UNFS UPDATE

Upper North Farming Systems Newsletter March 2022

After the break...

Ruth Sommerville, EO UNFS

Welcome back from the Summer break...slightly extended this year due once again to COVID. We hope you have all had a chance to get away and take some some time to reflect on the year that was 2021, the position you sit as a person, a family and a farming enterprise and where you want to head in 2022. The world in which we live is pretty unsettled at the moment, but with a bit of time spent working on the business, working on your own health and well being, and a little effort on the relationships that make up the family and business within which you live and work you can build your resilience to all the challenges thrown at you.

We have an amazing line up of extension events planned for the next 6 weeks in the lead up to seeding starting.

The main event for this extension window, "Tools, Tech & Transformation", had to be postponed in response to COVID, however the smaller TTT in the Hubs events are getting started, kicking off on Monday with the launch of the Young Farmers Hub in Jamestown. This program of events is made possible by funding from the Foundation of Rural and Regional Renewal and the Future Drought Fund's "Networks to Build Drought Resilience" Program. These events are networking focussed and incorporated a review of trial results and the season that was 2021, a facilitated discussion on what changes and challenges are seen for the year ahead and a presentation on implementing a new piece of tech, or a tool into your business. Make sure you check when one is happening near you and grab a mate and come along. If you'd like to go to one that isn't your local...but the topic is one you'd like to sit in on...then head to that one too. New and non-members welcome.

Our Agrifutures Producer Tech Uptake workshops are back with round 2 being run by Jess Koch. The fact sheet is also out and is getting great feedback from industry across the country...have you read it yet?

GRDC is bringing the second in a series of Herbicide Management workshops to the region this month and there is a an amazing line up of Landscape Board events coming up too...so check out the calendar and fliers following.

We are wrapping up the 2021 trial results and hope to have the compendium together in the coming weeks. There were a number of 3 year trials completed in 2021 so there is some great results to devour over your morning cuppa coming your way. Some of the highlights of these results will be shared at the TTT in the Hubs events...so if you want a sneak peak head along and chat with the research team.

2022 will be a year of some exciting new projects for UNFS and the region. We have 2 new MLA Producer Demonstration Site Projects launching. A summary will be in your inbox in the coming week (we're looking for some landholders too). These projects cover improving Food On Offer, better understanding pasture feed availability (incl. cool remote sensing tech), managing flocks for improved lambing rates and confinement feeding to improve ewe / landscape condition. We have a new 3year SAGIT project just announced this week looking at Canola in the Upper North across multiple sites. The Drought Hub Low Rainfall Node is developing up a series of projects that will include a number of 2022 demonstration sites / extension activities led by UNFS and a Future Drought Fund Innovation Grant partnership with "I Farm Well" was funded last week. Regenerating Goyders Line sites will be sown this year and there is a Native Pasture Plants Field Guide in development and a bus tour on the 30th of June. And we have a suite of soil, rotation, pulse and disease projects that continue on from 2021.

Exciting times in the trial, demonstration and extension space! A full list of projects will be updated on our website after the Operations Committee meeting on the 16/03 and Trial Planning meeting on the 24/03.

In This Issue

Upper North Farming Systems presents

TTT in the Hubs

Tools, Technology and Transformation is heading to the hubs March 2022.

A half day event for:
- Review: presenting results and findings from 2021 trials
- Wrap-up: discussing the past season
- Deep dive: plan and plot new technology

17th March: Booleroo/Appila Hub
31st March: Quorn Wilmington Hub
4th April: Orroroo/Pekina/Black Rock Hub
7th April: - Laura/Gladstone Hub

Further details to come.
Contact Morgan McCallum at morgan@unfs.com.au for further information.

FRRR
Foundation for Rural Regional Renewal

Australian Government
Department of Agriculture, Water and the Environment

Future Drought Fund

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Upper North Farming Systems presents

TTT in the Hubs
Booleroo/Appila

Tools, Technology and Transformation is heading to the Booleroo/Appila Hub to bring you a networking event and planning for the year ahead. BBQ lunch provided.

When: 17th of March, 9am–12pm
Where: Appila Town Hall

Guest Speaker: Phoenix livestock. Phoenix Livestock enables you to collect cost of production information and turn it into usable information that you can act on. It interacts with the NLIS database making electronic tag reconciliation a simple process.

All welcome! Please contact Morgan McCallum at morgan@unfs.com.au or James Heaslip on 0429233139 for further information, all attendees will go into the draw for the UNFS lottery Prize.

Registrations are essential through eventbrite: https://www.eventbrite.com.au/e/ttt-in-the-boolerooappila-hub-tickets-292931605317

FRRR
Foundation for Rural Regional Renewal

Phoenix

Australian Government
Department of Agriculture, Water and the Environment

Future Drought Fund

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UNFS Trial Results 2021 Snapshot

Jade Rose, UNFS Research Coordinator

Barley Grass Management

Key Points:

- The trial was established in 2019, a low rainfall year (80 mm growing season rainfall). This had a direct negative impact on the performance of treatments, leading to reduced difference between treatments and ability to draw conclusions from this trial.
- Barley grass throughout this region was found to be 100% resistant to Quizalofop (group 1/A) and Clethodim (Group 1/A). There was no resistance detected for Glyphosate, Paraquat or Intervix.
- Sowing after opening rains, to allow for a good knockdown, was found to significantly reduce barley grass pressure in the cereal phase when compared to dry sowing. This tactic will only be suited to particular seasons, depending on timing and quantity of opening rains, in addition to the overall sowing program.
- A double knock throughout late spring (before barley grass seed set and after medic seed set) in the 2020 pasture phase was found to have good control on the barley grass population, after an above average rainfall throughout the spring. Again, this tactic will only be suited to systems where a self-regenerating pasture phase/vetch pasture is utilised.
- In 2021, final counts showed extremely good barley grass control following the double knock the year prior, with limited to no yield penalty to the wheat crop identified. Ongoing control will be required to ensure no population blow outs moving forward, with appropriate herbicide mode of action rotation in combination with the use of other cultural controls.

Dryland Legume – Canowie Belt

Key Points:

- Year two of the three year trial
- Site was sown to wheat, with self-regenerating legumes sprayed out in season
- No significant differences in yield between treatments.
- Site will go back to a pasture phase in the coming season (2022)

Barley Time of Sowing

Year 3 Key Points:

- Planet numerically recorded the highest yields of all the varieties and across all times of sowing.
- TOS 1 and 2 recorded statistically higher yields compared to TOS3 across all varieties except for Planet which equalled the lowest yielding varieties in TOS1 and 2.
- Later sowing had a negative impact on yield and grain quality across all varieties.

