

# FARM TO PROFIT FARM BUSINESS UPDATE



**Kimba** – Tuesday 5th July, 2022

*Kimba Football Club, North Terrace, Kimba*

**Kadina** – Wednesday 6th July 2022

*Kadina Football Club, 1 Doswell Terrace, Kadina*

**Mallala** – Thursday 7th July 2022

*Mallala Institute, 2 Dublin Road, Mallala*

**#GRDCUpdates**



## 2022 KIMBA/KADINA/MALLALA GRDC Farm Business Update planning group

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*ORM acknowledges and thanks all contributors to 2022 planning*



**GRDC Farm Business Update**  
proudly convened by **ORM Pty Ltd.**



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# GRDC Farm Business Update KIMBA/KADINA/MALLALA



**GRDC**  
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#GRAINSTORMING



# WHERE SHOULD GRDC FOCUS ITS INVESTMENT?

CONTRIBUTE NOW TO HELP SHAPE THE 2023-28 RD&E PLAN

We want to understand what is challenging you, what excites you, the issues facing the grain industry and where you believe grains research and development should be focused to deliver greatest impact.



## WHAT WILL WE SEE TOWARDS 2040

 **30.6m** people living in Australia<sup>1</sup>

 **1.4 billion** extra mouths to feed globally<sup>1</sup>


 **39%** global population growth in Asia<sup>1</sup>

Additional **13.7 million** tonnes of wheat demand across Indonesia, Philippines, Thailand and Vietnam<sup>1</sup> by 2030 

Carbon intensity of ships to be cut by **40%** by 2030<sup>2</sup> 

(International Maritime Organisation)

More people will die prematurely from over-consumption than perish from starvation<sup>2</sup> 

India will import between **6-11 million tonnes** of pulses p.a.<sup>3</sup> by 2030 

Electric vehicles to represent **32%** new passenger vehicle sales globally by 2030<sup>2</sup>

Additional **2.9 million tonnes** stockfeed + **0.8 million tonnes** grain for food required domestically<sup>1</sup> 

## HOW TO CONTRIBUTE

You are encouraged to contribute to shaping the Plan by visiting:

[rdeplan.grdc.com.au/consultation](https://rdeplan.grdc.com.au/consultation)

Alternatively, feedback can be provided to us at any stage of the consultation process through:

✉ [rdeplanconsult@grdc.com.au](mailto:rdeplanconsult@grdc.com.au)

🐦 [@theGRDC](https://twitter.com/theGRDC)

📘 <https://www.facebook.com/theGRDC>

We encourage all stakeholders to contribute new ideas and opportunities for investment throughout the life of this Plan by contacting GRDC staff based in our regional offices or Canberra.

1. Kingwell, R. (2021). Grains industry supply/demand drivers and trends: Considerations for Australian grains RD&E. Report to GRDC by the Australian Export Grains Innovation Centre (AEGIC)  
2. Deloitte (2020). Deloitte Insights: Electric vehicles. Setting a course for 2030. Deloitte University EMEA, CVBA, B-1831 Diegem, Berkenlaan 8b.



# GRDC Farm Business Update KIMBA/KADINA/MALLALA



## Program

- 9.30 am **Announcements**
- 9.35 am **GRDC welcome**
- 9.45 am **Global market update – what are the risks and opportunities?** *Nick Carracher,  
Lachstock Consulting*
- 10.25 am **Increasing scale vs diminishing return** *Ben Hogan  
ORM*
- 11.05 am *Morning tea*
- 11.35 am **Capturing key field data to inform profitable decisions** *Jessica Koch,  
Breezy Hill Precision  
Ag Services*
- 12:15 pm **Topping up Nitrogen - analysing the profit 'sweet spot'** *Jana Dixon,  
Pinion Advisory*
- 12:55 pm *Lunch*
- 1:50 pm **Benefits of diversity** *Jeanette Long,  
Ag Consulting Co*
- 2:30 pm **Prepare to perform** *Kate Gunn,  
University of Adelaide*
- 3.10 pm *Wrap up and evaluation*
- 3.15 pm *Event close*



# The WeedSmart Big 6

Weeding out herbicide resistance in winter & summer cropping systems.

The WeedSmart Big 6 provides practical ways for farmers to fight herbicide resistance.

How many of the Big 6 are you doing on your farm?

We've weeded out the science into 6 simple messages which will help arm you in the war against weeds. By farming with diverse tactics, you can keep your herbicides working.

## Rotate Crops & Pastures

Crop and pasture rotation is the recipe for diversity

- Use break crops and double break crops, fallow & pasture phases to drive the weed seed bank down.
- In summer cropping systems use diverse rotations of crops including cereals, pulses, cotton, oilseed crops, millets & fallows.



## Mix & Rotate Herbicides

Rotating buys you time, mixing buys you shots.

- Rotate between herbicide groups.
- Mix different modes of action within the same herbicide mix or in consecutive applications.
- Always use full rates.
- In cotton systems, aim to target both grasses & broadleaf weeds using 2 non-glyphosate tactics in crop & 2 non-glyphosate tactics during the summer fallow & always remove any survivors (2 + 2 & 0).

## Increase Crop Competition

Stay ahead of the pack

Adopt at least one competitive strategy (but two is better), including reduced row spacing, higher seeding rates, east-west sowing, early sowing, improving soil fertility & structure, precision seed placement, and competitive varieties.



## Double Knock

Preserve glyphosate and paraquat

- Incorporate multiple modes of action in the double knock, e.g. paraquat or glyphosate followed by paraquat + Group 14 (G) + pre-emergent herbicide
- Use two different weed control tactics (herbicide or non-herbicide) to control survivors.



## Stop Weed Seed Set

Take no prisoners

- Aim for 100% control of weeds and diligently monitor for survivors in all post weed control inspections.
- Crop top or pre-harvest spray in crops to manage weedy paddocks.
- Consider hay or silage production, brown manure or long fallow in high-pressure situations.
- Spray top/spray fallow pasture prior to cropping phases to ensure a clean start to any seeding operation.
- Consider shielded spraying, optical spot spraying technology (OSST), targeted tillage, inter-row cultivation, chipping or spot spraying.
- Windrow (swath) to collect early shedding weed seed.



## Implement Harvest Weed Seed Control

Capture weed seed survivors

Capture weed seed survivors at harvest using chaff lining, chaff tramlining/decking, chaff carts, narrow windrow burning, bale direct or weed seed impact mills.



## WeedSmart Wisdom



**Never cut the herbicide rate** – always follow label directions  
**Spray well** – choose correct nozzles, adjuvants, water rates and use reputable products.  
**Clean seed** – don't seed resistant weeds.  
**Clean borders** – avoid evolving resistance on fence lines.  
**Test** – know your resistance levels.  
**'Come clean. Go clean'** – don't let weeds hitch a ride with visitors & ensure good biosecurity.



# Global market update – what are the risks and opportunities?

**Nick Carracher.**

Lachstock Consulting.

Is the era of globalisation coming to an end and how would that impact the Australian grains industry? Nick shares the latest insights on the drivers and triggers affecting commodity prices and supply chains. Refer to the latest market news;  
[www.lachstockconsulting.com.au/blog/](http://www.lachstockconsulting.com.au/blog/)

## More about Nick . . .

*In Nick's 20+ years in trading and sales, he has gained extensive skills around derivative markets. Nick's familiarity with how producers, consumers and traders work give him the unique ability to forward think and mitigate risk. Nick is the CEO at Lachstock Consulting – who provide tailored grain marketing advice, research and commodity market analysis.*



*Nick was raised on a mixed farm in Lucindale, South Australia. Studying Agricultural Business and Management at the University of Sydney, Nick began his career as an Agricultural advisor. For 6 years, he domestically and internationally traded physical grains and oilseeds, before moving to Singapore to run ANZ's Asian Agricultural trading desk. Nick joined Goldman Sachs in Singapore, later moving to New York, before relocating back to Australia to head up INTL FCStone's advisory desk. Nick, his wife Kate and 3 children are now happy to call Australia home again.*

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# Increasing scale vs diminishing return

*Ben Hogan.*

*ORM Pty Ltd.*

## Key Messages:

- ◆ Apply 3 lenses to any potential expansion; it has to be a strategic, operational and financial fit for your business.
- ◆ Cases where a business can get better utilisation of labour and machinery assets, will allow a higher value to be placed on an expansion opportunity.
- ◆ Avoid recency-bias. When analysing an expansion opportunity, using long-term averages and conducting a sensitivity analysis is vital - especially with current extreme input and commodity prices.
- ◆ Define your own return hurdle and stick to it.
- ◆ Quantify your biggest risks in order to manage them.



