FARM BUSINESS UPDATE 2026

GRDC
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Kimba

Wednesday 1st July 2026

Kimba Football Netball Club

Kadina

Thursday 2nd July 2026

Kadina Football Club

#GRDCUpdates

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GRDC Farm Business Update
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GRDC Farm Business Update KIMBA/KADINA

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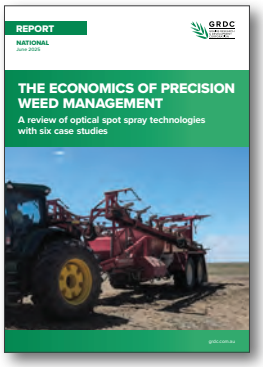

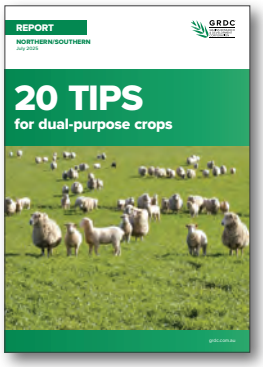

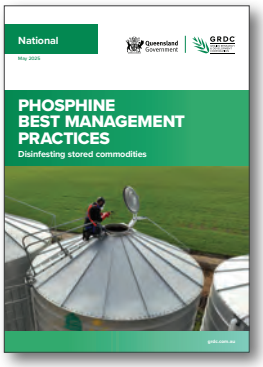

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Program

9.30 am	**Announcements**	
9.32 am	**GRDC welcome**	
9.40 am	***Applying artificial intelligence (AI) to farm management decisions. An interactive session with:***	
	Tools for practical decision-making	***Bill Long,*** *Ag Consulting Co*
	AI in the farm business – opportunities and risks	***Phill Guthrie,*** *3EC*
10.55 am	*Morning tea*	
11.25 am	**Building storage to manage input supply risk – is it worth it?**	***James Hillcoat,*** *Pinion Advisory*
12.05 pm	**'Filling your silo' – farming in uncertainty**	***Steph Schmidt,*** *Farm Life Psych*
12.45 pm	*Lunch*	
1.35 pm	**High performing farm businesses – inspiration from Australia's leading growers**	***Oli Le Lievre,*** *Humans of Agriculture*
2.10 pm	**Precision weed management tech – assessing the risk/reward**	***Megan Star,*** *Star Economics with special guest growers:* ***Tristan Baldock*** *&* ***Andrew Baldock*** *(Kimba) |* ***Paul Jarrett*** *(Kadina)*
3.10 pm	**Wrap up and feedback**	
3.15 pm	**Event close**	

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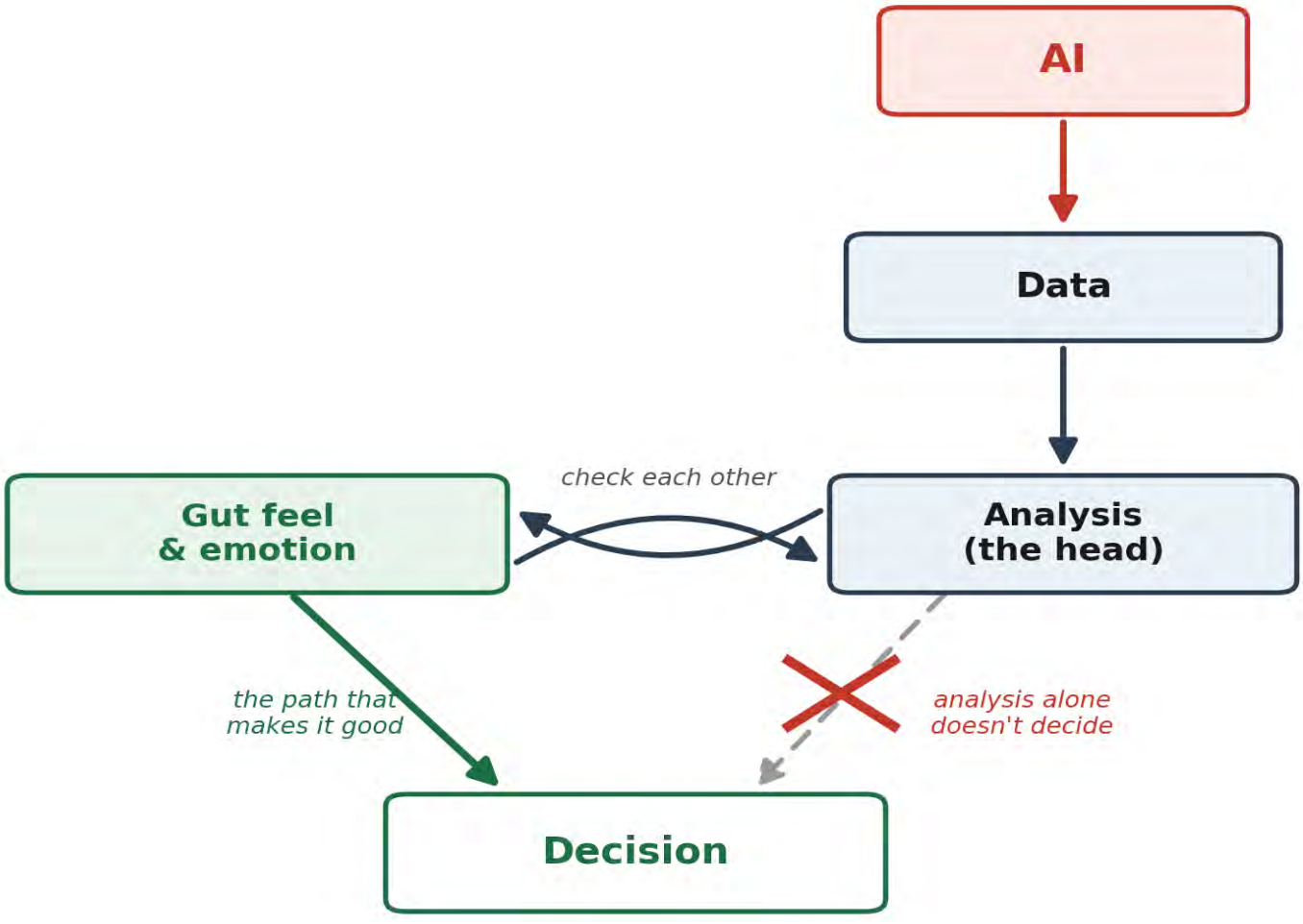
Farm decision making and AI

Bill Long, Jeanette Long, Will Long, Alice Long

Cooinda Farming and Ag Consulting Co.

Key messages

- **Decision making is a skill.** It can be practised and improved, and it deserves the same care you give the machinery and the agronomy. The best operators are set apart by making the right decision at the right time.
- **Emotion and experience usually outweigh the analysis,** and that is not a flaw. The more complex the decision, the more the heart and the gut should lead.
- **AI strengthens the analysis, but it cannot make the call.** A decision becomes a good one only once that analysis has passed back through your experience and emotion. Artificial intelligence (AI) cannot tell you the outcome or carry the regret.
- **Prompt AI to challenge you, not agree with you.** Ask it to name your biases, argue the opposite case, and spell out how a bad outcome would feel.
- **Do the thinking yourself first, then let AI help organise it.** Protect the critical thinking that builds good judgement over time.



Graphic: Ag Consulting Co.

Decision making is a skill

Some of the hardest decisions our business has faced have been about land: buying and selling farms, and in particular whether to sell a generational property on the Yorke Peninsula and shift our base to the Eyre Peninsula. Every piece of analysis we did said it was the right move. We very nearly made the decision to stay, for reasons that had nothing to do with the numbers and everything to do with what the place meant to us. I will come back to that, because it sits at the centre of what this paper is about.

I have spent forty years farming and about thirty of those advising other farmers on productivity and business decisions. Along the way I have studied how those decisions actually get made. One thing has stayed with me. We invest heavily in our machinery and our agronomy and we service the gear religiously, but we rarely stop to service the part of the business doing the deciding. Faulty decision making impacts a farm every bit as much as a faulty header.

A decision is simply a conclusion you reach after weighing something up, and then act on. Choosing to do nothing is a decision too, and sometimes it is the right one. The encouraging part is that decision making is a skill, not a fixed trait, so it can be practised and improved. The research behind the GRDC Farm decision making booklet found that the main thing separating the top twenty per cent of profitable farmers from the rest was not better luck or better country - it was their ability to make the right decision at the right time.

That matters more now than it used to. Data and analysis have never been cheaper or faster to come by, and artificial intelligence is about to make them cheaper and faster again. The bottleneck is shifting. It is no longer getting hold of information. It is deciding well once you have it.

A good decision and a right decision

It is worth separating two words we use interchangeably. A good decision is an informed one. To make it, you appreciate the consequences of each option, you set things up so you will have the least regret if it does not go to plan, and you improve your odds of a favourable outcome. All of that is within your control.

The right decision is different. It can only be judged in hindsight, and hindsight takes time. The decision you make today, on what you know today, might look wrong in two years and still have been a good decision when you made it. Many decisions have to be made without hindsight, before the dice is rolled.

Hold onto that distinction, because it sets the limit on what AI can do for you. AI can lift the quality of your information and sharpen your analysis. It cannot tell you the outcome, and it cannot carry the regret. Only you do that.

Three types of decision

Not every decision deserves the same treatment. Broadly they fall into three types and knowing which one you are facing tells you how to approach it.

Decision type	What it looks like	Farm example	Mostly driven by
Simple	A few variables and a clear right answer	Which herbicide to use, read the label	The head, or a rule of thumb
Complicated	Many variables, but the relationships are known and documented	A crop rotation for weeds, resistance, disease breaks and legume nitrogen	The head plus analysis
Complex	Variables interact and the trade-offs are hard to quantify or model	Selling the family farm	The heart and the gut

A resonating point in this paper: As a decision becomes more complex, the heart and the gut take over from the head, and they should. That is not a failure of rigour. It is the right response to a problem you cannot fully model. Nobody builds a spreadsheet that captures what it means to sell the country your grandfather cleared.

Head, heart and gut

Most decisions are shaped by three influences working together: the head, the heart and the gut.

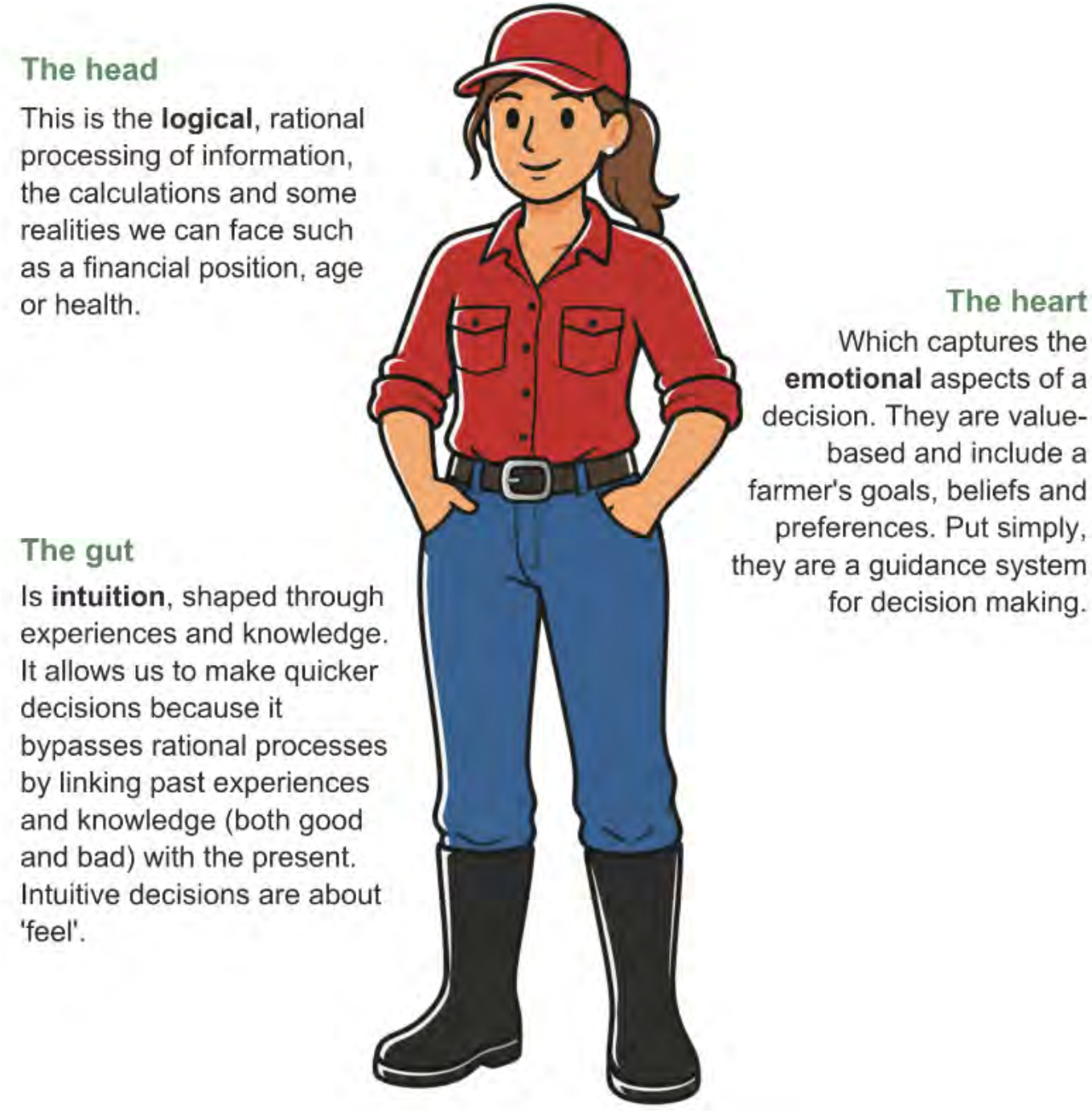


Figure 1. The head, heart and gut influence our decisions. *Source: GRDC Farm decision making.*

The head is the logical, analytical part. It works step by step, compares options on their merits, and shows its working so others can follow it. A great deal of agricultural progress has come from exactly this kind of analysis, and it is not going anywhere. The economist Bill Malcolm put the standard well: good analysis should be simple but not simplistic, simple figuring underpinned by sophisticated thinking. The trap at this end is the opposite equation, of polishing the numbers past the point of usefulness. Better to be roughly right than precisely wrong.

