RiskWi$e – Cropping decisions in a risky environment:

Timing. Rotation. Nitrogen. Climate.

Source: GRDC

View the online workshop recording:

research.csiro.au/riskwise/cropping/

Summary of online workshop:

RiskWi$e: Key cropping decisions for the SA Mid North

Making better decisions in a high cost, high opportunity season

With late summer rainfall providing subsoil moisture and increased fertiliser cost and potential shortages, in 2026 there is an increased need to base decisions on identifying upside and downside of potential outcomes across a range of seasonal possibilities.

Increased fertiliser and diesel prices result in increased cost and probable lower margins

Input supply uncertainty impacts timing and logistics

Early summer rainfall has provided stored subsoil moisture across many areas

There is a greater need to focus on profit and risk - not just yield

Time of sowing – leveraging sub soil moisture

1. DECISION: *When do I sow, given subsoil moisture availability?*

What to consider:

- Stored soil water, soil type, and probability of follow-up rain.
- Sow early on stored moisture vs wait for opening rains.

RiskWi$e thinking:

- Don't treat sowing as a single decision – balance decisions with the whole farming system in mind, taking into account all the usual considerations.
- Seasonal forecasts are unreliable this early in the season, but current outlooks suggest a higher probability of an El Nino which could lead to an increased chance of a warmer drier spring- some early crop establishment could provide a buffer
- Spread the risk- identify those crops and cultivars that have reduced downside when established earlier (those with longer growing times, lower frost risks, indeterminate crops (legumes and canola)
- Choose soil types for sowing that will establish crops under potentially more marginal surface moisture conditions
- Stage sowing to spread risk
  - Sow some area early to capture upside
  - Hold some back to reduce exposure if conditions turn dry

Key takeaway:

Use stored moisture as an opportunity, but don't assume the season will finish well.

Subsoil moisture improves your starting position but yield still depends on spring. Understand the outcomes across a range of climate scenarios.

Crop selection and rotation – balancing risk across the system

2. DECISION: *What crop mix and rotation should I use? E.g. Cereals vs legumes vs canola*

What to consider:

- Starting moisture, input costs, and system resilience over multiple years.
- High fertiliser costs increasing attractiveness of low N crops (legumes).

RiskWi$e thinking:

- Rotations are there for a reason- current circumstances may suggest some tweaking but not widespread changes.
- Assess crop choice decisions on the range of yield possibilities based on current soil moisture levels and the range of seasonal outlooks that can be expected from now on
- Don't assess crops in isolation, think of whole-farm risk exposure.

Key takeaways:

Use diversity to reduce downside risk - a mix of cereals, break crops, and legumes spreads production and price risk.

Align crop choice with moisture + input exposure

- Higher moisture ➜ more flexibility
- Lower moisture or higher risk ➜ favour **lower input, more reliable options**
- **Legumes -** in a high fertiliser cost year, legumes can:
  - Reduce N fertiliser exposure
  - Improve following crop performance
  - Support system profitability over time

Nitrogen decisions – managing costs vs return

3. DECISION: *How much nitrogen do I commit, and when?*

What to consider:

- Fertiliser cost/availability, yield potential, and seasonal uncertainty.
- Supply uncertainty will affect timing of applications and rates.

RiskWi$e thinking:

- Nitrogen applications are a **high-cost, high-uncertainty decision**.
- Optimal N strategy should continue to be regarded as a long-term decision. However, circumstances in 2026 can allow for "tweaking".
- Given the substantial increase in cost of N (and assuming no increase in grain price) the optimal N application rates are likely to be lower.
- Applying high-cost N can still be profitable providing good conversion efficiencies are achieved. This will largely depend on initial starting position and seasonal outcomes.
- The opportunity cost of **not** supplying sufficient N in a year like 2026 will be lower due to the high N cost.
- Aim to be "more right, more often", not perfect.
- Use soil testing, paddock data and test strips where possible.

Key takeaways:

Avoid committing all nitrogen upfront - high upfront N increases downside risk if the season finishes poorly.

