

GRDCs Kwinana West port zone Regional Cropping Solutions Network (RCSN) held three Open Forums in July and August 2018. The meetings were held at Goomalling Sports and Community Centre (31st July at 2pm); Brookton Bedford Arms Hotel (1st August at 8am); and Kondinin Aquatic Centre, Bill Smoker Room (1st August at 2pm).

A total of 75 guests attended the three 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:

- Rowan Maddern and Jason Emms (GRDC) and Chris Wilkins (Western Panel): GRDCs investment weeds, soils, nutrition in WA
- Liam Ryan (GRDC): GRDC's investments in Digital Agriculture and enabling technologies at the farm-gate level
- James Macfarlane (Farmanco): Agronomists with drones: what is the true cost and return to your business?

Also in attendance were some Kwinana West port zone RCSN members. 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 Kwinana West 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. Those that were contracted in 2018 (that primarily arose from Open Forum meetings and RCSN member meetings in 2017) were:

Table 1: Summary of RCSN initiated projects for Kwinana West port zone in 2017/18 (GRDC)

Project Number	Project Title	Leader(s)
9176166	'Ripper Gauge' Demonstration Sites in the Western Region	Nathan Craig, West Midlands Group
9176098	'Yardstick' Demonstrations for the Western Region port zones	Richard Devlin, Living Farm
9176058	A Review of Seeding Systems that Provide Improved Crop Establishment for Growers in the Western Region	Kelly Cussons, Cussons Media
9176041	Halving the \$90m Canola Harvest Losses in WA	Peter Newman, Planfarm
9176023	Return on Investment of Using Drones	James MacFarlane, Farmanco
9176079	Focus Farms fighting weed foes	Roberto Busi, UWA
9176164	Demonstrations of Legumes crops for reliable profitability in the Western Region	Rebecca McGregor, Liebe Group
9176088	Seeding Systems to improve crop establishment on heavy textured soils	Veronika Crouch, CFG
9176014	Incorporating lime to depth in duplex wheatbelt soils	Sarah Hyde, Facey Group
9176016	Improving Crop Emergence	Nathan Craig, West Midlands Group

All issues raised at the Open Forums at Goomalling, Brookton and Kondinin were discussed by the RCSN members at their meeting held on 2nd August in Kondinin. 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 2: Summary of areas of Interest raised at the Open Forums at Goomalling (GO), Brookton (B) or Kondinin (KD) or by RCSN members

Areas of interest raised at Kwinana West zone Open Forums and RCSN members	Expanded areas of interest	RCSN member feedback from Closed meeting and further action
GO, RCSN - Nitrogen	Late N application effects on protein timing, profit margins and time of application. Real time nitrogen management for crops later in the season	Ranked very 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.
KD, B, GO - Summer weeds	Summer weeds - melons - the cost involved with controlling them. Caltrop, windmill grass, witch grass, tumble weed, Prickly lettuce, Fleabane, sow thistle, Tarvine, afghan thistle, kerosene grass,	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. GRDC do have some investments in