## Introduction

Increasing asset prices are impacting available returns. What makes sense to one business, may not make sense to another. There are a variety of reasons why a business might look to increase scale - these may include accommodating a new generation into a business, gaining scales of economy or looking to diversify enterprises or geographies. All these market participants, with different strategic objectives, have different lenses they apply to expansion opportunities, including different return on investment hurdles.



A potential expansion needs to be viewed through strategic, operational and financial lenses to judge whether it's a fit for your business.

The lenses should be applied in the above order. If an asset is not a strategic fit, or it will negatively impact existing operations, there is no point investigating further.

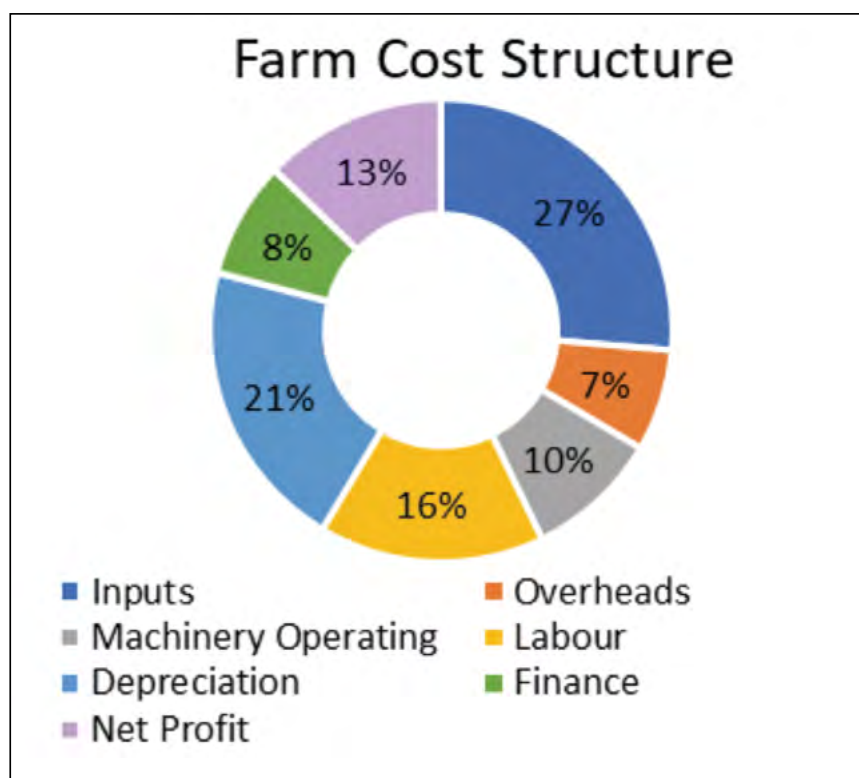
- a **good strategy** will stop you buying a Blockbuster video franchise, even if the financials currently look ok
- a **good fit operationally** might allow you to get better utilisation out of existing assets
- a **good financial analysis** will give you the best chance of growing your profitability along with your scale.

The financial analysis should use historical data on your own cost structures and levels of profitability. It should use realistic assumptions. And it should show you where the business is vulnerable with a thorough sensitivity analysis.

### Working example - assessing a potential expansion opportunity

Look at the productive capacity of potential asset and the financial fit it might have in your business.

Start with your own farm cost structures and profitability levels, that you can then adjust and apply to a potential purchase or lease. As an example, a model farm based on combined actual data illustrates the components of its farm cost structure below.



**Figure 1.** Farm cost structure of the case study model farm, based on combined actual data (Source: ORM data)

In this case we are looking at a neighbouring purchase opportunity that would expand current farmed area by circa 15%, at what is considered 'fair value' based on recent area sales (Table 1).



<b>Table 1. Case study new land purchase assumptions.</b>		
<b>New Land Purchase</b>	<b>UOM</b>	<b>Total</b>
New Land Area	Hectares	391
Purchase Price	\$/Ac	4,698
	\$/Ha	11,604
<b>Cost of Purchase:</b>		
Land Value	\$	4,534,635
Plus Stamp Duty & Legal Fees at 6%	\$	272,078
<b>Total Acquisition Costs</b>	<b>\$</b>	<b>4,806,713</b>

As described in Table 2, we conduct a feasibility analysis based on our own 5-year average yields and prices. And adjust for the productive capacity of the subject land, better utilisation of labour and no further machinery purchases are required with the purchase.

<b>Table 2. Economic feasibility analysis of the new land purchase in this case.</b>							
<b>Feasibility Analysis</b>	<b>Grade</b>	<b>Yield (T/Ha)</b>	<b>Area (Ha)</b>	<b>Price (\$/T)</b>	<b>Budget Farm Cost (% of Income)</b>	<b>Income (\$/Ha)</b>	<b>Income (\$)</b>
<b>Farm Income</b>							
Wheat	APW	2.8	130	\$306		869	113,201
Barley	BAR1	3.1	130	\$255		796	103,635
Lentils	NIPT	1.5	130	\$615		916	119,364
<b>Average Income</b>						<b>860</b>	
<b>Less Selling Costs</b>						17	6,724
<b>Total Net Farm Income</b>						<b>843</b>	<b>329,476</b>
<b>Expenses</b>							
Inputs					27%	228	89,161
Overheads					7%	62	24,111
Machinery Operating					10%	81	31,591
Labour					4%	34	13,304
<b>Total Farm Costs</b>						<b>48%</b>	<b>405</b>
<b>Earnings Before Interest Tax Depreciation &amp; Amortisation (EBITDA)</b>						<b>438</b>	<b>171,310</b>
<b>Finance &amp; Depreciation</b>							
<b>Finance Costs</b>							
New Debt:		4,806,713					
Interest Rate:		3.5%					
Est. Finance Costs		168,235			51.1%	431	168,235
Machinery Capital					5%	44	17,297
<b>Return (\$/Ha)</b>						<b>36</b>	<b>14,223</b>

Assuming historical average prices and yields, and the land purchase being fully funded by debt - as a standalone asset, this new parcel of land presents a negative return. This would encourage us to either reduce the price we are prepared to pay or look at a different expansion option.

If we use current high commodity and input prices in our analysis, Net Profit Before Tax (NPBT) increases to \$204/ha, which would increase the overall profitability of the existing business (\$116/ha) and would encourage us to strongly pursue.

This highlights the differing results, which changes in assumptions can bring about. Generally, we like to be conservative with our assumptions, but the financial situation of a business will allow it to be more aggressive or conservative.

Our model farm is making a fairly modest expansion and comes from a strong equity position, so we can see that even if we combine this negative return, across the whole business it does not erode earnings too severely; our overall NPBT falls 5.7%, and as a percentage of income decreases from 11.3% to 9.3%. Given we are farming more hectares, our NPBT/ha falls 33%, from \$116/ha to \$78/ha.





**Table 3. Farm profit and loss incorporating the new land purchase and the existing model farm.**

Farm Profit & Loss	UOM	Existing Farm	New Land	Whole Farm	\$/Ha	% of Gross Income	% of Gross Income Change
<b>Farm Area</b>	Ha						
Land Owned	Ha	2,450	391	2,840			
Lease Land	Ha	156		156			
<b>Total Area</b>	Ha	<b>2,605</b>	<b>391</b>	<b>2,996</b>			
<b>Farm Income</b>							
Wheat	\$	754,674	113,201	867,875			
Barley	\$	690,899	103,635	794,534			
Lentils	\$	795,758	119,364	915,122			
Less Selling Costs at 2%	\$	44,827	6,724	51,551			
<b>Total Net Farm Income</b>	<b>\$</b>	<b>2,196,505</b>	<b>329,476</b>	<b>2,525,981</b>	<b>843</b>		<b>15%</b>
<b>Less Costs</b>							
Inputs	\$	594,409	89,161	683,570	228	27.1%	
Machinery Operating	\$	210,604	31,591	242,195	81	9.6%	
Overheads	\$	160,737	24,111	184,847	62	7.3%	
Labour	\$	354,760	13,304	368,064	123	14.6%	-1.6%
<b>Total Farm Costs</b>		<b>1,320,510</b>	<b>158,166</b>	<b>1,478,676</b>	<b>494</b>	<b>58.5%</b>	<b>-1.6%</b>
<b>EBITDA</b>		<b>875,995</b>	<b>171,310</b>	<b>1,047,305</b>	<b>350</b>	<b>41.5%</b>	<b>1.6%</b>
<b>Less</b>							
Financing Costs	\$						
Total Debt:	8,307,244						
Interest Rate:	3.5%						
Total Interest	290,754	\$	112,996	168,235	94	11.1%	6.0%
Lease Payments:							
Area:	156	Ha					
Rate:	346	\$/Ha					
Total:	53,772	\$	53,772	53,772	18	2.1%	-0.3%
Depreciation	\$	461,266	17,297	478,564	160	18.9%	-2.1%
<b>Total Interest &amp; Dep'n Costs</b>	<b>\$</b>	<b>628,034</b>	<b>185,532</b>	<b>813,566</b>	<b>272</b>	<b>32%</b>	<b>3.6%</b>
<b>Net Profit (Before Tax)</b>	<b>\$</b>	<b>247,961</b>	<b>- 14,223</b>	<b>233,739</b>	<b>78</b>	<b>9.3%</b>	<b>-2.0%</b>

By purchasing another 391ha, our model farm goes from 90% to 78% equity. On a security perspective only, lenders would likely be comfortable with the expansion (Table 4).

