# UNFS UPDATE

Upper North Farming Systems Newsletter December 2021

## A curve ball or two...

Ruth Sommerville, Executive Officer

Hasn't the last few months been interesting to say the least. We were able to have a fantastic spring extension season...not quite as extreme as last year as we were actually able to gather in large groups again...and wasn't it great! A full report on the Members Expo is a few pages in! We've also had Spring Crop Walks, Hub Events and a few project specific events. Big thanks to our team of staff and Committee Members for making them such great events.

The season certainly had most of us scratching our heads asking where that Spring rainfall was?...But it came...with gusto. These late season rains and hail have implications for your whole enterprise, throw in some challenging market forces and there is lots to think about. On the 1st of December UNFS held a Making Fertilizer Decision Zoom Discussion to give members a chance to ask the questions of some industry representatives and chat between each other on how the changing fert prices should be taken into consideration when planning soil testing, rotations and committing to purchases for the 2022 growing season. This has been recorded and the link is available from Morgan. We've also got articles in the newsletter covering soil testing, feeding sheep after the rain and summer weed management.

No doubt you'll all be trying to get as much crop off every day that it is possible. Take a moment to check the FDI. The Fire Danger Index is key to being able to control a fire if it breaks out...when sparks fly you want to be able to catch them! Info on the FDI and how to access our weather station network is featured in this newsletter. It is also important in this busy time to put into place good people practices. Are you and your team getting enough sleep? Can you add some healthy snacks to your lunch box and ensure you are keeping hydrated? Good decisions are made when we look after ourselves and that means sleep, healthy fuel and a bit of a brain break every now and then - even better if it gets your heart pumping while you take your mind off the season at hand. Remember the example you set for your team is important and the behaviour you walk past is the behaviour you accept. Have a quick chat with your team about getting through harvest safely and put some steps in place to keep everyone rested and you might be surprised how much more fun this crazy time can be...and how many fewer "silly mistakes" get made.


Tools, Technology and Transformation

February 17th 2022, Melrose Showgrounds

Details on Page 8 and 17!


## in th is issue

# Upper North Farming Systems Frost Extension Site Update

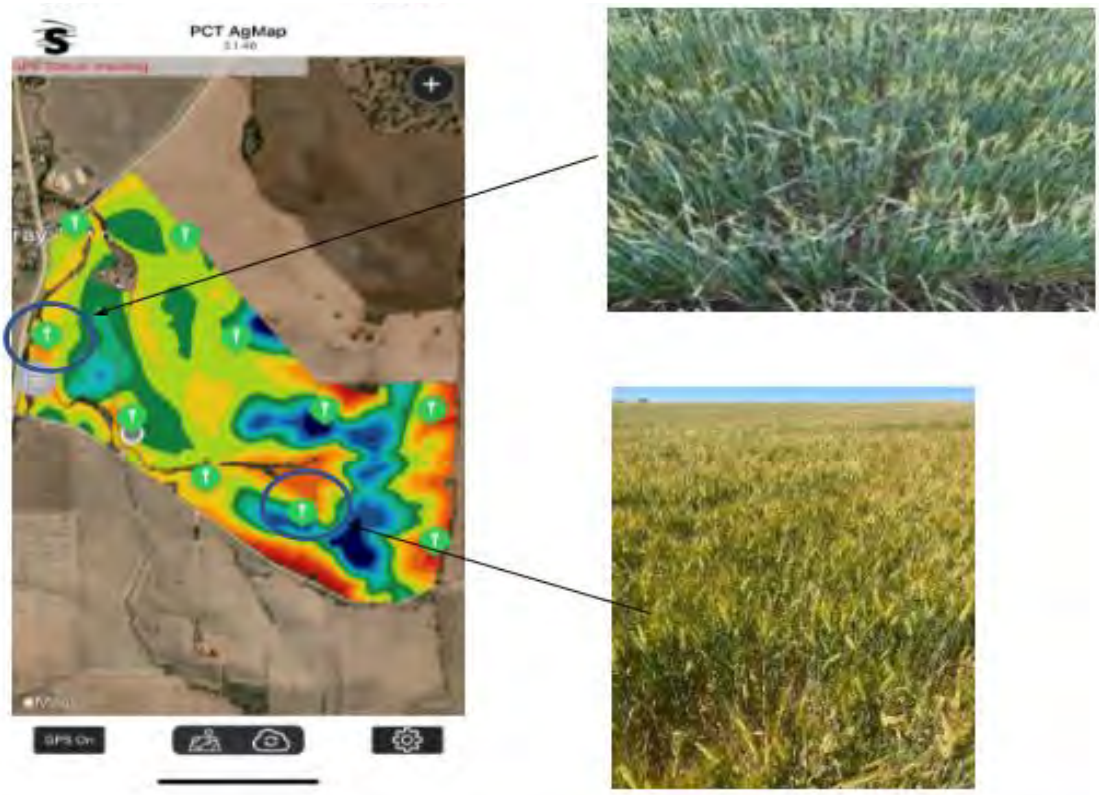
On the 21st October, Jess Koch downloaded the data from the frost sensors at the ten locations in the Frost Extension 'Woolfords' paddock. It was decided between Jess and the grower (Todd Orrock) that the sensors would be left in the field until the crop was harvested in mid-later November, given that there has been history of late frost significantly affecting yield it seemed appropriate to capture that data.

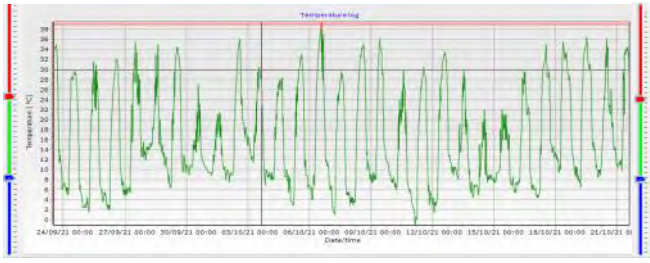
It was evident that there was considerable frost damage significantly affecting the barley heads at the low-lying site on the western end of the field. The sensor sites on the ridges at the eastern side of the field were largely unaffected by frost.

