



UNFS Newsletter October 2026 Edition



Dear Members

Welcome to the **October 2026 UNFS newsletter**. This edition brings together the season outlook, events and project updates from across the Upper North. Wishing you all a safe and successful harvest.

Index

[Intro: Season Summary](#)

Project Updates:

[Lentil & Canola Time Of Sowing Trial](#)

[Frost Trial Update](#)

[Farming Systems Update](#)

[RiskWi\\$e Yield Prophet®](#)

[Summary](#)

Recent Events Recap:

[Annual Expo](#)

[Niel Wandel Dinner Events](#)

[Crop Walks](#)

Other Resources:

[White Grain Disorder Article](#)

[Locust Update Link - PIRSA](#)

[Sponsors](#)

INTRODUCTION:

A Big Season Ahead Across the Region

Above average rains were welcomed across the UNFS region throughout August, however rainfall over the past month has reduced. While crops accumulated a high level of biomass and hence yield potential, we are beginning to see signs of moisture stress in areas. Despite this, the harvest outlook is still overall promising. Below is a year-to-date season summary for Booleroo, Jamestown and Wandearah, to give context when reading further about how this year's trials are tracking.

Booleroo

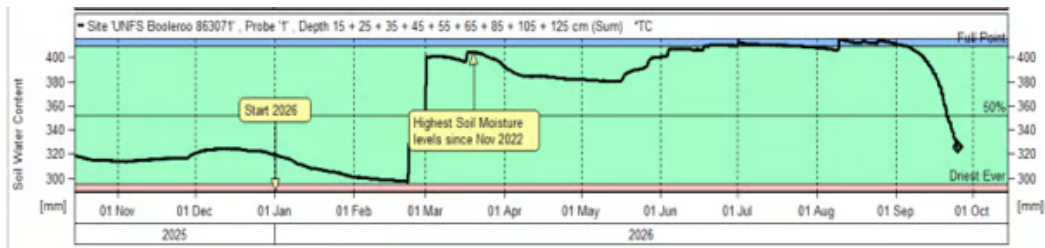
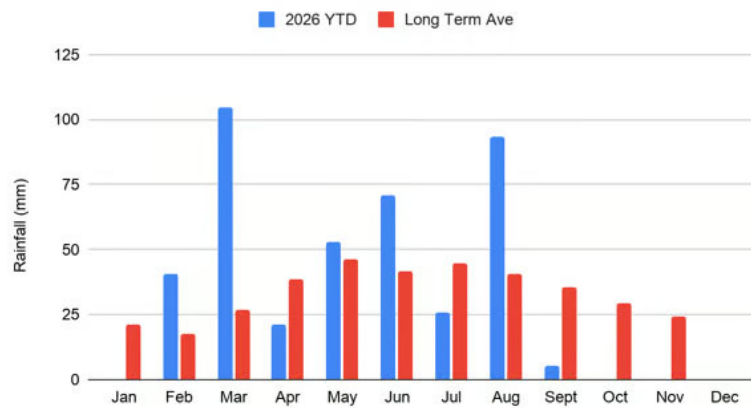
The Booleroo rainfall data, recorded at the local post office by BOM, shows that year to date the town has received 414 mm, compared to the long-term average of 389 mm, as illustrated in the graph below. This year was the first early break for the region in a long time, providing an excellent opportunity to knock weeds prior to the cropping phase. Overall rainfall was consistent between March to August, unlike 2022 and 2016 where although the yearly total was above average, the majority of it fell toward the end of the season after yield potential was set / tillering had been completed. This is providing a lot of optimism for the region for a big harvest, despite the drying conditions at the moment. Additionally, not far from Booleroo, Melrose, has experienced some huge rainfall totals - currently sitting at 592 mm year to date.

Crops are now all out in head across the Booleroo region and hay has been coming down for a few weeks now, potentially a little bit earlier than normal to avoid the risk of lodging due to this year's thick crops. All crops have required extra fungicides this season due to heightened disease risk.

Around Orroroo and Yatina it is the best it has looked for several years with everyone feeling optimistic at the moment. There are still challenges around disease management that are not typically encountered in this district and like elsewhere, issues associated with trafficking paddocks have been encountered throughout the winter period too. Sheep feed has been fantastic and lambing percentages have been well above average. Increased input prices at the beginning of the season, including fertiliser and diesel, has meant that above average yields were required and there is still talk of growers cutting back cropping hectares due to potential on-going high input prices.

Another issue has been that it has been difficult to capitalise on the great season due to inability to get hold of livestock to take advantage of the feed. Where sheep couldn't be acquired, some locals have instead purchased cattle.

Booleroo BOM Rainfall Data



The above graph shows the soil moisture probe data from the UNFS site on the outskirts of Booleroo. It is showing the profile reached the highest it has been since 2022 back in mid-March. It maintained high levels of soil moisture throughout winter but has begun to drop since the beginning of September.

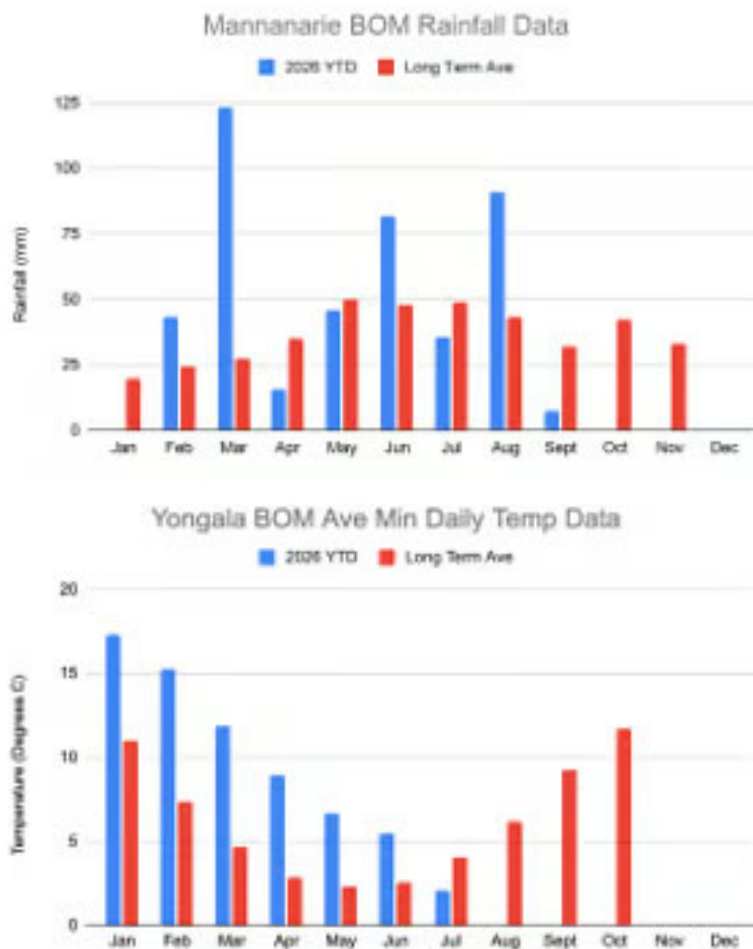
Jamestown

The Jamestown rainfall data, recorded 20.2 km's North of Jamestown by the local BOM station at Mannanarie, shows a similar trend to Booleroo, with above average or average monthly rainfall totals for much of the year to date, shown in the below graph (LHS). Year to date, the station has recorded 442 mm, with the long term yearly average sitting at 429.2 mm.

