

SCF *Focus*

STIRLINGS TO COAST FARMERS

SUMMER 2021 NEWSLETTER

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STIRLINGS TO COAST



FARMERS



JOTTINGS FROM THE CHAIR

Jon Beasley, SCF Chair

Hello Stirlings to Coast members and supporters,

This is my last newsletter to you all as I have stepped down from my role as Chair of the Stirlings to Coast board, as my wife and I are retiring after 20 years at Westfield and moving to Tasmania for a couple of years to enjoy a slower pace of life.

I have thoroughly enjoyed my association with Stirlings to Coast and my time as a board member and more recently Chair.

I would like to introduce Sandy Forbes, who I'm sure many of you will know. Sandy is taking up the reins of Chair. I believe Sandy will be a great asset to the group, and I would like to wish her all the very best going forward.

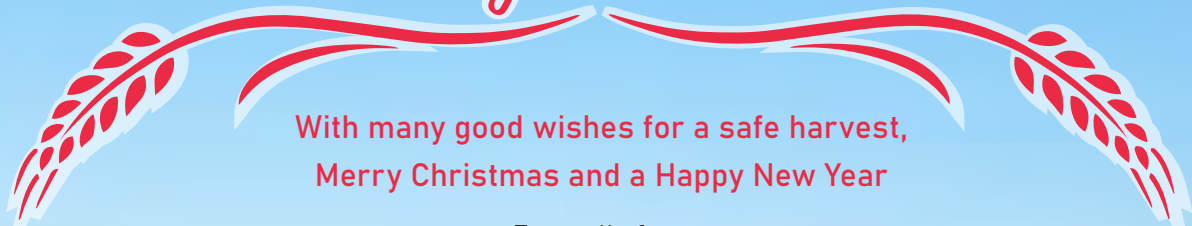
I would also like to welcome Jeremy Walker to the board.

A big thank you to Nathan and the wonderful staff at Stirlings to Coast, who do an incredible job, the board members, and the many members and sponsors who I have met during my time in the role.

As we head into December many of you will be in the throes of one of the busiest times of year with harvest and I wish you all Happy Harvesting, a very Merry Christmas and a safe and prosperous New Year.

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Merry Christmas



With many good wishes for a safe harvest,
Merry Christmas and a Happy New Year

From all of us at
Stirlings to Coast Farmers





CEO REPORT

Nathan Dovey, SCF CEO

Harvest has finally arrived, albeit with a bit of a sputtering start. It has been raining all year, so why would it stop now? I am sure you are all keen to get the grain off to start making next years plans. We have a mixed bag across our membership base, with some members looking to cash in on the extraordinary grain prices and solid yields, while others will be counting on those prices to bank as much money as possible. Some of the late sown crops are also finishing nicely, which is pleasing, given some were planted in August because of waterlogged soils.

At SCF, we have some new projects starting, which will interest a lot of members. The GRDC has invested in a summer cropping project. SCF is collaborating with Southern Dirt, Fitzgerald Biosphere, and the Facey Groups plus Nutrien Ag Solutions to look at different crops to capitalize on the extremely wet 2021 season. Members wanted to know the most profitable crops to grow when the winter crop has failed. Do you plant a late conventional crop like wheat, barley or canola, or do you opt for a summer forage crop to fatten livestock? There is not much data to guide decision making for seasons like 2021! This project will improve our agronomy on these crops and help future decisions in really wet seasons.

SCF has also been asked to participate in a GRDC invested harvest losses project. We are working with other grower groups across WA to establish benchmark numbers for losses in wheat, barley, canola, oats, lupins, field peas, and faba beans. In total, there will be 75 growers tested using Bushell Plus drop trays from Primary Sales. SCF get to keep the two Bushell Plus kits and can loan them to members wanting to do their own grain loss measurements. If you want to borrow the kits this season, please contact Dan Fay or myself. Please also get in touch if you wish to participate in the project. The disruption to your harvest will be minimal because staff will carry out the testing while you keep harvesting.

In 2022, the GRDC have invested in more legumes research through a grant managed by the Grower Group Alliance. Stirlings to Coast Farmers will direct the research we want to be done in our region. Dan and I will be in touch with our legume growing members to ascertain your pulse agronomy ideas. We have a budget to complete small plot trials and or farm-scale demonstrations. We will likely focus on faba beans and lupins since they are the most commonly grown by members. However, feel free to get in touch if you think we should be looking at other crops.

A quick note on our technology and Internet-of-Things (IoT) installations. SCF has installed 31 weather stations, 42 digital rain gauges, and 11 soil moisture probes from grant funding and private purchases. When a member installs one of these options, they can access all weather monitoring devices, which is especially useful when farming in multiple locations. The generated data will also drive far greater accuracy for the DTN weather forecasting system being tested on our SmartFarms (Adams & Slades) and other members. We believe the benefits from these devices will compound year on year, which is why we are excited to have so many installed this quickly. For more information, get in touch with Phil Honey.

I want to take the opportunity to thank our 2021 trial site hosts, SCF staff, the board and members of the SCF committees. Your contribution to the group drives agriculture forward in our region. I want to welcome new board member Jeremy Walker, his enthusiasm for agriculture is infectious, and we look forward to his contribution.

A special mention has been reserved for Jon Beasley. Jon and his wife Felicity are retiring from their roles at Frankland River Grazing and moving to Tasmania in the new year. Although only the chair for a short time, Jon has been a valuable long-standing member of the SCF board who is a passionate supporter of grower groups and our research. We wish Jon and his family all the best for the future.

We hope our members have a safe and prosperous harvest on behalf of all SCF staff and the board. We hope you get to enjoy a meaningful summer break before doing it all over again in 2022.

Merry Christmas

Nathan



meet the new board member

Jeremy Walker

Region: Green Range

Farm name: Kilchatten

Size of farm: 2400 hectares, sandy gravel over clay

Year joined SCF: 2012

What sort of enterprises do you run?

