

# THE FARMING CHALLENGE- DECISION MAKING IN THE FACE OF UNCERTAINTY



**GRDC**<sup>™</sup>  
GRAINS RESEARCH  
& DEVELOPMENT  
CORPORATION



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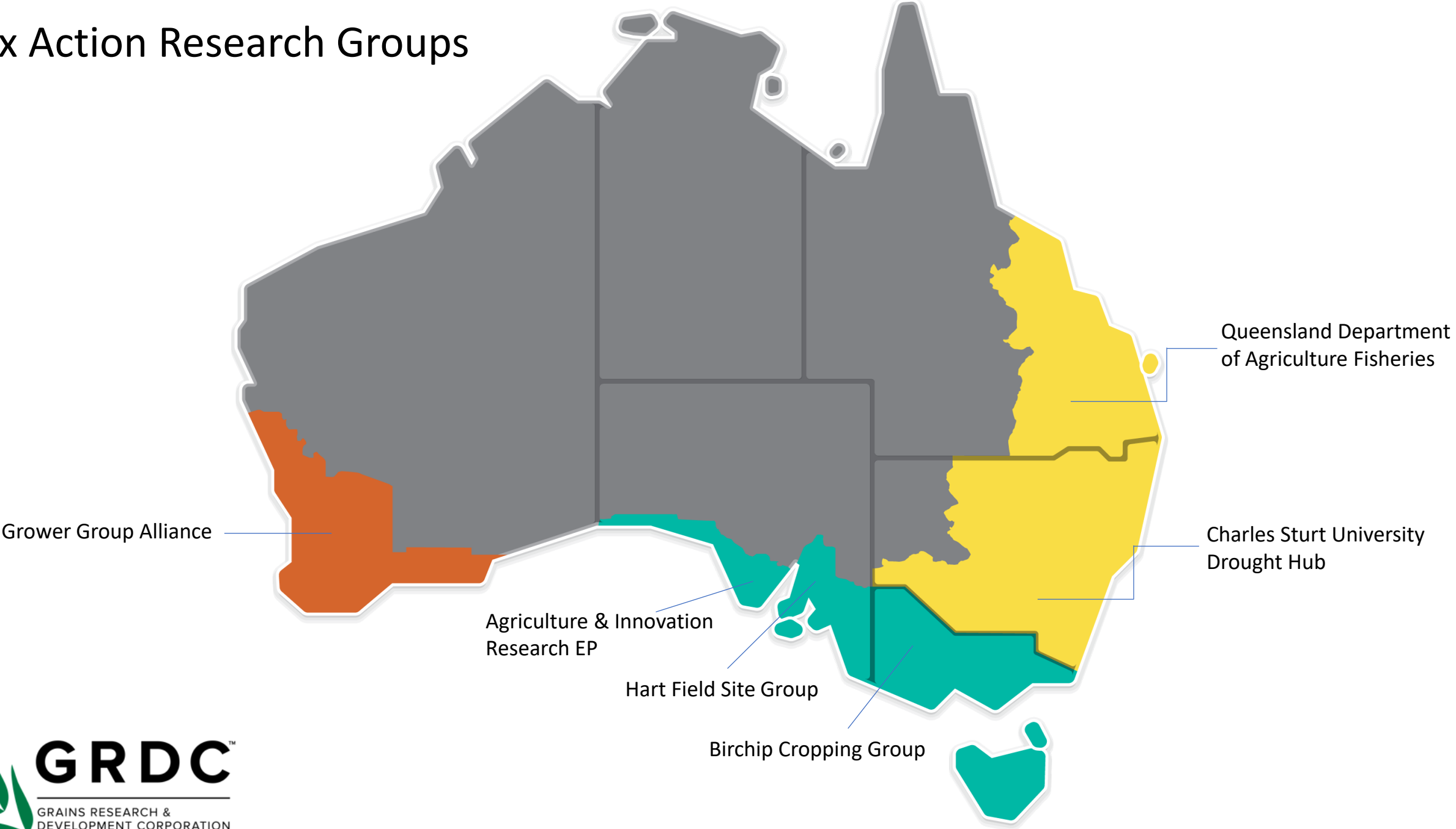
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# < **New initiative to challenge growers** >



