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LIEBE GROUP

LIEBE GROUP NEWS

INSIDE THIS ISSUE

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

LIEBE GROUP PARTNERS

Liebe Group Partners are an integral facet of the success of the group. Since our inception the group has developed long and valuable relationships with organisations who have mutual interests to the Liebe Group. These strong partnerships have given the group diversity, a level of security and the capacity to build a sustainable and healthy future.

These partnering organisations are high profile agribusinesses with a keen interest in the healthy future of agriculture. They see the relationship with the group as a meaningful way to stay in close contact with the grass roots innovators of the industry and a way to invest resources into a group which is focusing on research and development for future agricultural sustainability.

DIAMOND PARTNERS

Rabobank

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GOLD PARTNERS

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agrimaster® Agribusiness accounting software

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FROM THE EXECUTIVE OFFICER

Welcome to the Liebe Group's first quarterly newsletter! Over the next twelve months we will be trialling this new format providing printed newsletters posted to our members.

This will also be complimented by a digital copy emailed to our full mailing list. If you would prefer more than one copy posted let us know. Please get in touch with the team to provide any feedback, thoughts or ideas for our future newsletters!

The Main Trial Site at Reynold's property in Miling is looking great having recieved over 250mm this year. Nine of the 15 trials were presented at the Post Seeding Field Walk in late July, which saw great attendance, networking and R&D ideas generated by our local growers.

A huge thanks to Rabobank for sponsoring this event and celebrating the milestone of 20 years of partnership with the Liebe Group!

A lot has been happening over the past few months behind the scenes in preparation for the upcoming Spring Field Day on the 8th September. More information on the event can be found on page 13.

On the project front we have recently teamed up with CSIRO and Stirlings to Coast Farmers to kick start a new pilot project. Focusing on utilising data from various sources including grower paddock information, weather stations, moisture probes, satellite images and scientific modelling, the next 12 months will see some interesting outputs. You can read more about this project on page 14.

I would like to welcome our newest team member Juniper Kiss! Juniper joins Liebe Group in the R&D Coordinator position and brings a wealth of knowledge experience with her as a plant biologist. An introduction article can be found on page 12.

Liebe Group has also recently farewelled our Admin Assistant Alicia Hudson who has returned to working on her family farm in Goodlands. The team are grateful for her hard work over the past 6 months and wish her all the best.

To finish off, I would like to announce that from the end of December I will be taking leave from the group to start a family! Recruitment is underway for a new Executive Officer, so please share this to anyone you think might be interested.

Information on the position, as well as the vacant Project Administration Officer can be found on the Liebe Group website and on page 11.

All the best to our members and local community as we gear up towards the approaching harvest season.

LIEBE'S LEADERSHIP 2022

BOARD

Chair: Brad McIlroy
Vice-Chair: Rebecca Wallis
Secretary: Katrina Venticinque
Treasurer: Sophie Carlshausen

Board Members:
Boyd Carter
Dylan Hirsch
Wendy Sawyer
Ross Fitzsimons
Blayn Carlshausen
Gavin Carter
Alex Keamy

FINANCE COMMITTEE

Chair: Wendy Sawyer

R&D COMMITTEE

Chair: Dylan Hirsch

WOMEN'S COMMITTEE

Chair: Jennifer Birch

LIEBE GROUP
Working together in Agriculture

CALENDAR OF EVENTS

SEPTEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Yuna Grower Tour	2	3
4	5	6	7	8 Spring Field Day	9	10
11	12	13	14 Northern Liebe Trials Bus Tour	15	16 AgChats: Succession Planning	17
18	19	20	21 Harvester Set Up Workshop	22	23	24
25	26 Public Holiday	27	28	29	30	

CONTENTS

MEMBER NEWS

AGRONOMIC UPDATES

BUSINESS UPDATES

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REDEFINING DRYLAND SALINITY FOR A NEW

Salinity has been a major land degradation issue in the WA wheatbelt ever since the widespread clearing of native vegetation began in earnest around the mid-20th century.

Rising groundwater and subsequent salinisation of soils and waterways in lower lying areas continues to cost the agricultural economy in lost production and has severely affected the unique biodiversity of the now fragmented wetland systems.

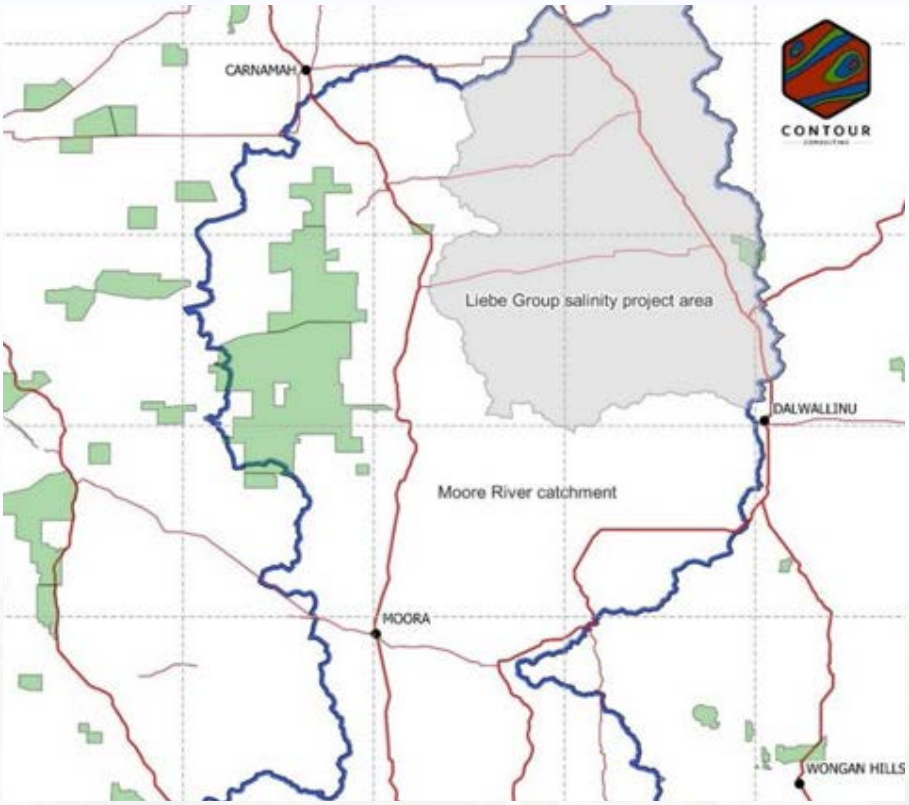
There is more knowledge and investment regarding managing salinity, particularly after the State Salinity Strategy (2000).

The project coincided with a particularly wet year (1999) across many regions including the current project catchment in the northeast agricultural region.

The wet year of 1999 led to a spike in groundwater and an increase in waterlogged and saline land. This generated significant interest in understanding and mitigating the salinity threat.

Between 2000- 2010 there was considerable research and monitoring effort, on-ground works, funding for projects, and extension of knowledge to land managers and stakeholder groups and was a key focus for natural resources management (NRM) in WA at that time.

With changing priorities for government funding, and a long period of declining rainfall in the broader southwest of WA, groundwater levels tended to stabilise or became variable (rising and falling depending on sites and location).



Map of the project area.

There was also perhaps a realisation that mitigating salinity was a very costly and often complex task, requiring good cooperation between community sectors, government, and industry, and with multiple approaches and strategies working best in unison and across tenures and property boundaries.

In the project catchment in particular, rainfall declined significantly in the 21st century. Relatively few years between 2004 and 2019 were above the long-term median rainfall.

There was a notable drop-off in break-of-season autumn rainfall and a slight increase in scattered and erratic summer storm events.

It is not surprising that salinity has not been a pressing issue for ongoing generational change on farms and conservation lands.

A younger generation of farmers and land managers is now taking over the reins, having cut their teeth in the dry years 2010-2020, and they have different perspectives and priorities than those managing land in the 1990s and early 2000s.

Cropping has become the predominant activity in the project catchment with far less mixed farming. Some of the animal-based solutions to salinity such as perennial fodder plantations may no longer seem relevant or may be a hindrance to a cropping program.

GENERATION OF LAND MANAGERS

Some soil conservation earthworks, alley and corridor plantings linking remnant native vegetation, may need reconfiguring to better suit current and future farming systems.

The 2021 season in the project catchment was a turnaround year with exceptional rainfall - the fifth highest since records began in the district - and only comparable to 1999 in the era since broadscale land clearing. It is therefore no surprise that the Liebe Group has identified a potential knowledge gap in understanding and mitigating the threat of waterlogging and salinity.

The Liebe Group recognises that not only are government resources scarcer in 2022 to study, monitor, extend information, and provide support to on ground works, but there is a risk that a spike or advance in salinity may find farmers unprepared or unfamiliar with options and strategies used in the past.

Most data, even on the location of monitoring bores, is uncoordinated between three government departments and the potential ongoing value of this investment in understanding future salinity trends is at risk.

The review has found that there are well-developed and sound recommendations to manage salinity in the project catchment based on large investments in research and development in the past.

Renewed interest in tackling salinity issues, particularly in direct response to infrequent wet seasons, requires ongoing clear and concise messaging of existing knowledge and, hopefully can lead to ongoing investment in mitigating the threat, as well as encouraging monitoring and further research into the salinity issue.

Gareth Barnes (Wubin) and Greg O'Reilly (Contour Consulting).

Project Activities

Contour Environmental and Agricultural Consulting have recently completed a catchment review on behalf of the Liebe Group as part of funding through State NRM funding. The review is available, and will be accompanied by a management plan released later in the year.

Greg O'Reilly, and Mike Pearse (west Wubin) at the salinity site.

Greg O'Reilly, Contour Consulting, and Rebecca Wallis, Liebe Group, undertook site visits in July and August on four properties around Wubin and Buntine.

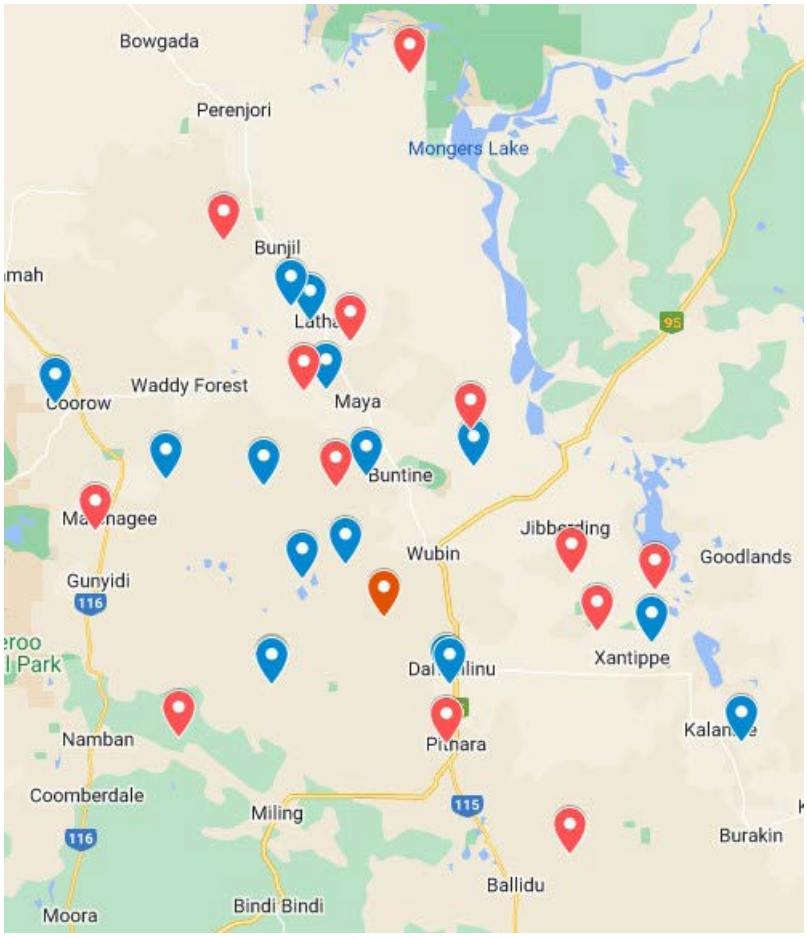
The visits supported the findings of the literature review and highlighted the increases in impact of 'new' salinity since 2016. The local knowledge and experience from growers in managing salinity was captured through these visits and will be reflected in the management plan.

Key discussions focused around management options like drain maintenance, tree planting in recharge areas, carbon credits, surface water management, and catchment level governance structures for drainage.

CURRENT PROJECTS

The Liebe Group is committed to giving back to growers through local research and development. If you would like to know more information on any of these trials please contact the Liebe Group Office or visit the website.

Stubble height project, harvest 2021.



Location of project sites (blue) in the Liebe region, and the soil probe network (red).