**Table 4. Change in equity incorporating the new land purchase with the existing model farm.**

Balance Sheet	Value Before Purchase	Value After Purchase
<b>Assets</b>		
Farm Land	28,426,466	28,426,466
New Farmland		4,534,635
<b>Total Assets</b>	<b>33,619,557</b>	<b>38,154,191</b>
<b>Total Liabilities</b>	<b>3,228,453</b>	<b>8,307,244</b>
<b>Equity</b>	<b>30,391,104</b>	<b>29,846,948</b>
<b>Equity %</b>	<b>90.4%</b>	<b>78.2%</b>

It is also extremely important to conduct a sensitivity analysis, particularly in the current volatile commodity price and cost environment (Table 5).

This will allow us to identify our biggest risks and to look at mitigation strategies.



**Table 5. Sensitivity analysis of Net Profit Before Tax (NPBT) at a range of commodity prices and costs.**

NPBT (\$/ha) Sensitivity				NPBT \$ Sensitivity			
% Change	Revenue	Inputs	Interest Exp.	% Change	Revenue	Inputs	Interest Exp.
-40%	- 259	169	114	-40%	- 776,654	507,167	340,517
-30%	- 175	146	104	-30%	- 524,055	438,810	311,442
-20%	- 91	124	94	-20%	- 271,457	370,453	282,367
-10%	- 6	101	85	-10%	- 18,859	302,096	253,291
	<b>78</b>	<b>78</b>	<b>78</b>		<b>233,739</b>	<b>233,739</b>	<b>233,739</b>
10%	162	55	65	10%	486,337	165,382	195,141
20%	247	32	55	20%	738,935	97,025	166,065
30%	331	10	46	30%	991,533	28,668	136,990
40%	415	13	36	40%	1,244,131	39,689	107,915
<b>Variance (\$/Ha)</b>	<b>84</b>	<b>23</b>	<b>7</b>	<b>\$ Variance</b>	<b>252,598</b>	<b>68,357</b>	<b>19,553</b>

We can see that changes to prices received for our commodities, yield or a combination of both have the biggest impact on profitability; with a 10% increase in revenue and no increase in expenses the NPBT more than doubles. The next biggest driver of profitability is input costs; an isolated 40% increase in inputs would make the business unprofitable. And interest expense is always important to consider as it can be one of the easiest expense items to control.

Typically, lenders will have a range of metrics they use to measure business health; years to repay, interest cover ratio, EBITDA : Debt ratio are just a few. It's important that you are aware of the criteria banks assess your business on and you adopt the same measures.

Lastly, in our analysis we have ignored one of the biggest drivers of farm profitability in recent times; farmland capital gains. The priority was to identify a positive-yielding asset and the capital gain (or loss) will be what it will be. The better the yield, the more likely the case for capital gain. And if farmland prices do happen to retreat, the return on (re-valued) asset will only improve!

My follow up questions for the speaker;

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**Why working on this could be great for your farming business**

- Proper analysis should give the business owner/s and related parties more confidence in the decision to increasing scale.
- Good asset purchase or lease analysis should give your lender more comfort and assist them with any loan application.
- Going through the process will also highlight current areas for improvement, regardless of whether you are successful with the expansion opportunity.

## Self-evaluation

- How do you currently analyse expansion opportunities? \_\_\_\_\_

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Note any changes you want to make to your process \_\_\_\_\_

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- What impact will an expansion have on your existing operation? \_\_\_\_\_

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- What return hurdles would you apply to an expansion opportunity? \_\_\_\_\_

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## We want to work on this in our business, what should we do next?

- Be clear on your strategic objectives.
- Know your cost structures and how they can be optimised according to scale.
- Invest the time to analyse more opportunities, which will prepare you for the right opportunity.

**Our First Action** \_\_\_\_\_

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**Our Second Action** \_\_\_\_\_

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## Want to learn more, here are some suggestions;

- GRDC 'Farming the business' manual: [www.grdc.com.au/resources-and-publications/all-publications/publications/2015/01/farming-the-business-manual](http://www.grdc.com.au/resources-and-publications/all-publications/publications/2015/01/farming-the-business-manual)





## More about Ben . . .

*Ben specialises in farm financial analysis for informed decision making and advice. Raised on a cropping and grazing property in the West Wimmera, Ben's attention to detail and ability to problem solve in clear communication with farmers, provides a good background to assist his clients. Prior to joining ORM as an Agribusiness Consultant, Ben had led finance functions, managed product lines, and worked in commodity trading and finance for large business and banks.*

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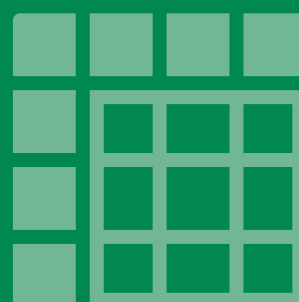
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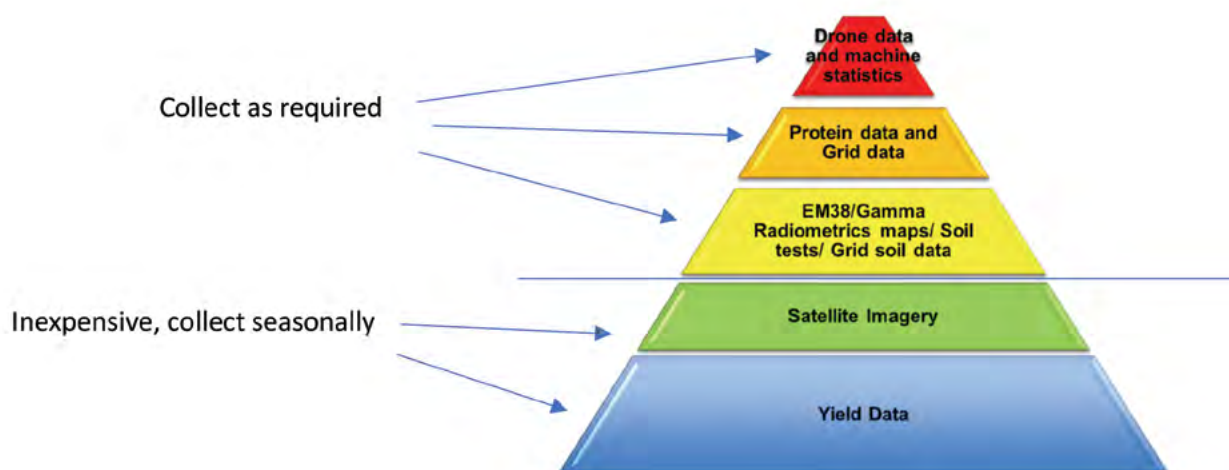
# Capturing the right data to test and tweak your principles

Jessica Koch.

Breezy Hill Precision Ag Services.

## Key Messages:

- ◆ Yield data and satellite imagery is affordable, accessible and gives valuable insight for variable agronomic management and harvest management.
- ◆ Analyse and view layers regularly to understand how this variability translates to profitability
- ◆ ‘Where there is variability there is opportunity’ - shape your precision ag focus through Strategic (long term), Seasonal (year in year out) and Flexible (on the fly) lenses.
- ◆ Invest only in additional map layers and soil tests that will help quantify an issue.
- ◆ Create a ‘Precision Ag Team’ - yourself as the grower, the agronomist, the hardware provider, and a solid software system. These pillars are key to progressing with precision ag.



