

# LIEBE GROUP NEWS

October 2019

Volume 22

Issue 8



## What's Inside



*Make budgeting  
your super-power*



*Management  
options for dry  
seasons*



*Ten tips for  
reducing the risk of  
harvester fires*



*Agronomy for lupin  
seed production*



*The Liebe Group mission is to facilitate grower prioritised research, development and extension to support our members to be profitable and sustainable.*



# From the Cover

Local growers taking part in the final AgChats session for 2019 with a field walk at Harry Hyde's property, Dalwallinu.

## DIAMOND PARTNERS



**Rabobank**



## MEMBER NEWS

AgChats a success in 2019 4

Firefighting safety a hot topic for Liebe ladies 5

## PARTNER UPDATES

Livestock feed demand puts squeeze on Australian grain 6

McLevie storage expansion complete 8

Make budgeting your super-power 9

Management options for dry seasons 11

## NEWS

Ten tips for reducing the risk of harvester fires 15

Agronomy for lupin seed production 17

Making effective business decisions 19



# FROM THE EXECUTIVE OFFICER

Chris O'Callaghan

**WELCOME** to the October newsletter.

October has been a relatively quieter month for the group, although there has still been plenty of planning for 2020 going on, as well as the final events for the year held.

Firstly, the R&D Committee met this month to review the Spring Field Day survey results and start planning for next year. The feedback from the day was overwhelmingly positive and the committee has been able to generate a number of ideas for trials and events in 2020. Soil amelioration was again a prominent issue in the survey results, along with business management and technology featuring as strong theme.

The Main Trial Site for 2020 will be hosted by Dylan Hirsch on his property 5km west of Latham, with a number of trial plans already in the works, including a demonstration that Dylan has designed to answer a specific question around the longevity of the response to deep ripping. In this demo, previously deep ripped country will be compared to newly ripped country to gauge the time until recompaction.

This month saw the final Agchats and Bitesize learning events, with small groups of interested growers learning about different legumes in the farming system and preparing for fire season respectively. These small group learning concepts have been a success in 2019 and will continue into next year with the group's committees already beginning to brainstorm topics.

Also this month, the group has successfully applied for funding from the GRDC to assess the impact seed damage at harvest and seeding of different lupin varieties has on germination. This project will involve collecting Lupin samples from 20 paddocks in the region prior to harvest and after harvest and then conducting germination testing on the seed. This will then be repeated at seeding time. It is envisaged that this project will help growers better understand the factors that significantly impact seed damage and poor germination in lupins.

Finally, we have made the decision to postpone the Annual Liebe Dinner this year. Given the earlier start to harvest and the many number of events on in the district, it was decided that we would move this event until later in the year and have a casual post-harvest, Christmas drinks event. This change will also allow members to meet all of our new staff that will be on-board by this stage. Stay tuned for updates.

The next newsletter will be out in December, and I wish everyone all the best for a safe harvest.

## GOLD PARTNERS



## SILVER PARTNERS

- Syngenta
- Landmark
- NuFarm
- Pacer Legal
- Advanta Seeds
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- Agrimaster
- Australian Grain Technologies
- Boekemans Machinery Dalwallinu
- Adama Australia
- Scott's Watheroo Dolomite
- GrainGrowers
- Refuel Australia



## AGCHATS A SUCCESS IN 2019

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**ELEVEN** local growers and industry representatives came together on Thursday 3rd October to attend the final Liebe Group AgChats for 2019. Starting off the session with a field walk on Courtlea Road, attendees had an informative afternoon discussing growing different legume varieties in their farming system, and understanding the challenges and opportunities of marketing and selling such a crop.

Mark Seymour, DPIRD, walked growers through the site which had a number of GRDC funded trials focusing on evaluating lentil varieties and their suitability to WA conditions, comparing new and established fungicide options and their potential to increase yield in chickpeas, and a Stage 3 chickpea trial which is currently evaluating which lines should be promoted in National Variety Trials. Mark noted that a new variety of chickpea is soon to be released which will combine PBA Striker yields with improved crop heights.

While working their way through the lentil trial, growers were updated on different variety options that can be used for potential increased yield and improved herbicide options. Although a dry year, disease pressure was minimal and varieties are expected to yield 0.7 – 1 t/ha come harvest.

