LIEBE GROUP NEWS

July 2020
Volume 23
Issue 5

What's Inside

LIEBE GROUP
Working together in Agriculture

The Liebe Group mission is to facilitate grower prioritised research, development and extension to support our members to be profitable and sustainable.

From the Cover

Canola NVT presented at the Liebe Group 2020 Post Seeding Field Walk.

DIAMOND PARTNERS

Rabobank

CSBP

CBH GROUP

RSM

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FROM THE EXECUTIVE OFFICER

KATRINA VENTICINQUE

WELCOME to the July edition of the Liebe Group Newsletter. It has been a record-breaking month for the Liebe Group, with an outstanding turnout to our Post Seeding Field Walk of 109 farmers and industry through the farm gate! A debrief on the event can be found on page 4, and I would like to extend thanks to the event sponsor FMC and host grower Dylan Hirsch, along with our Diamond Partners CSBP, Rabobank, RSM and CBH Group for their support. The Liebe team could not have asked for a better day, and from feedback amongst the community, we believe this sentiment is shared.

In general it has been a very busy few weeks in at the Liebe Group office, with extensive monitoring activities conducted throughout the region on all of our projects and trials. With some much needed rain throughout the June/July period at the Main Trial Site, the trials are coming along nicely despite a few showing slight damage from the recent wind events.

The Liebe team also had the pleasure of hosting two Curtin University Agribusiness students, Miles and Susannah over the past month. Both provided great assistance to the staff during their time and we hope they left with a greater understanding of the role of grower groups in the R&D, extension and capacity building for regional agricultural communities. Recaps on their experiences can be found on pages 6 and 8.

Several workshops and events are coming up in the next few weeks including:
Ladies Landcare Luncheon - Wednesday 5th August (see flyer on page 11)
AgChats: Financial mid year review - Thursday 6th August (see flyer on page 10)
AgChats: Diamondback moth and Budworm numbers - Thursday 13th August (see flyer on page 12)
Rural Mental Health Workshop - Thursday 20th August (see flyer on page 13)
Gen Y Paddock Challenge Bus Tour - Wednesday 26th August (see flyer on page 12)

We are expecting high numbers for these events, so if you are interested please get in touch with the Liebe staff to secure your spot.

And to top it all off, planning for the annual Spring Field Day is underway with a fantastic agenda being organised. Make sure to keep the 10th September free and to pop into the Liebe Office for a coffee anytime if you are around town.

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Australian Grain Technologies
Scott's Watheroo Dolomite
FMC
Carbon Ag

RECORD BREAKING FIELD WALK FOR LIEBE GROUP

BOTH local farmers and industry representatives alike flocked to the recent Liebe Group Post Seeding Field Walk that was held at the Main Trial Site in Latham on Wednesday 22nd July.

The record-breaking number of attendees reached a staggering 109 people, comprised of many well-established growers in the region, as well as a number of young farmers who were looking forward to building their agricultural knowledge, and many industry representatives.

Thanks are extended out to all of Liebe Group's Diamond Partners CBH Group, CSBP, Rabobank and RSM, with many of their organisations having representatives attend the day, highlighting its importance and value for the local farming community.

Liebe Group Silver Partner FMC came on board as this year's event sponsor, providing further support to ensure the event was able to fulfil all expectations.

Sunny skies and warm weather provoked smiles from the crowd, as participants walked in spaced-out groups around the site to view 12 of the 17 trials in the program. Presenters were able to provide a quick overview of the trial aims, objectives and any observed results, with most trials still in their early stages.

Several of the trials highlighted on the day provided growers with the opportunity to see new herbicide chemistries that may find great use for issue weeds commonly found in the region.

The 2021 Main Trial Site host Matthew Hyde said "it was interesting to see the new lupin herbicide options entering the market. Hopefully they will allow lupins to become a more successful break crop with higher profitability and better weed control".

Host grower Dylan Hirsch presenting his NLP funded Gen Y Project on pre and post seeding deep ripping in canola

Canola, barley and wheat National Variety Trials were also showcased with early results giving insight into the direction for finding the most suitable and profitable varieties moving forward.

The current trial site host farmer Dylan Hirsch reflected on the day, saying that he "really enjoyed hosting the Main Trial Site and having the trials on his own farm and soil, and that it was a very positive day with a great turn out."

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Coorow grower Daniel Birch described the day as “a great opportunity to get back out and about to see and hear current R&D trials for our area and discuss all areas of farming with other growers and industry reps.”

Liebe Group members Peter and Laura Bryant said “It was a fantastic day to see the ever changing technology and research available to us as growers. It was great to see so many people attend the field walk and we are excited to see what the site will be like come spring.”

The formalities of the day concluded with a social evening at the Latham Golf Club with a bbq and drinks, which allowed participants to discuss the day, share their outlooks on trials, and attitudes moving forward in the current growing season.

It was a terrific way to end the day, and the club provided a chirpy and inclusive atmosphere, and space for community members, and wider, to catch up.

The Liebe Group would like to thank Dylan Hirsch for hosting the 2020 Main Trial Site, and look forward to seeing the farming community back together again at the Spring Field Day on 10th September.

Record numbers for the 2020 Post Seeding Field Walk

Canola trials at the 2020 Main Trial Site, Latham

Growers hearing from Bevan Addison, Adama, about his research into herbicides in lupins

Growers viewing event partner FMC's Overwatch trial with Derek Burgess

Growers and industry partners getting insight into high analysis fertilisers with Dr. Peter Keating, Bioscience

Richard Devlin, Living Farm, presenting wheat and barley NVT's

LOCAL R&D OPPORTUNITY FOR CURTIN AGRIBUSINESS STUDENT

Miles Ellery
Curtin University

I have been lucky enough to have Liebe Group take me on-board during the mid-year university break. It gave me a great opportunity to understand the workings of a research and development (R&D) program that focuses on investigating new systems that the local growers are interested in through experimental trials.

With every person that walked through the doors, Liebe Group member or otherwise, it was clear to see that there was a communal bond between the staff and community. The not-for-profit nature of this operation, in combination with the friendly and engaged team members, created the notion that this group was here to serve in the best interests of the people. Having never been involved with such an organisation before, there was a considerable difference in mindset in comparison to other commercial agricultural enterprises.

The good rapport of Liebe Group persisted above the community level, as we experienced when we partook in a field walk with the Elder's team and a number of local growers, who were explaining and collaborating their own trials and tribulations for the betterment of each other. Their varying opinions – and friendly banter – on species, herbicide applications and timings, and seasonal crop outlooks, was very interesting to be surrounded by. As well as that, seeing farm-scale operations and trial sites and assisting with the ongoing research projects validated the time spent in university laboratory sessions, with Judy's passion for agricultural R&D impressive to behold.