The heart is the emotional influence: your values, your goals, your fears. In farming the heart runs especially strong, because the business is wound up with family, with community, and often with several generations of attachment to a place. That is not a weakness to be analysed away. It is part of the information.

The gut is intuition, built up over years of experience. It lets you decide quickly when you do not have time or complete knowledge, because it draws on patterns you have seen before. Two things are worth saying about it. Intuition can be trusted when it can be explained. You might have to dig deep into the memory and do some mental processing to get there but mostly, there's learned experience behind an intuitive call you might make. And because it is only ever as good as the experience feeding it, so a young farmer's gut-feel and a forty-year farmer's gut-feel are not the same instrument.

Why emotion and experience outweigh the analysis

Here is the part I most want to land. In my experience, the weight people place on emotion and intuition in making a real decision is well over half of the total influence. The analysis matters, but it is rarely what tips the call.

That farm sale I opened with is the cleanest example I have. The analysis was not close. The figures said move. And we sat on it, because selling the home place felt like a loss in a way no spreadsheet could price. We got there in the end, and it was the right call, but if I had treated the emotion as noise to be overridden, I am not sure we would have. A decision the decision maker cannot emotionally commit to does not get implemented, or it gets implemented badly. So, a more optimal answer that you cannot live with is not actually the better decision.

The GRDC Farm decision making booklet describes the mechanism well - we often make a decision on emotion and then go looking for the logical reasons afterwards. Knowing that about ourselves is useful. So is one well-established finding: the pain of a loss is felt about twice as strongly as the pleasure of an equal gain. It is worth asking whether a past loss is quietly holding your business back through fear of repeating it.

None of this means discard the emotion. It means check it. A few simple ways to do that:

Checking the emotion before you commit

- **10/10/10** (from Heath & Heath): how will you feel about this in 10 minutes, in 10 months, in 10 years?
- **The four Ls** (adapted from Sam Kaner's Gradients of Agreement): do I love it, like it, can I live with it, or do I loathe it?
- **Sleep on it.** The subconscious does real work, and things often look clearer in the morning.

A fuller description of these is in the appendix.

Rules of thumb

We could never gather and process everything relevant to a decision, even with all the time in the world, our brains would stall. Herbert Simon called this bounded rationality: we work with what we have and make a best-bet decision, and sometimes the best bet is to wait. Two things let us do that well: intuition and rules of thumb.

A rule of thumb is a mental shortcut that simplifies and speeds up a decision. The difference from intuition is that a rule of thumb is tangible. You can write it down, teach it, and hand it to the next generation, which you cannot really do with a gut feel.

The catch is that a rule of thumb is only as good as its foundation. Good decisions are built on good information, so a rule needs to have been validated, not just inherited. A rule that was sound twenty years ago can quietly go stale while everyone keeps following it.

Rules of thumb, and when to question them

One rule of thumb many farmers have used for years: sell a third of the grain before the crop goes in, a third through the season, and a third at harvest. It has served well as a way to spread price risk. But is it always right? When wheat is sitting above $430 a tonne, would you really stick to it rigidly? Shouldn't you sell more aggressively? A good rule earns the right to be questioned.

Another common one: to build a budget, inflate your costs by ten per cent and hold your prices flat. Useful, conservative, and still worth checking against the year in front of you. Fertiliser and fuel price shocks like we've seen make a big impact on profit margins and were worth reviewing before the crop went in this season.

This is also the cleanest bridge to AI. Modelling tools like Yield Prophet have long been how good rules of thumb get made and tested in the first place. AI is the next step along that same path: a fast way to pressure-test a rule you lean on and ask whether it still holds.

Making better decisions: advisers, boards and Gibb

Good decision makers do not decide alone. A trusted adviser, a farm board, or even an informal sounding board adds something you cannot get inside your own head. It forces you to say your reasoning out loud, and it gets the problem looked at from an angle you would not have found. Use several advisers rather than leaning on one, and if you run a farm board, let it bring the discipline, the budgeting and the goal setting that are easy to let slide on your own. Online forums have a place too: ask the question, follow the thread, and treat yourself as a problem solver rather than someone waiting to be told the answer.

This is also where I want to plant a flag for later. The best decision makers listen to experts but do not follow them blindly, because any one expert only ever sees part of the picture. That applies word-for-word to an AI. It is articulate and fast, and it is just as blind to the parts of your situation you have not told it about.

Ian Gibb's characteristics of a good farm decision maker

- Identify the two or three variables that actually matter, and do not get distracted by the rest.
- Listen to experts, but do not follow them blindly. Each sees only part of the picture.
- Act quickly and decisively. Good options disappear fast.
- A near-ideal decision made in time beats a perfect one made too late. Analysis has diminishing returns too.
- Doing nothing is a decision, and sometimes the right one.
- Be prepared. Do not leave everything to the last minute.
- Do not beat yourself up over a decision that only looks wrong with hindsight.

AI in the decision process

This is where it comes together. Think of the decision as a flow. AI feeds data, data feeds analysis, and analysis and your gut feel check each other before anything reaches a decision.

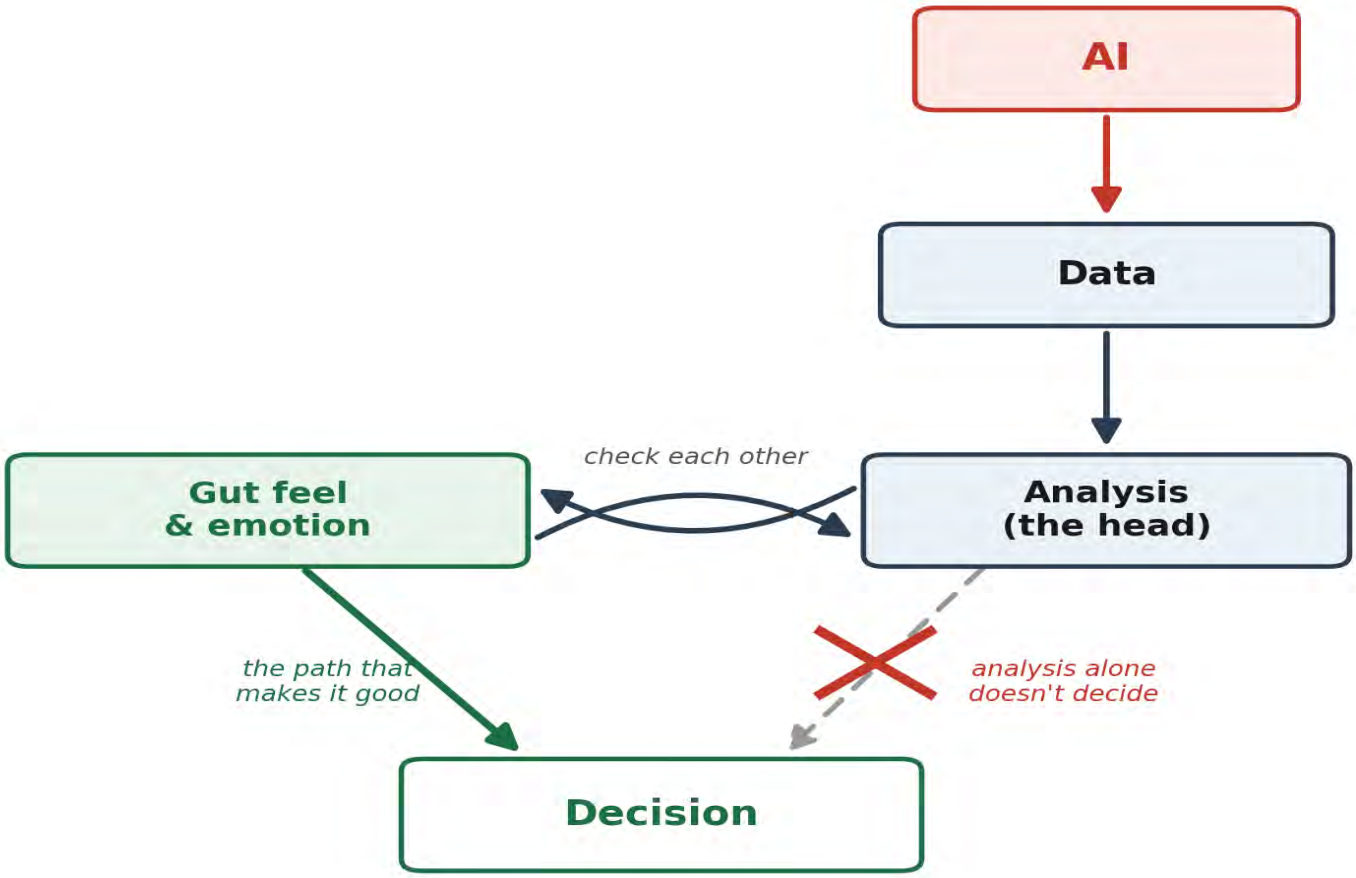


Figure 2. AI strengthens data and analysis, but a decision only becomes a good one once analysis has passed back through gut feel and emotion. *Original graphic by author.*

The thing to notice is the crossed-out arrow. Analysis taken straight to a decision, skipping the gut and the emotion, is not the shortcut it looks like. It skips the part that makes a decision yours and makes it stick.

What AI does well is supercharge the head. It widens and speeds up the data and analysis arm, across all three types of decision:

- **Simple:** Best wheat variety for my district.
- **Complicated and benchmarking:** sense-checking a rule of thumb, or checking cost of machinery and debt levels against gross farm income. Modelling tools like Yield Prophet to help determine nitrogen applications or fungicide choices based on possible yield outcomes during the season.
- **Complex and strategic:** the big ones. Do I sell the family farm and move regions? How do we handle succession and transition?

Where it bites is provenance and bias. The question I keep coming back to is simple: where is this coming from? An AI gives a fluent, confident answer whether or not the ground truth is underneath it. There are two risks in particular. The first is confirmation bias: it is very easy to keep prompting an AI until it agrees with you, which is just a stale rule of thumb 'wearing a new coat'. The second is provenance: an answer is only as good as what the model was trained on and what you fed it, and it will not flag its own uncertainty unless you make it.

The real skill, and the part most people miss, is prompting AI to surface the human side of a decision rather than bury it. It does not only do the sums. You can ask it to name the biases likely in play, to argue the opposite case, to tell you what you might regret, to run a 10/10/10 on your behalf, or to point out the variable you have anchored on. Used that way it is not replacing your gut. It is defending your gut against your own blind spots.

A worked example: the soil amelioration decision

This season, we had a soil amelioration program mapped and costed across about 75 hectares when diesel and urea prices jumped sharply on the back of conflict in the Middle East. The question was whether the sudden cost increase changed the decision. My son Will put it to an AI and pushed it to do more than add up the diesel.

It built the full cost picture and ran a fuel-price sensitivity, which made the first useful point: at around $2.50 a litre the job came to roughly $840 a hectare, and even a big move in diesel only shifted that by about $140 a hectare. Diesel was not the real driver. Will asked it to run a 'Monte Carlo' simulation (testing the likelihood of different outcomes) across realistic yield, price and response ranges, which showed the decision actually hinged on one thing: whether the treated country would deliver a durable yield response above about fifteen per cent. Below that the project got fragile; at twenty per cent it was robust. To uncover risks, Will also asked it to run a 'black hat', or inversion analysis - the Charlie Munger habit of asking what would have to be true for this to fail. The answer was that no single thing sinks it, it takes a stack of bad luck arriving together.

The part that mattered most was not the maths. AI helped us think through how we would feel if we spent that money and then had a terrible first season, and whether we could even execute the job in the window we had. It put a number on exactly that: a poor opening canola year still left the seven-year case intact on a strong response, but it would feel wrong at the time, with a big cheque written and little to show for it in year one. That is the emotional risk named in advance, before it could ambush the decision. Prompted well, the AI gave us both the analysis and a clear-eyed look at our own likely reaction to a bad outcome.

Good outputs generated from AI are dependent on sophisticated questioning. Ask it to check biases and spell out the likelihood of a poor outcome. Challenge the blind spots in our thinking!

The full report is attached in the appendix

The closing point is the diagram again. AI will lift the analysis arm as high as you like. The decision only becomes a good one once that analysis has passed back through your experience and your emotion. Analysis that skips that step is the crossed-out line.

Take-home

Decision making is hard, and every farmer reading this has lived through decisions that cost them sleep. i.e. buying, leasing, selling, the next big machinery call. Good analysis genuinely produces better outcomes and more prosperous businesses, and AI can speed that analysis up and stretch how far it reaches. Use it. But read your emotions through the process and match them against your experience, because that is where the decision is actually made.

A word for anyone starting out. When you are a young farmer or a young adviser, you do not yet have the depth of experience the gut runs on. Length and timing of experience influences attitude to risk - a limited run of 'good' seasons may build confidence out of line with longer term trends for example. The answer is to borrow it: sit with people who have made these calls before. Couple what the experienced folk might say with some modelling that you have to systematically think through. This helps fast track intuitive thinking. Using tools like Yield Prophet quickly improved my understanding of soil water holding capacity of soils in the region and how this relates to crop performance. The more I used it, I developed my own rules of thumb and in time could make judgements on crop performance and yield potential with a lot more confidence. Building intuition takes time.