Soil profiles have been consistently close to full across the majority of soil types, with growers having struggled to get onto paddocks to spray, between weather events throughout August - what a fantastic problem have had!

Disease has been a big focus this season, with even canola crops having received a fungicide with concerns of black leg and sclerotinia, something we would typically not be concerned about in this area due to our typical colder conditions.

However, this season has shown above average temperatures, as illustrated in the below graph (RHS). With warmer temperatures, growers have noticed increased efficacy of herbicides, increased germination rates (of both weeds and crop) and crops have moved through the growth stages through winter much quicker than typical for this typically cold area.



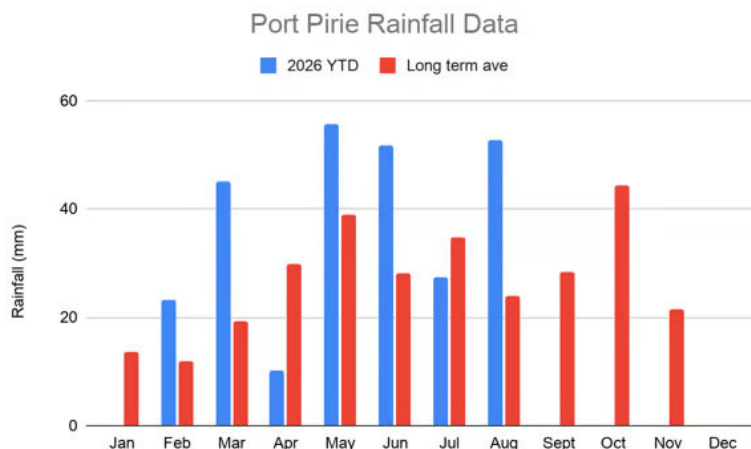
Wandearah

Like the rest of the UNFS region, west of the rangers have received good rainfall totals overall, shown in the below graph, which uses the Port Pirie BOM site data. When considering the overall region, north of Pirie has experienced greater rainfall totals compared to the south side and hence expect higher yields. Another defining factor of the year is above average temperatures accompanied by mild conditions at the start of the season, then switching to cooler temperatures during June and July due to increased cloud cover. Unlike other seasons, crops did not move through the growth stages as quickly throughout Winter due to these temperatures.

This year there was a large range of germination dates, with crops sown prior to the end of April getting up much sooner than later sown crops, which did not germinate until late May. Despite this, generally speaking the area is looking incredibly good, with some areas expecting the best harvest on record, and others anticipating above average-to-average yields.

Like everywhere, disease has been a big discussion point this season. Lentils are showing issues with grey mould, due to thick canopies. In areas, lentil paddock have received up to five fungicides, with disease still prevalent. Barley crops have been hit hard across the region by leaf rust, with areas that have not been sprayed showing complete leaf loss and hence large yield penalties due to the disease.

Cereal crops are out in head and filling, with lentil paddocks having been flowering for months now and at late pod fill. There are also some harvesting north of Pirie, with the south gearing up for harvest soon.



Summary

This season, it feels like the boom sprays have not stopped. Initially killing weeds over the summer months, with issues around ryegrass control, meaning some areas had to spray paddocks up to 3 times prior to seeding knockdown / pre-em timing. Then in crop weeds and fungicides have been non-stop ever since.

Looking forward, it will be important to keep an eye out for plague locusts. Read our article below for more information on this.

If you would like to keep tracking soil moisture probe data visit the Upper North Farming Systems Weather Station Network via this link;
<https://bushlinx.au/dashboard>

All the best to our UNFS members for the up-coming harvest. We look forward to collecting our final results for this year's trials to share with you.

[Back to top](#)

PROJECT UPDATES

Lentil & Canola Time of Sowing Trial Update

The exceptional late summer rainfall received across the Upper North in February and March provided a rare opportunity to investigate a question many growers have considered after several dry seasons: how early is too early to sow a break crop?

The GRDC NGN project '*Taking advantage of late summer rainfall for lentil and canola production in the Upper North*' has trials established in

2026 at Jamestown and Booleroo Centre by local trial managers Trengove Consulting.

The trials are comparing three sowing times - late March, late April and mid-May - across a range of lentil and canola varieties with seeding rates and nitrogen rates treatments. Stuart Sherriff from Trengove Consulting joined us at crop walks held at Jamestown and Booleroo in September which gave growers the opportunity to inspect the trials, discuss the season and see first-hand the challenges and opportunities associated with very early sowing.

Disease management has emerged as a key consideration in early-sown lentils. Despite an intensive fungicide program at the trial sites, including three fungicide applications, Botrytis grey mould (BGM) was evident through the canopy in some varieties. PBA Highland XT and GIA Lightning, both rated moderately susceptible to BGM, showed more disease, while GIA Thunder, rated MRMS, had considerably lower levels of disease.

This highlights the importance of variety disease ratings and an appropriate fungicide strategy when considering early sowing. If the Upper North had experienced a wetter finish later in the season, disease progression could have had a more significant impact on grain yield.

Another strategy for reducing disease risk when early sowing is to reduce plant density & potentially grow lentils on wide row spacings. The lower seeding rates (80 plants/m²) in the lentil treatments delayed canopy closure by around 2 weeks reducing the disease pressure and potentially delaying the first fungicide application. Although all fungicides at the sites were applied at the same time in the experiments. Row spacing is not a variable being tested this season.

Frost has also provided an important point of difference between the sites. Through July and August there were 12 days below zero degrees at Booleroo. This caused many flowers in the early flowering lentils to abort with almost no pods being set during that time at Booleroo. The early sown canola had approximately 30cm of pod on the main stem by early August with many seeds being unviable at that time.

The lentils at Booleroo have since podded reasonably well but a minus 4 event at Booleroo on August 16th caused significant damage to pods near the top of the canopy, particularly for the earlier varieties Highland and Kelpie. These varieties appear to have almost finished flowering which may limit their recovery. The other varieties continue to flower at the time of writing.