Particularly, heading out to some growers' farms – including Liebe Group president Blayn Carlshausen – to set up traps for diamondback moths, fall armyworm, and budworm, gave me an appreciation for both the scale of operations in and around Dalwallinu, and the critical importance of R&D work in optimising the growing environment. Without such trials, farmers would have difficulty in knowing the true patterns of new and existing pests, and how aggressively to treat for them. In obtaining these results, the efficiency and power in mitigating such pests is much improved.

Miles assisting with setting traps for the DPIRD Diamondback Moth Project

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As well as that, assisting in the office with updating and arranging the 'Past Projects' content within the Liebe Group website was helpful in understanding how the organisation has helped growers in the past. Initiatives investigating the testing and ameliorating subsoil constraints, improving stubble retention, trialling new pasture species, among other experiments, was powerful in building the association between scientific work and tangible economic and environmental benefits on-farm. Furthermore, their community work, including engaging local farming women in building their agricultural acumen and confidence, and creating networks to connect farmers for improved peer-to-peer communication highlights their passion for serving the local residents.

With much thanks to the team who supported me throughout the week at Liebe Group (Katrina, Judy, and Danielle), I would certainly recommend any aspiring agricultural studies students to take the opportunity when it presents. I look forward to finishing my Bachelor of Agribusiness degree at Curtin University so I can look for a similar opportunity. As a city kid, being able to engage with growers and agribusinesses where they are truly at work has grown my passion, and I am excited to play a part in arguably Australia's – if not the world's – most important industry.

With Liebe Group EO Katrina Venticinque, left, and R&D Coordinator Judy Storer

WORK EXPERIENCE HIGHLIGHTS PASSION IN LOCAL AG COMMUNITY

Susannah Packer
Curtin University

OVER the mid-semester university break I was grateful to have been extended the opportunity to participate in a two-week work experience program with the Liebe Group in Dalwallinu. The time I spent there introduced me to the exciting world of grower group innovation, and agricultural research, development and extension.

As part of my involvement with the group, I partook in general administrative roles, such as website, flyer and event publications, and general business management. Alongside this I travelled to Liebe's numerous trial sites throughout the Northern Agricultural Region (NAR) and participated in collecting insect, soil and crop data for a number of specific R,D&E trials that the group was running during that time. I also sat in on a number of meetings with different group committees, and industry bodies, and discussed upcoming trials and learned about the most popular topics of interest, and threats to production, that the local growers kindly shared with me.

Alongside all this, I attend two field walks; one with Nutrien Ag to look at the results of herbicide treatments post-emergence, and the Liebe Group's own Post-Seeding Field Walk, where growers were able to see current plot trials, and have information on their results so far shared by members of the R&D committee. Both of these were excellent experiences, as I got to see the practical side of R,D&E, and was able to learn a lot about farming practices in the NAR, which differ in many ways from what I am used to seeing in my own area. In addition I got to meet and speak to a number of local growers and industry reps, who's knowledge and experience added an alternative layer of learning to, and way of looking at, my current understanding of the industry.

Pegging site numbers for the Liebe Group Post Seeding Field Walk with Administration Officer, Danielle Hipwell

During my time with Liebe I learned intricately about regional production challenges and got the chance to discuss farming more broadly with innovative and forward-thinking growers. Concerns such as low rainfall, soil fertility, dry seeding and herbicide resistance came up often, and it was great to watch as solutions and project suggestions were offered in return.

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I was most impressed by the attitudes of many of the growers and community members, towards innovation in agriculture and town pride. Though my time here was short, Dalwallinu and the surrounding area is definitely somewhere that I would like to come back to either personally or professionally, and would highly recommend as a place to visit or work in, to those students interested in studying agriculture, sustainability and/ or rural R,D&E. Working towards a stronger future in agriculture is definitely something that I think is valued both at Liebe and in the Dalwallinu community, and I was so pleased to see this, considering it is an important issue to me personally,

I would like to thank Katrina, Danielle and Judy for the opportunity to be involved with the Liebe Group, and creating a fun and educational working environment for me to learn in. These women are great role models to those in the wider industry and are doing an excellent job at representing the genuine opinions and thoughts of local growers. I look forward to seeing what the group achieves in the future.

Assisting with trial monitoring around the Liebe region

With Liebe Group EO Katrina Venticinque, left, and Administration Officer Danielle Hipwell

I'd also like to thank the large number of growers that I was got the chance to speak to over my time in Dalwallinu. Their knowledge and enthusiasm in sharing knowledge and ideas with me, as well as wanting to know about my studies and plans after graduation, added so much personal worth. The Dalwallinu farming community was a delight to be a part of, even for a short-time, and travelling around the region and getting to see some of the landscapes was an excellent and very enjoyable experience for me.

LIEBE GROUP AGCHATS

MONEY MATTERS: A MID YEAR REVIEW

THURSDAY 6TH AUGUST

4PM - 5PM | THE LIEBE GROUP OFFICE | BBQ SUNDOWNER TO FOLLOW

IS YOUR FARM BUSINESS FINANCIALLY PREPARED?

Join RSM to talk tax, budgets and and preparing for the financial year ahead, including:

- Managing your seasonal cash flow
- How is your budget tracking?
- What do you need to prepare for budget v actual reports?
- How to prepare for your tax returns and financial statements
- What are common things accountants ask for?
- Making capital purchase decisions (with instant asset write off extended to 31st Dec 2020!)

TO REGISTER OR FOR MORE INFORMATION

Liebe Office: 9661 1907
Email: admin@liebegroup.org.au

SUPPORTED BY

Grain Growers
Real benefits. Real results.

Liebe Group's Ladies Landcare Luncheon

Wed 5th August | 10am - 3pm | Liebe Office

Catch up with the women of Liebe to learn about local landcare, soil health, salinity management and sustainable rural living practices.

Enjoy a delicious lunch and glass of sparkling during 2020 National Landcare Week!

Register by 31st July: 9661 1907 or www.tinyurl.com/y52mxu3z

Cost: $30 members | $50 non-members

Places limited due to current restrictions

This project is supported by NACC with funding from the Australian Government's National Landcare Program

Ella Maesepp
Katanning Eco Home
Getting on board the low-waste train for a sustainable rural lifestyle

Fiona Blackham
Gaia Permaculture
Growing nutritious food with less resources & soil improvement

Jarna Kendle
NACC NRM
Local wheatbelt biodiversity and remnant vegetation on farm

GEN Y PADDOCK CHALLENGE BUS TRIP

WEDNESDAY 26TH AUGUST | FROM 11.30AM

Come along with your fellow Liebe Group members on an afternoon bus trip through the local countryside with our Gen Y Paddock Challenge participants!

Check out the demonstrations each grower has developed to investigate best practice methods for increased soil productivity in their farming businesses.

The bus will depart Dalwallinu (@ Liebe Office) at 11.30am and will stop for pick-up in Buntine (@ the Hall) at 12pm. A light lunch will be provided on the bus.