Project	Funding	Participating Grower & Location
Demonstrating the benefits of soil amelioration and controlled traffic farming across a broad range of soil types	GRDC	Dylan Hirsch, Latham
Increasing the profitability of the double break rotation in the MRZ of WA wheatbelt through incorporation of an early sown high value pulse	GRDC	Matt Hyde, Dalwallinu
Soilborne pathogen identification and management strategies projects	GRDC	Matt Hyde, Dalwallinu
Measuring harvest losses in Western Australia	GRDC	Various Liebe Members
Impact of stubble height on cropping systems in the Western region	GRDC	Brian McAlpine, Maya
Risk and reward of very early sown canola	GRDC	Trial: Todd & Gavin Carter, Xantippe. Case Studies: Dylan Hirsch, Latham, Mike Dodd, Buntine, Boyd Carter, Jibberding
National Landcare Program - Smart Farms Small Grants - Soil Extension Activities	NLP	Bob Nixon, Kalannie, Blair Stone, Marchagee, Stuart McAlpine, Buntine, Shaun Fitzsimons, Buntine
Redefining dryland salinity management for new generation land custodians	State NRM	Mike Dodd, Buntine, Mike Pearse, Buntine, Gareth Barnes, Buntine, Brian McAlpine, Latham
Seeing into Soils: Adoption of a soil moisture probe network for increased water use efficiency in the low rainfall region of WA	NLP	14x Liebe Group Members
The effect on lupin establishment as a result of reduced seed integrity	GRDC	Various Liebe Members
Growers critically analysing the role of new technology in on-farm decision making - what are the possibilities?	SWWA Drought Hub	Various Liebe Members
Main Trial Site	Liebe Group	Sam Reynolds, Miling
IMI residue trial	Liebe Group	Sam Reynolds, Miling
Diamondback Moth (DBM) survey	DPIRD	Various Liebe Members
New farming methods to sequester soil organic carbon, reduce greenhouse gas emissions and improve soil fertility	DPIRD	Charles Wass, Coorow

THE RISKS AND REWARDS OF VERY EARLY SOWN CANOLA

By Chris O'Callaghan, Project Officer, Liebe Group

Thanks to GRDC investment, the Liebe Group has been able to capitalise on an early sowing opportunity for canola, which will give growers data on the risks and rewards of very early sown canola.

The project has allowed for a small plot trial, which will be accompanied by three grower case studies, aimed at building a knowledge base around 'going early' with canola seeding programs.

The significant rainfall event in late March prompted Liebe's R&D Committee to prioritise an investigation into how different varieties perform in an early April sowing window. The last few years has seen more late tropical low systems coming through further south, providing a non-traditional season break.

With high canola market prices and ending a season with available stored soil moisture, the timeliness of this project is very advantageous to growers throughout the Liebe Group region.

A replicated trial encompassing two times of sowing (very early and standard grower practice) and six varieties of Roundup Ready canola (2 early, 2 mid and 2 longer season varieties) was implemented during the first week of April 2022 in Xantippe. The following varieties were collected from local growers and suppliers for use in the trial:

- Emu is an early-maturing (3) Glyphosate tolerant hybrid canola with TruFlex® (TF)
- Battalion is an early-maturing (3.5) Glyphosate tolerant hybrid TruFlex® canola with Clearfield® tolerance. (TF+CL)
- 44Y27 is an early-mid (4) maturing Glyphosate tolerant hybrid canola. (RR)
- Invigor 4022P is an early-mid (4) maturing Glyphosate tolerant hybrid canola with TruFlex®. (TF)
- R4520P is an earlymid (4.5) maturing Glyphosate tolerant hybrid canola with TruFlex®. (TF)
- GT53 is a mid maturing (5) Glyphosate tolerant hybrid canola. (RR)

Previous GRDC-funded research conducted by the Department of Primary Industries and Regional Development (DPIRD) over the last two years has shown that canola can be sown as early as 18 March without a yield penalty (Bucat 2022).

Sowing in March or early April yielded more than half a tonne higher on average over all the trials, compared to late April seeding.

There was no yield advantage to sowing early March over early April, however it does provide a seeding opportunity.

Local growers at a field walk at the trial on 22nd June.

Contributing factors to high yields with early sowing include reduced heat stress during flowering and reduced drought stress during podding.

Canola also has an indeterminate flowering habit which can result in a longer flowering period and higher number of pods (Bucat et al. 2021).

Comparison of flowering stages for Emu (Left TOS1 5th April, Right TOS2 4th May). Photos taken 15th July.

Comparison of flowering stages for GT53 (Left TOS1 5th April, Right TOS2 4th May). Photos taken 15th July.

Flowering percentage to date in 2022

Flowering percentages have been taken weekly to date, with flowering in the first time of sowing following an expected pattern to date, given their maturities. The second time of sowing has only just started to see flowers at the time of writing and the data is not included here.

Figure 1. Weekly flowering percentage for 6 varieties sown on the 5th April 2022 (first time of sowing) at Xantippe.

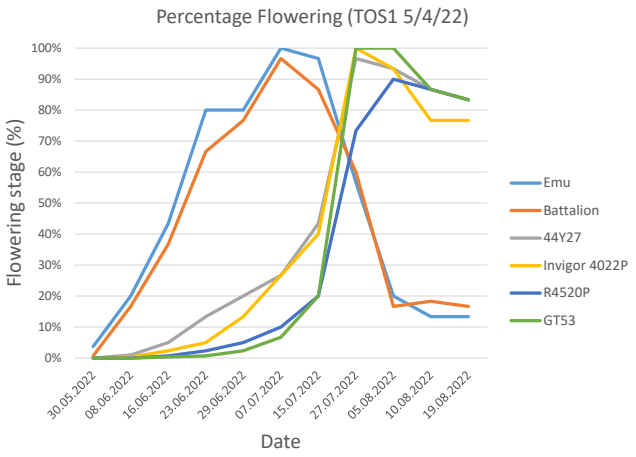
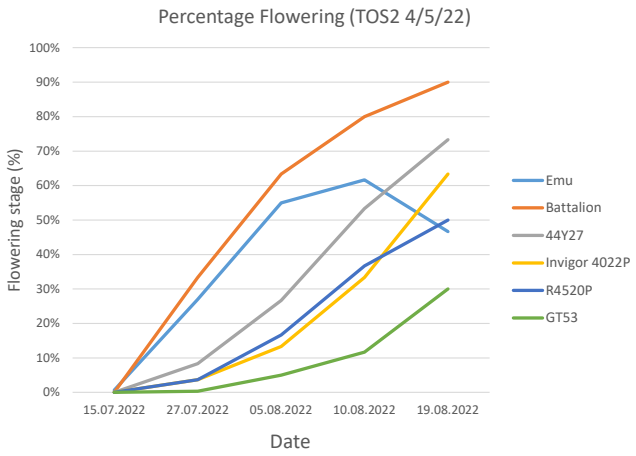


Figure 2. Weekly flowering percentage for 6 varieties sown on the 4th May 2022 (second time of sowing) at Xantippe.



Grower insights

As part of the project, three growers were interviewed to gauge their approaches to canola planting in recent years.

- All three growers had increased canola planting in last 5-10 years (10-30% increase)
- This increase mainly driven by price, but also by increased confidence in growing canola and it having a fit in their rotations. New chemistries and varieties has also helped – especially with regards to having better weed control options in their rotations.
- Each grower had different rules of thumb on when they started seeding canola – some more defined than others around dates or mm rainfall.
- Early seeding is nearly always influenced by combination of soil moisture and a rainfall event
- All three growers manage the risks associated with early sowing canola in different ways. One grower scales back on fertiliser applied at seeding to reduce upfront costs. One looks to stagger seeding times to spread the risk of crop failure. The other aims to reduce seed costs by using a mix of retained and pedigree seed.
- All three growers noted that the new varieties are improving their confidence in growing canola, however issues with seed supply has led to difficulties determining the best variety to the appropriate seeding time.
- Early sowing also present some challenges with seeding operations such as getting depth of seeding correct, depending on the conditions.

Flowering times will continue to be recorded throughout the season. Yields will be measured at harvest. This information will be provided in full in the Liebe Groups Local Research and Development Results book in March 2023.


Mike Dodd, Buntine.

Reference

Bucat J, (2022), More seeding opportunities with early canola sowing, GRDC Ground cover.

Further Reading

Bucat J, Power S, Harries M, Blake A, Farre I, (2021), When to take advantage of early seeding opportunities for canola in WA. GRDC Updates Paper.

LIEBE GROUP
Working together in Agriculture

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

EXECUTIVE OFFICER OF THE LIEBE GROUP
NOW HIRING!

Applications close Friday 9th September 2022

- **Rewarding role based in the vibrant Western Australian Wheatbelt**
- **Build your leadership skills working alongside a passionate and innovative farming community**
- **Attractive salary package**

Are you a highly motivated and enthusiastic person looking for an exciting and rewarding career opportunity?

As the **Executive Officer** of the Liebe Group you would take on the role as leader of the team, guiding the operational activities in line with the strategic direction of the group.

Possessing exceptional interpersonal skills, you will encourage healthy team collaboration and be organised and flexible, with demonstrated problem solving skills and leadership qualities.

This position would suit an individual with knowledge and/or experience of broadacre farming systems, or relevant tertiary qualifications in agricultural sciences or business development. Support including mentoring and professional development opportunities will also be available.

The group conducts valuable broadacre R,D&E through trials, demonstrations and capacity building events, and provides information to local farming businesses in the region to support them to be profitable and sustainable.

Duties include human resources, operations oversight, stakeholder management, project and research development, financial management and more!

The Liebe Group is a grower-driven, not for profit organisation that operates within the Western Australian Wheatbelt. The group has built a solid reputation over the last twenty-five years as being a professional, highly respected and innovative grower group.

The purpose-built Liebe Group facility provides a modern and fully equipped base for local R,D&E activities in the vibrant town of Dalwallinu, 260km north of Perth. The progressive community offers a welcoming atmosphere with the best of rural living and amenities.

For further information and application forms:
Katrina Venticinque, Executive Officer
P| 0400 941 412 **E**| eo@liebegroup.org.au

NOW HIRING!
PROJECT ADMINISTRATION OFFICER

- **Part-time (3-4 days per week)**
- **Flexible working arrangements**
- **Salary dependant on experience**
- **Position ready for immediate start**

Do you have experience or interest in administration, with great organisation skills and the ability to work as a team?

Join the Liebe Group team as our new **Project Administration Officer**! This diverse and rewarding role requires a person with the drive to complete tasks in a timely manner with high attention to detail. Training and support will also be provided.

The group conducts valuable agricultrual research, development and extension through trials, demonstrations, workshops and events and focuses on extending knowledge to members and the local farming community.

Your duties would include assisting the team on projects and events including administration assistance, general office support, event planning, project coordination and communications. Agricultural experience and/or qualifications are not essential for this position.

The Liebe Group is a grower-driven, not for profit organisation that operates within the Western Australian Wheatbelt. The group has built a solid reputation over the last twenty-five years as being a professional, highly respected and innovative grower group.

The office is based in the vibrant town of Dalwallinu, 260km north of Perth. The progressive community offers a welcoming atmosphere with the best of rural living and amenities.

Applications close:
Friday 16th September

For further information and to apply:
Katrina Venticinque, Executive Officer
P| 0400 941 412 **E**| eo@liebegroup.org.au

WELCOME TO JUNIPER!

LIEBE GROUP'S NEW R&D OFFICER!

Juniper joined the Liebe Group as the Research and Development Officer in August 2022. She has come from the UK with a background in canola variety trials, biocontrol agent testing and plant pathology.

She has a Plant Biology undergraduate degree from Aberystwyth University (Wales) and a Masters by Research from the University of Bristol where she worked with Panama disease of bananas. She started a PhD at the University of Southampton on food security and soil health issues in Papua New Guinea but after getting infected with malaria in the field, she started to look for jobs in Australia. "My journey to the Liebe Group has been a bit of a whirlwind", she explained.

Whilst studying at university part-time, Juniper has worked at research institutes and agricultural NGOs full-time. First, she worked at CABI (Egham, UK) on biological control testing (arthropods and plant pathogens) against invasive plants. Then, she was a Field Trials Technician and Team Leader at the National Institute of Agricultural Botany (Cambridge, UK) where she worked on canola, cereal, pulse and grass Distinctiveness, Uniformity, and Stability (DUS) field trials.

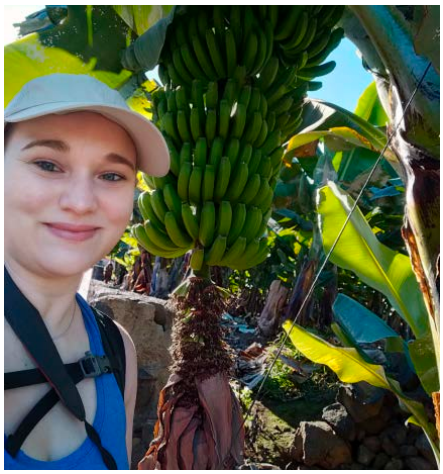
She managed a team of 10 technicians, monitoring and sampling over 8,000 sample plots and oversaw the image analysis of hundreds of thousands of canola cotyledons and petals.

After NIAB, she worked on downy mildew resistance of baby spinach at the University of Arkansas as a C. Roy Adair Scholar, then completed the Rice: Research to Production intensive course at IRRI (Philippines). She visited CABI's Plantwise program (network of "plant clinics" where farmers can bring their troublesome crops to "plant doctors" for diagnostics) in Nepal and Costa Rica with scholarships.

Juniper is passionate about agricultural extension and being a conduit between farmers and researchers. She is rather nerdy about data and modelling having taught statistics to undergraduate students. Juniper has carried out all sorts of modelling in the past (spatial, economic, and mathematical) and she has recently been dabbling with remote sensing in Papua New Guinea.

"I am fascinated by food production around the world and learning from farmers on the ground. I have a bit of an encyclopaedia in my head about all the different crop and soil management practices out there."

She is very excited to join the Liebe Group and meet all the members, farmers, industry and academic partners. With a can-do attitude, she cannot wait to get started!



Juniper visiting Chiquita banana plantation in Costa Rica.

Rice field tilling with a tractor at the International Rice Research Institute in the Philippines.

Tilling a rice paddy field in the Philippines at the International Rice Research Institute.

Plant pathogen isolation demonstration in Papua New Guinea.