# Six Action Research Groups



Grower Group Alliance

Agriculture & Innovation  
Research EP

Hart Field Site Group

Birchip Cropping Group

Queensland Department  
of Agriculture Fisheries

Charles Sturt University  
Drought Hub

# Six Action Research Groups to be contracted

## GRDC Western Region

### 1. Grower Group Alliance

- South West Drought Resilience Adoption & Innovation Hub
- ARG South (Stirlings to Coast Farmers (SCF) & South-East Premium Wheat Growers Association (SEPWA))
- ARG Central (Facey Group & Corrigin Farm Improvement Group (CFIG))
- ARG North-East (Western Australian No-Tillage Farmers Association (WANTFA) & The Liebe Group)
- ARG North (West Midlands Group (WMG) & Mingenew Irwin Group (MIG))

## GRDC Southern Region

### 2. Agriculture & Innovation Research EP

- EPAG Research Trust
- Buckleboo Farm Improvement Group (BFIG)

### 3. Hart Field Site Group

- Upper North Farming Systems (UNFS),
- Northern Sustainable Soils (NSS),
- Mid North High Rainfall Zone (MNHRZ)
- Murray Plains Farmers (MPF).

### 4. Birchip Cropping Group

- Mallee Sustainable Farming (MSF)
- Coomandook Agriculture Bureau
- Field Applied Research (FAR) Australia

## GRDC Northern Region

### 5. Queensland Department of Agriculture Fisheries

- Northern Grower Alliance (NGA)
- Central QLD Agronomy (CQA)

### 6. Charles Sturt University - Drought Hub

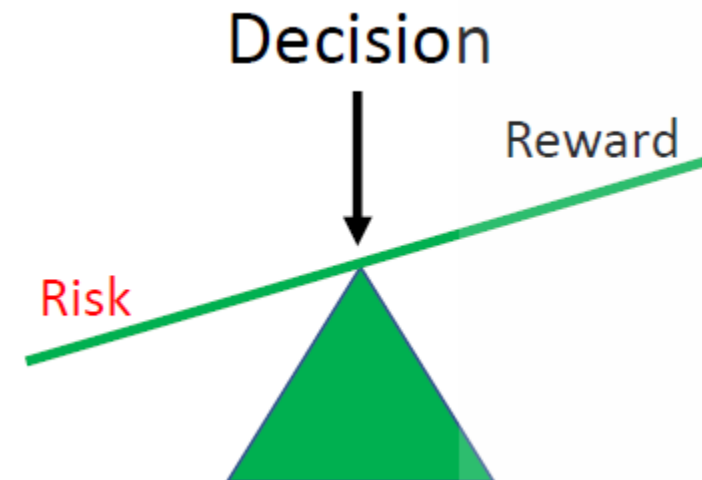
- Agricultural Marketing and Production Systems (AMPS)
- Grains Orana Alliance
- Central West Farming Systems (CWFS) and Ag Grow Agronomy
- FarmLink Research, Holbrook Landcare, Riverine Plains
- Southern Growers, Irrigation Research and Extension Committee (IREC), Irrigated Cropping Council (ICC).

RiskWi\$e

# GRDC NATIONAL RISK MANAGEMENT INITIATIVE (RISKWI\$E)

It is anticipated that within five years, 80% of growers can articulate their production management decisions couched in terms of probability of upside returns offset against the associated downside risks.

Implicit- Understanding risk/reward relationships better will result in better decision making over time resulting in more profitable outcomes



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'A lifetime's worth of wisdom'  
Steven D. Levitt, co-author of *Freakonomics*

The International  
Bestseller

Thinking,  
Fast and Slow



Daniel Kahneman  
Winner of the Nobel Prize



*“...most of our judgements and actions are appropriate most of the time.....But not always.”*



## Allan Mayfield- "...shrewdness"

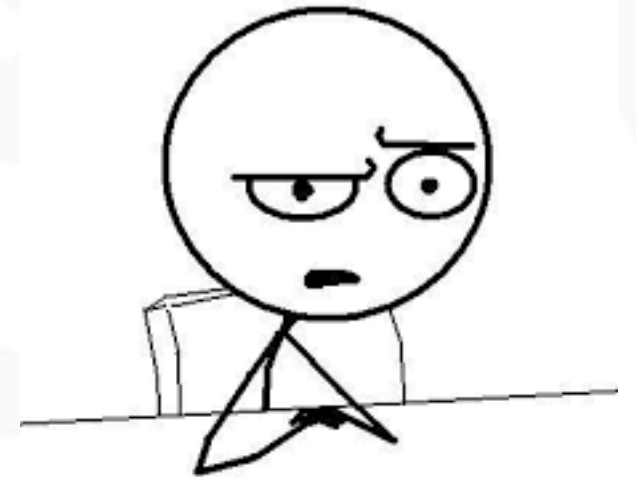


Shrewdness- *"select a smart action or judgement"*



# A FRAMEWORK FOR BETTER RISK MANAGEMENT

- Identify the decisions that matter
- Park your intuition
- Inform the form guide
- Accept cognitive limitations
- Re-engage intuition and make the decision



# IDENTIFY THE DECISIONS THAT MATTER

## What “doesn’t” matter?

- Trivial decisions
- Best practice, no brainers (the “just do it”)
- Too complex, too complicated, too many unknowns

What's left?

