UNFS UPDATE

Upper North Farming Systems Newsletter March 2020

A New Era in Ag Extension for the Region

by Ruth Sommerville

Upper North Farming Systems is focussed on continually evolving to meet the needs of the farmers of the region. We've been working behind the scenes to build the research and extension activities in the region for 19 years and this past few months has been no different, though once again the focus is beginning to look to new horizons. The past 5 years has seen a focus on improving the agronomy and success of cropping and pasture operations. We have during this time been working on improving livestock health and productivity as well, though this has been a slower process.

It is with excitement I announce that UNFS has partnered with SARDI to bring a larger trial program to the region in 2020 with the Southern Pulse Agronomy project hosting 2 sites in the Booleroo Region and the site at Warnertown continuing . In addition, we will be hosting the Barley NVT trial site at the same location as our Barley Time of Sowing Trial and the Fodder Options Trial. This will mean a whopping 16 small plot trials at our sites at Booleroo and an additional 8 trials at Warnertown. We will be continuing the cover crop and barley grass management trials near Booleroo, the Dryland Legume pasture trials at Morchard and Jamestown. The vetch trial near Wandearah looks to be continuing as well. Hosting these trials in the region means that there will be new information and variety options available to farmers in the region over the next few years, helping to improve your long term profitability and options.

Farming is by no means an easy profession and there are a huge number of tools and technologies being researched and making their way into the marketplace to make operations more efficient, effective or profitable. These new technologies are often complex, intricate and expensive. UNFS has started seeking partners for a new Ag Tech Hub for the region, a multi-location demonstration and testing ground for new ag technology aimed at identifying the Return on Investment for these new systems or tools in the low rainfall and unique environment that is the Upper North. We're hoping this Hub will bring new skills and services into the region, improve the quality of tools reaching the marketplace by ensuring they are fit for purpose and take out some of the risk in adopting new technology onto your farm. We have a number of partners already lined up to get the first sites on the ground this year and are in discussions with numerous stakeholders about progressing this further. Helping you to be "future fit" and as efficient and profitable as you can be is the aim. Could you host one of our demo/trial sites for new technology and systems?

It is with a heavy heart that I take this moment to acknowledge the loss of one of our valued members, long standing Board Member and past Chairperson Matt McCallum. Matt was a valued and highly respected member of our team, active in his community and a true family man. He was integral in all elements of the Upper North Farming Systems group, participating in our social and fact-finding events, actively involved in all elements of our group management and a hands on trial and extension project delivery volunteer and contractor. It is fair to say we are missing his input across the board and will continue to do so in years to come. We extend our thoughts to his family, in particular Ross, Heidi, Angus and Eddie.

Also in this issue:

DEALING WITH THE DRY

FARM BUSINESS REGIONAL FORUMS
BOOLEROO - SA

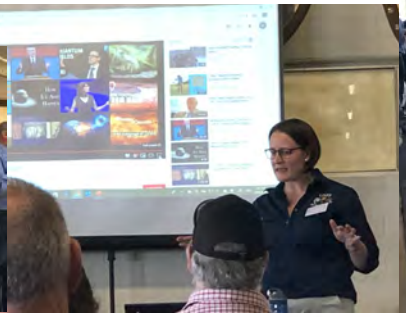
February 5th saw over 90 members of the Upper North Farming Community come together to spend the day learning and networking over the proposition of improving the resilience of the farming enterprise and our ability to bounce back, or as Dennis Hoiberg put it "Bounce Forward" from the past few seasons. The mood in the room was rather joyous considering the topic, though rainfalls across much of the region in the week prior were some of the best recorded in 2 years and the smiles were great to see.

The partnership with GRDC and Ag Communicators to bring the "Dealing with the Dry" workshop to the region resulted in a fabulous group of speakers for the morning session on all aspects of the farming enterprise. Belinda Cay, as the facilitator for the day brought a vibrant and personal element to the event. It was great to have Randall Wilksch in the room from GRDC witnessing the support UNFS gets from its members and the broader community when an event is brought to town. Not bragging...but we had the biggest turn out to any of these events across Southern Australia. 😉

The support available through the Rural Financial Counselling services were clearly explained, and the new parameters for the Regional Investment Corporation Drought Loans also explained. If you haven't heard of these or looked into them do...2 years interest free loans available for projects to improve capacity of your business. www.ric.gov.au

There were practical tips on managing soil cover, understanding the soil chemistry post drought, impacts of extended dry conditions on herbicide efficacy and weed germination rates and timing, sheep management including confinement feeding and the business management tools and attitudes that can lead to a more resilient and profitable farming enterprise.

The afternoon session was provided by UNFS with the Northern and Yorke NRM Board and Rotary International funding the lunch and afternoon speakers. Barry Mudge discussed the decision making process on farm, and using a method of "Slow Thinking" to improve the robustness of your farm thinking, and improve the transparency across the people in your business. Ruth Sommerville discussed all things Dams, and how to make them a true asset to your farm operation, not just a hole to hold water. The afternoon was wrapped up with a fabulous presentation by Dennis Hoiberg, highlights are on the next page, and a casual networking session after to mull over the information of the day thanks to Grain Growers.



DEALING WITH THE DRY

FARM BUSINESS REGIONAL FORUMS
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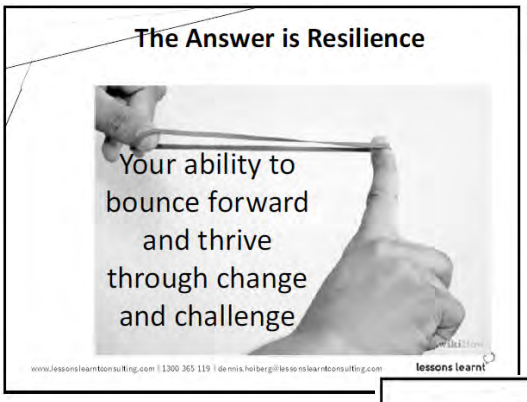
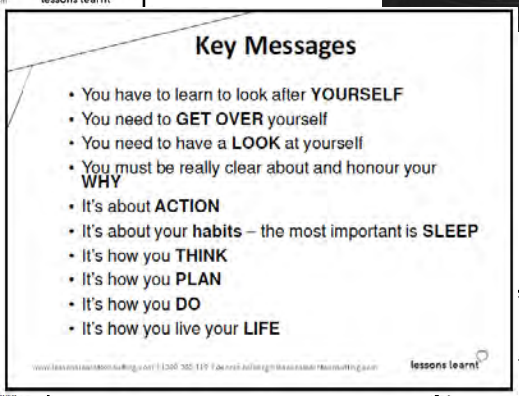
Keynote Speaker: Denis Hoiberg from Lessons Learnt Consulting, gave a presentation on Farming with Resilience at our recent 'Dealing with the Dry' Forum on 5 February 2020.

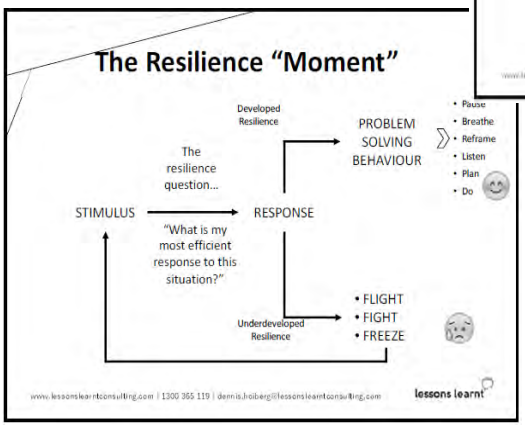
Denis's light hearted approach to his subject was well received by all in attendance, whilst still being able to drive home his message of the keys to living a resilient life.

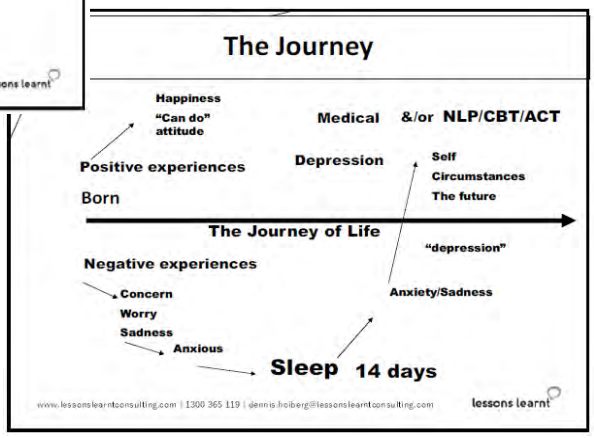
For further information visit his website: www.lessonslearntconsulting.com

The link to Lessons Learnt eNews is https://paper.li/f-1454982716#/









Suggested further reading:

- The While Knuckled Ride (Dennis J. Hoiberg)
- Change your Thinking (Sarah Edelman)
- The Happiness Trap (Dr Russ Harris)
- The Confidence Gap (Dr Russ Harris)
- The Reality Slap (Dr Russ Harris)
- The Complete Guide to a Good Nights Sleep (Dr Carmel Harrington)

UNFS PULSE CHECK DISCUSSION GROUP MEETING

Thursday 27th February 2020, Napperby Tennis Club

By Rachel Trengove, UNFS Project Officer

The Upper North Farming Systems Pulse Check meeting was held on Thursday 27th February at the Napperby Tennis Club with 25 people in attendance and a line-up of guest speakers.