Finish off the afternoon with a sausage sizzle (kindly sponsored by Elders Coorow), some drinks & a bonfire at Charles Wass' property. Growers from West Midlands Group will be joining us for the BBQ providing an opportunity for extended networking.

DEMONSTRATIONS

Pasture Performance Using a Plozza Plough
Charles Wass, Coorow

Early Post-Emergent Deep Ripping Canola
Dylan Hirsch, Latham

Fertiliser Rates on Heavy Clay
Blair Stone, Marchagee

Comparison of Double Ripping Treatments in Cereal
Brendon Manuel, Watheroo

PLEASE REGISTER BY FRI 21ST AUG

Liebe Group Office
9661 1907 or admin@liebegroup.org.au

ALL MEMBERS WELCOME

PLACES LIMITED

This project is supported by the Liebe Group, through funding from the Australian Government's National Landcare Program

LIEBE GROUP AGCHATS

MANAGING BUDWORM AND DIAMONDBACK MOTHS

THURSDAY 13TH AUGUST

8-9AM | THE LIEBE GROUP OFFICE | BBQ BREAKFAST FROM 7.30AM

SEEN BUDWORM AND/OR DBM'S ON YOUR FARM?

Pests management expert Dustin Severtson (DPIRD) and local Agronomist Clare Johnston (Elders Scholz Rural) will be on hand to discuss the rising numbers of Budworm and Diamondback Moths in the Dalwallinu and surrounding areas.

Get practical information around:

- How many are being found?
- What does this mean for your farm?
- What are the best management practices to be following?

TO REGISTER OR FOR MORE INFORMATION

Liebe Office: 9661 1907
Email: admin@liebegroup.org.au

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Dalwallinu WA

Thursday 20th August – 1:00pm to 5:00pm

Venue - Liebe Group Office, 17 Johnston St Dalwallinu WA

The workshop will be followed by a Liebe Group Sundowner & Sausage Sizzle

Liebe Members Free. Non-members $30. Payment on the day

Registration: Phone 08 9661 1907 or email admin@liebegroup.org.au

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RURAL MINDS

Rural & Remote Mental Health

facebook.com/RRMHRuralMinds

twitter.com/RRMentalHealth

rrmh.com.au

LIEBE GROUP SPRING FIELD DAY

10 SEPTEMBER 2020

- National Variety Trials - Wheat, Barley & Canola
- Demonstration of the Efficiacy and Host Crop Safety of Various Prosulfocarb Strategies in ARG Control in Cereals
- Overwatch: Crop Safety, Efficiacy and Yield in Wheat
- Lupin Row Spacing by Herbicide Rates to Address Scorching
- Comparing Seed Treatments in Barley for the Control of Loose Smut
- Gen Y: Pre vs Post Seeding Deep Ripping
- And more!

QUERIES

Contact the Liebe Office

Ph: 08 9661 1907

E: admin@liebegroup.org.au

W: www.liebegroup.org.au

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TRADE DEVELOPMENTS COULD SPELL SHIFT FOR AUSTRALIAN GRAIN

Lisa Curtis
Assistant Marketing Manager
Rabobank

WHILE COVID-19 and global tensions monopolise the headlines and weigh on global grain markets, a range of other recent developments will also alter Australian grain export prospects in the future, according to agribusiness specialist Rabobank.

In late June, it was announced that for Australian canola to be acceptable for import to the European Union under its International Sustainability and Carbon Certification, use of insecticide omethoate in production would need to be phased out by 2023.

The active ingredient in Le Mat®, omethoate is widely used in the control of red-legged earth mite in canola and is approved for use by the Australian Pesticides and Veterinary Medicines Authority.

Rabobank senior grains specialist, Cheyl Kalisch Gordon said that, at this stage, the requirement would be for growers to commit to phasing out its use by 2023.

“With around 50 per cent of canola produced in Australia sold into the EU, the challenge will be that not using omethoate to manage red-legged earth mite will lead to considerable yield losses, while alternative approaches can be more costly and less effective,” she said.

Rabobank Senior Grains & Oilseeds Analyst, Cheryl Kalisch-Gordon

Meanwhile, Thailand – after reversing a decision to ban glyphosate last year – has now banned use, import, and production of crop chemicals paraquat and chlorpyrifos.

Dr Kalisch Gordon said the ban was forecast to cost Thai companies 1.7 trillion baht (USD55 billion) in lost productivity, primarily for rubber, corn and sugar cane.

“On its own, the ban would open up opportunities for the supply of more corn or other feed grains to Thailand, however, it is also accompanied by a zero tolerance maximum residue level (MRL) for these two chemicals for imported product.”

“The Thai government is yet to clarify the zero MRL applies to grains imported for feed consumption, but if it does, hopes that Thailand might make up for some of Australia’s lost Chinese barley sales will be at risk,” she said.

Late season use of the chemicals, though not common in any case, would not be possible for barley that might be exported to Thailand, and, she said, if Thailand followed the EU's approach to phasing out use of omethoate in production, with compliance regulated by statutory declarations and on-farm audits, the use of paraquat and chlorpyrifos would be fully ruled out.

In a more positive development, Dr Kalisch Gordon said India had taken action to facilitate more lentil trade from Australia, even if only temporarily.

"India has reduced its tariff on lentils from 33 per cent to 11 per cent for shipments received before August 31 this year," she said. "The tariff relief applies to lentils from Canada and Australia, but not from the US (excluded as part of retaliatory action against US Steel and aluminium tariffs)."

The tariff relief comes in the wake of India's Rabi lentil harvest coming in well below the government's production target for the season and because rising prices in India have been adding to food inflation.

"It's well timed relief that will lift prices and draw out the remnants of lentils from store ahead of expected Australian supply recovery this year," Dr Kalisch Gordon said.

And for a more permanent positive step, there was the Indonesia Australia Comprehensive Economic Partnership Agreement (IACEPA) which came into force early this month.

"This agreement sets up Australia to be a preferential supplier of feed grains to this growing market, to build on our existing food grain supply relationship and support grain supply chain development that will benefit both nations."

SINGLE TOUCH PAYROLL (STP) EOFY REPORTING - ARE YOU READY?

Reagan Manns
Assistant Manager
RSM

ORIGINALLY introduced back in July 2018 for businesses with 20 or more employees, Single Touch Payroll (STP) has been around for a few years now. With so many additional businesses opting into STP for the first time during the 2020FY, it is worth checking to see if you are ready to complete your first EOFY with STP.

Widely considered to be the biggest change to compliance since GST, the primary purpose of STP was to provide greater transparency, accuracy and frequency in the delivery of information to both the ATO and employees. This is achieved by linking payroll software directly to the ATO enabling businesses to report wage, PAYG tax and superannuation after each pay event.

