

RiskWi\$e Case Study

Adaptive Sowing and Nitrogen Strategies on Callum Nicholls' Farm

Introduction

Callum Nicholls runs a flexible and risk-aware farming operation, where time of sowing (TOS) and nitrogen decisions are shaped by seasonal conditions, crop type, and land suitability. By adapting his cropping program to the environment year by year, he improves resilience, manages risk, and maintains profitability, even in challenging seasons.

Time of Sowing

Flexible, Season-Driven Decisions

Callum doesn't lock in his cropping program too early. Instead, he monitors seasonal forecasts and waits to see whether the season will begin wet or dry. This adaptability allows him to make the most of early breaks or adjust if conditions remain dry into May.

In **Dry Seasons:** He reduces or removes canola from the rotation and focuses more on wheat and barley, which are better suited to drier starts.

In Wet Seasons: He expands his canola and barley programs to capitalize on favorable growing conditions.

Strategic Crop Scheduling

Barley: Often sown early, typically in late April, especially during dry seasons, to spread the sowing workload ahead of rain events.

Canola and Oats: Callum is cautious with these crops. If the break comes late, he avoids sowing them past mid-May to reduce the risk of poor maturity and harvest outcomes.

Wheat and Pasture: If the season is delayed or uncertain, he may allocate more area to wheat or pasture for grazing. Wheat sowing is carefully timed to manage frost risk, with shorter-season varieties offering added flexibility.

Risk Management Through Sowing Practices

Frost Avoidance

Frost is a major concern for Callum. His sowing order reflects this risk:

- Higher, less frost-prone areas are sown first.
- Lower, frost-prone paddocks are held back until the risk of early frost has passed.
- Short-season wheats are not sown too early, to avoid vulnerable flowering periods lining up with frost events.

Heat and Dry Finish Management

To guard against heat stress at the end of the season, Callum avoids long-season crops if the forecast doesn't support a full growing window. He is shifting toward shorter-season canola and wheat varieties that mature earlier and are better aligned with shifting rainfall patterns.

Nitrogen Management

Pasture-Based Nitrogen Efficiency

Callum's nitrogen strategy is closely tied to crop rotation and paddock history:

- **Crops after Clover Pasture:** Wheat and barley planted on clover pastures typically receive only about 30 units of nitrogen, thanks to the natural nitrogen contribution from legumes.
- Adjusting for Pasture Quality: If the previous pasture was weak or patchy, he increases nitrogen rates to compensate.

Variable Applications Based on Season and Crop

Nitrogen decisions are made in real time, based on seasonal potential:

- In strong seasons, Callum may increase nitrogen inputs to maximise yield.
- In poor seasons, he reduces inputs to avoid wasting resources on underperforming crops.





Shorter-Season Varieties

Expanding the Sowing Window

Callum increasingly uses shorter-season wheat and canola varieties. These allow greater flexibility in sowing time, while reducing the exposure of crops to late frosts or terminal heat stress.

Adapting to Changing Climate Patterns

With growing season rainfall tending to finish earlier in recent years, shorter-season crops are becoming more central to Callum's program. They help ensure crops reach maturity before moisture runs out.

Conclusion

Callum Nicholls' farming system thrives on flexibility and responsiveness.

By making real-time sowing and nitrogen decisions based on seasonal cues, and by integrating shorterseason varieties into his rotation, he successfully navigates the risks of frost, heat, and dry finishes.

His approach exemplifies how thoughtful management can turn uncertainty into opportunity in modern mixed farming.