I run a mixed livestock and cropping enterprise with predominantly a sheep focus. Previously we have had 55:45 sheep to cropping ratio but this is moving towards a 70:30 sheep to crop mix. We mate 6500 Merino ewes mainly to Merino rams with the more undesirable types to White Suffolk rams.

What are some of your biggest passions and why?

In farming my main passions revolve around pasture production and how the unity of the cropping and sheep aspects can compliment one another. I am a very systematic person and I enjoy experimenting and trialling new things to create a system that best suits our unique climate.

What are some of the most significant constraints to achieve higher productivity on your farm? – NOT including rainfall!!

Drainage, or lack thereof, is our biggest constraint on a lot of our flat country. Snails are a topical issue right now during harvest. We also have a prolific environment to create a large worm and fly burden for our sheep.

Is there anything that you do on-farm that is slightly different to the so called 'norm' that is interesting?

We grow a large amount of summer crops and are experimenting with perennials, long season cereals and canola to try and manipulate the feed curve to what suits our system. Extend the growing season.

What technologies are you using on-farm? If so what is it (eg. Yield mapping, VR applications, security cameras, tank sensors etc.) and how has it shaped your farm?

We use the EID's in our sheep for indexing of our commercial flock ewes for clean fleece weight, micron and body weight. We also use normal GPS and have an SCF digital rain gauge and a weather station installed.

Are you currently trialling anything yourself?

As mentioned before, I am experimenting with lots of summer fodder options to find what suits our environment and system. I am also starting an irrigation venture to extend feed into the offseason. This includes dabbling with hemp under irrigation to test its viability.

Is there anything that you would like to test or trial in the next 2 years?

There are 100 things to try under irrigation as it is a whole world of new opportunities. But for now, I am trialling everything I want to.

What do you think the next big thing in agriculture will be in 5 to 10 years?

I tend to focus on my farm big picture rather than the big picture for Ag as a whole. I can see a lot of the everyday monitoring moving into the office and becoming more of the norm like the Hitachi dashboard. Utilising drones for imagery and other technological advancements.


Do you attend any agriculture field days other than SCF?

I attend plenty of livestock days. I love going to and have been to Lamb-Ex twice. I have been to a fair few MLA days over the years and various retailer agronomy and livestock health days.

CURRENT PROJECTS



	PROJECT TITLE	GROWER HOSTS	INVESTMENT PARTNER	FINISH DATE
Project 16	Ripper Gauge	Clint Williss	GRDC	Mar-23
Project 21	High Rainfall Zone - Yield Constraints	Mal Thomson & Andrew Slade	GRDC	Mar-23
Project 22	Non-Wetting Soils	Michael Webster	Southern Dirt/GRDC	Mar-22
Project 31	Subsoil Drainage	Preston family & Kieran Allison	GRDC	May-24
Project 32	Alternative Forage Crops	Metcalf, Pyle, Smith	MLA	Apr-23
Project 33	On-The-Go pH testing	Martin & Tammy Wiehl	NLP	Nov-22
Project 34	Soils Extension	Mackie, Tomlinson, Wood	NLP	Nov-22
Project 35	Hyper Yielding Crops	Beasley, Preston, Hood & others	FAR Australia/GRDC	Jun-22
Project 37	AHRI Herbicide Resistance	Watterson, Smith, Moir, Wood	AHRI/GRDC	Mar-22
Project 38	Soil Pathogens GGA	Hunt family	GGA/GRDC	Jun-23
Project 39	Subsoil Manuring	First Australian Farmland Peter Van Zeyl	NLP	Jun-23
Project 40	Pasture Optimisation	TBA	NLP	Jun-23
Project 41	Water Use Efficiency AGRIFUTURES	Multiple	Agrifutures	May-22
Project 42	Future Drought Fund	Multiple	DAWE	Jun-22
Project 43	Summer Cropping Options	Walker, Curwen	GRDC	Mar-23
Project 44	Stubble Height	Slade Family	GRDC	Feb-25
Project 45	Harvest Losses	Various	GRDC	Nov-22
Project 46	Sheep Confinement Feeding	Various	MLA	Mar-24



Improving nitrogen use efficiency through mid-row banding nitrogen

Dan Fay, Project Officer, SCF

Background

The issue of nitrogen use efficiency (NUE) has been identified as a critical constraint to crop production and sustainable farm practices in the Albany Port Zone. In the intensive farming systems of the HRZ, nitrogen fertilisers play a crucial role in crop production; however, the application of this is relatively inefficient. Research has shown that approximately 42% of the applied N is recovered, with the rest lost to volatilisation, leaching, runoff and denitrification. This can lead to increased acidification of soils, pollution of water ways and an increased carbon footprint. Nitrous oxide (N₂O) is 298 times more polluting than carbon dioxide and is released into the atmosphere by denitrification. This is exacerbated in seasons where there has been severe waterlogging, and nitrates are rapidly denitrified by bacteria, and released into the atmosphere. Maximising your NUE is intrinsically linked to sustainability.

The recovery efficiency of a fertiliser application is often dictated by environmental conditions near the time of an application. A rainfall event can be crucial determining factor in N recovery rate, of top-dressed fertiliser, which exposes the fertiliser product to the environment.

NUE is often determined by a complex relationship between soil type, environmental conditions, application method, and the amount applied. However, a poor NUE can often boil down to an oversupply of N. This is often driven by two key factors: an over estimation of yield potential in a given season and an under estimation of the pooled N and existing N mineralisation potential which is driven by in season rainfall and soil organic carbon.

The time of peak mineralisation and peak N demand are unlikely to align, and the rate of mineralisation will not meet the crop's N demand in the sandy soils of our region. Thus, fertiliser will need to be applied to fill this gap. Split applications of fertiliser can help increase the NUE, by reducing losses through applying excess fertiliser, however applying many small applications, rather than a few larger applications at a time is both economically and opportunistically costly.

With Nitrogen intrinsically linked to biomass production and grain quality, it is an imperative that crops be provided with the adequate level of nutrition, in the most economically and

environmentally sustainable way.