Back at the Liebe office, Esperance grower and proprietor of Esperance Quality Grains, Neil Wandel, shared with growers the different export markets for field peas, faba beans, lentils and vetch. Mr Wandel said field peas are currently hitting their highest price point seen in the market but this is expected to drop come harvest, whilst faba beans are predicted to have a higher harvest price. Mr Wandel also stated that it is important to note that CBH Receival Standards are not the same as Export Standard and to be aware of the difference.

The Liebe Group would like to thank GrainGrowers Australia for their partnership in delivering a successful AgChats Series throughout 2019. The six sessions held throughout the year attracted over 75 growers from the Liebe region. The Liebe Group are looking forward to continuing to partner with GrainGrowers to deliver AgChats to our members in 2020.



Mark Seymour and Neil Wandel sharing their knowledge and experience with local growers.



# FIREFIGHTING SAFETY A HOT TOPIC FOR LIEBE LADIES

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**AFTER** identifying a need for increased knowledge surrounding how to be prepared for, and how to fight a fire, the Liebe Group Women's Committee held a hands on workshop on Friday 11th October.

Focusing on firefighting safety, local fire brigade volunteers Gary Butcher, Mike Dodd and Aaron Mills walked the attendees through the role the local fire brigades play during fire season and implementing fire safety procedures on farm including the importance of wearing personal protective equipment. With a demonstration showing how well PPE will protect you, a challenge was set to see who could get dressed the fastest with all three men dressed in less than thirty seconds.

Liebe Group member's Tracy and Brian McAlpine shared their harvest fire preparation checklist which covered what equipment to check prior to harvest including utes, headers and trailers, and what to do when fighting a fire. This checklist was put into practice when attendees made their way outside to learn how to check pumps and hoses, as well as water and fuel levels on a compact ute unit supplied by Coerco Dalwallinu.

After talking through the different parts of the fire pump and showing how far or wide the water can be sprayed, Liebe member Jane Hyde was given the opportunity to see just how easy it is to start a pump when simple steps are followed. The attendees were then shown that, whilst the components of the equipment might be the same, the size definitely makes a difference to fighting fires when the fire truck used by local fire brigades was started up.

Overall, the discussion and learning that took place at the final Bitesize Learning session for 2019 was a reminder that safety and knowledge is important for surviving the upcoming fire season. The Liebe Group women are now more confident in their ability to assist if a fire were to occur on farm. The Liebe Group would like to thank Coerco Dalwallinu for their support and use of equipment, and Mike Dodd, Gary Butcher, and Aaron Mills for their expertise and time to hold this workshop.



Gary Butcher demonstrating the effectiveness and importance of PPE.



Jane Hyde showing just how easy it is to use a firefighting unit.





## LIVESTOCK FEED DEMAND PUTS SQUEEZE ON AUSTRALIAN GRAIN

Lisa Curtis  
Assistant Marketing Manager  
Rabobank



**Rabobank**

**AUSTRALIA'S** grain 'balance sheet' is set to materially tighten over the next decade, with increasing demand for grain to feed livestock – coupled with growing human consumption – well outstripping projected supply, according to a recently-released industry report.

This will see the proportion of the nation's grain harvest exported annually decline from the current 60 per cent to 53 per cent by 2030, and may also increase the likelihood of further grain imports into the country over time.

In its report **The Australian Feed Grain Squeeze**, Rabobank says by 2030, the domestic market for cereal grains (wheat, barley, oats and sorghum) will soak up an additional six per cent of Australia's annual production, leaving available supply for exports down by two million tonnes (or 10 per cent under the current five-year average)

Report author, Rabobank senior grains analyst Cheryl Kalisch Gordon says the bank is forecasting domestic demand for cereal grains to grow by 2.3 per cent per annum over the next 10 years (to above 17.5 million tonnes a year by 2029/30), well exceeding projected annual supply growth of only 0.4 per cent per annum over the same period.

### More mouths to feed

Livestock feed will take an increasing proportion of Australia's domestic grain supply, the report says, driven by a rise in the number of stock being fed grain to satisfy local and international demand for animal protein.

