

GRDC's Albany port zone Grower Network held their member meeting on 1st and 2nd July, 2020 at Hyden Hotel. As part of their meeting, the Grower Network members joined the Holt Rock grower group on a tour of various growers around Hyden, and also joined the Holt Rock group for a BBQ dinner at Kerrigan Valley. 9 of the Albany port zone Grower Network members attended their meeting including: Trent Parsons, Ben Ball, Mark Lawrence, Kirsty Smith, Peter Bostock, Tim Mathwin, Glenn Ball, Ben Webb, Kelly James. Andy Duncan (Western Panel); Lizzie Von Perger and Jo Wheeler (GRDC Grower relations – West); Julianne Hill, Grower Network coordinator and Grower Network support Cindy Power and Grace Barden (3rd year Murdoch University student), Sarah Belli & Carla Milazzo (DPIRDs RRA team) were also in attendance.

All Grower Network members were asked to bring ideas from five farmers/advisors from their area, and to consider these ideas along with ideas raised from the online open feedback that was hosted at www.rcsn.net.au and open for the month of June. They were then asked WHAT WILL HELP GROWERS? Consideration was given to area, frequency and impact on profit of the issue or idea and ideas rated accordingly. These ideas/issues were further discussed: Does this issue still need some work done or has it been fully addressed with past or current R, D or E? ie there is a Research, development or extension gap still. Are they still an issue? Has enough been done on them?

From this, the following were developed:

- A full list of Issues, constraints and opportunities impacting on growers in the Albany port zone
- Area, impact and frequency of Issues that the Grower Network considered needed more work or that there was a gap still
- NVT ideas session along with an NVT update given by Albany port zone NVT representatives Kirsty Smith and Trent Parsons.

Grower Network members then further discussed and expanded on those top issues that they believe need further investment, and decided on some areas to further explore for possible R, D or E by GRDC and/or partners as below:

- Three Deep Dive issues: Non-wetting soils; Adoption of Long Coleoptile varieties; Pulse/Legume Nutrition
- Two MAKATs: Non-wetting soils; Pulse/Legume Nutrition
- One Issues Capture: Variable Rate Nitrogen

A Zoom update on pulses and legumes with a fit for the port zone; and outcomes from current work was also conducted, with guest speakers Rowan Maddern & Josh Johnson (GRDC's agronomy, soils and farming systems west manager); Jason Brand (GRDCs Southern Pulse Agronomy Program); Mark Seymour (DPIRD Senior researcher and project leader of the Tactical break crop agronomy project) and Sarah Rich (CSIRO). This formed the basis of discussion and input for the Deep Dive/MAKAT above.

Table 1: Summary of areas of Interest raised via Online Open feedback or by Grower Network members

Top issues, opportunities or constraints raised at previous two meetings (Feb 2020 & July 2019)	GRDC Action Taken	Any Further Action Required & Comments
Best practice N strategies particularly around protein.	GRDC have some ongoing work in this area and new investment	Nitrogen timing, type and balancing the return in difficult years. There is a growing trend of low protein grain that is becoming unmarketable particularly in high yielding seasons.
Better access to suitable oat varieties for the Albany port zone that meet market requirements	Project with Georgie Troup DPIRD investigating the phenology diversity in germplasm to optimise the profitability of April sown oats. Started last year, running till 2021 and includes Beta Glucan analysis through AEGIC to determine if different management strategies had any impact on beta glucan in oat grain. The National oat breeding program finishes at the end of 2020. New investment with Murdoch university looking at oat genomic resources for breeders and pre-breeders.	Oat grain shedding. Want IT oats for sowing either after IT barley for herbicide residue tolerance, or after conventional barley or wheat to control volunteers in a dry sowing scenario (no summer, Autumn germination of volunteers). Add oats to herbicide tolerance screen at Bayer through innovation partnership to identify new herbicides
Development of image analysis tools for use at harvest time to help with a range of issues including weeds, snails, grain quality etc.	The idea has been passed onto Genetic and Enabling Technologies within GRDC and team. John Moore at DPRID (with Svetlana Micic) have been looking into this with snails	