TOS 1 canola recovery from the earlier podding frosts appears to be good with many viable pods present on branches surrounding the earlier frosted pods. Like the early maturing lentils from TOS 1, the TOS 1 canola has all but finished flowering and won't be able to recover from another

major frost event should it occur.

Jamestown will provide an interesting comparison to Booleroo with the first day below zero occurring August 16th at -0.5 for 30 minutes, highlighting the difference between sites.

The early-sown canola has also faced challenges, including high Green Peach Aphid numbers and widespread Turnip Yellow Virus infection. The higher nitrogen treatments appeared to maintain greater crop vigour and showed fewer visible virus symptoms than the lower nutrition treatments, although this observation remains anecdotal until trial results are analysed.

It is important to consider total nitrogen requirements for early sowing canola as there is a likely to be an increased yield target that will need increased fertiliser nitrogen inputs to achieve.

For growers considering early sown lentils and canola, the emerging message from the trials is that early sowing can have a place as a break-crop option in the Upper North, but it needs to be carefully managed.

For lentils and canola, variety selection for disease resistance and maturity, and plant density, are important levers growers can use to manage the risks associated with early sowing. Early sowing can increase the demands for insect and weed control and may need increased inputs. It is very important to monitor canola crop development closely to ensure herbicide applications (such as clethodim) do not cause herbicide injury as with long days and warm temperatures, crop growth stages move rapidly through the early Autumn period.

As the crops move towards harvest, yield results will help determine how these different sowing times, varieties, nutrition and management strategies have performed across the two sites.

Lentils & Canola Time of Sowing Trial



Photo 1: Stuart Sherriff in Tos Canola plots



Photo 2: Booleroo Crop Walk 18 Sep.



Photo 3: Tos (14 May) PBA Metro photo taken 18 Sep.



[Back to top](#)

Frost Trial Update

Strategies for mitigating frost damage in the Upper North Region.

Location: Pete Kitschke's Farm, Jamestown.

Local Trial Managers: Stefan Schmitt (Agricultural Consulting and Research) and Mick Faulkner

Project title: Strategies for mitigating frost damage in the Upper North Region.

The frost trial is in its third and final year this season. During this time, UNFS have primarily investigated how sowing time (early and main) in combination with (??) cultivar can manipulate the flowering window to reduce the likelihood of crops being frosted. Two zones were established, with three replicates within each. The first zone - referred to as the red zone - was placed in a high frost risk area. The second zone - referred to as the green zone - was placed on the upper slope, out of the high frost risk, although it does still possess some risk. Temperature data and plant growth stages have been recorded weekly throughout the lifetime of this trial. Additionally, biomass cuts have been taken to assess how frosted crops would perform if cut for hay.

2026 Trial Details

Sowing times

- 25th April (Early)

- 16th May (Main)

Table 1: Treatments

Crop	Variety	Breeder	Maturity	Key note
Oats	Archer	InterGrain	Mid	
Oats	Kingbale	InterGrain	Mid	Single-gene IMI
Oats	Koala	SARDI / Seednet	Quick–mid	Milling oat
Wheat	Bale	Longreach	Slow	Awnless
Wheat	Rockstar	InterGrain	Mid–slow	
Wheat	Vixen	InterGrain	Quick	
Wheat	Mohawk	Longreach	Quick	Winter; early TOS; requires vernalisation
Barley	Rocket CL	InterGrain	Very quick–quick	Similar to barley maturity
Wheat	Shotgun	AGT	Mid	
Wheat	LRPB Hurdle	Longreach	Mid	
Wheat mix	Mohawk / Calibre		Calibre: quick–mid; Mohawk: quick (winter)	
Barley	Commodus	InterGrain	Very quick–quick	
Barley	AGT coded 1	AGT	Winter barley	
Barley	AGT coded 2	AGT	Winter barley	

Results to date:

There have been four extreme frost events, six frost events and six mild frost events to date. During this time period, in the very early and early time of sowing Tomahawk, Rocket, LRPB Hurdle, Vixen and Commodus were in the critical flowering window. Of these varieties, Tomahawk, Rocket and LRPB Hurdle are showing signs of frost damage, as shown in the photos below.

Date	Minimum (°C)	Time below –2 °C
1 Aug	–4.5	7.5 hours
15 Sept	–4.5	6 hours
2 Aug	–3.0	2.5 hours
18 Sept	–3.0	2 hours
4 Aug	–2.5	<2 hours
9 Sept	–2.5	
31 Jul	–2	
26 Aug	–2	
16 Sept	–2	
17 Sept	–2	
14 Aug	–1	
4 Jul	–0.5	
6 Jul	0	
26 Jul	0	
5 Aug	0	
6 Aug	0	

Table 1. Red zone frost event dates, lowest temp and duration below -2 degrees at 1.2 m above ground height.

Frost Trial



Photo 1: Very Early Sown - 1 April. Tomahawk - frost affected. Photo 27-Aug. Red zone.

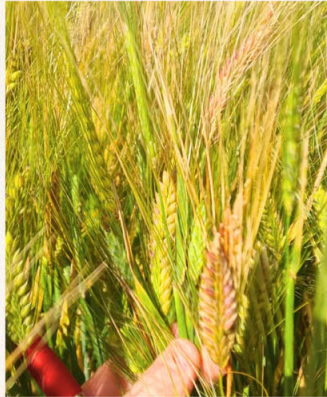


Photo 2: Very early sown (1 April) Rocket showing signs of frosting. Photo taken 16 Sep.



Photo 3: Early sown (25 April) LRPB Hurdle (previously referred to as LPB21-34503) showing signs of frosting in approx 15% of heads. Photo taken 11 Sep and a likely frost event occurred 26 Aug.

Crop Walk Key Discussion:

On Friday, UNFS held the Jamestown Spring Crop Walk, visiting the Lentil and Canola Time of Sowing trial and the frost site. At the frost site there was robust discussion on the newest research in the frost space, including new understandings on how frost occurs and the influence of ice-nucleating bacteria on the threshold at which plants will freeze, causing damage. Work has been conducted out of WA, in the controlled environment of freezers, looking at thresholds of leaf tissue freezing +/- the presence of this bacteria and protein. Learnings indicate that temperature is only one aspect of this frost threshold, and the bacteria, which is present in the atmosphere and on dead plant tissue (such as old stubble or plant leaves) will have a major influence on whether crops encounter damage. This year lab testing indicates the bacteria population is low.