I will raise one risk and then deliberately not make it my final point. AI makes it so easy to assemble an argument that we may stop building the argument ourselves. We are cognitive misers by nature; we take the easy path. If we let the machine do all the constructing, the critical thinking muscle wastes. My daughter Alice and I used Claude AI to help put this paper together, but I had already done the thinking over many years. We gave it the material and references to work with. It saved me the cutting and pasting, not the preparation work. That is the right relationship in a task such as preparing a paper: do the thinking, then let AI help organise and construct.

So the last word is the one the booklet and forty years both point to. A person's ability to recall an experience, and the emotion wrapped around it, is something AI will never reproduce and slot into a decision for you. Weigh your emotion and your experience carefully and wisely. They are not the soft part of the decision. They are the part that makes it yours, and the part that makes it good.

My follow up questions for the speaker

Why working on this could be great for your farming business

- Higher farm profitability is linked to timely and skilled decision-making. Working on and practicing decision-making skills contributes to informed decisions and improved outcomes.
- Using practical tools and consulting experienced people can enhance your analysis and check decisions across knowledge, emotion, capability and long-term impact, before committing.
- Improve perspective by separating good decisions from outcomes — focus on making “an informed” decision rather than judging success purely with hindsight.

Self-evaluation

Thinking about a key decision you’re facing right now...

- What information or analysis are you currently using to guide the decision?

- How do you feel about this decision — confident, uncertain, reluctant?
- Are you seeking information that challenges you, or just confirms what you already think?
- Do you have the knowledge, skills, and capacity to execute this decision well? Y / N / Maybe
- Are you ready to act now, stage the decision, or wait and gather more insight?
- What tools, people or networks could you use to improve the decision?

What will you do differently in your decision-making process going forward?

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

- Use simple decision frameworks to practice decision making — apply tools like 10/10/10, the four Ls, KASA, and sleep on it to check decisions from multiple angles before committing.
- Do your own thinking first, then use tools (like AI) to organise and challenge it — 'protect the critical thinking that builds good judgement over time'.
- Intentionally practice decision making. Actively test your thinking and biases.

Our first action

Our second action

Want to learn more, here are some suggestions

GRDC Farm decision making - the interaction of personality, farm business and risk to make more informed decisions. (Nicholson et al, 2020, GRDC)
https://grdc.com.au/resources-and-publications/all-publications/publications/2020/farm-decision-making

Acknowledgements;

This paper was a real “team Long” effort. There have been years of family discussion on the broad topic of decision making and as a family, we’ve made plenty of tough ones that haven’t always turned out the right way. The outcomes you don’t want to occur are where we do our real learning. Mostly though, the decisions we’ve made have turned out OK, partly because we analyse and model options pretty well but because we check with emotions. If an option does not align with a set of values and clear purpose with a strategic outcome in mind, it won’t pass the test and the status quo continues.

Thanks to my wonderfully talented wife Jeanette, and champion and deeply thoughtful adult kids Alice and Will for your contributions and demonstrations of good decision making.

More about Bill Long . . .

Bill Long is a seasoned farmer and farm consultant with over 40 years of experience in the agricultural industry. He’s been involved in many complicated and complex decisions at the farm and business level, both his own and when consulting with farm clients. These decisions commonly involve millions of dollars and carry a reasonable degree of risk.

Bill began buying farms in 1981. Since then, he has purchased over 10 farm properties, leased and share-farmed 5 properties, started 4 new businesses, developed 2 not-for-profit organisations, sat on and chaired 8 farm boards, syndicated airseeders and property leases, and bought 18 tractors, 4 trucks, and 7 headers in addition to the hundreds of thousands of dollars of miscellaneous farm equipment required to run a successful farm business. He now farms at Auburn and Cummins with his son Will and wife Jeanette.

He has a strong interest in and has studied the psychology of human decision-making processes, particularly in farm decision making. Today, he’ll discuss some elements of decision-making he’s observed farmers using and provide simple techniques and tools to assist and improve the steps taken to achieve better outcomes at the farm level.

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www.agconsulting.com.au
Bill@agconsulting.com.au

Appendix 1: A decision in practice: the soil amelioration call

Will Long

How AI, prompted well, helped with the numbers and with the harder question of how I would feel if it went wrong.

The decision, and the fear underneath it

We had a soil amelioration program mapped and costed across about 75 hectares. Then diesel and urea prices jumped sharply on the back of conflict in the Middle East. On the surface the question was whether that cost spike changed the call.

It did not, and finding that out was the easy part. The real question sat underneath the diesel, and it was not a numbers question at all:

- **Am I confident** these soils are constrained enough to respond?
- **Can I actually execute** the job properly in the window I have?
- **How would I feel** if I wrote a cheque for roughly $63,000 and then had a terrible first season?

That last one is the question most analysis quietly skips. It is also the one that would have kept me up at night. So I asked the AI to help me face it head on, not just tally the costs.

What Will asked AI to do

The instruction was deliberately more than "add up the diesel." I asked it to:

- Build the full cost picture and test how much it moved as fuel prices changed.
- Run a probabilistic simulation across realistic yield, price and response ranges, to find what the decision actually hinged on.
- Run a black hat/inversion analysis: what would have to be true for this to fail?
- Then help me think through the human side: whether I could execute in time, and how a poor first year would actually feel.

What the analysis found

Diesel was not the driver. At around $2.50 a litre the whole job came to roughly $840 a hectare. Even a large move in diesel shifted that by only about $140 a hectare. Waiting for cheaper fuel was never going to make or break the decision.

The real hinge was the yield response. The simulation showed the whole decision turned on one uncertain number: whether the treated country would deliver a durable response above about fifteen per cent.

True long-run yield response	Risk of losing money (normal seasons)	Risk with a poor first year
10%	69%	83%
12%	29%	42%
15%	4%	7%
18%	under 1%	under 1%
20%	under 1%	under 1%

Below about 15 per cent the project is fragile. At 18 to 20 it is robust, and can absorb a bad opening year and still pay over seven years. The decision was never about diesel. It was a bet on whether these particular hectares were constrained enough to respond.

The black hat check made the risk honest: failure needs a stack, a modest response, a poor season, weak prices and imperfect execution all arriving together, not one bad number.

The part that mattered: naming the fear before it could ambush me

Here is where good prompting earned its keep. I asked the AI to stress-test the exact thing I was afraid of: a poor first season, straight after writing the cheque.

The poor-first-year arithmetic

A weak opening canola crop, say 1.5 tonnes a hectare at $650, returns only about $195 a hectare of uplift in year one, against roughly $840 a hectare just spent. On paper that looks like a disaster, and it would have felt like one. Yet the same simulation showed that if the true response is strong, the seven-year case stays intact despite that ugly first year.

That is the difference. The AI did not tell me how to feel, or pretend the fear was irrational. It put a number on it: a bad first year would feel terrible, and would not, on its own, be fatal. The fear was named and sized in advance, instead of quietly vetoing a good decision.

The framework it left me with

- **Green light now:** proceed if I genuinely believe the treated hectares deliver 15 to 20 per cent, and the business can carry a poor first year without losing its nerve.
- **Stage it:** if confidence is moderate, cash is tight, or the season looks risky, do the highest-confidence paddocks first.
- **Wait and learn:** if I increasingly suspect the response is only 10 to 12 per cent, or I am not ready to execute the job well, hold off and do more diagnostic work.

The upside, for balance. If the response lands as hoped, about $63,000 invested becomes roughly $130,000 of extra gross revenue over seven years, near $65,000 to $70,000 of added profit. The carrot is real, and so is the risk.

The point for the paper

The AI lifted the analysis as high as I wanted. It still could not make the call. That came down to three things it could inform but not decide: am I confident in the response, can I execute it, and can I live with a bad first year. Two of the three are gut and emotion, not analysis.

Appendix 2: Biases in farm decision making

These are the mental traps that quietly bend a decision. Naming the one you are prone to is half the defence.

Bias	What it is	Farm example
Confirmation	You seek out information that supports what you already believe	Holding wheat and reading only the analysis that says the price will rise
Anchoring	You fix on an early number or reference point	The first tractor quote becomes the basis for the whole machinery decision
Availability	The event easiest to recall feels the most likely	Over-weighting a recent hail or frost when it is actually rare
Overconfidence	Thinking something is better than it is	A block that is not yielding, but you are sure it will come good
Loss aversion	The pain of a loss outweighs the pleasure of an equal gain	Changing a practice feels like a loss, so you do not, and you keep stock too long
Sunk cost	Throwing good money after a past spend	Keeping a header running because of what you have already put into it

What to do about it. The same handful of habits guard against most of these: name the two or three variables that actually matter, deliberately argue the opposite case, ask what you would regret, and use the tools on Appendix 3 before you commit. AI is good at running these checks on demand, as long as you ask it to challenge you rather than agree with you.

Appendix 3: Decision tools

Quick frameworks for checking a decision against your head, your heart and your gut before you commit.

10/10/10

When emotion is running high, ask how you will feel about this decision in 10 minutes, in 10 months, and in 10 years. It pulls a hot decision out of the heat of the moment. From Chip and Dan Heath, Decisive (2013).

The four Ls

When you are stuck on a call, run it through four questions: do I love it, do I like it, can I live with it, or do I loathe it? A decision you can only just live with is a different animal from one you love, and it pays to know which you are signing up for. Adapted from Sam Kaner's Gradients of Agreement.

KASA

A self-check before you commit, across four areas:

- **Knowledge.** Do I actually know enough to make this call, or am I guessing?
- **Attitude.** How do I really feel about it? Keen, reluctant, overwhelmed?
- **Skills.** Can I, and the people I have, actually execute this in the time available?
- **Aspirations.(Motivations)** Does this move me toward what I want for the business and the family, or just away from a problem? Am I motivated to do this ?

Sleep on it

For any big decision, buy yourself some time. The subconscious keeps working on the problem, and things that look tangled at night often resolve by morning. Even trying to figure out a relatively simple problem can be awkward at times. I've often come back the next day with a solution that wasn't clear to me the first time.

Notes

KNOW BEFORE YOU SOW

PREDICTA® B and PREDICTA® rNod

Cereal root diseases and poor rhizobia inoculation decisions in grain legumes cost grain growers in excess of $300 million annually in lost production.

PREDICTA® B and PREDICTA® rNod soil testing services and your accredited agronomist can help you to identify before seeding, the soil borne disease risk in cereals, and whether an appropriate rhizobium inoculant should be applied to grain legume crops.

PREDICTA® B has tests for most soil-borne diseases of cereals and some pulse crops:

- Crown rot (cereals)
- Rhizoctonia root rot
- Take-all (including oat strain)
- Root lesion nematodes
- Cereal cyst nematode
- Stem nematode
- Blackspot (field peas)
- Yellow leaf spot
- Common root rot
- Pythium clade f
- Charcoal rot
- Ascochyta blight of chickpea
- White grain disorder
- Sclerotinia stem rot
- Eyespot.

PREDICTA® rNod has tests for rhizobia:

- Group E and F (lentil, faba bean, pea and vetch)
- Group N (chickpea)
- Groups G and S (lupin and serradella).

Enquire with your local agronomist or visit:

PREDICTA® B
http://pir.sa.gov.au/research/services/molecular_diagnostics/predicta_b

PREDICTA® rNod
https://pir.sa.gov.au/research/services/molecular_diagnostics/predicta_rnod

Government of South Australia
Primary Industries and Regions SA

SARDI
South Australian Research and Development Institute

GRDC
Grains Research & Development Corporation

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AI in the farm business – opportunities, risks and what comes next

Phillip Guthrie

3EC

Key messages

- Artificial Intelligence (AI) is already delivering practical value in farm businesses – reducing information overload, administrative burden and the time spent finding, organising and applying information.
- Beyond answering questions, AI can act as a thinking partner – helping structure decisions, test assumptions, explore scenarios and identify risks that might otherwise be overlooked.
- Context and local knowledge matter when using AI. Human judgement remains critical.
- The next wave of AI will move beyond question-and-answer tools toward agents that monitor information, complete tasks and support workflows – and eventually toward systems that understand the context and constraints of individual farm businesses.
- Data quality, connected systems and clear workflows matter as much as AI capability itself. The businesses that will benefit most are those that manage their information well.
- GRDC's Grain Automate program is building the digital foundations – connectivity, data discipline and integrated workflows – that future AI systems will depend on.

Why AI matters now

For most farm businesses, the reason AI is attracting attention has less to do with the technology and more to do with the environment in which modern farms operate.

Farm businesses are managing more complexity, more information and more uncertainty than ever – while margins tighten and the cost of getting decisions wrong increases. The farmers I speak with are not looking for new technologies to trial. They are focused on keeping the business moving.

Their biggest constraint is not access to information. It is capacity. AI is becoming interesting not because it replaces growers or advisers, but because it offers a different way of working with information – faster, more organised, with less time lost to low-value tasks.

Two conversations about AI

There are really two conversations happening around AI in agriculture. The first centres on practical tools – Large Language Models (LLMs) like ChatGPT, Claude, Gemini and Grok – that answer questions, summarise information and assist with day-to-day tasks. The second happens in research organisations and technology companies, where AI analyses large datasets to identify patterns and improve decision making across whole industries.

Both matter. The opportunity for most farm businesses sits somewhere in between – and that middle ground is what this paper explores. AI is less a single technology than a progression of capability, from tools that help people work with information through to systems that connect with farm data, software, machinery and business processes.

AI today: reducing friction and information overload

LLMs can read faster than humans, compare more documents and search larger volumes of information, presenting results in a format that is easier to act on. The most obvious application is research synthesis: uploading GRDC publications, comparing NVT reports across rainfall zones, or reviewing seasonal outlooks without spending hours cross-referencing. Instead of a GRDC update sitting unread in an inbox, it gets summarised, questioned and applied within the same conversation.