Improved and standardised method for tracking chemicals on farm	May be out of GRDCs scope, responsibility of chemical companies. ADAMA is currently addressing this issue to some extent with colour coding, container sizing and metal plates with batch numbers attached to the drums.	
Improving germination and establishment in non-wetting soils, with particular interest in the use of wetters. Deep Dive & MAKAT conducted on this issue	SCF trialled seed coating of wetters and placement last year – best result was 2L SE14 behind the tyne close to seed. None of the seed coating differed from control. Looking at placement, some seed coating and a new BASF product Devine (aroldite like) this year. Glen McDonald DPIRD recently had sites in KO and Williams, over a few years in small plot. TrialCo have a new project invested in by GRDC looking at improving germination and establishment (especially of canola) when dealing with non-wetting across different stubble loads and types. How different wetter types, placement and rates interact with stubble loads and types. Sites in Cuballing, Nyabing, Newdegate, Lake King and Gibson.	Improved strategies and agronomy to assist with dry seeding/early establishment of canola in non-wetting sands & some other soil types. Look at money that has been spent on research in the northern wheatbelt on soil amelioration including non-wetting. This needs to be replicated in the variable soil types of the south.
IWM - New technology for weed management for resistance and saving out of season rainfall; Long term results/comparison of harvest weed seed management/IWM methods and machines.	Kondinin Group have released a research report looking at the various tools/machines	Capeweed escapes have been a big issue again. Is it resistance or rate/conditions? Is a commercial resistance test available for capeweed? May need promotion.
Legume or Break crop: A reliable 'safe every year' profitable legume; Profitable break crops and legumes using a systems approach. Deep Dive & MAKAT conducted on this issue	Legume demonstrations, in last year of trial work (cereal after legume) with SCF and Southern Dirt. Linseed project, three sites this year with Southern Dirt. High value pulse project with Mark Seymour DPIRD, started last year. Best-bet legume packages for different areas. Particular focus on new faba bean, chickpea and lentil varieties and agronomy packages. Also includes and inoculant component. Dryland pasture legumes systems with Ron Yates (Murdoch Uni) and CFGI, CSIRO, MIG.	Herbicide regime - weed control?
Locally, frost is our biggest limiting issue, particularly for the fear factor. Frost impacts on profits with a large part of the Albany PZ affected	Procurement being negotiated at the moment around extension of the current knowledge. DAW00234 - Determining yield under frost one degree at a time. CSP00198 - Spatial temperature measurement and mapping tools to assist growers, advisors and extension specialists manage frost risk at farm scale UA00162 - Screening of frost tolerance in cereals. CSP00202 - Identification of wheat frost tolerance loci using a combination of genetics, biochemistry and molecular approaches. ACP00010 - Benchmarking and field validation of transgenic frost tolerance wheat lines GRS11000 - Frost temperature dynamics and rapid post event identification of damage to broadacre cereals GRS11001 - Frost tolerance in wheat: Grain Research Scholarship for field-based phenotyping tools in pre-breeding IMT1806-001AWX – Frost treatment (novel chemistries) FMO1806-002AWX - Applying Technology Solutions for Improved Frost Detection, Diagnostics and Precision Management Decisions	The primary outcome of the NFI was a frost rating system for wheat varieties. Breeders appear to not want this info extended to growers.

Matching yield potential in the HRZ - Wheat and canola are still under-performing. Growers have identified that they are still achieving poor wheat and canola yields compared to barley in the high rainfall zone.	HRZ project with DPRID, FAR, SCF and SEPWA looking at precisely this issue. Both small plot and farm scale demonstrations have been implemented for the first year and there was extensive surveying of growers in the HRZ last year with forums held. Surveys highlighted waterlogging, gravel soils and non-wetting being largest constraints to production	
MRL's, managing our farming systems better, and overuse of chemicals	GRDC liaising with APVMA and others	Growers need a better understanding of MRL's and the market issues associated with breaches.
Net blotch in barley seems to be increasing but in lower rainfall areas where control is not always considered economic		Revisit low rainfall zone net blotch control costs and options.
Root Lesion Nematodes: The Albany port zone Grower Network realises that there is already a body of work that has been conducted on nematodes but believe more work can be done on break crop interaction with each of the different species.	Farmanco have a current investment with GRDC. Includes growers surveys, large sampling program (400) and field demonstrations. Results from surveys show that 88% of growers sampled only when they suspected there was an issue (with majority in this category rating nematodes a min to low risk to production) and of the samples taken, 45% of samples were in the medium to high risk category for neglectus and about 20% were in the medium to high risk category for Quasitereoides.	
Snails contaminating grain, particularly canola, making delivery at harvest problematic and costly	GRDC have some ongoing work in this area and new investment	
Soil amelioration options for a range of issues - knowing when to start with high variability in paddocks: Growers noted that there needs to be improved definition re responses or not from soil amelioration	Ripper demonstration sites with SCF and Southern Dirt – WMG is compiling the results for the whole WA region. In final year. Results so far showing that sandy soil types, including duplex and loamy sands, responded best to deep ripping. Gravel-based soils tended to respond better to aggressive tillage types – max tillage or plozza treatments, although did come with weed issues. Clay based soils were very variable in their responses. Wayne Pluske is putting together a handbook on this topic.	Better understand which crops would be best bet first crop for each situation, whether it be sown autumn, winter or spring.
Soil testing and characterisation: Rapid soil characterization and chemical analysis using new technology.	GRDC are interested in this space and conducting background review	
Subsoil drainage - demonstration sites including waterlogging and saline seepage	GRDC have some ongoing work in this area and new investment	Albany port zone Grower Network have a number of queries around drainage to improve areas of waterlogging and potential to alleviate areas of transient salinity
There is a lack of early sowing crop varieties and agronomy to suit. They believe there is a lack of early sowing opportunities – citing risk of frost and heat at the end of the year with current varieties.	Southern Dirt and CFG have a project looking at use of long season wheats to increase profitability and grazing opportunities. Sites have been sown in Muradup, Kojonup and Corrigin with 2-3 winter wheats against a spring type. Investment with DPIRD looking at expanding the sowing window for canola and lupins. Commenced last year.	A big part of this extension needs to be characterisation of the varieties post flowering. Long season wheats can vary in their filling duration and this can really dictate the yield responses if we