Lastly, we asked Mick how he would manage the frost site paddock if it were his. Below is his response:

1. Look at historic yield maps to assess how much the paddock is impacted by frosts. This will help to determine zones too.
 - a) Red zone - frosted more often than not and unwilling to take risks here because it is not often it will pay off.
 - b) Amber Zone - can still get frosted but willing to take more risks here because it can pay off some years.
 - c) Green zone - unlimited by frost events, manage as normal.
2. Select a pulse crop as the first part of the rotation
 - a) If the enterprise has livestock vetch is the obvious low-risk choice when considering frost.
 - b) Otherwise, beans are the most frost tolerant of the legumes. Lentils

could be considered due to gross margins pending season.

3. Would be willing to try canola due to indeterminate flowering type.

This means if there is a frost during flowering the plant can push out new flowers and try again.

4. Consider alternate options to traditional wheat and barley varieties.

Look at awnless options that could be cut for hay if frosted, or consider winter and photoperiod-sensitive varieties.

Understanding cereal variety types:

Winter varieties (Mohawk) - require a period of cold weather to trigger flowering.

Photoperiod-sensitive varieties - Flowering is influenced by day length. These varieties respond to changes in daylight, helping flowering occur at the appropriate time around seasonal conditions.

There is still a yield penalty associated with the addition of the above traits. However, they allow growers to open the flowering window to spread risk. There is however generally a 21-day variation in the flowering window, pending seasonal conditions.

Awnless varieties (Bale) - Have little or no awns meaning it can be either reaped for grain or cut for hay in a frost event. More marketable to the hay market when compared to conventional awned varieties.

We look forward to releasing results from this site at the end of the year, collating all three years' worth of findings to help support management of your red zones.



[Back to top](#)

Farming Systems Update

Appila Farming Systems Trial: 2026 In-Season Observation Summary.

Location:

Heaslip Family, Appila

Local Trial Managers:

University of Adelaide, AgXtra, Stefan Schmitt (Agricultural Consulting and Research)

Project Title:

Enterprise choice and sequence strategies that drive sustainable and profitable southern Australian farming systems.

Trial Details:

This project, currently in its 4th and final year, explores how different enterprise choices and crop sequence strategies can influence the sustainability, resilience and profitability of farming systems in southern Australia.

There are **9 sites in total** in the project network across South Australia and Victoria. They comprise of:

- **4 core sites** — Hart (SA), Manangatang (Vic), Birchip (Vic) and Streatham (Vic)
- **5 satellite sites** — Appila (SA), Wallup (Vic), Edillilie (SA), Warrambine (Vic) and Roseworthy (SA).

The project compares alternative rotations and management approaches to identify farming systems that can better balance productivity, risk and long-term soil and resource health. Below are the rotations that have been investigated as part of the Upper North satellite site:

System	Focus	Rotation
Baseline		Vetch(grazed) - Volga Wheat - Tomahawk CL Barley - Bunyip IA
High-risk alternative 1	High pulse frequency	Lentil - Thunder CL Wheat - Tomahawk CL
Higher-risk alternative 2	High value crops	Lentil - Thunder CL Canola - PY421C CL Wheat1 - Tomahawk CL Wheat2 - Tomahawk CL
Lower-risk 1 alternative	Crop end use	Oats+Vetch hay Wheat1 - Tomahawk CL Wheat2 - Tomahawk CL
Responsive 1	Risk averse	Decided at break of season annually
Responsive 2	Risk tolerant	Wheat - Tomahawk CL Dual Purpose Canola – Hyola Feast

Discussion:

Below is a summary of in paddock observations, taken on Wednesday the 23rd of September. Legume plots were just prior to first pod development, canola plots were 50% pod and still flowering and cereals were approaching flowering.

- Rotations with a higher pulse frequency, such as the lentil-wheat-lentil rotation, are starting to have a negative effect on soil properties. Reduced cover is increasing surface crusting and furrow collapse at seeding. These plots are noticeably patchier than rotations with a higher frequency of cereals.

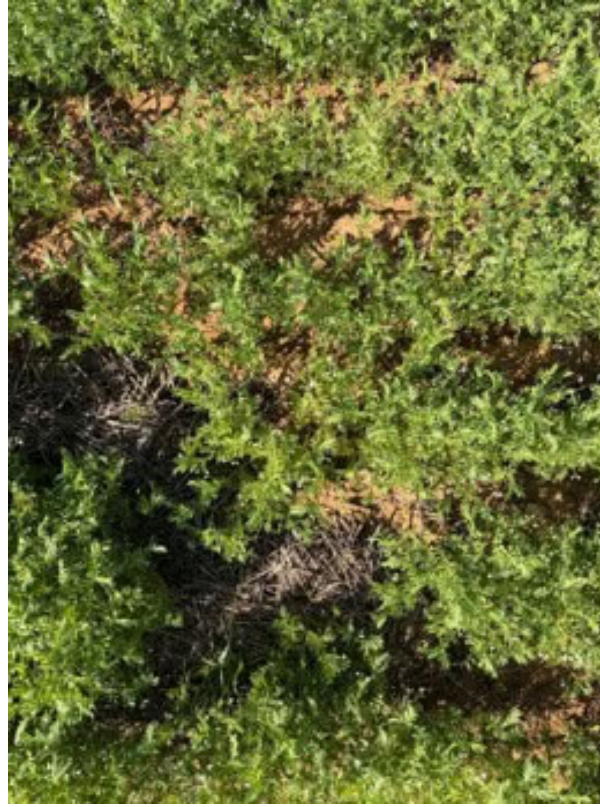


Photo 1. Lentil plot showing areas where establishment were poor at the beginning of the season - taken 23rd Sept.

However, rotations with a higher frequency of pulses, lentil-wheat-lentil and vetch-wheat-barley – visibly have better N nutrition compared to other rotations.

When comparing legume options - lentil vs. vetch - lentils appear to have been negatively impacted by salinity and lack of stubble cover. Additionally, it appears that legacy lentil plots from last year have fixed less nitrogen compared to vetch plots. Vetch would seem more adapted to this environment, without taking into account gross margins.

Bunyip barley grown in the vetch-wheat-barley rotation is not the highest yielding or biomass-producing variety available, which is obvious when looking over the plot at this time of year. However, it was required in this system to manage barley grass populations, which was becoming an issue for this rotation. Bunyip is a dual herbicide-tolerant barley with combined IMI tolerance and tolerance to the Group 1 herbicide Aggressor. The barley grass management strategy in this system is to grow an IMI wheat (Tomahawk) and apply Clearfield herbicides in that phase, then follow with Bunyip barley and use Aggressor to control barley grass, which does not have a plant-back restriction for the vetch to follow.

The oats / vetch hay rotation has appeared to increase barley grass burden due to no available chemistry options to control in season. This rotation is reliant in cutting hay prior to barley grass seed set, which is not always effective. This would become a long-term issue if we don't manage this in other parts of the system.