Penny Roberts and Sarah Day from SARDI presented results and findings from the 2019 trials at Warnertown and Willowie, including new varieties and recent releases, pulse yield performances, intercropping trials, NVT yield performances, break crop benefits trials and trials in lentil herbicide management and nutrition to promote pulse early vigour.

An outline was provided for the proposed 2020 trials for Warnertown and Booleroo Centre trial sites and an opportunity to provide feedback on these plans.

Sam Trengove presented results from his GRDC Sandy Soils impact trials near Warnertown and had some interesting results in grain yield increases in response to deep ripping.

Stefan Schmidt talked us through his trials in the Lower Broughton region – Vetch variety performance on challenging soils & response to grazing and alternative herbicide options in vetch.

Richard Saunders from Rural Directions ran through the @RISK model using a local Upper North famer's data to assess and show the risks and net profit associated with multiple rotational sequences over 3 to 6 years. Rotations were tested for sequence, duration and crop type including pulses.

Notes from the day's presentations are available and will be circulated.

Pulse Check meetings are funded by GRDC under the Southern Pulse Extension Project. The project was due to complete this month but has been extended for 12 months enabling our UNFS group to have 3 more meetings between now and March 2021.

The next two meetings will be scheduled end of winter/beginning of spring. One is planned to be an overnight bus trip visiting growers, researchers and sites of interest and the second, a field day hosted at the Booleroo Centre SARDI trial site with a crop walk and pulse related guest speakers. The third meeting will be at a venue with presentations from researchers on 2020 trial results and findings. Any input or feedback is most welcome in the planning of these meetings.

Email Rachel Trengove or Mob: 0438 452 003 (Project Officer – Southern Pulse Extension Project.).

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

2019

Fodder & Barley Time of Sowing Trial Results

By Jamie Wilson, UNFS Project Manager

Fodder Trial

In 2019 the Fodder trial was on Todd Orrock's paddock just south of Booleroo township. The aim of the fodder trial was to identify varieties that might suit the Upper North region for hay production and also as a dual purpose for grain production as well.

The trial was sown and managed by Steph Lunn and Alex Bury, NR AG, with the site management being undertaken by Todd Orrock. Balco was the major sponsor of this trial.

In the trial was wheat (awnless), barley (awnless) and oats. The mix of species was to look at biomass variations as well as grain production. The trial was sown on May 14th 2019, during the season biomass cuts were taken for expected hay yields and dried. Table 2 and Graph 1 below show the biomass cuts by variety.

The varieties that were used were

3 Wheats – Bennet (Seednet), Sun9440 & Sun945A (AGT) – all awnless

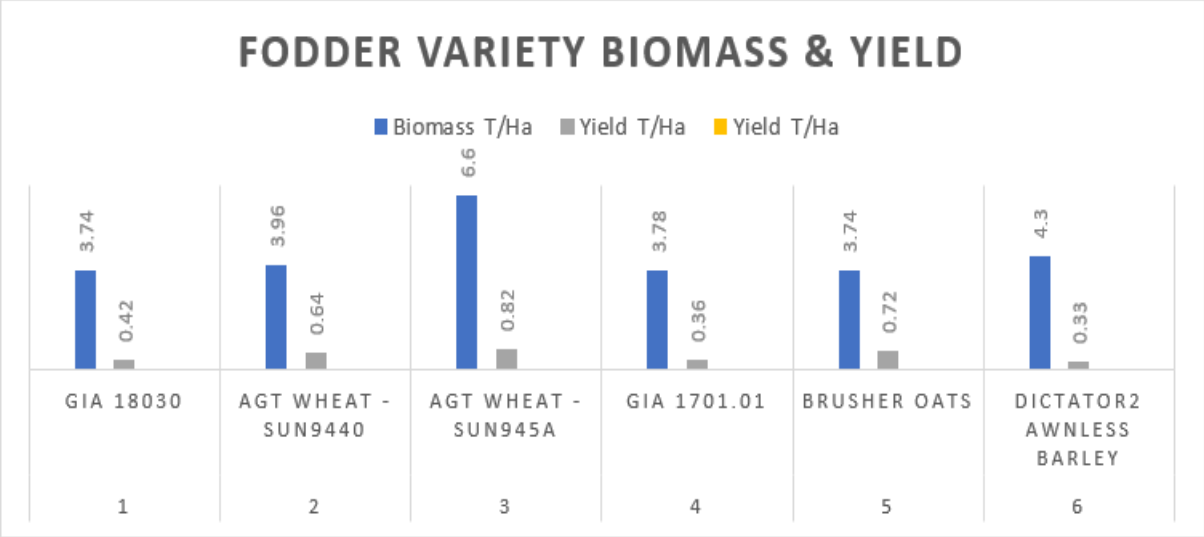
Dictator 2 Barley – Awnless barley (Heritage)

2 Oat varieties – GIA1701 & GIA1803 bred by Global Grain Genetics – commercialised by Intergrain

GIA1701 has now been named Kingbale and is likely to be commercially released in 2021 via Intergrain. All the other varieties are currently commercially available.

The seasonal conditions had a fair impact on grain production with limited variation in grain yields. Dictator 2 barley is a fodder variety and as such has lower grain yields as it was breed for hay and grazing. Grain quality testing has been undertaken and is currently undergoing analysis. The grain quality will be included in the final report but as it cross species a direct comparison will be hard.

During 2020 the biomass cuts will be tested for feed quality to further increase the data generated by the trial.



Graph 1 – Biomass and yields X Variety

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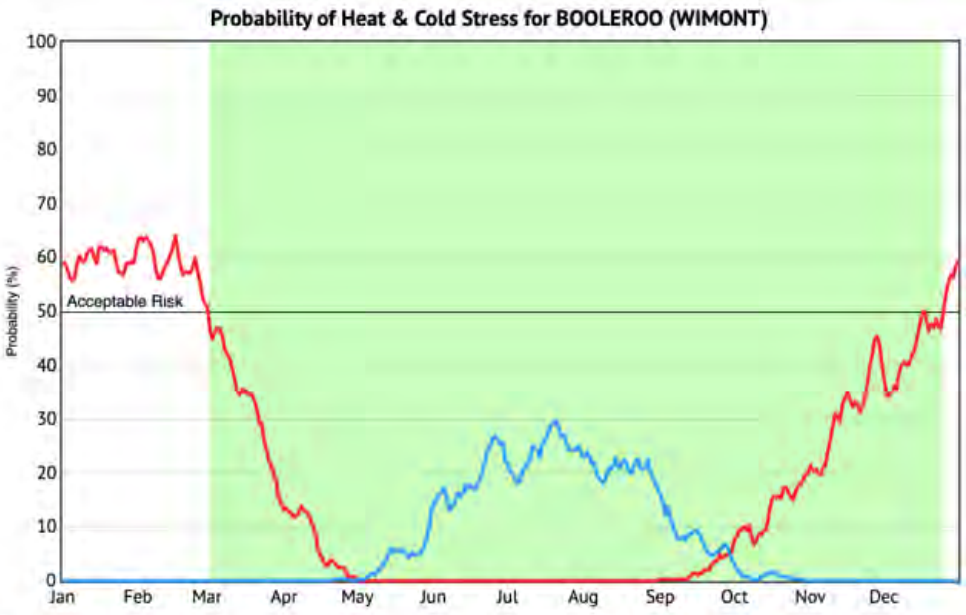
		Biomass		Yield	
		T/Ha		T/Ha	
1	GIA 18030	3.74		0.42	bc
2	AGT Wheat - SUN9440	3.96		0.64	ab
3	AGT Wheat - SUN945A	6.6		0.82	a
4	GIA 1701.01	3.78		0.36	c
5	Brusher Oats	3.74		0.72	a
6	Dictator2 Awnless Barley	4.3		0.33	c
	Means followed by same letter or symbol do not significantly differ (P=.05, LSD).				