Whilst initially this high frequency of reporting sounded quite onerous, software providers have risen to the occasion and streamlined the process. Once the software is linked to the ATO it generally only requires one or two additional clicks to file each pay run after it is completed. With the software making is so simple, many businesses are choosing to say goodbye to old paper PAYG Summary statements and hello to electronic income statements and instantaneous reporting.

Key dates for reporting finalised STP

- **14 July** if you employ 20 or more
- **31 July** if you employ 19 or less - concessional date for the 2019/20 financial year only
- **30 September** for closely held employees only **if** you employ 20 or more (also applicable if you have 19 or less employees and voluntarily report your closely held employees)
- Lodgement date of the 2020 tax returns (potentially 15 May 2021) if only related employee/s

For businesses that have already opted into STP, the EOFY process is simpler than ever before. Once you have completed and filed the final pay period during the 2020FY, there are a few simple checks to do before making the finalisation declaration to the ATO:

1. Run a July 2019 to June 2020 payroll report within your STP software and within your accounting software. Check these reports to ensure that the totals for gross wages, PAYG Withholding and superannuation match.
2. If they don't, you will need to investigate why and make the necessary correction. Corrections can be done via an unscheduled pay run in the 2020FY.
3. Once the STP reports reconcile with your accounting reports, save or print a copy of these as support and then you are ready to submit the finalisation report in your STP software!

RSM

Key pointers

- If you have opted into STP for the first time during the 2020FY, it is worth checking the opening balances in your STP software for each employee as this often one area that causes variances when completing your checks for finalisation.
- When finalising via STP, you no longer need to provide employees with a Payment Summary. They will be able to access this information via myGov or a registered tax agent.
- As STP data is lodged after each pay event, employees can check their year to date income via myGov at any time. Once the business has completed the finalisation process the figures will change from year to date to 'Tax Ready'.
- Google is your friend, there are many step-by-step guides available online to walk you through the finalising process (whichever software you use)

All employers were to be STP ready by 1 July 2020, however, in April the ATO decided to give yet another extension to those employers that only employ related parties (i.e. closely held employees). Depending on your business circumstances, you may not need to be STP compliant until 1 July 2021. Make sure you check this with your accountant if you are unsure, as penalties may apply for non-compliance.

Micro Employers (1-4 employees), seasonal and intermittent employers can choose to report STP quarterly through a BAS or Tax Agent, usually at the same time as the Business Activity Statement is lodged. This concessional reporting is available until 30 June 2021. Applications for concessional treatment should have been lodged via your accountant prior to 28 February 2020, however, applications after this date may be considered depending on individual circumstances.

Even if you are not yet required to be registered you may wish to make the change as a time-saving measure in your business. There are both low-cost and no-cost STP solutions, so moving to an online solution doesn't need to be expensive. There are many benefits to making this change, such as saving manual inputting, physically posting documents and reduction in data entry, transposition or arithmetic errors.

DISEASE MANAGEMENT

Clare Johnston
Agronomist
Elders Scholz Rural

KEY MESSAGES

To reduce your disease pressure here are some options to consider:

- Minimise green bridge
- Grow varieties with resistance to locally common diseases
- Use clean/treated seed
- Rotate fungicide groups and mix groups to give dual MOA when possible

While our conditions are extremely different to those experienced farming somewhere like the Stirlings, disease is still present each year at varied levels. Rain events promote disease development, bouncing spores up the plant to new leaves. Damp, cool conditions are perfect for the disease to survive and grow.

For the Liebe area, there are a few key diseases common to the area each year. Spot-type net blotch (STNB) in barley and Yellow Spot and Septoria in wheat is widespread. Each year there are the odd areas of head smut or bunt, crown rot and in wet years powdery mildew can creep in.

Minimise green bridge

Disease carries over year to year on stubble residue. Burning of stubble can be a great way to destroy disease pathogens, however as experienced particularly this year, can leave you more vulnerable for erosion.

The ability to get a knockdown of volunteers when in second year of the same crop helps significantly, particularly if using a seed dressing such as Systiva for Spot-type net blotch which will only be protecting those seeds that are treated until the volunteers next to the crop spread their infection.

Variety choice

All crops are ranked for resistance to each variety and their disease profile. These range between very susceptible (VS) to resistant (R). Unfortunately current barley varieties make this a bit difficult for Spot-type net blotch (STNB). Our most prevalent varieties are ranked the following for STNB: Spartacus S-VS, La Trobe and Litmus, S and Buff, MS. Breeders are now focussing on new varieties with increased resistance to STNB. We will see this next year with the replacement for Spartacus, Maximus CL, so something to keep an eye out for moving forward.

For Septoria in wheat it is a similar story with most common varieties ranked S, this includes Scepter, Chief, Devil and Zen. Ninja and Vixen MS-S and Havoc a step up at MS-MR. The ratings are better for Yellow spot with all the above varieties MR-MS.

For more information check out DPIRD's sowing guide which is online and updated every year.

Use clean/treated seed

Basic seed hygiene such as using clean seed is the easiest way to prevent widespread and ongoing disease issue. Smuts and bunts are good examples of these which can be managed by not retaining seed where infected heads have been found. Infected heads release spores at harvest, contaminating grain which otherwise looks healthy.

Seed treatments provide good protection of a range of diseases. A premium seed dressing is best for suppression of smuts and bunts, particularly on susceptible varieties like Spartacus and La Trobe. Ensure you target treatments for expected disease spectrum and apply a follow up fungicide with a different mode of action.

Rotate fungicide groups

In broadacre agriculture we currently only really have three groups of fungicides available.

- Group 3 – DMI
- Group 11 – Strobilurin/Quinone outside inhibitor (QoI)
- Group 7 – SDHI

Resistance to fungicides is something we know how to prevent from our herbicide resistance management strategies. Each mode of action develops resistance differently. Group 7 fungicides - SDHIs and group 11 – strobilurin, are ones you really don't want to develop resistance to. Once one active in that group is resistant, they are all resistant. The group 3s – DMIs, develop partial resistance. For example, if resistant to tebuconazole you may find that epoxiconazole still works.

When selecting fungicide rate, it is important that it is reflective of what is needed to control the present disease. Unlike herbicides resistance development, low rates don't necessarily mean quicker resistance development, in fact high rates are more likely to see resistance.

Understanding how each fungicide works is helpful in working out which is more suitable in your situation. DMI fungicides generally have more of a curative effect, hitting the leaf and helping to stop the disease on that leaf. Their downfall is that they only protect what they hit so new growth is vulnerable to further infection. Strobilurin fungicides are translaminar and can provide protecting of new growth, helping retain green leaf which protects yield potential by the plant then being able to capitalise on later rain that may be too late for untreated. You should avoid putting strobilurin in high disease pressure situations, particularly if the DMI it's paired with has resistance developing.