Wheat on canola is looking quite good. It is expected to yield lower

compared to wheat on pulses, as canola generally leaves less soil water due to deeper extraction and no N benefit, unlike pulses. Despite this, wheat on canola is still looking good to date. It is suspected that biopores in this compacted soil type have allowed deeper rooting depth and subsequent moisture extraction of following crops.

Wheat on wheat disease levels are acceptable. Septoria and yellow leaf spot are not an issue despite no GS31 (stem elongation) fungicide. Where wheat has been grown four years in a row (buffers), there is a higher level of yellow leaf spot and poorer nutrition. Despite this they are still expected to yield okay.



Photo 2. Buffer plot (LHS) which has been sown to wheat for all four years of the trial compared to a wheat on lentil stubble (RHS), demonstrating differences in disease burden and legacy nitrogen. Photos taken 23 Sept.

Grazed dual purpose canola (Hyola Feast) has recovered well and is starting to flower. It looks to have around half the biomass compared to the Clearfield canola. It was estimated that this will yield around half of the ungrazed canola plots, but it would have filled an early feed gap for enterprises with livestock, which will be of value.



Photo 3. Canola plot that had simulated grazing in response to the high biomass year. Photos taken on the 23rd Sept.



[Back to top](#)

RiskWi\$e Yield Prophet® Simulations 2026

Locations:

- Ballantyne's property, near Laura.
- Brenton Vanstone's property, near Wandearah.

Local Trial Managers: Stefan Schmitt (Agricultural Consulting and Research) and Ziek Kay (Kay Ag Consulting)

Project title: Delivered as part of the Ri\$kWi\$e Project, funded by GRDC.

The two 2026 UNFS Yield Prophet® focus paddocks have provided a useful demonstration of how soil nitrogen, stored soil moisture and in-season rainfall interact to influence wheat yield potential throughout the season. They have provided a good contrast of managing a cereal on legume stubble vs cereal stubble in addition to how many different seasonal scenarios can play out and impact end yield potential. Below is a brief summary for each of the focus paddocks. For full monthly reports and more in-depth information on Yield Prophet®, visit the UNFS website.

Yield Prophet® reports will continue next year as part of the Ri\$kWi\$e project, with paddocks to be selected over the summer months.

Laura Focus Paddock Summary

The focus paddock, a reddish-brown alkaline loam over red alkaline clay, was sown to Tomahawk CL wheat on the 22nd of May, following lentils in 2025. Soil testing determined a high starting soil N of 268 kg N/ha to 90 cm, in addition to the 30 kg N/ha applied at sowing. Yield Prophet® indicated that nitrogen at this site was unlikely to be a yield limiting factor and no additional N was applied to this paddock throughout the season.

By the end of July, the paddock had only received an additional 16mm of rainfall for the month, bringing the total to 99mm. Despite the dry conditions, Yield Prophet® estimated 89mm was still available. The estimated yield at this point in the season was **3.5t/ha**, assuming **average rainfall** (decile 4-7) for the remainder of the growing season.

August rainfall significantly improved the outlook. The paddock received 64mm during the month, taking the annual rainfall to 248 mm and growing season to 163 mm. By the end of August, the average rainfall scenario had increased to a predicted yield of 4.1 t/ha. The model indicated, even under low rainfall conditions, that a yield of 3 - 3.3 t/ha was achievable when the model was run back at the beginning of the month.

As the crop is now moving through flowering and grain fill, the focus has shifted from rainfall and soil moisture content toward potential impacts of frost and heat stress. Current modelling suggests that the probability of heat stress is greater than a frost event. In the paddock we are observing the effects of heat stress via cured leaves. On review of the updated yield prophet predictions, the estimated average yield has reduced from 3 - 3.3 t/ha at the start of this month, down to 2.9 to 3 t/ha.

Table 1: Treatments
Yield Prediction



Key Takeaways from this site:

- High starting soil N meant no additional N was required in-season.

- Stored soil moisture provided an important buffer through the drier conditions experienced in winter.
- August rainfall substantially improved the outlook.
- As the season progresses, frost and heat-stress become the main focus.

Wandearah Focus Paddock Summary

The 2026 Yield Prophet focus paddock at Wandearah has highlighted the significant variability that can occur within a single paddock, and how Yield Prophet can help quantify both the opportunities and risks associated with seasonal conditions and nitrogen supply.

The focus paddock was sown to Commodus barley on the 4th of May and contains two distinct zones: a higher-producing loamy soil and a lower-lying saline area where elevated salts restrict crop growth and hence yield potential. Early-season rainfall was particularly favourable, with 23 mm recorded in February and 44 mm in March, helping to flush surface salts and improve crop establishment. By September, growing season rainfall had reached 183 mm and the crop was in good condition.

The two zones have significantly different N banks. In the higher-production zone, starting N was only 54 kg N/ha to 90 cm. Therefore, the modelling demonstrated a potentially substantial response to additional nitrogen. To capture the modelled average yield potential of 3.8 t/ha, an additional 72 kg N/ha - approx. 156 kg Urea / ha was required. At a urea price of \$1,000/t and barley valued at \$280/t, the model estimated an additional 2 t/ha of barley yield, or \$560/ha of additional income from spreading.

In contrast, the lower-productivity zone had more than 200 kg N/ha to 90 cm. However, much of this N is unlikely to be available to the crop due to salinity restricting rooting depth. Yield potential in this zone was determined to be primarily constrained by soil type, rather than nitrogen availability.

In early June, the modelled yield range for the higher productivity site ranged from 1.5 t/ha under a decile 1 finish up to 6.6 t/ha under a decile 10 finish. This range narrowed substantially by September, ranging from 4.5 t/ha to 5.3 t/ha. With an average finish from now it is predicted to achieve 4.7 t/ha. This is now unlikely to change as the crop is well into the grain-fill stage.

Key Takeaways from this site:

Large within-paddock variability meant nitrogen couldn't be managed uniformly across the whole paddock. The higher-productivity zone showed a strong potential response to nitrogen, whereas the saline flat already had sufficient N. Yield Prophet® demonstrated how the downside risk narrows as the season progresses, providing increased confidence around expected yields.

RECENT EVENTS RECAP

UNFS Annual Expo

It was great to deliver another successful UNFS Expo at Melrose this year. With Ed Scott facilitating the day, a strong line-up of speakers and a full room, we were set for a fantastic day of learning, knowledge sharing, research updates and catching up. We're very appreciative of the farmers and ag-industry representatives who joined us and helped make the day a success.

Michael Eyres opened the day with key learnings from the Rogue Tine Seeder Set-Up Workshops, sharing findings gathered across seven farms and a range of seeder types. His session highlighted the value of correct configuration and the practical differences observed between machines.