Table 1 – Statistics of variety by Biomass and Grain Yield

Barley Time of Sowing Trial

Todd Orrock hosted the barley Time of Sowing (TOS) trial in the same paddock as the fodder trial just south of Booleroo. This trial was sown and managed by Steph Lunn, Alex Bury and Todd Orrock. The trial was funded by SAGIT.

The Barley TOS is to identify frost and heat stress implications associated with TOS. Heat Stress at the end of the season during grain fill and frost stress during flowering and grain development are 2 of the biggest risks to grain production.



Frost and heat risk chart for Booleroo – from CliMATE

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There were 3 times of sowing, with time of sowing 1. being watered with approx. 10mm. Watering occurs on the early TOS otherwise TOS 1 & TOS 2 would germinate at the same time not highlighting any phenological differences.

TOS 1 13th April (Artificial rain)

TOS 2 14th May

TOS 3 31st May

The varieties that were sown were:

Spartacus

Fathom

Maximus CL (was in the trial as IGB1705T)

Banks

Urambie

Overall the Early Time of sowing had the best results, with Spartacus, Fathom and Maximus Cl being the highest yielding. Urambie and Banks are longer season varieties and the shortness of the season has significantly impacted their performance. All plots were assessed for frost, biomass and grain yield. The seed quality has been tested but is awaiting statistical analysis.

Time of sowing 2 had the greatest visual frost damage, this is likely as the flowering timing coincided with a frost event.

Overall the early time of sowing had the best performance, however note that this is year one and seasonal variation could provide some difference in a "normal" season.

No.	Name	Biomass T/Ha		Yield T/Ha	
1	Early Spartacus CL	7.01	a	2.57	ab
2	Early 'Fathom	6.39	a	2.56	abc
3	Early IG1705T	6.27	a	2.65	a
4	EarlyBanks	5.83	ab	2.18	d
5	Early Urambie	4.48	c	1.4	f
6	Mid Spartacus CL	4.5	c	2.19	cd
7	Mid Fathom	4.69	bc	2.23	bcd
8	Mid IG1705T	4.68	bc	2.05	de
9	Mid Banks	4.59	bc	1.71	ef
10	Mid Urambie	3.22	de	1.01	g
11	Late Spartacus CL	3.96	cd	1.69	ef
12	Late Fathom	3.6	cde	1.66	f
13	Late IG1705T	3.74	cd	1.68	f
14	Late Banks	3.19	de	1.35	fg
15	Late Urambie	2.38	e	0.58	h
	Means followed by same letter or symbol do not significantly differ (P=.05, LSD).				

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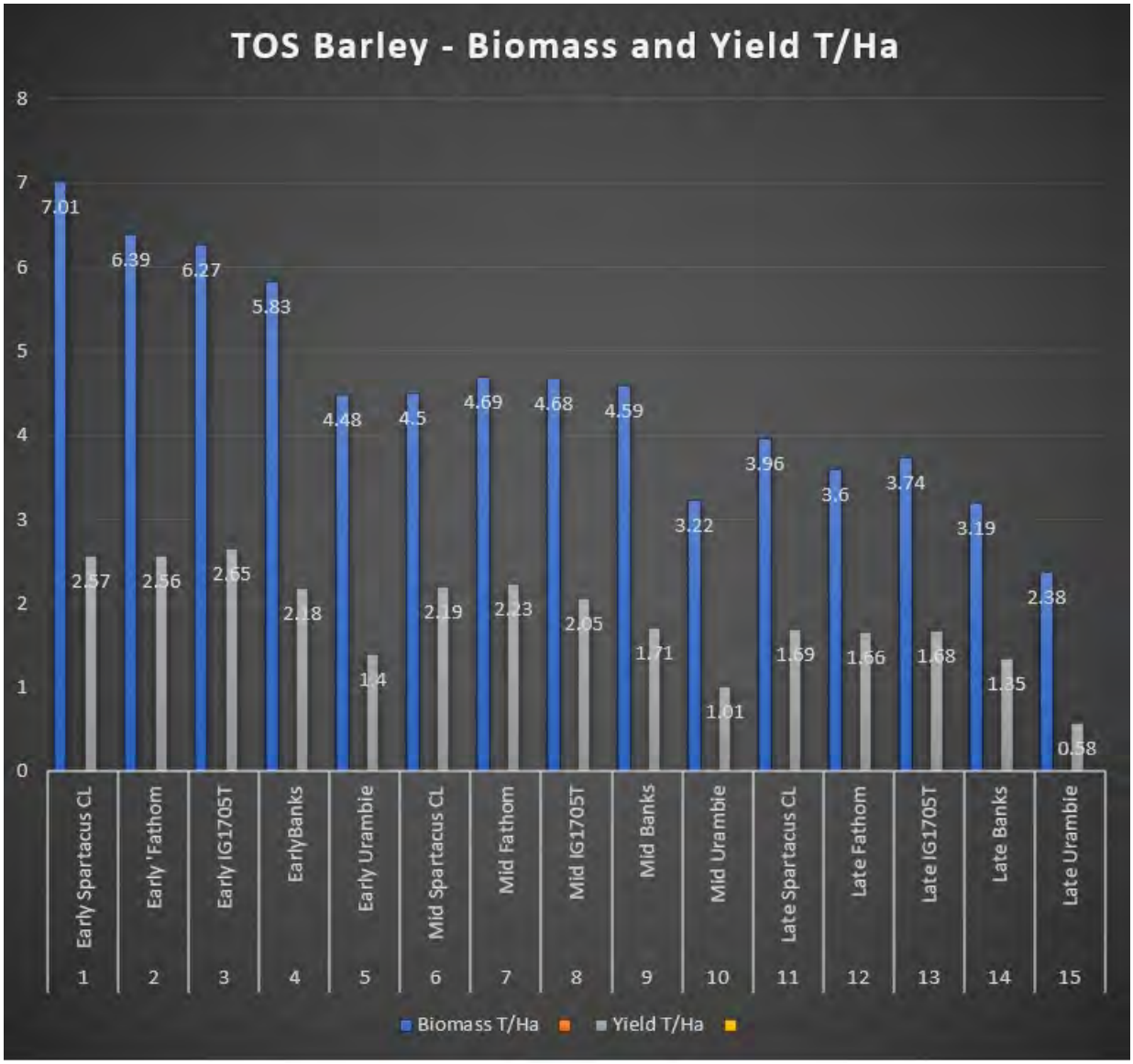

SAGIT

LAURA AGRICULTURAL BUREAU's

#6Bs BLOKES BONDING BEYOND BOOLEROO BIG BUS Mystery Tour

Article provided by Andrew Kitto, UNFS Strategic Board/Operations Committee member, Laura Ag Bureau member

Our mystery bus tour departed from Gladstone early Monday morning, 17th February 2020.

We had a good mix of blokes (ages, backgrounds, locations) and covered farm stuff, rainfall differences, community involvement, physical health, with a strong emphasis on mental health.

First stop was Andrew and Ken Walter's place to look at their impressive seeding rig setup with all the latest gizmos. Then we met the Rotary Club Port Pirie blokes who brought morning tea to Gilmore Catford's farm. A BIG thankyou to Gilmore who was recovering from major surgery.

We met up with quite a few Orroroo locals here and travelled on the bus with local guide Grant Chapman via the back tracks to Carrieton and Johnburgh, back to Orroroo.

Ray Harrington OAM https://www.agrimaster.com.au/article/2018/11/14/raymod-harrington-farming-legend-of-the-year happened to be in the area for another event, joined us on the bus and spoke at the lunch about his community in Darkan WA and his time as a councillor. He gave a great talk about personal stress.... "that's the first time I've told that story in public".

After the fantastic meal at Orroroo's Blacksmith Chatter we ventured back to Booleroo via Pekina.

We also heard from another bloke who told us how he'd got through years of stress and negative thoughts by exercising. It was also his first time sharing.

Back at Booleroo we met a few more locals and had a look in the community gym.

Ben Wundersitz (founding member of Fat Farmers) also came along and told us how, in his community, blokes meet at the Maitland gym.

The Blokes on the Bus, Bonding Beyond Booleroo certainly achieved what we set out to do. The best part was "musical chairs on the bus" and having the conversations we rarely talk about.

On the way home we played this podcast 'Dry times' by Dennis Hoiberg. https://player.whooshkaa.com/episode/433461

Our trip was also reported on in the Stock Journal:

https://www.stockjournal.com.au/story/6629874/blokes-getting-on-board-mystery-tour/

It was a great day of bonding.....with blokes on a big bus beyond Booleroo!!