Full results will be published in the 2021 compendium, keep your eyes out for this.

New Demonstrations at UNFS

UNFS have two new MLA funded Producer Demonstration sites funded and are kicking off in the 2022 season. The first one Improved Pasture Systems with a focus on grazing and the second Lotsa Lambs – Improving Reproduction Success with the focus on sheep reproduction. The team is very excited about these two trials and will publish more information in the coming weeks about these. UNFS is currently seeking demonstration site locations for both of these demonstrations, so please get in contact with Morgan McCallum at morgan@unfs.com.au for more information on the Improved Pasture Systems demonstration and Rachel Trengove at rachel@unfs.com.au for Lotsa Lambs – Improving Reproduction Success.

Second round of Producer Tech Uptake Workshops Kicks Off

Jessica Koch—Breezy Hill Precision Ag Services

Despite Covid-19 affecting plans to hold a face to face event, the first Precision Ag Producer Tech Uptake workshop was held via Webinar on the 1st of February. Funded by Agrifutures, the Upper North Farming Systems group was very excited to host the project, knowing that the precision ag knowledge gap was something important to address in the region. Jessica Koch, Breezy Hill Precision Ag Services along with Beth Sleep from Elders and Michael Zwar, Agtech services are all UNFS committee members and collaborated to deliver the workshop. Jessica said 'we wanted to keep the workshop very practical, giving growers and advisors examples to think about and introduce on their own farms and for their clients. Fertiliser and its in crop application, coming into the 2022 season is an important topic with prices at an all time high.'

Jessica gave a session first up on processing and organising ag data, with ideas on how to interpret and view yield data. Beth's 'soils crash course' gave some tips and indicators on how to begin the 'spatial agronomy' journey – using data and soil test information to make variable rate management decisions. Michael Zwar's session covered the types of soil survey's and tests that can be taken to correlate with yield maps and imagery. There were plenty of tips on managing guidance lines and recording boundaries correctly. The group is still confident that a face to face workshop on the Tuesday 29th March 2022 at the North Laura Hotel will be held before seeding in the Upper North as Covid restriction ease. Please contact Jessica Koch at jessica.breezyhill@outlook.com for further information.

AgriFutures Australia Breezy Hill Precision Ag Services

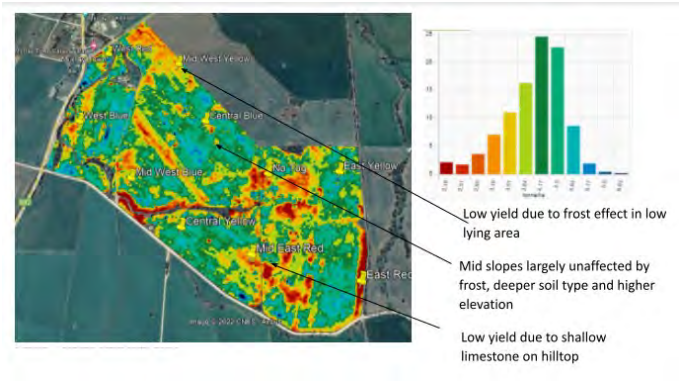
Using Spatial data layers to monitor and scout for frost

Jessica Koch—Breezy Hill Precision Ag Services

The Frost extension project has would up at Murraytown. The site was chosen to monitor and demonstrate a simple, logical, and most importantly, *affordable pathway to use common data layers to scout and manage frost* In essence, the frost sensors have given confirmation to the temperature variation in the field. The unexpected result was the sheer quantity of frost events, with up to 17 frost events occurring at the western sensor sites throughout August.

The Key learnings from the project have been:

- Familiarising growers with the PA data layers they may already have, that are largely inexpensive and simple to interpret
- Satellite (NDVI) imagery, elevation data (recorded from machinery with RTK GPS), and yield data can help with zoning up frost prone areas, and give clues on where to begin assessing frost
- It is important to ground truth and analyse yield maps at the end of the season, the 2021 yield map in Woolfords for example, has low yielding areas due to three main reasons – shallow soil types, frost damage, and chemical damage



Keep an eye out for the full report and fact sheet we will produce for the Woolfords site, with more detail from the temperature sensors and analysis of the data.

UNFS Upper North Farming Systems Breezy Hill Precision Ag Services

Grain Market Update

Nicholas Davis - AWB

For majority of Australia the dust has finally settled from harvest, and hopefully everyone has had a chance to have a break and recharge the batteries ready for season 2022/23. We saw a record harvest for Australia in 2021/22, mostly thanks to record crops in WA and NSW. However, it didn't come without its challenges, wet weather wreaked havoc in some areas of the country, particularly NSW and parts of QLD, SA and Vic. This wet weather made it hard to get into the paddock to get the crop off, in fact some regions are still trying to harvest, also there was the obvious issues with grain quality. Further to this, a record percentage of the record crop in WA was graded ASW1. These quality issues impacted on some buyers and what they were prepared to pay depending on the level of exposure they had in each state.

In the lead up to harvest when Australia was looking at another large crop, the talk of the trade was there was going to be significant "harvest pressure" on the back of last year's monster crop. Further to this, buyers were looking at the size of the crop and the remarkably high prices for the majority of commodities and cashflow was front of mind, particularly for the busy harvest period. Thanks to harvest delays this so-called pressure took longer to hit than anticipated. The rain actually helped to inflate prices for the early period of harvest, with quality concerns and the slow harvest pace buyers paid higher prices to cover early shipments. However, when harvest pressure finally did hit, it hit hard, which put significant pressure on prices, further to this, farmers were willing to sell on the way down which increased the downward pressure on prices. This, as well as a heavy forward sales program for a lot of the country meant by the end of December a fair portion of when crop had been sold.