Many growers are also finding value away from the paddock – drafting SOPs, safety documentation, grant applications, meeting summaries and contract reviews. Voice notes can become written records. Paddock observations captured on the go become searchable rather than lost in a notebook. AI can reduce the effort associated with these tasks, freeing up time for activities that create more direct value.

Perhaps the most interesting aspect of current AI adoption is that many of the valuable use cases aren't particularly dramatic.

The value comes from solving small frustrations and removing bottlenecks. Individually minor. Collectively, a surprising amount of friction removed from the business.

AI-assisted decision support: where things get interesting

Beyond working with information, growers are increasingly exploring whether AI can support decision making. Practical examples include:

- uploading a crop photo and asking whether symptoms point to nitrogen deficiency, waterlogging, disease or herbicide damage.
- reviewing a machinery purchase – identifying assumptions, comparing financing options and highlighting risks.
- scenario modelling – exploring the implications of changing fertiliser prices, fuel costs, commodity markets or seasonal conditions.

The value often comes less from the answer and more from the process – structuring thinking, surfacing assumptions, pressure-testing before committing. Ask AI to argue against a decision as strongly as it can, or name the three assumptions it depends on most. That kind of challenge is something most people don't have easy access to, and it can improve the quality of a decision.

Context matters. Recognising a disease from an image is one thing. Understanding paddock history, seasonal outlook, economic thresholds and management implications is another. AI assists with analysis but doesn't automatically understand cash flow constraints, succession planning or business objectives. AI relies heavily on the quality of the information and context it receives.

Many of today's AI systems have been trained on global datasets, not Australian conditions.

Human judgement remains critical and local knowledge continues to matter.

Using AI well: what to be aware of

AI can be confidently wrong

AI produces fluent, coherent responses – but doesn't always signal uncertainty, outdated information or gaps filled with plausible-sounding errors. The output looks like an answer even when it is not. Check carefully before acting, especially where decisions involve:

- money or finance
- chemicals or application rates
- machinery safety
- legal or compliance obligations
- agronomic recommendations
- staff management or employment.

Use AI to support decisions, not to make them.

AI should support advisers, not replace them

Use AI to prepare better questions. Don't use it to replace specialist advice where stakes are high.

Good use: What questions should I ask my agronomist before deciding on a fungicide application?

Poor use: Tell me exactly what rate to apply and when.

Be careful about what you upload

Once data leaves your control, you have limited visibility over how it is used. Think carefully before uploading:

- financial records or budgets
- paddock history or yield data
- machinery performance data
- staff or contractor information
- commercially sensitive operational details

Start with low-stakes tasks

Start where a mistake is easy to catch and the time saving is obvious – administration, summarising documents, drafting correspondence, reformatting information.

The next step: from information to action

Today's AI systems wait for instructions. The next step, Agentic systems, go further – pursuing objectives, completing sequences of tasks and interacting with multiple information sources with less direct supervision. Agriculture has long been promised decision-support systems that would monitor conditions and alert growers when something needed attention. The challenge wasn't data collection. It was turning data into something useful without creating more work.

Imagine a system that monitors weather forecasts, disease pressure and regional surveillance reports, checks crop stage against infection windows, and sends a summary on whether conditions warrant a fungicide conversation with your agronomist. Or one that watches fertiliser prices and grain markets and flags when the input-to-return spread passes a threshold you have set. These systems aren't making decisions – they are identifying when a decision may be needed and presenting relevant information in a form that is easier to assess.

This is already happening among early adopters – growers building workflows that monitor markets, track supply chain developments, or combine farm records and weather data into regular alerts. Currently these still require significant setup and maintenance. As agentic capability matures, that burden reduces and the user's role shifts from managing the process to applying judgement where it matters.

Connecting information: the aggregation challenge

As agentic systems become more capable, the conversation shifts from AI capability to data. Most farm businesses already generate significant information – the problem is that it is scattered. It typically lives across:

- farm management software
- financial systems
- machinery platforms
- weather and agronomic records
- compliance documentation
- emails, notebooks and text messages

An AI system can't analyse information it can't access. The value emerges when those pieces connect – which is why interoperability, data standards and connected systems are becoming as important as AI capability itself.

Farm AI: systems that understand the business

As information connects, AI value shifts. The current conversation focuses on model capability – how intelligent, how accurate. Over time, value will come less from the model and more from the context surrounding it.

For example: Two growers ask the same nitrogen question. A generic AI gives a generic answer. A future Farm AI knows the paddock history, previous crops, soil constraints, rainfall outlook and whether the business is focused on cash flow rather than yield. Two growers, same question, legitimately different answers – not because one is wrong, but because the context is different. The value isn't a smarter model. It is a model that understands your business well enough to give advice that is relevant to your situation.

This mirrors the relationship growers develop with trusted advisers over time – where the longer the relationship, the more useful the advice. Farm AI is an attempt to capture that context in a digital system.

Beyond data sharing: exchanging value and insights

One emerging development – not yet widely discussed – is the possibility of sharing insights without sharing the underlying data.

Data sharing has always carried risk. The deeper problem is control: once data leaves the farm, you have no reliable visibility over how it is used, who accesses it, whether it reaches a competitor, or what it is worth to others. You can't un-share information.

AI may offer a different approach. Rather than sharing raw data, future systems may be able to extract and communicate validated insights or outcomes – without exposing the underlying information. The question shifts from "show me your data" to "has this condition been met?" For example:

- A bank may only need confirmation that certain financial conditions have been consistently met – not access to every paddock record.
- An insurer may need to verify appropriate practices were followed – not detailed management records.
- A supply-chain partner may need to demonstrate compliance with a market requirement – not full operational data.
- Researchers may be able to identify patterns across large populations without accessing any individual farm's raw records.

This concept is still early in development, and governance frameworks are not yet fully formed. But it may offer a pathway where the value in farm data can be shared more broadly without growers surrendering control of information they reasonably regard as their own.

Building the foundations – GRDC's Grain Automate program

Much of what has been described in this paper – such as AI agents monitoring information, Farm AI systems understanding individual businesses, and connected platforms sharing insights across the value chain - relies on digital infrastructure that most Australian grain farms have not yet developed.

In this space, GRDC's Grain Automate is a five-year, $35 million initiative (2023–2028) focused on accelerating machine automation, autonomy and digital intelligence across Australian grain farming. Its goal: 80 per cent of grain growers equipped with the knowledge, skills, data and infrastructure for autonomous field machinery by 2028.

Grain Automate is primarily an automation and connectivity program – but the foundations it is building are the same ones AI depends on. A farm ready for autonomous machinery is a farm significantly better positioned to benefit from AI.

The Farmer's Yarn Facebook community, run by SPAA as part of the initiative, is also a practical resource for growers and advisers.

Looking ahead: Australia's AI opportunity

Most AI systems have been developed for global markets. Australian farming operates under different conditions, economics and production systems – which means locally relevant capability will matter increasingly. The proposed Artificial Intelligence Cooperative Research Centre (AI CRC) is one initiative exploring this space. A bid has been submitted, funding not yet confirmed, but the intent is to develop AI capability better aligned with Australian industries including agriculture.

Conclusion

AI is already delivering practical value in farm businesses today. The technology is no longer a future concept. At the same time, many of the most significant opportunities still lie ahead – as AI moves from answering questions to managing workflows, and from generic responses to advice that understands the specific context of an individual business.

The businesses likely to benefit most won't be those using the most advanced tools. They will be the ones with good records, clear workflows and connected systems. The technology is advancing rapidly. The opportunity now is being ready to take advantage of it.

My follow up questions for the speaker.

Why working on this could be great for your farming business

- Reduce time spent on administration, information management and repetitive tasks, freeing up more time for higher-value activities.
- Improve decision-making by bringing together information from multiple sources and helping identify options, risks and opportunities.
- Better position your business to adopt future technologies, including automation, autonomy and AI-powered decision support tools.

Self-evaluation

- What tasks in your business consume significant time but feel like they add relatively little value?

- What tasks would you prefer not to do, or spend as little time on as you could?

- If a future AI system had access to your farm records, would the data be organised and consistent enough to provide useful insights? Y / N

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

- Identify one repetitive task or workflow where AI could save time and experiment with using AI to support it.
- Review how information is currently captured, stored and shared across the business and identify opportunities to improve data quality and accessibility.
- Develop a basic understanding of emerging AI, automation and digital agriculture technologies through trusted industry programs, events and networks.

Our first action

Our second action

Want to learn more, here are some suggestions

- Grain Automate – grower case studies, webinars, resources and practical examples of automation and digital readiness. https://grainautomate.grdc.com.au
- Experiment with publicly available AI tools such as ChatGPT, Claude or Gemini using low-risk business tasks.
- Speak with advisers, consultants, grower groups and trusted industry networks about practical applications relevant to your farming system.
- Speak to your local Grower Group or Farming Systems Group about practical, farmer-focused AI training.

More about Phillip . . .

Phill Guthrie works at the intersection of agriculture, technology and adoption, with a focus on making AI, farm data and digital tools practical and useful in farm businesses.

He is currently leading the agriculture sector's participation in a bid for a national AI Accelerator CRC, led by the Australian Institute for Machine Learning at the University of Adelaide, and is acting as Interim CEO of the proposed Agriculture Prime coordinating agricultural involvement.

Phill has worked with growers, advisers, industry and government through roles with Birchip Cropping Group, Agriculture Victoria, Nine Creeks Consulting and 3EC. His work focuses on practical technology adoption, farm data systems and decision-making in farming businesses.

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Quick reference guide: getting started with AI on farm

Start with friction, not technology

The best place to start is not "What can AI do?" but: what is taking time, creating frustration, or stopping decisions from moving? Useful starting points include:

- turning notes into emails, reports or plans
- summarising long documents, trial results or meeting notes
- comparing options before making a business decision
- extracting information from PDFs, spreadsheets, maps or shapefiles
- preparing questions before speaking with an adviser
- organising scattered information into a clearer structure.

Practical ways to use AI now

1. Use AI as a thinking partner

Before committing to a decision, try asking AI to:

- compare options and list pros and cons
- identify risks or test assumptions
- argue against the decision as strongly as it can
- identify the three assumptions the decision depends on most
- prepare questions for an adviser
- turn rough notes into a clearer plan.

Example: I am considering whether to upgrade a piece of machinery or continue contracting the job. What factors should I consider, including labour, timing, capital cost, reliability and risk?

2. Use AI to reduce administration

AI can help draft or improve:

- emails and correspondence
- grant applications
- meeting notes and summaries
- job ads and staff instructions
- safety procedures and contractor briefs
- board or bank updates.

This does not replace checking the work. It gives you a better starting point.

3. Use AI to work with messy information

- extract information from PDFs or reports
- turn handwritten or voice notes into action lists
- compare recommendations from different sources
- pull data from files where the original software is difficult to use.

Getting better results

The quality of the answer depends heavily on the quality of the question.

Instead of: Help me with nitrogen.

Try: I am a grain grower on the Eyre Peninsula with wheat at GS31 following canola. The season is drying off and I am deciding whether to apply more nitrogen. What factors should I consider before making that decision?

Better prompts include:

- where you farm and what you grow
- what specific decision you are trying to make
- what information you already have
- what constraints matter – timing, cost, weather, labour
- what kind of answer you are looking for.

Things to be aware of

- **AI can be confidently wrong.** Always check important information before acting on it, especially where decisions involve money, chemicals, machinery safety, legal obligations, agronomic recommendations or staff management. Use AI to support decisions, not to make them.
- **Keep your adviser/s in the loop.**
  - **Good use:** What questions should I ask my agronomist before making this decision?
  - **Poor use:** Tell me exactly what chemical rate to use.
- **Protect sensitive farm information.** Think carefully before uploading financial records, paddock history, machinery data, staff information or commercially sensitive details. Once data leaves your control, you have limited visibility over how it is used.
- **Garbage in, garbage out.** AI becomes more useful when it has better information. The businesses likely to get the most value will be those with good records, consistent data capture, clear workflows and connected systems.

Simple rule of thumb

Start with low-risk, high-friction tasks. Use AI where a mistake is easy to catch and the time saving is obvious. Then build confidence from there.

Notes

Capital spending to manage input supply risk - is it worth it?

James Hillcoat

Pinion Advisory Pty Ltd

Key messages

- This starts with markets, but it is not a market update. The market context matters because it explains why more control may make sense now.
- The pressure point is volatility plus just-in-time supply. A farm can be exposed even when product technically exists somewhere in the chain.
- Price risk and access risk are different. A high price hurts margin. No diesel or fertiliser at the wrong time can derail the whole plan.
- Do not start with the tank or shed. Start with the job that fails if the input is late, then test the cheapest practical way to protect it.
- Storage can make sense, but only if it comes with rules: when it must be full, when to reorder, who decides and how it is funded.

Introduction

Are current market conditions pushing farms to hold more input inventory? This starts with markets, but it is not a market update. We have seen how quickly supply, freight, policy and sentiment can affect both price and availability. The real issue is not forecasting that perfectly. It is knowing what happens if supply turns up late.

Broadacre farming relies on critical inputs arriving inside narrow operating windows. That works when suppliers have stock, freight is available and the chain is moving. It becomes fragile when a whole region wants the same product at once or when there is a disruption, like the recent Iran war.

So the question is not whether a bigger tank or fertiliser shed saves money every year. It is what level of control is worth paying for, and what downside that control protects. Sometimes that is storage. Sometimes it is earlier ordering, firmer commitments, working capital or clearer rules. The aim is to buy resilience, not comfort and ensure we twin that with levelheaded thinking around risk likelihood.