## Introduction

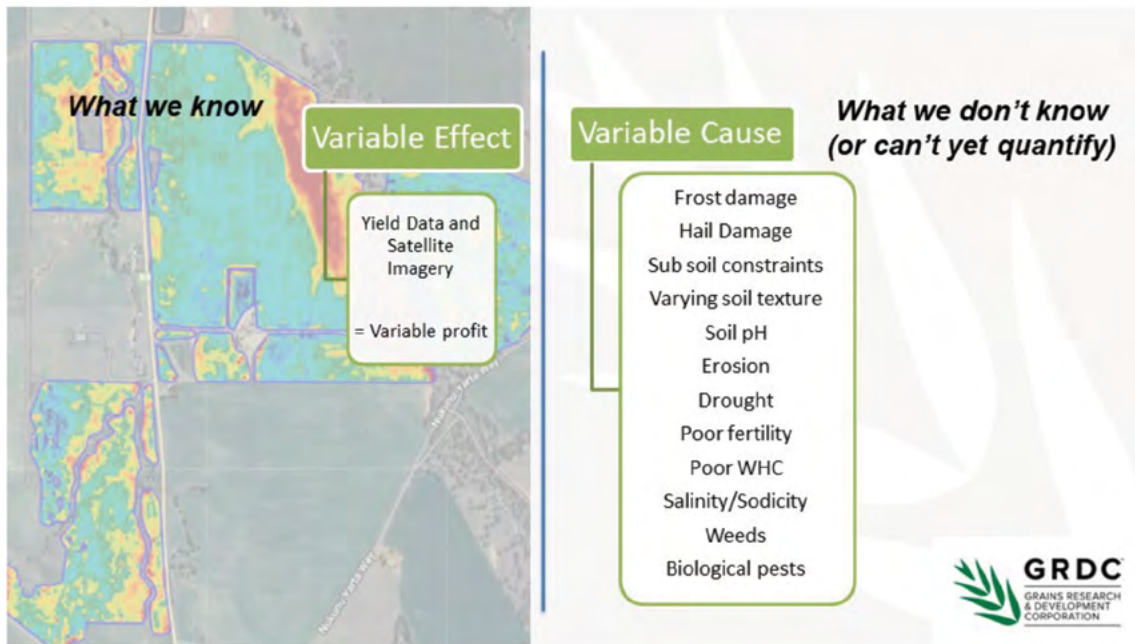
Precision agriculture (PA) tools have long been available to grain growers, yet adoption rates vary among regions and technologies. Adoption of relatively simple applications such as auto steer and auto-section control has occurred by approximately 80% of grain growers across the GRDC Southern Region, with higher rainfall areas closer to 70% and medium and low rainfall regions between 80 and 90% (Umbers, 2017).

Adoption of other applications such as site-specific paddock agronomic management has been much slower, even if the applications have clearly demonstrated to provide value. Software systems for mapping and hardware out in the field are sophisticated, complex and accurate, and sometimes the practical pathways to use this technology for a specific outcome can seem daunting and difficult to achieve. With simple and affordable map layers such as yield data and satellite imagery, the degree of variability (therefore variable profit) can be quantified, carving a clearer focus for the next management steps.



## 7 Steps to organise and interpret yield maps

1. Pick a field or farm where the cause of the variability is unknown or less understood.
2. Determine the extent of variability through the Coefficient of Variation.
3. Compare yield maps with season rainfall (total and the distribution of the rainfall over the growing season) to remove environmental influence on yield.
4. Look at cereal rotations and compare the patterns over several different seasons.
5. Compare yield maps with in-season and historical satellite imagery.
6. Understand profitability (as a result of) yield or biomass variability by calculating some basic gross margin sums.
7. Formulate a plan to find the cause – what tests and map layers are needed to find the cause?



My follow up questions for the speaker;

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## Why working on this could be great for your farming business

Here are just a few achievable goals for your paddock management by moving forward with precision ag mapping that you may not have considered:

- Have confidence in your management decisions throughout the season. Strategically manage inputs in a high price environment by knowing the productive capacity of your soils.
- Salvage profit when seasonal factors outside your control arise such as frost or wet harvest conditions.
- Carry out expensive amelioration operations with more spatial and agronomic accuracy such as ripping, gypsum and liming.
- Cut back on herbicide inputs by utilising satellite imagery for 'spot spraying' over the summer months.



## Self-evaluation

- Who is in your precision ag team? Or, who will you gather? \_\_\_\_\_

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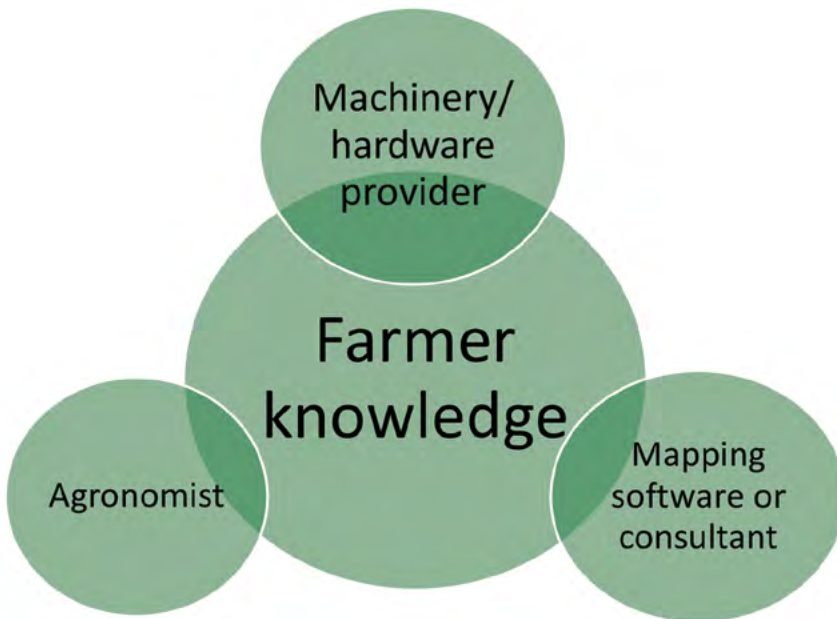
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- Do you regularly review your yield data at the end of the season? Y / N
  - Have you got access to satellite imagery? Y / N
- Getting your yield maps in front of your team and working through the '7 step' process is a great place to start!
- What are the Strategic, Seasonal and Flexible variable management options on your farm? You may already have map layers such as soil tests or surveys to help guide your decision making – get it all in one place!

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## We want to work on this in our business, what should we do next?

- View and understand your yield data. Compare it with satellite imagery, find out where your yield limiting factors are most affecting your bottom line, and start there!
- Involve your agronomist in your spatial decision making, especially when analysing crops and making variable input decisions.
- Gather all your spatial data in one place, including historical soil tests.
- Learn your system. If a 'flexible' management decision arose this season (eg strategically cutting a frosted crop for hay), would you be able to make and action a spatial management strategy quickly in the field?
- Use your data layers to plan your soil tests more strategically to help explain variability or answer a question.

### Our First Action

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### Our Second Action

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## Want to learn more, here are some suggestions;

- How to use precision ag layers to accurately and economically soil test:  
[www.breezyhillpas.com/\\_files/ugd/9d4ff5\\_f2b714ffd809422e874406edbcfe6cb7.pdf](http://www.breezyhillpas.com/_files/ugd/9d4ff5_f2b714ffd809422e874406edbcfe6cb7.pdf)
- How to use precision ag map layers to think about frost differently:  
[www.breezyhillpas.com/\\_files/ugd/9d4ff5\\_5cc20adc6f5d48c7a6076fefcabc74.pdf](http://www.breezyhillpas.com/_files/ugd/9d4ff5_5cc20adc6f5d48c7a6076fefcabc74.pdf)
- Using satellite imagery and on-the-go moisture data to harvest in tight weather windows:  
[www.breezyhillpas.com/post/selectively-harvest](http://www.breezyhillpas.com/post/selectively-harvest)

## References;

- GRDC - A profit first approach to Precision Ag:  
[www.grdc.com.au/resources-and-publications/grdc-update-papers/tab-content/grdc-update-papers/2019/06/a-profit-first-approach-to-precision-agriculture](http://www.grdc.com.au/resources-and-publications/grdc-update-papers/tab-content/grdc-update-papers/2019/06/a-profit-first-approach-to-precision-agriculture)



### More about Jessica . . .

*Jessica Koch is a Precision Ag Consultant at Breezy Hill Precision Ag Services (BHPAS), based at Booleroo Centre, SA. Jess is also part of a family farming business, including 2,500ha of cropping and 1,200 self-replacing merinos.*

*Jess's consulting business (BHPAS) has evolved rapidly since 2018; providing data mapping services and solutions to farmers throughout South Australia. The consulting business was born from Jess and her husband Joe's passion for implementing precision agriculture technologies on their own farm, and their work with the TopCon and John Deere products over many years. Jessica was also president of the Society of Precision Agriculture Australia where her interest and involvement of extending Precision Agriculture information grew.*