Since the start of the new year farmer selling has been slow until recently as prices have gradually worked their way up again. There are a few reasons behind the recent rallies:

- Buyer's positions, not just in Australia but globally. Locally you will notice certain grades in certain zones are being targeting, presenting sellers with opportunities on some days.
- South American corn and soybean crop has deteriorated thanks to ongoing unfavourable weather. With most analysts/forecasters ripping forecast estimates right back to be anywhere between 132 mmt to 140 mmt. One forecaster lowered their estimate by 12 mmt.
- Demand continues to be relatively strong, particularly out of China, who have been buying ag commodities fairly aggressively for a while now. China has been buying up big in soybeans, wheat, sorghum corn and barley, the countries 2021 corn were up a whopping 152% from the previous year while barley was also up 54.5% from the previous year.
- The Russian political influence, with export quotas and the ever-changing export tax affecting how much and how competitive Russian grain is in the international market, which is causing them to lose business globally.
- Last, but not least, tensions between Russia and Ukraine have been simmering for a bit now but last week the market decided to react to this news as mentioned above. The market always watches any issues with these two countries closely as they nearly make up 30% of the world's wheat exports, in a normal year.

The current high prices for commodities plus the ever-changing landscape of Covid-19, we expect markets to be remain volatile. This will only be exaggerated when the northern hemisphere comes out of dormancy. Markets will be looking to fresh news to feed the bulls and if there are any significant hiccups in production in the northern hemisphere or conflict escalates between Russia and Ukraine, who knows where prices will end up. With volatility comes good opportunity to market both old and new crops. As always as with all forward contracting, assess your current exposure and only contract what you feel comfortable with based on the current seasonal conditions. Hopefully some of those harvest rains plus recent substantial events has put moisture in the ground for the coming season, however the crop isn't made in January.

Those with old crop left to sell, keep an eye out for the market shorts mentioned above but also keep an eye on warehouse. Those with grain in GrainFlow, you have the month of delivery plus the following two months free. Therefore, if you delivered in November, you will start incurring warehouse fees next month.

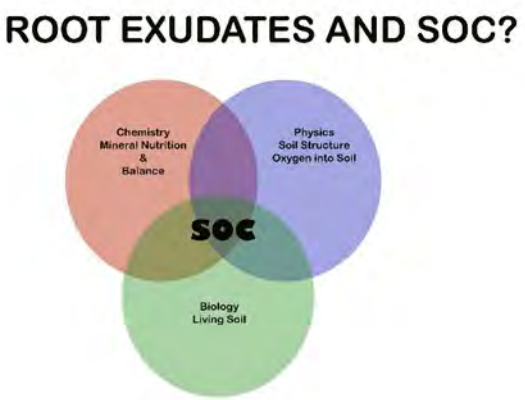
Fertiliser Use Efficiency in a season of high Fertiliser Prices.

Brenton Byerlee, MD, Soil Management Systems Pty Ltd

Every season seems to have its challenges and going into this season already is no different. Quite often in much of our marginal lands of the Upper North with the many dry seasons we have, return of investment in fertiliser applications can be zero or even negative. However, when we get those good seasons, the return is very good and obviously very important to capitalize on the season and hopefully more than make up for the poorer years. With the extreme prices of fertilisers this season, market intelligence tells us only about 60% of normal imports will come into Australia this year. This assumes farmers are budgeting for application rates of 60% of normal. Decision on application rates is further complicated by where the grain prices will land at the end of the season; and of course, what this season does; - and what happens in Ukraine?

Soil fertility is the foundation of every farming enterprise and is key to the profitability of farming. Soil fertility is not just the measurement of Phosphorus and Nitrogen or even the Trace Elements but all mineral nutrients in BALANCE. Some nutrients are antagonistic to others, and some are synergistic to others. Soil mineral balance impacts soil physics or the structure of soils allowing oxygen to freely penetrate the soil for the soil biology to function actively increasing the aerobic zone and soil organic carbon. In short soil fertility is all these aspects which are integrated as illustrated below. The soil then becomes a living environment of diverse biology which works for the farmer in mineralizing nutrients in an available form to crops and pastures.

Which brings us the issue of Fertiliser Use Efficiency (FUE). Applying the above as best we can economically, will greatly increase FUE. High TEC soils (Total Exchange Capacity) or high clay content, with decades of phosphorus applications can have very high TP (Total Phosphorus) levels but low availability – as low as 1% of TP. Conversely low TEC soils or sandy soils after decades of Phosphorus applications can have very low TP levels due to leaching. Research by Dr Therese McBeath, CSIRO Waite Institute, on soil samples throughout Eastern Australia and SA showed just 3-30% of applied Phosphorus in the year of application was utilized. Depending on soil factors the rest was absorbed into compounds or leached or both. For interest we at SMS using APAL Labs have measured up to 5 tons per ha of MAP equivalent in some Upper North soils. Perhaps that land is not so expensive after all!



Nitrogen use efficiency is another very important consideration given the extreme prices this year. Talking to a lot of farmers, they are planning a radical change to their cropping plans in less Canola and cereals and more legumes and pastures. In other words, reducing the risk. We all know from experience how variable responses from Urea can be. The GRDC in research in SA from soil samples below maximum root depths measured alarming levels of nitrate nitrogen that had leached down the profile out of reach. (GRDC 2009) Leaching of nitrates carry Cations (eg; Calcium) with it, degrading soil structure over the long term. Legume crops or pasture with good stock prices may be the best option at present providing they are nodulating well. The present situation provides a good opportunity for diversity in above ground management which in turn is positive for below ground functions thus creating increase in soil fertility.

A plus for this coming season is the good soil moisture profiles from the November and January rains. If we can get some good planting rains in April while the soil is warm, mineralization of nutrients will occur allowing for lower fertiliser applications. However, if the break is in late May or later adequate applications will be needed to get the crop off to a good start. To understand the variables of soil types that occur on most individual farms, a comprehensive soil analysis with independent reports and recommendations from independent reputable soil scientist is a good starting point. These can suffice for several years along with Visual Soil Analysis (VSA), monitoring changes as soil management recommendations progress. Maybe more detail on what VSA entails another time.

Mid North Mesonet moving to a user-pays subscription service in March 2022

Damon Grace—COtL

The Mid North Mesonet and the recent Riverland & Mallee Mesonet are celebrating successful delivery of their innovative spray drift hazard alert service. These high-quality real-time weather stations have been providing reliable spray drift hazard data to growers and the communities for over a year, reducing pesticide spray droplets in non-target crops, rainwater tanks and the natural environment. In addition, many other useful parameters such as rainfall, fire danger and crop phenology metrics are also provided. The websites are www.midnorthmesonet.com.au and www.riverlandmalleemesonet.com.au.