UPPER NORTH FARMING SYSTEMS MEMBERS EXPO 2020

BOOLEROO CENTRE SPORTS COMPLEX

WEDNESDAY 5TH AUGUST, 9AM - 5PM

MEDIA RELEASE

What mice want: grains research unearthing new knowledge

Research is revealing new insights and understandings about mice in Australian broad acre cropping systems, especially in terms of their food preferences and aversion to bait.

The Grains Research and Development Corporation's (GRDC) major mouse-related research, development and extension program has shown that mice prefer cereals over lentils, background food significantly affects consumption of bait and strategic use of bait is more effective than frequent use of bait.

As part of the suite of GRDC investments, CSIRO researchers have been undertaking bait substrate trials to determine what is driving a perceived reduction in efficacy of zinc phosphide bait and testing potential new bait substrates that might be more attractive to mice.

Researchers are testing the willingness of mice to transition from one food to another and then determining whether mice will continue to eat that alternative food source once zinc phosphide bait has been applied.

CSIRO researcher Steve Henry says one experiment involved mice being held on a background food type (barley/lentils/wheat) for two weeks and then offered the choice of an alternative grain type (malt barley/durum wheat/lentils) for five nights.

"A clear key message from this work is that mice don't like lentils," says Mr Henry. "Results from trials have shown that mice have a clear preference for cereals over lentils which indicates lentils wouldn't be a good bait substrate for zinc phosphide."

The work being undertaken by CSIRO is outlined by Mr Henry in a new GRDC podcast at http://bit.ly/2WyolPA and video at http://bit.ly/305AayV, and has been detailed to growers and advisers attending GRDC Grains Research Updates.

Another experiment has aimed to determine the acceptance of different toxic bait substrates by mice when challenged against a different background food type.

Mice were held on a background food type (lentils/barley/wheat) then offered an alternative of the three types of zinc phosphide-coated grain (barley/husked malt barley/unhusked malt barley) for three consecutive nights, as well as the background diet.

"Mice consumed toxic bait grains regardless of the bait substrate type, however, background food type significantly affected the number of toxic grains consumed," Mr Henry says.

"Mice established on a wheat background consumed fewer toxic bait grains than mice on a lentil or barley background diet. Mice on a barley background diet showed a slight preference for malt barley."

Mr Henry says an interesting outcome of this experiment was in relation to toxic bait aversion.

"Mice that ate a sub-lethal dose of toxin on the first night showed bait aversion – they stopped taking toxic grains on nights two and three.

"In all rodent populations, there will be some animals that are susceptible and some that are less susceptible to bait. If those less susceptible individuals consume zinc phosphide and don't die, then we end up with almost instant bait aversion."

The next phase of the research will examine the role of available alternative food on commercial zinc phosphide bait effectiveness.

The GRDC mouse-related investments include a focus on mouse ecology. This work will involve a series of experiments aimed at understanding how mice function in zero and no-till cropping systems.

"Historically, mice lived on the margins of paddocks and moved into crops when conditions were favourable," Mr Henry says. "Now, with low levels of disturbance in paddocks, mice are building burrow networks in paddocks and living where resources are most plentiful."

The mouse ecology research will address five key topics – farming practices, managing refuge habitat, understanding mouse movements, mouse burrows and bait delivery.

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The results of the bait substrate experiments, in conjunction with the results of the work in the five key mouse ecology priority areas, will form the basis of a series of recommendations for improved mouse control strategies for Australian grain growers.

"The current approach to bait application is to spread bait on a broad scale across entire paddocks," Mr Henry says. "To date, the majority of our understanding of mouse ecology and behaviour is based on work undertaken in conventional cropping systems.

"Better understanding of mouse ecology in zero and no-till cropping systems could lead to more strategic application of bait, potentially reducing the quantity of bait spread or increasing the effectiveness of bait by targeting high activity zones in paddocks."

In the meantime, Mr Henry encourages growers to remain vigilant throughout the 2019 cropping season.

"While our monitoring shows that numbers are generally low across southern, northern and western cropping regions (apart from a moderate risk of damage around Geraldton in the west), largely because of continuing dry weather, we know mice can breed to high numbers very quickly if conditions change and favour mice."

Mr Henry's GRDC Grains Research Update paper, which details the latest research insights and management advice, can be found at http://bit.ly/2U6SwLA.

Information about changes in mouse numbers can be accessed via the Mouse Alert website at http://bit.ly/2IXevDV.
A comprehensive GRDC Mouse Control resource hub is available at http://bit.ly/2ImjEEn.

Australian Herbicide Resistance Initiative (AHRI)

Mixing herbicides wins again

Written by Peter Newman, University of Western Australia

What sort of person goes to a cocktail party and sticks strictly to beer?

A smart one! We all know that mixing drinks can hurt the next day.

We can't say the same for herbicide mixing though. The smart farmers and agronomists are mixing two or more herbicides targeting the same resistant weed to delay resistance and maximise weed control, and the science is supporting this approach.

AHRI researcher Roberto Busi is a long-term advocate of herbicide mixing and in his recent paper which describes some computer modelling that he undertook with the help of Michael Renton, he gives more weight to the mixing argument.

They found that the best strategy was trifluralin + Boxer Gold, followed by trifluralin + Sakura in wheat, followed by propyzamide in Canola. The modelling demonstrated this to be the best option for ryegrass control with no resistance evolving over 40 years compared to just rotating herbicides. This strategy even held up well where there was some trifluralin resistance already present in the population in year one.

Rotating herbicides is good.

Mixing herbicides is great.

Mixing and rotating herbicides is best.

Mixing herbicides is not a new strategy. AHRI director Hugh Beckie has been a long term advocate of herbicide mixes for many years in Canada and now in Australia. Many years of research demonstrated to Hugh that a robust herbicide mix is another form of double knock.

All models are wrong but some are useful

Some say that computer models give you the result that you're looking for, and there is some truth in that (this model even has an acronym name to match the city it was developed in, PERTH!). However, models are the best way we have of predicting the future based on what we currently know. The PERTH model used in this study predicts the weed seed bank and resistance evolution to several herbicides and gets its assumptions from a wealth of research, hence the name Polygenic Evolution of Resistance To Herbicides (PERTH).

Dr Roberto Busi

The model ran for 40 years and compared rotating herbicides with different mixing strategies of four ryegrass herbicides. They were…

Code	Common name	Active name/s
1	Trifluralin	Trifluralin
2	Boxer Gold	Prosulfocarb + S~metolachlor
3	Sakura	Pyroxasulfone
4	Kerb / Edge / Rustler	propyzamide

The model compared rotations such as 1,2,3,4 (= trifluralin, Boxer Gold, Sakura, propyzamide). It also looked at a combination of mixes and rotation where M signifies mix e.g. M12 is a mix of trifluralin and Boxer Gold.