		have a soft finish vs a tight Spring finish.
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Further ideas - yours, your contacts or Local Forums since last meeting - What seasonal opportunities/constraints have you identified (and why!!); Potential communications topics	Any Further Action Required & Comments
Seeding systems with drier seeding conditions to reduce non wetting issues. Knife points appear to be making the issue worse.	
Agronomy packages for forthcoming long coleoptile varieties (close to commercial release). Chemical regime/seeding equipment design. Nutrition. Deep Dive conducted on this issue	Current machinery is probably not suitable for the long coleoptile. Develop an agronomic package for this.
Resistance management for RLEM with only 2 chemical options currently available. Starting to potentially lose pesticide options. eg. Lemat for ISCC canola for 2021.	Neonic insecticides are under growing scrutiny from EU markets and now Omethoate will not be accepted around 2023. Management plans or strategies will be required if chemical control options are lost. Without viable insecticide options being available canola and legumes planting areas will be under significant threat in many areas.
Lack of any new releases of OP Canola varieties. There are large areas that are predominantly growing OP varieties that could benefit from the new herbicide tolerances bred into Hybrids.	Breeding companies are coming through with this.
Lack of long season barley varieties to take advantage of early rainfall events. Winter varieties - grazing/very early sowing opportunities.	Looking for a late March/early April variety without running into June.
Best autumn timing of baiting for snails. Need an alert for best autumn timing of snails, would be easier if worked similar to timerite, a specific date, rather than wait for results of dissections to determine if close to egg laying	Further mapping of snail distribution required. Need more transparency around where snail data is coming from - map of where snails are being collected and measured. Need better communication/extension around optimal bait timing Better communication of snail activity. Such as the status of snails ie if they are moving, laying eggs etc.
Non-wetting is increasing in extent and severity across most soil types in our area. Autumn tillage has caused significant erosion issues for the last 4 years and wetters are fairly inconsistent.	On row seeding is the proving to be the only consistent remedy for establishing crops on non-wetting soils. Is CTF making non-wetting worse? Adoption aimed at subsoil management but also leads to softer topsoil meaning less capillary action drawing moisture towards seed at seeding, possibly exacerbating non wetting issues.
Wetter seed coating to help further improve germination. SE14 working well this year.	Storage of seed, mixing of other products. This is being pushed by quite a few growers and agronomists - need trial work independent from suppliers to give it traction if it is justified
Transient Salinity-affected land still on the increase and costing large \$'s to lost production.	While lots of trials and information were produced through 90's and early 2000's it has seemingly been ignored since because of the "too hard" basket with very little success in drainage and physical rehabilitation efforts. Need to revisit some of the work done on breeding salt-tolerant cereals.
Variable rating Nitrogen (more for yield). Correlation between biomass, previous yield maps and EM/Radiometrics. Issues capture conducted on this issue	Yield is king, protein is second. Is yield potential nitrogen limited or is it moisture limited?

Evolution of population dynamics in barley grass and brome grass. With late breaks becoming the norm and barley and brome grass becoming an issue, growers are being backed into the IT corner.

Fence line/road side (germinating 3 weeks earlier) vs. paddock. Is barley grass hard-seededness increasing? Are the reproduction population dynamics changing of these weeds? This work was done by AHRI on radish - can it be done on brome/barley also? Quantifying evolution re germination

NB: ALL issues raised will continue to have presence at the Grower Network discussion table and will be forwarded to the GRDC Western Panel and GRDC for continued visibility that may feed into existing or future initiatives.

Further Details.

For further details, contact the Grower Network Facilitator Julianne Hill on 0447 261 607 or email grdcgrowernetwork@gmail.com. You are also welcome to visit the Grower Network website – www.rcsn.net.au; and to follow us on Twitter @Julianne_Hill, or visit GRDC - www.grdc.com.au.

A number of Grower Network initiated projects have been put on the ground in the Albany port zone since 2011 and can be found on the Grower Network website. The summer round of Summer Sesh events will be held in January 2021, followed by a Grower Network member meeting (depending on Covid-19) which will be held in Bremer Bay in February. Further details will be available soon.