Banding fertiliser could provide the solution to this problem. By placing the fertiliser in the ground, the risk of losses via volatilisation and leaching due to environmental constraints such as prolonged dry periods can be reduced, improving the N recovery efficiency. Previous studies have found that banding fertiliser not only reduces N losses, but it also slows the rate of nitrate conversion and microbial tie up, allowing plants to access the N pools for longer periods in the critical growth stages.

Mid-row banding of fertilisers is a relatively new concept where the fertiliser is placed below the surface of every second interrow. Studies have shown that MRB consistently leads to increases in NUE over top-dressing. Stirlings to Coast Farmers conducted research into MRB of fertiliser during the 2020 season.

Project Aim

Our project aimed to address poor nitrogen use efficiency (NUE) in broadacre cropping systems in the high rainfall zone of WA.

We hypothesised that mid-row banding (MRB), applying nitrogen below the surface on every second inter-row, could improve NUE. Previous research in Victoria has shown that significant yield gains can be achieved by enhancing NUE efficiency through MRB, particularly when MRB was used to apply fertiliser in season.

Methodology

To test this hypothesis, SCF set up field trials to measure if MRB fertiliser could increase NUE and productivity, increasing sustainable farming practices in the HRZ. Two trials were carried out: a farm-scale demonstration and a small plot trial.

Small plot trial

The small plot trial aimed to assess and evaluate six methods in which fertiliser can be applied and compared the efficacy of different application methods. The treatments for this trial were:

Treatment 1: MRB 125kg/ha Urea at seeding & MRB 100L/ha of



Flexi N at tillering.

Treatment 2: MRB 125kg/ha Urea at seeding & Top-dressing 100L/ha of Flexi N at tillering.

Treatment 3: Top-dressing 125kg/ha Urea at seeding & MRB 100L/ha of Flexi N at tillering.

Treatment 4: Top-dressing 125kg/ha Urea at seeding & Top-dressing 100L/ha of Flexi N at tillering.

Treatment 5: Nil Urea at seeding, & MRB 100L/ha of Flexi N at tillering.

Treatment 6: Nil Urea & Topdressing 100L/ha of Flexi N at tillering.

Results

The small plot trial results indicated that in combination with topdressing (TD), MRB was the most effective management strategy to increase yield, irrespective of which order the treatments came in. The combination of both application methods resulted in the greatest NUE, and as an extension, is the most sustainable practice. Interestingly, the dual applications via mid-row banding resulted in a statistically significantly lower yield than the combination of MRB and TD. Furthermore, the order in which the application methods were applied did not affect the yield results: MRB at seeding and TD in season, performed the same as TD at seeding and MRB in-season.

This contrasts that of the results found in Victoria in 2016/17, which found that dual applications via MRB resulted in the greatest recovery efficiency. We speculate that there is an environmental reason for this contrast in results. The 2020 growing season in our region suffered a particularly dry start, which could have had an affect on the effectiveness of the MRB treatments, as the 2016 study in Victoria found that a rain event after banded fertiliser is applied reduced plant uptake, where if fertiliser was top-dressed this would increase plant uptake.

It should be noted that the fertiliser application method did not influence grain protein percentage. However, all treatments that received two fertiliser applications resulted in a significantly higher protein percentage than the single application plots. This indicates a critical mass of nitrogen is needed to achieve optimal protein content rather than the application method from which it is applied. This project demonstrated that although MRB can improve NUE, it does not improve grain protein accumulation.

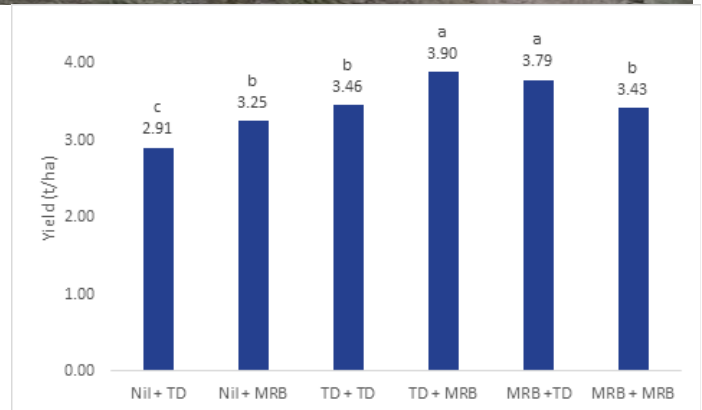


Figure 1. Average grain yields for 2020 at South Stirlings. Columns with different letters on top are significantly different from others.

Conclusions

Overall, these results indicate that MRB can be implemented in combination with topdressing fertiliser to improve NUE in the HRZ. This is encouraging for widespread adoption of the management practice, as a single application of MRB fertiliser at the time of seeding would be easier for growers to adopt with current technological capabilities than MRB at tillering.

More research needs to be conducted into MRB in-season to determine how environmental conditions affect N recovery rates and under what conditions optimal NUE can be achieved.

If farming is to become more sustainable then NUE will play a key role. Soils within the Albany Port Zone typically have a low pH, with growers in the region routinely liming soils. Soil acidification rates could be slowed by MRB nitrogen through reduced nitrification and leaching. By banding N enriched fertilisers, farmers can look to increase their NUE and reduce their inputs, both improving their carbon footprint and increasing their economic returns.



Identifying soilborne pathogens at harvest

Dan Fay, Project Officer, SCF

Soilborne pathogens and nematodes can cause significant yield penalties in cereal crops. Soilborne pathogens can be challenging to identify in season, and once a yield-limiting threshold has been reached, there are few in-season treatment options available.

The key to understanding the risk posed by soil pathogens is testing for the amount of pathogen inoculum and nematode numbers in the fallow period and using this information to inform your management options in the following cropping season. Testing paddocks for soilborne pathogens via the PREDICTA B test will identify the amount of DNA of soilborne pathogens and nematode pests within the area the soil sample was taken. This test acts as a risk assessment tool that can be used to inform agronomic decisions. However, like a lot of agronomic tools, these tests are not perfect. PREDICTA B testing can only tell you the disease burden in the immediate area where the tests have been taken.

