

GRDC's Regional Cropping Solutions Network (RCSN) held three 'Summer Sesh' events during January 2020. The meetings were held at Jurien Bay Hotel (13th January at 5pm with 19 attendees); Broadwater Stilts Restaurant (15th January at 5pm with 65 attendees) and Due South, Albany (20th 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 Esperance port zone RCSN held their member meeting on 5th and 6th February at Motel Le Grande in Albany as a combined group with Albany port zone RCSN members. Prior to their meeting, both RCSN groups visited Scott and Alaina Smiths at Kojaneerup to look at how the Smiths were managing snails as well as visiting their clay spreading operations to manage non-wetting sands. The group also visited Josh and Shannon Goad who are claying and deep ripping contractors.

Nine of the Esperance port zone RCSN members attended their member meeting including: Andrew Fowler, Peter Daw, Kirk Zeitz, Tristan Cornwall, Nathan Mudie, Joel Ebert, Monica Field, John Sanderson and Lindsay Brownley. Apologies were made from Cameron Mudge, Ryan Meldrum and Holly Meiklejohn. Andy Duncan & Gemma Walker (Western Panel); Lizzie Von Perger and Curtis Liebeck (GRDC Grower relations – West); Julianne Hill, RCSN coordinator and RCSN support Cindy Power and Helen Ablett were also in attendance. An update on soils constraints work with outcomes from current work was provided for discussion with a Deep Dive Gap analysis on amelioration of variable soil types conducted. An NVT update was also given by Esperance port zone NVT representatives, Nathan Mudie and Tristan Cornwall.

All RCSN members were asked to bring ideas from five farmers/advisors from their area, and to 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 two to further develop using a MAKAT framework. The following issues were further developed: Faba Bean, Albus lupins, chickpeas and lentil agronomy and nutrition on non-traditional soil types; and late season fungicides on wheat and the effect on both yield and quality.

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

Areas of interest raised at Esperance port zone Summer Sesh events and by RCSN members	Expanded areas of interest	RCSN member feedback from RCSN member meeting and further action
Nutrition testing here and now.	Ability to map depth of deep ripping. Effects of deep ripping shallow duplex and loamy clay soils.	Noted as a very high ranking issue by RCSN members at their member meeting, however the RCSN did not further develop this issue at this time as RCSN members developed this issue at their July 2019 meeting for GRDC consideration
Deep Ripping.	Ability to map depth of deep ripping; and the effects of deep ripping shallow duplex and loamy clay soils.	Noted as an issue by RCSN members at their member meeting, with further input provided by RCSN members to GRDC in a Deep Dive
Identifying key soil constraints	More workshops on understanding how to identify soil constraints on farm including how to identify key indicators for various ameliorations. Have experts come to a soil pit and actually give a recommendation on what would best alleviate the most limiting factor	Noted as an issue by RCSN members at their member meeting, with further input provided by RCSN members to GRDC in a Deep Dive
Phosphorus response curves	Particularly on high yielding Canola	Noted as a very high ranking issue by RCSN members at their member meeting, however the RCSN did not further develop this issue at this time as there is current GRDC investment occurring in this space in the N, P, K project
Faba Bean, Albus lupins, chickpeas and lentil agronomy	<i>Including nutrition on non-traditional soil types (N, P, K, S and Traces)</i>	<i>Ranked highly by RCSN members at their member meeting. The RCSN identified this as</i>

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		<i>an issue impacting on profitability and further developed some aspects of this issue.</i>
Frost.	Effects of biomass on frost. The effects of deep ripping and delving on frost, is it the access to moisture or the clay brought to the surface that limits frost damage? Most probably it's both, how much effect does each have?	Noted as a very high ranking issue by RCSN members at their member meeting, however the RCSN did not further develop this issue at this time as there is current large GRDC investment occurring in this space
Increase in cereal root diseases	With cereal on cereal rotations increasing in popularity cereal root disease is also increasing. We need to understand the best way to address this constraint. How much of an effect does cultivation have ie. does it outweigh the loss in soil structure and moisture?	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 investment in this space
<i>Late season application of fungicides</i>	<i>Late season fungicides on wheat (first sign of grain formation in the head) and the effect on both yield and quality. Yield and quality response curves for different timings of new generation fungicides in a high yielding situation (+5t/ha)</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>
Sodicity	Are there other more efficient ways to displace sodium on sodic soils than Gypsum.	Noted as an issue by RCSN members at their member meeting, with further input provided by RCSN members to GRDC in a Deep Dive
Soils with high PBI	Soils with high PBI - can we unlock nutrients; Correlating this with DGT	Noted as an issue by RCSN members at their member meeting, with further input provided by RCSN members to GRDC in a Deep Dive
Chemical soil amelioration verses mechanical.	What chemical options do we have and how do they compare with mechanical.	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
Caltrop seed viability	At what stage of seed development is a chemical application effective or ineffective. Does burning the seed on the ground affect dormancy or germination. If so what temp? Post emergent chemicals effect on growth (the following summer). A study was done recently (2-3yrs ago) but I don't think it went this far ie. didn't really help farmers. Becoming a big issue and costing growers. Roundup and Tordan on caltrop give great results as long as the seed has not detached. Spot spraying around sheds.	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 in this space
Non wetting	Areas getting bigger after last two dry seasons.	Noted as an issue by RCSN members at their member meeting, with further input provided by RCSN members to GRDC in a Deep Dive
Nutrition required to maximise profit in Hybrid canola on ameliorated soils.	(N P K S Te). Some trials had maximum economic yield at over 200 units of N last year.	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

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Salinity.	Salinity popping up in new areas. Find a way to lower the water table. ie use water in the ground for a longer period of the year, Salinity is becoming a problem in new areas on different soil types. A review of what we know, what we have learnt and how it applies in new areas. The aim being to give growers steps to help reduce the effects of salinity.	Identified by the RCSN members as not urgent but important, however will ensure GRDC are aware of it
Effect of herbicide efficacy/damage on crop/weeds after soil amelioration		Noted as an issue by RCSN members at their member meeting, with further input provided by RCSN members to GRDC in a Deep Dive
Effect on snail numbers/breeding with the use of various amelioration practices	Ripping, spading, mouldboard, mulching stubble. Burial depth with different species	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
Data transfer for more efficient use	Automation of data transfer from portals and machines to management programs for reporting and aggregation.	Identified by the RCSN members as not urgent but important, however will ensure GRDC are aware of it
Effect and longevity of Clopyralid (Lontrel) residues into pasture and legume systems	More investigation into the effect and longevity of Clopyralid (Lontrel) residues into pasture and legume systems. Especially with wet vs dry summers. How does soil type, OC, rainfall, rate and time of application all come into effect?	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 this issue and advised cross collaboration between MLA and AWI
Water Quality.	Water quality for spray efficacy given so many dams are now empty, Desalination of ground water to suppress salt scalds, also for using the fresh water produced for stock and cropping	Identified by the RCSN members as not urgent but important, however will ensure GRDC are aware of it

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 detailed discussions.

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

A number of RCSN initiated projects have been put on the ground in the Esperance port zone since 2011 and can be found on the RCSN website.

The winter round of Open Forums will be held during early August within the Esperance port zone, followed by an RCSN member meeting (depending on Covid-19) which will be held in Hopetoun on 5th, 6th or 7th August 2020. Further details will be available soon.