A few important “Risky” decisions

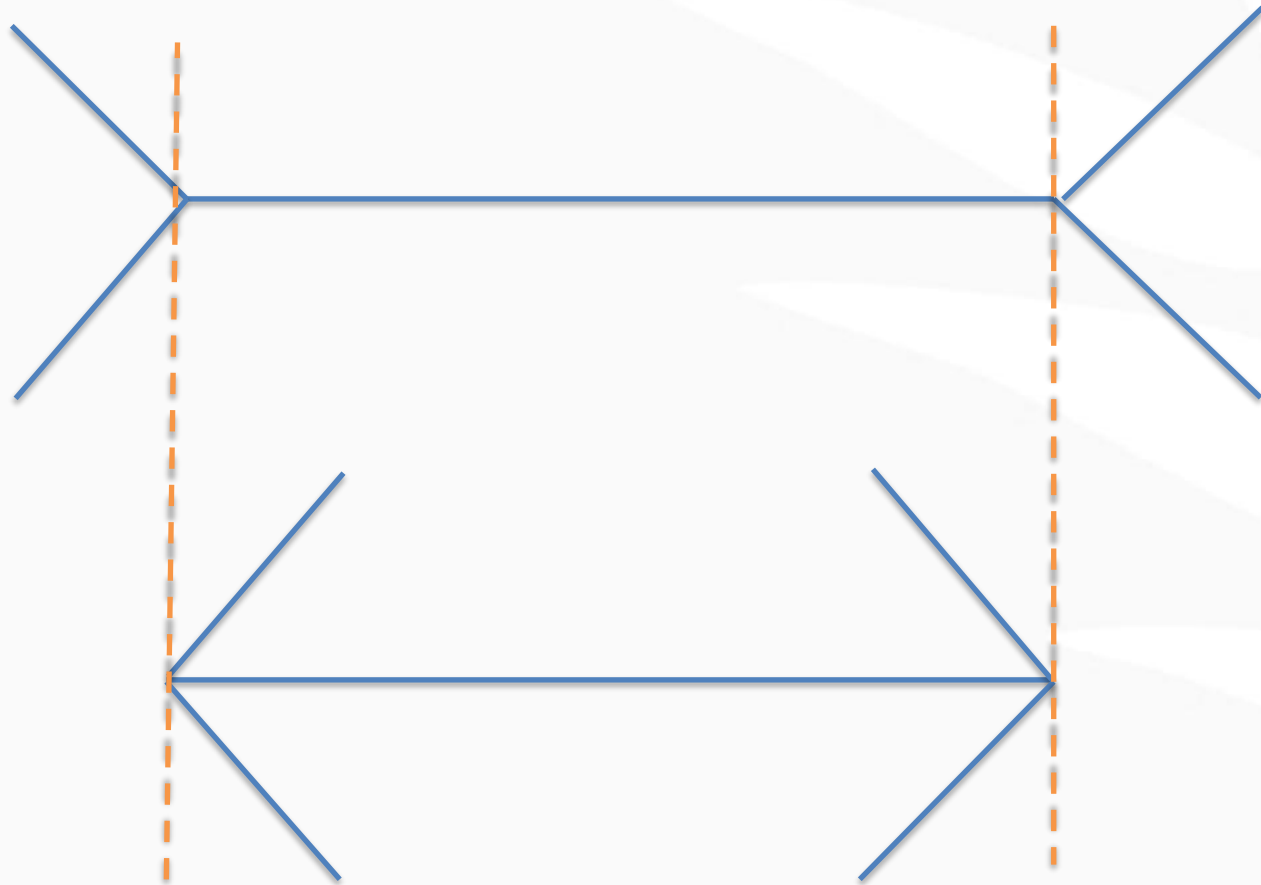
# PARK YOUR INTUITION

**Decision Making And Problem Solving**

## **Don't Trust Your Gut**

by Eric Bonabeau

# WHICH IS THE LONGEST LINE?



# INFORMING THE FORM GUIDE -OR *"THINKING IN BETS"*

## Useful techniques

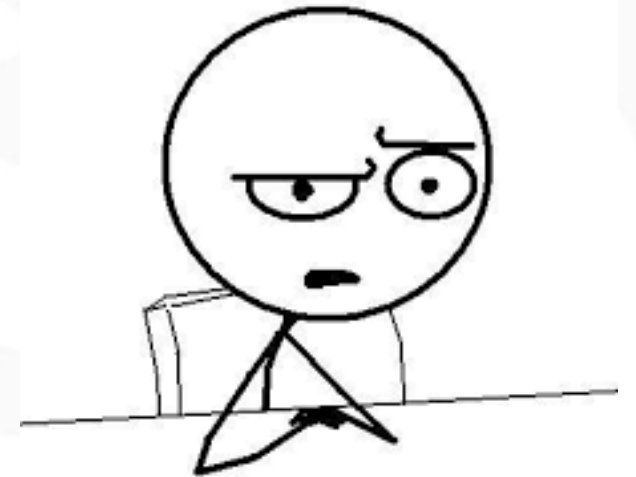