Both the Mid North Mesonet and the Riverland & Mallee Mesonet were established in a project of the Department of Primary Industries and Regions SA (PIRSA). However, neither Mesonet receives ongoing funding for maintenance and operation, and PIRSA expects each Mesonet to be self-funding. A company, COtL, was established to manage the function and long-term sustainability of each Mesonet. Currently, each Mesonet station and the data and website are operated by unpaid volunteers – this is not a sustainable solution. Revenue is required to cover the costs of maintaining the Mesonet and a subscription service is one way to help achieve this. All other revenue options have been explored (including sponsorship by industry bodies or a levy-system), and a user-pays system is considered the only viable option.

Differing levels of subscription access to Mid North Mesonet data will commence on 1st March 2022. The Riverland & Mallee Mesonet was established later and is planned to migrate to a subscription service at a later date. Widespread spray drift damage has occurred this summer, caused by the poor decisions by a few spray applicators. This outcome reflects badly on the farming community and raises the spectre of bans on some herbicides and other pesticides, and the enforcement of much stricter spraying regulations. It is imperative to not spray when an inversion exists. To support the community given the recent widespread spray drift damage, COtL delayed the implementation of the user-pays subscription service for the Mid North until the end of summer (i.e. 1st March 2022).
More details about our forthcoming subscription service can be found here: https://midnorthmesonet.com.au/about/subscription_services.

Disclaimer: This information has been supplied and not endorsed by UNFS

Essence of the Opportunity- what's the value of soil water?

Barry Mudge (Barry Mudge Consulting)

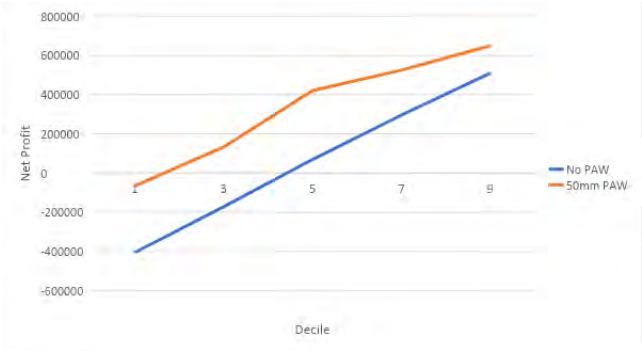
All low rainfall farmers recognise the value of going into a season with good supplies of soil water. Recent heavy rainfalls, particularly on EP, have meant that some districts will start the 2022 cropping season with a lot of confidence. In the Upper North, rainfall totals have not been as extreme (fortunately!) but given the wet harvest in 2021 and other rainfall events since, we still are hopefully well poised with some reasonably wet subsoils. Summer weed spraying has been extensive (and expensive!).

But what is the implication of stored soil water on profitability? I thought it might be of interest to share some analysis I have recently completed on our own farm which attempts to answer this question.

As we go into the new cropping season in 2022, we have no way of knowing what sort of seasonal rainfall we are likely to get- it could be very wet, very dry, or somewhere in between. So I have calculated expected net profit based on 5 possible futures which are the range of possible seasons- very poor (Decile 1), below average (Decile3), average (Decile5), above average (Decile7) and very good (Decile 9). And I did this for both a starting soil moisture of zero and 50 mm of Plant Available Water (PAW). I had to estimate yields for each circumstance- as a guide, my yield estimates for cereals were in the range 0.75 to 3 tonne/Ha with no soil water, increasing to 1.75 to 3.75tonne/Ha with 50 mm of PAW.

The calculations were done using the excellent PIRSA/GRDC Excel Gross Margins tool- all pretty easy as most of the numbers are already pre-filled. Just change the ones that are relevant to your own situation. https://grdc.com.au/resources-and-publications/all-publications/publications/2022/farm-gross-margin-and-enterprise-planning-guide

The results are shown in the following graph.



Some explanation- the lower (blue) line shows the Net Profit against Decile with no opening soil water. It is a very SCARY graph- break-even occurs somewhere around Decile 4. Even average rainfall only gives a modest profit. In these circumstances, we spend a lot of time thinking about the downside risk and what we can potentially do about it (which often isn't much but we learn to live with it).

Compare this with the farm profit performance if we start the season with 50 mm of stored soil water. Even at Decile 1, we almost break-even- we have basically removed seasonal rainfall risk from the agenda. Now, that obviously doesn't remove all the other farming risks- frost being an obvious one. But the focus moves from managing downside risk to trying to capitalise on the opportunity presented.

This analysis just reinforces what we already know. If we have soil water (and soils that can store it) there are two obvious things to do:

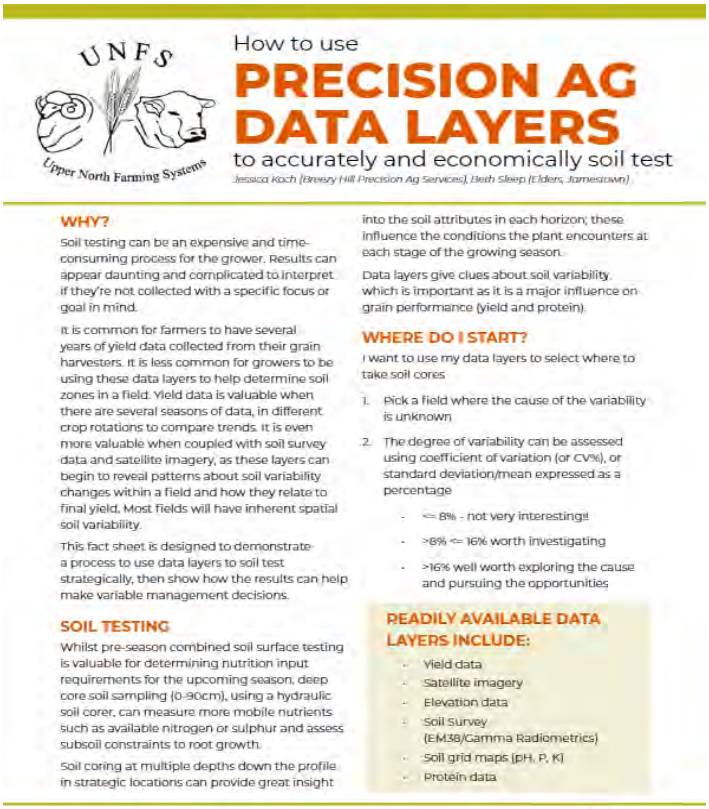
1. Be very vigilant on summer weed control. The first question should be "Will the mixture kill the weeds". The second question can be about the cost.
2. There will be no substitute for good agronomy when the season opens. Timeliness, best practice weed and disease control, adequate nutrition.

