

GRDC's Regional Cropping Solutions Network (RCSN) held three 'Summer Sesh' events during January 2020. The meetings were held at Jurien Bay Hotel (13<sup>th</sup> January at 5pm with 19 attendees); Broadwater Stilts Restaurant (15<sup>th</sup> January at 5pm with 65 attendees) and Due South, Albany (20<sup>th</sup> January at 5pm with 46 attendees). Online GroupMap technology was used to capture audience input. A key part of these events was the opportunity for participants to share the top issues affecting their profitability. The opportunities and constraints from these events were collated and included for discussion at the various RCSN member meetings held during February.

GRDC's Kwinana West port zone RCSN held their member meeting on 18<sup>th</sup> February at Northam DPIRD meeting rooms. The night prior to their meeting, the RCSN members met for dinner at Dukes Inn, Northam where they caught up with Blakely Paynter (DPIRD Senior Research Scientist Barley & Oats); Craig Scanlan (DPIRD Senior Research Officer) who is managing the GRDC project Nutrient re-distribution and availability in ameliorated and cultivated soils in the Western Region; and Jenni Clausen (DPIRD Research Scientist) who is working in extension of research and decision packages. They also toured the new DPIRD trial facilities with Julie Roche (DPIRD Regional Lab Operations Officer) and saw the netted area; field plot areas including irrigation; greenhouses and glasshouses; growth room; and lab/processing area.

Eleven Kwinana West port zone RCSN members attended their member meeting including: Gary Lang, Roger Newman, Ben Wilson, Bill Moore, Blayn Carlshausen, Daniel Dadd, Chad Hawksley, Dani Whyte, Norm Jenzen, John Scotney and Natalie Purdy. Apologies were received from Tony White. Darrin Lee (Western Panel Chair); Lizzie Von Perger (GRDC Grower relations – West); Josh Johnson (GRDC Manager Agronomy, Soils and Farming Systems – West); Julianne Hill, RCSN coordinator and RCSN support Helen Ablett were in attendance. An update on the work that has been undertaken for the last five years in the Frost project was delivered by Josh Johnson, with a Deep Dive Gap analysis conducted on this topic. An NVT update was also given by Kwinana West port zone NVT representative Bill Moore.

All RCSN members were asked to bring ideas from five farmers/advisors from their area, and consider these ideas along with ideas raised from the Summer Sesh events. 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 ranked 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?

RCSN members then further discussed and expanded on those top issues that need further investment, choosing three to further develop using a MAKAT framework. The following issues were further developed: Management packages for brome and barley grass; Low germination rates and vigour in lupins; Aerial application extension and guidelines for fungicides, herbicides and other agricultural chemicals.

**Table 1: Summary of areas of interest raised at Summer Sesh events or by RCSN members**

Areas of interest raised at Kwinana West port zone Summer Sesh events and by RCSN members	Expanded areas of interest	RCSN member feedback from RCSN member meeting and further action
<b>Farming without glyphosate</b>	Other options? Laser perhaps? Glyphosate alternatives, if it is banned from use. What can be used? Cost of production if glyphosate can't be used	Noted as a very high ranking issue by RCSN members at their member meeting, with this feedback passed onto the Crop Protection Manager – West.
<b>Is machinery heading more towards constant updating technology at the cost of reliability?</b>	This ends in a short life machine with huge depreciation and no value after 10 years adding substantially to the overall cost of machinery. Exacerbated by the increasing cost of machinery/low cost of finance. Machinery replacement strategies in an environment of increasing technology and cost and a decreasing ability to service our gear and/or get a good level of service from dealerships.	Noted as a very high ranking issue by RCSN members at their member meeting. While not an area that GRDC works in, data and support could be provided to relevant bodies. RCSN did not further develop this issue at this time
<b>Labour/staff traineeship.</b>	Apprenticeship. Lack of skilled labour. Employment contract/inductions online.	Noted as a very high ranking issue by RCSN members at their member meeting. While not an area that GRDC works in, data and support can be provided to relevant bodies. RCSN did not further develop this issue at this time
<b>Potassium</b>	Understanding testing and responses.	Noted as an issue by RCSN members at their member meeting, however the RCSN did not