SPRING FIELD DAY

Celebrating 25 years of Liebe Group | 1997 - 2022

THURSDAY 8TH SEPTEMBER, 2022

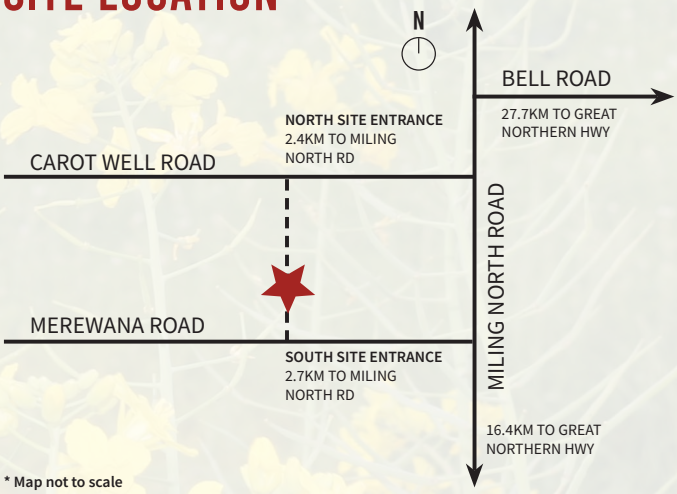
REYNOLDS PROPERTY | MEREWANA RD, NORTH MILING

LIEBE GROUP
Working together in Agriculture

FIELD TRIALS

CoAxium® Barley Demonstration	AGT
Clearfield Wheat Demo	Longreach Plant Breeders
Wheat NVT	Living Farm & GRDC
N x K Rate Comparison and Impact of plant density and N rate on grain yield and quality	CSBP
Optimising nitrogen and phosphorus rates when budget is the determinant factor	Summit Fertilizers
Pre and post-em mixes for grass and broadleaf control in cereal	Elders Scholz Rural
Callisto annual broadleaf weed control in cereals	Syngenta
Assessing the efficacy of multiple pesticide additives across in-crop spray applications	Spraytec Australia
Relative crop safety and efficacy of Overwatch when used alone or in a tank mix combination in wheat	FMC
Demonstrating the efficacy and safety of Nufarm Unity + Maya tank mix and NUL3603 on wild radish in cereals	Nufarm
Opportunity cost of herbicide residue effects across crop types (IMI Trial)	Liebe Group
Use of Tenet (metazachlor) for post em grass weed control in canola	Adama
GT Canola NVT	Living Farm & GRDC
TT Canola NVT	Living Farm & GRDC
Hyola® Innovation Systems Technology trial	Pacific Seeds

SITE LOCATION



* Map not to scale

COST

Liebe Members	Free Entry
Non-members	$50
Industry	$100
Students	$20

REGISTRATION

From 8.30am for 9am start

Please register online
https://tinyurl.com/SpringFD22
or via Liebe Office on 9661 1907

GUEST PRESENTERS

Bob Nixon
Grower, Kalannie

Brad Millsteed
#6Bs

Dennis Voznesenski
Rabobank

QUERIES

For more information, contact the Liebe Group Office
9661 1907 | admin@liebegroup.org.au

THE DAY INCLUDES A FIELD DAY BOOKLET, TRIAL PRESENTATIONS, LUNCH (RRT DALWALLINU), AFTERNOON TEA & NETWORKING OPPORTUNITIES.

SUNDOWNER FROM 5:00PM | FOOD VAN & CASH BAR!

DIAMOND PARTNERS

RSM · CSBP · Rabobank · CBH GROUP

EVENT PARTNERS

Elders SCHOLZ RURAL

SCAN ME

UNDERSTANDING OUR SOILS TO ASSIST DECISIONS

By Rebecca Wallis and Chris O'Callaghan, Project Officers, Liebe Group

Understanding our soils and water holding capacity has always been on the Liebe agenda.

Back in the early 2000's, the group developed links with Queensland-based CSIRO researchers to explore ways to better handle the vagaries of climate.

In 2002, six sites across the Liebe district were measured for properties both essential to successful crop simulations and to improving our understanding of soil resources. These sites were fed into the Agricultural Production Simulator (APSIM) database.

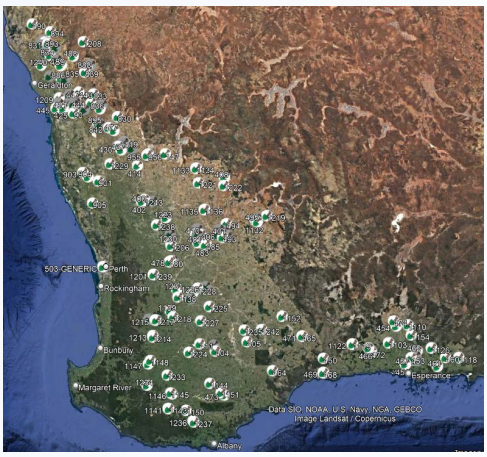


Figure 1. Map of fully characterised soils in the South West of WA.

CSIRO and Liebe continued to add sites to the database through the 2000s, and in 2011, the Liebe Group demonstrated Yield Prophet (that uses APSIM) as a tool to predict potential yield throughout the season.

Fast forward to 2022

The soils data base has grown to cover most of the main soil types over the SW of WA (Figure 1). This large data set is publicly available, so soil characteristics (i.e. water holding capacity) across the landscape can now be more easily estimated through soil analysis and local knowledge of the site.

However, as is the case with any model, the accuracy of the information coming out of it is only as good as what is fed in. Despite being widely regarded as one of the better yield forecasting tools available, the time required to set it up properly has meant it has struggled to gain widespread adoption.

Technology is advancing faster now than ever, and this presents an opportunity to progress development of yield prediction systems, potentially to the point of providing real time information.

Technology exists that can identify crop type in every paddock in Australia, APSIM can estimate potential yield, and NDVI can be used to measure actual yield. This, combined with the agronomic data from growers, better local information capture and an expanding weather station network, means there is potential to start developing some powerful information systems.

In 2022, the Liebe Group has again teamed up with CSIRO to pilot a program that will explore just this. This collaboration with CSIRO and Stirlings to Coast Farmers in Albany, will allow us to explore what might be possible in the near term future.

Agricultural Production Simulator (Yield Prophet) Refresher

Crop growth simulations are created by combining the essential components of growing a crop. This includes:

- Soil testing data – soil water and nitrogen
- Water holding capacity of the soil
- Historical climate data taken from the nearest BOM weather station
- Current climate data taken from BOM or and on-farm weather station
- Crop agronomic details.

The simulations assume a perfect paddock, i.e. no disease, weed or pest pressures or frost/ heat events.

It is useful to understand the soils full potential, and can assist with identifying yield gaps (ie the difference between potential yield and actual yield achieved).

The soil characterisation is crucial for accuracy of the model. Mainly this refers to the Plant Available Water Capacity of the soil and the depth of soil.

"Inputting the correct soil characteristics is cruicial as it provides the amount of water available to the plant."

The Crop Lower Limit of the soil is the limit at which the crop cannot extract anything more from the soil, like the dampness of a sponge after it has been completely wrung out.

The Drained Upper Limit is the saturation point, any water past this point indicates water logging, just like a dripping sponge.

Figure 2 is showing surface water logging after recent rains, which over time will filter through the soil profile. This site currently now has 72mm of plant available water of a total possible amount of 90mm.

Using information about daily crop water and nitrogen use at different crop stages, the model simulates crop growth and resource availability from the day the report was generated, to the end of the season.

This process is repeated once for each year of historical climate record, providing a yield outcome for each year.

This is where selecting a representative BOM station is important (and can also be a limitation as BOM stations can sometime be quite a distance from the site and don't always reflect the localised climate).

These yields are then plotted as a probability curve, providing users with an estimate of the probability of obtaining a range of yield outcomes.

It is possible that new climate records are mistaken. Even the longest standing BOM stations only have 130 years of data, which is minute given the age of the planet! The model however can only work with what is known.

Figure 3 shows that even if the remainder of the growing season is as dry as the driest year on record, this crop will still yield around 1.9 t/ha.

If the remainder of the season is similar to 50% of all years on record, then a yield of 2.9t/ha is possible. If the season finishes like the wettest 10% of all years, 3.4t/ha is possible if no further N is added or 4.7t/ha with adequate N.

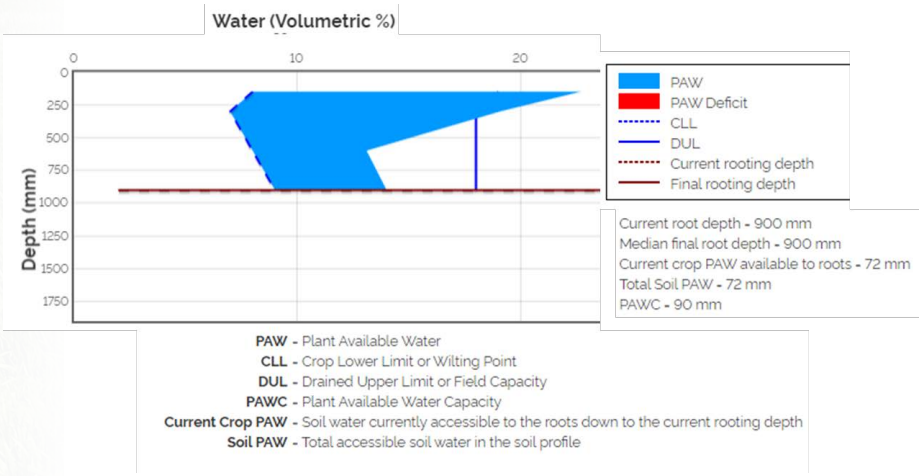


Figure 2. Distribution of Plant available water on Sandy Loam at East Buntine as at the 4th August 2022.

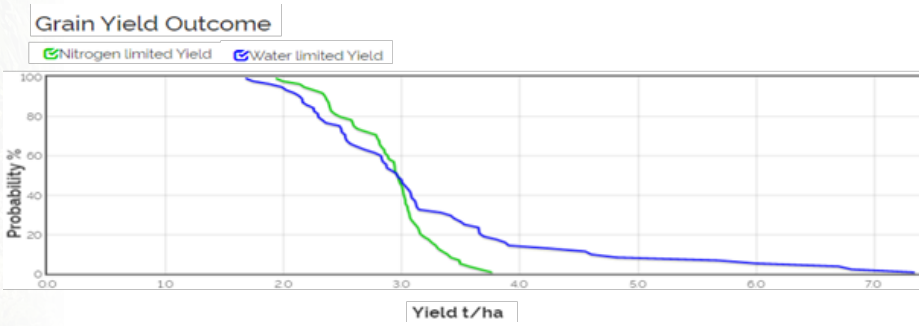


Figure 3. Wheat grain yield outcomes chart generated in Yield Prophet on a Sandy Loam at East Buntine as at the 4th August 2022. (Crop Sown 15/5/22). (61 units N applied).

With any model the more data, the better the output, and in this day and age of 'big data' there is a significant opportunity to improve our outputs to the point where we can reliably use it for better decision making or at the very least, validation that our current decisions are the best ones we could have possibly made.

Snapshot of the Current Soil Moisture Probe Network

- Weather station and soil probe network was established in 2021 with 14 growers participating. An additional 10 automatic rain gauges are also part of the network.
- The first year of the project focused on the installation of the technology, calibration and learning what data it could provide. This year has been more focused on data interpretation and its application for farm decision making.

Figure 6. Participant growers with Caroline Peek (DPIRD), Gonz Mata (CSIRO) and Dave Cameron (Farmanco) at a project catch up on 2nd August.

- Yield Prophet model has been revisited to see how we can use it alongside our soil moisture probes and weather stations – enabling localised paddock rainfall data to be used in the model.
- Has required each site soil classification to be entered by hand, along with pulling in data from the soil probes on soil moisture readings at start of season. Rebecca Wallis has been managing the project for Liebe and working with growers to collect paddock information and N application details throughout the season.
- Liebe Group has been running reports monthly during the season.

Additional Crop Report Examples – Generated 4th August, 2022

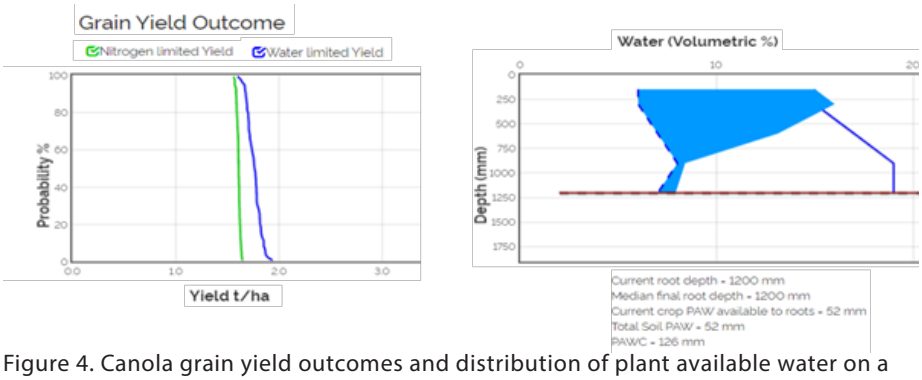


Figure 4. Canola grain yield outcomes and distribution of plant available water on a Duplex Sandy Gravel near Latham. Crop sown 31/3/22, 105 units N applied.

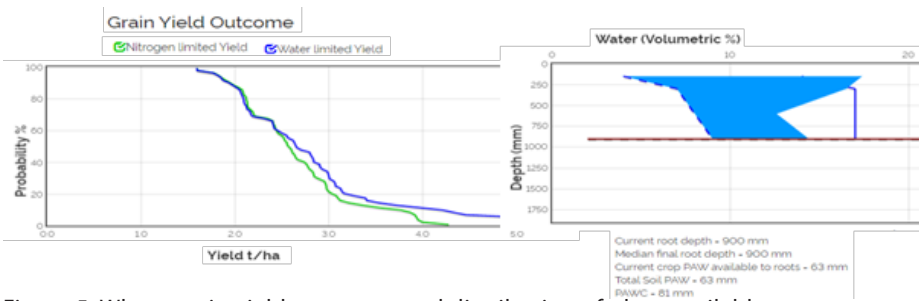


Figure 5. Wheat grain yield outcomes and distribution of plant available water on a Duplex Sandy Gravel near Jibberding. Crop Sown 28/5/22, 58 units of N applied.

