

GRDC's Albany port zone Regional Cropping Solutions Network (RCSN) held two Open Forums in July 2019. The meetings were held at Kulin Freebairn Centre (1 July at 4pm) and Kojonup Sports ground (2 July at 8am).

A total of 67 guests attended the two Open Forums. Members of the general public were able to register for the Open Forums at the RCSN website www.rcsn.net.au and could submit an issue/idea should they be unable to attend.

Those presenting across the forums included:

- Dylan Hirsch (Nuffield Scholar & Latham farmer); & Norman Trethewey (Weather Index Solutions): Financial risk management systems in variable climates including MPCl, weather & index insurance products, and their influence on grain marketing, land prices & industry investment.
- Ron Yates (DPIRD/Murdoch): Factors impacting legume nodulation and measuring biologically fixed nitrogen (N) and its transfer into subsequent crops.
- Wayne Pluske (Equii): N, P, K...and all things fertilizer! Strategic tillage and soil nutrient availability – the implications for fertiliser requirements; topical nutrition issues for this season; improving plant nutrition to increase profitability of fertilisers

Also in attendance were some Albany RCSN members. Online GroupMap technology was used to capture audience input. A key part of the Open Forum was the opportunity for participants to share the top issues affecting their profitability. The aim of these discussions was to provide growers with direct input into the analysis of current local priorities affecting productivity and profitability to assist in the discussions relating to future projects by GRDC's RCSN and by GRDC's Western Panel and GRDC staff.

A number of shorter term, smaller RCSN initiated projects have been put on the ground in the Albany port zone since 2011. Final reports are available online at the Online Farm Trials website, www.farmtrials.com.au or on www.rcsn.net.au.

All issues raised at the Open Forums at Kulin and Kojonup were discussed by the RCSN members at their meeting held on 2nd and 3rd July in Kojonup. The RCSN also added further issues after gaps were identified. All issues were ranked according to five main factors: Does it impact on grower's profitability? What area is affected by the issue? How frequently does the issue occur? If work was conducted on the issue, would it deliver more value to growers? Is the issue something that we can effect change upon?

Table 1: Summary of areas of interest raised at the Open Forums at Kojonup (Ko), Jerramungup (J) & Kulin (Kul); or by RCSN members

Areas of interest raised at Albany port zone Open Forums and RCSN members	Expanded areas of interest	RCSN member feedback from Closed meeting and further action
Yield gap - wheat and canola are still under-performing.	Barley is still going well even though it is less well adapted to acid soils; and according to Nick Poole barley has a ceiling yield that is approx 3-4t/ha less than wheat. But we aren't seeing wheat and canola perform like it should	Ranked highly by RCSN members at their closed member meeting. The RCSN identified this as an issue impacting on profitability and further developed some aspects of this issue.
Snail control and management at harvest time	Carbendazim being used in SA in a big way. Reports that it is doing the job, but no registration? Are there MRL issues in canola and cereals? Pastures? What is the mechanism to kill them with this product? Other similar products? Has been described as the silver bullet! Mapping where they are so can target. John Moores work needs to be continued. Cleaning snails out of canola, how?	Ranked highly by RCSN members at their closed member meeting. The RCSN identified this as an issue impacting on profitability and further developed some aspects of this issue.
Subsoil drainage	Ko - Sub surface drainage. Massive potential in wet areas if we could get water away while still maintaining efficiency (without installing contours/drains). Subsoil drainage options in the HRZ on variable soil types. Also interest in managing saline seepage. Further demonstration sites required. Includes waterlogging and saline seepage	Ranked highly by RCSN members at their closed member meeting. The RCSN identified this as an issue impacting on profitability and further developed some aspects of this issue.
Deep ripping	Huge interest in deep ripping but many more questions than answers. The when where and how needs to be extended to growers in the south., Ko -	Ranked highly by RCSN members at their closed member meeting. The RCSN identified this as an issue