Good luck.

UNFS Agrifutures Producer Tech Uptake Program fact sheet.

'We are very excited to present a fact sheet developed from one of our project initiatives – 'How to Use Precision Ag Data layers to accurately and economically soil test'

This fact sheet is part of the 'Producer Technology Uptake Program', funded by Agrifutures. Three UNFS committee members, each working in the Precision Ag field in the Upper North have played a part in putting the fact sheet together. Jessica Koch Breezy Hill Precision Ag Services and Beth Sleep, Elders Jamestown have compiled and analysed the data and the soil surveys and core's were collected by Michael Zwar, AgTech Services.
It is fantastic to have a local fact sheet with locally compiled data, based on the Dennis's property at Baroota. We thank them for their collaboration and for providing data and figures. The fact sheet is a complementary resource to the Producer Tech Uptake Workshops currently taking place in the Upper North.
A second precision ag fact sheet, based around precision ag data layers and frost assessment will be released in the coming months.'
To access the face sheet go to: https://unfs.com.au/.../2022/02/PrecisionAgDataLow.pdf



UNFS Upper North Farming Systems

How to use

PRECISION AG DATA LAYERS

to accurately and economically soil test

Jessica Koch (Breezy Hill Precision Ag Services), Beth Sleep (Elders, Jamestown)

WHY?

Soil testing can be an expensive and time-consuming process for the grower. Results can appear daunting and complicated to interpret if they're not collected with a specific focus or goal in mind.

It is common for farmers to have several years of yield data collected from their grain harvesters. It is less common for growers to be using these data layers to help determine soil zones in a field. Yield data is valuable when there are several seasons of data, in different crop rotations to compare trends. It is even more valuable when coupled with soil survey data and satellite imagery, as these layers can begin to reveal patterns about soil variability changes within a field and how they relate to final yield. Most fields will have inherent spatial soil variability.

This fact sheet is designed to demonstrate a process to use data layers to soil test strategically, then show how the results can help make variable management decisions.

SOIL TESTING

Whilst pre-season combined soil surface testing is valuable for determining nutrition input requirements for the upcoming season, deep core soil sampling (0-90cm), using a hydraulic soil corer, can measure more mobile nutrients such as available nitrogen or sulphur and assess subsoil constraints to root growth.

Soil coring at multiple depths down the profile in strategic locations can provide great insight into the soil attributes in each horizon; these influence the conditions the plant encounters at each stage of the growing season.

Data layers give clues about soil variability, which is important as it is a major influence on grain performance (yield and protein).

WHERE DO I START?

I want to use my data layers to select where to take soil cores

1. Pick a field where the cause of the variability is unknown
2. The degree of variability can be assessed using coefficient of variation (or CV%), or standard deviation/mean expressed as a percentage
   - <= 8% - not very interesting!!
   - >8% <= 16% worth investigating
   - >16% well worth exploring the cause and pursuing the opportunities

READILY AVAILABLE DATA LAYERS INCLUDE:

- Yield data
- Satellite imagery
- Elevation data
- Soil Survey (EM38/Gamma Radiometrics)
- Soil grid maps (pH, P, K)
- Protein data

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UNFS Upper North Farming Systems

Fox Bait Distribution Days

LANDSCAPE SOUTH AUSTRALIA NORTHERN AND YORKE

Landholders in the Northern and Yorke region are encouraged to register for the upcoming 1080 fox bait distribution days across our region. Foxes are a significant pest and have a large impact on agriculture and the environment through predation and spread of weeds and diseases. These distribution days aim to maximise the positive benefits of fox control through a coordinated approach across our region's landscape.

Fox baits at a discounted rate will be provided for collection across several dates to registered landholders:
Tuesday 1 March: Crystal Brook, Napperby, Mambray Creek
Wednesday 2 March: Laura, Jamestown
Thursday 3 March: Booleroo Centre, Jamestown
Friday 4 March: Orroroo, Peterborough

To register for bait collection at a location in the **Southern Flinders**, please complete this Fox Bait Order and Authorisation form. Fox baits will be provided for collection at the nominated distribution points or by prior appointment as detailed on your order form. Please forward your order as soon as possible prior to the distribution day for your area. If someone else will collect baits on your behalf and that person does not have ownership of the land to be baited, please complete the nominated agent section of the form and bring this with you on the day.

The Northern and Yorke Landscape Board is committed to ensuring their staff and the community are protected from the potential spread of Covid-19. We will ensure our collection days are Covid safe in line with current government requirements. For further information, read this best practice advice for using 1080 fox control or contact the Orroroo office on 8658 1086.

Tips and Tactics

Strategic tillage in no-till systems

Northern Region GRDC GROWNOTES® Know more. Grow more.

FEBRUARY 2016

Timing the most important factor determining strategic till outcomes

No-till farming systems that include minimal soil disturbance and stubble retention offer a wide range of economic, environmental and soil quality advantages compared to conventional tillage systems. However, there is growing evidence that strict no-till is unsustainable due to implications from the lack of soil disturbance.

KEY POINTS

- The occasional strategic till can be a viable management option to minimise constraints from no-till systems without impacting on long-term soil health benefits.
- Consider the balance between soil erosion and degradation impacts from tilling against short-term profitability.
- Plan well. Timing is the major factor determining the success of strategic tillage.
- Watch the weather forecasts. Rainfall after the tillage operation determines the success of strategic till in no-till systems.
- There is a range of impacts from tilling and they change over time.

Constraints of no-till systems

Weeds
Build-up of annual ryegrass, barnyard grass, liverseed grass, windmill grass and fleabane. Herbicide resistance can be a significant problem.

Insects
Build-up of soil insects such as *Helicoverpa*, armyworms and black field earwigs in the surface soil.

Diseases
Build-up of pathogens causing diseases such as crown rot of wheat, yellow spot of wheat, ascochyta blight of chickpea, stalk rot of sorghum.

Subsoil nutrition depletion
Subsoil nutrient removal and regular shallow application of immobile nutrients (phosphorus, potassium and zinc) result in relatively enriched surface soil and depleted subsoil (nutrient stratification). High evaporation dries surface soil impeding the ability of crop roots to access nutrients.

Figure 1: The biological and physical constraints associated with no-till systems.

Can a till help deal with no-till constraints?

Adoption of continuous no-till has grown steadily in Australia and particularly in Queensland and northern New South Wales (NSW).