Most of the damage, as reported by observations by the grower, occurred from a frost event on the 12th of October. However, there were 11 occasions in total in late September/early October where the mercury dipped below 0°C at this site. The western sensor recorded sub zero temperatures between 8pm and 6.30am, with the lowest dipping to -5°C.

The sensor circled on the mid/eastern side, experienced far less damage from frost as the graph suggests below – with the temperature dropping below 0°C once in this period.

*Figure 1 – A 'landscape change' map showing depressions, contours and ridges in 'Woolfords' paddock. The frost sensor locations are shown by the green pins. Photos of the crop in each location were taken on October 21st.*



Mid/East Sensor

West Blue Sensor

# Upper North Farming Systems Members Expo Wrap-Up

On Thursday 9th of August 2021, Upper North Farming Systems held their Annual Members Expo in Booleroo Centre, South Australia. 90 attendees included industry leaders, producers, staff and presenters. The full day event was split into a morning session in the Booleroo Civic Centre and an afternoon session in the paddock at the base of Mount Remarkable.

The morning session included Dr Mark Farrell, CSIRO covering profitable soils, David Cooper, CC Cooper & Co covering their enterprise mix and developing more profitable and rewarding systems, and Stephanie Schmidt, Act for Ag, discussing building a resilient mindset. After lunch Dr Michael Nash provided a lively insight into IPM, Reducing Pest Incursions and Tackling Outbreaks and Dr Marg Evans presenting about Crown Rot and the systems approach to management. A highlight of the day was the Farmer Panel with Rachel Trengove, Jim Kuerschner, Andrew Henderson, Joe Koch and Andrew Kitto discussing the outcomes of the Sheep Tech Adoption Group.

In the afternoon the expo moved out in the paddock and the first presentation was Sarah Day and Penny Roberts, SARDI, covering the pulse variety and intercropping/novel cropping system trials located at Ken and Andrew Walters Block at Melrose. Jade Rose, UNFS, Beth Sleep, Elders, Dr Mark Farrell, CSIRO and Ed Scott, Field Systems Aus, jumped in the soil pit and talked soil constraints and the Building Soil Knowledge Project.

The final session was on Frost Measurement, Management and Plant Health Implications presented by Jessica Koch, Breezy Hill Ag & Michael Eyres, Field Systems Aus.

At the end of the Expo, attendees were given an evaluation form to complete for general feedback on the Members Expo. We received some great suggestions for future activities and trial work. A summary can be seen below.

The day concluded with a networking session, a few ice filled eskys and nibbles at the base of Mount Remarkable just on sunset. A great way to wrap up an amazing day.

Thank you to all that came along, our sponsors, partners and presenters for making it possible and the UNFS Operations Committee and Staff for making the day a huge success.

**Outcomes from the Members Expo Survey**

These suggestions have been used to help develop our 2021-2022 Issues and Priorities List and plan for next year's events. Thank you to everyone that submitted their feedback forms!

* = Mentioned numerous times

**Trials and research Suggestions**

- N input and use *
- Root disease
- Carry over of various legumes
- More pasture legume trials *
- N on Goyder's line
- Bush foods
- Climate resilience
- Frost mitigation
- Frost identification technology

**Extension and Training Suggestions**

- Workshops on less chemical use and alternatives
- Financial planning
- Native pasture workshops
- Strategic Planning

**Bus tour suggestions**

- **F**arm tours in different areas *
- See what other farms are doing differently in different areas
- Visiting past restoration projects → what has worked, what hasn't
- West coast tour e.g. T ports, Minnipa Agriculture Centre *
- Mallee region

**General feedback and enquiries**

- Good variety of speakers
- Good subjects
- Great smooth day
- Slow it down → some important messages lost with the speed of the day
- More livestock and sheep tech talks

## Barley Time Of Sowing Trial Sneak Peek

Jade Rose, UNFS Research Coordinator

The trial was sown over a 2020 Faba bean crop, with no frost damage over the season nor any significant heat stress events. In TOS 1, there were no statistical differences in yield, however in TOS2, Planet was the highest yielding barley variety. TOS 3 has yet to be harvested.

| Time of sowing | Sowing date | Variety | Average yield (t/ha) | |
|---|---|---|---|---|
| 1 | 14th April | Laperouse | 4.8 | NS |
| | | Leabrook | 4.6 | |
| | | Maximus | 4.3 | |
| | | RGT Planet | 5.3 | |
| | | Spartacus | 4.4 | |
| 2 | 16th May | Laperouse | 4.9 | ab |
| | | Leabrook | 5.1 | ab |
| | | Maximus | 4.0 | b |
| | | RGT Planet | 5.9 | a |
| | | Spartacus | 4.4 | ab |

Thank you to SAGIT for funding this trial, following seed companies for providing the trial seed; Laperouse & Leabrook = Seednet, Maximus + Spartacus = Intergrain, RGT Planet = Seedforce Australia and to Orrock Farms for providing the trial site and much of the trial management. Thanks also to Steph Lunn, AgXtra and SARDI Clare for assessments and harvests. Full trial details will be in the 2021 Annual Compendium.

## Upper North Farming Systems Barley Grass Management Project

We are looking for your assistance to complete a 12 question survey (link below) for the GRDC Low rainfall barley grass case studies, to understand how big of an impact barley grass has as a weed in your farming system, your management strategies and if you would like ongoing investment into barley grass management research.

https://www.surveymonkey.com/r/DNZRW5L

Thank you in anticipation, if you have any questions please do not hesitate to contact Jade Rose at jade@unfs.com.au

# UNFS Spring Crop Walks

## Eastern Spring Crop Walk

The UNFS Eastern Spring crop walk was held on the 23rd of September following the GRDC Grower's Forum held in Melrose, with10 attendees visiting the two trial sites: The Frost Extension site located in Murraytown and the Barley Time of Sowing trial located at Fullerville.

*Jess Koch presenting at the Frost Demonstration Site*

Jess Koch presented on the Frost Demonstration site, covering the frost history of the paddock, the type of frost data loggers that are present in the paddock and some of the results that site was showing.