Stuart Sheriff followed with an update on the GRDC NGN Project, focusing on making the most of late summer rainfall for lentil and canola production. He shared early outcomes from the Booleroo and Jamestown trial sites, giving growers a clear picture of how seasonal conditions are influencing results.

Wes Matthews shared his journey so far at "Kooma View" – Koongawa SA, farming 1400 ha of sandy soils and the realities of managing low-rainfall country. He discussed the benefits of block farming, the value of networking, using AI & Verge Ag and simply having the "right tools" for the job. Wes also shared the practical detail on harvest angles, clay delving rates, and the importance of VPD-based precision when timing herbicide applications. Through the work he and his team have put in, he's shown what's possible when you lean into innovation and effort: turning marginal sandy soils into productive farming country.

Tom Gameau provided an interesting presentation on emissions accounting, emphasising that growers already have what they need to begin. He reinforced the value of focusing on emissions intensity (emissions per tonne of grain) rather than emissions alone, and outlined how different crops, such as canola, beans and lentils, vary in their emissions profiles due to fertiliser requirements.

After morning tea, Brendan Brown led an interactive GRDC RiskWi\$e session exploring head-heart-gut decision-making. Joined by Jess Koch and Ziek Kay, they unpacked how assumptions, seasonal experience and risk tolerance shape decisions, and why reviewing processes, not just outcomes, leads to better long-term decision-making. Jess highlighted

the renewed opportunity for N VRT this season, demonstrating how yield and protein maps can be used to build N removal and application maps, and how AI can interpret multi-year data across deciles to estimate economic return. Ziek reinforced the value of measurement, sharing an example from a high-N paddock at Laura where soil testing showed minimal additional N was required.

After a BBQ lunch generously provided by our sponsor NAB Jamestown, James Lines from Gum Hill Poll Merinos engaged the crowd with his AgTech and genetics journey, emphasising that data collection needs to be targeted, relevant to scale and tied to real decisions. He shared practical livestock examples, including growth rates, reproduction data and flock profiling, showing how good data supports better decisions in both good and lean years.

Shane Kelly then took attendees through the incredible story of Kelly Tillage, from the first prickle-chain prototype built in the farm workshop to the company's global growth. He spoke openly about grief, loss and the rhythm of farming life, the importance of strong relationships, and the challenges of forecasting risk and exposure in international markets. Shane reflected on succession, noting that their family began discussions long before it seemed necessary, and shared that the business has always been grounded with a core value of: *"We must care for our soil."*

We wrapped up the 2026 UNFS Expo with agronomist Chris Davey, who provided an update on emerging weed management challenges and resistance trends that growers need to be watching. Chris highlighted that the 2026 season provided a good opportunity to target capeweed, medic and marshmallow ahead of sowing, with double and triple-knock strategies performing strongly. He also discussed the continued rise of glyphosate-resistant ryegrass and the importance of resistance testing to understand what growers are dealing with – "better the devil you know."

Chris also touched on the implications of paraquat restrictions, noting that alternative chemistry options are likely to become available in the future, although new chemistry is expected to come at a higher cost. The session was highly interactive, with growers sharing their own experiences and questions around weed control, resistance and practical management strategies.

A great day all round, with valuable insights shared across agronomy, technology, decision-making, livestock, innovation and weed management.

Thank you to all presenters, attendees, sponsors and funding bodies who supported this event.



[Back to top](#)

Niel Wandel Dinner Events

Neil Wandel shares lessons from a lifetime in farming, business and succession.

Upper North Farming Systems members were privileged to hear from Western Australian farmer and businessman **Neil Wandel** at our dinner meetings in July, hosted by the Laura and Nelshaby Ag Bureaus. Neil's presentation was far more than a story of building a successful farming

enterprise - it was an honest reflection on resilience, calculated risk-taking, family, and the importance of planning for the next generation.

Like many pioneering families, they started with very little. Much of the land still required stumps to be cleared by a blade plough, and they relied on share farming and leasing country to build plant up and finally establish themselves to purchase more properties.

Neil grew up near Kybunga in South Australia before leaving school at just 14 years of age to work on the land. He credits his strong work ethic to his upbringing, where there was always work to be done and, after school each day, he and his siblings were expected to help with livestock, farm jobs and household chores. After spending twelve years shearing, Neil and his wife, Mary, moved to Esperance in 1978, attracted by the opportunities offered by Western Australia's developing agricultural region. Like many pioneering families, they started with very little. Much of the land still required stumps to be cleared with a blade plough before it could be farmed, and they gradually built their business through share farming and leasing land, reinvesting in machinery and infrastructure before eventually purchasing additional properties of their own.

Neil spoke candidly about the challenges of those early years. Sandy soils, unreliable seasons and periods of exceptionally high interest rates all placed enormous pressure on the young business. One particularly difficult harvest in 1980 saw one inch of rain fall each week for seven consecutive weeks, severely downgrading grain quality. However, Neil described 1989, during the wool crash, as the toughest period of his farming career. In the space of just ten days, the family was forced to destroy 4,000 sheep – animals he had spent years carefully breeding and classing. The experience tested his resilience more than any other challenge he had faced. Rather than dwelling on setbacks, Neil emphasised the importance of building strong relationships - with stock agents, land agents, financiers and advisers - and surrounding yourself with good people when making major business decisions.

Today, the Wandel family farming operation spans properties across contrasting rainfall zones, from approximately 300 mm annual rainfall in the north to 600 mm in the south. Expansion has been driven by careful financial management rather than rapid growth.

Innovation has also played an important role in the family's success. Neil was an early adopter of continuous cropping, commencing in 1988, and one of the first growers in his district to incorporate faba beans and other pulses into the rotation. He also spoke about identifying a local source of gypsum, significantly reducing input costs while improving soil management.

His talk also explored the development of **Esperance Quality Grains (EQG)**, the family grain storage and marketing business. Recognising that a significant proportion of grain delivered to the bulk handling system

was being downgraded, the family invested in cleaning, drying and storage infrastructure to capture additional value. What began as a solution to a local problem has grown into a major enterprise handling grain from across the region, demonstrating the value of identifying opportunities beyond the farm gate.

A valuable part of Neil's presentation centred on succession planning. He encouraged families to start discussing succession early and stressed that business structures should evolve as the next generation becomes involved. The Wandel family established an independent advisory board, drawing on external expertise to help guide strategic decisions and provide objective advice. Neil also acknowledged the critical role Mary has played throughout their journey, describing her as the steady influence behind the scenes and emphasising that choosing the right life partner is one of the most important decisions anyone in business will make.