1. The problem: volatility plus just-in-time delivery

This is not a fertiliser or fuel market update, but it does start with the market problem. If the next 10 years look anything like the last few, farms should expect more periods where price, supply and freight all move at once. Just-in-time delivery works when supply chains are flowing. When they are disrupted, pressure shows up fast in both supply and price. The recent war in Iran is a reminder that even a disruption in one part of the system can create real supply pressure.

Just-in-time supply also means importers and exporters are less willing to hold stock and wear inventory risk. More of that risk is now pushed back onto the farm business.

It is also worth remembering that volatility cuts both ways. But if volatility is increasing, or supply shocks are happening more often, then just-in-time input delivery becomes a bigger business risk.

Volatility is not just a price chart. It shows up in changing lead times, product still on the water, sudden price jumps and a rush of buyers trying to lock in at once. That is why a small shift in supply or demand can have a big impact. Think of beer at a barbecue, ten cold beers and ten thirsty people is fine, eight beers and twelve thirsty people changes behaviour quickly!

What to watch	Why it matters to the farm business
Price volatility	affects margin, working capital and the timing of buying decisions
Supply volatility	affects whether product is actually available when needed, not just what it costs
Delivery lead time	long or unreliable lead times can turn a manageable market issue into an operational issue
Allocation and committed stock	product may exist but already be spoken for by earlier orders or higher-priority customers.
Just-in-time dependence	the farm has little buffer when the whole region needs the same input in the same window.

2. Separate price risk from access risk

A useful starting point is to split the problem in two.

- Price risk hurts margin.
- Access risk can stop the job.

The combined risk is when the farm pays more and still has to compromise the operation.

Risk type	What it looks like	Farm consequence	Better response
Price risk	Paying more per litre or per tonne.	Margin squeeze and higher working-capital use.	Budgeting, staged buying, forward pricing where available, and scenario testing.
Access risk (market related)	Product unavailable, allocated, delayed, or not delivered to farm in time.	Missed or compromised seeding, spraying, top-dressing, harvest and freight windows.	Storage, early ordering, firm commitments, minimum stock rules and delivery readiness.
Timing risk (operations related)	The input arrives, but after the job needed to happen.	Yield, quality, labour, contractor and management costs can compound quickly.	Define critical windows and hold enough cover before they arrive – if possible.

Price matters, but so does the cost of not having product when you need it. That is why storage needs to be tested as a resilience investment, not just a price-saving exercise. Grain storage, for example, is rarely justified by price alone. It is usually the broader business benefits that make it stack up.

3. Test whether volatility is becoming a structural issue (or opportunity)

The key question is whether repeated shocks, concentrated supply chains and tighter operating windows are enough to justify changing how the business manages critical inputs.

- Diesel and fertiliser are tied to global energy, shipping and policy settings that the farm cannot control.
- Australia is a price taker in many of these markets and relies heavily on imported fuel, fertiliser and chemical to name a few.
- Fertiliser demand is highly seasonal, so local stress can appear even if the national picture looks manageable.
- Regional depot storage, and shipping delivery slots are key constraints when the job has to happen this week.

The business question is not whether we can forecast the market. It is what happens if the market or supply chain gets it wrong during a critical window. The past 10 years suggest higher volatility, but the key issue is how often that turns into a real supply problem. There may also be patterns that create opportunity, not just risk.

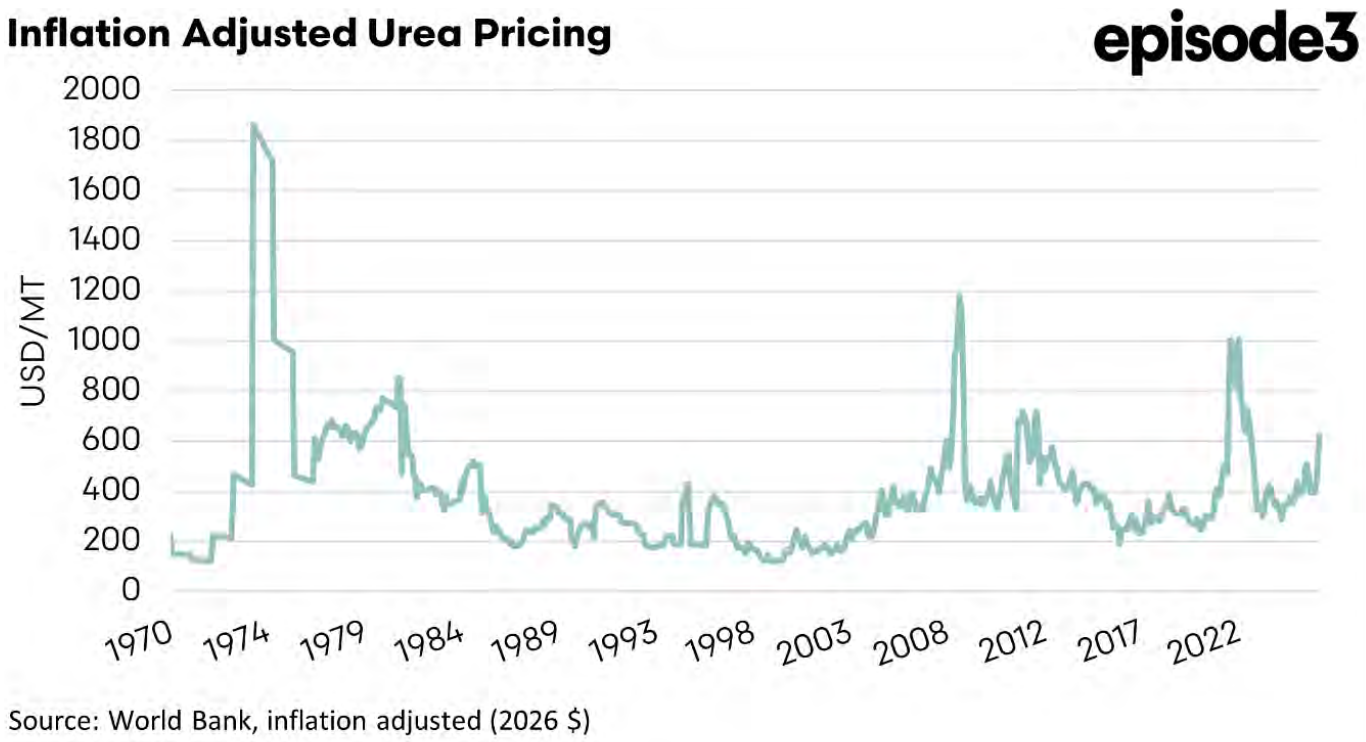

Figure 1. Inflation adjusted urea pricing over the past five decades ($USD per metric tonne). *Source: Whitelaw, A (2026). Urea under pressure: history says brace for impact, 23 March. episode3.*

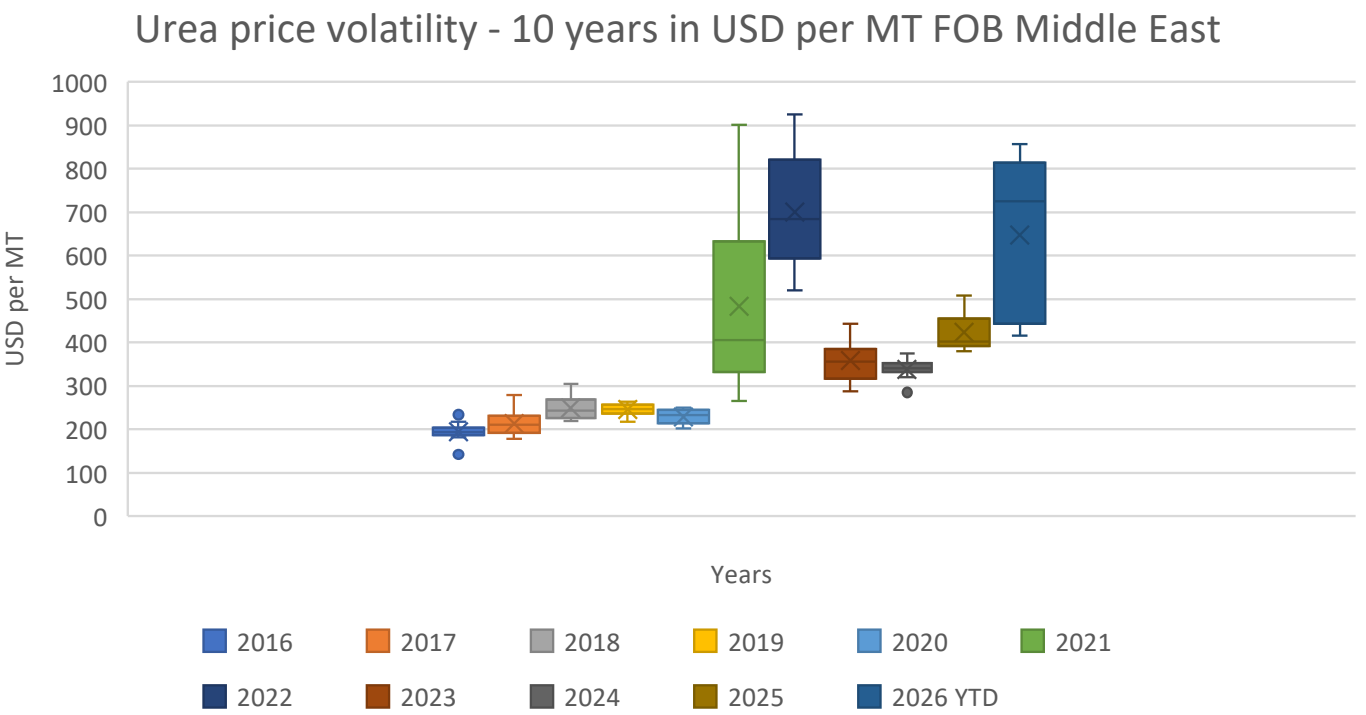

Figure 2. Urea price volatility over the past decade ($USD/per metric tonne, free-on-board Middle East). *Source: World Bank data; chart prepared by James Hillcoat, Pinion Advisory*

4. The business case: what level of control is worth paying for?

This is where the discussion shifts from markets to the farm business case. The question is not whether storage is good or bad. It is whether more control over supply reduces a real downside risk enough to justify the annual cost.

Step	Business question
1. Critical input	Which input would stop or materially compromise the job first: diesel, MAP/DAP, urea, UAN or another input?
2. Critical window	When does it need to be physically available on farm, and how many days/tonnes/litres of cover are needed?
3. Consequence	What is the rough cost of one day, 1 week or 1 month of delay? Think yield, quality, labour, freight and management pressure.
4. Current exposure	Are we exposed to one supplier, one depot, one truck route, one person making the call, or one late ordering pattern?
5. Control option	Can the risk be reduced by reviewing input management rules for the business, earlier ordering, firmer contracts and working capital, or is physical storage needed?
6. Cost test	Does the annual cost of that control stack up against the downside avoided in tight years?

A partial budget approach can provide some simple logic:

- Annualised resilience cost = finance or depreciation cost + maintenance and compliance + working-capital interest + expected losses, shrinkage or handling risk.
- Expected downside avoided = probability of disruption x likely financial consequence x the share of that consequence the control actually prevents.

Do not chase false precision. A sensible range is enough. The main traps are overreacting to the last crisis or dismissing resilience because it does not pay in every average year. The cost of having no fertiliser at all can make a very one-sided business case. But once you factor in how likely that event is, the decision becomes more balanced.

5. When storage is more likely to stack up

Storage is more likely to make sense when...	Storage is less likely to make sense when...
The input is critical to a narrow operating window.	The input can be delayed without much consequence.
The farm is exposed to one supplier, one depot, one road route or unreliable delivery lead times.	The farm is close to several reliable suppliers and delivery can be arranged quickly.
Annual volume is large enough to turn storage over and justify the fixed cost.	Annual volume is too small, creating high capital cost per litre or tonne stored.
Taking early delivery improves access, queue position or operational certainty.	Storage gives comfort but does not materially improve access or timing.
The business has the working capital to fund inventory early without creating other stress.	Inventory would tie up better uses of cash or put pressure on the business.
There is a rule for when it must be full, when to reorder and who owns the decision.	The asset would sit there without a clear operating policy.
There is a multi-use option but it must be complemented by excellent hygiene.	There is a shelf life of the product or poor storage setup (either management, storage system or both).
If the risk to be covered is more likely (i.e. 1 in 3)	If the risk is less likely i.e. >1 in 10

Storage is not automatically the answer. For some farms, the best first step is better procurement discipline. For others, especially where scale, distance, lead time or timing risk is high, storage may be a sensible way to buy more control.

6. Rules may be cheaper than infrastructure

Some of the best risk management happens before any capital is spent. Practical rules might include:

- **Diesel:** decide how many peak-use days must be covered before seeding and harvest. For some farms, that may mean tanks are full by the end of February or enough to cover a peak period of use or key operation.
- **MAP/DAP:** firm up core requirements early enough to give suppliers a clear signal and reduce late allocation risk.
- **Nitrogen:** lock in seeding and first-round requirements early, then revisit second-round or late nitrogen in June using the season, crop potential, soil nitrogen, price and availability.
- **Working capital:** decide how much inventory the business is prepared to carry and what interest cost is acceptable.
- **Post-season review:** record inventory, near misses, late deliveries, supplier performance, panic buys and storage utilisation.

A fuel tank or fertiliser shed does not manage risk on its own. Storage only works when the business has clear rules. Without them, you can pay for the asset and still end up buying late.

7. What should come first?

Order	Option	Why it comes here
1	Clarify the critical window	Work out what actually has to be protected.
2	Set minimum cover rules	Cheap, practical and usually within management control.
3	Improve supplier commitments	Early forecasts and firm orders improve credibility and queue position. It also helps importers work out the demand earlier.
4	Plan working capital	You cannot secure product early if you cannot fund it.
5	Review existing storage	Check whether the current asset is being used properly before building more.
6	Invest in new storage if justified	Only proceed when the risk reduction is real and the annual cost stacks up.