When testing is conducted on multiple sites within a paddock at random, the results of the PREDICTA B test will likely show a wide range of variability in pathogen load within a paddock. This will not necessarily give producers a clear assessment of their disease risk level, and highlights the need for strategic sampling to identify a representative level of risk. Regular samples should be conducted in areas where crops have shown symptoms of soilborne pathogens or you suspect the presence of pathogens and/or nematode pests, as well as in paddocks where tight cereal rotations have occurred.

Understanding the soilborne diseases and nematode pests is the key to effective management.

Identifying symptoms of soilborne diseases this year has been particularly difficult. The prolonged cool, wet weather periods have likely suppressed the disease burden and the visible symptoms of diseases. As a result, it is unlikely that soilborne diseases reached a level resulting in yield penalty in 2021. However, this does not necessarily mean that the amount of pathogen and nematode pests within the paddock have been reduced. While this year's environmental conditions could suppress disease burdens, if diseases are not properly identified and managed in the following season, major losses

to disease could occur. The risk of soilborne disease may also be exacerbated by changes to planned rotations in response to waterlogging, which causes crop loss and missed sowing windows.

Identifying the common soilborne diseases at harvest could be a key to managing the risk in 2022. Visible disease symptoms may be present at harvest that did not necessarily show up during the crop's growing period. Given that there are limited in-season management strategies for soil pathogens knowing what to look for at harvest can play a key role in identifying soil borne pathogens, informing management decisions that can alleviate the disease burden.

This article will detail the common soilborne pathogens in the area, and how to identify them at harvest.

Common soilborne diseases

Take-all



Take-all is a fungal root disease that occurs in wheat and barley in the medium to high rainfall zone. Take-all survives from one season to another on the cereal residue, with cool/wet autumn conditions priming the fungus into action, where it infects the roots of the new season's plants. Thus, the management of Take-all is through limiting the carryover from one cereal to another.

Symptoms to look for at harvest are white heads with shrivelled or no grain. These will occur in patches, and if plants are pulled up, the roots will be black and brittle, and crowns and part of the stem may also be black.



HOW TO USE QR CODES

QR codes are the square pixelated images you see in this article. They lead to more information on the topic.

To use QR codes scan the code by using the camera on your phone. Then click on the pop up link. This will open the resource.

Take-all can be easily misdiagnosed as crown rot, frost damage, copper deficiency and molybdenum deficiency. So, if Take-all is suspected, consult a plant pathologist, or conduct a PREDICTA B test.

Management for take-all is primarily through rotation; reducing grass/cereal back-to-back rotations is critical. You can effectively reduce the Take-all disease load by implementing a break crop or grass-free pasture/summer crop after a cereal crop. It is important to ensure that the cereal break is free of grass weeds and/or cereal volunteers, as these host the pathogen and will increase the disease burden for the following year. In some paddocks which were not accessible for their herbicide sprays, grass weed control may not have been effective. Controlling volunteer grasses and cereals over the fallow period can help alleviate the burden by reducing the green bridge. Some seed, fertiliser or in-furrow applied fungicides such as fluquinconazole are registered for Take-all control.

Crown rot



GRDC Crown Rot -
Western Resources



Crown rot is a soilborne fungal disease that survives in cereal stubble and grasses and can cause a significant yield penalty

in a dry spring. It is unlikely to cause large losses in the high rainfall zone, unless access to water during grain filling is severely limiting.

Crown rot at maturity presents as white heads during the early grain filling stage. These heads will contain significantly pinched grains, or no grain at all. Crown rot can be difficult to diagnose, as the symptoms at harvest are similar to Take-all. However, a distinct difference between the two diseases is that Crown rot is likely to be dispersed throughout and entire paddock, whereas Take-all presents in distinct patches. Crown rot symptoms will likely appear in tramlines and around weedy patches at first or if the infection is only mild.

While white heads are intrinsically linked to yield loss, this symptom can be easily misinterpreted as a range of other stresses. If you suspect crown rot in the paddock, check for crown and stem browning, which distinguishes crown rot from Take-all, frost, and nutrient deficiencies. If a plant is infested with crown rot, the base of the stem will be honey brown and may, but not always, have a pinkish hue; this symptom will be present from grain fill through to maturity.

The treatment strategies for Crown rot rely primarily on rotation. The crown rot pathogen will survive on cereal stubble and grass weed residues until it is completely broken down. So, a tight cereal rotation will exacerbate the disease pressure. It is also essential to control grass weeds that will host the disease between seasons. In heavy stubbles, crown rot has the potential to survive over multiple seasons due to its survival rate on minimal levels of stubble. Stubble management and grazing strategies can be utilised to reduce the stubble load and speed up the decomposition. However, this needs to be undertaken with caution, as stubble management through grazing and tillage can spread the disease from hotspots to a broader paddock area.

It should also be noted that there is no in-season fungicidal treatment to eliminate crown rot. However, registered seed treatments such as Rancona Dimension and EverGol Energy can suppress the disease burden. There is a new seed treatment, Tymirium, that is being registered for use in the next few years which reduces whiteheads and limits the yield loss.



Rhizoctonia root rot



GRDC Rhizoctonia Resources

Rhizoctonia root rot is typically associated with the low to medium rainfall zones of the wheat belt; however, it has been increasingly common in the HRZ, particularly on sandy soils.

Rhizoctonia causes the root tips to rot and spear, reducing the porosity of the roots. The pathogen builds up during the growing season, however, it is the early infestation that tends to cause the most significant damage. The pruning of the roots results in reduced translocation of nutrients and water.

At harvest, Rhizoctonia will present as bare patches where there is an area of complete crop loss or stunted growth. This season Rhizoctonia symptoms are likely to be minimal due to the prolonged periods of paddocks being at field capacity, however, bare patches might be visible in areas where the soil is particularly compact, such as tramlines and tracks.

