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6TH TO 10TH JULY 2020

FARM TO PROFIT FARM BUSINESS UPDATE



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FARM TO PROFIT FARM BUSINESS UPDATE



ONLINE DELIVERY Wimmera, Western District and South East South Australia

6th to 10th July 2020

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**GRDC Farm Business Update online
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NEW BOOK FOR
LOW RAINFALL
GROWERS IN
AUSTRALIA

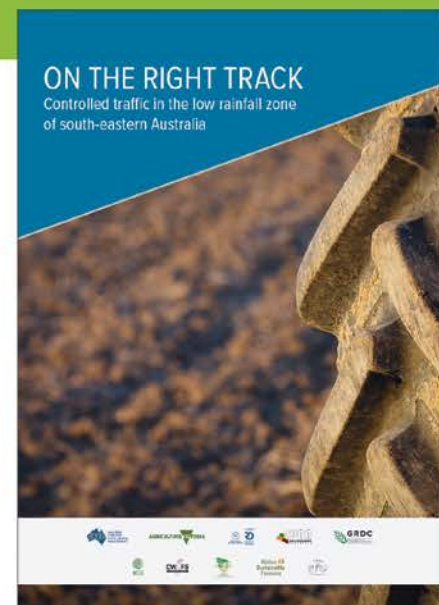
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- » IS CTF COMPATIBLE WITH LIVESTOCK IN THE SYSTEM?

ON THE RIGHT TRACK

Controlled traffic in the low rainfall zone of south-eastern Australia



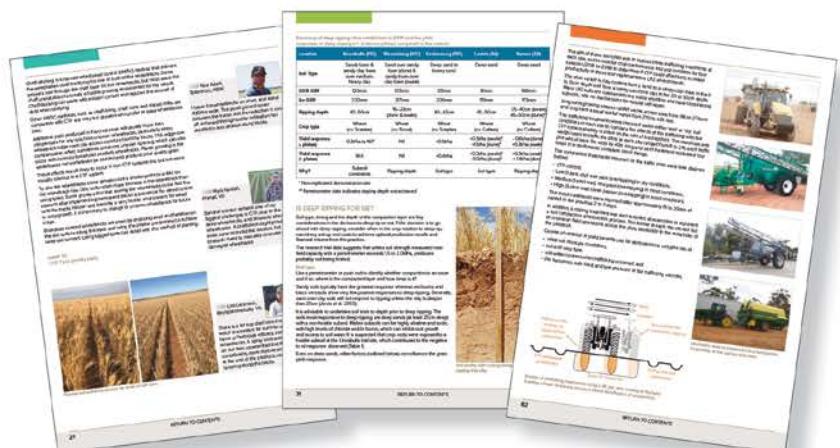
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- » Study investigations

all relevant to the implementation of Controlled Traffic Farming in Low Rainfall Zones





GRDC Farm Business Update online Wimmera, Western District and South East South Australia



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Potential high-risk paddocks:

- Bare patches, uneven growth, white heads in previous crop
- Paddocks with unexplained poor yield from the previous year
- High frequency of root lesion nematode-susceptible crops, such as chickpeas
- Intolerant cereal varieties grown on stored moisture
- Newly purchased or leased land
- Cereals on cereals
- Cereal following grassy pastures
- Durum crops (crown rot)

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

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- 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



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- **Hard copy** – Freephone **1800 11 00 44** and quote Order Code: GRDC873
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Economic Outlook – Agriculture and the global supply chains