Neil's practical, down-to-earth approach and willingness to openly share both successes and setbacks resonated strongly with attendees. His story served as a reminder that successful farming businesses are built over decades through sound decision-making, disciplined financial management, innovation, strong relationships and a clear vision for the future.

These events were supported by SA Drought Hub.

Neil Wandel & Nick Eyres Dinner and Talks - Nelshaby & Laura



Nick Eyres - *Improving nitrogen decisions: focusing on return on investment, not just yield.*

UNFS members recently had the opportunity to hear from Nick Eyres, agronomist and researcher with Greenough Specialty Ag in WA, as part of our recent dinner and guest speaker events. Nick shared insights from his research into nitrogen use efficiency (NUE), challenging growers to think beyond simply chasing higher yields and instead focus on the profitability

of nitrogen investments.

A key message from Nick's presentation was the importance of measuring return on investment (ROI) from nitrogen applications. While yield response is often the focus when assessing nitrogen decisions, Nick highlighted that the most profitable nitrogen strategy is not always the one producing the highest yield. Understanding the relationship between nitrogen applied, grain production, grain value and input costs provides a more accurate measure of whether additional nitrogen has delivered value.

Nick explained nitrogen use efficiency as the relationship between nitrogen inputs and grain output, helping growers understand how effectively applied nitrogen is converted into harvested grain. He encouraged growers to consider the cost of nitrogen against the value of additional grain produced, with grain quality and grain size also influencing the overall return.

A major focus of Nick's research has been understanding when crops are using nitrogen and how timing influences outcomes. He highlighted the importance of the Z30 growth stage (start of stem elongation) as a critical period for nitrogen uptake, with adequate nitrogen uptake prior to this stage supporting grain number development, the key driver of yield potential in the hands of the grower. This understanding helps growers manage the risk of nitrogen loss, and maximise return on investment with nitrogen applications.

A practical comparison of UAN and urea applications highlighted that there is no single "best" nitrogen source across all situations. The profitability of different nitrogen products depends on application timing, paddock conditions, seasonal outlook, losses and the crop's ability to utilise the available nitrogen. Nick emphasised that understanding the farming system and applying nitrogen strategically is more important than focusing solely on nitrogen rate or product choice.

Nick's key take-home messages included:

- Focus on nitrogen return on investment, not just yield response - applied in paddock, NUE is rate of applied N → grain number
- The nitrogen already available in the paddock is just as important as applied nitrogen, but may be available at the 'wrong time' for maximum yield.
- Timing of nitrogen application is critical, particularly around key crop development stages – prior to Z30 (stem elongation) is the critical timing for N uptake to generate grain number
- Season finish does 50% of the final yield, but is out of your hands - ROI will depend on your localised and/or expected finish conditions.

The presentation was supported through GRDC's RiskWi\$e project and provided valuable insights into making more informed nitrogen decisions in a challenging environment where input costs continue to rise and

seasonal variability increases. By focusing on efficiency, profitability and understanding crop demand, growers can better target nitrogen investment to maximise returns.



[Back to top](#)

2026 Crop Walks

September saw UNFS growers out and about across the Upper North, with three crop walks providing an opportunity to see trials firsthand, hear from leading agronomists and researchers, and discuss practical management options for the season.

Our Jamestown Crop Walk visited the GRDC NGN Time of Sowing trial at Henry Moore's, where Stuart Sherriff from Trengove Consulting discussed early-sown lentils and canola, followed by the SAGIT/GRDC Frost Management trial at Pete Kitschke's, with Mick Faulkner from Agrilink Agricultural Consultants sharing insights into managing frost risk through variety selection, sowing time and farming system strategies. Growers also had the opportunity to see Jordy Kitschke's FLUX sprayer in action.

At Booleroo, growers visited the GRDC Taking Advantage of Late Summer Rainfall trial and the GRDC NVT wheat site, with Craig Davis (Crop Consulting Co), Stuart Sherriff (Trengove Consulting) and Darcy and Callum from InterGrain. Seeing the range of maturity windows and varietal characteristics provided growers with more options when planning rotations and managing risk across the farm, helping to spread flowering and harvest windows and select varieties suited to different paddocks, seasons and farming systems.

The Nelshaby Crop Walk and Sticky Beak Day took a closer look at soils, starting with a soil pit at the GRDC-funded Heavy Soils project at Wandearah, hosted by Dr Mel Fraser. The group explored soil formation, salinity, soil structure and potential amelioration strategies before heading out on a bus tour to sites of interest, including the GRDC NVT site at Crystal Brook, where Ziek Kay (Kay Ag Consulting), Paul Telfer (AGT), Darcy Moore (InterGrain) and Larn McMurray (GIA) joined the group.

A big thank you to all of our guest speakers, trial hosts, growers and project partners for contributing to these days and sharing their knowledge and experiences. We also acknowledge the support of GRDC, SAGIT, SA Drought Hub and the Northern and Yorke Landscape Board, whose funding helped make these valuable grower activities possible.

These three events showcased the value of getting growers together in

the paddock, looking at trials, asking questions and sharing practical experiences - exactly what UNFS is all about.

Jamestown Crop Walk



Booleroo Crop Walk



Nelshaby Crop Walk



[Back to top](#)

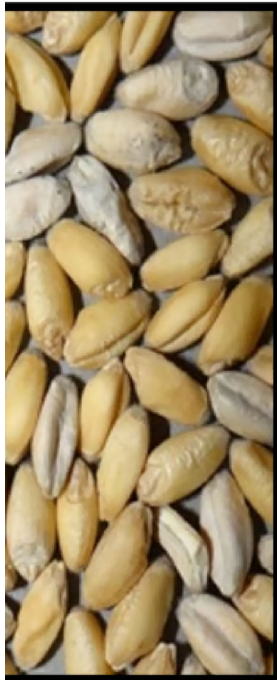
White grain disorder (WGD) in the Upper North 2011-2026

Authors: Tara Garrard (SARDI) and Margaret Evans (Evans consulting).

Funding: SAGIT project UAD 03023 “Improving industry response to white grain disorder and fusarium head blight outbreaks while protecting export markets.”

White grain disorder (WGD) poses a risk to Australia’s export markets and clean green image as the symptoms of this disease are very similar to those caused by *Fusarium graminearum* (fusarium head blight - FHB) which produces toxins at levels harmful to humans and stock. *F. pseudograminearum* and *F. culmorum* also produce FHB symptoms, but not toxins at harmful levels. There is no evidence to suggest that white grain in SA is associated with toxins. Grain receival standards allow a maximum of 1% of WGD affected grains in a sample - above this will not be accepted by export markets.