My follow up questions for the speaker.

Why working on this could be great for your farming business

- Improve timeliness - ensure critical jobs happen on time, not when freight finally turns up.
- Owners and managers make calmer decisions before the market gets noisy.
- Suppliers, agronomists and financiers get a clearer picture of what the business needs and when.
- Help sort out what needs a rule, what needs a better contract, and what genuinely needs storage.
- Reduce the chance of spending money on infrastructure that feels good but does not really fix the risk.

Self-evaluation

Thinking about your own / your client's business...

- Are diesel and fertiliser prices becoming more volatile for our business, or are we mainly reacting to the latest event?
- Which input would stop or compromise our operation first?
- What is our most exposed timing window: seeding, spraying, top-dressing, harvest etc?
- How dependent are we on just-in-time delivery? And how well do we understand the supply chain?
- What would a one-week or one-month delay cost us? And how likely is it?
- How heavily do we rely on one supplier, one depot, one delivery route or one decision-maker?
- If we already have storage, do we have a clear rules around its usage or when it should be full?
- Would extra storage reduce the risk, or would earlier ordering and better working-capital planning solve most of the problem?

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

- Map the critical input calendar for next season: product, volume, timing window, supplier, lead time and current storage.
- Put a rough dollar range around the cost of delay for the most exposed jobs.
- Review the last few seasons for late deliveries, allocation issues, panic buys and near misses.
- Set minimum cover and reorder rules before the next procurement cycle.
- Talk to suppliers early about volume, timing, delivery capacity and what makes a customer easier to support in a tight year.
- If considering new storage, annualise the full cost and test it against the downside avoided, not just average-year price savings.

Our first action

Our second action

Want to learn more, here are some suggestions;

- GRDC resources on farm business risk management www.grdc.com.au
- ACCC fuel price monitoring and petroleum market reports www.accc.gov.au/by-industry/petrol-and-fuel/fuel-and-petrol-monitoring
- Fertilizer Australia information on fertiliser markets, logistics, product origins and supply chains www.fertilizer.org.au/
- DAFF updates on fertiliser supply, biosecurity and supply-chain coordination. www.agriculture.gov.au/
- Your agronomist, fuel distributor, fertiliser supplier and bank manager for farm-specific timing, logistics and working-capital assumptions.

References and acknowledgements;

- Department of Climate Change, Energy, the Environment and Water: fuel security and Minimum Stockholding Obligation material.
- Episode 3
- ACCC petroleum market reports and weekly fuel monitoring material.
- Fertilizer Australia: Australian fertiliser market, logistics, production and product-origin material.
- DAFF and ministerial releases on fertiliser supply coordination and recent supply-chain responses.
- ABARES agricultural outlook and Snapshot of Australian Agriculture.
- World Bank commodity market analysis on fertiliser, energy and global trade disruptions.

- Acknowledgement: thanks to Pinion Advisory team for input and feedback

More about James Hillcoat . . .

James Hillcoat is a farm business management consultant and Partner at Pinion Advisory. He works with broadacre and mixed farming businesses across advisory boards, benchmarking, business planning as well as training and development.

James' focus is on making complex farm business decisions clearer, more practical and easier to act on. He has worked with farm businesses, industry groups and government programs across South Australia, with experience in facilitation, strategic planning and business performance analysis.

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‘Filling Your Silo’ – farming in uncertainty

Steph Schmidt
Steph Schmidt – Farm Life Psych

Key messages

- Stress is inherent in our farming life – but not all stress is bad. Our stress response gets us through seeding, harvest, and acute threats. It becomes problematic when it doesn’t switch off.
- Taking care of your own wellbeing silo is vital for each of us. At times, our silos might run low, we need to take active steps to notice and refill it.
- Three emotion regulation systems (Threat, Drive, Soothe) all serve an important purpose, we need to make sure they are working in balance. Threat can empty our silo, soothe refills it, and drive can do both. Getting stuck in threat or drive empties our silos.
- Start with noticing. Notice what response system you are in.
- ‘Find the AND’: Acknowledge, Notice, Do What Matters.

Three Emotion Systems which Fill/Drain our Wellbeing Silo

Source: Gilbert, P. (2009a) *The Compassionate Mind.* London: Constable & Robinson and Oakland, CA: New Harbinger

Introduction

Farming and stress go hand in hand. Drought, fire, floods, rising input costs and other pressures often sit outside our control and add to the load we carry. But not all stress is harmful. In the short term, our stress response helps us through demanding periods like seeding and harvest by sharpening focus and keeping us moving. It becomes a problem when it stays switched on, leaving us overwhelmed or unable to cope.

This session uses the idea of a wellbeing silo to describe our mental, physical and emotional reserves. Like seed stored after harvest, these reserves need protecting and topping up. When we notice our levels are running low, we can choose actions that help refill them. A simple way to understand this is through three emotion regulation systems: threat, drive and soothe. Threat responds to danger and drains the silo, soothe restores it, and drive can either help or deplete us depending on how it is operating. In farming, threat and drive are often necessary, but problems arise when we get stuck in them without enough recovery.

The aim is not to avoid stress, but to notice which system we are in, recognise whether it is filling or draining the silo, and make room for more soothe so we can keep going well.

Not all stress is bad

In acute stress, your body responds to keep you safe and moving. Adrenaline and cortisol keep you alert, energised and ready, through fight, flight or freeze. In healthy amounts, this productive stress sharpens your focus and performance. It tips into unproductive stress when it turns chronic, when you feel overwhelmed, believe you can't cope, or aren't managing it. Left running, it takes a toll on your body, your thinking, and your behaviour.

Stress signposts to watch for

Stress often shows up before things unravel. Watch for early signs in your body, mood and behaviour, and treat noticing them as a cue to reset rather than push harder.

- **Physical:** headaches, gut problems, fatigue, trouble sleeping.
- **Emotional:** short fuse, frustration, feeling flat, or thoughts that life isn't worth it.
- **Behavioural:** drinking or eating more, withdrawing away from people, trouble concentrating, working harder to outrun it.

Three systems, one silo

One simplified but useful way to make sense of how our brain works is the emotion regulation model. Our brain runs three systems, each with a different job, each interacting with the others: threat, drive and soothe.

Threat spots danger quickly and narrows attention to staying safe. Useful in the short term, it drains us when it stays switched on.

Drive helps us pursue goals and get things done. It can fill the silo when it feels purposeful, or empty it when we live in relentless pressure or blocked effort.

Soothe is the recovery system. Slowing down, getting present and connecting with others helps refill the silo and restore balance.

Your wellbeing silo holds your mental, physical and emotional reserves. Threat tends to drain it, soothe refills it, and drive can do either. The goal is not to avoid stress, but to notice what system you are in and make room for enough recovery to keep going well.

Start with noticing

You can't shift what you haven't noticed, so the first skill is a simple, honest check-in:

- Notice where your silo is sitting.
- Notice which system you're operating from: threat, drive or soothe.
- If you're in threat or drive, check how well it's working for you right now. In threat especially, you can make a deliberate effort to refocus and choose a different response.

Two simple ways to shift are using a compassionate mindset and 'Find the AND'.

Activate a compassionate mind

A compassionate mindset draws on wisdom, strength, warmth and non-judgement. A useful shortcut is to ask: how would I speak to a good friend in this situation?

'Find the AND'

When you're stuck on the thoughts and feelings, 'Find the AND' gives you three steps:

Acknowledge the thoughts and feelings you're getting stuck on.

Notice what's present in your body, and what you can pick up through your five senses. This drops you out of your head and back into the here and now.

Do what matters by drawing on what you can actually control right now.

That last step is where it helps to sort what is in front of you, and put your energy where it counts:

Things I can control	Things I can influence	Things outside my control
• My daily routine and habits. • Whether I ask for help. • How I treat the people around me. • What I give my attention to. • How I prepare and plan.	• Family and team conversations. • My business and agronomy plan. • My workload and pace. • My relationships with advisers. • How early I act on a problem.	• The weather and the season. • Commodity and grain prices. • Input, fuel and fertiliser costs. • Interest rates. • Global markets and policy.

When you can't control the outcome, anchor to your values. Ask what kind of farmer, partner and neighbour you want to be, then act from there.

'Topping up the silo'

Soothe is the system we neglect most, so it pays to switch it on deliberately. Small, do-able actions refill the silo:

- slow down and get present,
- connect with someone,
- physical affection (a hug, time with the kids or a pet),
- move your body,
- do something you enjoy,
- eat and drink well, and get some sleep.

Even one small soothe action on a busy day helps. The aim is not to get rid of hard thoughts and feelings, but to make room for them and keep doing what matters.

Why working on this could be great for your farming business

- A ‘fuller silo’ supports clearer thinking and less reactive decision-making under pressure.
- Looking after the operator reduces mistakes, fatigue and safety risk – we can’t sow from an empty silo.
- Protecting wellbeing strengthens the farm business, relationships and life beyond work.

Self-evaluation

Ask yourself:

- What emotion regulation system am I in most days? Threat, Drive or Soothe?
- How full is my silo right now? And is the system I’m running in filling my silo or draining it?
- When did I last genuinely drop into the soothe system, and what did it take to get there?
- What might look different day to day if I also operated the soothe system?

I want to work on this myself (and in our business), what should I do next?

- Do a daily silo check-in: How full is my silo? What system am I operating from?
- Use silo check-ins in team or business conversations.
- When you notice threat, respond with wisdom, strength, warmth and non-judgement.
- Build small soothe habits such as slowing down, connecting or getting present.

Want to learn more, here are some suggestions;

- www.farmlifehandbook.com.au – practical farm stress and wellbeing resources.
- https://rightnow.graingrowers.com.au/now – short mental health video resources.
- Farm Life Psych podcast: www.stephschmidt.com.au/podcast
- Rural Health Connect: www.ruralhealthconnect.com.au
- PIRSA FaB mentors – support available across SA.

References and/or acknowledgements;

- Gilbert, P. (2009a) *The Compassionate Mind.*
- Harris, R. (2008). *The Happiness Trap*
- Flaxman, P. (2012) *The Mindful and Effective Employee*
- Nagoski, E., Nagoski, A., (2020) *Burnout: Solve your stress cycle*

More about Steph...

Steph Schmidt is a psychologist, farmer and mum of three boys, running a sheep and cropping enterprise in South Australia's mid north and mallee regions with her husband. She blends psychological training with lived farming experience to share practical, down-to-earth wellbeing strategies, speaking as a fellow traveller rather than an expert with all the answers. You can find Steph on the Farm Life Psych podcast.

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High performing farm businesses: the people system behind performance

Oli Le Lievre

Humans of Agriculture

Key messages

- High performance is not one model of farming or business - it's a pattern of leadership behaviours that help people make better decisions, take ownership and keep improving.
- The best farm businesses are intentional about culture. They don't leave communication, roles, standards or succession to chance.
- People systems matter as much as machinery systems. Clear expectations, regular communication, simple rhythms and trust create the conditions for good performance.
- The next generation of farm leaders need responsibility, exposure and coaching before the business urgently needs them to step up. This is an act delivered by the current leadership.
- A strong farm story is a commercial asset. Your brand is what people are saying about you when you're not in the room, and is crucial to attract and retain your people.

Introduction

When we talk about farm business performance, the conversation often heads straight to yield, inputs, finance or machinery. Those things matter enormously. But ultimately, the farm businesses that perform consistently over time are also intentional about how they lead people.

This session isn't about telling anyone how to run their farm. It's about sharing observations and stories from some of Australia's leading growers and farm businesses - the things they do that sit underneath the numbers and often go unnoticed.

We'll explore a simple framework built around four things high performing farm businesses tend to do well: create Clarity, build Trust, set Standards and create Opportunity. Not as a checklist, but as a lens to look at your own business and ask some honest questions.

You will leave with a practical framework, a few good questions to take back to your team, and - if it lands right - one conversation you've been putting off that might just be worth having.

The core idea: high performance is a people system

Farm businesses talk about performance through gross margin, return on assets, input efficiency and risk management. All of that is essential. But those results are delivered by people. The quality of conversations, handovers, decisions and communication inside the business determines how well the technical strategy actually gets executed.

Strategy decides what matters. Systems make it repeatable. People make it real. Culture determines what happens when no one is watching.

Framework: Clarity — Trust — Standards — Opportunity

Clarity: People know the direction of the business, what 'good' looks like in their role and where decisions sit. Ask yourself: does every person know what they own, what decisions they can make and what matters most this season?

Trust: People feel safe to speak up early, share mistakes and bring ideas forward. Ask yourself: do issues surface early enough to fix, or only when they become expensive?

Standards: The business has consistent expectations around communication, safety, agronomy and people management. Ask yourself: are standards written, discussed and reinforced - or just assumed?

Opportunity: Emerging leaders get responsibility, mentoring and exposure before succession or growth forces the issue. Ask yourself: who in the business is ready for more, and what would actually help them grow?

What leading farm businesses seem to do differently

They turn values into behaviours. Instead of saying "we value family" or "we value excellence," they define what that looks like in day-to-day choices. Similarly, high performing teams talk openly and often about examples where they aren't living their values.

They make communication a rhythm — toolbox meetings, seasonal debriefs, pre-harvest planning, post-harvest reviews - not a reaction to problems. They separate urgent from important: good operators can be busy every day, but high-performing leaders carve out time for the conversations that prevent future pressure.

They develop leaders before they need them: the next generation gets responsibility in stages, with guidance, not just handed the keys when the older generation is ready to step back. And they know their story - they can tell you why someone would want to work there, stay there and build a career there.

A practical model for developing people on-farm

One useful model for moving from task delegation to real ownership development:

1. **Show me:** explain the job, the standard and why it matters.
2. **Do it with me:** work side by side and coach the judgement behind the task.
3. **Do it while I watch:** let the person lead while you observe.
4. **Do it and tell me what you learned:** shift from task completion to decision ownership.
5. **Teach someone else:** the final proof of understanding is the ability to build capability.