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		further develop this issue at this time but provided advice to GRDC on further extension in this space including messaging from current and past work
<b>Developing leadership and capacity in the farming community.</b>	Increasing scrutiny on ag, with a need for highly developed technical skills, but with a need for development of 'soft' skills both from the farm/industry business perspective and a whole industry perspective	Noted as a very high ranking issue by RCSN members at their member meeting. RCSN did not further develop this issue at this time however advice given that this area could be better covered at Business updates
<b>Canola.</b>	Profitability and resilience is lacking, and further work needed on blackleg pod infection	Identified by the RCSN members as not urgent but important as there is a current GRDC investment in this space
<b>Rotation options.</b>	Lack of rotation options, and we need to increase the diversity of crops available. Need to make a profit from each crop type in the year that it is grown. What about the option of sowing 2 break crops together ie faba beans and canola side by side to maximise opportunity for a return? Further extension of legume pulse crops needs to occur into medium rainfall areas. We really want GM lupins to be able to introduce another legume into system where canola doesn't grow, assisting with weed control.	Noted as a very high ranking issue by RCSN members at their member meeting, with this feedback passed onto the Manager Agronomy, Soils and Farming Systems – West. There is current large GRDC investment occurring in this space
<b>HWSC</b>	Independent testing of all seed destructors/mills on the market for 1. Weed seed % kill, 2. Mill wear 3. HP requirements.	Noted as a very high ranking issue by RCSN members at their member meeting, with this feedback passed onto the Crop Protection Manager – West. There is a current Kondinin Group assessment in draft form
<i>Management of brome and barley grass is becoming an increasing issue.</i>	<i>Developing a package to control these weeds and manage them long term in the face of developing herbicide resistance and no HWSC options will be a great investment. Alternatively, a long term rotation project looking at how to rotate to manage these weeds. Also, keen to see fast track of MRL for imi's on oats</i>	<i>Ranked highly by RCSN members at their member meeting. The RCSN identified this as an issue impacting on profitability and further developed some aspects of this issue.</i>
<b>How to build resilience in farming businesses</b>	To allow them to withstand retirement/education commitments etc in low income years.	Noted as a very high ranking issue by RCSN members at their member meeting. RCSN did not further develop this issue at this time however advice given that this area could be better covered at Business updates
<b>Encourage pH testing at depth.</b>	Lack of understanding of why this should be done and why it is important	Noted as an issue by RCSN members at their member meeting, however the RCSN did not further develop this issue at this time but provided advice to GRDC on further extension in this space including messaging from current and past work
<b>Green on green spray technology.</b>	Economics/machine comparisons.	Identified by the RCSN members as not urgent but important with a number of private companies working in this space
<b>Nutrient removal.</b>	How accurate are some of the tables that are currently available? Has this changed in recent times with our change in farming systems?	Identified by the RCSN members as not urgent but important as there is a current GRDC investment in this space
<b>Dry environment oats.</b>	Better access to varieties and agronomy to suit these areas	Noted as a very high ranking issue by RCSN members at their member meeting, with this

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<b>Grass selective options for oats and IMI oats.</b>	More options in general for weed control in oats. Are there mechanical weed control options that should be explored - inter row shielded spraying? Do any of the new herbicides have a fit? Targeting ryegrass mainly. Do we need more Imi oats when we have Imi in all other crops?	Noted as a very high ranking issue by RCSN members at their member meeting, with this feedback passed onto the Crop Protection Manager – West. There is current GRDC investment occurring in this space
<b>Non-wetting</b>	Wetters - do we have enough data on what, when and where? Point design and impact on crop establishment. Also boot design and its impact on chemical incorporation or toxicity. Non wetting and even mixing of lime if any. There is also still an issue in forest gravels and sandy gravels.	Noted as an issue by RCSN members at their member meeting, however the RCSN did not further develop this issue at this time but provided advice to GRDC on further extension in this space including messaging from current and past work
<b>New wheat varieties, lack of quality (protein, falling numbers).</b>	Concern around falling numbers on new wheat varieties coming through (Havoc, Vixen) - is this a result of breeding programs or not deemed as important against other characteristics?	Noted as a very high ranking issue by RCSN members at their member meeting, with this feedback passed onto the Manager Agronomy, Soils and Farming Systems – West. There is current large GRDC investment occurring in this space
<b>Post soil amelioration management</b>	Post soil amelioration interpretation of soil test results. Sowing rates post soil amelioration. Can they be reduced?	Noted as an issue by RCSN members at their member meeting, however the RCSN did not further develop this issue at this time but provided advice to GRDC on further extension in this space including messaging from current and past work. There is current large GRDC investment occurring in this space
<b>Poor lupin germination rates</b>	<i>What are the major causes of low % germination and low vigour? The lack of varieties suited to our area is still concerning</i>	<i>Ranked highly by RCSN members at their member meeting. The RCSN identified this as an issue impacting on profitability and further developed some aspects of this issue.</i>
<b>Understanding soil types and soil variability in much greater detail.</b>	Not enough current soil types to describe soils. How do soil characteristics influence things like how soon we need to rip again? Where to lime to get best ROI - some soils don't respond.	Identified by the RCSN members as not urgent but important as there is a current GRDC investment in this space
<b>Aerial spray application</b>	<i>Including for fungicides, herbicides, adjuvants, droplet size, water rates etc. Is there any ongoing research into spray application? Some questions and areas of research that may need to be more work for WA conditions coming out of Bill Campbell's spray day</i>	<i>Ranked highly by RCSN members at their member meeting. The RCSN identified this as an issue impacting on profitability and further developed some aspects of this issue. Feedback passed onto the Crop Protection Manager – West.</i>
<b>Long season barley varieties.</b>	Where are they? With imi tech would be good	Noted as an issue by RCSN members at their member meeting, with this feedback passed onto the Manager Agronomy, Soils and Farming Systems – West.
<b>Future business resilience</b>	Been approximately 10 years since drought pilot was run. While there has been some profitable years, did these workshops have significant impact on building resilience and profitability in farm businesses? Eg % of hydraulic tyne machines must have increased significantly in last ten years. Would be interesting to go back and revisit businesses involved then and now and see what had biggest/least impact and how that might	Noted as an issue by RCSN members at their member meeting. RCSN did not further develop this issue at this time however advice given that this area could be better covered at Business updates as well as revisiting some of these and presenting as case studies