Presented by John Crosbie

Crosbie Assoc Consulting

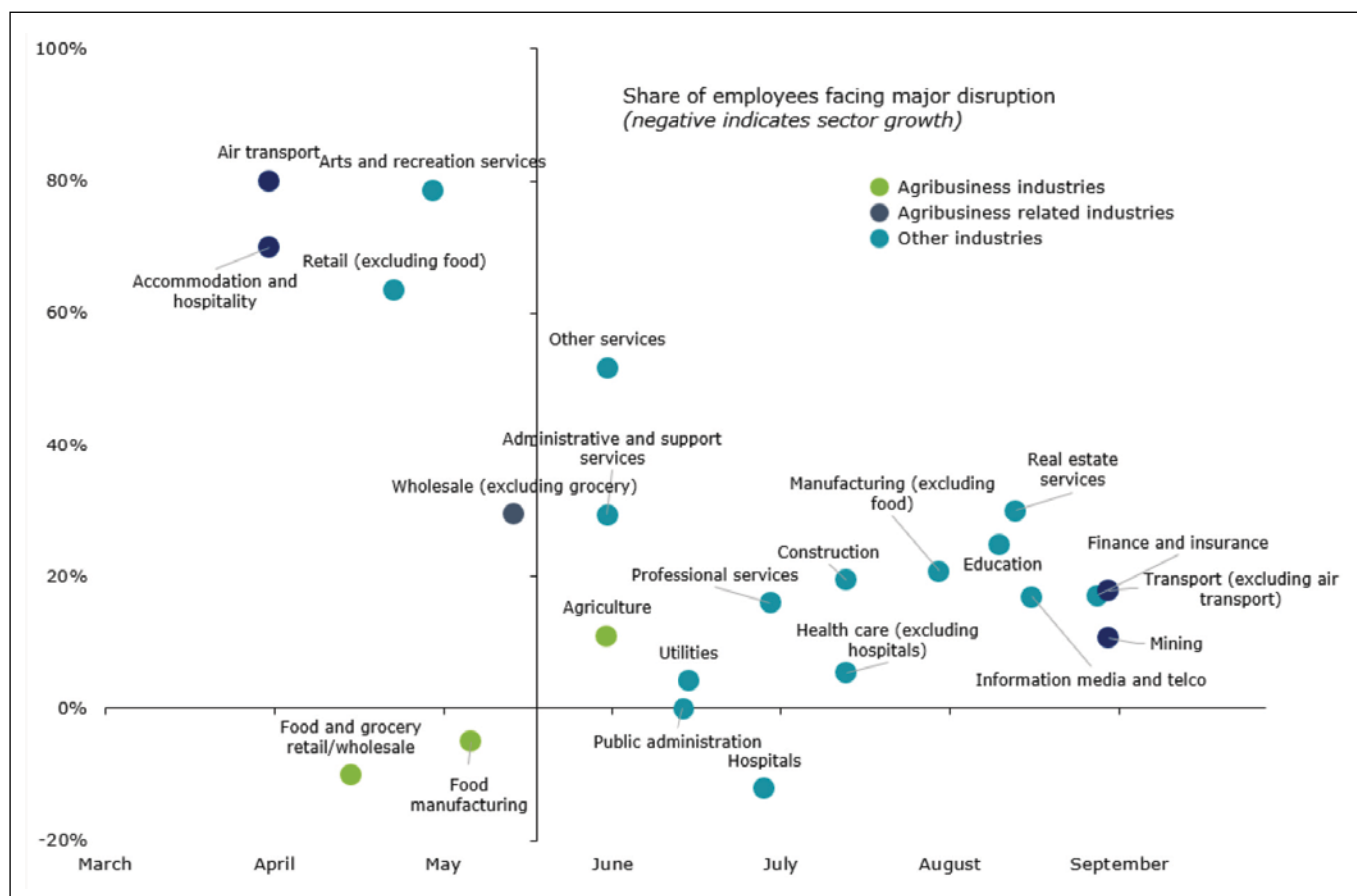
For further reading refer to;

The Agribusiness Bulletin – Deloitte Access Economics

The *Agribusiness Bulletin* focuses on national and local industry, as well as cross-industry insights and trends. This includes some of the drivers we expect to shape the future of the industry and potential challenges that may arise. To get more articles like this delivered straight to your inbox, subscribe to the *Agribusiness Bulletin*.

Australian Agribusiness: a quiet achiever in a troubled economy.

<https://www2.deloitte.com/au/en/pages/consumer-industrial-products/articles/australian-agribusiness-quiet-achiever-in-troubled-economy.html>



Note: Figure charts jobs at risk (vertical axis), relative to period of expected peak impact; Source: Deloitte (3 April)



My follow up questions for the speaker; _____

Want to learn more, here are some suggestions;

References:

1. Rabobank (2020), "Coronavirus and agriculture – how worried should we be?"
2. Sainsbury, M (2020) Australian wine exports to China down 90% as coronavirus takes its toll
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13. ABARES, Agricultural Commodities 2020



More about John . . .

John Crosbie is a private consultant with an industry background heavily involved in the grains industry including previous role as the General Manager Supply Chain Operations with AWB.

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Notes



Notes







NVT tools

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Managing volatility and risk inside and outside the farm gate

Cam Nicholson, Nicon Rural, Rebekah Starick, Pinion Advisory and Phil O'Callaghan, ORM Consulting & Communications

Perceptions of Agricultural Risk

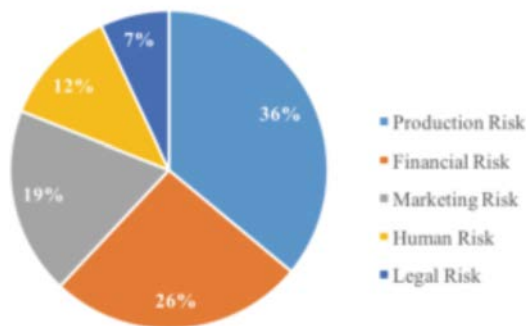


Figure 1. Random parameter logit (RPL) preference shares for risk areas.

Key Messages:

- ▶ We can have downside risk (the loss, which most of us think about) but there is also an upside - how often do we get big prices or yields.
- ▶ Risk lies in the extremes not the averages
- ▶ Risky variables have a high degree of volatility
- ▶ Risk statements describe your opinion about the future, but we can help inform what those odds should be by studying the past.