There are concerns regarding the long-term sustainability of such systems due to both biological and physical constraints (Figure 1).

Interest is increasing in the use of occasional strategic tillage (ST) to combat these constraints in no-till (NT) farming systems.

Growers have raised questions about the possibility of irreparable soil and environmental damage from occasional ST in otherwise exclusive NT systems. Fifteen trials have been conducted in the region to respond to these questions using tine and disc tillage implements.

Disc tillage (top) and tine tillage (bottom). (Source: Yash Dang)

GRDC Grains Research & Development Corporation
Your GRDC working with you

Know more. Grow more.

Level 4, East Building | 4 National Circuit, Barton ACT 2600 | PO Box 5367, Kingston, ACT, 2604 | **T** +61 2 6166 4500 | **F** +61 2 6166 4599 | **E** grdc@grdc.com.au | **W** www.grdc.com.au

SHARE YOUR STORY & HELP OTHER MEN.

A podcast about male mental health is looking for men to tell their stories.

An initiative by the Country South Australia PHN, we're looking for real stories from real men across rural South Australia to share their mental health experiences.

Inspire other men who are looking for some help but don't know where to start.

This podcast is part of a larger nation-wide project called **We Are Men** (wearemen.com.au)

Contact podcast producer Viv Smith for more information:
viviennemazey@gmail.com

phn COUNTRY SA

Upper North
Farming Systems

Save the date!

Melrose Showgrounds

New date: 14th July 2022

Tools Technology & Transformation

A full day event showcasing tools and technology to improve efficiency, productivity and profitability in the livestock and cropping enterprises of the Upper North. The day will incorporate demonstrations, workshops, presentations and trade displays

AgriFutures® Australia

Australian Government

Future Drought Fund

UNFS

Upper North Farming Systems

Course: Better Farm Bu$iness by Your Design

Workshops 1 - 3: 5 April, 6/7 April, 12/13 April 2022

Register now for a 2.5-day Better Farm Bu$iness by Your Design (BFBBYD) course for farmers within the Living Flinders footprint.

This short course will teach and show participants how easy it is to calculate a range of profit and financial indicators from taxation financials. With the assistance of business coaches, you'll do it, not just talk about how to do it!

You will also have the opportunity to compare your business to industry benchmarks, examine how your banker would assess your business using common financial indicators and create an action plan for real business change.

What's in it for me and my business?

- Work out and truly understand your 'real' profitability (ROA);
- A clear pathway to improve your business - identify your businesses profit drivers – is turnover, gross margins or overheads affecting your businesses profitability?
- See your business through your agri-manager's eyes – what is required to obtain a lower interest rate or loan to expand;
- Explore real changes to your business design that will increase 'real' profitability;
- Shared wisdom from coaching/mentoring and from other like-minded producers who have already made changes and improved their business profitability.
- Confidence to implement important decisions.
  This short course will be held in the southern Flinders area (location tbc):

  Workshop 1 – **Tuesday 5 April 2022**, 9am – 5pm and

  Workshop 2 – **Wednesday 6** OR **Thursday 7 April 2022**, 9am – 5pm and

  Workshop 3 – (1/2 day only) **Tuesday 12** OR **Wednesday 13 April 2022** (tbc with participants)

  Workshop 1: Learn profitability principles, work through a (real) case study business together turning tax figures to real profit figures. As 'consultant for the day', learn what to do to improve the 'case study' businesses profitability.

  Workshop 2: You will be coached, using your own taxation financials, to calculate real profitability indicators for your business. (NB: Your figures are not shared in any discussions)

  Workshop 3: Experience a real 'business board', both giving and receiving business assistance (and learning in doing both). Go home with 'real' changes to make – not just talk about making changes.

  There is a cost of **$250 per business** (encouraging all family members to attend).

Australian Government | National Landcare Program

Living Flinders

LANDSCAPE SOUTH AUSTRALIA NORTHERN AND YORKE

The Farming & Grazing for Profit School – Orroroo SA

April 6 - April 12

Like thousands of graduates before you, the seven-day RCS **Farming & Grazing for Profit School** will empower you to build a profitable, regenerative mixed farming business, so you and your family can continue to enjoy your life on the land.

Everything in agriculture is interconnected – land, soil, production, business and people. Therefore, nothing in our school is treated in isolation. We cover each concept independently as well as integrating them to ensure the most appropriate decision making is achieved.

You will leave knowing how to:

- Profitably leave your land in better condition
- Reduce inputs and maximise soil health and production
- Manage climate variability and become more resilient to extremes
- Manage the economics of your business
- Build your farm's ecological health
- Reduce overheads
- Reduce risk
- Understand and use key reports and financial indicators to identify your true financial position
- Develop flexibility between cropping and grazing depending on season and commodity prices
- Increase ground cover and water utilisation
- Control and manage your business

For further information about the course content, **click here**.

Length of Course

This is a 6½ day, face-to-face, intensive management course. You are encouraged to participate with other students, and work in teams.

How much does it cost?

This project is supported by the Northern and Yorke Landscape Board as part of the Living Flinders initiative, through funding from the Australian Government's National Landcare Program.

First 21 seats: $385 per person (for producers living in the South Flinders Region

Remaining seats: $5,000 per person (available for all producers)

Full rate is usually $5,500 (inc. GST)

Australian Government | National Landcare Program

Living Flinders

LANDSCAPE SOUTH AUSTRALIA NORTHERN AND YORKE

AgRi Silience

Building resilient businesses that tap into their strengths and support systems to overcome farming adversity and challenges.

Do you operate a South Australian grain or livestock business? Do you want to learn how to manage and adapt to risk? Do you want to improve your business' economic, environmental and social resilience?

Get subsidised access to leading advisers who will deliver both on-farm support and group workshop learning to prepare you and your business to bounce back in the face of adverse climate and other challenges through the new AgRi-Silience program, a joint project between Livestock SA and Grain Producers SA.

Participants will finish the program with a **Resilience Roadmap**, which will help you build resilience and boost productivity, profitability and sustainability over the long-term.

The training will be individually tailored to your business to ensure you get maximum value from the program.

Local facilitators will deliver facilitated learning, expert guidance and coaching, along with the support of subject matter experts with specialist skills in strategic farm business management and planning, farm risk management and decision making, natural resource management and personal and social resilience.

You will get one-on-one support from subject matter experts to help boost your business' resilience.

Each participating business is required to contribute $500 (ex. GST) and, where there is a genuine need, may be able to access reimbursement for travel and childcare costs from PIRSA.