SDHI fungicides work by stopping fungal respiration. It is important to not apply two consecutive SDHI fungicides as there is a medium to high risk of selecting for resistance and, as mentioned, once one active is resistant, they all are. Systiva is an SDHI seed dressing for control of a range of foliar fungal diseases in wheat and barley, such as STNB in barley. It can be very effective however, it is important that a foliar spray is applied (not containing SDHI).

When applying two applications in one season, be sure to use a different group or a combination of groups. Understanding resistance status in your area is vital in ensuring we minimise the risk of developing issues.

For more information feel free to call Clare – 9661 2000.

1 BIG QUESTION TO ASK ABOUT YOUR BUSINESS THIS NEW FINANCIAL YEAR

Hayley Bowie
Marketing Executive
Agrimaster

HOW was the 2019/20 financial year for your business? Are you where you wanted to be at year's end? Did you reach your goals?

As we kick off the new financial new, it's a perfect time to take a look back over the past 12 months. We spend so much of the year focused on the day-to-day, keeping the business ticking over from one week or month to the next, that we often don't take time out to reflect.

It's time to look at the bigger picture. And make some changes.

So, where do you start? I always recommend asking yourself this question as a jumping-off point: "If we knew what I know now, what would I have done differently?"

This question allows you to hone in on what went wrong or what could have been done better. It helps you identify the problems you experienced during the year and, therefore, gives you the best possible opportunity not to make those mistakes again in the coming year. But it's not just a "post-mortem. It's also a question that forces you to think about and provide solutions. It doesn't just ask what went wrong, but how you would handle it differently in order to avoid or resolve it.

In that sense, it's actually more like an annual check–up. It's an opportunity to play doctor to your own business. Much like a check-up, where your doctor goes over all parts of your body — checking your heartbeat is regular, making you say "ahh", taking your blood pressure — it's essential to look at all areas of your business.

An annual check-up now is better than a post mortem later!

Knowing what you know now, could you change your workflows to make them more efficient? Knowing what you know now, could you have budgeted better? Or could you have invested more wisely, or should you have kept a better eye on your cash flow? What tools could you introduce to stop the problem happening again?

When a doctor detects a problem, she doesn't send you home without any corrective advice or action. Once a problem has been identified, it's time to take your medicine. It's time to take actions to stop any problems you experienced in the last financial year from being repeated in 2020/21.

Consider making a fundamental change to the way you run your business. Adopting a strong business rhythm is a great way to break down your actions steps into bite-sized pieces across the year. To assist you when organizing your office and financial affairs, check out our Establishing a Business Rhythm guide. It outlines the activities you can perform across the year to monitor your cash flow, review your budget, working with your accountant.

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UNDERSTANDING CHEMICAL RESIDUE REQUIREMENTS HELPS ENSURE MARKET ACCESS POST-HARVEST

All content has been republished from the GRDC Factsheet November 2013

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

KEY POINTS

- Chemical residue limits vary between key domestic and export markets
- While it is a legal requirement to follow chemical label directions, doing so still may not guarantee market access
- Growers and advisers should consult their marketer about acceptable residue levels before applying chemical to crops
- The National Working Party on Grain Protection can provide up to date information on market requirements

Herbicides, fungicides and insecticides are generally accepted as an essential part of successful grain production.

These chemicals are applied from seed preparation to harvest and storage of grain and at virtually every stage in between. As a result, chemical residues may be present on grain when it goes to market.

Spraying is essential to productivity - however legal compliance with the lable and accurate record keeping is essential. Photo Evan Collis

It is a legal requirement that chemicals used in the Australian farming system and grain supply chain be registered for use on a particular crop and applied according to the label directions.

Maximum residue limits

The Australian Pesticides and Veterinary Medicines Authority (APVMA) sets a maximum residue limit (MRL) for each specific chemical and crop combination to ensure the residue stays below a particular level.

More importantly, however, the chemical residue in the grain commodity must also be no greater than the legislated MRL in the buyer's jurisdiction.

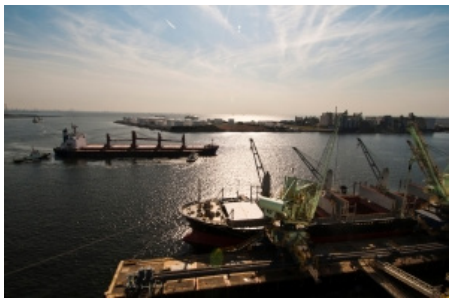
Failure to comply with a market MRL may result in price penalties or the shipment being rejected and returned to Australia. The marketer or supplier of the grain may also be liable for any costs if there is evidence of non-compliant chemical use or misleading application records.

How markets manage chemical residue

Any market, be it in Australia or overseas, may have its own chemical regulations. Therefore, different MRLs may apply to the same chemical and commodity combination depending on the market it is being sold into.

Overall, there is a trend towards requiring lower chemical residues on grain.

While the international Codex Alimentarius MRLs used to be applied, many markets are now setting their own chemical regulations and MRLs for chemicals (table 1).



Grain testing is labour intensive, time consuming and expensive - adding costs back along the supply chain. Photo Evan Collis

TABLE 1: Chemical MRL regulations in selected Australian markets.

	Regulation applied	Default MRL system	If no MRL exists	Frequency of MRL updates
Codex	Not applied by all markets	No default	Zero	Annual
Australia	Own MRL standard	No default	Zero	Monthly -six-weekly
China	Own MRL standard	No default	Zero	Biannual
EU	Own MRL standard	Default system	0.01	Frequent
Indonesia	Own MRL standard	No default	CRA*/ Zero	Rare
Japan	Own MRL standard	Default system	0.01	Frequent
South Korea	Own MRL standard	Default system	0.01	Frequent
Taiwan	Own MRL standard	No default	Zero	Biannual
Thailand	Own MRL standard	Complicated	0.01	Rare
Vietnam	Own MRL standard	No default	Zero	Rare

Current as at 31 March 2020 – variations exist for specific chemicals. MRLs quoted in milligrams per kilogram of grain.
*Country Recognition Agreement where Indonesia may accept Australian MRLs for some commodities.

Keeping up with the changes

The global patchwork of chemical regulations, zero limit defaults and frequency of updates means growers and their advisers must make sure they stay informed of market requirements.

The National Working Party on Grain Protection (NWPGP) has a role to:

- Provide a link between government and industry on market access related to chemical use
- Provide guidance on chemical use, post-harvest storage and market requirements
- Monitor changes in chemical regulations and their impact on market access

The NWPGP is leading an increase in communication to growers and other stakeholders in co-operation with the GRDC and various government departments.

The goal is for more effective communication between industry participants, including growers, advisers, agronomists, chemical registrants, re-sellers and grain handlers on market requirements in relation to chemical use.

Advice for growers and advisors

Simply applying a chemical correctly as per the label directions may not guarantee the grain meets the customer's chemical residue limits

It is particularly important to be aware of chemicals that are not acceptable in certain markets or where a zero MRL applies.