- Risk profiling
- Indexes
- Gross Margin Analysis
- Machinery analysis
- Cost of production analysis

# ACCEPT COGNITIVE LIMITATIONS



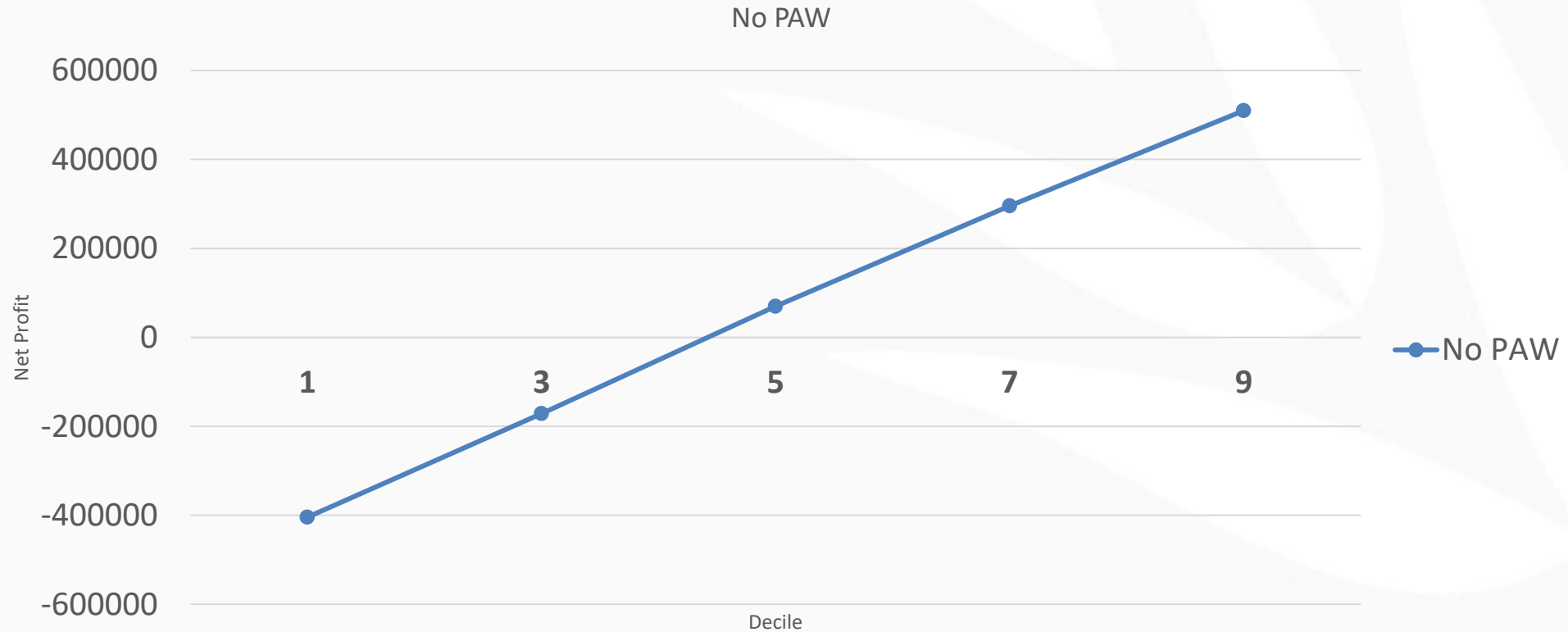
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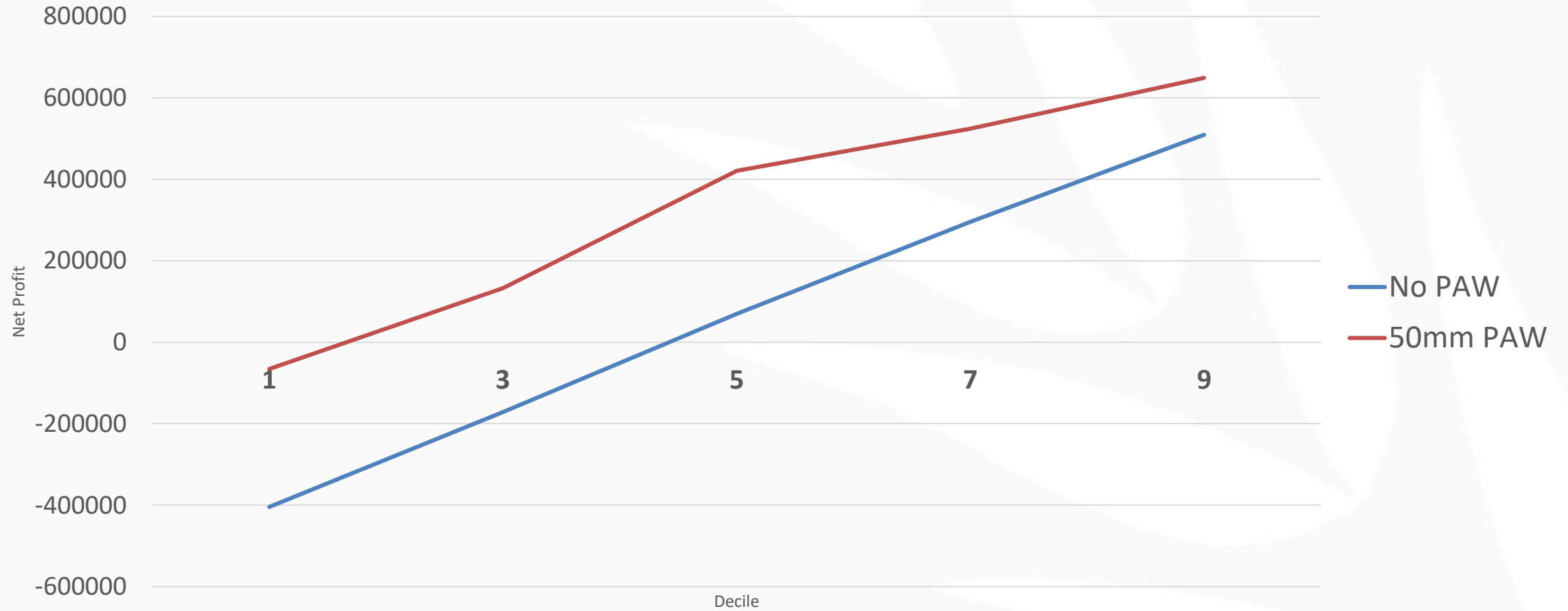