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	influence future business resilience. Is there something to be learnt?	
Ability to measure depth of clay across duplex soils	Need to get an inexpensive way of accurately measure depth of clay across duplex soils as to better determine soil constraint amelioration	Noted as a very high ranking issue by RCSN members at their member meeting, with this feedback passed onto the Manager Agronomy, Soils and Farming Systems – West. There is current GRDC interest in this issue
Understanding ROI of precision agriculture - is there one?	How can growers better measure it easily?	Noted as a very high ranking issue by RCSN members at their member meeting. RCSN did not further develop this issue at this time however it is visible to GRDC as an issue
HWSC impact mill effects on feed value of seed	Collaboration with MLA/AWI to look at seed impact mill effects on feed value, cracked grain vs powdering, feed value may not be lost. It may be holding back adoption for mixed farmers	Noted as a very high ranking issue by RCSN members at their member meeting, with this feedback passed onto the Crop Protection Manager – West. Possible collaboration with MLA; AHRI; Kondinin Group
Lack of water for spray and livestock in dry seasons.	How can growers maximise water use efficiency on farm in general? Investigate desalination?	RCSN members noted this of interest and importance, but at this time did not further develop this issue
Regenerative agriculture	Regenerative Agriculture is getting a lot of time in the media. How do we explain what we currently do and find opportunities in the regen space that fit from a production and profitability view, as consumers and social licence seem to demand it?	RCSN members noted this of interest, but at this time did not further develop this issue
Measuring temperature in crop	Radiant heat - what are the actual temperatures in crops compared to reported temperatures (as per BOM at the nearest weather station)? This information may help to look at agronomic management practices that increase resilience of crops to heat/frost.	RCSN members noted this of interest, but at this time did not further develop this issue
Deep ripping PSPE in canola and cereals.	This is being done by a few farmers with good success when a ripping window is not available pre-seeding and following a large break. How does it affect establishment and required seeding rate increase? When should it not be done? What are the limits for timing e.g. 1, 5, 7, 10 days post planting?	Noted as of interest by RCSN members at their member meeting, with this feedback passed onto the Manager Agronomy, Soils and Farming Systems – West.
Late fungicide applications	Observations that there is more frost in next crop due to the higher levels for stubble. Are we causing slow stubble breakdown with late fungicide applications? Also, what is the best timing of late fungicide in hay?	Noted as an issue by RCSN members at their member meeting, with this feedback passed onto the Crop Protection Manager – West. There is a current RCSN initiated project on spray application.
Bringing gravel and rocky areas back into production	Reefinator economics, agronomy and productivity of new hydraulic reefinator.	RCSN members noted this of interest, but at this time did not further develop this issue as there is current RCSN initiated investment in this space
Revisiting cloud seeding	Is it a possibility?	RCSN members noted this of interest, but at this time did not further develop this issue

**NB: ALL issues raised at the Summer Sesh events and RCSN member meetings will continue to have presence at the RCSN discussion table and will be forwarded to the GRDC Western Panel and GRDC for continued visibility that may feed into existing or future initiatives.**

### Thanks and Further Details.

Thank you to everyone who attended the Summer Sesh events and RCSN member meetings and contributed to these discussions.

For further details, contact the RCSN Facilitator Julianne Hill on 0447 261 607 or email [regionalcroppingsolutions@gmail.com](mailto:regionalcroppingsolutions@gmail.com). You are also welcome to visit the RCSN website – [www.rcsn.net.au](http://www.rcsn.net.au); and to follow us on Twitter @Julianne\_Hill, or visit GRDC - [www.grdc.com.au](http://www.grdc.com.au).

A number of RCSN initiated projects have been put on the ground in the Kwinana West port zone since 2011 and can be found on the RCSN website at [www.rcsn.net.au](http://www.rcsn.net.au).

The winter round of Open Forums will be held during late July 2020 within the Kwinana West port zone, followed by an RCSN member meeting (depending on Covid-19) which will be held in Beverley on 28<sup>th</sup> July 2020. Further details will be available soon.