Attendees then moved onto the barley time of sowing trial at Fullerville where Steph Lunn presented some of the findings so far within the trial and did a trial walk through. Lastly, Jade Rose touched on Barley Grass management within the Barley Grass project.

*Steph Lunn presenting at the Barley Time of Sowing Trial*

## Western Spring Crop Walk

The UNFS Western Spring Crop Walk was held in conjunction with and organised by the Nelshaby Ag Bureau as their UNFS Nelshaby Hub and Ag Bureau Sticky Beak Day on the 24th of September. There were 20 growers in attendance as well as some industry representatives.

*Ed Scott presenting from the soil pit*

Commencing at the Soilborne Pathogen (Crown Rot) demonstration site located at Mambray Creek. Michael Eyres and Ed Scott from Field Systems Aus walked everyone through two separate soil pits located at Mambray Creek and Baroota, with the focus on acid topsoils and saline subsoils

Back on the bus and heading south to Crystal Brook, attendees visited a Phosphorus trial site where Sam Trengove presented on the background of the trial, some trial results and future plans within the phosphorus space in relation to trial work. Lunch was sponsored by Integra Sheds.

Lastly, attendees visited the Warnertown Pulse Trial Site where Penny Roberts and Dylan Bruce presented information on trial outcomes. An afternoon networking session was sponsored by EPIC Grain, LM Diesel and Kitto Harvesting.

Overall, both crop walks were well received by all participants. We thank all those in attendance, especially our generous presenters and sponsors.

# Ladies on the Land

**Bubbles and Chats**

The Ladies on the Land Hub of Upper North Farming Systems 2021-2022 Hub Representatives are Jessica Koch, Beth Sleep and Steph Lunn.

Steph, Beth and Jess were chatting at the UNFS Expo in September about how they would love to do a Christmas event at the newly constructed Maple and Pine event venue at Bundaleer. “Spring was starting to shut off as far as rainfall goes and we thought a late November event may mean that farmers would have had a good chunk of their crops off. We couldn’t have been more wrong given just how wet November has been!” said Beth. However, the timing was still fantastic as the clouds finally did part for the evening and it was beautiful sitting out on the lawn and listening to the talks from Rebecca Moore, Erin McCarthy, Barb Carr, Britt Cunningham and Jessica Koch.
70 women attended from a variety of different towns and enjoyed wonderful grazing boxes from The Good Paddock (a new catering business in Jamestown) and listened to the women from the region tell of their journeys that led them to our local community. From such diverse backgrounds the 5 presenters all inspired the crowd with their tales of adventures on far flung sheep and cattle stations, working out the right 'life balance' and running your own business or going it alone and rocking the remote workplace well before COVID made it the done thing. There were lots of laughs and the sound of chatter from both the birds and the ladies could be heard well into the evening.

*Front L-R – Britt Cunningham, Erin McCarthy, Rebecca Moore. Back – Barb Carr (All Jamestown) and Jessica Koch (Booleroo Centre).*

*Bianca Broome (Gladstone) and Rachel May (Gladstone)*

The hub reps have had such fantastic feedback from the event that it is expected another event of this type will be held again in the region!

*Erin McCarthy telling of her journey to the ladies on the lawn of Bundaleer Forest’s Maple and Pine Function Centre.*

# Sheep Technology Group Wrap Up

Rachel Trengove

The final workshop for our UNFS Sheep Technology Group was held on Wednesday October 6th, hosted by Jim and Gaye Kuerschner on their farm at Black Rock. A delicious lunch provided by Gaye (Black Rock Kitchen) was enjoyed and the line up of speakers was a good match too!

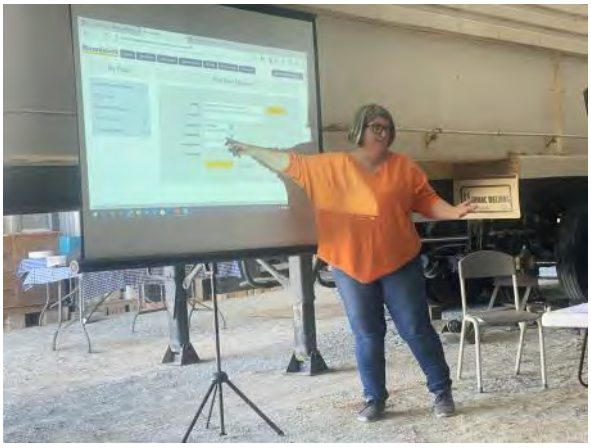
Daniel Schuppan presented on confinement feeding designs and gave an update on the latest in automatic feed out systems from a feedlot tour he attended in NSW this year. He emphasised the importance of getting more precise in weighing and testing feed when confinement feeding and ran through some examples using different feed qualities. The difference in the financial bottom line of the various feed qualities was significant, showing that feed budgeting can be a very worthwhile exercise.

*The group looking at Jim's confinement feeding set up*

Jim and Tom Kuerschner took us for a sticky beak through their confinement feeding set-up and shared their experiences and knowledge with confinement feeding on their farm.

Jane Kellock from Kellock Farming at Farrell Flat joined us to share her experiences with adopting technology in their sheep enterprise. Data collection is a crucial element of their business to aid decision making. Kellock Farming use a range of technologies including a Trutest panel reader and wand, Cousins Merino Services to analyse data collected, they gather fleece test data at the first shearing, DNA testing of hoggets before culling for benchmarking, RamSelect to store data on their ram team and the use of ASBV's when buying rams. AgriWebb software assists Kellock's in streamlining data and record's across the farm and enables transparency between farming family members and employees. There were several members of our group interested in farm management software and keen to find a fit for their farm and Jane's insights were invaluable.

This was the final workshop of our series for the UNFS Sheep Technology Group which has been up and running for 18 months and had about 25 farmers committed to the group. We came together to learn about a range of technologies we can implement into our livestock farming systems for improved efficiency and profitability. It has sparked a great deal of interest which is a timely lead into our MLA Producer Demonstration Site projects starting in



*Jane Kellock presenting on adopting technology within farm businesses*

Upper North
Farming Systems

# Save the date!

Melrose Showgrounds

## 17th February 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


## What do you know about fungicide resistance?

You're probably using or recommending fungicides to help control crop diseases – but are those same diseases using you to enhance their ability to fight back?