Increased human consumption of food products containing grain will also fuel part of the rising demand.

"Despite changing diets, which have seen people's consumption of wheat and other coarse grains fall on a per capital basis, Australians will still consume more grain due to population growth," Dr Kalisch Gordon said.

This domestic appetite will also be augmented by a strongly-growing demand for Australian beef and lamb in export markets for at least the next five years, she said, as "the global protein market resets as a consequence of the African swine fever epidemic in China".

Dr Kalisch Gordon said a higher level of growth in feed-grain demand – compared with human consumption – forecast over the next decade meant the share of cereal grains going to feed in Australia would approach 70 per cent by 2029/30, up from 64 per cent (the five-year average to 2018/19).

"As such, we will not only see increased demand for grains in Australia, but an increase in the relative importance of feed grain as an end use compared with milling, malting and processing for human consumption," she said.

### Supply

On the supply side, the report says, production growth will not be able to keep up with the forecast increase in demand over the coming decade.

"We expect Australian cereal grain supply to increase by just 0.4 per cent annually over the next 10 years," Dr Kalisch Gordon said.



“In the absence of any new technologies that offer step change improvements in yield growth – and in the face of a drying climate and challenges to crop management, such as herbicide resistance and potential limits on the use of glyphosate – we do not expect future yield growth to exceed historical growth trends.”

Dr Kalisch Gordon said with a “southerly contraction” already occurring across Australia’s cropping belt due to climate challenges, as well as relative commodity pricing, the bank was not expecting cropping area growth in the forecast period.

“And while genetic modification and new plant-breeding techniques offer the potential for step change increases in yield that would offset the feed grain squeeze, we consider the likelihood of development, adoption and end-market acceptance low within the coming decade,” she said.

As such, the report says, Rabobank expects average Australian cereal grain production to be at around 37.5 million tonnes by 2030, up from the current five-year average of 35.8 million tonnes.

“However, Australian production will continue to be prone, and possibly more vulnerable, to year-to-year variation, so a range of 20 million to 52 million tonnes must be considered part of the outlook,” Dr Kalisch Gordon said.

### Exports and Imports

The report says the expected low rate of production growth, together with the forecast increase in domestic demand, will reduce Australia’s annual export surplus – from an average of 22 million tonnes of wheat, barley, oats and sorghum (2014/15 to 2018/19) to an export surplus closer to 20 million tonnes by 2030.

“This will result in the proportion of Australia’s grain production going to exports reducing from typically being 60 per cent of annual production to 53 per cent by the end of the next decade,” Dr Kalisch Gordon said.

And, while Australia would “remain a net exporter of cereal grains”, she said, there was increased potential to see further grain imports coming into the country over the next decade.

“Feed grains may be imported if the basis (price) reaches sufficiently high levels to cover freight and compliance with import biosecurity measures. However, the import of food- grade grains for milling, malting or other processing will be more likely.”

### East/West divide and price

The Rabobank report says grain ‘balance sheet’ tightening will be particularly focussed on Australia’s eastern states “where supply growth will be lowest and demand growth highest”.

“The highest forecast growth in cereal supply will be in Western Australia and South Australia,” the report says. When it comes to demand though, growth will continue to be concentrated on the east coast of Australia.”

This tightening is expected to see the average underlying east coast basis rise by as much as five per cent per annum, she said.

“For WA and South Australia, higher supply growth will put downward pressure on the basis between local grain prices and global prices, though prices are expected to be supported more often by demand for their grain from the eastern states.”

The growing demand for livestock feed will also narrow the premiums for food-grade grain and improve the profitability of growing feed grains in Australia, especially in Queensland, NSW and Victoria, the report says.

To find out more about other Rabobank research, contact Rabobank Dalwallinu on 08 9661 0900 or download the RaboResearch podcast app.



## MCLEVIE STORAGE EXPANSION COMPLETE

Stephanie Sinclair  
Corporate Affairs Advisor  
CBH



**CBH GROUP** storage expansion project at their McLevie receival site is now complete.

McLevie has permanently tripled in size, with 236,000 tonnes of new storage added through six new open bulkheads. The site's total capacity is now approximately 330,000 tonnes.