All members have access to this network! Contact the Liebe office for login details.

Acknowledgments

- Caroline Peek, DPIRD for her support in getting the sites set up correctly.
- Participating growers for their commitment to the project and provision of data

LIEBE GROUP SPRING FIELD DAY | THURSDAY 8TH SEPTEMBER 2022 | AGENDA

8:30	9:00	**REGISTRATIONS**				
9:00	9:20	**Welcome & Housekeeping** **Site & Season Overview - Sam Reynolds, Main Trial Site Host**				
		Session 1	Session 2	Session 3	Session 4	Women's Field Walk
9:30	10:00	Site 2 (1 of 2) **Clearfield Wheat Demonstration** Matu Peipi, Longreach Plant Breeders	Site 13 - 14 (1 of 2) **Canola NVT** Jackie Bucat, DPIRD	Site 10 (1 of 2) **Safety of Unity + Maya tank mix on cereals** Rex Cao, Nufarm	Site 7 (1 of 2) **Annual broadleaf control in cereals** Owen Langley, Syngenta	
10:10	10:40	Site 4 (1 of 2) **N x K rate comparison** Lois Kowald, CSBP	Site 15 (1 of 2) **Hyola innovation systems tech** Justin Kudnig, Pacific Seeds	Site 7 (2 of 2) **Annual broadleaf control in cereals** Owen Langley, Syngenta	**Machinery Display** Boekemans Machinery Dalwallinu	
10:50	11:20	Site 6 (1 of 2) **Pre & post-em mixes in cereals** Bill Moore, Elders	Site 12 (1 of 2) **Post-em grass weed control in canola** Bevan Addison, Adama	Site 8 (1 of 2) **Assessing multiple additives across in-crop applications** Robert Pattison, SprayTec	Site 1 (1 of 2) **CoAxium Barley Demonstration** Steve Lacey, Sipcam	Site 3 **Wheat NVT** Richard Devlin, Living Farm
11:30	12:00	Site 3 (1 of 2) **Wheat NVT** Richard Devlin, Living Farm	Site 11 (1 of 1) **Herbicide residues (IMI Trial)** Chris O'Callaghan, Liebe Group	Site 5 (1 of 2) **Optimising N & P rates for budgets** Saritha Marais, Summit Fertilizers	Site 9 (1 of 2) **Crop safety and efficacy of Overwatch** Murray McCartney, FMC	Site 6 **Pre & post-em mixes in cereals** Bill Moore, Elders
12:10	1:00	**LUNCH**				
1:00	1:30	**Marquee:** Tectonic shifts – global changes shifting the grains and oilseeds outlook - Dennis Voznesenski, Rabobank				
1:30	1:45	R&D Survey Reminder				
1:45	2:15	Site 2 (2 of 2) **Clearfield Wheat Demonstration** Matu Peipi, Longreach Plant Breeders	Site 13 - 14 (2 of 2) **Canola NVT** Jackie Bucat, DPIRD	Site 9 (2 of 2) **Crop safety and efficacy of Overwatch** Murray McCartney, FMC	Site 8 (2 of 2) **Assessing multiple additives across in-crop applications** Robert Pattison, SprayTec	Marquee **Opportunities to minimise harvest losses** Chris O'Callaghan, Liebe Group
2:25	2:55	Site 3 (2 of 2) **Wheat NVT** Richard Devlin, Living Farm	Site 15 (2 of 2) **Hyola innovation systems tech** Justin Kudnig, Pacific Seeds	Site 5 (2 of 2) **Optimising N & P rates for budgets** Saritha Marais, Summit Fertilizers	Site 10 (2 of 2) **Safety of Unity + Maya tank mix on cereals** Rex Cao, Nufarm	
3:05	3:35	Site 4 (2 of 2) **N x K rate comparison** Lois Kowald, CSBP	Site 12 (2 of 2) **Post-em grass weed control in canola** Bevan Addison, Adama	Site 1 (2 of 2) **CoAxium Barley Demonstration** Steve Lacey, Sipcam	Site 6 (2 of 2) **Pre & post-em mixes in cereals** Bill Moore, Elders	
3:35	4:00	**AFTERNOON TEA**				
4:00	4:15	**Marquee:** Opportunities to minimise harvest losses - Chris O'Callaghan, Liebe Group				
4:15	4:35	**Marquee:** Breakcrops & Biodiversity - Bob Nixon, Kalannie Grower				
4:35	4:50	**Marquee:** Mental health chat with Brad Millsteed, #6Bs				
4:50	5:00	Survey Raffle Draw & Close - Dylan Hirsch, Liebe Group R&D Chair				

SUNDOWNER WITH FOOD TRUCK AND BAR | CASH ONLY!

LIEBE GROUP AGCHATS

SETTING UP FOR SUCCESSFUL SUCCESSION

FRIDAY 16TH SEPTEMBER

9:00AM - 11:30AM | LIEBE GROUP OFFICE | MORNING TEA INCLUDED

SUCCESSION PLANNING: HOW TO GET IT RIGHT, BEFORE IT GOES WRONG

Join Liebe Group, RSM and Bailiwick Legal for a short, interactive workshop looking into various topics of succession planning, including:

- Top 10 things to think about when starting the succession planning process
- Understanding the basics of wills and estates
- Dissecting relevant estate case studies

Celebrating 100 Years Est.1922 in Australia | RSM | Bailiwick Legal. AWARD WINNING AGRIBUSINESS & TOURISM LAWYERS

TO REGISTER OR FOR MORE INFORMATION
Liebe Office: 9661 1907
Email: admin@liebegroup.org.au

Members FREE
Non-members $20

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Grain Growers
Real benefits. Real results.

WOMEN IN AG NETWORKING & DIVERSIFICATION BUS TOUR

By Danielle Hipwell, Administration and Communications Officer, Liebe Group

Recently, eight local farming women participated in the Liebe Group's Women in Ag Networking and Diversification Tour through the Perth and Peel regions. This project was supported by FRRR, through funding from the Australian Government's Future Drought Fund.

Starting in Perth with long time Diamond Partner CSBP, the first stop was at the CSBP Soil and Plant Laboratory in Bibra Lake. Running for more than 50 years, the soil and plant lab conducts over 1 million soil tests, and over 100,000 plant samples per year. The participants were able to view the soil testing process, from drying and tumbling, to extracting and analysing from a small sample.

Rounding out the first day was a visit to another Liebe Group partner's plant breeding facility at Intergrain, for a look into the long process of breeding new wheat, barley and oat varieties.

Taking up to ten years, the breeding process starts in a glasshouse and goes through many years of quality control before finally being launched and made available to growers.

With drought resilience and diversification being a key component of the tour, we stopped at Drakesbrook Wines on the second day for a tour of their family owned and operated vineyard.

Narelle Dodd, Leanne McAlpine, Jessica Humphry, and Jessica Cole enjoying Drakesbrook Wines.

In January 2016, Drakesbrook lost everything to fire. They are slowly rebuilding their stores and continue growing French and Spanish varieties that are suitable for their soil and climate. Using only sulphur on the vines, Drakesbrook Wines encourages chickens to roam amongst the plants for natural fertiliser.

The next stop was at Runnymede Farm with Blythe Calnan where she and her husband have implemented a regenerative farming system with intensive rotational grazing for their cattle and chickens.

The cattle are moved daily, while over 2000 chickens follow within three days, to allow for optimal use of the land.

With a broad range of soil types, Runnymede Farm are making use of the nutrients already on site, and have not applied nitrogen in over three years. This has proven beneficial for the fungi and bacteria found in their soil profile and is continuing to improve.

Blythe noted how great it was to have the Liebe Women visit and share information, ideas and discuss issues facing us all as farming families.

"In the household, the business, the community and industry representation the contribution of women to the success and resilience of rural Australia is absolutely critical,"

Maremma dogs guard over 2000 chickens at Runnymede Farm.

The final stop on day two was at the Halls Family Farm that is currently hosting the fifth generation.

With their commercial herd comprising of seven differnt breeds, the dairy supplies milk to major companies in Western Australia, and ten French Normandy cows are kept for their specialty cheese, Halls Suzette. The group were lucky enough to taste and purchase some.

French Normandy cows at Halls Family Farm.

Using collars on each animal, the Hall family are able to track distance travelled, health of the animal, fertility timing and more to ensure the safety and wellbeing of the herd.

Finishing off the tour, the group visited Patane Produce for a tour through their main facility. Operating for 27 years, Patane Produce started with potatoes, carrots and onions, and have recently added broccoli to the rotational mix.

They are heavily regulated for water use and are impacted by salinity, and nothing goes to waste with scraps being fed to their cattle on site.

Pennie Patane showing participants the potato washing process.

With a pre-COVID staff of over 80, Patane Produce are involved with the Pacific Labour Scheme and are able to employ staff from Vanuatu as needed to assist with the operational side of the business.

Daily irrigation, weekly sprays and fertilisers are required to ensure supply is maintained.

The group were able to view the process from quality control to packing and loading onsite with their own company trucks before produce was shipped to Coles and Woolworths.

Such a tour would not have been possible without the support from FRRR and the Australian Governments Future Drought Fund, Liebe Group partners CSBP and Intergrain, and all the small businesses who allowed the group to visit.

Acknowledgements

Australian Government Department of Agriculture, Water and the Environment
Future Drought Fund
FRRR
This project is supported by FRRR, through funding from the Australian Government's Future Drought Fund

Out and About

IN THE LIEBE GROUP REGION

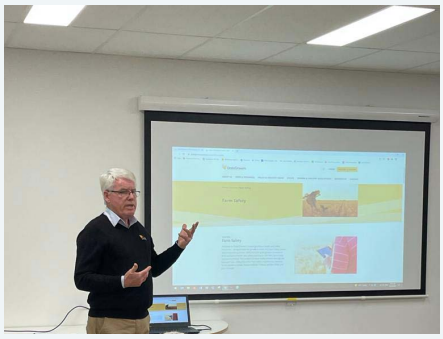
The annual Post Seeding Field Walk on the 28th July attracted over 50 growers and industry representatives to the 2022 Main Trial Site in north Miling.

The afternoon saw attendees visit nine of the 15 trial sites, followed by a sundowner to celebrate the 20th anniversary of the valued partnership between Liebe Group and Rabobank.

22nd June saw a group of local Liebe members and other growers visit the Early Sown Canola Trial Site at Xantippe, with Jackie Bucat (DPIRD) also presenting the co-located canopy management trial.

Liebe Group have been assisting DPIRD for a third season of the state-wide Diamondback Moth Survey which aims to assess DBM and budworm presence and impact on winter/spring population.

Host growers of the Soil Probe and Weather Station Project came together in early August for a general update and to get a better understanding of the integration with Yield Prophet.



Danielle McNamee (ProcessWorx) and Liebe Group member Cherie Fry presented their experiences with farm safety at the July AgChats Workshop. GrainGrowers Regional Coordinator Alan Meldrum shared their newly launched Farm Safety Project as part of the workshop.

FROM DALLY TO GERO, AND EVERYWHERE IN BETWEEN

By Brianna Peake, General Manager - Geraldton Zone, CBH Group

I was lucky to be invited back to speak at the Liebe Group Women's Field Day recently and below are some of the insights I shared with the audience on the day.

To provide some background, I was born and raised in Dally. I grew up on a farm and have always felt very lucky to have that upbringing. You could not ask for a better childhood, nor one that had so much freedom to be yourself and have fun.

I went to Dally school until the end of year 9, boarded at St Mary's in Perth for years 10-12 and then studied Natural Resource Management (NRM) in Faculty of Agriculture at UWA, for four years. After university I needed a break from study, so travelled around Australia with two of my best mates with a Troupee and swags – and we had the absolute time of our lives.

When I came back from a year's travel it was time for me to get my first serious professional job and I first applied for a role with a grower group in Ravensthorpe. I did not get that one and in hindsight I think that worked out well for me as my life would have taken a completely different path.

My friend was the Executive Officer at Liebe Group at the time, and he asked me to come and interview for an NRM project manager role, so I drove up to Buntine for my interview which I recall was with Brian McAlpine, Keith Carter and Merrie Carlshausen. And they gave me my first job!

Within six months my friend had left the Executive Officer position for another role in the industry and the Liebe Group Management Committee asked me to apply for the role and I thought they were crazy!

I felt far too inexperienced but turns out it wasn't so crazy, and I got that job also and was the Liebe Group Executive Officer for four years – which I absolutely loved. I learned everything about agronomy and farming, farm business management and community capacity building from the farmers of the Liebe Group and for that I am always grateful. It set me up so well for the rest of my career.

Brianna during her role as Executive Officer of the Liebe Group, at the 2008 Main Trial Site.

It was eventually time to leave Dally again for more travel – to Europe this time for 18 months – and at the end of that trip I was looking for a casual role to get me through harvest before I worked out what to do with my life.

I ended up working with CBH in Perth in their Grower Service Centre and that was my entry into the division at CBH that I now (in my substantive role) head up – Grower and External Relations.

After that harvest, I did a year with DailyGrain and then CBH asked me to take on the role of managing the Grower Service Centre which I did for a year.

I then made a career shift within CBH which was one of those significant career path decisions, like my first role with the Liebe Group. A role in the Corporate Affairs team came up. It was below my current level, had no team reporting to it and I had no corporate affairs experience. People at CBH were quite shocked that I would go for the role.

