applying a blanket rate

Where to get your N: Legumes v fertiliser

Both fertilisers and legume rotations are known to supply nitrogen to cropping soils, but which is the better option?

The CSIRO's Mark Peoples explains how a GRDC funded project has researched this question by comparing crop responses following legumes to applied fertiliser.

Read the full article at: <http://www.grdc.com.au/Media-Centre/Media-News/South/2015/03/Where-to-get-your-N-Legume-Rotation-vs-Fertiliser>



Dr Mark Peoples (pictured) says that both fertilisers and legumes have a role to play in supplying N

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BOOSTING RABBIT BIOCONTROL

The approaching roll out, **co-funded by AWI**, of a strain of **rabbit calicivirus** new to Australia will boost existing biological control agents that are already in the environment and help **woolgrowers increase their productivity**.



Wild rabbits are Australia's most widespread and destructive agricultural and environmental vertebrate pest, costing \$200 million in lost agricultural production every year and impacting 157 threatened native species. *PHOTO: John Schilling*

The upcoming national roll out in Australia of a naturally occurring overseas strain of rabbit calicivirus called RHDV K5 has been bolstered by the Australian Government's announcement in August of an additional \$1.2 million grant to the Invasive Animals Cooperative Research Centre (IA CRC) to help biocontrol of wild rabbits.

The funding complements the \$1.7 million funding already provided to the IA CRC by AWI and other industry partners, along with the \$6 million in-kind investment by the IA CRC's research partners, all towards the RHD Boost Initiative that is enhancing existing biological control agents.

The RHDV K5 release is currently pending Australian Pesticides and Veterinary Medicines Authority (APVMA) approval. Approval is expected in 2015/16, with the proposed release to follow in the autumn of 2016.

Minister for Agriculture, Barnaby Joyce, said the Government's additional grant reflected their commitment to supporting a collaborative approach to pest animal management and research.

"Effective management of pest animals is critical to productivity and profitability at the farmgate," Minister Joyce said.

"Rabbits cause over \$200 million in damage across the country each year, much of that on Australian farms. They actively compete with Australian livestock and – particularly during drought – can strip pastures bare. Just two rabbits per hectare are enough to stop plant regeneration.

"The release of rabbit haemorrhagic disease virus in 1996-98 reduced populations by more than 50 per cent in some regions of Australia.

The benefits to agriculture have been estimated to be worth \$6 billion to the nation to date, or an average \$350 million a year.

"It was a fantastic example of the real-world benefits that strong R&D investment delivers, however the virus has, over time, led to have a patchy distribution.

"A new strain of calicivirus has been identified, and now subject to appropriate approvals, we will be ready to release it nationally to assist farmers, the environment and rural communities.

"I commend all of our partners in this project including Australian Wool Innovation, Meat and Livestock Australia, state and territory governments, particularly New South Wales who is the lead project proponent and major investor, University of Canberra, University of Adelaide, CSIRO and Foundation for Rabbit Free Australia."

RHDV K5 is not a newly developed virus; it is a Korean variant of the existing virus already widespread in Australia. It is a naturally occurring variant of RHDV – the virus has not been altered by humans in any way.

RHDV is predominately spread by insects,

such as bushflies and blowflies. Direct contact between a rabbit and a rabbit carcass with RHDV is also an avenue of spread. Animals that predate on rabbit carcasses such as foxes, dogs and cats may also excrete the virus in their faeces.

No variant of RHDV has ever been found to cause infection in any other animal except the European rabbit (*Oryctolagus cuniculus*). Scientific evidence has also shown that even predatory animals which eat rabbits (infected or dead from RHDV) will not develop an infection.

RHDV K5 is not a silver bullet and we need private and public land managers to be vigilant in not taking their foot off the pedal when it comes to their regular rabbit control. Rabbit biocontrol is beneficial when applied as part of an integrated and complementary pest management approach.

AWI On-farm Program Manager Ian Evans said the RHDV K5 release will boost existing biological control agents that are already out in the environment.

"This is a national initiative to better control rabbits, particularly in areas where the current strain of RHDV has not had as much success, like the cool-wet regions of Australia," Ian said.

"Population reductions are anticipated to be improved by anywhere from 0-40% depending on location and susceptibility of the rabbit population to RHDV K5, but knockdowns like those seen with the release of calicivirus in 1996/97 are not expected.

"If we are to make any serious dent in the population, a coordinated community-led response will be needed; RHDV K5 offers a new opportunity to begin a conversation with neighbours with the aim of integrated best practice rabbit control at a landscape scale."