*Breezy Hill Precision Ag Services provide data processing of all types of map layers from all machine brands including yield, protein, soil mapping layers such as an EM38, pH, EC, Radiometrics and Gamma, grid soil data and soil tests, biomass satellite imagery, and machine data through cloud based software systems.*

*Jess's major passion lies in assisting growers to utilise the data they have on hand to resolve or make spatial management decisions, both agronomically and operationally on their farms.*

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Twitter: @BreezyHillPAS

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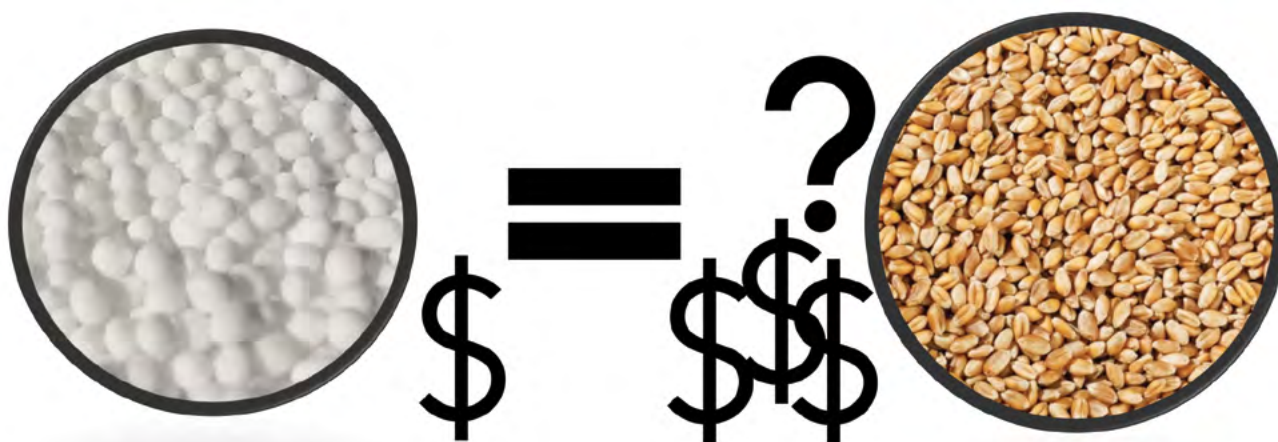
# Topping up Nitrogen using an N demand driven strategy – how much will it cost to increase yield now and is the return-on-investment worth it?

Jana Dixon.

Pinion Advisory.

## Key Messages:

- ◆ There is a moderate-to-strong return-on-investment for applying Nitrogen fertiliser to increase yield up to a realistic and achievable target, despite this season's high fertiliser prices.
- ◆ Understanding a crop's 'Fed-To' yield potential throughout the growing season, based on crop nitrogen supply, is critical for N fertiliser decision making.
- ◆ Predicting N fertiliser requirements needs to be done early and then revisited as the season progresses to ensure timely supply to crops.
- ◆ Focus on yield first, then weigh up the return on increasing protein at early booting stage based on grade spreads. Currently APW1 is the most economic grade to target for wheat (Jun 2022).



## Introduction

The return-on-investment of high-priced N fertiliser is held up by strong grain prices this year. Based on a range of assumptions outlined below, the current Benefit:Cost of applying N fertiliser to bread wheat in a responsive N situation is \$3.70:1.

It is recommended that all growers understand how to complete simple N calculations to determine: (1) what yield potential a crop is currently fertilised to achieve ie. the “Fed-To Yield” based on N supply, and (2), how much more nitrogen is required to reach the crop’s non-nitrogen-limited yield potential “Target Yield.” This information is critical to understand the likely economic response to further N fertiliser applications.

The economics of N applications to explicitly target protein in wheat need to be assessed at the time of the decision. If the price spread to a higher protein grade exceeds the cost of the nitrogen application, then the decision to apply additional N to achieve higher protein targets can be justified. At current price spreads (Jun 2022), APW1 is the most economic grade to target for wheat.



## Nitrogen fertiliser principles

Nitrogen is a critical nutrient for plant growth and is required in relatively large quantities by cereal and canola crops. Recent research has shown that N continues to be a key driver of the yield gap for wheat in the Southern Region, along with spring frost and heat stress. There are still significant profitability gains to be made by farm businesses, by assessing crop supply and demand to improve N fertiliser management and increase understanding of fertiliser economic responses.

### How much will it cost to increase yield with expensive urea?

To estimate the cost to increase yield of a N responsive crop, “rules of thumb” regarding how much N is required to increase grain yield by 1t/ha can be applied (row #1, in Table 1 below). The “rules of thumb” are built around:

- Protein assumptions of; wheat at 11%, durum at 13.5% and barley at 10% protein.
- A 50% uptake efficiency of the total N supply.
- Industry best-practice knowledge, supported by literature summarised in the GRDC publication: A Nitrogen Reference Manual for the Southern Cropping Region, 2020.

From Table 1 below:

- Row #2 indicates the equivalent rate of urea (46% N) to increase grain yield by 1t/ha, for a nitrogen responsive crop.
- Rows #3, #4 and #5 indicate the cost per ha to increase the yield of each crop type by 1t/ha, based on urea prices of \$1500, \$1250 and \$1000 per tonne respectively.

Table 1. Crop nitrogen requirements and fertiliser costs to increase grain yield by 1t/ha					
		Canola	Durum	Wheat	Barley
#1	Crop N requirement per 1t/ha grain (kg N/ha)	80	50	40	35
#2	Equivalent urea rate	175kg/ha	110kg/ha	90kg/ha	80kg/ha
#3	Cost per ha*, urea @ \$1500/tonne	\$272	\$175	\$145	\$130
#4	Cost per ha* urea @ \$1250/tonne	\$229	\$148	\$123	\$110
#5	Cost per ha*, urea @ \$1000/tonne	\$185	\$120	\$100	\$90

\* also includes a \$10/ha spreading cost.

### Is the return-on-investment worth it?

The return-on-investment is simply defined by the **Benefit:Cost** of a stand-alone fertiliser decision.

The **Benefit is the income gain (\$/ha)**, based on yield increase (t/ha) achieved from the fertiliser input, multiplied by grain price (\$/tonne). Note that for a yield increase to be achieved the crop needs to be in an N responsive situation.

The **Cost is the expenditure required (\$/ha) to achieve the yield benefit**, which in this case is simply the fertiliser cost (\$/ha) plus spreading cost (\$/ha). These costs are outlined in Table 1 above for a 1t/ha yield increase across a range of urea prices and crop types.

The **Benefit:Cost represents the return-on-investment per dollar spent**. A \$1:1 ratio represents a ‘break-even’ decision (i.e. \$1 return per \$1 invested). A \$2:1 ratio indicates a \$2 return per \$1 invested. The higher the ratio, the stronger business case for the decision, and lower the risk.





Assuming a urea price of \$1250/tonne, a \$10/ha spreading cost, and crop/paddock scenarios which are responsive to applied nitrogen fertiliser, the benefit:cost estimates for applied N fertiliser are illustrated in Table 2 below.

<b>Table 2. Estimated Benefit:Cost ratios from urea applications, to increase yield by 1t/ha in a range of crops in 2022.</b>				
	<b>Canola</b>	<b>Durum</b>	<b>Wheat</b>	<b>Barley</b>
Estimated yield increase (t/ha)	1	1	1	1
Grain price \$/tonne	\$1000	\$600	\$450	\$380
<b>Benefit</b>	<b>\$1000/ha</b>	<b>\$600/ha</b>	<b>\$450/ha</b>	<b>\$380/ha</b>
Urea rate to increase yield by 1t/ha	175kg/ha	110kg/ha	90kg/ha	80kg/ha
Urea price (\$/tonne)	\$1250	\$1250	\$1250	\$1250
<b>Cost of application</b> (includes \$10 spreading cost).	\$229	\$148	\$123	\$110
<b>Benefit: Cost</b>	<b>\$4.40 : 1</b>	<b>\$4.10 : 1</b>	<b>\$3.70 : 1</b>	<b>\$3.50 : 1</b>

## How much nitrogen do I feed my crop?

A useful way to track N requirements during the growing season is to monitor the yield your crop is fertilised to (the “Fed-To Yield”), compared to the yield you are targeting (the “Target Yield”) at different stages of the growing season.

### Fed-To vs Target Yield

The “Fed-To Yield” looks at the total N supplied to a crop to-date, divided by the crop N requirements needed for 1t/ha of grain (see Row #1, Table 1). This represents possible grain yield achievable (at a designated protein percentage) given the N supplied so far. Critical information for determining the N supplied to a crop includes: Deep soil N results and total N applications to date (including; pre-seeding inputs, seeding fertiliser and any topdress applications).