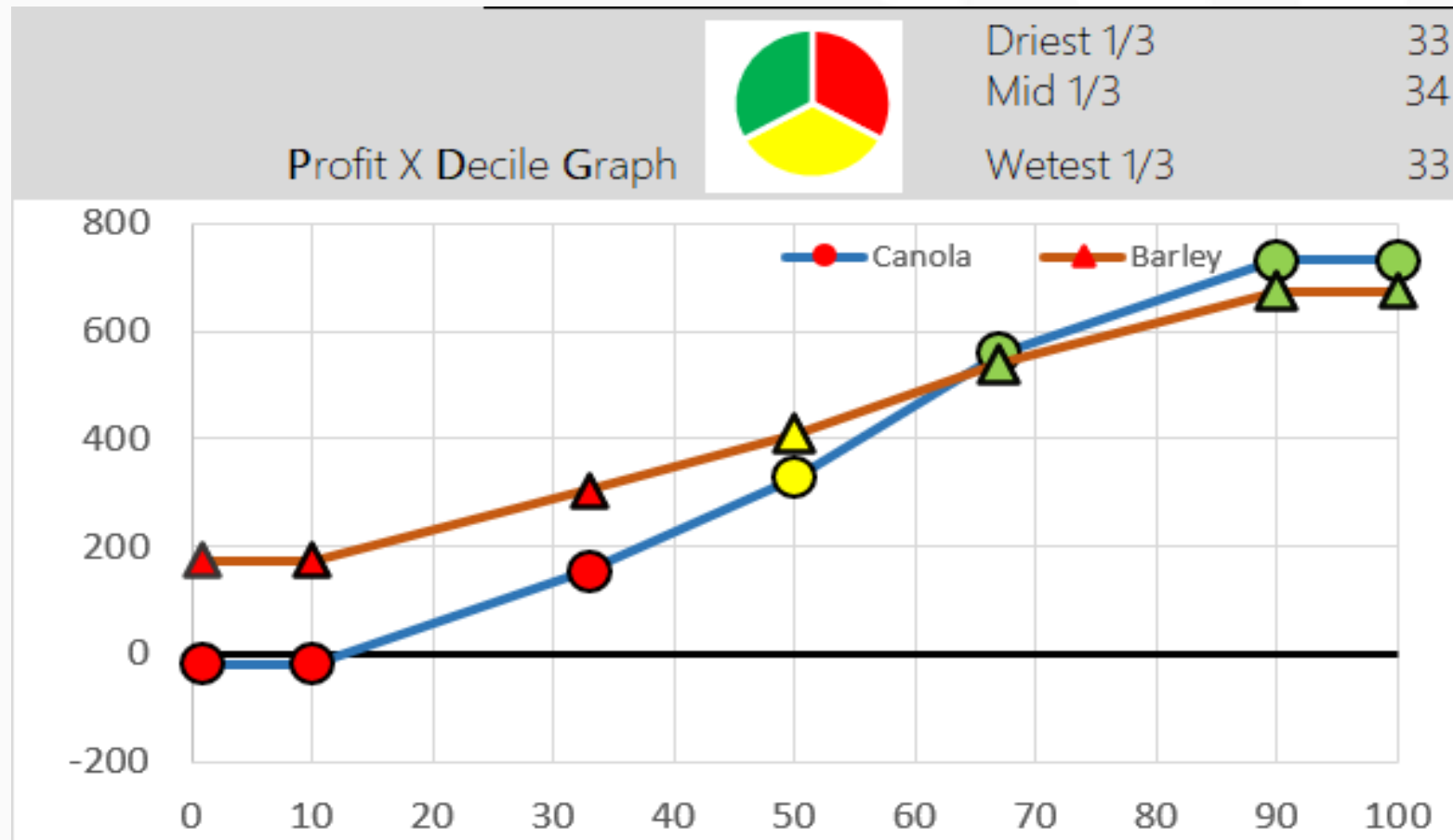
# 2022 NO STARTING PLANT AVAILABLE WATER