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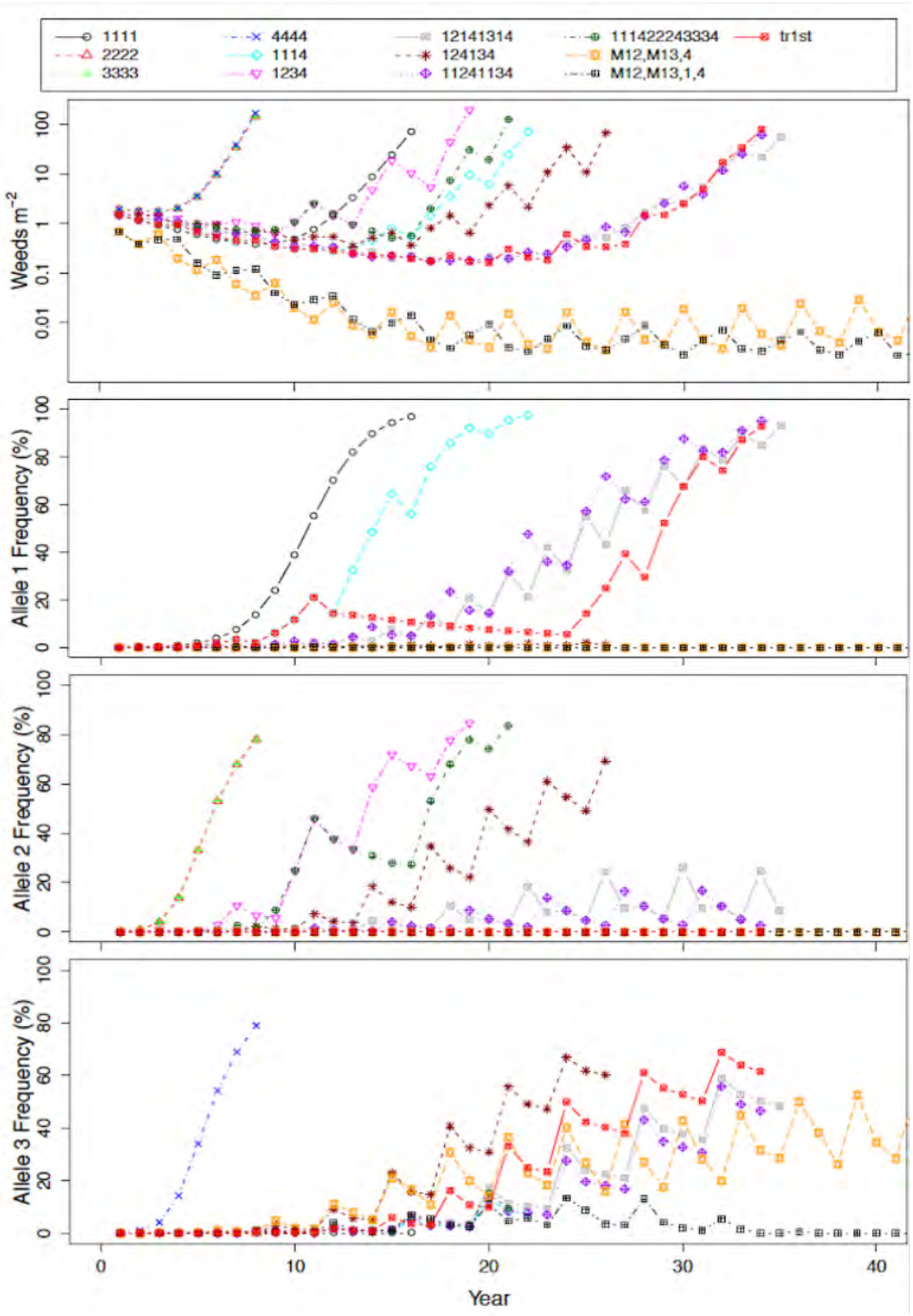
Modelling where no Trifluralin resistance exists

The chart below shows the weed seed bank and the predicted resistance evolution where no trifluralin resistance was present in year one. This chart shows that the standout winning combination was the four year mix and rotate strategy of M12, M13, 1, 4 (black boxes with dotted line) or the three year mix and rotate of M12, M13, 4 (yellow boxes with dotted line).



In the chart, Allele 1 Frequency (%) refers to the evolution of trifluralin resistance. Allele 2 is Boxer Gold resistance and Allele 3 is Sakura resistance. As there is currently no propyzamide resistance in ryegrass there was no prediction of resistance to this herbicide.

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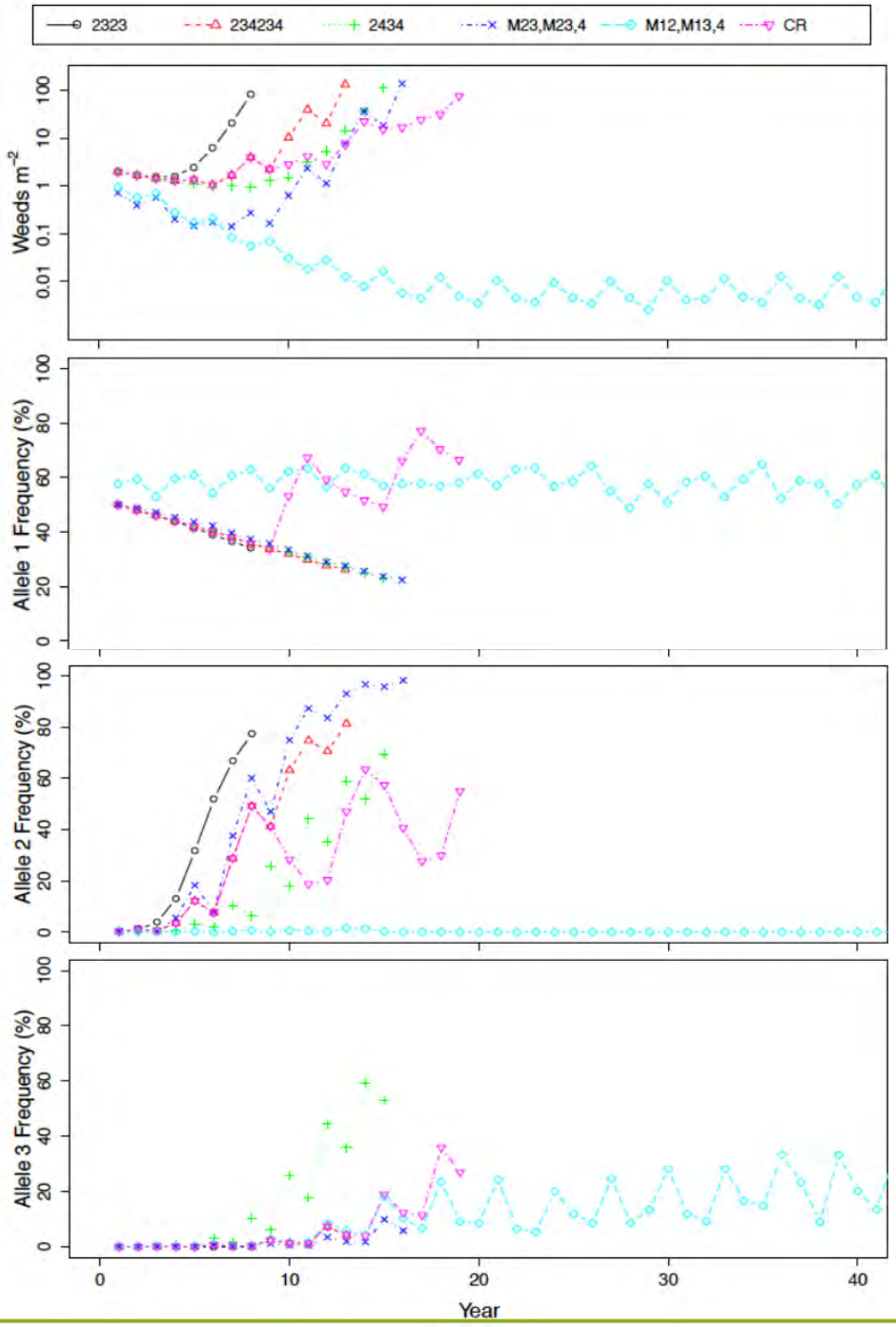
Rotating alone doesn't work

Perhaps the main thing to take away from this modelling is that none of the herbicide rotating strategies worked over the long term in terms of both weed density and resistance evolution. Some rotation strategies gave good weed control for the short to medium term, but none were successful in preventing herbicide resistance evolution.

The mix and rotate strategies were most successful, and it's important to note that only two mix and rotate strategies were included in the modelling. It's likely that several other mix and rotate strategies will work equally as well.

What about where trifluralin resistance already exists?

The chart below uses the same assumptions as the one above with the one difference that trifluralin resistance existed in this population in year one. Mix and rotate wins again even where trifluralin was one of the mixing partners (light blue line).



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Summary

We understand that herbicide mixes come at greater cost than single herbicides, and it can be hard for farmers to commit to a mix where they are mixing with a premium, expensive herbicide. Part of the skill in choosing good mixes is to look at all of the herbicides available and use products that suit your budget. And the best way to work out if a mix is going to work? Herbicide resistance testing is the only way to go.

A new testing service that tests 20 herbicides and mixes of herbicides at low cost is now available and conducted through UWA. The service is available for agronomists and farmers across Australia, with the support of BASF (contact Roberto Busi for more information by phoning: 08 6488 1423, or send us an email at news-ahri@uwa.edu.au).

Once you know what your test results are, you can then sit down with your agronomist and develop a robust mix and rotated strategy that will give the best short-term weed control and the best long-term life from your herbicides. Mix and rotate.

Australian Farm Institute

FORUM: FARM BIODIVERSITY CERTIFICATION SCHEME TRIAL

In 2019 the Australian Government announced funding for the implementation of an Australian Farm Biodiversity Scheme to be developed and led by the National Farmers' Federation. As part of the Agriculture Stewardship Package, the aim of the scheme is to **reward farmers for managing biodiversity on farm** through market-based mechanisms and thus enable the continued provision of natural capital benefits to the wider community.

The AFI has been appointed to conduct Phase 1 of the Scheme, focused on desktop and consultative research, reviewing international best practice management standards for relevant agricultural biodiversity programs. The project for this phase will assess commonalities in existing methods and determine their potential applicability in Australian agricultural systems, and these findings will then underpin the practical development and trial of biodiversity market mechanisms to be developed in phases 2 and 3.