Introduction

Risk has two parts – how often it occurs (the frequency) and the value, amount or impact - e.g. there is a 1 year in five chance we will achieve a 2 t/ha wheat crop, there is only a 10% chance we will get \$7.00 / kg for lamb etc.

Risk exists inside the farm gate where the production risks are felt, crop rotations being one key aspect of the farming system that plays a role in risk management. Outside the farm gate, there are a different set of risks that are to be understood and managed, such as market fluctuations. To manage the downside risk we look to:

- Identify the key risks;
- Analyse the impacts – what would result if a specific scenario were to occur
- Analyse the frequency or the probability of that scenario occurring
- Determine whether the impact is catastrophic, critical or important.
- Prepare a mitigation plan, in the event the risk is realised.



What are the big production risks – inside the farm gate

Some of the significant risks include factors which can affect yields and input costs (such as weather, pests or disease for cropping). It is important to remember:

- o Each production zone, (region and soil type) has a different yield range or distribution of yield about the average . This can be seen on farm through yield volatility
- o Yields, input costs and commodity prices are not always normally distributed about a mean and can be skewed.
- o We can use this data to 'frame the odds'and create risk statements

What are the big risks – outside the farm gate

Commodities & commodity markets are exposed to several functional risks which affect commodity price;

- Breadth of the market – the number of different markets
- Depth of the market – the volumes of tonnes transacted
- Geo-political risk – international market political intervention
- Access to alternate distribution – ease of access to alternate markets
- Storage capabilities – access and length of time to manage market price fluctuations
- Counter party risks – late or default payment

Summary

The risk profile of each individual farm business 'inside the farm gate' is different and consequently their management strategies vary greatly. Outside the farm gate the risks affect businesses more uniformly as they result from external factors, however, the strategies to manage those risks can still vary greatly from farm to farm. The key is to identify and manage the risks you know will have an instant and immediate impact, and that present significant challenges to your business. The risks themselves, are mostly outside of our control but "Hope" is not a viable farm business strategy, so it is important to focus on the management planning and strategies to be implemented to manage those risks. As this is what will determine the resilience of the farm business to withstand the downside risk events when they occur.

My follow up questions for the speaker; _____



Self evaluation;

I feel that I have a good understanding of my key risks inside the farm gate?

Yes _____ No

For the risks that you have identified can you immediately think of ways in which you could react if the events occurred? List the risks and the mitigants.

I feel that I have a good understanding of my key risks outside the farm gate?

Yes _____ No

For the risks that you have identified can you immediately think of ways in which you could react if the events occurred? List the risks and the mitigants.

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

- Identify the key risks and think about how you are already managing these.
- Think about whether there are additional actions you could implement in the business to improve its resilience.
- Are there risks that are not well managed, detail those and research industry information on how peers or industry are approaching their management of those risks.
- Seek input or assistance from technical expertise if the risk is difficult for you to manage independently.

What are the potential benefits of taking action to implement objective risk analysis;

- More immediate response to events, as there is a plan for dealing with the risk.
- Increased planning and preparation within the business to withstand the critical risk events.
- Reduces the incidence of critical decision making under extreme high-pressure circumstances. The response is already partly formulated and can be implemented as the “Plan B”.



Our First Action _____

Our Second Action _____



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LOOK AROUND YOU.
 1 in 5 people in rural Australia are currently experiencing mental health issues.



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The GRDC supports the mental wellbeing of Australian grain growers and their communities. Are you ok? If you or someone you know is experiencing mental health issues call *beyondblue* or Lifeline for 24/7 crisis support.

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Lifeline
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www.lifeline.org.au



Looking for information on mental wellbeing? Information and support resources are available through:

www.ifarmwell.com.au An online toolkit specifically tailored to help growers cope with challenges, particularly things beyond their control (such as weather), and get the most out of every day.

www.blackdoginstitute.org.au The Black Dog Institute is a medical research institute that focuses on the identification, prevention and treatment of mental illness. Its website aims to lead you through the logical steps in seeking help for mood disorders, such as depression and bipolar disorder, and to provide you with information, resources and assessment tools.

www.crrmh.com.au The Centre for Rural & Remote Mental Health (CRRMH) provides leadership in rural and remote mental-health research, working closely with rural communities and partners to provide evidence-based service design, delivery and education.