Bread wheat (worst affected), durum wheat, barley and triticale can be affected by WGD. Symptoms include pinched grey/white grain with shrivelled germ (seed will not germinate), scattered grey spikelets, and browning of the stem below the head. Infected stubble can produce spores for at least 24 months, with spores dispersed by rain-splash through-out the season. Air-borne spores that infect the grain are less common and mainly produced mid- to late-season.



2011 - first sighting of WGD in South Australia. In the Upper North (UN) 38,000 tonnes of grain affected by WGD were delivered to Viterra receival points (probably an under-estimate, as much of the badly affected grain would not have been delivered to silos). Infection rates in six UN grain samples ranged from 1% to 7%, (average 4%) - similar to levels seen in samples taken from 78 grain loads across the state, where only 9 samples had more than 7% of grain affected. These low rates of expression make WGD difficult to visually detect in the paddock and in grain samples (DNA assessment is most accurate - using the WGD probes developed for the PREDICTA B⁰ service after the first WGD outbreak).

2026. Most crops were sown early this year and these have come across conducive conditions that could have promoted WGD. Whether WGD expresses in grain or wheat crops develop grey heads this season will depend on the weather from now until harvest. Monitor weather conditions and check grain prior to/during harvest if there has been moisture during flowering and grain fill. This will allow informed decisions to be made about how to manage grain from affected crops.

Getting your samples tested. FHB has already been detected in paddocks on Eyre Peninsula, Yorke Peninsula and in the Mid North. This was confirmed through Biomeme testing and SARDI is happy to receive suspected samples to confirm FHB and WGD presence this year. Biomeme testing has a turn-around time of hours (not days). If you want to submit a sample send up to 500 g of symptomatic heads or grain to Tara Garrard, SARDI, PRC, 2A Hartley Grove, Urrbrae 5064. For more details contact Tara Garrard at tara.garrard@sa.gov.au.

A “slide-pack” with supporting reference material (PowerPoint file) has been compiled this year to inform Industry about WGD in the future.

2023-2025 - respite years. No reports of white grain disorder (WGD) and

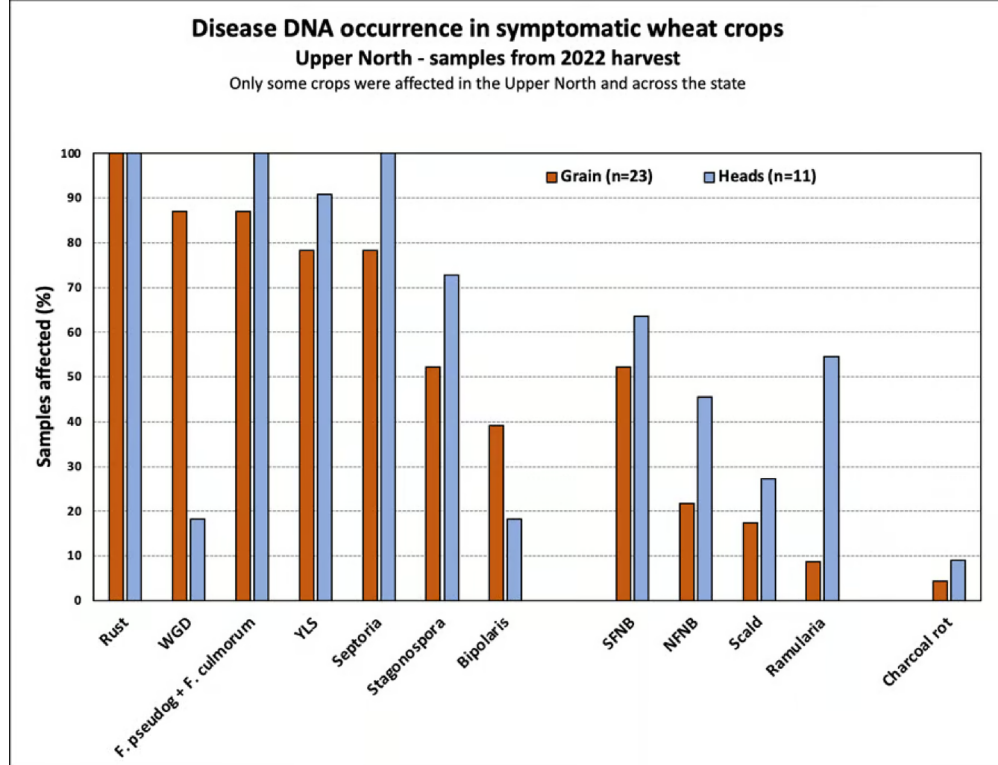
no abnormally high rainfall and humidity late in any season. During this period, 2022 grain and head samples were analysed and Biomeme testing has been developed to facilitate fast-turnaround DNA testing for pathogens in grain and head samples (hours not days).

2022 - a case of many culprits. Weather conditions were very wet and humid from flowering to harvest in 2022 and harvest was also delayed in many locations due to the weather conditions. Many (but not all) wheat crops developed a grey look at and after flowering, with individual heads looking grey/dark grey. Shrivelled grain was present and WGD was the prime suspect, but crop and grain symptoms were not typical of this disease.

Upper North grain samples (23) and head samples (11) were taken from visually affected wheat crops for DNA analysis at the SARDI Molecular Diagnostics Centre. Note that only some crops within the UN or across the state were affected by head greying and shrivelled grain.

Many pathogens were detected in the samples from affected wheat crops (see graph below) - including pathogens normally only seen on barley and legume crops.

Rust was detected in all grain and head samples. No *F. graminearum* (FHB) DNA was detected in grain or head samples. WGD, *F. pseudograminearum* (FHB), YLS and septoria pathogens were most common and occurred at about the same frequency in grain samples. Some results for heads differ from those of grain samples (particularly for WGD) - probably due to head and grain samples being taken from locations with different environmental conditions - head samples mostly from Laura & Crystal Brook; grain samples mostly from Booleroo Centre & Mannanarie.



2012-2021 - respite years. Only very occasional grain loads with WGD were seen and there was no WGD expression in many apparently conducive seasons. Much research was done during this period, including: correct identification of the WGD pathogens; developing WGD DNA probes; assessing management options (screening for varietal resistance; efficacy of fungicides; inter-row sowing; breaks from cereal); improving our understanding of WGD biology/life-cycle; developing spore trapping methods.

[Back to top](#)

PIRSA Locust Update

Locust activity continues to build across several South Australian regions, with recent surveillance and landholder reports confirming new hatchings, emerging hopper bands and increasing risk as the critical control window begins. With a strong cropping season underway, staying informed and acting early is essential. Read the latest update to understand current conditions, expected movement, and the support available to help landholders monitor, report and manage locust activity.

PIRSA biosecurity update

PIRSA LOCUST UPDATE

[Back to top](#)

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