An integral part of Phase 1 is a **series of consultative forums** held in regional areas across the country between March and May to identify critical success factors that will be required for implementation of biodiversity schemes in Australia.

Forums are **free to attend,** however *RSVP is required.* For those unable to attend a forum in person, **2 webinars will be held later in the schedule.**

Click the links below for more information or to register for a forum:

NB - please note if a venue location is still to be confirmed, registrants will be emailed with updated details as soon as they are available.

Forums will run from 9am-1pm local time: **Clare, SA - 28/04/2020** *(venue TBC)*

Webinars will run from 2pm-4pm AEST :

WEBINAR 1 - 23/04/2020
WEBINAR 2 - 4/05/2020

For further information go to: http://farminstitute.org.au/news-and-events/forum-farm-biodiversity-certification-scheme-trial

ON FARM
EMERGENCY WATER
INFRASTRUCTURE REBATE SCHEME

Government of South Australia
Primary Industries and Regions SA

SOUTH AUSTRALIA

The On Farm Emergency Water Infrastructure Rebate Scheme has been increased to 50%. :

The South Australian Government will match Commonwealth Government funding for the On-Farm Emergency Water Infrastructure Rebate Scheme to drought affected farmers who invest in on-farm water infrastructure.

Eligible farmers can now access a 50% rebate – or up to $50,000 – on new water infrastructure purchases and installation costs for on-farm water infrastructure to help provide water to livestock or permanent horticulture plantings in the current drought and better improve drought resilience.

The On-Farm Emergency Water Infrastructure Rebate scheme is open to all eligible drought affected farmers and can be applied to:

- pipes and fittings
- water storage devices (such as tanks and troughs) associated with stock watering
- water pumps
- de-silting of existing dams, where you can demonstrate that the property does not have access to groundwater
- drilling of stock groundwater bores and associated equipment/power supply such as generators, desalinisation plants
- other materials or equipment necessary to install the above excluding purchase of machinery
- any freight component to purchase and install the equipment

  the professional installation costs to install the water infrastructure.

Go to: https://pir.sa.gov.au/grants_and_assistance/drought_support/financial_assistance/on-farm_emergency_water_infrastructure_rebate_scheme

Or

Email: PIRSA.drought@sa.gov.au

Phone: 1800 931 314

Excerpt from AWI Woolgrowers Newsletter—February 2020

This month we examine current market conditions and how woolgrowers have been reacting to a very dynamic mixture of market influences in the last 12 months.

There are many significant factors in the wool market at this moment; lower wool supply and low stocks of wool in the processing pipeline, slower economic conditions in key consuming markets (as explored in the January market intelligence report) and in recent weeks the onset of Coronavirus (COVID-19).

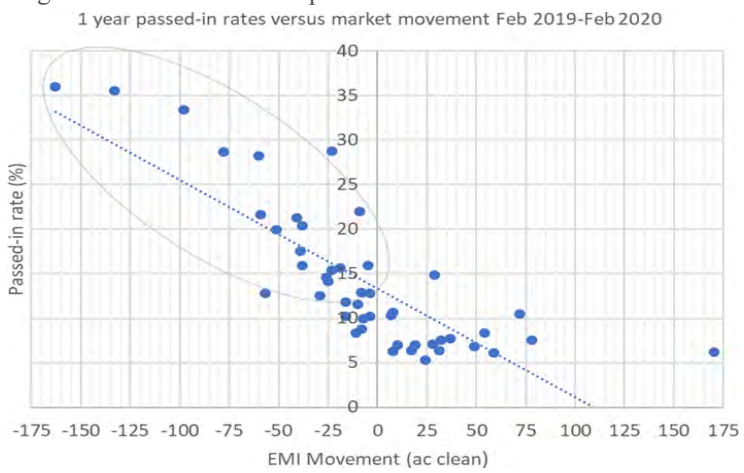
Where the balance of these very significant factors takes the wool market is anyone's guess. Our aim is to provide woolgrowers with market observations and trade information in order for more informed on-farm decisions to be made in conjunction with their wool selling broker.

Given that China is Australia's biggest partner for the processing of our fibre and also our biggest consumption market for wool apparel products, it's hard not to imagine that from an apparel consumption point of view and a commerce or trading point of view, Coronavirus will have some effects on the wool industry and the fashion industry in general. Obviously, like the rest of the world, we will continue to closely monitor the situation and act accordingly with our industry partners.

The widely held expectation that the wool market would drop after the discovery and spread of COVID-19 has not eventuated, yet. In fact, the wool market has lifted during the period since disease notification. The value of the Eastern Market Indicator (EMI) in Australian currency has gained 48ac clean/kg from 1520ac to 1568ac and in US currency the value has increased by 24usc from 1030usc to 1054usc.

Woolgrowers in the meantime have been more than willing to exercise their right to pass in wool at auction as the ability of all the normal trade operators to participate in weekly auctions has been severely hampered. Coupled with a demand scenario that has been slipping with the declining global economy, observations show that these passed-in rates,- and also the withdrawn-prior-to-sale rates have been a contributing factor to a far healthier wool price than what may have been.

The volatility in passed-in rates since May 2019 is quite clearly larger than for any 12-month period in the last decade and lifted above 35% twice in August last year. Despite the drought biting hard throughout 2019, many woolgrowers were clearly not willing to sell their wool at lower prices. As can be seen by the chart, the rate of wool not reaching the reserves of grower sellers has averaged almost 14% over the past 12 months.



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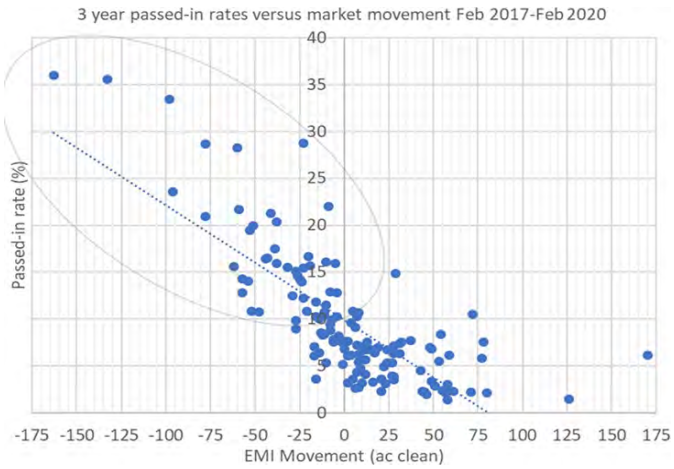
Anecdotally, individual circumstances have largely led to the ultimate decision of sell or not sell. With drought comes extremely tough and challenging decisions. Many have chosen to sell the wool, retain the core breeding stock and keep hacking on with the arduous task of hand feeding and watering.

On the other side, a decision to sell the stock and retain the wool would have been much harder to deal with initially but with cash on hand from stock sales, and a wool bank for both future living expenses and eventual restocking, the mental anguish that came with managing animals in drought can be alleviated for the time being. Given stock prices have been good, the additional income from the selling of the wool clip as well could have produced a higher tax burden needing settlement in the current financial year.

The long-term average passed-in rate for wool at auction is normally under 10%. The chart below illustrates that, even with the current high passed-in percentages, the immediate past 3-year average sits right on that 10% level. In comparative terms the current rates are 36% higher than the 3-year average and over 50% higher than the 10-year average passed-in rate.



What the long-term charts do reveal is that generally speaking, upwards of 6% of the weekly wool sale offering could be considered ‘not for sale”. In rough terms, market movements to the positive or even an unchanged auction result produces a similar retention of wool as does a minor falling market.

Significant weekly price rises of anything from 15ac to 75ac failed to alter that “rising market” passed-in rate of around 6%. A stand out example occurred in a sale week where auction markets soared 170ac, yet the passed-in rates still managed to have 7% of the wool on offer failing to meet the sellers reserves.

One would expect a clear trend between the level of the EMI and passed-in rates: when the market is lower, woolgrowers would be expected to reject the lower levels, but this is not entirely true. In fact there is no direct correlation between the actual trend of the EMI and the trend in passed-in rates which can be seen in the below graph from February 2017 to March 2019 where the EMI (grey line) steadily rises and no clear or compelling trend in passed-in rates (blue) can be observed.

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Where the difference lies is within the magnitude of price falls in any single sale week. This is irrespective of the volume on offer or the actual price level being offered. When prices fall by over 15ac clean, the rates spike to well over that 10% mark and average close to 16%. The past 12 months has seen that average move closer to near 20%. Small falls are seemingly managed well and keep the percentage around the long term average. The sudden and large drops in price naturally trigger a wool broker to not sell given the parameters set before the sale. This clearly highlights the need for woolgrowers to liaise closely with their selling broker pre auction and provide clear instructions with their basic intent, but also some liberty to exercise that intent.