Glove Box Guide to Mental Health

The *Glove Box Guide to Mental Health* includes stories, tips, and information about services to help connect rural communities and encourage conversations about mental health. Available online from CRRMH.



www.rrmh.com.au Rural & Remote Mental Health run workshops and training through its Rural Minds program, which is designed to raise mental health awareness and confidence, grow understanding and ensure information is embedded into agricultural and farming communities.

www.cores.org.au CORES™ (Community Response to Eliminating Suicide) is a community-based program that educates members of a local community on how to intervene when they encounter a person they believe may be suicidal.

www.headsup.org.au Heads Up is all about giving individuals and businesses tools to create more mentally healthy workplaces. Heads Up provides a wide range of resources, information and advice for individuals and organisations – designed to offer simple, practical and, importantly, achievable guidance. You can also create an action plan that is tailored for your business.

www.farmerhealth.org.au The National Centre for Farmer Health provides leadership to improve the health, wellbeing and safety of farm workers, their families and communities across Australia and serves to increase knowledge transfer between farmers, medical professionals, academics and students.

www.ruralhealth.org.au The National Rural Health Alliance produces a range of communication materials, including fact sheets and infographics, media releases and its flagship magazine *Partyline*.



Utilising profits effectively to optimise returns and business outcomes

Paul Blackshaw.

Meridian Agriculture.



Key Messages:

- ▶ Personal and business goals assist when making decisions about the allocation of profit.
- ▶ The stage of the business within its life cycle will influence the prioritisation of objectives.
- ▶ You need to be able to generate greater than the cost of funds (loan interest) somewhere else in the business to make that a better investment than paying off debt.
- ▶ Investment analysis tools require the use of assumptions and will only be as accurate as those assumptions.
- ▶ Operational and capital returns can be analysed independently of each other.
- ▶ Total Plant Machinery and Labour (TPML) can be a useful measure to analyse the efficiency of plant, machinery and labour efficiency.

Introduction

Personal and business goals will assist when making decisions about the allocation of profit. Consult the strategic plan and if you don't have one then outline the long-term objectives you would like to achieve. Know what the end game is. This might be different for various generations within the family business. Discuss, agree and document on shared goals and strategies. This can help take emotion and conflict out of decisions. The stage of the business within its life cycle might influence this. Remember that time is your friend when provisioning. If you start early, the yearly commitment is not as great.



Investments should be considered against the following criteria;

- o Increase productivity - profitably. (might include major costs like sub soil manure & lime & gypsum, ripping,
- o Reduce labour or make tasks more efficient
- o Reduce fuel or other energy use
- o Reduce risks – safety
- o Reduce risks – timeliness of operation
- o Might increase the resilience of the business in dry years – ie. reticulated water, hay storage, irrigation schemes
- o Might allow more effective marketing – ie. on farm grain storage
- o Enable improved timeliness of operations - one of the key drivers of profit in cropping businesses
- o Bring expertise into the business
- o Cashflow impact/implications
- o Tax implications – this should be considered in conjunction with the above and not in isolation.

Tools that can assist with decision making;

- o Net Present Value (NPV)
- o Internal Rate of Return (IRR)
- o Benefit Cost Ratio (BCR)
- o Years Break Even (YBE)

Tools require the use of assumptions and will only be as accurate as those assumptions – be aware of overstating the benefits which could cloud the decision-making process.

What will the business need to provision for into the future?

- o Succession
- o Retirement
- o Education of children
- o Operational capital investment
- o Developmental capital investment

Investing outside the core farm business operations.

Investing outside the business can include property (residential, commercial), shares, superannuation, cash/term deposit, farm management deposits, managed investment, bonds, collectables. Consider the investment time frame and consider how easily the investment could be liquidated if required. Critically analyse the risk of the investment and whether you will be reliant on the management of 3rd parties for the generation of returns. Investing in shares requires that you invest in the capability of the business and its management to generate profits. Investing in real estate relies on rental or lease of the premises and having a tenant that can continue to meet their obligations.



My follow up questions for the speaker; _____

Self evaluation;

When analysing how to invest profits do you complete any investment analysis?

Yes _____ No

How effective do you believe your decision-making process is for allocating profits?

Have you analysed your total plant, machinery and labour efficiency?

Yes _____ No

Do you have investment criteria, when considering additional plant and equipment or off-farm investments in your business?



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

- Measure the TPML efficiency for your business.
- Establish the longer-term objectives for the business and what needs to be provisioned for.
- Outline a list of priorities you would like to achieve over the next 1-5 years.

What are the potential benefits of taking action to implement objective investment analysis;

- Investment is allocated to the areas where returns are maximised.
- Benchmarks can be set for investment decisions which assist with reducing complexity.
- Investment analysis tools can be used to critically analyse the competing investment options and reduce conflict between decision makers.

Our First Action _____

Our Second Action _____





More about Paul . . .

Paul is a farm business advisor with Meridian Agriculture. He is a specialist in farm business economics with experience in financial analysis, benchmarking, leadership, industry extension projects, rural financial counselling, strategic leadership and planning. Paul holds a Bachelor of Applied Science (Agriculture) from the University of Melbourne. Paul is based in Rutherglen in NE Victoria and provides on-farm consultancy, including farm business financial analysis, succession planning and benchmarking. Paul also works closely with industry and government in project management.