Fungicide resistance can evolve anywhere. So AFREN wants to know how well Australian growers and advisers understand the causes and controls. Whether you consider yourself an expert, a responsible fungicide user, or just want an idea of how your current knowledge measures up, your participation will be valuable to AFREN's ongoing fungicide resistance extension work.
Tell us what you know – and what you'd like to know more about. Take 15 minutes to be part of the AFREN fungicide resistance survey here. https://afren.typeform.com/pcsurvey

## UNFS Producer Tech Uptake Workshops

Jessica Koch will be holding her second round of Producer Tech updates on the 1st and 2nd of February 2022. Stay tuned for more information on this through the UNFS website and social media pages.

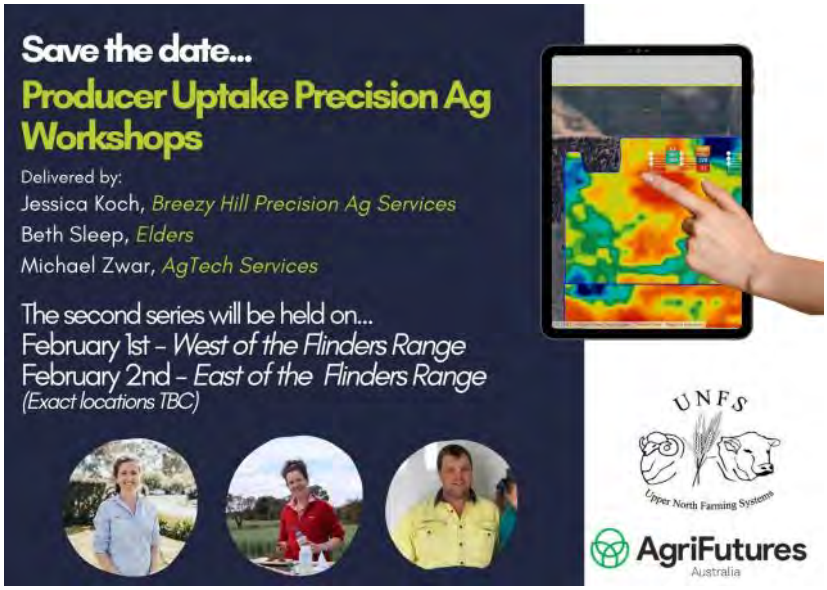
**30th June 2022**

**The Program:** The Producer Technology Uptake Program is a 12 month national pilot program, aimed at helping producers overcome barriers to technology adoption, including digital literacy, lack of understanding on the potential return on investment, and overall appetite for technology.

**Benefits:** Tech solutions can optimise the use of inputs, speed up decision making, create labour savings and improve market access. There are big benefits to be gained for farm businesses.

**Outcomes:** Producers will walk away from the workshops with a personalised farm technology plan, including practical solutions for their farming system and importantly, steps to implementation.

**Funding:** Up to $20,000 grants have been awarded to producer groups to deliver a bespoke technology uptake program, including producer workshops and other activities, to introduce technology solutions and kick start adoption.




## UNFS 2021 Members Expo Photo Board - Lunch Time

## RCS Grazing Clinic – Quorn, SA

**Date:** April 5, 2022 - April 7, 2022

The RCS Grazing Clinic is a practical hands-on workshop that develops your skills as a grass manager.

This power-packed two and a half-day clinic will give you the confidence and practical know-how to go home and begin implementing. The RCS Grazing Clinic covers the principles and practices of grazing management including how to design and manage a grazing cell, and how to use grazing charts as a planning and decision-making tool.

The course has a complete focus on implementation. We deal with the "real-life stuff" that actually counts when it comes to getting the most out of your land, livestock and business.


During the RCS Grazing Clinic our facilitator will cover:

- How to assess rest period and calculate graze period
- How to match stocking rate to carrying capacity
- How to use grazing charts to plan and make confident decisions
- The 6 principles of Regenerative Grazing Management
- Property design, water design and fence planning
- Questions and answers

**What to bring**

At this clinic, you'll be shown how to get started with a grazing plan and grazing monitoring using simple planning spreadsheet on a computer.

For that reason, we recommend that you bring your own laptop or tablet with Microsoft Excel installed. This is a recommendation only. It is not essential to have a laptop to be able to participate in this clinic.

**Clinic cost**

Early bird: $990pp available to 8th February 2022
Standard rate: $1,375pp

If you have any questions regarding the clinic, please contact RCS using the details below.
RCS, Phone: 07 4939 5255,

# Act for Ag

**Steph Schmidt**

It has been great working with the Upper North Farming Systems team and members to provide skills to look after our own wellbeing and build healthier, more effective teams. And while the BOM had forecasted a wet spring, November has proven that sometimes their forecast is correct. Given that the rain has not come at the most ideal time, it's an important time to remember some of the tools from ACT for Ag. ACT for Ag is all about learning simple tools to help you navigate the rock and the hard place.

If you attended the UNFS Expo in September - you'll remember that I took you on a quick guided tour of the Noticing Map. This is a super useful tool that you can use to pull apart some of the knots of your thoughts and experiences. For a refresher, there are a couple of videos that I have popped up recently on social media - check out the link to a quick run through on managing S**t times in harvest here - https://www.instagram.com/p/CWHQS22q2dZ/

So, why is it important to be able to navigate the rock and the hard place? Well as this harvest has shown us once again, farming can be bloody stressful. But, probably most of us wouldn't choose to do anything else - so for the sake of ourselves, our relationships, our families - it's really important that we take little steps each day to manage the stress that farming throws at us.

I sometimes think of this when we are counting sheep out of the yards, if they start running too fast out the gate you take a couple of steps in to just slow the sheep down a little so that you can keep on counting. Well, that's what you need to find for yourself when it feels like things are racing a bit too quick, when the stress is building up a bit too much - small, everyday ways of taking a few steps in to just slow things down a little.