Throughput has also been enhanced at the site, with four of the new bulkheads to be serviced by two new pits and conveyor loading systems with an inloading capacity of 500 tonnes per hour. The two other bulkheads will be serviced by existing drive over grids.

To top it all off, a new weighbridge and sample hut have also been installed.

McLevie is the largest of nine Network Strategy expansion projects to be completed this year across the grainbelt.

CBH Group would like to thank growers who joined us for morning tea and a tour of the site on Monday, 14 October.

With the site now ready for harvest, make sure you download the CBH Notifier app to get all the latest information on operating hours and segregation services.

The CDF app will also help keep you up to date this harvest and bring you several benefits, including the ability to pre-submit load details before arriving at site and track deliveries in real-time. This includes grain quality data, so you can make those important decisions back on the farm while in the middle of harvest.

Together, CBH hopes these two apps will provide a more streamlined experience for your harvest deliveries and keep you informed throughout harvest. Be sure to head to the Google Play or Apple app store on your mobile phones to download them.

While we know many have experienced a dry finish to the season, we'd like to wish you all a safe and productive harvest.



McLevie storage expansion complete.  
Image credit: Lloyd Summers, Cloudstoke Media



# MAKE BUDGETING YOUR SUPER- POWER

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**Hayley Bowie**  
Marketing Advisor  
Agrimaster



**EVERY** farming enterprise in each region of Australia experiences a unique pattern of annual cash flow. The severity of peaks and troughs between seasons is primarily dependent on the weather and level of rain fall.

Dryland croppers in Western Australia experience their highest cash flow influx immediately following Harvest in January and February.

Comparatively, livestock producers in New South Wales receive their highest levels of cash flow in immediately following wool or livestock sales and need to know if the cost of feeding stock over the summer is worth the premium they might get in months of low supply.

To graciously simplify these examples, the cash received is dependent on the quality of product, which is determined by the temperature and level of rainfall.

So, despite these differences what separates the top performing farm businesses from the majority?

### Cash flow and budgeting

Cash flow issues can make or break your farm business. And it's not just a lack of cash flow as you might assume; poor cash flow management, especially in the months when cash flow out exceeds cash flow in. Poor budgeting control can cause unnecessary stress and under performance to an otherwise profitable farm business.

While many farmers are busy battling the day-to-day challenges of farming, budgeting can often take a back seat. This year, putting your head in the sand will be the worst thing you can do.

Livestock producers in the eastern states have been urged to start developing a feed and water budget now, to ensure they are able to get their animals through what is expected to be a long, dry summer-autumn in 2019-2020. These farmers need to validate their feed and water budgets against their financial budget. A production strategy is only successful if it matches a sound financial budget.

This year, climate forecasting models predict a very tight spring followed by a below average summer rainfall. Paired with low stored soil moisture, pasture growth will be difficult, making this summer substantially dryer than recent years.

For summer croppers and livestock farmers, the trick to ensuring your success this summer is to get on top of your cash flow issues early and approach the heat with a best and worst case scenario budgets so you are equipped with knowing exactly what your cash flow will look like regardless of the weather.



## PARTNER UPDATES

### Advantages of Cash Flow Budgeting

The humble budget is one of the most powerful tools you can have up your sleeve.

Here are some of the functions we recommend you take advantage of:

- Review all expenditure and timings for payment
- Decide when to sell and for how much, based on the following order:
  1. Liquidity (how quickly do you need the funds)
  2. Cash flow (what months can you afford not to have income?)
  3. Profit
- Review Income and expenditure forecasting
- Review your current Enterprise(s) performance
- Use your reports to develop insights into your business that may allow you to lower risk or increase profit and cash flow
- Modelling scenarios for all possible weather outcomes or water availability

### Avoiding budgeting mistakes

So, you've crafted a 12-month budget for your expected cash flow over 2019-20. But, be honest, is it any good? Don't fall for the following:

- **Drawing it up, but not sticking to it**  
Or worse, never looking at it again - don't rely on your memory to recall everything.
- **Underestimating costs and overestimating revenue**  
While it might make you feel warm on the inside, it won't feel so good when your unrealistic forecasting falls through and you can't pay the bills. Hope is not a strategy.
- **Being too rigid**  
You need a little room to move in case of any unforeseen situations that may arise. Also remember that expenses fluctuate regularly, so you must allow for that.
- **Only including the big items**  
The little things really add up and can take you by surprise if you haven't included them somewhere. Look where you can cut costs, change suppliers or upgrade operations that are weighing you down.
- **Not revisiting and refining it regularly**  
This is a living document that changes as your farm business moves throughout the year. What may have worked last year may not suit now. Regularly compare your estimations with your actual cash book numbers to keep track of your progress and update the budget wherever necessary.