	lovegrass. Just can't get on top of it. Need a residual herbicide. Every 2-5ml causes more germination especially for caltrop. Biological control of caltrop. Heliotrope, fleabane, marshmallow. Feathertop Rhodes is being spotted on the road sides. Impossible to control. Residual options that work on summer weeds, but don't impact on crops that year. Weeds coming in from the roads and railways. Controlling harder to control weeds without using SU's.	place, and Bayer are currently working on a range of weeds including hard to kill weeds, however the RCSN wanted to ensure that it continued to have presence within GRDC.
B, KD - Herbicide resistance	Herbicide resistances of weeds pests and diseases, requiring huge rates to kill them, look at systems understanding on how to kill them. Universities to do more studies. All to help with reducing input costs. Weed resistance and some questions around IWM approach, chaff lining. Concerned that weed seeds are moving out of the line with movement of sheep, wind etc. Effectiveness of chaff decks.	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. There is current large GRDC investment occurring in this space (AHRI and other smaller investments) however the RCSN wanted to ensure that it continued to have presence within GRDC.
GO, B, KD - Profitable break crops	Profitable legumes, currently no legumes for heavy country, something better than field peas and chemical fallow. Control of summer weeds would allow for summer crops. Try to get a legume at the same time. Serradella as an option. Profit from pasture legume and farming legumes for the current year not just long term. More legume options for high rain fall zones, that can tolerate cold and frost. Alternative break crops - legume mix instead of straight varieties using a combination. Find variety mixes that have the same maturity rate that work together. Add fabas to legumes demos on grey clay.	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 as there is current RCSN initiated projects on the ground on this topic as well as major investment from GRDC. However, the RCSN wanted to ensure that it remained as an important issue within GRDC.
KD - Machinery cost replacement	Payment on new gear is getting out of hand. Maintenance and parts aren't cheap any more. With mining amping up again, some mechanics will be lost.	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 as there is a current RCSN initiated project on the ground on this topic. However, the RCSN wanted to ensure that it remained as an important issue within GRDC.
B, KD - Early sowing opportunities	Early sown crop varieties, making sure that growers know what varieties to use, e.g, canola and the best material available. Best options. Varieties best suited to early sowing, and how to best manage them. Link between sowing and which variety is best grossing. Not only for grain use, but also for grazing use. Time sowing of canola, want to know how early it can be sown, how early is too early? Current variety selection may not be the best.	Highly ranked 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 will ensure that it remains as a topic of interest for GRDC.
RCSN - Salt and transient salinity	Salt affected areas. Salt and transient salinity is still a big issue, getting worse. Rehabilitation of flattened WISALT banks (gypsum, spreading OM)	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. RCSN will ensure that it continues to have presence within GRDC.
<i>B, RCSN - Soil amelioration</i>	<i>Explore amelioration on heavy soils (range of heavy soils, grey clays, shallow sodic sub duplex). Gypsum, stubbles, long term. Water infiltration and seed germination. Soil amelioration and effect on pH and nutrients, trying to work out where we should use lime vs gypsum. Manures and what they do to the pH and soil. Soil management, trace elements, crop</i>	<i>Ranked very 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.</i>

	<i>rotations. Soil management, crop rotations, soil amelioration for forest gravels which are non-wetting. Response to N (Organic Carbons). Hard pan and compaction layers, water logging. Subsoil care and maintenance. So many choices, so many spoil types. Can soil amelioration improve waterlogging in duplex soils?</i>	
GO, KD - Frost	Frost Prediction model. Cause of frost - is it other nutrition? Calcium, silicate and boron all have an effect on cell wall strength. Work is being done in the area of Boron. Need frost tolerant wheat. Want to seed later to avoid frost, need heat tolerance, are oats more tolerant? Do we just put in one variety or put in a mix of varieties to reduce the risk? Need a long season wheat that's agronomically suitable, so if you get a rainfall opportunity you can go for it. Need an end market. Quicker decision on to cut it for hay if frosted (2-5 days). Restricted at both ends. Both heat and frost are issues, but if one were fixed, its easier to work around it.	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. There is current large GRDC investment occurring in this space however the RCSN wanted to ensure that it continued to have presence within GRDC.
RCSN - Stubble management	Reduction of burning, frost management, weed control.	Highly ranked by RCSN members at their RCSN member meeting, particularly after this year
RCSN - HWSC	Can the harvester setup for HWSC be integrated with harvest canola loss workshops that are being conducted by Planfarm via the RCSN initiated project? Efficacy of chaff lining in medium and low rainfall.	Highly ranked 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 will work to seeing header setup included in the canola loss workshops
GO, B - Seasonal forecast and climate	It isn't so much about climate this year, but best available climate projection trends for future, in your region, and associated issues, (e.g heat stress, rain patterns, disease vectors, bio security changes, frost, extended fire season,) to enable good decision-making for long term. Seasonal forecasting. Best seasonal forecast for the region. Better use of weather radar to make decisions. Consideration of climate projections into risk management/business planning.	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. There is new current large GRDC investment occurring in this space however the RCSN wanted to ensure that it continued to have presence within GRDC.
B, GO - Non-wetting soils	Non-wetting - sand plains, deep ripping using scarifier. After 15 years, scarifier marks could still be seen? Inversion occurred and the results were amazing after a number of years. Non-wetting seems to be a new issue. More work on deep ripping done of different non-wetting soil types. Soils becoming non-wetting after canola and lupins.	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 as there is current RCSN initiated projects on the ground on this topic as well as major investment from GRDC. However, the RCSN wanted to ensure that it remained as an important issue within GRDC.
KD – Disease in barley	NTNB and STNB resistance in barley, barley on barley surveys, SDHI technology.	Very highly ranked 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. There is some GRDC investment occurring in this space however the RCSN wanted to ensure that it continued to have presence within GRDC.
RCSN – Post emergent options for weed control in cereal	Post-emergent applications of Prosulfocarb on wheat and barley not registered.	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time.
GO - Glyphosate	Growing public concern about residue on seed and impact on people. Hasn't been new mode of action in 30 years. Lack of options and herbicide action.	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