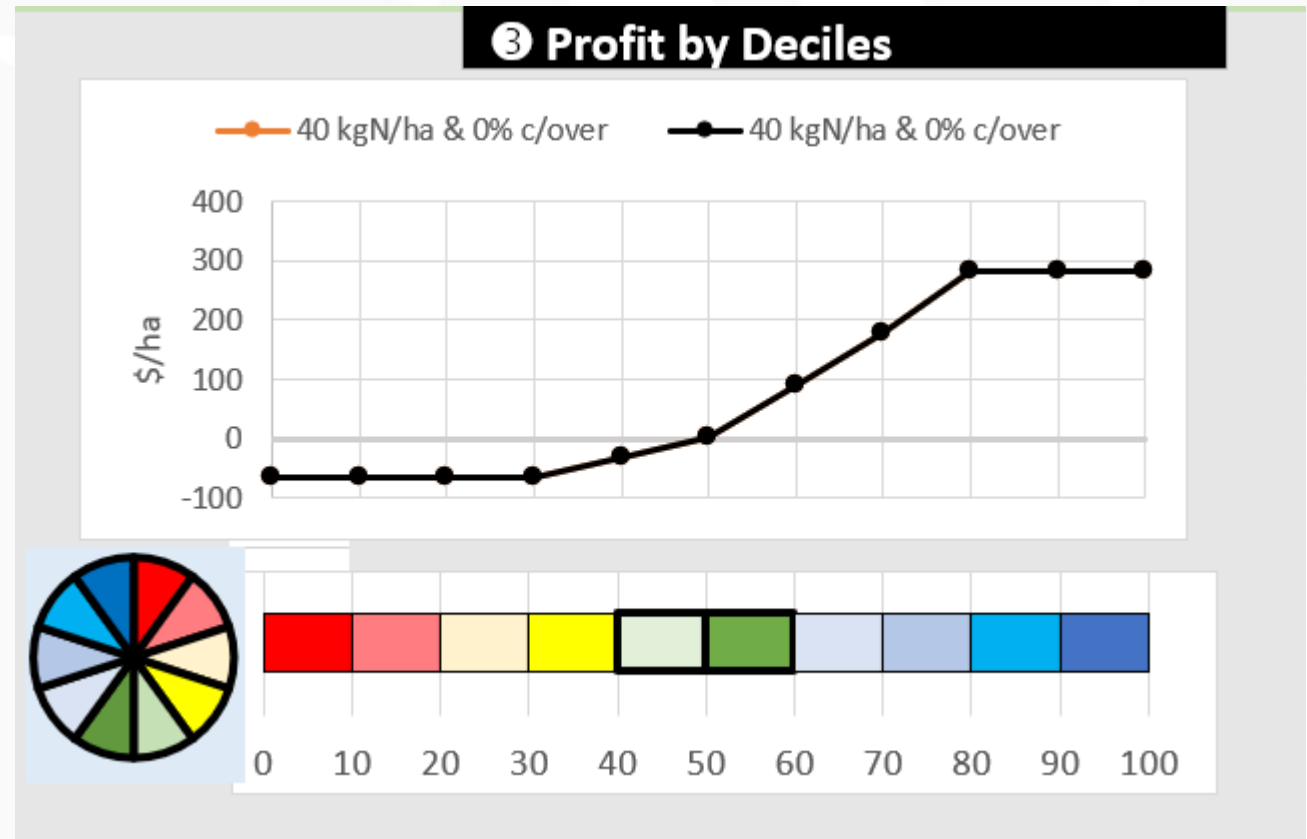
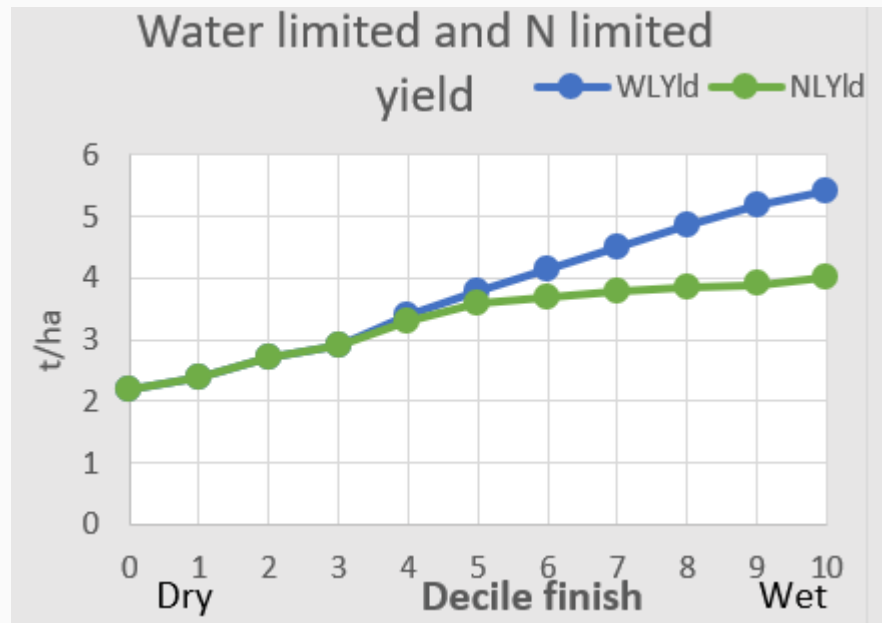
# COMPARE NO PAW WITH 50MM PAW