Why working on this could be great for your farming business

- Reduces dependence on one or two key people by building decision-making capability across the team.
- Improves retention and attraction by making the business somewhere people can see a future for themselves.
- Supports succession and growth by developing the next layer of farm leaders before the pressure arrives.
- Teams become better communicators which supports every aspect of a business.

Self-evaluation

- Score your business out of 5 on each of the four drivers: Clarity, Trust, Standards and Opportunity. Where is the gap biggest?
- Name one person in the business who is ready for more responsibility. What would help them get there?
- What's one conversation you've been putting off that would make the business stronger if you had it well?

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

- Sit down with your team (individually and as a group) and find out if your team is clear on what they own, what decisions they can make and what support sits around them to support that.
- Run a team clarity session: What matters most this season, who owns what and what decisions are going to be made.
- Identify areas that you can handover to someone else to support their progression within the business.
- Have the conversation you identified earlier. Have it.

Want to learn more, here are some suggestions

- Humans of Agriculture podcast — https://humansofagriculture.com/stories
- www.humansofagriculture.com — for stories of different career paths, leadership styles and farm business people.
- Legacy by James Kerr (2015) Little, Brown Book Group.
- Where the light gets in by Ben Crowe (2026) HarperCollins Publishers.
- Dare to Lead by Brené Brown (2018) Ebury Publishing.

References and acknowledgements

James Kerr, Ben Crowe, Brené Brown.

More about Oli...

Oli Le Lievre is the Founder of Humans of Agriculture, the talent and storytelling platform helping shape the future of agriculture.

Through podcasts, video, events and content-led recruitment, Humans of Agriculture helps agribusinesses attract, engage and hire ambitious people by bringing their stories, workplaces and opportunities to life.

What began as a podcast has grown into one of Australia's most trusted voices in agriculture, connecting people with the businesses, careers and ideas shaping the industry.

Oli's career has taken him from AgTech start-ups and farming in Australia and Canada to corporate consulting and global agri-food events. Today, he works with industry leaders to elevate stories, strengthen teams and help more people see a future for themselves in agriculture.

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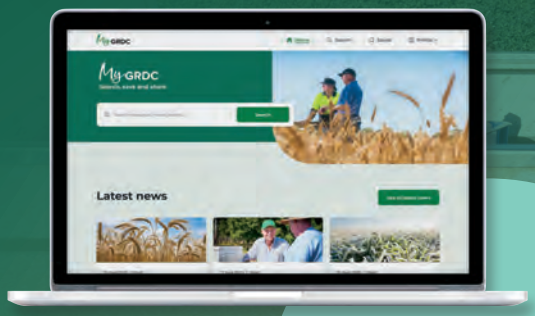
Grain grower, GRDC Southern region



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Assessing the risk and rewards of precision weed management

Megan Star
Star Economics Pty Ltd

Key messages

- Precision weed management is a part of broader weed management, including rotations, timing and application to reduce the impact and herbicide resistance.
- The right technology depends on your farming system. Sensor-based OSST (e.g. WEED-IT) suits large-scale fallow management, camera-based systems (e.g. Bilberry) enable in-crop green-on-green spraying, while drone mapping (e.g. Single Shot/WeedMapper) excels where stubble or speed is a challenge.
- Efficiency gains such as reduced herbicide costs, application costs and increased field efficiency are possible. There are also application gains in other areas such as seed cleaning and seed counts.
- Important considerations include your property layout, scale of application and payment models as to what suits you best.

Photo: Nufarm

Introduction

Weeds cost Australian grain growers an estimated $3.3 billion per year. Herbicide resistance now affects 43 per cent of cropping land, with 49 weed species confirmed resistant to herbicides – 17 of them resistant to glyphosate. These pressures are driving urgent interest in precision weed management technologies that reduce chemical use while maintaining effective weed control.

This presentation reviews optical spot spray technology (OSST) and drone weed mapping in Australian grain production, drawing on six detailed case studies across the southern, northern and western GRDC regions. Technologies examined include sensor-based systems (WEED-IT), camera-based systems with AI capability (Bilberry, for both green-on-brown (GoB) and green-on-green (GoG) spraying) and drone mapping (Single Shot/WeedMapper).

A two-stage economic analysis (partial budget and investment analysis) was applied to each case study. All six showed positive net present values and return on investment ratios ranging from 2.07 to 4.93, with payback periods of 1–3 years. Beyond cost savings, the technologies supported broader goals: crop rotation flexibility, sustainability targets, improved paddock data, and enhanced fallow moisture retention.

Economics of precision weed management

Grower case studies and analysis of precision weed management tech can be found in the GRDC Report: 'The Economics of Precision Weed Management – A review of optical spot spray technologies with six case studies' (June 2025).

My follow up questions for the speaker

Why working on this could be great for your farming business

- **Significant reduction in herbicide spending**. Precision spraying targets only where weeds exist, cutting chemical costs by 60–90% in fallow. With herbicide inputs being one of the largest variable costs in grain production, these savings flow directly to the bottom line.
- **Protect herbicide longevity and manage resistance.** By rotating chemistry more strategically and applying herbicides only when and where needed, growers reduce selection pressure and extend the useful life of key actives.
- **Improved farm productivity and flexibility.** Better fallow weed control increases stored soil moisture at planting (research shows up to 60% of planting moisture comes from fallow management). GoG technology enables higher-value crops such as lentils to re-enter the rotation. Weed mapping data improves paddock decision-making and supports sustainability reporting.

Self-evaluation

- What are your biggest weed management challenges right now – and are they getting worse over time? Have you seen signs of herbicide resistance on your property?
- Currently who and how are weeds managed? i.e. Workers, nursery truck, water tank options.
- Think about how much you currently spend on herbicides in fallow. If you could reduce that and, what would that mean for your farm business? How quickly do you think you could recover the capital investment in a precision spraying system?
- Are there crops or practices you'd like to include in your rotation but can't because of weed pressure? Could precision weed management – including green-on-green technology – make those options viable again?

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

- Audit your current weed management costs: calculate what you spend on herbicides and labour in fallow and in-crop, and map where your biggest weed pressure areas are. This gives you a baseline to compare against the economics of precision technology.
- Research which technology best fits your farming system: consider your scale, boom setup, weed types and rotation. Talk to technology suppliers and other growers who have already adopted the technology. Ask about compatibility and ongoing support with your existing console and sprayer setup.

Our first action

Our second action

Want to learn more, here are some suggestions;

- GRDC Report: 'The Economics of Precision Weed Management – A review of optical spot spray technologies with six case studies' (June 2025). https://grdc.com.au/__data/assets/pdf_file/0023/622805/the-economics-of-precision-weed-management-grdc-250618.pdf
- WeedSmart Big 6 – integrated weed management principles and resources: www.weedsmart.org.au
- WeedSmart – free boomspray investment calculator. Compare alternative tech using your farm figures and requirements. https://www.weedsmart.org.au/content/download-the-free-boomspray-investment-calculator/
- GRDC GrowNotes: Spray Application Manual for Grain Growers – maximising sprayer output accuracy and efficacy. https://grdc.com.au/resources-and-publications/grownotes/technical-manuals/spray-application-manual

References and acknowledgements;

- Star, M. & Brown, J. (2025). The Economics of Precision Weed Management – A review of optical spot spray technologies with six case studies. GRDC Report SRE2310-001SAX. Grains Research and Development Corporation, Kingston ACT.

- This presentation draws on research funded by GRDC (project SRE2310-001SAX). Case study growers: Tim Rethus (Horsham), Warakirri Cropping (Donald & Merredin), Single Agriculture/Narratigah (Coonamble), Wade Bidstrup (Warra), Jordan Billsborough/MCA (Goondiwindi).
- Julia Brown- Upstream Communications.

More about Megan . . .

Opportunity is the currency of Life - after graduating from Agricultural Economics at the height of the Millenium drought, Megan headed from the Riverina to the Northern Territory to work in the grazing industry. Then moving to Queensland, Megan worked across grains, sugarcane and grazing for the Department of Primary Industries and then the University while she completed her PhD.

With 17 years working across a number of industries, Megan's work has consistently focused on understanding the economic dimensions of land management decisions. She now has her own research consultancy and property where she continues to work across agriculture and natural resource management.

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Precision weed management tech – grower perspectives

Local growers share their perspective on the fit of precision weed management tech in their farming system, including;

- assessing the risk/reward,
- benefits, challenges and practical considerations,
- impact from a farm business management perspective.

Grower perspectives	Location	System
Tristan Baldock, Karinya Ag	Buckleboo & Kimba, EP	HARDI GeoSelect
Andrew Baldock, Tola AG	Kimba, EP	Stoll 36m trailing sprayer with WeedSeeker® 2
Paul Jarrett, Jarrett Farming	Maitland, YP	HARDI GeoSelect

Tristan Baldock

Karinya Ag

Business snapshot

- 10,000 hectares at Buckleboo & Kimba on the upper Eyre Peninsula in South Australia.
- 100% cropping: wheat, barley, lentils, peas and canola.
- 290 mm average annual rainfall.
- Soil types include red sandy loams, white non-wetting sands, heavy red chromosols and heavy grey calcareous loams.

Precision weed management

For 18 months, Karinya Ag have been running drone weed mapping technology (HARDI GeoSelect) as part of their approach to weed management. Problem weeds include barley grass in crop, and the usual suite of summer/autumn weeds that take some killing including thistle, caltrop, fleabane, nightshades and skeleton weed.

System	HARDI GeoSelect
Initial investment	Around $150,000
Other costs	• No ongoing subscription outside of RTK signal through Starlink. • Ongoing mapping costs as required - each new application requires a drone map to be created georeferencing each weed.

More about Tristan . . .

Located at Buckleboo and Kimba in the upper Eyre Peninsula of SA, Karinya Ag is the cropping operation of Tristan & Lisa Baldock, along with father Graeme – who is still active but semi-retired, and mother, Heather, who contributes at board level. The 10,000 hectare enterprise also involves two full-time employees and a couple of casuals for busy periods.

Andrew Baldock

Tola AG

Business snapshot

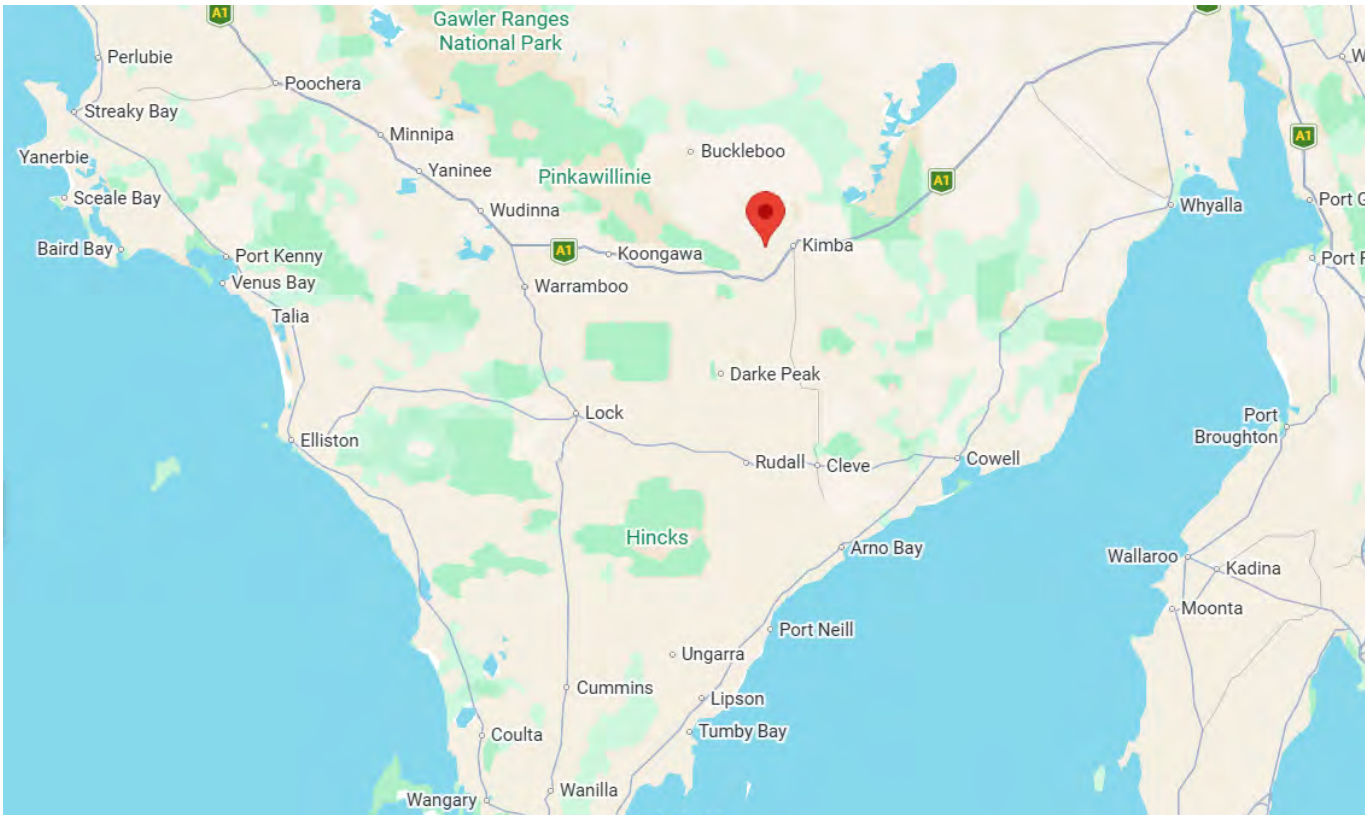
- 7,000 hectares at Kimba on the upper Eyre Peninsula in South Australia.
- Enterprises include broadacre cropping (wheat, barley, lentils, canola) and a self-replacing merino flock.
- 330 mm average annual rainfall.