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Farm health and safety – practicality over paperwork

Alexandra Thomas.
Alex Thomas Pty Ltd.

Paperwork doesn't save lives

Key Messages:

- ▶ Shift the focus: paperwork doesn't save lives.
- ▶ Talk to each other, and #PlantASeedForSafety!
- ▶ Get laser focussed on what could go wrong, how it might go wrong and what you're going to do about it.

Introduction

'Compliance' is a dirty word.

To be 'compliant' with work health and safety legislation is more often than not associated with policies, penalties and procedures. Box-ticking, dust-collecting, perceived as costly and convoluted – and yet we forget – that the intent of compliance, is simply: just don't kill someone.

With a focus on personal narrative, practicality and prevention, this session seeks to recalibrate the value proposition of work health and safety from 'box-ticking' to empowering people, reducing risk and ultimately reducing the number of people hurt in agriculture.

My follow up questions for the speaker; _____



Self evaluation;

How does the thought of doing something about work health and safety on the farm make you feel?

Confident, I know what to do _____ Unsure _____ Overwhelmed

Who could you seek assistance from to develop something if required?

Have you ever had an interaction with a 'safety person' who reinforced the need to be practical?

Yes _____ No

What are the main areas in your business that you would like to focus on?

Do you think the current narrative around work health and safety has become detached from the need to actually look after people?

Yes _____ No

What would/does a productive attitude to WHS look like in my business?



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

- Invest the time in sitting down and talking about what could kill or seriously hurt someone.
- Make a list of what you and your staff can reasonably achieve to prevent that from happening.
- Do something about it.

What are the potential benefits of taking action on your WHS strategies?

- Negates the need to develop meaningless paperwork for paperwork's sake.
- You develop a tailored system - adopting an approach to work health and safety that makes sense in the context of your business.
- Implementation of no-nonsense, practical solutions that could actually save a life.
- You achieve 'compliance' (by default) with the true intent of legislation.

Our First Action _____

Our Second Action _____





More about Alex . . .

Inspired by her experiences as a part-time carer for her disabled father as a result of his life's work in agriculture, Alex is the Founder of the globally acclaimed #PlantASeedForSafety Project and is a fierce advocate for the health and safety of those in rural industries and communities.

With over 14 years' experience in work health and safety, Alex was the 2018 AgriFutures Rural Woman of the Year (SA), the winner of the 2018 SafeWork SA Augusta Zadow Award and is the proud Director and Principal Consultant of her own consulting business.

Having worked with over 100 businesses across a multitude of different industries, Alex's core objective is to help her clients re-calibrate the value proposition of work health and safety from 'box-ticking' to empowering people, reducing risk and ultimately preventing people from getting hurt.

A Fellow of the Governor's Leadership Foundation and a member of the Hart Field Site Group Board, Alex's work has been formally endorsed by the Executive Director of SafeWork SA and she loves daring to do things differently. An eternal empath and a master-collaborator, Alex is also a lover of horses, a two-time trekker of the Kokoda track and an amateur yogi.

Contact details

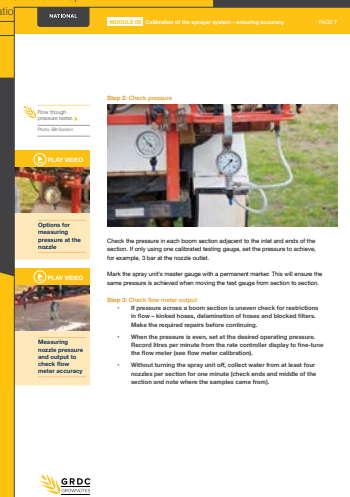
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It explains how various spraying systems and components work, along with those factors that the operator should consider to ensure the sprayer is operating to its full potential.

This new manual focuses on issues that will assist in maintaining the accuracy of the sprayer output while improving the efficiency and safety of spraying operations. It contains many useful tips for growers and spray operators and includes practical information – backed by science – on sprayer set-up, including self-

propelled sprayers, new tools for determining sprayer outputs, advice for assessing sprayer operation, improving droplet capture by the target, drift-reducing equipment and techniques, the effects of adjuvant and nozzle type on drift potential, and surface temperature inversion research.

It comprises 23 modules accompanied by a series of videos which deliver 'how-to' advice to growers and spray operators in a visual easy-to-digest manner. Lead author and editor is Bill Gordon and other contributors include key industry players from Australia and overseas.

Spray Application GrowNotes™ Manual – go to:
<https://grdc.com.au/Resources/GrowNotes-technical>
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 and check out the latest versions of the Regional Agronomy
 Crop GrowNotes™ titles.





LOOK AROUND YOU.

1 in 5 people in rural Australia are currently experiencing mental health issues.