Rhizoctonia will diminish over the summer period if conditions are cool and wet and grass weeds and volunteers are controlled. However, if conditions are dry, the pathogen will carry over with minimal reduction in the disease load. For this reason, cereal on cereal rotation should be avoided, particularly in dry summers.

Rhizoctonia can live in bare soil if the conditions are right, so stubble management has little to no effect.

Control options for Rhizoctonia are more widely available than the above pathogens. Canola has been shown to reduce the level of Rhizoctonia in the following cereal crop. Fungicides can be used as a part of an IPM strategy to control the products such as Evergol and Uniform.

Cereal Cyst Nematodes



Whilst uncommon in the great southern region, Cereal Cyst Nematodes (CCN) can cause significant damage. Cereal cyst nematodes damage plant roots causing nutrient and water deficiency. Crop losses can be up to 80% where infestations have gotten out of control.



GRDC Nematode Resources

CCN can present as patches where tillers are stunted, look nutrient-deprived, and water-stressed during the season. At harvest, nematodes can be detected by bare areas within the paddock and areas where the crop growth and crop height have been stunted.

CCN is likely to be detected in paddocks where grassy pastures and cereals have been continually cropped.

Rotation strategies is the key to controlling CCN. Resistant crop types such as lupins and canola, should be rotated with resistant cereal cultivars. If infestations are yield-limiting, it can often take back-to-back break crops to reduce the pathogenic load below a yield-limiting level.

Over the fallow period controlling volunteer grasses, particularly wild oats, is crucial in limiting the presence of CCN. It should be noted that cultivation does not manage nematodes and will likely result in their spread throughout the paddock.



Root Lesion Nematodes



Root Lesion Nematodes (RLN) are microscopic worm like animals that extract nutrients from roots via a syringe like stylet, pruning roots and browning roots. As a result, plants cannot acquire the nutrient and water needed, causing a loss in yield potential and exacerbating stresses. These nematodes are common across all of WA and can be yield-limiting when numbers are high

enough. RLN numbers can proliferate in areas where nil soil disturbance and minimum tillage has been employed.

Like the above soilborne pathogens, root-lesion nematodes can be challenging to identify in season. Areas of reduced biomass, poor tillering and stunted growth can signify RLN. Infected plants will also have brown lesions, general root browning and thick noodle-like roots.

At harvest time, RLN do not result in any specific above-ground symptoms, so if you come across areas of reduced biomass compared to the rest of the paddock, check the roots for symptoms, and perform a PredictaB test during the fallow period.

Pasture can be very susceptible to RLN, so if a paddock has been rotated out of a pasture phase, it is imperative to monitor the crop for symptoms and check roots if you suspect RLN infestation.

Management for RLN largely relies on planting resistant crop types and cultivars. Unlike the above diseases, there are a limited number of break crops resistant to RLN. Field peas and lupins provide the best break for reducing the nematode numbers.

Conclusion

Early diagnosis and rotation management are the keys to managing soilborne pathogens and nematode pests. Given that most soilborne pathogens and nematode pests can survive in the soil or on stubble residue from season to season, it is essential to look for symptoms. What may not necessarily be a big problem today can result in significant yield penalties in the future.



SCF are seeking expressions of interest in the following projects.

Please follow the link to provide feedback/ express interest (and dis-interest! That's just as valuable), or printed versions please scribble some notes or tick the ideas you like, take a photo of it and text it to Kelly: 0409 060 065.

WOMEN'S PRACTICAL FIELD DAY

Idea: a fast-moving day of lots of hands-on sessions that provide practical skills and knowledge for ladies on the farm. Depth of topics matched to experience of attendees.



SHEARING SHED/ SHEEP YARD/ CATTLE YARD DESIGN TOUR

Idea: full day tour around SCF area checking out different shearing shed, sheep yard and/or cattle yard designs. Attempt to cover different designs (ie sloped catching pens, saw-tooth boards), materials, budgets (full or partial rebuilds), DIY vs professional installation, surfaces etc.

OPTIWEIGH IN-Paddock WEIGHING

Idea: to purchase an Optiweigh and test it out on multiple mobs of cattle, with different licks/ incentives and in different positions. Potentially get a walk-over-weighing set up as well and compare pro's and con's of both?

Requirements: cattle farmers willing to try it on their cattle in the paddock and compare to weights collected in the yards. Hosts supply their own lick/molasses.

<https://www.surveymonkey.com/r/TBCSVSR>



New projects coming in 2022

Confinement feeding strategies – Producer Demonstration Sites

SCF is pleased to announce that we were successful in our application to Meat and Livestock Australia (MLA) to host a Producer Demonstration Site (PDS) project on Confinement Feeding Strategies. Confinement feeding differs from feedlotting in that all classes of sheep may be confined, not just lambs as with feedlotting, and the purpose is to feed to maintain animal weights, not increase. Other benefits include improved knockdowns on cropping paddocks as weeds have more leaf area to absorb sprays, reduced feed required per head due to less energy expenditure, improved animal health monitoring and quicker feed times. In dry years where dams are less reliable, confining generally also means better water supplies.

This is a two-year project based around of a core group of ten producers who are already confinement feeding or looking to develop a confinement feeding program. These farmers will share their thoughts and experiences, discuss different setups, hear from industry experts on best practice and create a network of support among each other. In each of the two years, three of the group members will act as site hosts, with complementary feed and ration analysis and feedback from a qualified animal nutritionist, pasture cuts to quantify the extra pasture grown

Harvest Losses

This summer SCF will be measuring harvest losses as part of a GRDC funded, GGA led project that aims to measure and analyse grain losses across WA. The project will utilise the bushell plus system to measure both machine and front losses on a wide range of crops types. The project seeks to establish a baseline for losses and improve upon current losses in the field. This project focuses on enhancing harvest efficiency and profitability, with repeat measurements being made within the paddock to improve loss percentages.

by being able to defer grazing after the season break and an economic analysis on the costs of confining and achieving the extra pasture production. Members of the core group will visit the demonstration sites and see the different set-ups, and a possible road trip to visit some alternative designs outside the SCF area may be included. If you are interested in this project, give Livestock Officer, Kelly Gorter, a call to discuss.