What might that look like:

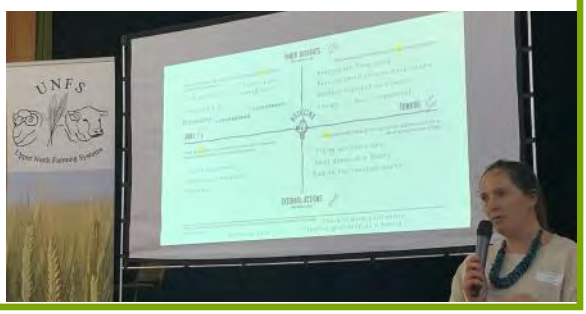
- Making 10 minutes each morning to enjoy your coffee in quiet before tackling the day ahead.
- Spending 5 minutes a day just focusing on your breathing - you don't need to do any fancy exercises, but a few minutes focusing on your breathe coming in and out can help "slow the sheep".
- Set a reminder in your phone to just catch where your mind is - are you present in what's going on in the moment or are you hooked up in fortune telling or predicting what might happen in the future.
- Schedule in something to look forward to. The next few months might be hectic but plan a post-harvest holiday to have something to look forward to.
- Connect - Connecting with others literally helps us put the brakes on our stress response - so chat to a mate, take time to chat and listen to your partner, or sit down and play with the kids (even just for 5 minutes)

As 2021 wraps up, however harvest ends up going - take some time to reflect on how 2021 has served you. Remember to note down some of the things that have worked out great, as well as reflecting on what you could do differently. Maybe set aside some time in early 2022 after harvest has settled (and you've enjoyed that holiday at the beach) to plan ahead for what you want 2022 to look like. If you received the ACT for Ag toolkit at the expo, try out using the shared purpose map with your family or business. Asking yourselves:

1. For 2022 - What's our shared purpose -what do we want 2022 to look like, how do we want to show up in the year ahead?
2. When we think about that - what's some of that tricky stuff that shows up inside of our minds? (e.g., Frustration, disappointment, anxiety, "here we go again", "what are the fert prices going to do?" etc.)
3. What do we tend to do when we get caught up in that tricky stuff?(e.g., argue, drink too much beer, avoid difficult conversations).
4. And if we were really moving towards our shared purpose - what really matters to us in our farm and family - what would we be doing instead?(e.g., trying out a new farming practice, setting aside a monthly business meeting, booking in the babysitter for a monthly "date night").

Take care of you - you're the only YOU you've got! There are also some exciting things in store for ACT for Ag in 2022 which I'd love UNFS members and supporters to be part of, so if you are interested in learning simple tools to look after yourself, your family and your business - stay in touch at www.actforag.com.au

Thanks,
Steph



# Harvest Fire Danger Index and the UNFS Weather Station Network

Agbyte in conjunction with a range of local community groups, one of which is UNFS, runs various harvest Fire Danger Index (FDI) alerting systems. These systems utilise data generated by Agbyte weather stations that are either individually owned by primary producers or by community groups.

FDI is crucial for adhering to the harvest code of practice that advises paddock harvesting operations to cease when the FDI reaches 35. The FDI is calculated using the McArthur Index version 4.

The harvest FDI alerting system typically utilises the FDI data generated at each site across the region and displays this on a web page where a trusted community member/s then make a decision on sending out an informative SMS to growers and stakeholders. By displaying the FDI from multiple sites, the users can get a feel for how FDI varies across a region (often driven by wind speed) and thus make sound decisions about alerting those affected by a rising FDI value.

The harvest FDI alerting system used on the Northern Yorke Peninsula, in place since 2015, accesses FDI data from 25 weather station sites managed by Agbyte. On high risk days, a SMS is sent out (via a broadcast SMS provider) that states "*The average FDI is near to or has exceeded 35. Please review your paddock conditions". This aims to inform users of general conditions, yet place the onus on those harvesting to check conditions in the paddock where they are working in order to get local information relevant to them.*

Agbyte weather stations have high quality sensors that are mounted at standard heights which include:

- Air temperature and relative humidity at 1.2m from ground level
- Wind speed & direction sensors at 2.0m from ground level

Agbyte weather stations are located away tree lines or other buildings that may affect wind and they are typically installed on more prone areas rather than in hollows or swales that may restrict wind.

Once the weather station has recorded the readings from the sensors, they are set to upload the data every 15 minutes to a gateway server. Calculation are performed at the server level to generate a FDI figure utilising 10^ (0.009254 - (0.004096*((100-w)^1.536)) + (0.01201*x) + (0.2789*(SQRT(z)) - 0.09577*(SQRT(y))))

X = air temperature

Y = relative humidity

Z = 10m wind speed

W = curing factor = 1 (indicating fields are at 100% cured for harvest)

To convert the 2m wind speed reading to its equivalent at 10m:

Wind speed 10m = x*((5)^(0.143))

X = Wind speed 2m

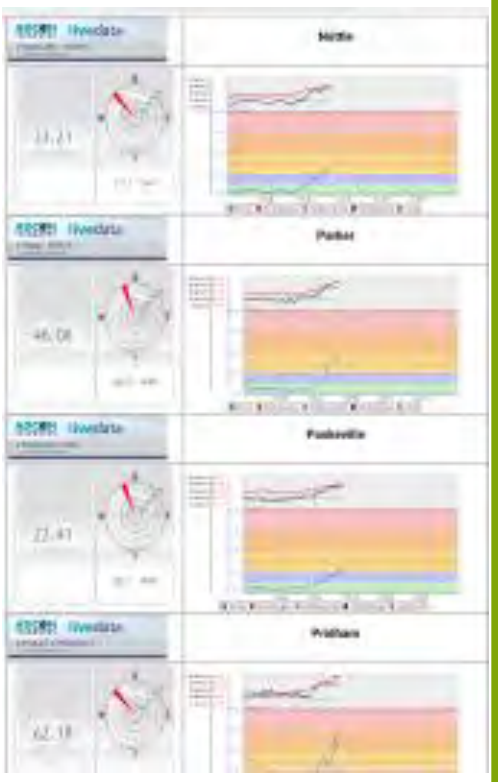
Wind speed is converted from 2m to 10m in accordance with CSIRO McArthur Index and should be taken into account when doing manual reads with a handheld Kestrel weather meter. Also when using such meters, a wind speed reading should be taken for at least 3 minutes in order to gauge an average, preferably 10 minutes.