Agrimaster is currently conducting a Financial Health Check survey which will collect information on growers budgeting behaviour. The data collected from this survey will be used to create and publish helpful resources for the public. To take part in this survey, [click here](#).



## MANAGEMENT OPTIONS FOR DRY SEASONS

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**Bronwen Fowler**  
Animal Health, Nutrition  
and Production Specialist  
Landmark

**WITH** a dry finish to the season and a lower than average rainfall this year, it is to be expected that the productivity and longevity of pastures and stubbles will be significantly lower than usual. Meaning that unless there is an early break, the summer / autumn feed gap will be longer than usual and a significant amount of supplementary feeding will be required.

One of the biggest costs in a sheep enterprise is supplementary feeding. In a dry time when supplementary feeding will be over an extended period, it is crucial to get the ration right to meet the energy requirements of the production status, of the livestock. It is also important to weigh up the other options of either selling, agisting and or confining. Quite often a combination of management decisions should be adopted to protect ground cover, and maintain productivity and profitability.

With key profit drivers in a business linked to number of lambs weaned, and effective management of ewes. Destocking breeding ewes is not ideal as it will have a significant impact on profit margins and can set the breeding flock back, due to loss of genetics. To decrease grazing pressure over summer/ autumn and still maintain productivity there are a number of options:

- Wean lambs early to maintain ewe Body Condition Score (BCS) 3
- Sell wether weaners before having to supplement extensively
- Delay joining to decrease the feed gap
- Pregnancy scan and feed to production requirements single and twins, early and late
- Cull dry sheep and ewes that have failed to raise a lamb
- Cull breeding stock with faulty udders, mouths, pigmentation, poor-doers etc
- Reduce mob sizes-in smaller mob sizes animals utilise less energy
- Confinement feed for maintenance – confinement feeding require up to 20 % less MJ /day to be fed

**Monitoring stubbles**, BCS of livestock and ensuring animal health treatments are carried out this year will be imperative, to maintaining productivity in your livestock enterprise, and determining management options. Checking for number of grains and green shoots in the 0.1m<sup>2</sup> quadrant is important in monitoring energy & protein levels. Feeding protein early for weaners, will be crucial as growing animals require 12-16% crude protein in their diet, the smaller the sheep or the higher the growth requirements, the greater protein requirements. This can be achieved with lupins at 150 g/hd/day, it is recommended that young sheep are provided with bypass protein, with adult sheep being more suitable for non- protein nitrogen like urea. As seen in Table 1 below the protein levels of cereal stubbles don't meet the requirements for growing young animals or maintaining adult sheep. The NSW DPI Drought feed calculator is a handy free app which assists in developing rations and costings with a basic 3 feed mix ration.

<https://apps.apple.com/au/app/drought-feed-calculator/id921986324>



**LANDMARK**



## PARTNER UPDATES

**Table 1** Feed values of straw and stubbles and survival feed rations

STRAW/STUBBLE	DRY MATTER	METABOLISABLE ENERGY	CRUDE PROTEIN	ACID DETERGENT FIBRE
Lupin	92	5.5 - 9.5 (8.0)	6.0 - 10.0 (8.0)	36.0 - 44.0 (42.5)
Pea	90	6.5 - 7.8 (7.2)	6.0 - 8.5 (7.5)	28.0 - 45.0 (43.0)
Oat	89	6.0 - 7.7 (6.8)	4.0 - 6.5 (5.0)	38.0 - 45.0 (43.0)
Barley	89	6.0 - 7.5 (6.7)	4.0 - 6.5 (5.0)	38.0 - 47.0 (44.0)
Wheat	91	5.8 - 7.0 (6.5)	2.0 - 6.5 (3.5)	43.0 - 52.0 (47.0)
Canola	92	5.5 - 7.5 (6.5)	4.0 - 7.5 (6.0)	42.0 - 50.0 (47.0)
Sorghum	88	5.5 - 7.5 (6.5)	3.5 - 6.0 (4.5)	45.0 - 54.0 (48.0)
Triticale	89	5.5 - 7.0 (6.3)	2.5 - 6.0 (3.5)	44.0 - 52.0 (48.0)