# CANOLA VS BARLEY

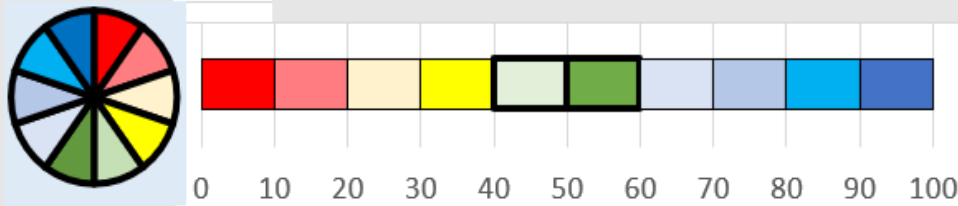
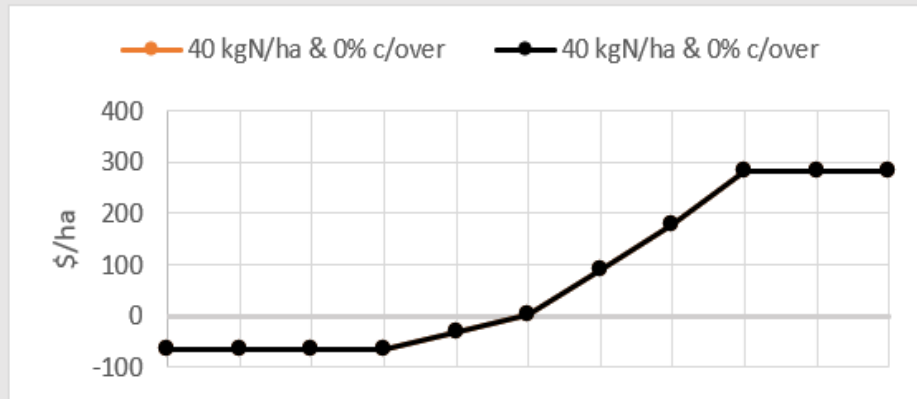