The “Target Yield” needs to be a **realistic** estimate of crop yield potential. This is based on all information we have on hand, and any modelling tools we have used. It should account for any production risks which might impact yield in spring. Examples of tools and information include:

- Potential yield calculations using stored soil moisture, current growing season rainfall and forecast rainfall for winter / spring. For example: Sadras & Angus or the French & Shultz yield potential equations.
- Past paddock performance / farm yield data.
- Modelling programs such as APSIM or Yield Prophet®.

If the ‘**Fed-To Yield**’ is **less than** the realistic **Target Yield**, there is potentially a case for applying additional nitrogen fertiliser.



## What about targeting protein?

The question that often arises is “I’ve fed my crop to its realistic target yield - is it worthwhile applying extra N to increase protein and achieve a higher quality grade?” To look at the business case for targeting protein in wheat, the following “rule of thumb” can be applied:

**5kg N/ha (or 11kg/ha urea) is required per 1t/ha grain yield to increase grain protein by 1% in wheat<sup>1</sup>.**

This can be used to work out the cost per 1t/ha of grain to increase grain protein.

<b>Table 3. Cost to increase grain protein per 1t/ha of wheat, across a range of urea prices.</b>						
Protein increase	Urea rate req'd per 1t/ha grain	Urea Price (\$/tonne)				
		\$500	\$750	\$1000	\$1250	\$1500
1%	11kg/ha	\$5.50	\$8.25	\$11	\$13.75	\$16
2%	22kg/ha	\$11	\$16.50	\$22	\$27.50	\$32

With urea at \$1250/tonne it will cost \$13.75 to increase protein by 1% per 1t/ha of grain (i.e. move a grade from APW1 to H2 or ASW1 to APW1).

At the time of writing, 2022/23 APW MG Wheat contracts have a spread of +\$5/tonne for H2 and

-\$15/tonne for ASW1 at Outer Harbour. This means currently it is justified to spend \$13.75 per 1t/ha to increase protein from ASW1 to APW1. However, it is not the case for increasing grades from APW1 to H2 at this stage.

My follow up questions for the speaker;

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## Why working on this could be great for your farming business

- Urea is at record high prices in 2022. Making sound decisions on which paddocks and crops to target for topdressing is essential to achieve a good return-on-investment for fertiliser inputs.
- A clear understanding of crop nitrogen requirements will assist you to make proactive, rather than reactive, fertiliser procurement decisions.



## Self-evaluation

How well do you understand the yield you're feeding crops to, based on nitrogen fertiliser inputs?

Not at all \_\_\_\_\_ Completely

When making calculated fertiliser decisions during the growing season, do you

- conduct deep soil nitrogen tests? Y / N
- and calculate 'Fed-To' vs 'Target Yield' for crops? Y / N

Are you proactively managing in-season fertiliser supply by reviewing a Nitrogen budget at (at least) one critical stage during the growing season (i.e. tillering)? Y / N

## We want to work on this in our business, what should we do next?

- Construct a simple nitrogen budget for this season to define Fed-to vs Target yield for crops. Contact your agronomist to help with any assumptions.
- Assess the Benefit:Cost of for further N applications this season, and implement your decision.
- Plan to conduct deep soil nitrogen sampling in Autumn 2023 to assist with future N decisions.

Our First Action \_\_\_\_\_

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Our Second Action \_\_\_\_\_

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## Want to learn more, here are some suggestions;

- Theory around nitrogen budgeting assumptions: [www.grdc.com.au/a-nitrogen-reference-manual-for-the-southern-cropping-region](http://www.grdc.com.au/a-nitrogen-reference-manual-for-the-southern-cropping-region) .
- Determining “Target Yield” see: A guide to consistent and meaningful benchmarking of yield and reporting of water-use efficiency, <https://publications.csiro.au/rpr/download?pid=csiro:EP156113&dsid=DS2>.
- Strategies for long-term management of nitrogen, the ‘N Bank approach’: [www.grdc.com.au/resources-and-publications/grdc-update-papers/tab-content/grdc-update-papers/2021/02/strategies-for-long-term-management-of-n-across-farming-systems](http://www.grdc.com.au/resources-and-publications/grdc-update-papers/tab-content/grdc-update-papers/2021/02/strategies-for-long-term-management-of-n-across-farming-systems)

## References;

<sup>1</sup>This rule of thumb has been derived by the grain %N to grain protein % conversion of 5.75, from the GRDC publication: A Nitrogen Reference Manual for the Southern Cropping Region, 2020 (<https://grdc.com.au/a-nitrogen-reference-manual-for-the-southern-cropping-region> )



### More about Jana . . .

*Jana Dixon is an Agribusiness Consultant with Pinion Advisory and provides agronomic advice to clients in the Lower North, and wider regions of South Australia. Jana delivers agronomy advice with a business focus and aims to achieve gross margin optimisation for her clients through sound input decisions. She is also a part of Pinion Advisory’s Farm Business team, delivering business benchmarking services using Pinion Advisory’s SnapShot benchmarking program.*

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**Cereal root diseases cost grain growers in excess of \$200 million annually in lost production. Much of this loss can be prevented.**

Using PREDICTA<sup>®</sup> B soil tests and advice from your local accredited agronomist, these diseases can be detected and managed before losses occur. PREDICTA<sup>®</sup> B is a DNA-based soil-testing service to assist growers in identifying soil borne diseases that pose a significant risk, before sowing the crop.

Enquire with your local agronomist or visit  
[http://pir.sa.gov.au/research/services/molecular\\_diagnostics/predicta\\_b](http://pir.sa.gov.au/research/services/molecular_diagnostics/predicta_b)



CENTRAL NSW, SOUTHERN NSW, VICTORIA, TASMANIA,  
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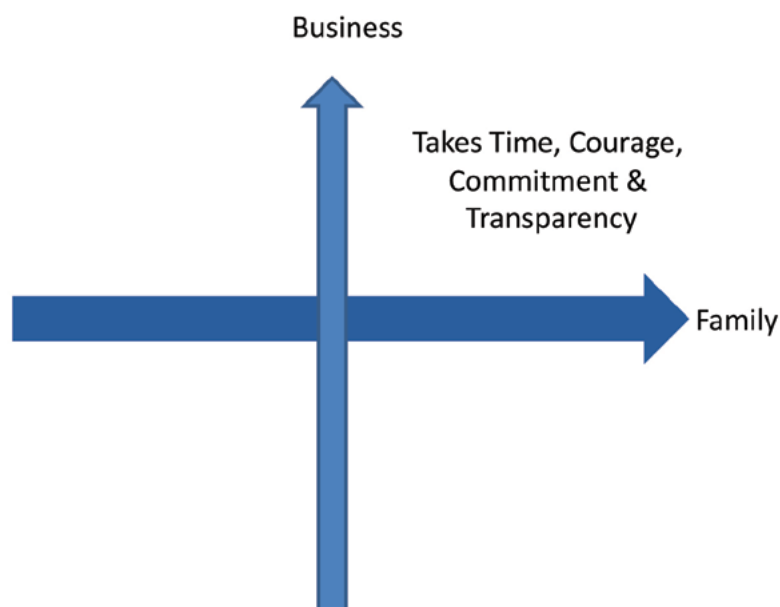
# Benefits of diversity

*Jeanette Long.*

*Ag Consulting Co Pty Ltd .*

## Key Messages:

- ◆ Are you playing the Infinite or Finite game?
- ◆ Farming is about People and Business – define what the good ones do well
- ◆ Develop the purpose and business plan
- ◆ People and transition are critical to long term success
- ◆ Diversity on the team ensures all of the roles are filled with people working to their strengths. Build and capture the passion of everyone.



## Introduction

Farms are made up of families & business – getting the people right is one of our biggest challenges.

People bring the element of diversity - diversity in gender, thinking and experience. Capturing this diversity is both exciting and challenging, it can make the difference between a work team and a high performing team.

We focus much of our energy on the technical and operational aspects of our businesses, however we need the right people, playing in the right positions, at the right time, to capitalise on maximising our business potential and our personal goals and aspirations. The landscape of farming is changing and so are the skills sets we need to make our businesses profitable.



So, have you got the skill sets you need in your team? First, define your game...