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The GRDC supports the mental wellbeing of Australian grain growers and their communities. Are you ok? If you or someone you know is experiencing mental health issues call *beyondblue* or Lifeline for 24/7 crisis support.

beyondblue

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www.beyondblue.org.au



Lifeline

13 11 14

www.lifeline.org.au



Looking for information on mental wellbeing? Information and support resources are available through:

www.ifarmwell.com.au An online toolkit specifically tailored to help growers cope with challenges, particularly things beyond their control (such as weather), and get the most out of every day.

www.blackdoginstitute.org.au The Black Dog Institute is a medical research institute that focuses on the identification, prevention and treatment of mental illness. Its website aims to lead you through the logical steps in seeking help for mood disorders, such as depression and bipolar disorder, and to provide you with information, resources and assessment tools.

www.crrmh.com.au The Centre for Rural & Remote Mental Health (CRRMH) provides leadership in rural and remote mental-health research, working closely with rural communities and partners to provide evidence-based service design, delivery and education.

Glove Box Guide to Mental Health

The *Glove Box Guide to Mental Health* includes stories, tips, and information about services to help connect rural communities and encourage conversations about mental health. Available online from CRRMH.



www.rrmh.com.au Rural & Remote Mental Health run workshops and training through its Rural Minds program, which is designed to raise mental health awareness and confidence, grow understanding and ensure information is embedded into agricultural and farming communities.

www.cores.org.au CORES™ (Community Response to Eliminating Suicide) is a community-based program that educates members of a local community on how to intervene when they encounter a person they believe may be suicidal.

www.headsup.org.au Heads Up is all about giving individuals and businesses tools to create more mentally healthy workplaces. Heads Up provides a wide range of resources, information and advice for individuals and organisations – designed to offer simple, practical and, importantly, achievable guidance. You can also create an action plan that is tailored for your business.

www.farmerhealth.org.au The National Centre for Farmer Health provides leadership to improve the health, wellbeing and safety of farm workers, their families and communities across Australia and serves to increase knowledge transfer between farmers, medical professionals, academics and students.

www.ruralhealth.org.au The National Rural Health Alliance produces a range of communication materials, including fact sheets and infographics, media releases and its flagship magazine *Partyline*.



Developing management and decision-making skills

Presented by: Clara McCormack.



Image: CFA Institute

Key Messages:

- ▶ Every decision we make involves self-talk whether we know it or not.
- ▶ Decision making is a skill. It can be learnt and practiced.
- ▶ Past negative experiences can have a major influence on future decisions, sometimes resulting in significant missed opportunity.
- ▶ A structured approach to making complex and sometimes difficult decision can help in making a good decision.
- ▶ Many of the decisions faced by growers have outcomes which are sensitive to the climatic conditions received after the decision is made.
- ▶ As with many decisions, slowing down and thinking through the potential outcomes (or 'imagining the future with rigour') can support the decision-making process.
- ▶ Analysing the expected range of outcomes (rather than focussing on a specific point) can provide an increased level of robustness.

Introduction

A definition of decision making

Decision-making can be defined as 'The thought process of selecting a logical choice from the available options. When trying to make a good decision, a person must weigh the positives and negatives of each option and consider all the alternatives. For effective decision making, a person must be able to forecast the outcome of each option as well, and based on all these items, determine which option is the best for that particular situation.'



Good and right decisions

Often ‘good’ and ‘right’ decisions are used interchangeably, however there is a useful distinction. A ‘good’ decision represents an informed decision whereas a ‘right’ decision relies on hindsight to determine if the decisions made produced the best outcomes. We judge a decision as being ‘right’ or ‘wrong’ depending on the outcome. Good decisions can both be ‘right’ and ‘wrong’. Good decisions can also go wrong.

Unfortunately, we need to make decisions before the dice is rolled, so it is better to focus on attempting to make the best decision possible.

Self-Talk

“Whether you think you can or think you can’t. You’re right.”

What Henry Ford was referring to when he made this statement, was the concept of self-talk, also known as inner speech, verbal thinking, internal dialogue or inner voicing – essentially the ‘person’ that lives in your head. Self-talk has been studied scientifically for almost as long as experimental psychology has been in existence, with researchers in the 1880s taking an interest in understanding the nature and function of inner speech and the things people say to themselves.

We each choose our own inner dialogue. By becoming aware of our self-talk, we can change this verbal thinking. What we believe to be the truth about ourselves impacts on two things: how we behave and what others see (self-image). A key element of self-image is getting feedback from others to understand what they believe to be the truth about you. However, trust is integral in receiving feedback. If you do not trust the person delivering the feedback, chances are you will not take it on board.

Some people need evidence or proof of their ability before they will believe they can do something. They tend to focus on behaviour and what other people think (self-image) rather than focusing on their self-talk. Seeing obstacles as problems, rather than opportunities, decreases a person’s willingness to persist which is often necessary for developing and implementing creative ideas.

My follow up questions for the speaker; _____



Self evaluation;

When analysing an important decision do you rely on a structured approach to decision making or do you rely more on past experiences?