For SCF members who are not in the core group, we expect to have a field day during the project to visit a site or two and share some of the group learnings where all will be welcome to attend. Keep an eye on SCF communications for notification on when this might be. All data and learnings from the project will be reported on in SCF publications and the project page on the website as the project progresses.



At the conclusion of the project, the Bushel Plus System will be made available to SCF members.

If you are looking to reduce your losses, improve yields and increase harvest efficiency, get in touch, and we can arrange to work with you this summer. Contact Dan Fay on 0498 278 177 or Nathan Dovey on 0427 468 030.





Locally relevant spring and/or summer sown cropping opportunities for grain growers following excessive winter waterlogging – South-Western Australia.

This project aims to provide growers with a range of spring/summer sown cropping options to address the impacts of excessive winter waterlogging and explore summer production opportunities. Summer crops are not new to the south coast of Western Australia, and previous studies show that summer crops can be grown successfully and be profitable when sown into the right conditions. In addition to providing fodder during the summer and autumn, there is a potential for summer crops to improve water holding capacity in soils, control weeds, erosion and fix nitrogen for the following winter crop.

This project will improve the knowledge and confidence of growers in the Western Region to profitably sow a crop in spring or summer when soil moisture levels permit. This GRDC funded project will centre around three multispecies trials and four single species demonstrations sites, in the high and medium rainfall zone of Western Australia. These trials will examine the performance of various varieties with an aim to inform decision making and provide greater insights into the viability of summer cropping. Crop and livestock performance will be monitored

under grain and graze systems. Soil, water, and nutrient status of both the summer crop and the following winter crops will be monitored. The outcome of this trial is to provide farmers with a thorough economic analysis on various summer cropping options.

In addition, SCF member Jeremy Walker is hosting a small plot trial managed by Nutrien investigating summer grain options within the same project. These range from the late seeding of common cereals and oilseeds varieties common to the area, too niche grain crops that could present as a viable option for spring seeding in response to waterlogging or favourable summer cropping conditions.

For more information on this project head to scfarmers.org.au/summer-cropping or reach out to Dan Fay.



Impact of stubble height on cropping systems in the Western Region

SCF is pleased to be a part of this GRDC invested project focusing on the impact of stubble height. This project will be led by the Liebe group with partnership from SCF, Facey Group, Corrigin Farm Improvement Group and Farmanco. This project aims to improve knowledge around stubble management and how it can affect a whole farm system over an extended period. Concluding in 2025, this project will assess how different stubble management techniques and stubble architecture add value to an existing farming system. The SCF site trial hosted by Andrew Slade will explore the potential efficiencies from utilising a stripper front and disc system in the HRZ.

The large scale plot trial will compare strip and disc systems with and without stubble management against draper/tyne systems. In essence, this project will weigh up the risks/rewards of increasing stubble residue in the HRZ. This will be assessed

by measuring and analysing the impact stubble height has on harvest, seeding and spraying efficiency, soil nutrients, nutrient acquisition and weed/disease management, forming a comprehensive case study and economic analysis.

For more information on this project head to scfarmers.org.au/stubble-height or reach out to Dan Fay.





MLA PDS Alternative Forage Crops - Pyle Raphno

Farm Host: Pyle Family, South Stirling

Samantha Cullen, Membership Officer, SCF

Background

In 2020 Stirlings to Coast Farmers (SCF) began a project with Meat & Livestock Australia (MLA) looking at alternative forage crops for southern WA. SCF aim to compare alternate forage crops to traditional feed sources such as dry pastures and crop stubbles for nutritional value and the ability to put live weight gain (LWG) on lambs or weaner cattle. The Producer Demonstration Sites (PDS) project will run for three years (2020-22) and is currently in its second year. The project is measuring the benefits to livestock carrying capacity and livestock weight gains from crops like Pallaton Raphno, Sorghum, Millet, and long-season Canola.

Pyle site 2021 sowing

Following on from great results from their 2020 planted alternate forage crop, Tim and David Pyle, planted another 59ha of Pallaton Raphno. The 59ha was fertilised a couple of weeks before seeding, with 120kg of K-Till Extra. The Raphno was then planted on September 20th. A month later, the crop received a Diamondback Moth (DBM) spray of Affirm 150ml with wetter and then two weeks later 50L/ha of Flexi-N on November 9th. The control paddock is 30ha of canola stubble with regrowth and a reasonable pasture feed base coming through underneath. The pasture base is predominantly clover.



Measurements

Plant samples from the Raphno paddock and the control paddock were taken during the last week of November. These samples included biomass cuts, plant tissue and soil samples from both paddocks. Lambs will graze each paddock after being weighed on November 26th. The top 1580 lambs were put onto the Raphno paddock with an average weight of 41kg/head. The bottom 670 lambs, with an average 38.2kg/head, were put on the canola stubble. The Raphno will be grazed, with the first draft of lambs to be sold before Christmas. As the lambs are removed, they will be weighed to track and measure weight gain from each crop. Results will be available in our 2021 Trials Review Booklet.

Rainfall and moisture measurements

Under the Australian Government's Future Drought Fund, Stirlings to Coast Farmers have also recently installed a Metos digital rain gauge and an 80cm soil moisture probe at the Pyle Raphno site. The probe measures soil temperature and moisture levels in 8x 10cm increments and will be utilised to better understand the region's crop and soil water dynamics. The data generated from this station and other rainfall & climatic stations will be made publicly available next year when SCF releases its pasture forecasting and weather dashboard.

Table 1: Summary of the rainfall data from the station closest to the Pallaton Raphno paddock from 1 month before seeding to the end of November.