	Efficacy of glyphosate vs paraquat for spraying under swather - CBH MRL issues.	this time. The RCSN wanted to ensure that it continued to have presence within GRDC.
B, RCSN - Employment	Employment - finding both casual and permanent staff. Finding suitable qualified labour. Courses for common sense things, as well as OH & S, and compliance issues that employers have.	Ranked very 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. The RCSN wanted to ensure that it continued to have presence within GRDC.
B - Micronutrients	Micronutrients to maximise yields. Are the rates still right? Balance and timing of micronutrients	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time.
RCSN - Oats	Oats varieties haven't improved and there have been no major gain in yields or disease control in the last decade, not since Wandering oats. The use of boxer gold as a post control of rye grass in oats crop. Currently off label option that a few people have been trialling in our area. The control of wild oats	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time.
KD - Canola germination	How deep to sow it, are there different seeding mechanisms for canola. Want more even canola germination. Alternatively, why can't we plant canola in May (ie later) and get higher yields? Later sowing, higher yielding canola. Need case studies looking at growers who get more consistent germination and see what they do.	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. The RCSN wanted to ensure that it continued to have presence within GRDC.
<i>KD - IMI carry over</i>	<i>Managing crops and rotations the year after Imi. Replacement for Scope.</i>	<i>Ranked very 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.</i>
RCSN – Canola Varieties	New varieties of canola (especially hybrids). The more biomass the harder it is to retain the seed in the header due to the amount of product being put through the machine.	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. The RCSN wanted to ensure that it continued to have presence within GRDC.
KD - Ryegrass in canola	Need to get results that are being done by different ago-groups and companies, and learn from it.	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. RCSN will ensure that it continued to have presence within GRDC.
KD – Green bridge	What do we know about the impact of the green bridge caused by summer weeds/volunteer crop plants on winter crops?	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time.
B – Value adding and feed grains	Focus on feed grain and marketing this better on the international market. Huge feed lotting businesses in Asia and this could be a good market to send it to. Producing and marketing feed grain and specific feed grains to give farmers a higher price for their product.	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. RCSN will ensure that it continued to have presence within GRDC.
KD, RCSN - Lupins	Can't get them in the header and stop them from shattering. During hot parts of the day they are also popping. Is crop topping making it worse? Machinery options that are economic for harvesting lupins - any sort of machinery adaptations? Lupins pre-em tolerances -very low plant numbers this year is it chemical/varieties/conditions? Jurien lupins - issues with emergence and vigour under adverse conditions.	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 as there is current RCSN initiated projects on the ground on this topic as well as major investment from GRDC. However, the RCSN wanted to ensure that it remained as an important issue within GRDC.
B - Biosecurity	Keeping pests and diseases out of Australia. GRDC to assist to preserve the status quo. More	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. RCSN

	restrictions on people entering private farm property as biosecurity signs are being ignored.	will ensure that it continued to have presence within GRDC.
B - Crop grazing	Finding the most suitable crops to use ie barley, wheat.	Ranked highly by RCSN members at their RCSN member meeting but was not further developed at this time. Grain and Graze 3 could be of use here
B - Heliothis	High octane insecticides are building resistance. Need to look at new bacterial controls of the insect and that will not have any MRL troubles with export grains.	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time.
GO – Farming systems	How to change your farming system management based on climate, fertiliser, chemical and weather prediction.	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time.
GO – Drone technology	Is data drone technology providing useful data? Lots of it out there but being able to harness it without 10 different subscriptions.	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 a current RCSN initiated project in this space, but RCSN will ensure that it continues to have presence within GRDC.
GO - Summer cover crops	Keeping ground cover over summer helps with sheep and wind erosion. What benefits are there for next season and reducing summer weeds? Example Serradella pods. Does it impact on the winter crop? What species mix would be best to use, considering the green bridge effect?	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 a current RCSN initiated project in this space, but RCSN will ensure that it continues to have presence within GRDC.
B - Red clover issue	Cost of buying pellets, last year good spring but no feed, leads onto the next year. Trying to understand the cause, the hosts, etc. No extensions. First find solution and then look for alternatives	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time as MLA and DPIRD are currently working in this space.
KD - Cockchafers	Seeing more but there are not many options for killing them as they are underground and not many registered options for chemicals.	Noted as an issue by RCSN members at their closed member meeting, however the RCSN did not further develop this issue at this time. RCSN will ensure that it continues to have presence within GRDC.

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