It can be useful to cross check FDI readings by downloading the *Calc FDI app by Fairport on your smart phone*

Please contact Leet Wilksch for more information. leet@agbyte.com.au Ph 0408 428 714

To access the weather station through UNFS head to:

www.unfs.com.au/unfs-soil-moisture-weather-monitoring-station/



*Fire danger Index Graph*

**Disclaimer:** The UNFS Automatic Weather Station Network is a data provision service. It is not an advisory service. All decisions made using the information provided through this service are the responsibility of the user. UNFS takes no responsibility for any outcomes of use of this data. All weather sensitive activities should be undertaken with point of activity weather condition verification.

## Impact of Rain on Summer Feed & Livestock Health

The spin-off of La Niña has been crop and pasture damage across much of SA over the last month with shot grain and reduced dry feed value. Crops or pasture cut for hay can lose 10% digestibility (energy) for every 25 mm of rain that falls on it. In addition, dry feed normally loses 5% of its energy each month through summer and autumn.

A consequence is that it is even more important this year to feed test your hay, grain, and even dry pasture to find out what your livestock are or will be eating. You cannot assume that what's in the paddock will suffice. Feed testing in late spring takes the guesswork out of feed budgeting whether in the paddock or in confinement. Condition scoring 50 sheep in a mob gives a good indication of whether their dietary needs are being met – ideally the average mob condition score should be around 3. In addition, feed budgeting enables you to ensure they receive sufficient energy and protein through the critical stages of pregnancy and lactation.

What happens if we don't feed budget? Starting with joining the possibilities are less ewes in lamb, less with twins and increased embryo loss – potentially a major cost to the sheep enterprise. Ewes and rams need to be in condition score 3 at joining to promote good reproductive outcomes. This can be addressed by providing extra protein (eg lupins, peas, beans, vetch, green feed or good legume hay) pre-joining for a minimum of 10 days for ewes or 8 weeks for rams. A ram exam is also critical to ensure they are physically and reproductively fit for purpose.

Ewe and lamb loss can also result from energy deficiency / starvation ie failure to provide feed with sufficient quality &/or quantity in mid to late pregnancy - known as pregnancy toxaemia or twin lamb disease. Another increasingly common cause of ewe death is hypocalcaemia or milk fever – especially in confinement feeding. Cereal grain is well recognised as being calcium deficient and so the ad lib provision of stock lime mixed with salt or proprietary mineral mixes from mid pregnancy onwards is critical to preventing this disease. The provision of salt also increases water intake important for kidney function and reduced risk of urinary blockages.

Summer rain is also common cause of worm and flystrike outbreaks and so it is critical to monitor frequently for both. Flystrike preventative measures are the norm for stockowners with cropping enterprises, but sheep losses due to worms 4-5 weeks after 20+ mm rain can be unexpected. A worm egg count on a few mobs @ $30 each 3 weeks after significant rain is another valuable monitoring tool. It is also worth checking the worm status of sheep before they go into confinement. Use a triple active drench is recommended if worm egg counts exceed 100 eggs per gram of faeces.

Feed budgeting and disease prevention are key skills taught in the Lifetime Ewe Management course. It is integral to optimising lamb survival and increasing lamb marking percentages – outcomes that all lamb and wool producers should be keen to achieve. Please enquire if you are interested in this training.

*Photo sourced from MLA.*

Dr Colin Trengove

Pro Ag Consulting

0418 808045, colin@proagvet.com

## GrainGrowers launches State of the Australian Grains Industry

***Want to know more about what lies ahead?***

GrainGrowers has released its five-yearly 'State of the Australian Grains Industry (2016 – 2021)' report, which is jam-packed with informative findings and figures to help growers prepare for what lies ahead.

The report is joined by a special 6-episode podcast series which interviews growers and ag industry leaders across Australia to discuss the success of past strategies, and how they plan to capitalise on coming opportunities.

The podcast is available to listen on all major streaming platforms (Spotify, Apple Podcasts, Google Podcasts) by searching 'State of the Australian Grains Industry', with a new episode releasing weekly.

Host by GrainGrowers' General Manager of Policy & Advocacy, Zach Whale, growers discuss findings from the report in a highly engaging, informative manner with topics including profitability & finance, market access, sustainability & carbon plus more.

The last five years has seen many highs and lows for growers and the report reveals the Aussie grains sector performed well, notching a gross value of production averaging $13 billion per year - a 1% increase on the previous five years.

Whilst we can't predict what will happen in the future, we can benefit from a robust strategy to help the sector meet future challenges.

If you would like to read GrainGrowers' State of the Australian Grains Industry Report (2016-2021) please visit graingrowers.com.au. The podcast is available on all major streaming platforms.




## New Animal Health and Biosecurity podcast series for producers has arrived!

PIRSA has united with Animal Health Australia and Livestock SA to create a new season of Tech Talks podcasts exploring animal health and biosecurity issues for South Australian livestock producers.

The new 8-part series features red meat and wool industry and animal health experts and explores topics including:

- importance of individual animal electronic identification (eID) for traceability and market access
- a wool industry perspective on emergency animal disease (EAD) preparedness
- biosecurity tips for producers when purchasing livestock.

Listen to the new podcasts and discover the full Tech Talks series at the PIRSA website. Subscribe to Tech Talks through Apple Podcasts, Spotify or search for 'Livestock Tech Talks' in your preferred podcast app. This Tech Talks season has been developed by the South Australian Livestock Biosecurity Extension project, made possible by the South Australian Government's Red Meat and Wool Growth Program and Animal Health Australia through the National Sheep Industry Biosecurity Strategy 2019–2024.


Australian grain growers will be able to better prepare for the onset of extreme climate events following the Bureau of Meteorology's (BoM) release of two comprehensive new seasonal forecasting tools recently.