Because it is too expensive to sample and test every grain delivery for every possible chemical that is registered, the industry relies on:

- Full compliance of label directions by growers
- A complete and accurate commodity vendor declaration being provided by the grower
- Targeted sample testing before shipment based on perceived risk

High chemical residue levels could cause an entire export shipment being rejected. Photo Catherine Norwood

Failure to supply and accurately document grain chemical treatments risks a loss of reputation for Australian grain and increased monitoring of Australian shipments, with the cost of this passed along the supply chain.

More information

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Useful resources

- GRDC Update paper: Chemical residues and maximum residue limits
- On-farm stewardship guide: Growing Australian Grain
- National Residue Survey – Australian Government Department of Agriculture
- National Working Party on Grain Protection – Grain Trade Australia
- APVMA

NITROGEN FIXATION OF CROP LEGUMES: BASIC PRINCIPLES AND PRACTICAL MANAGEMENT

All content has been republished from the GRDC Factsheet July 2014

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

NITROGEN fixation by crop legumes reduces the need for fertiliser nitrogen (N) and emissions of nitrous oxide. Benefits from legumes can be maximised by using high-yielding legume varieties that are not constrained by poor management, insects, disease, weeds or nutrient deficiencies.

Key points

- Growing crop legumes in rotation with cereals substantially reduces the need for fertiliser N inputs, often by 40 to 80kg N/ha, and improves productivity.
- Crop legumes fix about 100kg N/ha on average. Nitrogen fixation is suppressed by soil nitrate.
- An estimated 167,000 tonnes of N with a nominal value of $270 million was fixed by crop legumes in 2012.
- Adequate nodulation is important.

Growing legumes as ley pastures or rotation crops helps growers spread risk and manage disease, weeds and pests.

Oilseed legumes (soybeans and peanuts) and many pulses are high-value crops in their own right.

The ability of legumes to form a mutually beneficial (symbiotic) association with rhizobia (a soil bacteria) and fix atmospheric nitrogen gas (N_2) makes them self-sufficient in nitrogen (N), enabling them to grow in almost any soil without inputs of fertiliser N.

Legumes also supply N to the cropping system, with mineral N, released from legume residues as they decompose, taken up by following crops.

The value of legumes in agricultural systems is strongly influenced by how well they grow and fix N_2. High grain and biomass yields mean high economic returns and potentially more N added to the system via N-rich legume residues. Benefits are greater in soils low in plant available mineral N because nodulation and N_2 fixation are suppressed by high levels of available soil N.

Lupins (left) and field peas (right) contribute significant amounts of soil N through N_2 fixation.

Legume trends

Crop legumes – pulse, feed and oilseed crops – were grown on approximately 1.75million hectares across Australia's 25,000 grain farms in 2012.

Narrow-leafed lupin was the most widely grown crop legume for many years but in 2012 the area of lupins fell to 450,000ha and chickpeas were the most widely grown crop legume. The total area of chickpeas nationwide was 565,000ha, with about 80 per cent of that area in the GRDC's northern region (northern NSW and Queensland).

The popularity of chickpeas in the northern region is not surprising. They are a high-value crop ($400 to $600 per tonne), are well adapted to the neutral to alkaline clay soils typical of the region and have proved their value as a component of northern wheat, barley and sorghum-dominant production systems (see Useful Resouces).

Amounts of N

Nitrogen fixation by crop legumes has now been estimated in many studies. Average amounts of N fixed range from 60 kilograms N per hectare for lentils to 130kg N/ha for lupins (see Table 2).

Australia's two major crop legumes, lupins and chickpeas, together fixed close to 100,000 tonnes of N in 2012, with another 70,000t fixed by other crop legumes.

In terms of fertiliser N equivalence, the 1.74 million hectares of crop legumes grown in 2012 are estimated to have fixed a total of 167,000t of N, which can be valued at $270 million. This is based on 167,000t of N at $1300 per tonne (cost of fertiliser N) and 80 per cent efficiency of fertiliser N to plant-available N (see Table 2).

Table 1: Terms used to describe legume N_2, fixation and N-cycling in farming systems.

Term	Meaning
N_2 fixation	The reduction of atmospheric nitrogen gas to ammonia (NH3). Nitrogen fixation in legumes is a biological process in which root nodule bacteria (rhizobia) fix N_2 via the enzyme nitrogenase.
Total crop N fixed	The total contribution of N_2 fixation to legume biomass, including above-ground vegetation and below-ground roots and nodules. In legumes, 30 to 50 per cent of total crop N is in the belowground portion of the plant.
Crop N balance	The difference between N inputs and N outputs. N inputs are N_2 fixation and fertiliser N (if applied). Outputs are the N in harvested grain or hay/fodder plus N lost through volatilisation and leaching.
Nitrate-N benefit	The extra nitrate N available after a legume; best described as the difference between soil nitrate N when the legume was sown and nitrate N at sowing of the following crop.

Nitrogen fixation drivers

Legumes must be well nodulated for maximum N_2 fixation and soil N benefits. In most situations, growers will need to inoculate at sowing to ensure good levels of nodulation. For guidelines on legume inoculation see Useful Resouces.

Provided nodulation is adequate, legume N_2 fixation is strongly and positively linked to productivity, and suppressed by soil nitrate.

The faba bean data in Figure 1 clearly shows how the amount of N fixed increases with the productivity of the legume. The equation of the line of best fit shows that an extra 19.3kg N/ha is fixed for every extra tonne of shoot dry matter produced. This linear relationship between legume productivity and N_2 fixation is fairly typical of all crop legumes.