Precision weed management

For four years Tola AG's weed management strategy has included running a Stoll 36m trailing sprayer with WeedSeeker® 2 (sensor-based technology). The set up includes dual tanks and a standard wet line for spot spraying, blanket spraying or both simultaneously.

Problem weeds include Marshmallow, caltrop, melons, fleabane, 3 corner jacks and Afghan thistle.

System	Stoll 36m trailing sprayer with WeedSeeker® 2
Initial investment	$400,000
Other costs	• No ongoing subscription costs applicable.



More about Andrew . . .

Farming in partnership, Tola AG is the broadacre cropping and self-replacing merino operation of Andrew & Dale Baldock. Located at Kimba in the upper Eyre Peninsula of SA, the 7,000 hectare farm business also involves father, Jeff, and three full time employees.

Paul Jarrett

Jarrett Farming

Business snapshot

- 4,700 hectares around Maitland on the Yorke Peninsula in South Australia.
- 100% cropping: lentils 40%, bread wheat 30%, durum wheat 15%, barley 5% and canola 10%.
- Average annual rainfall is 270 mm to 470 mm for farm blocks spread across 90km in both low and high rainfall areas..

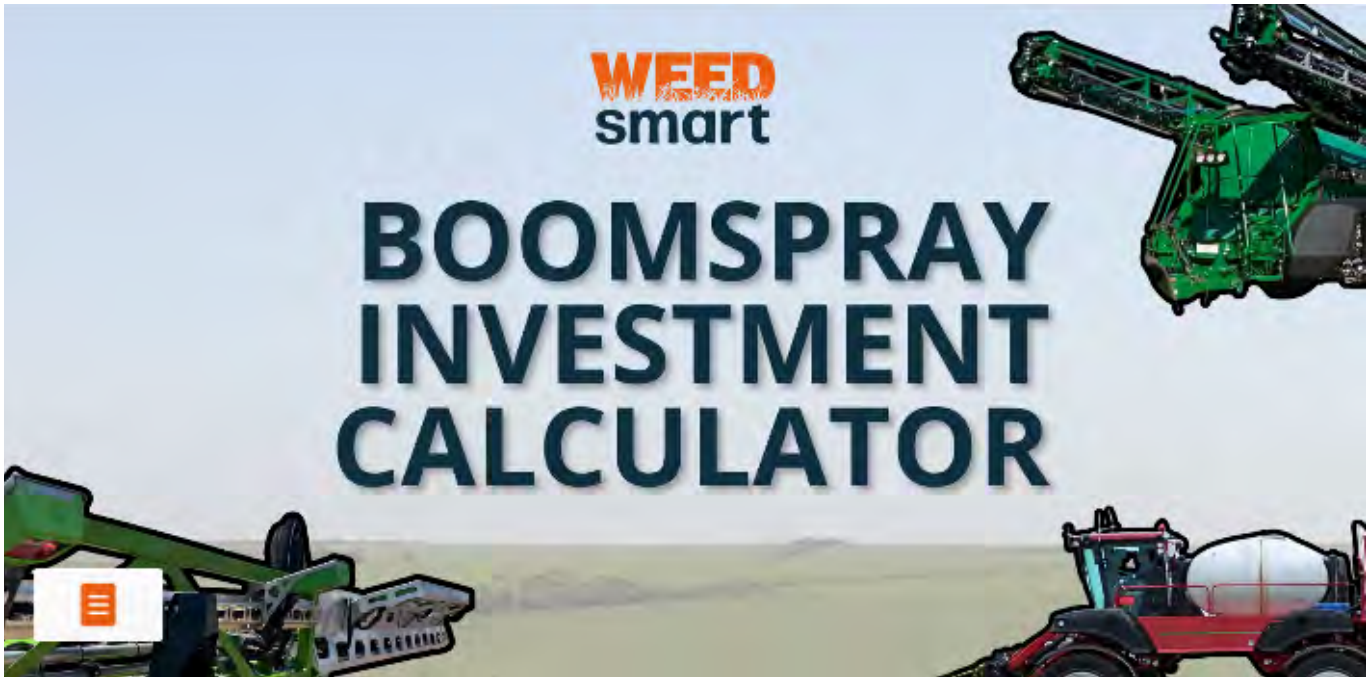
Precision weed management

Jarrett Farming have been running a HARDI GeoSelect system for around 4 years as part of their approach to weed management. Some of the hardest problem weeds to kill include ryegrass, fleabane, Star of Bethlehem and windmill grass.

System	HARDI GeoSelect
Initial investment	$120,000
Other costs	• Mapping $6/ha per application.

More about Paul . . .

Located 5km east of Maitland on the Yorke Peninsula, Jarrett Farming is the 100% cropping operation of Paul and Carly Jarrett. The 4,700 hectare enterprise also involves three full time employees and one or two seasonal casuals.



This interactive tool allows you to compare different scenarios on your own farm, to find the spraying set up that suits you best.

Download the free boomspray investment calculator

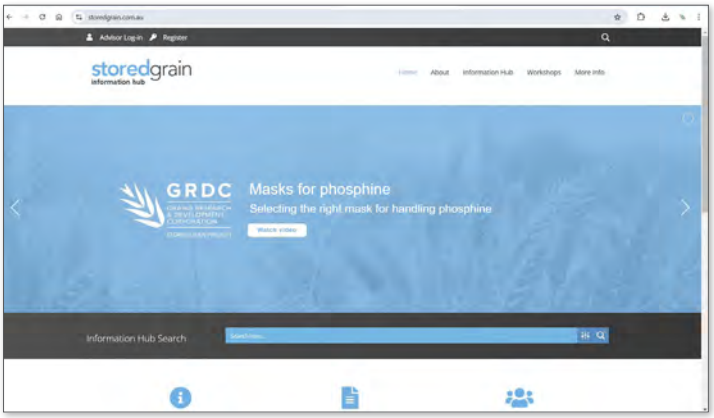
Notes

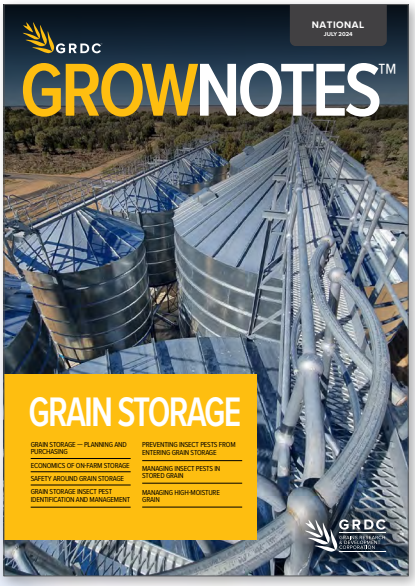
STORED GRAIN

Call the National Grain Storage Information Hotline **1800 WEEVIL (1800 933 845)** to speak to your local grain storage specialist for advice or to arrange a workshop.

Find the latest stored grain information online at

storedgrain.com.au





The complete manual for on-farm grain storage:

GRDC GrowNotes - Grain Storage

July 2024

storedgrain.com.au

The Stored Grain Information Hub is a GRDC investment.

SOUTHERN PANEL

2025-27 GRDC SOUTHERN REGIONAL PANEL

ANDREW RUSSELL
PANEL CHAIR

Rutherglen, Victoria

Andrew is the director and a shareholder of Lilliput AG, and managing director of Baker Seed Co, a family owned farming and seed-cleaning business. He has served on GRDC's medium rainfall zone Regional Cropping Solutions Network and has held leadership roles with Riverine Plains Inc, Victorian Farmers Federation and the Rutherglen Group of fire brigades.

PRU COOK
DEPUTY CHAIR

Dimboola, Victoria

Raised on a mixed farm in Victoria's Wimmera region, Pru has spent her professional career working in extension for the grains industry. Starting her career at the DPI, she has worked at GRDC and the Birchip Cropping Group, managing a number of extension projects. In recent years she has managed her own business specialising in extension, project development and project management.

TIM MCCLELLAND

Birchip, Victoria

Tim farms with his wife, father and aunt on a 6500-hectare mixed property in the southern Mallee. After completing his Bachelor of Agriculture and Commerce at the University of Melbourne in 2006, he took on work at Advisor Edge, Birchip Cropping Group (BCG) and RMCG. In 2011, he moved back to Birchip to become formally involved in the family farm and continue his role with BCG.

RUTH SOMMERVILLE

Burra, South Australia

Ruth is an agroecologist who runs a consulting business. She has a Bachelor of Science in Ecology and Master of Applied Science in Wildlife Management from the University of Sydney, and has worked in sustainable agriculture research, development and extension and property management since 2002. Ruth has been the Upper North Farming Systems Group Operations Committee Member in recent years.

ANDREW WARE

Port Lincoln, South Australia

Andrew is a research agronomist who started his career with the South Australian Research and Development Institute (SARDI) and then spent time at CSIRO in Adelaide. This was followed by 10 years away from research, managing the family farm on the Lower Eyre Peninsula, before returning to SARDI. In 2019, he started his own research company, EPAG Research, delivering applied research across the Eyre Peninsula.

DR KATHY OPHEL-KELLER

Adelaide, South Australia

Kathy is a strategic science leader with a strong track record in developing and leading national research programs with industry co-investment, including GRDC. Her own research background is in plant biosecurity and molecular detection of plant pathogens and she has a strong interest in capacity building and succession planning. Kathy is a former acting executive director of SARDI and a research director at Crop Sciences, covering applied research on plant biosecurity, crop improvement, climate risk management, water use efficiency and crop agronomy.

WAYNE BURTON

Halls Gap, Victoria

Dr Wayne Burton has worked as an agricultural scientist and oilseeds breeder with over three decades of leadership across public and private sector research and development. Holding a PhD from the University of Melbourne and a Bachelor of Agricultural Sciences (Honours) from the University of Adelaide, he has played a pivotal role in the advancement of canola and mustard breeding and development in Australia.

MAX YOUNG

Ardrossan, South Australia

Max Young farms at Ardrossan on the Yorke Peninsula. He has more than 40 years' experience growing predominately wheat barley and lentils. Max holds a Roseworthy Diploma in Agriculture and is a graduate of the Australian Institute of Company Directors (GAICD). He has served in leadership roles in both the South Australian No Tillage Association SANTFA and South Australian Grains Industry Trust (SAGIT) and is keenly interested in improving sustainable production through research. Max understands the importance of local grower groups as a conduit between researchers and growers.

ADAM HANCOCK

Naracoorte, South Australia

Adam Hancock is a High Rainfall Zone agronomist with Elders, based in south-east South Australia. He has 15 years of experience advising grain growers to improve productivity and profitability through evidence-based agronomy and precision agriculture. He provides agronomic advice across a wide range of farming systems and environments, supporting clients with both in-season decision-making and long-term planning.

GRETA DUFF

Inverleigh, Victoria

Greta Duff graduated from the University of Melbourne with a Bachelor of Agriculture, spending part of her studies at Dookie College. She began her career in the dairy industry before joining Southern Farming Systems (SFS) in 2020. Since then, Greta has led and contributed to a wide range of projects, particularly with GRDC, and is passionate about supporting the next generation of growers. Through her involvement with the Young Agricultural Professionals Network, she actively works to promote and retain young people in the agricultural industry.

RON OSMOND

General Manager of Strategy & Business Development

Prior to joining GRDC in 2013, after completing a PhD in Agricultural Science, Ron worked in scientific and management roles in Intellectual Property Development and Commercialisation in the private sector. Ron's interest and expertise is in the translation of Research and Development into adoptable outcomes for Australian grain growers.

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Acknowledgements

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

- The local GRDC Farm Business Update planning contributors.
- AIR EP
- YP AG

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GRAINS RESEARCH
& DEVELOPMENT
CORPORATION

We love to get your feedback

Leave your feedback online - scan the QR with your phone camera.

OR use the form on the next page – tear it out and drop at the registration desk as you leave. Thank you!

2026 Kimba/Kadina Farm Business Updates feedback

1. Name

ORM and/or GRDC has permission to follow me up in regards to post event outcomes.

2. Location of Update

- ❑ Kimba
- ❑ Kadina

3. Industry role? *(choose one only)*

- ❑ Grower
- ❑ Agronomic adviser
- ❑ Farm business adviser
- ❑ Financial adviser
- ❑ Communications/extension
- ❑ Grain marketing
- ❑ Farm input/service provider
- ❑ Banking
- ❑ Accountant
- ❑ Researcher
- ❑ Student
- ❑ Other* (please specify)

Your feedback

Please rate each presentation you attended in terms of relevance and quality
(10 = totally satisfactory, 0 = totally unsatisfactory).

4. Tools for practical decision making. *Bill Long*

Content relevance /10 Presentation quality /10

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

5. AI in the farm business. *Phill Guthrie*

Content relevance /10 Presentation quality /10

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

6. Building storage to manage input supply risk. *James Hillcoat*

Content relevance /10 Presentation quality /10

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

7. 'Filling your silo' - farming in uncertainty. *Steph Schmidt*

Content relevance /10 Presentation quality /10

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

8. High performing farm businesses – inspiration from Australia's leading growers. *Oli Le Lievre*

Content relevance ☐ /10 Presentation quality ☐ /10

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

9. Precision weed management tech – assessing the risk/reward. *Megan Star with Tristan Baldock & Andrew Baldock (Kimba) | Paul Jarrett (Kadina)*

Content relevance ☐ /10 Presentation quality ☐ /10

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

Your next steps

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

11. 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

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

Strongly agree	Agree	Neither agree nor Disagree	Disagree	Strongly disagree
❑	❑	❑	❑	❑

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