As well as helping to lessen the impacts of rabbits on production and biodiversity, RHDV K5 provides improved animal welfare due to a faster death than the current variant of RHDV. Basically the rabbits end up with 'cold-like' symptoms, become lethargic and then die quickly. □

MORE INFORMATION

www.pestsmart.org.au/?p=62706

HOW TO GET INVOLVED IN THE RHDV K5 RELEASE

Farmers, landholders, community groups, councils and everyone across the country are invited to express their interest in participating in the final stages of the research to support the release of RHDV K5.

"You can take part by nominating to be a monitoring and/or release site," CEO of the Invasive Animals CRC Andreas Glanznig says. "You can also get involved by downloading the free RabbitScan App to your phone and map rabbit sightings, helping us better understand where rabbits are.

"The more people who are involved across Australia, the more our ability to monitor rabbits and deliver effective pest management across the country will improve – we need your help.

"Rabbits don't stop at fence lines and we need landholders, Landcare groups and councils alike to take a coordinated community-led approach to assist in monitoring the effectiveness of our management methods.

"An integrated approach is crucial – RHDV K5 is not a silver bullet. The data collected by the community will be used to provide advice for land managers and farmers on the effectiveness of their management programs and best practice approaches

for future management methods."

Indicating they would like to participate in the project, the Surf Coast Shire Council in Victoria – which includes wool-growing areas around Winchelsea – has already received responses from more than 30 landholders who have expressed an interest as rabbit monitoring sites.

One of these landholders and shire councillors Heather Wellington said she hears on a daily basis from her constituency the need to improve rabbit management strategies due to the damage they are causing, not only to the environment but also to agriculture and farmers' livelihoods.

"Rabbit management in our shire has always been a challenge and we welcome research into any new tools in development.

"We also feel it is our responsibility as a council to facilitate community-led action and we have already had a lot of interest from Landcare groups and landholders in our area to do this."

MORE INFORMATION:

To get involved, visit www.pestsmart.org.au/get-involved-as-a-monitoring-site. The RabbitScan App can be downloaded from www.feralscan.org.au/rabbitscan

FREE RESOURCES on PestSmart Connect website www.pestsmart.org.au

The new PestSmart Connect website from the Invasive Animals CRC provides a toolkit of free materials – including guides, videos, case studies and links to assistance – to help woolgrowers and land managers combat a range of pest animals including rabbits, wild dogs, foxes and feral pigs.

AWI co-funded rabbit control guides on the website include:

Rabbits: a threat to conservation and natural resource management – this 16-page guide helps farmers to make a quick assessment of whether rabbits are a problem on their property.

Glovebox Guide for Managing Rabbits – this 24-page guide provides information on best practice rabbit management for farmers and other land managers.



\$7M GRANT ASSISTANCE FOR UPPER SPENCER GULF AND OUTBACK PROJECTS

Thursday 12 November 2015

The State Government today announced a \$7 million economic assistance package for the Upper Spencer Gulf and Outback.

Regional Development Minister Geoff Brock said up to \$5 million would be made available in the next round of the Regional Development Fund to specifically support projects which will create jobs and drive economic growth in the area. He also announced a new \$2 million small grants program exclusively for the region.

“Funding will be made available from the \$10 million Jobs Accelerator Fund to this once-off stand-alone program called the Upper Spencer Gulf and Outback Futures Program,” Mr Brock said.

The Upper Spencer Gulf and Outback area is facing real challenges due to the downturn in the resources sector and the impending closure of the Port Augusta power stations and the Leigh Creek coal mine by Alinta Energy.

“These challenges are being recognised by making this funding available from these two programs specifically for these communities.

By offering assistance to local projects in this way, both funds will contribute to the economic diversification and resilience of the Upper Spencer Gulf and Outback communities,” Mr Brock said.

“The existing \$15 million a year Regional Development Fund provides funding for Major Projects from \$200,000 up to \$2 million and Community Infrastructure projects from \$200,000 up to \$1 million.

Manufacturing and Innovation Minister Kyam Maher said the new \$2 million Upper Spencer Gulf and Outback Futures Program would provide grants for smaller projects from \$50,000 up to \$200,000 on a dollar for dollar basis.

“I strongly encourage individuals, local companies and businesses, large and small, as well as local councils, Regional Development Australia and the Outback Communities Authority to put forward applications for funding projects for this area,” he said.

“Minister Brock said the Regional Development Fund had already been highly successful in creating jobs and supporting economic growth across South Australia. “Two years ago the RDF was significantly increased from \$1.6 million to \$15 million a year over four years,” he said.