To maximise the benefits of the program, it is recommended two members of a farm business attend the training. Additional participants are welcome, subject to demand, and will need to pay for the full cost of the program.

AGRI-SILIENCE WILL HELP YOU AND YOUR STAFF:

- Improve your financial literacy and, in the process, learn new ways to build the financial viability of your business.
- Become more confident in decision-making by conducting risk assessments.
- Learn new skills and techniques to build your own personal resilience, helping you to concentrate on the business at hand rather than dwell on negatives.
- Become high-performing contributors regarding decision making and operations.

Apply now: bit.ly/GPSA-Agri-Silience

Australian Government
Department of Agriculture, Water and the Environment

Future Drought Fund

Government of South Australia
Department of Primary Industries and Regions

GPSA

LIVESTOCK SA

SCAN ME

This project is part of the Farm Business Resilience Program and is jointly funded through the Australian Government's Future Drought Fund and the Government of South Australia. Delivered by Livestock SA and Grain Producers SA.

NATIVE GRASSLAND PROJECT

Presenting two Field Days

Field Day 1

Grassland Seeding Sites and Grazing Management Trials.

Come along and see these exciting trials. Meet the landowners and project team to discuss the different grassland revegetation and grazing methods being implemented on these two properties.

30 March 2022, Wednesday
Terowie and Ulloloo
3-6pm BBQ Dinner Included
register here for this event

Field Day 2

Grassland Seeding Sites and Grazing Management Trials.

Come along and see this trial site. This is your opportunity to discuss the value of irongrass grasslands with the land owners and learn how they manage these systems.

31 March 2022, Thursday
Truro
4-6pm BBQ Dinner Included
register here for this event

For more information and location maps contact Anne Brown 0409 684 312
annebrown@westnet.com.au or Aimee Linke 0427 590 344

"Have you recently spotted a plant you don't recognise? Bring a photo with you and we'll help you identify it!"

Australian Government | National Landcare Program
LANDSCAPE SOUTH AUSTRALIA MURRAYLANDS AND RIVERLAND
LANDSCAPE SOUTH AUSTRALIA NORTHERN AND YORKE
Mid Murray Landcare SA
Seeding Natives Incorporated

The project is supported by the Murraylands and Riverland Landscape Board and the Northern and Yorke Landscape Board through funding from the Australian Government's National Landcare program and the landscape levies.

Here's your chance to win

a **TOPCON** manual guidance system

including FREE installation by AgTech Services
to the value of $9500
All you have to do is attend any UNFS event
(face-to-face or virtual) between 1st March and 7th Sept 2022
and you'll go into the draw to win this great prize

Unlimited Entries. Terms and Conditions Apply
Contact Kristina on M:0438840369 for further info
Lottery Licence No. T22/57

TOPCON

AGTECH SERVICES
YOUR PRECISION AG SPECIALISTS

UNFS
Upper North Farming Systems

Upper North Farming Systems

Terms and Conditions: Lottery Licence No. T22/57

Lottery commences 1st March 2022.
Entries close Midnight 7th September 2022

Drawn at the UNFS Annual General Meeting in the Booleroo Centre Civic Centre at 9.40am on 8th September 2022 (COVID permitting).
Winner will be published in The Plains Producer, Wednesday 14th September 2022

If required the lottery will be re-drawn at the UNFS Annual General Meeting in the Booleroo Centre Civic Centre at 9.50am on 8th September 2022 (COVID permitting) with the winner published in the The Plains Producer, Wednesday 14th September 2022.

Total Prize Pool: The Topcon Manual Guidance System (including installation by AgTech Services) to the value of $9500.

Entry is upon attendance at any UNFS event. Unlimited entries.

To be eligible for entry, persons entering this Lottery must attend an UNFS event either in person or by Zoom meeting online and be either a current UNFS financial member or have paid an entry fee to an event held by UNFS. Employees and Strategic Board Committee Members of UNFS are ineligible for entry;
Business partners of Strategic Board Committee Members are eligible for entry.
Employees of Topcon Ltd and AgTech Services are ineligible for entry.
Prize awarded may not be exactly as illustrated.
Agricultural machinery is not included in the prize.

TOPCON

UNFS
Upper North Farming Systems

AGTECH SERVICES
YOUR PRECISION AG SPECIALISTS

2022 SHEARING AND WOOL

PROGRAM SA

	Date	Duration	Venue
LEARNER	7 Feb to 11 Feb	5 days	Willalooka
LEARNER	21 Feb to 25 Feb	5 days	Marrabel
LEARNER	7 Mar to 11 Mar	5 days	Penong
LEARNER	28 Mar- 1 Apr	5 days	Pinnaroo
LEARNER	4 Apr – 8 Apr	5 days	Langhorne Creek
LEARNER	6 Jun – 10 Jun	5 days	Jamestown
LEARNER	4 Jul – 8 Jul	5 days	Willalooka (Pinindi)
LEARNER	25 Jul – 29 Jul	5 days	Cummins
LEARNER	8 Aug – 12 Aug	5 days	Karoonda
LEARNER	12 Sept – 16 Sept	5 days	Yorke Peninsula
LEARNER	26 Sept – 30 Sept	5 days	Roseworthy Campus
LEARNER	24 Oct – 28 Oct	5 days	Furner
LEARNER	5 Dec - 9 Dec	5 days	Parndana KI
IMPROVER	24 Jan - 4 Feb	10 days	Konetta
IMPROVER	7 Feb - 18 Feb	10 days	Konetta
IMPROVER	7 Mar - 18 Mar	10 days	Pandurra
IMPROVER	9 May - 20 May	10 days	Teetulpa
IMPROVER	16 May - 3 June	10 + days	Oakden Hills

Note: This program is subject to change without notification

Follow us on Facebook for latest updates on all schools

To register
contact Josh Sneath on 0419 176 750 or
Email: lselig@swti.edu.au

All shearing schools align with nationally recognised qualifications & are designed to meet industry standards & needs.

SHEARER WOOLHANDLER TRAINING INC.

SCAA Shearer Woolhandler Training Inc. RTO CODE 4577
www.swti.edu.au

Most winter cropping systems are now heavily reliant on pre-emergent herbicides to underpin weed control for the first 6-10 weeks of the crop. In recent years, the Australian market has developed unique application techniques and product use patterns that allows use of several pre-emergent herbicides that would otherwise be toxic to the crop where they are being used. To achieve robust weed control, it is very important to understand how each herbicide interacts with the soil and the environment, while also ensuring correct herbicide and crop seed separation to achieve the adequate crop safety required for establishment.