WWW.WOOL.COM

Ag Excellence Alliance

WoTL
Women Together Learning

2020 Thriving Women's Conference Winner

Congratulations to Ruth Sommerville, Upper North Farming Systems on winning her entry to the 2020 Thriving Women's Conference.

"Passionate about building the capacity of regional and rural Australia and the people that live in it, I see Thriving Women 2020 as a great opportunity to network with other like minded women from across the state and the country. So much to be learnt from their experiences and so much to be gained from finding pathways to work together and build on each others experiences and skills.
A great line up of speakers, I would love to attend!", says Ruth

PADDOCK PRACTICES

Key Points

- Increasing inoculation rates can help improve nodulation when sowing into suboptimal conditions on soils responsive to inoculation.
- The performance of new rhizobia strains for acidic soils has been encouraging and there are good prospects for their commercial release by 2022.
- Avoid applying peat inoculant to seed which has been treated with insecticide or fungicide, especially when sown in dry or acidic soils.


Researchers are looking to identify rhizobia strains with improved acidity tolerance and have been field testing strains since 2015.

Tips for inoculating lentils this season

Sowing into dry soil profiles in many parts of the southern region may present challenges for growers when it comes to achieving adequate nodulation and nitrogen fixation from legumes.

However, a GRDC and South Australian Grain Industry Trust (SARDI) investment looking at the optimisation of legume inoculation for dry sowing has found that increasing inoculation rates may be the key in achieving adequate nodulation and therefore better nitrogen fixation in such scenarios.

According to the GRDC publication Inoculating Legumes: A Practical Guide, nitrogen fixed by the soil bacteria rhizobia symbiotically with Australia's pulse legumes has a large national benefit with more than $200 million dollars of nitrogen fixed by pulses annually.

However, legume nodulation is sometimes sub-optimal, because of one or more factors, including stressful sowing conditions.

With more area across the southern region being sown to pulses, paddocks with little or no history of pulse production are likely to benefit from rhizobial inoculation. Factors such as soil acidity, dry sowing and pesticide seed treatments can stress rhizobia and impair inoculant performance.

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Dry sowing and inoculants

In 2018, many areas across the southern region received some rainfall in early May with little follow-up rainfall until June, meaning those crops that emerged early were under moisture stress for several weeks. This, in turn, compromised the survival of rhizobia applied in the form of commercial inoculants prior to sowing.

Research conducted by Primary Industries and Regions SA through its research division the South Australian Research and Development Institute (SARDI) has shown that increasing the rate of inoculant applied as peat slurry to seed improves nodulation where soil conditions at sowing are suboptimal.

At Wanilla on the lower Eyre Peninsula in 2017, faba beans were sown into a dry acidic and sandy soil with seed in the ground for four weeks until a germinating rain occurred.

The trials at Wanilla examined the impact of inoculation rate on nodulation, including a half rate, full rate and double rate of peat inoculant.

This research revealed that applying the commercial strain at double the recommended rate resulted in good nodulation, even under the stressful conditions. Similar results were measured in lupin and chickpea trials, where doubling the rate of peat inoculant also increased nodulation in a dry soil.

In 2018, chickpeas treated with moist peat and peat granule inoculants were sown into a sandy soil site at Lameroo, South Australia, which remained dry for 18 days after sowing.

SARDI senior research scientist Ross Ballard says nodulation increased from 2.5 to 5.6 to 8.3 nodules per plant with each doubling of inoculation rate with peat applied on seed (figure 1).

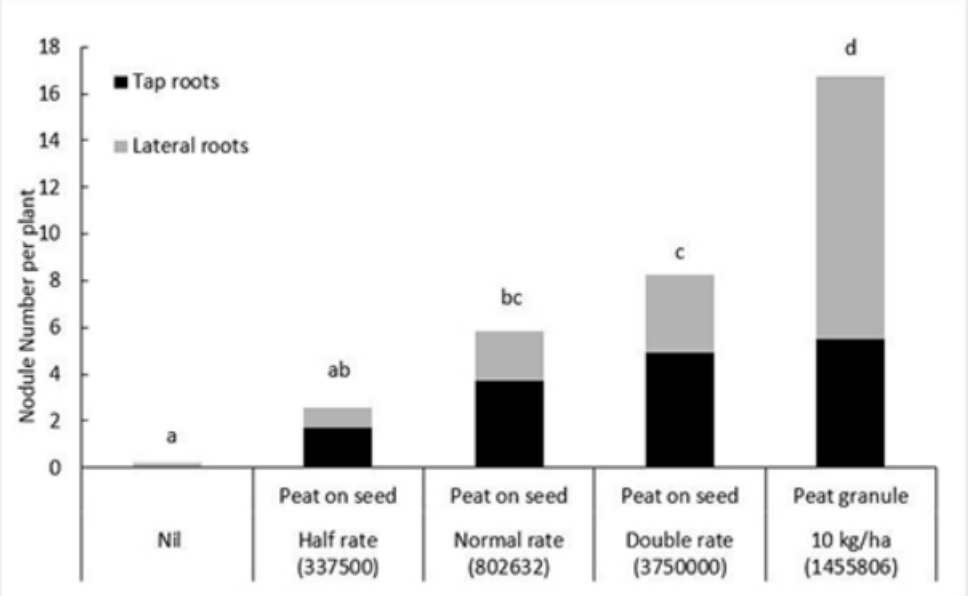

Figure 1: Effect of inoculation rate and formulation on chickpea nodulation (nodule number per plant) at Lameroo, SA. Number of rhizobia per seed indicated in parentheses under inoculation rate. Letters above columns indicate significance ($P<0.05$). Columns marked with the same letter are not significantly different. Source: Ballard et al, 2019.

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"For this experiment, the peat granules were produced at SARDI to help understand if the application of rhizobia in furrow is as effective as seed application and to improve our understanding of the potential of granulated inoculants," Mr Ballard says.

"The experimental peat granule produced nearly seven times the number of nodules as was produced by the lowest rate of peat on the seed.

"Most of the increase was in lateral root nodulation, probably the result of the rhizobia being more widely distributed in the soil. The result demonstrates the potential of granules which contain high numbers of rhizobia to improve nodulation.

"The performance of two commercial granules in the trial was comparable to the experimental granule. However, in other trials the number of rhizobia in commercially produced granules has varied and almost certainly affected the consistency of their performance.

"It points to the need for improved quality control, similar to that mandated for moist peat inoculants."

SARDI senior research scientist Ross Ballard says doubling inoculation rates may be key in achieving adequate nodulation when sowing into suboptimal conditions.

Inoculants and acid soils

The GRDC publication Legumes in Acidic Soils – Maximising Production Potential in South Eastern Australia states pulse crops (except lupin) and their associated rhizobia are sensitive to low pH.

"The key to achieving consistent and profitable productivity from legumes growing in acidic soils is effective nodulation and seedling vigour," it states.

Mr Ballard has been researching the acid tolerance of rhizobia strain WSM-1455 (Group F inoculant), which is used in the production of commercial inoculants for faba beans, lentils and field peas.

"Recent assessments of nodulation by WSM-1455 in field trials illustrates the impact that decreasing soil pH has on the number of nodules per plant formed by this inoculant strain," he says.

"Pulse nodulation decreased rapidly below pH 6 and was negligible at pH 4. The significance of the relationship across a range of growing conditions and legume species demonstrates the key role acidity plays in limiting the nodulation of this legume group.

"It has been suggested that the opportunity to improve the performance of the commercial inoculant strain produced for faba bean and lentil was between pH 4.5 and 5.

"However, based on data from these experiments, it appears this opportunity may extend further to pH 5.5, where decreased nodulation by WSM-1455 is evident.

"Below pH 4.5, nodulation will likely be severely compromised, regardless of the rhizobial strain used and soils must be limed to achieve satisfactory levels of nodulation."

Researchers are looking to identify rhizobia strains with improved acidity tolerance and have been field testing strains since 2015.

Mr Ballard says overall, the performance of new rhizobia strains across a number of measures has been encouraging and there are good prospects for commercialisation.

"That said, it is expected that the benefits of the new strains will be limited to below pH 4.5. This was borne out at two Victorian sites in 2018 (Stawell, pH 4.2 and Telangatuk, pH 4.1) where faba bean nodulation, even with the new rhizobia, was limited to less than 10 nodules per plant, which is well below the industry benchmark," he says.