Minister for Agriculture and Northern Australia David Littleproud announced the new climate outlook tools saying they would offer agricultural producers access to regionally relevant information beyond the traditional seven-day forecast.

The tools have been developed through the $14 million industry-wide research project Forewarned is Forearmed (FWFA), led by Meat and Livestock Australia (MLA) and funded through the Australian Government Department of Agriculture, Water and the Environment's Rural R&D for Profit program with co-investment from 14 project partners including the Grains Research and Development Corporation (GRDC).

It draws together the extensive knowledge, experience, skills and contact networks of all major Australian rural research and development corporations, key research organisations, farming systems groups and the BoM. GRDC has had representatives from the three GRDC Regional Panels provide input to the development in recent years. The project is set to deliver five new multi-week and seasonal forecast products relating to heat, cold and rainfall.

Read more about the project and the first forecasting products on the GRDC website >

## Soil Sampling Techniques for Fertiliser Management

**Micheal Zwar – Agtech Services**

With the price of fertiliser skyrocketing, many growers are asking how to best manage their inputs for maximum return, while reducing financial risk if it all turns pear-shaped.

There are several ways to collect soil data for fertiliser decisions. These include a paddock average test, grid sampling or zone sampling. A paddock average test is the more traditional way of soil sampling, where a number of samples are taken across a field, mixed together and one average sample is taken away for analysis. It is important to remember this is an average, and some parts of the field will likely have higher and lower readings.

Grid sampling is the process of dividing the field into a grid, typically 1ha in size. A sample is then taken from each grid point and is used to produce a nutrient map. I.e. A sample is taken every 100x100m and each sample is analysed individually. This is a great way to start a variable rate program with a baseline of nutrient levels across a field. This will identify areas with high or low nutrient levels and allow appropriate action to be taken to maximise fertiliser use.

Zone sampling uses another data layer to identify areas where samples should be taken. A data layer such as a yield, protein, pH or EM38 can be used. For example, a yield map could be used to target low, medium and high yielding zones. Samples are then taken in each of the zones. This will identify if a nutrient deficiency is holding the low yielding areas back or if there is another underlying constraint. Depth can vary, depending on the nutrient being tested. Generally, for Phosphorus, a sampling depth of 10cm is used and for Nitrogen, the "Deep-N" method is used to test down to 60cm.

It is recommended to discuss your options with your agronomist to find the 'best fit' approach to your soil sampling and analysis requirements. Now is the perfect time to think about your sampling plans for 2022 and have your agronomist or sampling contractor booked in ready to go. If you are going to collect your own samples, check with your laboratory if they have specific requirements or sampling bags they prefer you use. Some will have barcoded sample bags they require the samples to be sent in. Take a record of your sample location and if using the field average method, be sure to collect a sample that represents the whole area being investigated and mix it thoroughly. A heavy-duty paint or mortar mixer in a cordless drill is great for this. With the price of fertiliser being up, it is expected laboratories will be running at maximum capacity and longer waiting times for results are likely in the new year.

If you have any questions, please do not hesitate to contact me on 0407 030 244.

*These articles were supplied and not endorsed by UNFS*

## Upcoming Workshops

### Tools Tech and Transformation – UNFS and its HUBS 2022

**Aims:**

A full day event aimed at increasing knowledge of and exposure to new tools, technologies and systems that intend to improve sustainability, efficiencies, and productivity of our farming enterprises, resulting in an overall improvement in the resilience in the people, businesses and landscape of the Upper North Region.

1. Bring innovations in on-farm tools, technology and systems to the Upper North to create opportunities for farmers to connect with service providers, researchers and others interested in bringing these novel or evolved systems to the region.
2. Tools – New seeding, harvest, spray, yard, shed tools aimed at improving efficiencies, sustainability and outcomes of operations for the overall resilience of the enterprise.
3. Tech – Technology evolutions and business systems that have the potential to evolve the operations of farms and farmers in the Upper North.
4. Transformation – Systems and Support to enable principals and possibilities to be implemented in the Upper North.
5. Foster supportive networks of farmers enabling them to navigate the processes of implementation and change together.
6. Utilising the established network of UNFS Hubs to review the year that was and identify opportunities for improvement and change.
7. Provide opportunities for small group focussed training and planning activities.
8. Provide opportunities to build and strengthen the social fabric of small farming communities to build resilience with the ability to adapt and change to the evolving economic and climatic environment.

### Pre-season hub meetings

The team at Upper North Farming Systems will be travelling around the region visiting each hub to have a pre-season catch up, present research findings from 2021 and also gain any insight on future research areas within the Upper North region.

The aim of these workshops will be to review and present results and findings from 2021 trials, review and discuss end-of-season issues and a deep dive into planning and plotting new tech, tools and system implementation in the region. These will be half day events with a key note speaker discussing a topic that has been chosen by the hub for each region. We look forward to seeing you all there.

Australian Government
Department of Agriculture, Water and the Environment
Future Drought Fund

# Useful Farming Apps

At our most recent Operations Committee Meeting, members mentioned that there are some ripper farming apps out and about. However, it is always hard to find them or know if they are any good. So our Operations Committee Members have come up with this list of apps they like to use. Hopefully you find something here to help you with your day to day operations!