“Since then, Round One alone will lead to the creation of a projected 653 jobs in regional South Australia generating total investment of more than \$334 million across the State.

“Round Two projects will also create a projected 505 new jobs generating investment of more than \$184 million.

Applications for RDF Round 3 close 5pm Friday 15 January 2016.

Applications for the Upper Spencer Gulf and Outback Futures Program close at 5pm on Friday 26 February 2016.

Full information, including RDF guidelines and details of information sessions, is available on the www.pir.sa.gov.au/futuresfund.

Call for nominations for the 2016 Australian Grain Farm Leaders Program

Do you know a young farmer who has leadership potential and who could benefit from mentoring and peer networking?

If so why not consider putting them forward for GrainGrowers 2016 Australian Grain Farm Leaders Program?

The AGFLP is a national leadership program designed specifically for Australian grain farmers under 40 years of age.

The program aims to develop participant's leadership skills, knowledge and overall potential.

Specifically the AGFLP offers participants the opportunity to:

- Meet other like-minded farmers;
- Develop leadership knowledge and skills;
- Gain an insight into the leadership pathways of established leaders and learn from inspiring speakers;
- Develop a mentoring partnership with an industry leader; and
- Set individual goals and implement a plan to achieve these via an on-farm project

Graduates of the AGFLP have gone on to be Nuffield scholars, fulfil roles on GRDC Panel, executives positions on state farming organisations and to contribute to GrainGrowers National Policy Group.

Nominations close 29 January 2016.

To recommend a potential applicant please contact Michael Southan on 02 88777850 or michael.southan@graingrowers.com.au

To view past AGFLP graduates and to find out more visit <http://www.graingrowers.com.au/events-courses/courses/australian-future-grain-leaders-program>

Facebook: <http://graingrowers.us3.list-manage.com/track/click?u=e1e0c36eeab8e6198ddf10328&id=a12959e2cc&e=93fbf07336>

AEGIC Crop Prospects Report December 2015

Key Points

- For the second year in a row El Niño type conditions have contributed to a similar crop yield pattern in south-eastern Australia with the lowest yield rankings again in southern Victoria and average to above average yields in New South Wales and the Eyre Peninsular.
- In contrast to last year the highest yield rankings in Western Australia were in the northeast, while much better yield rankings occurred in south-west Queensland.
- Highest predicted yields are found in the high rainfall regions of New South Wales and southern areas of Western Australia, though fires have affected the Esperance area in the west.
- AEGIC's ENSO Transition Index (ETI) suggests that there is a high chance that a strong El Niño in 2015 will transition into a neutral year in 2016. The analogues selected by AEGIC's ENSO Sequence System (ESS) suggest good rainfall prospects for winter grains in 2016, though confidence in this prediction will increase if the ETI exceeds positive thresholds in December.

View the complete report [here](#).

See past Crop Prospects Reports; soil moisture and

In the Loop:
Industry intelligence for
export grain producers



Upcoming Events Calendar

February

9 – 10	GRDC Update for Advisors, Adelaide, ORM Communications	03 5441 6176
11	GRDC Update for Growers, Auburn, ORM Communications	03 5441 6176
16	Leasing and Share farming, Clare, Rural Directions	08 8841 4500
17	Advisory Board Workshop, Jamestown, Rural Directions	08 8841 4500
18	MSF Mallee Research Updates, Renmark MSF	03 5024 5835
22-25	UNFS Spray Workshops - Dates and Details to come	
23	PA Livestock Day, Waikerie, Dimity Hunter	0427 543 384
24	PA Grains Day, Loxton, Dimity Hunter	0427 543 384
26	SPAA PA Expo, Wudinna, Nicole Dimos	0437 422 000

March

8	UNFS Production Wise training workshops - details to come.	
14 – 18	Upper EP Harvest Report Farmer Meetings, Naomi Scholz	0428 540 670
16	Hart Getting The Crop In Seminar, Sandy Kimber	0427 423 154

April

1 – 2	Karoonda Farm Fair, Ray Bald	0408 813 452
7 – 8	Ag Excellence Annual Forum, Adelaide, Kerry Stockman	0418 841 331

July

19	Hart Winter Walk, Sandy Kimber	0427 423 154
27	EPARF Member Day, Minnipa Agricultural Centre, Dot Brace	08 8680 6202

August

9 – 11	EP Field Days, Cleve, Renee Kelly	08 8628 2219
10 – 12	Lambex Conference, Albury, Donna Sykes	0412 778 849

Wishing you all a very Merry Christmas.

Sara and Ruth will be on leave on and off throughout January. Email response will be limited however we are both available by phone if needed.

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