Structured Approach _____ Rely on past experiences

How effective do you believe your decision-making process is for the really important long term decisions?
Why.

Do you have a system for identifying which decisions are critical to success and which are incidental?

Yes _____ No

Outline what you would rate as the key decisions you make in business that are critical to achieving long term goals?

Do you have a defined list of goals you want to achieve in business and life?

Yes _____ No

Could you easily explain and share your goals with your business partners and advisers?

Yes _____ **No**



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

- Think about the key priorities you would like to achieve, both personal and professional.
- Write these goals down and analyse how long you believe it will take to achieve them.
- Break the longer-term goals down into small steps towards attaining the big goals.
- Identify what you would need to start implementing plans to achieve those goals.
- Review whether you may need advice or support from others to start progressing your plans.
- Network with industry professionals to identify relationships that could assist with your goal development and planning.

What are the potential benefits of taking action to implement goals and objectives;

- A clear direction and plan for the future that supports and informs business operations.
- Focused business planning and strategies that support achieving the goals you have set.
- Improved work/life balance between personal and business priorities
- Increased ability to determine the appropriate course of action when making complex decisions.
- Improved business performance and outcomes.

Our First Action _____

Our Second Action _____



Want to learn more, here are some suggestions;

Kahneman D 2011. Thinking Fast and Slow. Penguin Book, London.

Nicholson C 2014, Farm Decision Making – The interaction of personality, farm business and risk to make more informed decisions. GRDC Canberra

Canberra (<https://grdc.com.au/resources-and-publications/all-publications/publications/2016/04/farm-decision-making>)

Grain and Graze 3 website (www.grainandgraze3.com.au)



More about Clara . . .

Clara McCormack is a leadership and culture specialist and an expert in sports and organisational psychology who has been helping companies take action to improve employee engagement, retention, and performance. She provides clients with actionable advice on collecting, understanding, and acting on employee feedback to become a culture-first organisation.









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THE 2017-2020 GRDC SOUTHERN REGIONAL PANEL

JANUARY 2020

CHAIR - JOHN BENNETT



Based at Lawloit, between Nhill and Kaniva in Victoria's West Wimmera, John, his wife Allison and family run a mixed farming operation across diverse soil types. The farming system is 70 to 80 percent cropping, with cereals, oilseeds, legumes and hay grown. John believes in the science-based research, new technologies and opportunities that the GRDC delivers to grain growers. He wants to see RD&E investments promote resilient and sustainable farming systems that deliver more profit to growers and ultimately make agriculture an exciting career path for young people.

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DEPUTY CHAIR - MIKE MCLAUGHLIN



Mike is a researcher with the University of Adelaide, based at the Waite campus in South Australia. He specialises in soil fertility and crop nutrition, contaminants in fertilisers, wastes, soils and crops. Mike manages the Fertiliser Technology Research Centre at the University of Adelaide and has a wide network of contacts and collaborators nationally and internationally in the fertiliser industry and in soil fertility research.

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Peter is a farmer at Mudamuckla near Ceduna on South Australia's Western Eyre Peninsula. He uses liquid fertiliser, no-till and variable rate technology to assist in the challenge of dealing with low rainfall and subsoil constraints. Peter has been a board member of and chaired the Eyre Peninsula Agricultural Research Foundation and the South Australian Grain Industry Trust.

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JON MIDWOOD



Jon has worked in agriculture for the past three decades, both in the UK and in Australia. In 2004 he moved to Geelong, Victoria, and managed Grainsearch, a grower-funded company evaluating European wheat and barley varieties for the high rainfall zone. In 2007, his consultancy managed the commercial contract trials for Southern Farming Systems (SFS). In 2010 he became Chief Executive of SFS, which has five branches covering southern Victoria and Tasmania. In 2012, Jon became a member of the GRDC's HRZ Regional Cropping Solutions Network.

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FIONA MARSHALL



Fiona has been farming with her husband Craig for 21 years at Mulwala in the Southern Riverina. They are broadacre, dryland grain producers and also operate a sheep enterprise. Fiona has a background in applied science and education and is currently serving as a committee member of Riverine Plains Inc, an independent farming systems group. She is passionate about improving the profile and profitability of Australian grain growers.

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LOUISE FLOHR



Lou is a farmer based at Lameroo in the Southern Mallee of South Australia. Along with her parents and partner, she runs a mixed farming enterprise including export oaten hay, wheat, barley a variety of legumes and a self-replacing Merino flock. After graduating Lou spent 3 years as a sales agronomist where she gained valuable on-farm experience about the retail industry and then returned to her home town of Lameroo. She started her own consultancy business three years ago and is passionate about upskilling women working on farms.