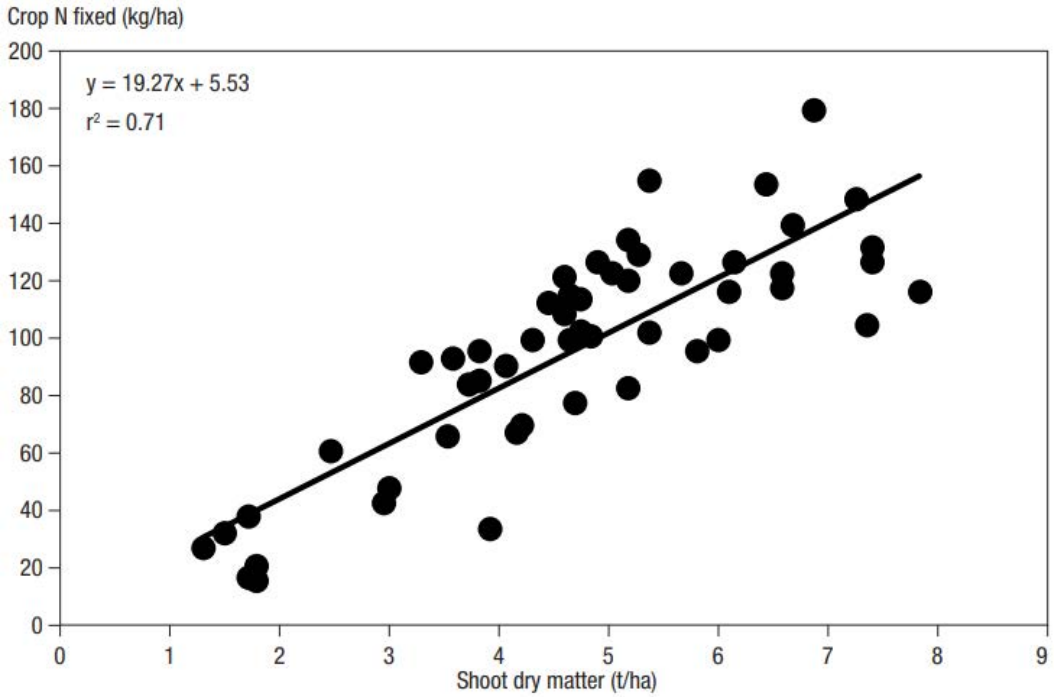
Bigger legume crops also mean bigger N and yield benefits for the following cereal crop. For example, in 167 experiments conducted in Western Australia between 1974 and 2007 to examine the rotational benefit of narrow-leafed lupins and field peas for subsequent wheat crops, the greatest benefits were provided by high yielding legume crops grown in high-rainfall areas. A simple analysis of these results suggests that a doubling of legume grain yield doubles the yield benefit in the following crop.

Pasture legumes

Pasture legumes, mostly annual and perennial clovers and medics, provide most of the N_2 fixation in Australia's farming and grazing systems, with the 1.7 million hectares of crop legumes dwarfed by more than 20 million hectares of pasture containing legumes. The area of legume pasture could be as high as 50 million hectares, depending on the definition used.

This lack of definition, plus the lack of data on legume biomass produced each year, makes it almost impossible to accurately define how much N is fixed by legume-based pastures Australia-wide, but a ballpark figure would be 1.7 to 2.5 million tonnes of N annually.

Figure 1: Terms used to describe legume N_2, fixation and N-cycling in farming systems.



This graph shows the relationship between shoot dry matter and N2 fixation for faba beans.

Management

Good management can increase legume productivity and N_2 fixation.

- Choose the most appropriate legume for the soil type and environment and varieties that are robust and produce large amounts of biomass.
- Optimise nutrient inputs such as phosphorus.
- Use lime to improve the pH of acid soils.
- Effectively manage weeds, disease and insects.
- Aim to maximise soil water accumulation ahead of seeding.
- Use no-tillage or reduced tillage to improve water infiltration and reduce soil moisture loss.
- Sow on time and establish the appropriate plant density.

Soil nitrate inhibits legume nodulation and N_2 fixation. At low soil nitrate levels (less than 50kg N/ha in the top metre of soil), legume N_2 fixation is generally high (see Figure 2). As soil nitrate levels increase, legume nodulation is reduced and N_2 fixation declines. At nitrate levels of more than 200kg N/ha, nodulation and N_2 fixation will be close to zero.

However, not all crop legumes are equally affected by soil nitrate levels. Faba beans, for example, are less affected by nitrate levels than crops such as chickpeas and field peas.

Aggressive cultivation, heavy use of nitrogenous fertilisers and long pre-crop fallows all increase soil nitrate levels.

Table 2: Crop legume areas and estimates of N_2 fixation.

Crop	Area sown (ha)[1]	Average per cent Ndfa[2]	Average crop N fixed (kg/ha)[3]	Total crop N fixed (tonnes)[4]
Chickpeas	565,000	41	70	39,600
Lupins	450,000	75	130	58,500
Field peas	280,000	66	105	29,400
Faba beans	180,000	65	110	19,800
Lentils	165,000	60	60	9,900
Others	100,000	50	100	10,000
Total	1,740,000	60	96	167,000

1 Statistical data for 2012. ABARES Crop Report, December 2012.
2 %Ndfa = % legume N derived from atmosphere, i.e. N2 fixation. Values from nearly 500 measurements of %Ndfa. Source: Unkovich et al. 2010.
3 Calculated using data from Unkovich et al. (2010) on legume shoot DM, N and root:shoot ratios of 1:1 chickpeas), 0.5:1 (soybeans) and 0.4:1 (remainder).
4 Calculated as legume area x average crop N fixed.
5 Others include soybeans, mung beans etc

Capturing the difference

Legume N_2 fixation can significantly reduce fertiliser N costs.

Figure 3 shows the amounts of N available to a cereal crop after a legume and after an N-fertilised wheat crop.

The values in Figure 3 are for a low to medium-fertility clay soil in northern New South Wales, with the legume (chickpeas) yielding 2t/ha and the N-fertilised wheat 3t/ha at 11 per cent grain protein. The actual values are a combination of experimental data and simulated estimates for a particular set of circumstances, but the principles are universal.

In the legume-cereal sequence, the legume crop uses most of the N_2 it fixes during the growing season (120kg N/ha out of total of 200kg N/ha), eliminating the need for fertiliser N to produce a crop. After harvest, 18kg N/ha is mineralised from the legume residues, adding to the 80kg nitrate N/ha from mineralisation of native soil organic matter and other plant-available N already in the soil.

In the cereal-cereal sequence, fertiliser N (63kg N/ha) is applied to the first cereal crop and no N is released after harvest. In fact, there is a deficit because of the high C:N ratio of the cereal stubbles, which immobilises mineral N (–21kg N/ha).

At seeding time for the following crop, there is 98kg of nitrate N/ha available after the legume, 39kg N/ha more than there is following the cereal. This is equivalent to about 50kg fertiliser N/ha (assuming 80 per cent fertiliser N ends up as nitrate N).

These figures show that legume N_2 fixation reduces the cost of growing a legume crop and supplies additional nitrate for the following crop.

Reduction in gaseous N losses (12kg N/ha for legume-cereal compared with 19kg N/ha for cereal-cereal in Figure 3) is an additional benefit of reducing fertiliser N inputs by incorporating N_2 fixing legumes into farming systems.

Much of the gaseous N is emitted as nitrous oxide, a particularly potent greenhouse gas, so using a legume instead of N fertiliser to provide N also has an environmental benefit.

Figure 2: Increasing soil nitrate fertility reduces N2 fixation by legumes.