These ¾-day GRDC supported workshops for SA and Victoria will be delivered by Mark Congreve from ICAN. The workshops will be targeted to growers and their advisers and look to explore the key factors that drive performance of pre-emergent herbicides.

The morning session will include topics such as:

- Getting herbicide to the soil – encompassing application, stubble management and reducing environmental losses
- How soil type; soil moisture and seeding system influence herbicide mobility; crop safety and product performance
- Where should we use IBS, PSPE or EPE application timing?
- Managing residual carry-over from applications in previous seasons
- What are the most important factors to consider for each of the key pre-emergent herbicides used in winter cropping?

The afternoon session will include topics such as:

- There have been several new pre-emergent herbicides introduced in recent seasons. Where do each these fit best in the farming system?
- How do we plan a multi-year strategy which both optimises weed control, while also preserving the life of these important tools?

Participants will leave with a better understanding of the key factors dictating herbicide performance and what can be done in the paddock to ensure weed control is maximised.

These small group workshops will commence at 8.15am for an 8.30am start and will finish by approximately 3pm. Participant numbers will be limited on a first-in basis to ensure active participation and discussion. Workshop pre-registration is essential for Covid-19 compliance.

Cost of the workshop is $50 (inc GST) per workshop to cover catering and workshop materials.

Workshop locations for 2022		
Date	**Location**	**Venue**
Tuesday 29 March 2022	Kadina, SA	Copper Coast Sports & Leisure Ctr, 1 Doswell Terrace, Kadina SA 5554
Wednesday 30 March 2022	Booleroo Centre, SA	Booleroo Centre Bowling Club, 57 Stephens St, Booleroo Centre, SA 5482
Thursday 31 March 2022	Freeling, SA	F.A.R.M Centre, 40 Hanson St, Freeling, SA 5372
Monday 4 April 2022	Kaniva, Vic	Kaniva Shire Hall, 15 Baker St, Kaniva, VIC 3419
Tuesday 5 April 2022	Birchip, Vic	Birchip Community Leisure Centre, Morrison St, Birchip, VIC 3483
Wednesday 6 April 2022	Echuca, Vic	Echuca Workers Club, 165-173 Annesley St, Echuca, VIC 3564

UNFS
Upper North Farming Systems

Please join Ladies On The Land for

BUBBLES & CHATS

ORRORO

TUESDAY 12TH APRIL – 6:30PM

ENJOY SOME NIBBLES & BUBBLES AS WE HEAR STORIES FROM LOCAL INSPIRING, RURAL WOMEN.

With special guests

Emily Riggs
Hannah Pech
Emma Axon
and more!

MORE INFORMATION TO COME..

Q-FEVER

GOYDER'S LINE MEDICAL - JAMESTOWN AND ORRoROO HAVE A Q-FEVER CLINIC COMING UP.
TO QUALIFY FOR Q-FEVER YOU MUST BE 15 YEARS OLD OR OVER AND ATTEND BOTH DATES ONE WEEK APART.

PLEASE CALL ONE OF OUR CLINICS TO BOOK AN APPOINTMENT.

9TH AND 16TH MARCH IN ORRoROO AND 10TH AND 17TH MARCH IN JAMESTOWN

JAMESTOWN: 8664 1078 ORRoROO: 8677 5500

PODCASTS

A great list of podcasts to listen to whilst in the tractor during seeding or when checking the sheep or even out on your morning walk. They've been compiled by the Upper North Farming Systems Operations Committee as some of their favourites.
A great way to work on the top paddock!

	TrialSafe podcast series	The safety initiative that promotes safe work practices within the applied agricultural research industry.
	The Profitable Farmer	All about increasing the profitability of your farm so you work smarter and not harder.
	Head Shepherd	Mark Ferguson from neXtgen Agri brings you the latest in livestock, genetics, innovation and technology.
	The Yarn	AWI Wool Podcasts
	The Regenerative Journey (Charlie Arnott)	For all things regenerative agriculture
	Central Stations	True stories from the Australian Outback, told by the people who live them.
	Married to the Land	A podcast talking with the everyday rural and remote women, how these women got to where they are today (their life journey).

Upcoming Events Calendar

Date	Event	Details/Contact
March		
1st	Fox bait collection—Crystal Brook. Napperby, Mambray Creek	Orroroo Landscapes Office: 86581086
3rd	Fox bait collection—Booleroo centre & Jamestown	Orroroo Landscapes Office: 86581086
4th	Fox bait collection— Orroroo & Peterborough	Orroroo Landscapes Office: 86581086
7th	UNFS Young Farmers Hub event	morgan@unfs.com.au
9th	Q fever Clinic—Orroroo	Orroroo: 86775500
10th	Livestock Technology Expo - Kapunda	Jodie Reseigh: 0428103886
10th	Q Fever Clinic—Jamestown	Jamestown: 86641078
16th	Chemcert Course—Jamestown	info@ChemCert.com.au
16th	UNFS Operations Committee Meeting	admin@unfs.com.au
17th	Chemcert Course—Orroroo	info@ChemCert.com.au
17th	UNFS Booleroo / Appila Hub event	morgan@unfs.com.au
24th	UNFS Trial Planning Meeting	jade@unfs.com.au
29th	UNFS Producer Tech Uptake	jessica.breezyhill@outlook.com
30th	GRDC Pre-emergent Herbicide Workshop— Booleroo Bowling Club	erica@icanrural.com.au
30th	Native grasslands Field Day—Terowie and Ulloloo	Anne Brown 0409 684 312
31st	Native grasslands Field Day— Truro	Anne Brown 0409 684 312
31st	UNFS Quorn/Wilmington Hub Event	morgan@unfs.com.au
April		
4th	UNFS Orroroo/Pekina/Black Rock Hub Event	morgan@unfs.com.au
6-12th	Farming and Grazing for Profit School	info@rcsaustralia.com.au
7th	UNFS Laura/Gladstone Hub Event	morgan@unfs.com.au
May		
8th	North East Pastoral Landscape Group Ladies Day	saal.landscapeboard@sa.gov.au

Tools, Technology and Transformation

July 14th 2022

Melrose Showgrounds

Funding Bodies

Delivery Partners

Gold Sponsors

Silver Sponsors

Bronze Sponsors

Global Grain Genetics

Upper North Farming Systems

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