Period	Rainfall (mm)
20th August - 20th September	74.8
20th September - November 30th	117.0
Total rainfall	191.8

Outlook

David and Tim are confident there will be multiple opportunities to graze the Raphno paddock in 2022. Last season, their 45ha Raphno crop supported 1400 lambs from December 3, 2020 to January 4, 2021. After a month's break, another 700 lambs grazed the paddock from February to April 30, followed by 400 lambing ewes through May and June. The Raphno paddock then supported 2200 weaned lambs for six weeks from the start of September.



Australian Government



Future Drought Fund





SCF Student Scholarships

Samantha Cullen, Memberships Officer, SCF

With the completion of our Student Connect, Future Farmers program last year, SCF has been keen to continue supporting youth in Agriculture and to promote career opportunities.

This year students studying Agriculture at Mt Barker Community College and WA College of Agriculture, Denmark were asked to write a 500 – 1000-word essay answering the question ‘How to encourage more people from a non-agricultural background into the agriculture sector?’.

SCF Membership Officer, Samantha Cullen, recently attended the Denmark College of Agriculture graduation ceremony and presented the scholarship on behalf of the Board to Maddison Bryden-Dwyer (pictured above right). Maddison wrote a great response from a unique perspective, highlighting the diverse opportunities for employment available in the Ag sector. Mount Barker Community College recipients will be announced at the MBCC Awards Night later in December. SCF would like to congratulate our 2021 SCF scholarship recipients.



The scholarship is not a cash prize but is held by the relevant school to be distributed as they deem appropriate for the individual student. Scholarship funds can go towards things such as school fees and materials required to further a student’s Agricultural study. Dermot McCague (pictured right) was the recipient of the SCF Scholarship at MBCC last year and the school presented him with PPE appropriate to Agricultural work, including Mack boots, heated jacket, radio earmuffs, first aid kit and special markers. We are sure Dermot will get a lot of use from all these things in his day-to-day activities. Currently he is completing a heavy diesel mechanics apprenticeship with AFGRI in Gnowangerup. We wish him and all our scholarship recipients all the best with their future endeavours in the Agricultural industry.



This project is supported by the Department of Agriculture and Water Resources, through funding from Australian Government's National Landcare Program.



Active Farmers vision is to build stronger and more resilient communities in rural Australia

Active Farmers in WA started around three years ago when I (Boyd Rae) received a call from a farming family in Borden, asking if it was possible for a trainer (myself) to come out and hold a fitness class for the community once a week. The footy club had folded and people were voicing the need for some physical exercise. So, I packed the car up every Monday and travelled from Albany to Borden to run group exercise sessions. Word quickly spread and it wasn't long before some Gnowangerup locals that were attending the Borden classes asked if it were possible to travel to their home town. For nearly a year I travelled out to Borden on a Monday and Gnowangerup on a Wednesday morning. With more and more interest in the program, a discussion was made to go all in. I took on six towns in the Great Southern and have been servicing these towns for the



last two years.

Then more trainers started to jump on board! Boxwood Hills, Kellerberrin, Williams, Kulin, Cranbrook and more recently Beverley. All with fantastic trainers that have complete ownership of their classes. Some run one class a week, others multiple. Some trainers focus on strength and balance, others cardio or a mix. All trainers report a fantastic response from their communities and enjoy the support Active Farmers provides in order to see those communities through high stress periods such as harvest or seeding. Today, Active Farmers has more than 1,500 regular participations each month in over 45 small farming communities across the country. We also have a list of over 100 additional farming communities who have expressed interest in our program Nationally.

In addition to our weekly group fitness classes and local health related workshops we also run several larger events such as the Run for Resilience, Ride for Resilience and the Active Farmers Games, of which was just recently ran in Albany WA - an obstacle course designed to mimic some of the challenges faced on the farm and how these challenges can be better overcome by working as a team. 3.2km of mud, water, hill climbs, balance beams, slippery slides, sand bag carries, tyre climbs, tunnels, mazes, gates, cargo nets, pontoons and even a giant see-saw! With 300 people through the gate, all eyes were on the 147

participants that were about to embark on an epic obstacle course designed to challenge, excite and encourage team work. Here is my health advice. At the end of the day, YOU have to make the change. Whether that is something as small as having one less sugar in you cup of tea or a big change like attending a



fitness class. All I can tell you is that you are not alone; it is scary to attend a fitness class for the first time, anything is scary the first time! I know you feel people are going to look at you or that you feel like it's too late and that you have missed the boat, please believe me when I say that this is not the case. Again, I cannot make the discussion for you, but I will ask you to talk about it with your friends and family, those are the people that will enable you to be able to make and sustain small and large



changes in your life.

Make small, sustainable changes, set goals and surround yourself with supportive people, these are the keys to success. I promise you, the hardest part of anything new is walking through the door, 30 seconds in and you will completely forget anyone else is even there.

Visit www.activefarmers.com.au for more information and to see some of your local Active Farmers, check out @activefarmersgreatsouthern on Instagram.

Stay safe, stay hydrated.

Warm regards,
Boyd Rae

As global and Australian canola prices break records in 2021, Australia's canola industry has the potential for sustained upside ahead with policies to curb emissions in North America and Europe expected to lift global demand for oilseeds – and in particular canola – through to 2030, according to Rabobank grains and oilseeds analyst Dennis Voznesenski.

And this will present opportunities for Australian canola exports, he says.

In Rabobank's recent report *Global Canola Opportunities in the Sustainable-Fuel Future: Is Australia fit and ready?* Mr Voznesenski says these will be modest initially, but will grow as a result of the structural shifts in the global industry – namely Canada's falling exportable surplus in 2024/25 and then again from 2026/27 onwards due to the European Union's increasing canola import needs.

"In the current 2021/22 season, global supply of canola has been severely reduced by drought in Canada, the world's largest canola exporter, and by continued heavy EU import demand," he says. "And this has been benefiting Australia and other exporters."

Mr Voznesenski says canola prices domestically are starting to break the A\$1000 a tonne mark for non-GM canola, while overseas markets already broke through that level earlier in the year. EU MATIF rapeseed is currently trading at A\$1,050 a tonne.