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RICHARD MURDOCH



Richard along with wife Lee-Anne, son Will and staff, grow wheat, canola, lentils and faba beans on some challenging soil types at Warooka on South Australia's Yorke Peninsula. They also operate a self-replacing Murray Grey cattle herd and Merino sheep flock. Sharing knowledge and strategies with the next generation is important to Richard whose passion for agriculture has extended beyond the farm to include involvement in the Agricultural Bureau of SA, Advisory Board of Agriculture SA, Agribusiness Council of Australia SA, the YP Alkaline Soils Group and grain marketing groups.

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MICHAEL CHILVERS



Michael runs a collaborative family farming enterprise at Nile in the Northern Midlands of Tasmania (with property also in northern NSW) having transitioned the business from a dryland grazing enterprise to an intensive mixed farming enterprise. He has a broad range of experience from resource management, strategic planning and risk profiling to human resource management and operational logistics, and has served as a member of the the High Rainfall Zone Regional Cropping Solutions Network for the past seven years.

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KATE WILSON



Kate is a partner in a large grain producing operation in Victoria's Southern Mallee region. Kate and husband Grant are fourth generation farmers producing wheat, canola, lentils, lupins and field peas. Kate has been an agronomic consultant for more than 20 years, servicing clients throughout the Mallee and northern Wimmera. Having witnessed and implemented much change in farming practices over the past two decades, Kate is passionate about RD&E to bring about positive practice change to growers.

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ANDREW RUSSELL



Andrew is a fourth generation grain grower and is currently the Managing Director and Shareholder of Lilliput AG and a Director and Shareholder of the affiliated Baker Seed Co - a family owned farming and seed cleaning business. He manages the family farm in the Rutherglen area, a 2,500 ha mixed cropping enterprise and also runs 2000 cross bred ewes. Lilliput AG consists of wheat, canola, lupin, faba bean, triticale and oats and clover for seed, along with hay cropping operations. Andrew has been a member of GRDC's Medium Rainfall Zone Regional Cropping Solutions Network and has a passion for rural communities, sustainable and profitable agriculture and small business resilience.

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DR NICOLE JENSEN



Nicole Jensen is GRDC General Manager for the newly created Genetics and Enabling Technologies business group. Nicole brings a wealth of experience in plant breeding and related activities arising from several roles she has held in Australia and internationally in the seed industry including positions as Supply Innovation Lead with the Climate Corporation - Monsanto's digital agricultural flagship, Global Trait Integration Breeding Lead for Monsanto.

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TOP 10 TIPS

FOR REDUCING SPRAY DRIFT

01

Choose all products in the tank mix carefully, which includes the choice of active ingredient, the formulation type and the adjuvant used.

02

Understand how product uptake and translocation may impact on coverage requirements for the target. Read the label and technical literature for guidance on spray quality, buffer (no-spray) zones and wind speed requirements.

03

Select the coarsest spray quality that will provide an acceptable level of control. Be prepared to increase application volumes when coarser spray qualities are used, or when the delta T value approaches 10 to 12. Use water-sensitive paper and the Snapcard app to assess the impact of coarser spray qualities on coverage at the target.

04

Always expect that surface temperature inversions will form later in the day, as sunset approaches, and that they are likely to persist overnight and beyond sunrise on many occasions. If the spray operator cannot determine that an inversion is not present, spraying should NOT occur.

05

Use weather forecasting information to plan the application. BoM meteograms and forecasting websites can provide information on likely wind speed and direction for 5 to 7 days in advance of the intended day of spraying. Indications of the likely presence of a hazardous surface inversion include: variation between maximum and minimum daily temperatures are greater than 5°C, delta T values are below 2 and low overnight wind speeds (less than 11km/h).

06

Only start spraying after the sun has risen more than 20 degrees above the horizon and the wind speed has been above 4 to 5km/h for more than 20 to 30 minutes, with a clear direction that is away from adjacent sensitive areas.

07

Higher booms increase drift. Set the boom height to achieve double overlap of the spray pattern, with a 110-degree nozzle using a 50cm nozzle spacing (this is 50cm above the top of the stubble or crop canopy). Boom height and stability are critical. Use height control systems for wider booms or reduce the spraying speed to maintain boom height. An increase in boom height from 50 to 70cm above the target can increase drift fourfold.

08

Avoid high spraying speeds, particularly when ground cover is minimal. Spraying speeds more than 16 to 18km/h with trailing rigs and more than 20 to 22km/h with self-propelled sprayers greatly increase losses due to effects at the nozzle and the aerodynamics of the machine.

09

Be prepared to leave unsprayed buffers when the label requires, or when the wind direction is towards sensitive areas. Always refer to the spray drift restraints on the product label.

10

Continually monitor the conditions at the site of application. Where wind direction is a concern move operations to another paddock. Always stop spraying if the weather conditions become unfavourable. Always record the date, start and finish times, wind direction and speed, temperature and relative humidity, product(s) and rate(s), nozzle details and spray system pressure for every tank load. Plus any additional record keeping requirements according to the label.



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- The local GRDC Farm Business Update planning committee including both government and private consultants and GRDC representatives.