Adopt flexible N strategies

- Apply a **base rate**, then adjust with seasonal conditions
- Split applications to match crop demand and rainfall
- Use soil tests or in-season indicators to guide decisions

Choose an N strategy aligned to your risk appetite

- Conservative ➜ protects against dry finishes
- Responsive/top-up ➜ captures upside in good seasons
- System approach (legumes/N banking) ➜ reduces reliance on fertiliser over time

Seasonal outlook – using forecasts without over-relying on them

4. DECISION: *How do I use the seasonal outlook? How much weight to put on forecasts and outlooks?*

What to consider:

Climate models are available which regularly update seasonal expectations. These should be regarding as changes in probabilities, not predictions.

This year's subsoil moisture gives a strong starting position.

In 2026, we have the normal high seasonal variability with the outlook showing the increased probability of an El Nino developing (but certainly not locked in at this stage of the season). Analysis of past El Nino events in most of SA show increased chances of warmer and drier spring conditions.

RiskWi$e thinking:

- Use forecasts to **inform decisions, not drive them**.
- Plan for a range of scenarios, not one outcome.
- Keep flexibility (eg. delayed N, crop mix, staged decisions).

Key takeaways:

Treat outlooks as a guide to risk, not a forecast of outcomes - they shift probabilities - they don't remove uncertainty.

Scenario analysis based on a range of possible seasonal outcomes (even as simple as "poor", "average", "good") can provide a basis for more robust decisions around spring adjustments of inputs (e.g. nitrogen and fungicide).

Build flexibility into your plan

- Upside: ability to increase inputs or capture yield if season improves
- Downside: avoid overcommitting early

Bottom line for 2026

Good decisions are those that perform well across a range of seasons.

- Don't throw the baby out with the bath water- good agronomy usually pays.
- If lucky enough to have it, subsoil moisture should provide a significant buffer in 2026. Use it to your advantage.
- Spread risk across **time, enterprises, and inputs**
- Stay flexible and respond as the season unfolds
- Make decisions that are **robust across seasons**, not just right for this year

Key mindset:

- Think in **probabilities, not certainties**
- Focus on **profit, not yield**
- Aim to be **"more right, more often"**

Useful Resources

Bureau of Meteorology past rainfall	Recent and historical rainfall maps, Australian Bureau of Meteorology
Seasonal climate outlooks from the Bureau or Meteorology	Overview – Summary - Long-range forecasts
ENSO outlook – mainly from US Met organisations	IRI – International Research Institute for Climate and Society	March 2026 Quick Look
Impact of ENSO and IOD on SE Australian grain region	Local Climate Tool
SARDI WUE spreadsheet	Contact Dane.Thomas@sa.gov.au or Peter.Hayman@sa.gov.au
CliMate app	CliMate: Home Page
SARDI Nitrogen app	Link to app: N FGFST V3 - Home Link to RiskWi$e article about how to use the app
Recent article suggesting that water level in Lake Eyre is unlikely to influence rainfall for SA grain growers.	Read article: Negligible impact on precipitation from a permanent inland lake in central Australia, Yang 2023
The AgVic site has information on AIR EP site. Members have access to Dale Grey (AgVic) newsletter for EP. AIR EP	The Break newsletters	Newsletters	Support and resources	Agriculture Victoria
GRDC Fertiliser management toolbox	GRDC Publication for download
GRDC Paddock Practice Southern: Fertiliser decisions ahead of sowing	View online
ifarmwell - tools that reduce the negative impact of stressful situations	ifarmwell.com.au/
Weather it together - simple ways we can look after ourselves and each other	weatherittogether.org.au/
Farm Gross Margin and Enterprise Planning Guide for South Australia	agex.org.au/projects/2026-farm-gross-margin-guide/
CSIRO Crop Flowering Calculator	cropflowering.com.au/
RiskWi$e EP	A reasonable start... but still some tricky decisions ahead	AIR EP Nitrogen decisions April 2026	AIR EP Weighing up early sowing opportunities	AIR EP

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– the National Risk Management Initiative

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