But I really liked the stakeholder engagement element of what they did and CBH backed me to make that change and it was one of the best decisions of my career. I felt like I had found my home - love the pace and cut and thrust of issues or crisis management. I love dealing with the challenging stakeholders. It was better suited to me than science that I studied, not to say I don't love that also.

After two years in the Corporate Affairs team, my manager asked me to take on the Head of Government and Industry Relations role which was a terrifying but also very rewarding decision.

When my manager went on parental leave, Andy Crane, the CBH CEO at the time asked me to join the executive team and manage the division as Chief of Grower and External Relations.

That was in 2006 and I have been doing that role ever since until this year when I have made another big career change in moving into Operations to run the Geraldton Zone.

Last year I also did my Graduate Certificate in Corporate Finance and was asked to join the Lotterywest Board and the General Council of the Chamber of Commerce WA.

"So, in summary it's been a fun, and challenging and exciting and terrifying, and interesting and very very rewarding ride and I have really loved it."

And I really do hope I will keep finding new and interesting opportunities to take on.
When I was pondering what to talk about at the Women's Field Day, I thought a lot about the early days in my career and growing up in Dally.

I am very proud of being from Dally, and growing up on a farm and in this community and having been a part of the Liebe Group. I have been very lucky. I believe what I learned here and, in those years, put me in good stead for my career pathway.

Liebe Group Management Committee members with staff Brianna Peake and Sophie Carlshausen at the 2007 AGM.

Brianna presenting at the 2022 Liebe Group Women's Field Day in Dalwallinu.

I have tried to summarise those learnings down into 3 key things that really stick with me and have helped me through my whole journey.

Confidence

Whenever I talk about my career or leadership or anything to do with life really, I talk about self-confidence.
Confidence is a really funny thing; you can't learn it and you can't get it over night.

I believe confidence comes from taking ownership of your role. This is something I live by and instil in my team every day – be exceptional at what you do, build your relationships and push to deliver outcomes. The more you take ownership your role or position, deliver value and get a few wins on the board – your confidence will grow and you start to back yourself.

The Liebe Group taught me this very early on, about embracing my role in full and absorbing and learning from everyone around me and working hard. Then I slowly started to feel more confident in a role that I was out of depth in.

This is something I have used all through my career and am currently right in the middle of at Geraldton – operating a Zone with 15 sites, a port terminal shipping 90+ vessels of grain every year, 150 permanent employees plus casuals to manage and growers to keep happy.

I am well out of my comfort zone but the only way to learn is to sit with the team, trust them and learn from them and work really hard until I start to get some wins on the board – and grow my confidence.

People and relationships matter most

People are just people, and everyone wants to be treated with respect and kindness – and sometimes I think people just forget this.

It is a huge part of a country upbringing that stays with you and also something I loved about the Liebe Group. There was very little hierarchy, everyone pitches in to help, no-one is more important than another person – it's about delivering good outcomes for your members.

In my role with the Liebe Group, I got exposed to many and varied stakeholders – from Government funding bodies, to research agencies and project partners, our corporate sponsors and most importantly our members. I realised this is what I loved most about the role, and I think what influenced my career change down the track.

Building relationship has always been something really important to me throughout my whole career and it came to fruition when I was asked to take on the Government and Industry Relations Manager role at CBH.

I remember vividly the conversation with my manager telling her not to put me in the role as I did not understand the machinations of Government at all!

She told me "It's just people and it's just relationships, and your good at that – so you can do this."

And so, I did and during my time in that role, very slowly, through a relationship-based approach, consistency of behaviour and strong persistence – I managed to earn respect for CBH with all levels, colours and sides of Government and this is one of the things I am most proud of in my career.

Farewell party held for Brianna at Buntine Golf Club in 2008.

Step up and own your spot

Many times in my career I have taken on roles where I have been thrown – or jumped - in the deep end and had to step up very quickly but after a few times doing that I worked out that I can actually do it and maybe I am even good at operating that way.

This lesson came early on with the Liebe Group, taking on the Executive Officer role within the first six months of being there was extremely daunting. I was so green and so far out of my depth. But I fought really hard to make it work and that first experience of doing that let me know that I could do it again and have many times in my career.

Recently at CBH I have really had to step put of my comfort zone again to put my hand up for roles that I haven't felt experienced enough for, but I know I would be kicking myself later if I hadn't.

A friend gave me very good advice - that if you don't signal your intent of what you are capable of, people will never see you that way or believe it you can do it. I think this is a really important lesson especially for young people and females to consider, and for us to support them in that.

No-one will look out for your future like you should be and sometimes that means stepping up to the plate when you feel inexperienced, uncomfortable and out of your depth. But if you don't, you will miss out on opportunities and growth.

I hope by doing this myself I can set an example and give others courage to do the same.

SPRAY DRIFT IN SPRING

Consider neighbouring crops when applying pre-harvest treatments

Food safety is an increasing concern in many of our key export markets, including the risk of chemical residues entering the supply chain. To help protect and maintain the reputation of Western Australian growers as suppliers of clean, safe grain, CBH tests for chemical residues during and after harvest.

This ensures that grain in the supply chain complies with the relevant Australian Maximum Residue Limits (MRLs) and can be supplied according to customer specifications. In order to ensure residues do not exceed Australian MRLs it is critical all applications are conducted in adherence with the product label. Growers are encouraged to discuss herbicide application with their agronomist to choose the most appropriate course of action.

Investigations by CBH have found that spray drift during spring can sometimes be the source of chemical residues in grain. Normally we consider spray drift to be a risk when spraying a post emergent herbicide alongside a susceptible crop, e.g., Applying 2,4-D or MCPA to a wheat crop next to a canola crop. However, spray drift can be an issue all year round. Pre-harvest applications of herbicides (glyphosate and paraquat in particular) can drift onto neighbouring crops and result in chemical residue issues in grain.

Although the crops may be senescing it is still possible that the herbicide can be absorbed by the plant and translocated to the grain. Prior to “crop topping”, “spray topping” or pre-harvest herbicide application is a good time to think about your sprayer set up and application process.

The three major aspects that spray operators can control and should consider are:

1. Spray Quality: Coarser quality = Decreased drift
2. Boom Height: Lower Height = Decreased drift
3. Boom Speed: Lower speed = Decreased drift

Weather cannot be controlled, but still needs to be managed. Spring weather conditions can lead to low winds and temperature inversions, particularly around dusk and dawn. This means that crop-topping or spray-topping should NOT be conducted at night to avoid spray drift.

Optimal wind conditions are when wind speeds are above 5 km/hr and below 15 km/hr. Operators should also be aware of the crops that are downwind and be prepared to implement a buffer zone (unsprayed area) if winds are not favourable.

Further information can be found at:

Spraydrift GRDC

Spray Application Manual

CottonInfo

CROP MONITORING: POWDERY MILDEW, GRUBS AND APHIDS

By Tristan Clarke and Clare Antonio, Agronomists, Elders Scholz Rural

With the season rapidly progressing and spring knocking on the door, we now move our thinking to the later season pests and diseases.

Some of the issues coming up include powdery mildew on wheat, diamondback moth (DBM) and native bud worm in canola, and aphids on barley and canola. As the season progresses, conditions will determine whether any of these reach spray thresholds.

Powdery Mildew

There are increasing observations of wheat paddocks in the Liebe Group region with powdery mildew.

Powdery mildew has been absent for a few years now but those without any fungicide treatment at seeding or more susceptible varieties are showing infection. Typically, you would expect to see it more commonly where wheat is on wheat stubble however even canola and lupin stubbles are infected this season.

Symptoms

Masses of white powdery spores, that mainly occur on the upper surfaces of leaves, but can be found on all plant parts.

Younger spores appear as a pale yellow/orange mass. Older spores become a dull grey and produce small, black fruiting bodies.

If infection occurs while early tillering, it can result in yield loss through decreased photosynthetic area or inducing additional tillers that do not produce heads. Yield losses of up to 25% have been observed when early infection occurs.

Favourable conditions

Temperatures between 15-22 °C and high humidity (>70%) favour spread. During high growth (tillering to stem elongation) the disease is more likely to progress where the canopy closes over, where humidity remains high with low air flow throughout the canopy. Disease can spread very quickly and in the right conditions can complete a full life cycle in as little as five days. At temperatures above 25°C infection will cease.

> "Yield losses of up to 25% have been observed when early infection occurs."

Below shows the impact of temperature and latency time (time for a full disease life cycle to occur).

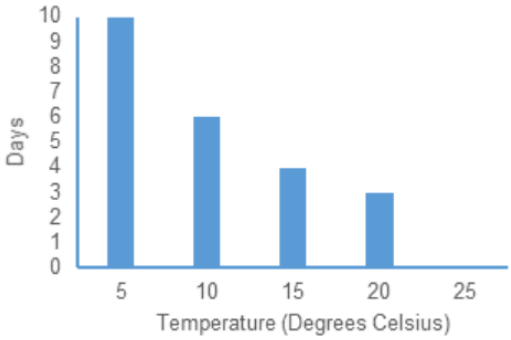


Figure 1. Impact of exposure to a range of constant ambient temperatures on latent period (days) of Blumeria graminis f. sp. tritici (Bradley and Thomas, 2019).

Control
Furrows or seed dressings often aid in delaying powdery mildew development in a number of trials. This means that a foliar fungicide is not required.

If there has not been an in furrow or seed dressing of fungicide application, the options for foliar control are extensive. Most azole (group 3) fungicides such a Propiconazole/Prothioconazole/ Epoxiconazole will control WPM however these will work better in a protective strategy rather than a curative approach. Therefore applying when WPM is first detected to be moving up the canopy will maximise control.

A step up from this is to use a co-formulated product such as Amistar Xtra/Topnotch/Maxentis that will add Azoxystrobin (group 11) to a range of different azole fungicides.

This comes at a higher cost however residual control is greater as they will translocate through the plant to some extent. The Azoxystrobin component will deliver great protectant qualities while the azole component adds some curative and protectant qualities.

Timing of application is more important rather than product selection. Late tillering to early stem elongation is the optimal timing if disease is detected.

A follow up at flag leaf emergence may be required if the disease continues to develop.

However please monitor for this as second applications are often not economic or warranted unless the disease is running rampant.

Majority of wheat crops are already at early stem elongation or ahead, so they will be at risk right now with the optimal timing for fungicides in the next couple of weeks.

Insects

There have been low numbers of DBM caterpillars for at while now. With cool, wet weather numbers remain well below threshold but please continue to monitor.

As it warms up conditions will be favourable for the population to multiply quickly. There are certainly populations in the state that are already at threshold and being sprayed!

At time of writing, we aren't aware of any native budworm caterpillars in crop however, they are on their way with increasing moths observed in the traps.

"When monitoring do 10 sweeps and count how many grubs are present".

As temperatures increase it is worth keeping the sweep net handy for pulse and canola crops.

When monitoring do ten sweeps and count how many grubs are present. Spray canola when there are four large grubs (>12 mm) and lupins when 5 - 6 large grubs are found.

For chickpeas, field peas and faba beans is two grubs per ten sweeps (of any size).

With current grain prices it could be argued that the recommended thresholds should be lower this year. Continuing to monitor will help you make the call on this.

Something else to monitor while out inspecting your crops are aphids.

There are reports of aphids needing spraying around the West Midlands while in our patch the odd green peach aphid has been spotted on canola.

Low temperatures and heavy rainfall are our friend for limiting aphid populations. Spring often triggers a rapid increase in aphid numbers as rising temperatures and flowering crops provide favourable breeding conditions.

TIMING OF NITROGEN FERTILISER ON CANOLA IN THE NORTHERN AG REGION

By Luigi Moreschi, Account Manager, CSBP

With hybrid varieties of canola becoming dominant in the Northern Agricultural Region (NAR), breeders of these varieties have been suggesting that early, high rates of nitrogen (N) are required to maximise their yield potential. The NAR can have highly variable seasons so it can be difficult for growers to gauge potential yield early in the season. What we need are risk management strategies to meet yield potential in good seasons and avoid over fertilising in poorer seasons.

CSBP conducted trials in the NAR in 2019 and 2021. The trials looked at the effects of N timing on the growth and yield of hybrid canola, with a particular focus on comparing early high N rates to the more conventional method of splitting the N fertiliser between an early and later application.

The two seasons were very different. In 2019 the break of the season didn't occur until late May, which was then followed by a deluge of rain for six weeks, and then very dry conditions from early July to the end of September. In 2021 the break for canola occurred with the passing of Cyclone Seroja in early April, and rainfall was average to above-average to the middle of August followed by a dry September.

Results

The trials suggest that with these hybrid varieties, growers can be more flexible with their N applications. Yields were similar whether all the N was applied in the early growth stages (before the 8-leaf stage), or with some applied early and some later (at the bud visible stage). Compare the yields in row 2 (all early N) and row 3 (split N) in Tables 1-3.

"The trials suggest that with these hybrid varieties, growers can be more flexible with their N applications."

Table 1. 2019, Casuarina. Sown with 43Y27.

Banded at seeding - 27 May (L/ha)	2 leaf (kg/ha)	8 leaf - 30 July (L/ha)	Bud visible - 21 August (L/ha)	N (kg/ha)	Yield (t/ha)
-	-	-	-	0	0.51
-	143 Urea	156 Flexi-N	-	138	0.90
156 Flexi-N	-	-	156 Flexi-N	138	0.93
-	-	-	239 Flexi-N	109	0.73

Table 2. 2021, Northampton. Sown with Raptor.