"Improved rhizobia should be seen as an accompaniment, not a replacement for liming. Liming remains important to correct acidification and is critical to the longer-term sustainability of the farming system.

"Even where the improved rhizobia are used, nodulation will be suboptimal below pH 4.5 and liming remains the most effective strategy to improve nodulation. Plant root growth will also likely benefit from the addition of lime and improve overall performance of the pulse crop."

To read the full article click here

“Something to listen to”

PURE NEW WOOL

Coronavirus and the Australian wool trade

What does coronavirus mean for the Australian wool trade? Hear straight from the horse's mouth as China-based wool agent Lizzy Shen shares her insights on how the coronavirus might affect wool manufacturing in China.

https://d2nqfrasr84me9.cloudfront.net/The-Yarn-EP115.mp3

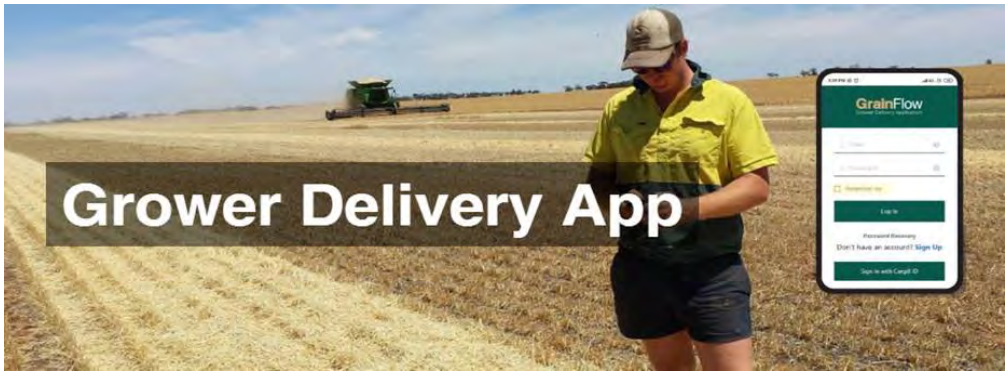
The Positives of Drought

Precision feeding in and out of containment, knowledge of pitfalls and shortcuts: this monster drought has taught many lessons.

Hear from the experts about sourcing feed and not losing stock when the drought finally ends; given the old saying that more stock are lost after a drought than during it.

https://d2nqfrasr84me9.cloudfront.net/The-Yarn-EP114.mp3

What's App



The new GrainFlow Grower Delivery Application was introduced at GrainFlow this harvest, the service is an online form that gives customers an alternative to filling out the paper Grower Delivery Form. The App allowed the customer to receive and check sampling results in real time. It also helped GrainFlow plan better at site, with greater visibility to what grain and trucks were headed their way. The App is part of Cargill's ongoing investment into GrainFlow sites. The Grower Delivery App is mandatory and growers who prefer to use the paper forms were able to do so. However, GrainFlow are encouraging more growers and drivers to try the app as they believe it will give you a better experience in the long-term and help with keep the site as efficient and possible. 50% of all deliveries to GrainFlow Crystal Brook for season 2019/20, were done via the Grower Delivery Application, which was pleasing for the first season. We hope to get feedback from customers who used the application so we can try and improve where needed.

The Grower Delivery App is different to the regular GrainFlow app you may be familiar with. The GrainFlow app is still the place to get your grain prices, site contacts and to login to your account to see your delivery information. The Grower Delivery Application is simply a web form that replaces the paper grower delivery form and provides you with sample results and options to warehouse or sell.

We believe there are multiple benefits to using the new Grower Delivery Application, such as;

It's simpler and improves accuracy as it reduces the need for customers to fill out repetitive paper forms like the Grower Delivery Form. Given the customer can input the information it is also less prone to interpretation error.

It puts you in control as you can see if the delivery is in progress or completed. You will get notified immediately of the quality analysis of your delivery so you can accept the quality analysis and nominate selling or warehousing decision immediately if you wish.

It will help GrainFlow to better plan our operations for things like opening hours and equipment allocation for your delivery.

It is safer. Drivers do not need to repeatedly get out of trucks to deliver their load or hand over tickets.

It helps GrainFlow to be more responsive to you and communicate the results of your sample immediately or to your nominated driver.

The technology on site is an investment in your site and its future. It is also an investment in your supply chain so we can make it as efficient, competitive and accessible as possible.

To register/sign up for the new web-based Grower Delivery App go to https://www.grainflow.com.au/grower-delivery-app and click on **"how do I register".**

INNOVATION GENERATION

20:20 VISION
THE FUTURE OF GRAINS

15–17 July 2020 › Mantra Legends Gold Coast, Queensland

Grain Growers

More information **innovationgeneration.com.au**
or call **1800 620 519**

Funding Bodies

GRDC Grains Research & Development Corporation

The University of Adelaide

Mallee Sustainable Farming

SAGIT

Government of South Australia
South Australian Fire and Emergency Services Commission

BCG shared solutions

Australian Government
Department of Agriculture

Ag Excellence Alliance

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Flinders Machinery
New Holland Agriculture

Upcoming Events Calendar

March		
11	Getting the Crop in Seminar, Hart	Sandy Kimber 0427 423 154
19	Jamestown Market	Jamestown Office 8664 1108
19	Boosting On Farm Nitrogen Fixation in Pulses, Clare	Tina Brock 0416 298 661
19	Progressive Soil Pit Field Day, location TBA	Rebecca Tonkin
20	Roadworthy Heavy Vehicles...Made Easy!, Wallaroo	Grain Producers SA 1300 734 884
20-21	South East Field Days, Lucindale	Lyn Crosby 08 8766 7001
24-25	GRDC Herbicide Behaviour Workshop , Kadina	Erica Mc Kay 02 9482 4930
24-26	Soil CRC Participants Conference 2020, Adelaide	Soil CRC 02 4921 5473
26	SPAA PA Expo, Loxton	SPAA 0437 422 000
31	SANTFA 2020 Annual Conference, Clare	Greg Butler 0427 424 278
31	Climate & Carbon Conference, Adelaide	Sauce Communications 02 6953 7382
April		
1	Mid North High Rainfall Zone Autumn Update, Tarlee	Jarred Tilley 0427 662 056
6	Roadworthy Heavy Vehicles...Made Easy!, Clare	Grain Producers SA 1300 734 884
15 - 17	SA Sheep Expo, Adelaide Showgrounds	Kira Bains 08 210 5215
23	Jamestown Market	Jamestown Office 8664 1108
28	Roadworthy Heavy Vehicles...Made Easy!, Tanunda	Grain Producers SA 1300 734 884
May		
21	Jamestown Market	Jamestown Office 8664 1108
June		
18	Jamestown Market	Jamestown Office 8664 1108
July		
1 - 3	LambEx 2020, Melbourne	Rebecca Jeisman 0438 683 436
15-17	Innovation Generation, Gold Coast	Grain Growers 1800 620 189
21	Hart Winter Walk, Hart	Sandy Kimber 0427 423 154
22-23	Business EDGE Young Guns, Adelaide	Rural Directions 08 8841 4500
23	Jamestown Market	Jamestown Office 8664 1108
28	GRDC Farm Business Update, Minlaton	ORM Communications 03 5441 6176
29	GRDC Farm Business Update, Clare	ORM Communications 03 5441 6176
August		
5	**UNFS 2020 Members Expo, Booleroo Centre**	Kristina Mudge 0438 840 369
4-6	WeedSmart Week, Clare	Lisa Mayer 08 6488 3189
10	Ag Excellence Annual Forum & Awards, Barossa	Kerry Stockman 0418 841 331
11-13	Eyre Peninsula Field Days, Cleve	Meegan Llewelyn
20	Jamestown Market	Jamestown Office 8664 1108
September		
9	Minnipa Field Day, Minnipa	Naomi Scholz 0428 540 670
15	Hart Field Day, Hart	Sandy Kimber 0427 423 154
17	Jamestown Market - Feature Ewe Market	Jamestown Office 8664 1108
18-19	Riverland Field Days, Barmera	Tim Grieger 0409 099 122
October		
8	Jamestown Market	Jamestown Office 8664 1108
20	Spring Twilight Walk, Hart	Sandy Kimber 0427 423 154
22	Jamestown Market - Feature Ewe Market	Jamestown Office 8664 1108
22-24	Australian National Field Days, Borenore	ANFD 02 6362 158
November		
5	Jamestown Market	Jamestown Office 8664 1108
19	Jamestown Market	Jamestown Office 8664 1108
December		
10	Jamestown Market - Feature with Lamb Market	Jamestown Office 8664 1108

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