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	<i>Deep ripping and amelioration effectiveness away from sand-plain soil types. Such as duplex soils, forest gravels. Dealing with soil/paddock variability</i>	<i>impacting on profitability and further developed some aspects of this issue.</i>
Weed management	Capeweed getting harder to control. Mike Ashworth has found capeweed resistance to several herbicides in the Great Southern. How do we manage this as paraquat and harvest weed management very poor!! Group A resistant barley grass. Occurrence and management options in pastures. Ko - Late season rye grass control in cereals to control the late winter flush	Ranked highly by RCSN members at their RCSN member meeting. The RCSN identified this as an issue but did not further develop this issue at this time. However, the RCSN wanted to ensure that it continued to have presence within GRDC.
MRLs and overuse of chemicals	Kul - MRLs in barley. Ko - Growers need a better understanding of MRL's and the market issues associated with breaches. How can drift issues affect results? How do farmers get help with false positives? Ko - Over use of chemical rates and residues thereafter. Need to look at investing money in herbicide/fungicide label extension into non registered crop for old chemistry products. Trifluralin in oats is a good example of this. With all the bad media on glyphosate, more needs to be done to protect this product. How will agriculture look in WA if not available?	Ranked highly by RCSN members at their RCSN member meeting. The RCSN identified this as an issue but did not further develop this issue at this time. However, the RCSN wanted to ensure that it continued to have presence within GRDC.
Ko - is Mg and Mn becoming limiting/an issue.	More an extension issue. Separate Mn and Mg, totally unrelated in incidence and effects	Ranked highly by RCSN members at their RCSN member meeting. The RCSN identified this as an issue but did not further develop this issue at this time. However, the RCSN wanted to ensure that it continued to have presence within GRDC.
RLEM - SP resistant and OP tolerant RLEM.	Time-rioting with Lemat. What happens when we lose Lemat and Clorpyrifos? Sleeping giant. Game plan for if this happens	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time.
Non-wetting	Kul - Non wetting sandy soils. Wetter on canola seed. Seed placement., Non-wetting gravels, SE14 works over 90 percent. How do we isolate the worst 10 percent and what do we do about it? Clay? Up SE14 rate? Plough? Ko - Non-wetting on forest gravels and sands and how to ameliorate with different applications of wetters - banding, spraying, seed coats	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. There is current large GRDC investment occurring in this space
Kul - Nematodes	Rotations, lack of control in cereals, how much of an issue it is/damage. Extension	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. There is current GRDC investment occurring in this space
Will changing technology i.e. Bilberry Green on green camera technology change chemical registrations etc?	Can we extend the use permits if spraying only small areas? We need to stay ahead of the game. For example - if using a seeker which identifies only a small area in the paddock which decreases per hectare chemical application but with high rates on a very small area will this affect MRL and labels. Can GRDC support work on this to be used by APVMA?	Ranked highly by RCSN members at their RCSN member meeting. The RCSN identified this as an issue but did not further develop this issue at this time. However, the RCSN wanted to ensure that it continued to have presence within GRDC.

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Ko - Managing yield losses from water-logging in the HRZ.	How do N decisions interact with water-logging? What do you do when you can't drive on the paddock? In season transient and longer term waterlogging - periods of time of say 6 weeks where nitrogen management is a real issue	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. There is current large GRDC investment occurring in this space
Barley disease	Kul - Barley increasing proportion of farm crop program. Key limitations include effective management of spot type and net type net blotch. Harder in dry starts with no summer rain., Ko - Barley being bred for yield and not disease tolerance (eg stem rust, net blotch). There are too many varieties.	Ranked highly by RCSN members at their RCSN member meeting. The RCSN identified this as an issue but did not further develop this issue at this time. However, the RCSN wanted to ensure that it continued to have presence within GRDC.
Nitrogen management	Kul - nitrogen management decisions, Reinforce the need for an easy to use nitrogen fertiliser app. Ko - There is a growing trend of low protein grain that is becoming unmarketable particularly in high yielding seasons. Need more high yielding high protein wheats available with more researched agronomy	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. There is current large GRDC investment occurring in this space
Kul – Management of Ironstone gravel country	Opportunity with reeferator to ameliorate- what are agronomy implications. How does it impact herbicide efficacy and establishment? Are there any implications at all? Is it more about extension? Or are there questions around herbicide and fertiliser efficacy?	Ranked highly by RCSN members at their RCSN member meeting. The RCSN identified this as an issue but did not further develop this issue at this time. However, the RCSN wanted to ensure that it continued to have presence within GRDC.
Managing multi resistant green peach aphid populations.	Resistance to Transform	Ranked highly by RCSN members at their RCSN member meeting. The RCSN identified this as an issue but did not further develop this issue at this time. However, the RCSN wanted to ensure that it continued to have presence within GRDC.
Kul - Frost	Lack of other options eg avoid wheat then barley is good for a small percentage, oats is weedy in the rotation and suffer from drought. Give us another option	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. There is current large GRDC investment occurring in this space
Late crops for winter feeds - good short season high yielding crops	Ko - Spring crops, seed June/July, for grazing and selling. What crops are available and where they fit in rotations	Ranked highly by RCSN members at their RCSN member meeting. The RCSN identified this as an issue but did not further develop this issue at this time. However, the RCSN wanted to ensure that it continued to have presence within GRDC.
Slaters, earwigs, and vegie beetles getting much worse in the eastern areas	Need to look how long control options needed to reduce numbers to non-damaging levels. Transcend is being registered and likely to be available in 2020. Life cycle etc not well understood. Look into cracked wheat options and chemical application for the control of Slaters. Baiting seems to be effective but no research, registration etc. need more work into this. Fiprinil MRL issues?	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it. Current investment with GRDC on slaters, earwigs and snails.