Banded at seeding - 19 April (L/ha)	4-6 leaf - 24 May (L/ha)	Bud visible - 28 June (L/ha)	N (kg/ha)	Yield (t/ha)
-	-	-	0	1.23
120 Flexi-N	120 Flexi-N	-	101	1.98
-	120 Flexi-N	120 Flexi-N	101	1.83
-	-	240 Flexi-N	101	1.90
			LSD (P=0.05)	0.13

Canola flowering delay at Tenindewa.

Table 3. 2021, Tenindewa. Sown with HY410XX.

Banded at seeding - 15 April (L/ha)	4-6 leaf - 7 May (L/ha)	Bud visible - 9 June (L/ha)	N (kg/ha)	Yield (t/ha)
-	-	-	0	2.78
120 Flexi-N	120 Flexi-N	-	101	3.21
-	120 Flexi-N	120 Flexi-N	101	3.28
-	-	240 Flexi-N	101	3.30
			LSD (P=0.05)	0.14

The season matters

Applying all the N at the bud visible stage delayed flowering at all three sites, compared to plots that had at least 50% of the N applied early. This led to some differences in yields depending on the season.

In 2021, the plots at Northampton and Tenindewa were showing visual symptoms of N deficiency at the time of application (bud visible stage), but there was no yield penalty. Yield loss did not occur as these plots had enough time to respond as the N was applied in the middle of the growing season (late June) when there was good rainfall.

A delay in flowering is less than ideal in a year when canola is germinating in early June and seasonal conditions are dry (Table 1, Casuarina, in the south west of the Mullewa Shire 2019). The delay in flowering meant a significant yield loss in a year when yields were very poor, as the canola did not have enough time to respond to the nitrogen fertiliser.

When topping up canola with N it is important to not only consider the crop growth stage, but also the time of the growing season. This will give the crop every chance to have the time and moisture to respond.

Learn more about CSBP's Flexi-N range here:

SPRING TIME MICE MONITORING AND

- Monitoring mice activity through late winter / early spring.
- Monitor crops as they start to become susceptible to mice feeding damage.
- Spring Baiting strategies and factors to consider.

The three key drivers for mice to flourish are food, shelter, and water.

In recent years, large areas of Australia have been providing these three to mice. A run of better seasons with improved yields combined with no-till farming systems, stubble retention, and a reduction in livestock has created an environment where mice have become a problem.

In the Northern Agricultural Region of Western Australia, populations have been increasing since autumn 2020, reach plague proportions in the spring of 2021, continuing into autumn 2022.

"Mouse numbers have been problematic in areas north of Dalwallinu even during the winter period."

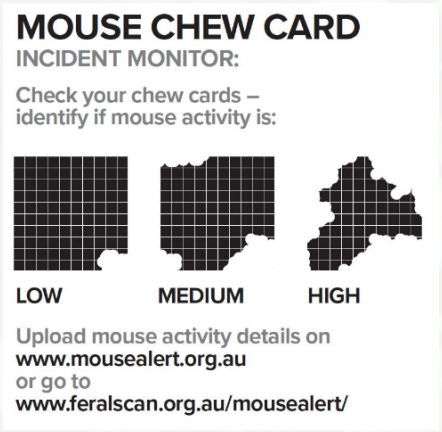
Some crops have been baited two and three times.

In areas south of here, mouse activity significantly decreased as the mice focussed on surviving winter as there are low food supplies.

Our focus now is on how many of them survive through the winter, as conditions become favourable for breeding and foraging.

Late Winter and Spring monitoring
The rapid assessment protocol provided by CSIRO helps determine the level of potential mice activity in fields. Walking 4 x 100m transect, ensuring you are not assessing anything beyond 1m in width on that transect, count the number of active burrows as well as placing x10 bait cards on the first transect. Bait card templates can be accessed from the GRDC website.

Start monitoring mouse populations, and activity, as crops transition into vulnerable reproductive state. Monitor canola and pulse crops as flowering begin to pod development as mice in search of food will climb canola plants and chew directly the pods and flowers. Monitor cereals as early as stem elongation as mice will chew directly the nodes to consume developing heads [See images below].



Mice damage to canola pods/flowers [Farmanco] and into cereal stems and heads [DPIRD].

SURVEILLANCE

By Blake O'Meagher, Farmanco

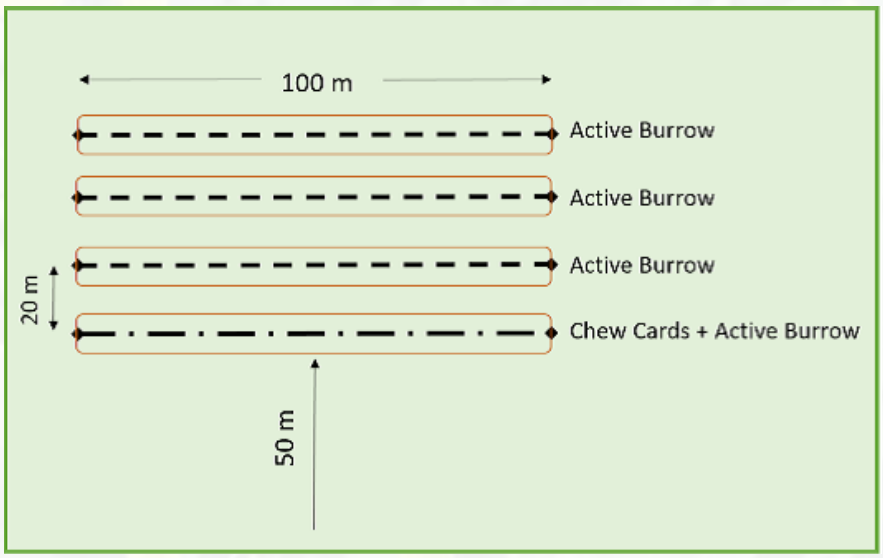


Image 2: CSIRO mice rapid assessment protocol including examples of chewed bait card and mice burrow activity.

This summer and early autumn, we assessed the level of active mice by these means. Counting active burrows proved to be more effective than bait cards as limited summer rainfall events provided continued availability of alternative feed.

During late winter/early spring, bait cards can become a more effective as feed supply is limited where the mice prefer to forage. Being somewhat lazy, mice will prefer feeding resources closer to the ground as this is more energy efficient and has less exposure to predators.

Given the density of canola and cereal crops, walking the required 4x transects and counting active burrows is difficult. Reliance on bait card assessments and visually monitoring crops may be more effective during this period.

Using the tram line or wheel tracks as the transect to place bait cards can make assessments easier. It may be worth to placing a marking peg or flagging tape in the field to find where to return to on the following morning.

Mice assessment setup/tools.

What You Need

- Bait Cards (x10)
- Canola Oil
- Bulldog Clips (x10)
- Small Pegs or Wire (x10)
- Small Container to soak Cards in Oil.
- [Optional] Picket to identify transect line in Crop
- Flagging Tape or Reflective tape to attach to pegs/wire to find bait cards.

Pro Tip: Use a reflective or flagging tape different to the colour of the crop!

Steps

1. During late afternoon/early evening soak bait cards in oil using container.
2. Clip bulldog clips to Soaked bait cards.
3. Place Visual picket at start of transect
4. Place bait cards on ground and secure with peg/wire every 10m.
5. Visually observe crop and any surrounding signs of mice activity to reference with chewing activity
6. The next morning return and collect bait cards.
7. Assess percentage of all bait cards chewed and record

Assessing Mice Activity and Spring Baiting decisions

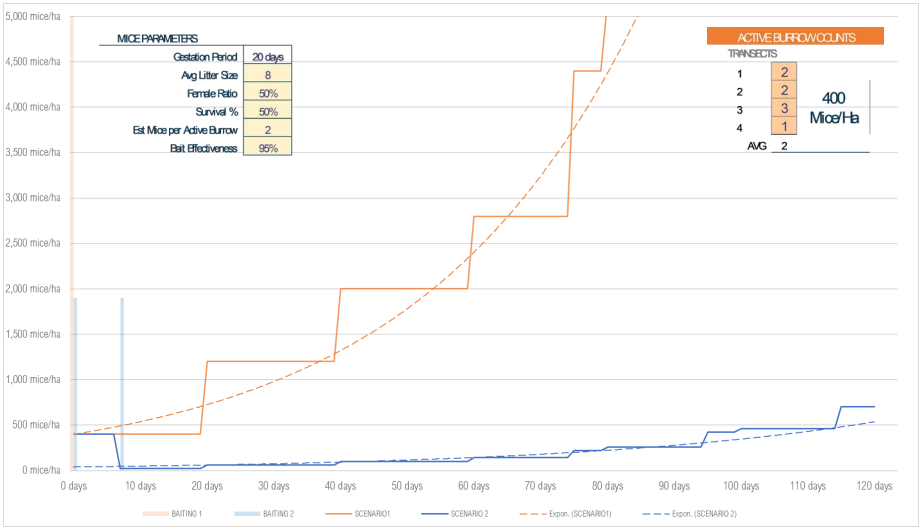
Using the assessment methods above in late winter/early spring, we can start to estimate the potential numbers of active mice in fields. When counting active burrows over four transects, we can determine the average burrow count per 100m transect. If we assume there are two breeding mice per active burrow, over one hectare we could expect to have around 400 mice.

Scenario 1 with the orange line in Graph 1 takes into consideration the breeding traits under favourable conditions and highlights the rate at which 400 mice per hectare could grow exponentially under favourable conditions. In one month, 400 mice per hectare could reach over 1000.

Compare this to Scenario 2 with the blue line where baiting with a 90% level of control occurs within 7 days of conditions becoming more favourable for mice to breed.

It is important to understand that the modelling above does not factor in external parameters such as migratory behaviours of mice within proximity to sampled fields.

Mice numbers with ideal conditions (scenario 1) and when baited with a 90% level of control (scenario 2).



Although a single effective baiting event may be sufficient in some scenarios, if external numbers are high, mice can re-enter the fields and can start to multiply beyond breeding calculations alone.

Indicative Thresholds

ACTIVE BURROWS:

- (Avg Active Burrow Count x2) x 100 = Estimated mice/ha
- <100 Low, 100-200 Mod, >200 High

BAIT CARDS:

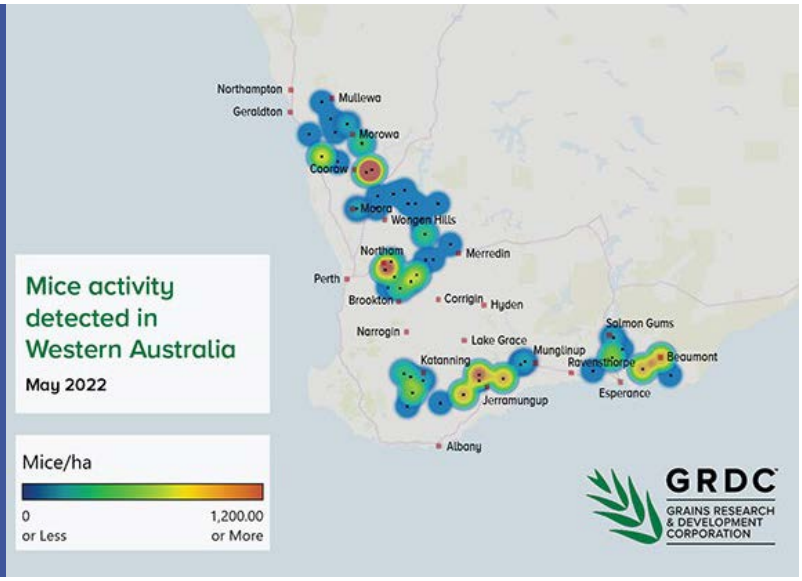
- Assess % chewing activity across all cards.
- <10% Low, 10-20% Mod, >20% High

GUIDE ONLY	
LOW	Continue to monitor fields
MOD	Consider Baiting as conditions become more favourable for mice activity
HIGH	Economic Damage already occurring – Bait when conditions are favourable

As discussed, at this time of year when crops are large and it is not easy to assess active burrows, you need to rely on the bait cards. Consider the amount of damage to the crop in conjunction with these. It seems that if you think you have a problem then you usually do.

GRDC Surveillance Results

As part of a GRDC-funded project, Farmanco is collecting mouse surveillance data across the 5 port zones in WA. Surveillance has been conducted in the following and coming months; March, May, July [In Progress], and September. Following the protocols outlined earlier and based on the results collected, the following data has been collated into the following mice activity heat map provided by GRDC.



GRDC Mice activity heat Map - May.

MICE KEY POINTS

- Reproductive at 5-6 weeks of age
- Gestation period is 19-21 days
- Have litters of up to 10 offspring every 20 days
- Can fall pregnant again, straight after giving birth
- Breeding conditions between 17-26 degrees Celsius with humidity's between 40-60%.

Economic Decisions

- What are your options? Bait availabilities? Compare available options and consider the most likely results of each management decision as well as the potential best and worst outcomes of each.
- What is the cost of implementing the management decision and what is the offset return given current commodity prices?
- Example: If canola is $800/t and the cost to apply baits is $20/ha [$9.50/ha bait + $10.50/ha aerial application], the required economic threshold to warrant baiting is 25kg/ha of canola which 200mice/ha would consume within 42 days.
- When comparing control options, consider both current and future treatment costs. Spreading in spring reduces mouse numbers significantly for the following autumn.
- Rebaiting has been considered more effective than increasing rates but will add to the cost of control.
- Target problem paddocks and areas - mice prefer gravels and sandy soils. These may need to be spread more than the areas with heavier soil types.
- Monitor barley stubbles closely as these seem to be a favourite, possibly because harvest losses are greater in this crop.
- Like livestock, seed destructors on harvesters have reduced the food supply and should have lower numbers.