*"There are at least two kinds of games: finite and infinite. A finite game is played for the purpose of winning, an infinite game for the purpose of continuing the play. Finite games are those instrumental activities - in which the participants obey rules, recognize boundaries and announce winners and losers. The infinite game - there is only one - includes any authentic interaction, that changes rules, plays with boundaries and exists solely for the purpose of continuing the game. A finite player seeks power; the infinite one displays self-sufficient strength." (Carse J.P, 1986)*

### Are the right people playing in the right positions, at the right time, for your game?

**Purpose** – Define the long-term purpose of the business, not just for the production also for the people. Are you playing a generational game (infinite)? or does the game end with this generation (finite)? The answer to this question is whatever is right for you, your family and your business. Knowing which game you are playing is one of the keys to success as the rules of the games are different.

**Plan** – Spend time developing the business and family plan so you can achieve the long-term purpose. Share goals and aspirations both for the business and personally. Develop systems of communication that build trust and transparency within the whole family and the business team. Think about using advisers to assist with this - most business don't have all the skills required and some of the tough conversations need facilitating to be effective.

**People** – We can't play the game of farming without the right people and the right skills. Even more importantly, if we are playing the infinite game we need to carefully plan the transition of skills from one generation to another. Develop a plan for skills development and a clear process for handover in a staged way, with no surprises.

Are we overlooking half of our potential team members because of unconscious bias?

***"Unconscious bias (or implicit bias) is often defined as prejudice or unsupported judgments in favour of or against one thing, person, or group as compared to another, in a way that is usually considered unfair."***

Until 1994 women were not able to call themselves "Farmers" in the census, farming has traditionally been seen as a male occupation and this unconscious bias often remains in farming families, even today.

**Passion** – Farming is not the easiest game to play, there are lots of factors that are out of our control - weather variability, commodity prices and input prices to name a few. It requires long hours, commitment, and a belief that we will win the grand final from time to time. Playing the game requires resilience, belief, passion, empathy and understanding.

The winning team believe they can make a comeback when they are getting a thrashing and win the final – they are truly playing the infinite game.

My follow up questions for the speaker;

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## Why working on this could be great for your farming business

- Building the long-term Vision, Purpose & Plan develops commitment within the farm team.
- In turn, this increases family understanding and clarity of roles and transition.
- High performing teams reduce people turn over and family angst and increase profitability.

## Self-evaluation

- Are we playing the Finite or Infinite game?
- What are the conversations we need to have as a business team? \_\_\_\_\_

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- What are the unconscious biases in our business? \_\_\_\_\_

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- Are the personal and business goals of everyone in the business known? Y / N

What are they? \_\_\_\_\_

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### We want to work on this in our business, what should we do next?

- Assess the skills and goals of everyone in the business – align to strengths.
- Have regular meetings and review roles and responsibilities over time.
- Develop your long-term plan and clear purpose.

**Our First Action** \_\_\_\_\_

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**Our Second Action** \_\_\_\_\_

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### Want to learn more, here are some suggestions;

- Farm family transition: [www.elainefroese.com](http://www.elainefroese.com)
- Scott, Susan (2004). *Fierce Conversations, Achieving success and work and in live, one conversation at a time*, Berkley Publishing. ISBN: 9780425193372
- Carse, James P. (1986). *Finite and Infinite Games*. New York: Ballantine Books. ISBN: 9780345341846
- Burke, Dr. Kate (2020) *Crops, People, Money and You. The art of excellent farming (and better returns)*. ePub. ISBN: 9780645051018





### More about Jeanette . . .

*Jeanette farms with her husband, Bill, and son Will at Cummins, Tooligie Hill and Undalya. She also works as a facilitator, trainer and coach in their business Ag Consulting Co. Jeanette is passionate about inspiring farming businesses to build great teams and do transition well.*

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# Prepare to perform: how to manage what is in your stress bucket, focus on what really matters and make good decisions for you, your family and your farming business

Dr Kate Gunn.

Department of Rural Health, University of South Australia.

## Key Messages:

To optimise performance, before making big decisions, make sure:

(a) you are the right person to make the decision

(b) you are in the right frame of mind to make the decision

- position on the performance curve
- state of your stress bucket
- use of your 'smart brain' or 'survival brain'

(c) you have mapped out the personal values (on your own) and business values (with others in your business) that you would like to consider when making the decision.



## Introduction

Using relatable examples, we will talk through decision-making steps and how they can help to optimise performance. You will be encouraged to identify the coping strategies that help to prevent your stress buckets from overflowing, what you value, and how you could implement these steps to benefit yourself, your family, and your farming business.



## Decision-making steps/ questions to ask yourself

- 1) *Am I the right person to be making this decision or should it be someone else (e.g. son, daughter, wife, accountant, lawyer, doctor)?* **YES/NO**
- 2) *Am I in the right frame of mind to make this decision right now?* **YES/NO**
  - *Where am I on the performance curve?*
  - *Is my stress bucket overflowing?*
  - *Am I using my 'smart brain' or my 'survival brain'?*
- 3) *What do I need to do to make **space in my stress bucket** and/or to help engage my **smart brain**?*

- 4) *What are the **PERSONAL VALUES** I want to consider when making this decision?*

*E.g. being honest, being fair, being loyal to my friends and family, being wealthy, having an exciting life, working outdoors*

*\* You won't have to repeat this for every option you consider (values are relatively stable)*



5) What are the **BUSINESS VALUES** I want to consider when making this decision?

*E.g. Entrepreneurship, leadership, fairness, stewardship, social responsibility, family connection, independence, respect, responsibility*

\* You won't have to repeat this for every option you consider (values are relatively stable)

6) Do I have all the information I need? **YES/NO**

*If not, how and when will I obtain it?*

7) What are all the options?





8) The option I will explore first is:

9) What are the **FACTS** (intellectual/practical aspects) I need to consider relating to this option?

<b>Costs/cons of this option</b>	<b>Benefits/pros of this option</b>

\* Don't forget to consider opportunity costs (if I do this, what does it mean I can't do?)

10) What are the **FEELINGS** (my own and those of others), that I need to consider relating to this option?  
(Based upon previous experiences, personality, stage of life, beliefs, preferences etc.)

\* Some feelings and emotions are helpful advisors (even fear/cautiousness can be helpful sometimes), others tend to be unhelpful (for example jealousy in some contexts). List them all.

→ Based upon these **PERSONAL VALUES, BUSINESS VALUES, FACTS and FEELINGS my decision is to:**

11) I plan to review this decision and see if I need to make any adjustments in the following way, on this date (put this in your calendar):



My follow up questions for the speaker;

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### Why working on this could be great for your farming business

- Following these steps will help ensure you are in the right frame of mind and consider everything necessary to make good personal and business decisions.
- Mapping out your personal values may also give an insight into the areas of your life where it would be beneficial to focus more energy and attention.
- Clarifying your business values with your business partners may help engage, unify, inspire, guide and enable you to work more effectively as a team.

### Self-evaluation

- Thinking about your stress bucket

What is currently in your stress bucket? \_\_\_\_\_

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Is there a buffer or is it about to overflow? Empty \_\_\_\_\_ Overflowing

What coping strategies do you use to free up space and prevent it from overflowing?

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Would it be helpful to adopt some additional coping strategies? Y / N

- Thinking about decision making

How do you generally make farm business-related decisions? \_\_\_\_\_

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Do you place greater emphasis on facts OR feelings, OR perhaps carefully consider both? Be honest!

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Can you think of a decision you've made that you later regretted?

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If you used the steps outlined above, how might that decision-making process have been different?

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## We want to work on this in our business, what should we do next?

- Stick up the list of personal values you started working on. Put it somewhere you can see it (so it's handy when you need decision-making guidance in the future).
- Organise a time to map out your business' values with other members of your business. Explain how having collective agreement about these can help guide business-related decision-making and help you work as a team.
- Next time you have to make a big decision, pull out this workbook and some paper and map out your answers to each question. Remember - most people can't do complex decision-making solely in their head!

### Our First Action

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### Our Second Action

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## Want to learn more, here are some suggestions;

- GRDC 'Farm Decision Making' guide: [www.grdc.com.au/resources-and-publications/all-publications/publications/2020/farm-decision-making/FarmDecisionMaking\\_128pp\\_2006\\_lowres.pdf?utm\\_source=website&utm\\_medium=download\\_button&utm\\_campaign=pdf\\_download&utm\\_term=National&utm\\_content=Farm%20decision%20making](http://www.grdc.com.au/resources-and-publications/all-publications/publications/2020/farm-decision-making/FarmDecisionMaking_128pp_2006_lowres.pdf?utm_source=website&utm_medium=download_button&utm_campaign=pdf_download&utm_term=National&utm_content=Farm%20decision%20making)
- [www.ifarmwell.com.au](http://www.ifarmwell.com.au): a free, confidential, farmer-focused website that helps farmers and their supporters clarify their values and make good decisions about where they put their energy and attention.