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Impact of fungicides/insecticides/herbicides - particularly seed dressings on soil biology	How this eventually reduces production, but do we know what was there in the first place and what benefits do they have? Soil pits and microscopic studies could prove or dispel some of the ideas. Benchmark soil flora and fauna. Enhanced microbial breakdown of herbicides in our tight soil rotations	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it. Some investment by GRDC in this space.
Rainfall and seasonal variability	Ko - Managing seasonal variability. Short long and medium weather predictions., Kul - rainfall variability. Forecasting for south coast east of Albany is always wrong, we have no reliable method of knowing what is coming, even 1-5 days out	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it. GRDC is involved with investment in this space
Kul - Cost and effectiveness of weed control in dry sowing systems.	Heavy reliance on dry seeding.	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it
Kul - Long season wheat, barley, canola	Current varieties don't perform.	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it
Acidity and sources - there are still snake oils around	Sub soil acidity reduction at depths >10cm. While there has been work done with deep ripping and getting limesand to depth - it is extremely expensive and deep ripping is not beneficial on a variety of acid soils. Is it possible to ameliorate subsoil acidity with a lower disturbance large disc machines (Keeping soil structure intact and lower horsepower requirements) and what type of Ca product could be used? Lime source effectiveness trials in one location -look at all different sources including cheaper on farm low grade deposits as well as more expensive options such as Calcium Hydroxide. There are also a plethora of liquid solutions, some snake oils etc. Need a comprehensive trial to weed out any unrealistic claims and get the best economic solution! Restraint: Non tillage Options for ameliorating subsoil acidity.	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it
Late break options	Ko - Late season break options regarding optimal times of sowing, and options for dual purpose long season barley/wheat, or other pasture options.	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it
Soil testing and characterisation	Ko - Rapid soil characterization and chemical analysis using new technology. Can we ground truth some of the companies/products that are currently on the market. Mining equipment, Drones, fixed wing aircraft, satellite imagery etc., Ko - Soil testing, we still do it but why. We have high p results but still get a big response. How do we know how much NPK and S. Do we apply to maximize yield potential and fertiliser use efficiency? Better predictors and models. Also we would need to take ten samples per paddock to allow for all soil types. More confident prediction methods for gypsum responsiveness. Dispersion and ESP don't always line up nor predict profitability.	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it

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Profitable break crops and legumes - systems approach.	Further development of profitable legumes in long term cropping rotations. More legume demo sites and research into new acid tolerant rhizobia. Kul - Lack of profitable legumes in rotation on variable soils types. Ko - Profitable legume crop and pasture break rotations. Gross margin analysis vs chemical fallow. Phase rotations (pasture:crop) and length of phase. Increased grain yield to go with pasture profitability, need another break crop in the HRZ. We are too reliant on canola barley. We have been working on beans, flax or linseed. What is next? Safflower? Food lupins? Cold tolerant chick peas are a long way off,	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it. GRDC have current large investment into break crops and legumes.
Ko - Layering of technologies to identify under-performance areas within paddocks		Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it
Kul - Seeding systems	Depth of seeding what can you sow deep to capture value of deep stored moisture early in season. Want to be able to have option able to emerge from depth - early in season.	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it. Current GRDC RCSN project just completed on this
Kul - Sowing cereals to meet early feed gap needs for livestock	What impact on disease, how does it impact the break benefits of pasture phase	Not urgent but important with no project write ups at this time. The RCSN identified this as an issue and will ensure GRDC are aware of it
Kul - Financial model to assess different profitabilities across different soil types.	Whole farm economic analysis - understanding where we will get return on investment e.g soil amelioration (ROSA and perhaps MIDAS - more extension needs to occur)	The RCSN identified this as an issue but did not further develop this issue at this time but will ensure GRDC are aware of this issue.
Red clover disease	Needs to be more work on red clover disease with summer rain becoming more the norm and spreading further inland. Receiving good early rain only to have it die during the season.	The RCSN identified this as an issue but did not further develop this issue at this time but will ensure GRDC are aware of this issue. GRDC have current investment with MLA and AWI in legume and pasture work.
Ko - New unproven and expensive technologies, data management and compliance issues that consume resources for questionable returns		Outside GRDC scope (we have little impact) - no project write ups

NB: ALL issues raised at the Open Forums as notes above 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.

GRDC now have a Facebook page – www.facebook.com/theGRDC/ (like us!) as well as a dedicated RCSN website – www.rcsn.net.au. Follow us on Twitter @Julianne_Hill, or visit GRDC www.grdc.com.au. Thank you to everyone who attended the Open Forums and contributed to the detailed discussions. For further details, contact the RCSN Facilitator Julianne Hill on 0447 261 607 or email regionalcroppingsolutions@gmail.com