While the road to 2030 for canola contains many uncertainties, Mr Voznesenski says we can be sure the global exportable surplus is on a downward trajectory. And this will create opportunities for Australian canola.

"In years when global production significantly underperforms, which it inevitably will, shortages will result in even greater opportunities," he says.

"However, Australian canola will need to ensure it is 'fit' to take advantage of these future export opportunities over the course of the next decade, in particular in meeting the sustainability credentials which will be increasingly required in export markets, especially Europe."

To find out more about other Rabobank research, contact Rabobank Albany on 08 9844 5600 or subscribe to RaboResearch Food & Agribusiness Australia & New Zealand on your podcast app.

Rabobank Australia & New Zealand Group is a part of the global Rabobank Group, the world's leading specialist in food and agribusiness banking. Rabobank has nearly 120 years' experience providing customised banking and finance solutions to businesses involved in all aspects of food and agribusiness. Rabobank is structured as a cooperative and operates in 38 countries, servicing the needs of approximately 8.4 million clients worldwide through a network of more than 1000 offices and branches. Rabobank Australia & New Zealand Group is one of Australasia's leading agricultural lenders and a significant provider of business and corporate banking and financial services to the region's food and agribusiness sector. The bank has 94 branches throughout Australia and New Zealand.





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* ROCKSTAR[®] has a dual AH (Australian Hard) and APWN (Australian Premium White Noodle) classification in Western Australia. Please note classifications referenced apply to the Western zone only.

Soil Testing is More Important Than Ever For Next Season



Around the world, higher crop prices are leading to an increased demand for fertilizer. The COVID-19 pandemic has also resulted in shipping restrictions, and disrupted supply chains leading to a large increase in the cost of shipping.

These factors have aligned to push the price of fertilizer to highs not experienced since 2008 and some product prices have gone beyond where they were in 2008.

Growers will now be questioning the amount of fertilizer they will need to purchase for 2022, and fertilizer suppliers are questioning how much fertilizer to purchase to satisfy grower needs.

It's now time to get the budgets in order to determine how much fertilizer is affordable. Soil testing is a great way to start this process, as it can help predict how much of each nutrient is likely to be available for the 2022 season. It also ensures that you get the "best bang for your buck" and the most out of your fertilizer investment.

Fertilizer models, such as Summit inSITE produce fertilizer recommendations and take into account various factors such as the direct fertilizer cost, associated costs

(application costs etc), and the projected monetary return from produce directly linked to that fertilizer application.

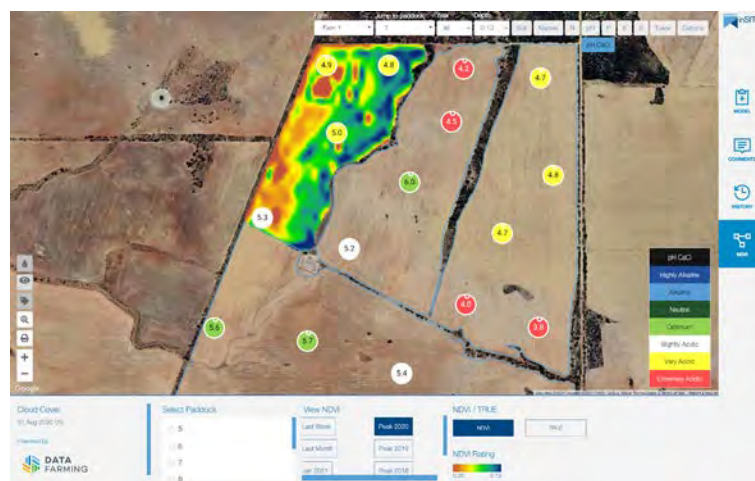
Of course, there are seasonal factors that can interfere with the model predictions (too wet, too dry, too cold), but models work on averages and these are still the best tools at our disposal to determine the likely return on investment.

Our inSITE model is based on our extensive Field Research program, with close to 200 crop nutrition trials across WA over the past 6 years.

Speak to Andrew Wallace or Mark Ladny to organize inSITE soil testing.

Andrew Wallace, Area Manager - Albany (East), 0427 083 820.

Mark Ladny, Area Manager - Albany (West), 0498 223 421.



Full inSITE Soil Test results (including trend maps and NDVI imagery - as shown right) are available for Summit customers on SummitConnect.



Fertiliser Planning for 2022

High fertiliser prices increase the importance of good fertiliser management. Knowing what nutrients our crops and pastures need, and supplying them effectively, means a better return on investment on fertiliser budgets.

We can't manage what we don't measure which is why soil testing is so important. Testing both the topsoil and subsoil is critical to understanding nutrient stocks and possible constraints. Fertiliser recommendations hinge on this knowledge and in the current pricing climate, inaccurate application rates can make a big difference to the bottom line.

Poor crop yields don't export many nutrients, but excessively wet conditions are likely to have heavily depleted nitrogen (N) and potassium (K) reserves. Maintaining K inputs on deficient paddocks will be critical to optimising returns from N fertiliser in 2022.

Where the 2021 season was a good one for pastures, paddocks going into crop in 2022 are set to reap the benefits – especially in terms of N supply. Organic N accumulated this year is a free kick for the next crop and a source of slow-release N – particularly important if next season is also a wet one. Including this N in the nutrient budget could mean reduced fertiliser spend without sacrificing yield potential.

Pastures are worth investing in for both the animal enterprise and the rotational benefits to following crops.

Please contact Keith Gundill on 0429 048 455, Claire Dwyer on 0456 670 140 or Wade Anning on 0429207226, at CSBP Albany to discuss your soil testing and fertiliser strategies for 2022.



GrainGrowers Launches State of the Australian Grains Industry Report (2016 – 2021) & Podcast

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.



SCF BEHIND THE SCENES

BOARD AND COMMITTEE MEMBERS 2021

Stirlings to Coast Farmers could not thrive without the amazing work of our various board and committee members. From SCF members to expert advisors, each one plays a key part in the development and growth of the SCF community.

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