- ifarmwell podcast: [www.ifarmwell.com.au/podcast/](http://www.ifarmwell.com.au/podcast/) Voiced by renowned former ABC radio presenter Drew Radford, the eight-part series takes the listener on a journey to better wellbeing and helps them put in place strategies to effectively manage life's challenges.

## References;

- Carlock, S. & Ward, J. (2010) When Family Businesses are Best. Palgrave Macmillan.
- Harris, R. (2008) The Happiness Trap: How to Stop Struggling and Start Living. Trumpeter Books.



### More about Kate . . .

*Dr Kate Gunn grew up on a farm near Streaky Bay and works as a Clinical Psychologist and Senior Research Fellow in the Department of Rural Health at the University of South Australia. She leads a team that focuses on working with rural people, particularly farmers, to combine what research shows is likely to change behaviour and improve wellbeing, with rural people's beliefs and preferences, so that new strategies are practical and adopted in the real world. Kate is the founder of the [www.ifarmwell.com.au](http://www.ifarmwell.com.au) website, which is a free, self-help, online resource designed with farmers, that has been shown to help farmers make good decisions and cope effectively with things beyond their control.*

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# THE 2020-2022 GRDC SOUTHERN REGIONAL PANEL

May 2021

## CHAIR - JOHN BENNETT

Lawloit, VIC



Based at Lawloit, between Nhill and Kaniva in Victoria's West Wimmera, John and his family run a mixed farming operation across diverse soil types. The farming system is 70 to 80 per cent cropping, with cereals, oilseeds, legumes and hay grown. He wants to see RD&E investments promote resilient and sustainable farming systems that deliver more profit to growers and ultimately make agriculture an exciting career path for young people.

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## DEPUTY CHAIR - KATE WILSON

Hopetoun, VIC



Kate is a partner in a large grain producing operation in Victoria's Southern Mallee region and produces wheat, canola, lentils, lupins and field peas. Kate has been an agronomic consultant for more than 20 years servicing the Mallee and northern Wimmera. Kate is passionate about producing high quality grain, whilst enhancing the natural ability of the soil. Kate is passionate about research and the extension of that research to bring about positive practice change to growers.

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## ANDREW RUSSELL

Rutherglen, VIC



Andrew is Managing Director and a shareholder of Lilliput AG, and a Director and shareholder of the affiliated Baker Seed Co, a family-owned farming and seed cleaning business. He manages a 2500ha mixed cropping enterprise south of Rutherglen. Lilliput AG produces wheat, canola, lupin, faba bean, triticale, oats and sub clover for seed and hay. Andrew served on the GRDC's medium rainfall zone RCSN (now National Grower Network) and has held many leadership roles. He holds a Diploma of Rural Business Management and an Advanced Diploma of Agriculture.

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## JON MIDWOOD

Inverleigh, VIC



Jon has worked in agriculture for the past three decades, both in the UK and in Australia. He has managed Grainsearch, a grower-funded company evaluating European wheat and barley varieties for the high rainfall zone, and his consultancy managed the commercial contract trials for Southern Farming Systems (SFS). Jon was a member of the GRDC's HRZ (RCSN (now National Grower Network) and became a GRDC Southern Panel member in 2015. In 2020 Jon set up an independent consultancy, TechnCrop Services.

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## LOU FLOHR

Lameroo, SA



Lou is a farmer based at Lameroo in the Southern Mallee of South Australia. With her parents and partner, she runs a mixed farming enterprise which includes export oaten hay, wheat, barley, a variety of legumes and a self-replacing Merino flock. Prior to returning to the family farm, Lou had a 10-year agronomy career, servicing the Upper South East and Mallee. She is passionate about her industry, particularly in recognising the role that women play in the industry and on the land.

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## ANDREW WARE

Port Lincoln, SA



Andrew is a research agronomist, based at Port Lincoln on SA's Eyre Peninsula. He started his career with the South Australian Research and Development Institute (SARDI) at the Minnipa Agriculture Centre, and then spent time at CSIRO in Adelaide. Andrew managed the family farm on Lower Eyre Peninsula for 10 years before returning to SARDI in late 2009. In 2019, Andrew started his own research company EPAG Research, delivering applied research across Eyre Peninsula. Andrew received the GRDC Southern Panel's Emerging Leader award in 2018, and prior to joining the Panel he served on the GRDC's low rainfall zone RCSN (now National Grower Network).

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## PRU COOK

Dimboola, VIC



Pru was raised on a mixed farm at Diapur in Victoria's Wimmera region. She has worked at the Victorian Department of Primary Industries and GRDC, where she implemented GRDC's first social media strategy. She then worked at Birchip Cropping Group, managing and supporting extension projects. She has recently started her own business focusing on extension, project development and management.

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## MICHAEL TRELOAR

Cummins, SA



Michael is a third-generation grain grower based at Cummins on South Australia's Eyre Peninsula, where he grows wheat, barley, canola, beans, lupins and lentils on a range of soil types. He has been involved in the South Australian Grains Industry Trust, the Lower Eyre Agricultural Development Association and the South Australian No Till Farmers Association. He believes research and development underpins profitability in Australian farming systems and the GRDC is pivotal in delivering research outcomes that support growers.

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## MICHELLE WATT

Melbourne, VIC



In February 2020 Professor Michelle Watt was appointed the Adrienne Clarke Chair of Botany at the University of Melbourne. From 2015 to 2019, she was Director of the Plant Sciences Institute at the Helmholtz Centre and Professor of Crop Root Physiology at the University of Bonn in Germany. Prior to 2015 Michelle was at CSIRO. She has been in multi-partner projects with Australia, the USA, India, the Philippines, UK and Germany in the under-studied but critical area of plant roots. She is President of the International Society of Root Research and Co-Chair of the Root Phenotyping.

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## DR NICOLE JENSEN

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Nicole is general manager of GRDC's Genetic and Enabling Technologies business group. She brings a wealth of experience in digital agriculture, plant breeding and genetics from roles she has held in Australia and internationally in the seed industry.

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# GRDC Farm Business Update KIMBA/KADINA/MALLALA



## Acknowledgements

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The ORM team would like to thank those who have contributed to the successful staging of the Kimba, Kadina and Mallala GRDC Farm Business Updates:

- The local GRDC Farm Business Update planning group.
- Partnering organisation in Kimba: AIR EP: Ag Innovation and Research - Eyre Peninsula







Prefer to provide your feedback electronically or 'as you go'?

Use your phone camera to scan the QR code below. Start and stop the survey whenever you choose, just click 'NEXT' to save responses before exiting the survey.



## 2022 Kimba, Kadina and Mallala Farm Business Updates feedback

### 1. Location of Update

Kimba

Kadina

Mallala

### 2. How would you describe your main role? (choose one only)

Grower

Grain marketing

Student

Agronomic adviser

Farm input/service provider

Other\* (please specify)

Farm business adviser

Banking

Financial adviser

Accountant

Communications/extension

Researcher

### Your feedback

Please rate each presentation you attended in terms of relevance and quality

(10 = totally satisfactory, 0 = totally unsatisfactory).

### 3. Global market update – what are the risks and opportunities? *Nick Carracher*

Content relevance  /10

Presentation quality  /10

Have you got any comments on the content or quality of the presentation?

### 4. Increasing scale vs diminishing return: *Ben Hogan*

Content relevance  /10

Presentation quality  /10

Have you got any comments on the content or quality of the presentation?

### 5. Capturing key field data to inform profitable decisions: *Jessica Koch*

Content relevance  /10

Presentation quality  /10

Have you got any comments on the content or quality of the presentation?

### 6. Topping up Nitrogen - analysing the profit 'sweet spot': *Jana Dixon*

Content relevance  /10

Presentation quality  /10

Have you got any comments on the content or quality of the presentation?



**7. Benefits of diversity: Jeanette Long**

Content relevance  /10

Presentation quality  /10

Have you got any comments on the content or quality of the presentation?

**8. Prepare to perform: Kate Gunn**

Content relevance  /10

Presentation quality  /10

Have you got any comments on the content or quality of the presentation?

**Your next steps**

**9. Please describe at least one new strategy you will undertake as a result of attending this Update event**

**10. What are the first steps you will take?**

e.g. seek further information from a presenter, consider a new resource, talk to my network, start a trial in my business

**Your feedback on the Update**

**11. This Update has increased my awareness and knowledge of farm business decision-making**

Strongly agree       Agree       Neither agree nor Disagree       Disagree       Strongly disagree

**12. Do you have any comments or suggestions to improve the GRDC Update events?**