If you can add to this list, let us know by emailing morgan@unfs.com.au

| | | |
|---|---|---|
|  | MyHARDI | An electronic nozzle chart to check that you're using the correct nozzles for your target rate and ground speed. Also tells you what pressure your boom should be running at with a particular rate, speed and nozzle size. |
|  | Rain log Pro | Can store multiple rain gauge data, backup to cloud, set growing season months etc to keep track of totals, compare year/month rainfall. |
|  | My Lightning tracker | Alerts if there is lightning within a user defined radius, shows where lightning has hit. Good for watching storms approaching etc |
|  | Microsoft To Do | Have multiple task lists for different things (machinery, fencing, bills, boundary mapping etc), tick them off as you do them. Set due dates and reminders, can include photos and documents. |
|  | Viterra/GrainFlow | Digital grain deliveries, keep track of how much grain has been delivered, transfer grain from warehouse to cash. |
|  | Convert Units | Converts between different unit types ie metric/imperial for all kinds of measurements. |
|  | LTEM Lifetime Ewe Management | Calculate food on offer in paddocks and keep track of condition scores for different flocks. You can also work on target CS and energy requirements. |
|  | Australian CliMate | Climate tools to help make decisions. |
|  | Map marker | Free app and has a satellite image on which you can place marker points to return to in the future. Marker points can be arranged into different folders and different colours within folders. Great for marking boxthorns, reefs, wild dog traps, sick immobilised animals, rabbit burrows to go back and rip, fallen trees to go back and cut up, etc. |

| | | |
|---|---|---|
|  | GPS Fields Area Measure | Free app and has a satellite image on which you can measure areas and distances. Can be done by marking points by hand, or can record while you are driving along. Great for measuring areas of unknown paddocks, planning fence lines, etc. Can calculate any shape, curved lines, etc. |
|  | Drought Feed Calculator | Free app, from NSW department of agriculture. Great for comparing different feeds, to see which is the most cost effective of different options and different mixes, after you input known factors such as price per tonne, protein etc. |
|  | GPS Speedometer | Free app shows you current speed, average speed, maximum speed, and distance. Great for when you are in a vehicle without a speedometer or odometer but need to know speed or distance for whatever reason. |
|  | ProductionWise | Used for keeping records relating to your cropping operation, spraying weather readings, chemical rates and batch numbers, harvest yields, etc. Can also be used for calculating gross margins. |
|  | AgriWebb | One stop shop for all livestock and cropping records. It also allows you to build a farm map, add inventories with pricing which allows you to generate gross margins and enterprise reports etc. This is a paid subscription. |
|  | Visual Counter | Take a photo then you can zoom in and count things by pressing on each individual item. |
|  | Canopeo | Take a photo of your crop and it gives you a percentage of ground cover. Can be used to compare crop germination with different press wheel types on an air seeder. |
|  | Auctions Plus | Great for getting a feel for the markets and can you can watch the market live without even going |
|  | Soil Water | Estimates current and future soil water using BOM. Interesting to pair with local soil moisture probes, particularly for in season decision making. |

# SOMETHING FESTIVE

From all of us at UNFS, we want to wish you all a safe and productive harvest and a very Merry and restful Christmas. May it be filled with laughter, good food and those that make you wear that goofy smile that you just can't take off your face! We thought we would share some Christmas Recipes to help inspire you or give you something to look forward to while on the header or waiting in the silo lines!

## Christmas Favourites

### Tim Tam Pavlova

You can't get more Australian than this recipe for Christmas!!

Follow the link for all the details

### BBQ asparagus, zucchini and snow pea salad

Just love the traditional Christmas colours in this salad!!

A great addition to the table, and one to have with all those cold leftovers for dinner

Follow the link for all the details.

### Vanilla and Cinnamon Shortbread Stars

Christmas isn't Christmas without shortbread

Follow the link for all the details

# Upcoming Events Calendar

| Date | Event | Details/Contact |
|---|---|---|
| **January** | | |
| 18th | Summer Fallow Herbicide Workshop | Email: grdc@grdc.com.au |
| **February** | | |
| 1st & 2nd | UNFS Producer Tech Updates | Jessica.breezyhill@outlook.com |
| 8-9th | GRDC Grains Research Update —Adelaide | Matt McCarthy. admin@orm.com.au |
| 10th | GRCD Grains Research Update —District Hall, 11 Main Street, Spalding SA | Matt McCarthy. admin@orm.com.au |
| 17th | UNFS Tools, Technology and Transformation Agtech Day | morgan@unfs.com |
| 18th | SANTFA Annual Conference - Clare sports club | admin@santfa.com.au |
| 21-22nd | WoTL's (Women Together Learning) Thriving Women 2022 Conference | Apply online at https://landscape.smartygrants.com.au/ThrivingWomen2022 |
| 25th | Growing SA Conference | Growingsa.com.au |
| 25th | On farm Grain Storage Workshop | grain@pinionadvisory.com |
| **March** | | |
| Various | UNFS Hub Pre-Season Meetings | UNFS Hub Reps or Morgan McCallum |
| 24th | UNFS Trial Planning Meeting | jade@unfs.com |

## UNFS 2021 Members Expo Photo Board - In the paddock









## Funding Bodies

SAGIT

Government of South Australia

SARDI Research and Development Institute

The University of Adelaide

GRDC Grains Research & Development Corporation

Primary Industries & Regions SA PIRSA

BCG shared solutions

Mallee Sustainable Farming

Australian Government Department of Agriculture

NRI Northern Ag NRI

Ag Excellence Alliance

NRM Landscape South Australia Northern and Yorke

Mixed Cover Crops for Sustainable Farming

AgriFutures Australia

Australian Government Department of Agriculture, Water and the Environment

Future Drought Fund

mla Meat & Livestock Australia

awi | sheep connect south australia

SA Sheep Industry Fund

SA Cattle Industry Fund

Government of South Australia Department of Primary Industries and Regions

## Delivery Partners

NRI Northern Ag NRI

pinion Advisory

Greening Australia

Rufous & Co

Elders

South Australia

Government of South Australia Department for Environment and Water

YP AG

NR AG

AgXtra

SARDI Research and Development Institute

Nutrien Ag Solutions

Breezy Hill Precision Ag Services

SPAA Society of Precision Agriculture Australia

AC Ag Consulting

Ag Excellence Alliance

agcommunicators.

agbyte

Field Systems

Agricultural Consulting & Research

AGTECH Services — Your Precision Ag Specialists

## Diamond Sponsors

TOPCON

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## Gold Sponsor

AGT

## Silver Sponsors

NRI Northern Ag NRI

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Grain Growers

INTERGRAIN

E.P.I.C — Local People servicing local growers

DAN VHP

## Bronze Sponsors

PERRYS fuel distributors since 1949

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Seed Force — the power to grow

Global Grain Genetics

nab

Flinders Machinery

New Holland Agriculture

# Upper North Farming Systems

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