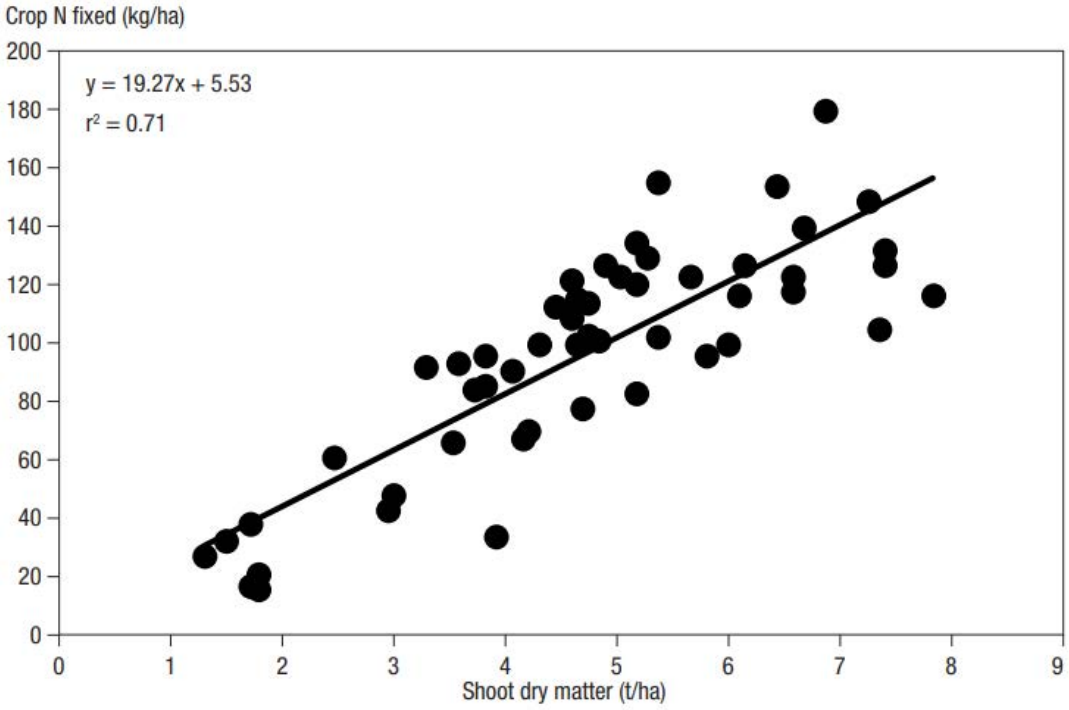
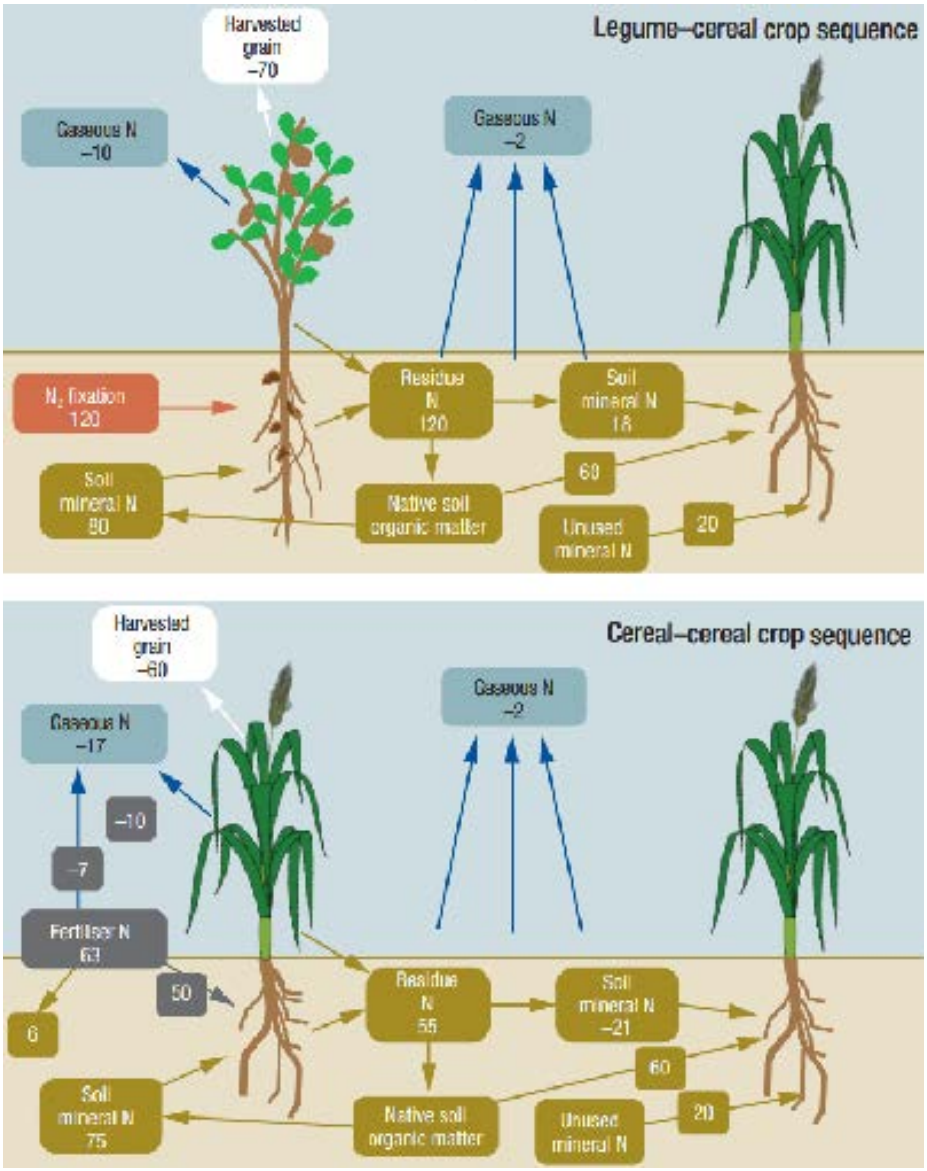


FIGURE 3 Contrasting N-cycling in legume–cereal and cereal–cereal crop sequence. The values for N (kg/ha) in the boxes are a combination of experimental data and simulated estimates.



Useful resources

Managing legume and fertiliser N for northern grains cropping.

Inoculating legumes: A practical guide

Rhizobial inoculants Fact Sheet: Harvesting the benefits of inoculating legumes

Choosing rotation crops Fact Sheet: Short-term profits, long-term payback

Rotations Fact Sheet: Good rotations – when do you need a break?

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CALENDAR OF EVENTS

Event	Date	Location
Ladies Landcare Luncheon	Wednesday 5th August	Liebe Group Office
AgChats Mid Year Review	Thursday 6th August	Liebe Group Office
AgChats DBM & Budworm	Thursday 13th August	Liebe Group Office
Mental Health Workshop	Thursday 20th August	Liebe Group Office
Gen Y Bus Tour	Thursday 26th August	Various locations
Spring Field Day	Thursday 10th September	MTS, Latham
Annual Dinner	Friday 16th October	Liebe Group Office