# TOPDRESSING UREA



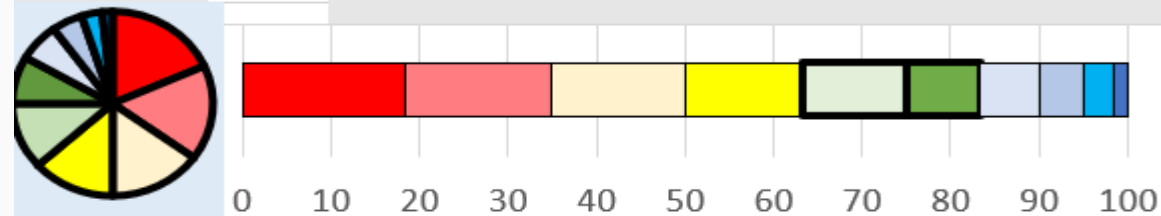
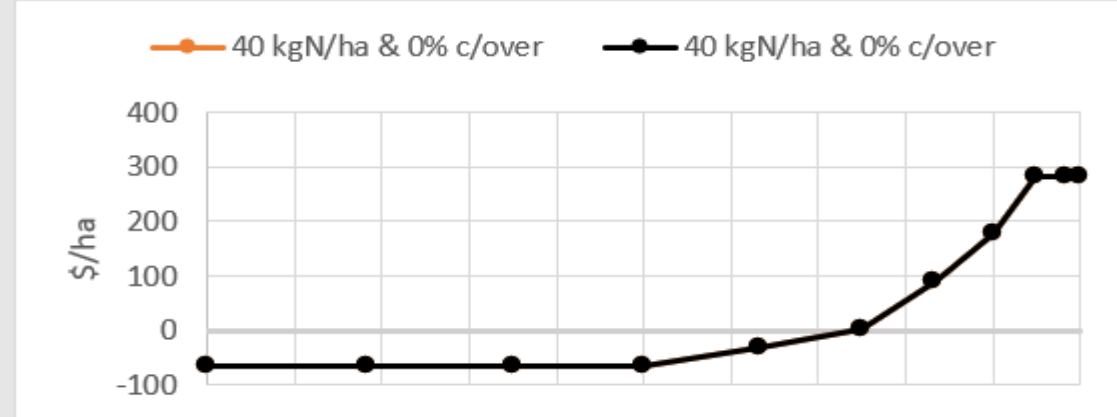
# ALLOWING FOR SEASONAL RISK

## ③ Profit by Deciles



No seasonal forecast-50% chance  
above median rainfall

## ③ Profit by Deciles



25% chance above median rainfall

# DRY SEEDING MATRIX

Critical success factors	Conditions	Points	Max points
Current season stage	Two weeks earlier than optimum	0	4
	Early optimum	2	
	Late optimum	3	
	> 2 weeks past optimum	4	
Seeding capacity compared with intended seeding area	High- can complete in 2 weeks	2	6
	Average- completion in 2-4 weeks	4	
	Low- more than 4 weeks required	6	
Weed burden	Low- easily controlled with pre-em <del>s</del>	6	6
	Medium	4	
	Heavy- would prefer knockdown	0	
Rain forecast for next two weeks	Very little forecast	0	4
	Moderate probability of rain	2	
	High probability of rain	4	
<b>Maximum Points</b>			<b>20</b>
<b>Points</b>	<b>Decision</b>		
<b>&gt;14</b>	Sow paddock ASAP		
<b>8 to 14</b>	Proceed but with gentlemen's hours		
<b>&lt;8</b>	Don't sow (yet)		

**Total**

Paddock A	Paddock B
2	2
4	4
0	6
2	2
<b>8</b>	<b>14</b>

# TAKE HOME POINTS

- Shrewdness is an admirable trait- and we think it can be learned
- There are not many decisions which actually benefit from any detailed level of analysis- but there are some
- Slowing down and thinking about a range of futures is useful but cognitively difficult- An Excel spreadsheet becomes a powerful tool
- Keep it simple- but no simpler!
- Looking for improvement- not perfection
- The GRDC NRMCI provides the opportunity to get involved in a participatory way