Baiting Key Points

- Try and use 50g/kg zinc phosphide. (The efficacy work on mice means there is a strong preference for 50g/kg baits, however, last spring moderate populations of mice in canola were well controlled with the 25g/kg, presumably because there is less food on the ground).
- Application rate of 1kg/ha (provides ~3 grains/m2)
- Bait towards the late afternoon / early evening to maximise mice consumption of baits as they forage and feed during the night.
- Avoid applications when rain is forecast within at least 2 days as baits will deteriorate when exposed to water. Avoid applications onto wet soils if possible.
- Do not spread with other products (fertilisers, snail baits, etc). Particle collision and friction will cause the zinc phosphide coating to rub off and mice may actively forage on the other product being spread making them sick and stopping them from consuming target baits.
- Economic damage at numbers >200/ha. Plague densities at 800-1000 mice/ha
- Zinc Phosphide treatment @ 1kg/ha (20,000 lethal doses/ha) should give control of around 90% with ZnP 50g/kg and 70% with ZnP 25g/kg.

The following results are based on surveillance work collected in July. Based on the active burrow and bait card thresholds indicated earlier, the data looks at the results based on location and the current surveyed mouse activity. It is important to understand that this is only suggestive, as paddock assessments encompass many crop types, management strategies, and various conditions. The information should only be used as a guide for potential activity in your region and encourage field assessments to determine mice activity in your fields

Port Zone	KWINANA WEST									
Date	13 Jul	13 Jul	13 Jul	1 Jul	14 Jul		13 Jul	13 Jul		13 Jul
Crop	Barley	Canola	Wheat	Wheat	Canola	Canola	Barley	Canola		Barley
Location	Dale	Greenhills	Beverley	Grass Valley	Pithara	Moora	Dangin	Qubbine	Bindi Bindi	Wilberforce
Active Burrow	LOW	LOW	MOD	LOW	HIGH	LOW	MOD	LOW	LOW	LOW
Bait Card	LOW	LOW	LOW	LOW	LOW	LOW	LOW	HIGH	LOW	LOW
Port Zone	KWINANA EAST									
Date	17 Jul		14 Jul	17 Jul					17 Jul	17 Jul
Crop	Canola	Wheat	Canola	Canola	Canola	Canola	Canola	Wheat	Canola	Canola
Location	Burakin	Kellerberrin	Pithara	Kulja	Wylie	Tammin	Nth Merredin	Koorda	Beacon	Kalannie
Active Burrow	LOW	LOW	LOW	LOW	LOW	LOW	LOW	LOW	LOW	LOW
Bait Card	LOW	LOW	LOW	LOW	LOW	LOW	LOW	LOW	LOW	LOW
Port Zone	GERALDTON									
Date	16 Jul	14 Jul	15 Jul		16 Jul	15 Jul			14 Jul	14 Jul
Crop	Wheat	Canola	Wheat	Canola	Canola	Wheat	Canola	Nil	Canola	Canola
Location	Mullewa	Woongoondy	Canna	Dongara	Mingenew	Perejori	Arrowsmith East	Three Springs	Maya	Coorow
Active Burrow	LOW	LOW	LOW		HIGH	HIGH			HIGH	MOD
Bait Card	LOW	LOW	LOW		LOW	LOW			LOW	LOW

TIME TO ACT NOW FOR SAFETY

By Danielle McNamee, Managing Director, Processworx

Farm Safety has been in the spotlight this year, with the introduction of the Work Health and Safety Act (2020) in March.

In late June, the WorkSafe commissioner announced an inquiry into the agricultural industry after the 12th death in 12 months on WA farms, saying it is “not acceptable and is deeply concerning that the number of fatalities in the industry continues to increase”.

ProcessWorx is passionate about educating farmers on their obligations to provide a safe workplace under the Work Health and Safety Act (2020) and improving the safety culture in agriculture.

In July Managing Director Danielle McNamee and Agri Specialist Tracy McAlpine spoke to Liebe Group AgChats about farm safety. They covered inductions, emergency preparedness, risk registers, implementing safety systems and how to get staff on board with farm safety.

ProcessWorx Managing Director Danielle McNamee.

Unfortunately, agriculture is one of the most dangerous industries for injury and fatalities in Australia, with 13.1 fatalities per 100,000 workers.

Seventy-six percent of fatalities in agriculture between 2010 and 2014 involved vehicles.

The WorkSafe inquiry will result in the regulator looking closely at how farmers manage safety to reduce the risk of injury. It is anticipated a report will recommend changes in relation to investigations and enforcement in WA.

This will be a significant shake up for the agricultural industry which has generally had a complaisant culture towards workplace health and safety and legislative compliance.

ProcessWorx encourages farmers to take a more focused approach to safety, implement health and safety systems to reduce the number of injuries, and comply with legislation.

With the introduction of the Work Health and Safety Act (2020) penalties for non-compliance have increased.

Farm owners, directors and managers can be charged and receive jail time if they are found to have breached their duty of care which results in death or serious injury.

The introduction of Industrial Manslaughter is the most significant change in this area. This attracts a maximum penalty if a worker dies on your farm of up to $10 million for the business, and $5 million and a criminal offence that could result in 20 years in jail for the farmer.

Taking steps to achieve compliance for your farm’s work, health and safety has never been more important. To avoid penalties and to improve safety on your farm we recommend the following tips for compliance.

Building your risk register

Under the Work Health and Safety Act (2020) farmers need to have a system for managing risks on their farm to meet their duty of care. Building a risk register is a good way to start.

Developing a risk register involves identifying hazards and recording things that could potentially go wrong that may result in harming a worker.

This can be done by consulting farm workers, reviewing previous incidents, and/or conducting a site inspection. Hazards can include working long hours, working in confined spaces, operating heavy machinery and use of hazardous chemicals.

Each hazard needs to be assessed using a risk matrix like the following chart.

Risk Matrix				
		Consequence		
		Minor	Serious	Major
Likelihood	Likely	Moderate	High	High
	Possible	Low	Moderate	High
	Unlikely	Low	Moderate	High

Example of a Risk Matrix used to assess hazards.

Risk is the probability or likelihood that the hazard will cause harm and the extent of the harm if it does, i.e. cuts or scrapes vs fatality.

The next step is to implement control measures to eliminate or minimise the risk. These should be documented and implemented based on priority, focusing on the most serious first. Control measures can include physically removing the hazard or task, using a less hazardous chemical that would do the same job, improving equipment or guarding, using policies, checklists, and wearing protective equipment like gloves, earplugs or masks.

Review the risk register at least once a year, or after any significant changes to farm operations e.g. purchase of new equipment, or after significant incidents, injuries or illness. Ensure that the risk register is accurate and add any new hazards.

Safety training and induction

Properly training and inducting workers on your farm is crucial. Agriculture involves working with equipment and in environments that are not common in other sectors, so it is important that workers know how to work safely and use the equipment correctly.

"Common sense" should not be assumed, and time should be taken to teach workers how to do tasks correctly and safely.

This is especially true for farmers employing backpackers or international workers who may not have 'on-farm' experience or have limited English skills.

Farmers need to make it clear what the work duties are to ensure a safe workplace, as well as teach them how to safely do the tasks required. Things to cover during the induction and training process include:

- Overview of the farm,
- Roles and responsibilities,
- Hours of work and breaks,
- Accommodation rules and agreement,
- Work Health and Safety duties
- Safety meetings,
- Emergency procedures,
- First aid attendant and first aid kits,
- Risk register, and
- Required training and licenses.

Many farms already do the right thing when onboarding new workers however, without documentation as evidence of your practices you will not be able to prove you have met your legal obligations. Documenting your inductions and safety training is critical to ensure you can prove you have met your duty of care.

Emergency management

Farms need to have a plan in place in case of an emergency.

Documenting and communicating an emergency management plan is important so everyone knows what to do in an emergency.

We recommend writing procedures for emergencies such as fire, snake bite, serious injury or fatality and implementing them. Communicate these to workers and ensure that all workers have access to emergency contact details and know the locations of first aid kits.

Ensure workers know their role and responsibilities in the event of an emergency, we also recommend all workers have first aid knowledge, with one person being the delegated first aider.

Contractor Management

Under the new legislation, farms have an increased responsibility to contractors and anyone else working on their property.

Farms have a responsibility for ensuring contractors have their own Work Health and Safety system or providing access to the farm's if the contractor doesn't have one.

Contractors should hold all relevant licenses and insurances, be responsible for managing their own risks and actively participate in the farm safety induction process before undertaking any activities on your farm.

If you would like more information or assistance with your farm's Work Health and Safety system, ProcessWorx has extensive experience working with farms to ensure they meet their Safety duty of care.

FARM INPUTS OUTLOOK

By Cheryl Kalisch-Gordon, Senior Commodity Analyst, Rabobank

After several months of falling global urea markets, July saw prices consolidate at 11 month lows, alongside signs that supply and demand side issues will move markets higher again in coming months, according to Rabobank senior analyst Cheryl Kalisch Gordon.

In the closing days of July, Russia added Latvia to its list of countries it would not export gas to unless paid for in Roubles – a move that would breach the EU's sanctions on Russia.

As such, Dr Kalisch Gordon said Latvia now joins Poland, Bulgaria, Finland, Denmark and the Netherlands as well as Hamburg-based company Shell Energy Europe competing for alternative gas supplies.

"The end of month announcement triggered a 15 per cent WOW lift in the Tampa ammonia spot-price index, taking them to their highest since May" Dr. Kalisch Gordon explained.

"We can't rule out further squeezes on available gas supplies in Europe in coming months leading to more upward price pressure and volatility."

Dr Kalisch Gordon said that in addition the coming two months signified a period in which northern hemisphere farmers traditionally stocked up on nitrogen for winter crops, plus winter heating needs come onto the radar as the turn of season approached.

"Winter heating demand means the cost of gas, and therefore the cost of ammonia production for fertiliser, will lift which together with the seasonal increase in demand for nitrogen fertilisers means we can expect upside price pressure in nitrogen markets out to the end of the year."

News this past month from China further underscores this expectation, Dr Kalisch Gordon said, with some urea exporters reportedly asked to suspend exports.

"Market commentators now suggest that China's urea exports will fall starting this month and be limited through to April 2023."

"On top of this China is expected to implement restrictive quotas on phosphate exports for the rest of 2022, with the likelihood of a complete ban between January – April 2023 to ensure China's own domestic needs are met."

"A longer reprieve on global fertiliser markets had been hoped to deliver some downside to local fertiliser markets, but with global markets already moving higher we now see less chance of local prices finding lower ground in the next six months."

Dr Kalisch Gordon said that while there were a lot of moving parts in the pricing of agri-chemicals in Australia, the declining cost of key ingredients in China did point to some potential price relief.

"Glycine, a key constituent in glyphosate, for example is trading at more than 12-month price lows in China – it has fallen almost 65 per cent since the beginning of the year."

To find out more about other Rabobank research, contact Rabobank's local team in Moora and Dalwallinu on (08) 9690 8500 or subscribe to RaboResearch Food & Agribusiness Australia & New Zealand on your podcast app.

Rabobank's Senior Commodity Analyst – Dr Cheryl Kalisch Gordon

Check out the QR codes for more information!

RESOURCE CORNER

NOTICE OF AERIAL BAITING ACTIVITY IN CWBA REGION

In late August, the CWBA will begin their planned Aerial Baiting Program to lay 1080 poison baits across a large area of land for the control of Wild Dogs. This activity will be undertaken by helicopter and will encompass the shires of Yalgoo, Morawa, Perenjori, Dalwallinu and Koorda.

For more information on the program, or to participate, please contact the CWBA Executive Officer on 0473 163 050.

ANOTHER LOOK INTO SUCCESSFUL SUCCESSION

Profitable Farmer Podcast - Episode 101

At its worst, succession can tear families apart, damage relationships and be the demise of significant farming dynasties. Done well, and applying sound business management fundamentals, succession can be a very positive and creative problem-solving process… one that creates very real and significant opportunities for all involved.

Check out this episode (and more) of the Profitable Farmer Podcast!

GRAINGROWERS FARM SAFETY RESOURCES

GrainGrowers has launched a 'Farm Safety Course' which aims to provide practical, useful tools for grain growers to improve their workplace health and safety practices. This project has been made possible through the National Farm Safety Education Fund and is a partnership between Grain Growers Limited, House Paddock Training and Ben White and Josh Giumelli.

All resources can be found online for easy access, any time!

FOOT AND MOUTH DISEASE RESOURCES

Get up to speed on what you need to know

DPIRD has several resources offering insight into Foot and Mouth Disease, including a prevention and preparedness document. Meat and Livestock Australia has produced a fact sheet on Foot and Mouth Disease and Lumpy Skin Disease, and a recording of MLA's recent webinar on the subject is also available.

Free Farm Biosecurity Signage is also available from your nearest DPIRD office.

A RETHINK ON PORT CAPACITY

By Adrian Clancy, Grain Marketing Consultant, Farmanco

Key Points
- Deregulation of the wheat export market has resulted in increased port capacity.
- Production variation ensures shrewd investment.
- A different view challenges existing export infrastructure.

Over the last 10 years, post the disbanding of the wheat single desk and the creation of the Port Terminal Access (Bulk Wheat) Code of Conduct in 2014, we have seen increased competition and capacity for bulk grain exports out of Australia.

Initially, this renewed export capacity has been based on traditional infrastructure being built in locations where the existing capacity was not adequate. This may have been due to the legacy of older infrastructure, a lack of further investment, changes in ownership and possible geographic limitations.

One of the first to make a new port investment was Bunge. In 2014, Bunge commenced operation of a 50,000t storage facility in Bunbury, located in a gap between existing ports and was 100% reliant on road delivery.

Since then, we have seen considerable investment in infrastructure across Australia (Table 1) to maximise and increase exports in the first half of the year. This has been a priority so that Australian grain can be exported into markets after harvest and prior to the commencement of the northern hemisphere harvest mid-year.

The limitation for new investment tends to be the high cost of the required port-based infrastructure, such as grain storage, loaders, etc., as well as the actual cost of port access that needs to be owned to construct required infrastructure. This access also tends to come with a high annual cost as well as a high level of regulation, generally impeding access for smaller operators.

Table 1. New port infrastructure investment in Australia since deregulation.

Increased Port Capacity					
		Location	Port Storage	T.PH	Est. Annual Capacity
2011	QLD Bulk Terminal	Brisbane	85,000t		800,000t
2012	BUNGE	Bunbury	50,000t		1mmt
2014	NAT	Newcastle	60,000t	2000	890,000t
2016	QUATTRO	Port Kembla	100,000t	1500	1.2mmt

After this initial investment and following widespread drought across the east coast, most companies were reluctant to overcapitalise on port infrastructure where returns were limited in drought years. Although, much of this infrastructure was used in drought years to load grain shipped from other parts of Australia, providing some throughput to fulfilling domestic demand across the east coast.

As a result, we did see a change in new capacity being commissioned to load ships and that was the introduction of lower cost mobile ship loaders (Table 2). This sort of infrastructure can be set up relatively easily on hired/leased berths to be able to load ships.

They rely on road freight delivering direct to port/direct to the ship, rather than a reliance on storage and more expensive port real estate.

Cargill first worked on this in Adelaide with an ad hoc system that further evolved with Riordan's Grains. Riordan's Grains is a buyer, exporter and freight provider based in Geelong constructing a mobile loader that can be relocated between Geelong and Portland Ports via road depending on demand.

The basis of the system is two high-capacity drive over grids accompanied with a belt elevator to load the ship. With no on-site storage, the daily capacity runs at around 4,000t. It is fully dependent on managing a fleet of trucks, the majority of which are owned by Riordan's, as well as many contractors, to ensure the vessel is loaded in a timely manner.

Riordan's have exported over 300,000t annually with this system. It has removed their reliance on the container trade, which has no doubt been a benefit in the last few years where container availability has been limited and expensive, due to international shortage.

Cargill has since stepped up their capacity in Adelaide, importing a purpose-built mobile ship loader at Adelaide Port that works in conjunction with four regional Cargill Grainflow receival sites across South Australia.

The $10 million investment has a capacity of 1,000t per hour. The advantage of working with their existing network is that stocks can be tested and accumulated at one of its regional sites to maximise freight efficiency. Trucks can circulate through their four sites, the closest being Mallala, 60km north of Adelaide, and the furthest from port being Pinnaroo, 240km east of Adelaide.

Table 2. New innovations in export capacity.

New Innovations in Export Capacity					
		Location	Port Storage	T.PH	Est. Annual Capacity
2020	Berth 20 Cargill	Adelaide	0	1,000t / hour	540,000t
2017	Riordan's	Geelong/Portland	0	4,000t / day	310,000t
2020	T-Ports	Lucky Bay/Wallaroo	384,000t	13,000t / day	1mmt+

This new port capacity has been a real boost to market competition, although it has increased the dependence on road freight, with large volumes of trucks required to load a vessel rather than the incumbent network that tends to rely on a large volume of rail freight.

While all this investment has had a real impact on Australian grain export capacity, the latest innovation has overcome challenges that seemed insurmountable. It has resulted in a huge boom for SA growers on the Eyre Peninsula and soon to be Yorke Peninsula.

Due to limited deepwater access, port capacity and further investment have been limited. In the most western crop growing regions of South Australia, growers have been reliant on the Viterra network — and with a lack of competition, grain values for growers have been impacted.

In 2020, an ambitious project loaded its first vessel following a $130 million contribution from a range of investors, providing a new level of competition to the Eyre Peninsula. With strong support from 120 local growers, T-Ports built a shallow water port at Lucky Bay on the eastern side of the Eyre Peninsula (Figure 1), as well as a ship loader, silos and 380,000t bunker capacity at an adjoining site.

The crucial part is the construction and purchase of a vessel that can tranship 13,000t per day of grain from the shallow water port at Lucky Bay to vessels in deep water, with 180,000t capacity that anchors five nautical miles into the Spencer Gulf (Figure 2).

This innovation is located in a prime drawing arc within the most productive central region of the Eyre Peninsula, providing better returns for growers and increased competition for Viterra's existing port infrastructure located at Port Lincoln and Thevenard.

The site is also now encouraging growers to hold grain on-farm at harvest and deliver to port post-harvest as required. This incentivises the post-harvest delivery with buyers paying a further $14/t above the harvest delivery price and again limiting reliance on the existing network.

Since the successful operation of Lucky Bay, further investment has been made on the Yorke Peninsula, where a secondary site will be built to maximise the use of the Lucky Eyre that will be able to ship between locations as required. This network also has capacity to export minerals from the region if the need were to arise.

Until now, we have seen limited new investment in WA to compete with the vast CBH network, although there is no doubt that CBH would be keeping a close eye on developments.

Figure 1: Lucky Bay T-Ports Eyre Peninsula.

CBH would have some insight, having been a primary investor and owner of NAT at Newcastle until it divested its ownership last year to QUBE along with co-owners Viterra, Mitsubishi, and CTC Terminals. There is no doubt recent innovation in the area will keep pressure on all incumbent bulk handlers.

Summary

- The deregulation of the Australian grain industry and subsequent evolution of Australian export infrastructure will ensure Australia maintains its place as a key exporter in the international market.
- While incumbent bulk handlers will continue to dominate Australian exports, they will be forced to remain competitive with a new vision on how grain is exported.

Figure 2: T-Ports Transhipper Lucky Eyre.

DEATH AND TAXES

By Andy Marshall, Estate Manager, & Judy Snell, Director, RSM Australia

10 SUCCESSION QUESTIONS

1. Do you have a valid Enduring Power of Attorney and Enduring Power of Guardianship?
2. Do you have a valid Will?
3. Are you confident that your Will has been executed properly?
4. Are you confident that your Will meets your current wishes and intentions?
5. Are you confident that your Executors are capable of administrating your Estate effectively?
6. Have you adequately provided for your family on your passing (i.e. those with special needs)?
7. Do you know who will control the family trust upon your passing or loss of mental faculties?
8. Do you know who makes decisions on your superannuation fund upon your passing?
9. Do you know how your superannuation proceeds will be distributed upon your passing?
10. Does your family know where your important documents are located?

ENDURING POWER OF ATTORNEY

The advantages of Enduring Powers of Attorney ("EPA"):

1. The individual appoints the person(s) who are to act on their "financial affairs" if they lose their mental faculties.
2. An EPA is relatively easy and inexpensive to prepare.
3. An EPA can come into effect immediately.
4. The family can avoid applications to the State Administrative Tribunal (painful!).

Consider the following points:

- Appoint people you trust explicitly!
- Consider "joint" appointments!
- Understand the powers given to the people you appoint.
- Get your EPA properly drawn up by a Solicitor and seek proper independent advice.
- Keep the EPA in a safe place (where it can be found).
- The EPA must be witnessed by certain people.
- The EPA can registered at Landgate.

ENDURING POWER OF GUARDIANSHIP

Advantages of Enduring Powers of Guardianship ("EPG"):

1. The individual appoints the person(s) who are to make decisions on their "personal, lifestyle and healthcare" if they lose their mental faculties.
2. An EPG is relatively easy and inexpensive to prepare.
3. An EPG can come into effect immediately.
4. The family can avoid applications to the State Administrative Tribunal (painful!)

Consider the following points:

- Appoint people you trust explicitly!
- Consider "joint" appointments!
- Understand the powers given to the people you appoint.
- You can specify "all functions authorised" or give "Specific Functions / power" (i.e. limit the function of the Guardians).
- You can put into place limitations or directions to your nominated Guardians to follow.
- Keep the EPG in a safe place (where it can be found).
- The EPG must be witnessed by certain people.

VALID WILLS

A valid Will should:

- Nominate competent Executor(s) and replacement Executors.
- Nominate guardians for minors (if required).
- Clearly state the distribution of your assets to your nominated Beneficiaries.
- Deal with all of your assets that will form part of your Estate.
- Allow for some flexibility (i.e. not require continuous amending due to minor changes in your wealth).
- Prepared by a solicitor.
- Prepared when of a sound mind.
- Signed and dated by the Testator.
- Signed in the presence of two adult witnesses.
- Stored in a safe place where it can be easily located.
- Reviewed regularly (every one to three years).

Common mistakes made with Wills:

- Not keeping your Will up to date.
- Not providing adequately for dependants (i.e. those with special needs or financially dependant).
- Writing an “informal Will”, “Will Kit Will” or “Internet Will”.
- Not nominating guardians.
- Bequeathing assets not owned by the Testator (joint assets, superannuation, family trust assets).
- Poor choice of Executor(s) (i.e. incompetence, lazy, etc).

Common mistakes made with Wills:

- “Over gifting” or lack of residue.
- Not taking into account how liabilities will be dealt with.
- Not considering taxation issues on death.
- Failure by the testator to execute the Will properly.
- Witnessing problems.
- Losing or damaging the original Will.
- Failure to seek independent professional advice.
- Not considering testamentary trusts.

Andy Marshall, RSM, presenting at 2022 Women’s Field Day.

Consider the following:

- Individuals will often spend hundreds (if not thousands) of dollars during their lifetime to get their taxation affairs in order and to manage/minimise future tax liabilities.
- However the distribution of your Estate is one of the largest transactions you will ever be involved in. However this transaction is often poorly planned or “done on the cheap”.
- Having a properly drawn up Will may save your surviving family/Beneficiaries tens of thousands of dollars and untold heartache on your passing.

Harvester Set-Up Workshops

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

MEASURING HARVEST LOSS - HARVEST WEED SEED CONTROL - HARVEST FIRE PREVENTION

WEST REGION
SEPTEMBER 2022

Buntine

21st Sept
9:00am - 1:30pm

Venue: 1152 Jackson Road, Buntine

Grain growers are invited to participate in one of a series of 2022 GRDC Harvester Forums to be held in the lead-up to harvest 2022.

Hear from industry experts and local growers on the integration of harvest weed seed control (HWSC) options, harvester fire prevention, accurate measurement/management of harvest losses and harvest storage.

The half-day forums hosted by Facey Group will bring together harvester specialists, industry experts and researchers to discuss preventable harvester grain losses and how to measure these, improvements in efficiency and output, methods of harvest weed seed control (HWSC), the prevention of harvester fires and calibrating harvester technology.

FORUM LEADERS

Peter Broley (Primary Sales Australia)
Ben White (Kondinin Group)
Brett Aspher (Seed Terminator)
Kassie van der Westerhuizan (Harvest specialist)
Michael Bailey (Primary Sales Australia)
Peter Newman (Planfarm)

Alongside demonstrations by industry representatives and manufacturers.

PROGRAM

- Understanding the impact of harvest loss, how to measure it, how to change your harvester to reduce losses, grain storage.
- HWSC latest information, sharing how to set-up for effective HWSC using mills systems (iHSD, Seed Terminator, SCU) chaff decks & chaff lining.
- Reducing the risk of harvester fires.
- Improving harvester capacity and efficiency.
- Managing Harvest operations, productivity, and economics

GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION

PRIMARY SALES AUSTRALIA

Register Here
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FACEY GROUP Shaping the Future

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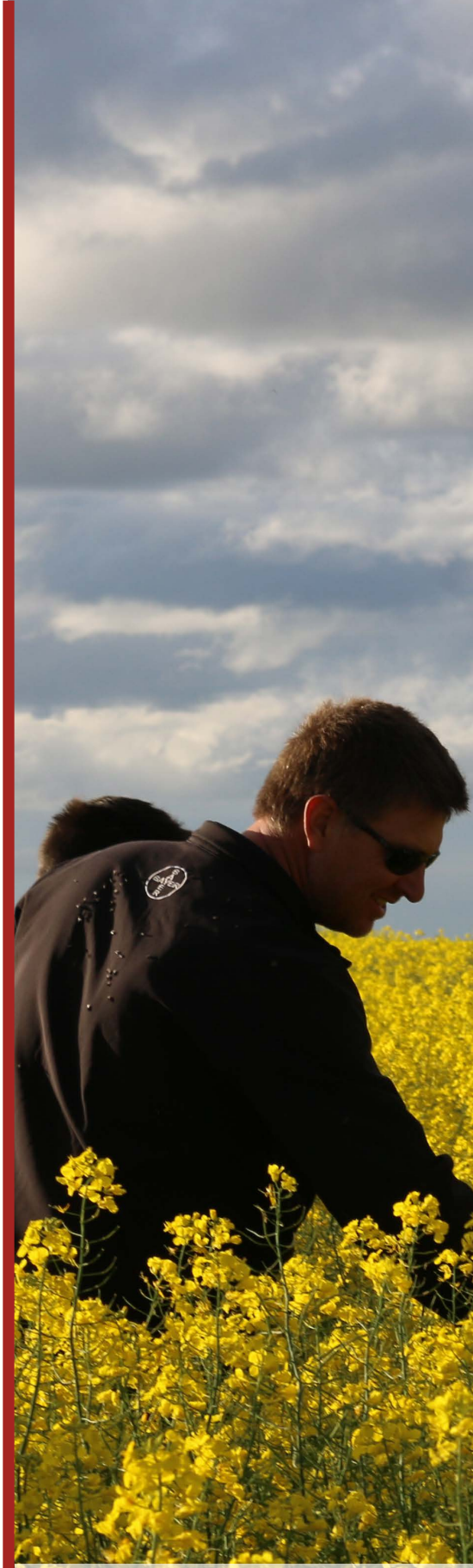

On the cover: Local grower looking at a canola trial during the 2022 Liebe Group Post Seeding Field Walk.