### Survival Feed Requirements

Class	ME week	Protein	Roughage	Min.
Ewes survival	49	8	15%	40% lime
Ewes maintenance	59	8	15%	40% Mg Oxide
Ewes late preg and weaners	79	12	20%	20% salt
		15		
Ewes 1st month lact	140	12	20%	
Ewes 2nd month lact	105	12	20%	

Source: These values were extracted from Independent Lab Services, Dr John Milton, Perth WA

Providing protein on stubbles is important, as protein promotes rumen microbe population, which assists in digesting more feed to make more nutrients, which drives DMI. Maintaining a consistent diet is crucial as microbe populations take time to recover and build up, after sudden feed changes. It is crucial to transition animals, to new feed sources, particularly if grazing standing forage crops or high grain residue crops. This should be done over a 21 day period, trail feeding the grain to be grazed everyday starting at as low as 50 g/hd/day and increasing amounts every second day whilst also providing access to a good quality fibre. This will allow for a safe transition to high grain residue stubbles to assist in preventing acidosis.

It will also be important to ensure vaccinations to prevent pulpy kidney are up to date. Remember to allow 14 days after the second dose for the development of full immunity. WEC and administering effective combination drenches will also be integral part of the animal health program this season to ensure livestock productivity is maintained. Providing livestock with vitamin A & E supplement early will also be a factor to consider this season, then ensuring to supplement every 6 weeks, to prevent stock production losses from vitamin a & e deficiency.

There a many commercial loose licks, and blocks formulated for grazing stubble which incorporate all the trace minerals too. It is important that mineral supplementation occurs early and it is balanced, to ensure ruminants are converting the limited feed available to their optimum.



**Table 2** Mineral requirements grazing stubbles and on high grain diets

Mineral	Function	Considerations	Supplement Source
Calcium	Calcium required to replenish body stores or for growth, muscle contractions	Calcium availability is regulated by phosphorus intake and hormones as P increases Ca absorption decrease. Maintain a ratio of 2:1 Ca :P	Limestone
Sodium	Sodium is essential for rumen bug activity, maintaining the osmotic pressure of body fluids and amino acid and glucose transfer across the cell membrane	Assists in saliva production which produces bicarbonate, to lower the rumen pH	Salt
Sulphur	Essential for rumen bug activity and is a component of amino acids, which build protein. When nitrogen content is higher then sulphur is required. Extremely important for wool production.	Too much sulphur can induce PEM and can decrease copper retention, causing copper deficiency. Ration of N:S 10 : 1	Ammonium sulphate or elemental sulphur
Magnesium	Magnesium for nerve and normal brain function.	High levels of K decrease Mg absorption Low levels of Na decrease Mg absorption Ca also interacts with Mg metabolism	Magnesium Oxide
Phosphorous	Essential for all cells and is required for energy production	Usually at adequate levels within the stubble the livestock are grazing	Cereal stubbles and grain
Cobalt	Cobalt is required by rumen bugs for them to make vitamin B12. Vitamin B12 is stored in the liver and is used to make red blood cells and for energy metabolism.	Supplementing in deficient areas will assist in weight gains and wool growth. Vitamin B12 for treatment of deficiency Cobalt Cobalt supplements / injections for preventing deficiency	Vitamin B12 injection Cobalt injections Cobalt Sulphate

**Planning** early for a dry season will allow for more flexibility, and choices in to what is the best action to suit the situation. The decisions to decrease grazing pressures will be impacted by not only the FOO but by the following:

- Current stocking rate, flock structure and genetics
- Current quantity and quality of feed on hand
- Current and predicted markets for sheep & wool
- Cost and amount of feed required to feed until June( c/MJ & \$/ kg CP)
- Water supplies, quality and sufficient quantity
- Current financial resources and labour units available
- Potential erosion risk (less than 50 % ground cover)
- Existing infrastructure (troughs, feeders, mixer, droughtlots etc)
- Potential impact of decisions in subsequent years
- Availability, proximity, quality of FOO and cost of agistment

#### Worked example of ewe Maintenance Ration Costs

Feed	Energy ME	Cost a week
Barley	$49 / 11.25 = 4.4\text{kg}$	$4.4 \times 33 = 1.45$
Hay	$49 / 8 = 6.1 \text{ kg}$	$6.1 \times 25 = 1.52$
80% barley	$4.4 \times 0.8 = 3.5$	$3.5 \times 33 = 1.15$
20% hay	$6.1 \times 0.2 = 1.2$	$1.2 \times 25 = 30 \text{ c}$ $= \$1.45 / \text{hd} / \text{week}$
Costing Barley	$\$330 / \text{tonne } 33\text{c/kg@}12.5 \text{ MJ \&} 90 \text{ DM}$ $- 12.5 \times 0.9 = 11.25 \text{ MJ per kg as fed}$ $- 33/11.25 = 2.93 \text{ c/mj energy}$	
Costing Hay	$\$250 / \text{tonne } 25\text{c/kg@}9 \text{ MJ \&} 90 \text{ DM}$ $- 9 \times 0.9 = 8.1 \text{ MJ per kg as fed}$ $- 25/8.1 = 3.08 \text{ c/mj energy}$	



## PARTNER UPDATES

**Confinement feeding** is proving to be a cost efficient method of maintaining stock condition, and also for production feeding. It allows for deferred grazing, and decreases feed required due to less energy needed to maintain the animal. It is important before committing to confinement feeding to assess labour units, required infrastructure, and suitability to other farm operations. There are significant animal health risks involved in confinement feeding, with acidosis and poor doers contributing to majority of mortalities in confinement. If managed effectively it can reduce costs of feed significantly, with up to 20 % less energy required for sheep in confinement, when the aim is to maintain live weights.

### Recommendations for confinement feeding

#### Infrastructure

- Well drained site with shade, shelter & wind protection
- Min 50m from flowing water courses & 100m from permanent streams.
- Slope 3-4%
- Minimum spacing pen density: Lambs 2-4m<sup>2</sup>, dry adults 2-5m<sup>2</sup> (2000 sheep /hectare), 5 -10 m<sup>2</sup> late pregnancy ewes, 10 – 15 m<sup>2</sup> ewes with lambs at foot
- Mob size – no more than 500 head (200 hd/pen ideal)
- Spacing – Double sided troughs – 10-15cm lamb, 15-20cm adults – single sided troughs require double the space
- Self feeders – 4-5cm/lamb, 5-10cm adult
- Water – Min. trough length of 30cm plus 1.5cm per sheep (Use upper end of limits when sheep have wool >2cm)

#### Management

- Full vaccination & worm control program, this is crucial to maintain healthy animals
- Group on condition score or weight / production status – single / twins, early and late
- Pregnancy scan singles/twins & foetal aging
- Slow grain introduction -day 1 feed hay only
- Week 1 - feed 1 kg of extra hay
- Can convert to straw as a fibre source
- Minimise stress
- Provide mineral supplementation
- Adequate ration crucial
- Manage shy feeders
- Follow a routine if feeding daily
- Be aware of social structures in the mobs
- Provide clean fresh water daily TDS 3500- 10 L /hd /day

#### Ration

##### Energy required to maintain frame ewe @ CS 3 in confinement

Day of preg	Single MJ/d	Twin MJ/d
Dry	6.7	6.7
50	7.0	7.2
70	7.4	7.9
100	8.6	9.8
130	10.9	14.1

- Monitor Faeces for rumen health
- Transitioning to grain requires- routine feeding, effective fibre, & gradual increases (start at 50 g /hd/day)
- Test Fodder to be used– ME, CP, NDF, ADF, DM and determine least cost ration on a cents /mj of energy basis. Consider using frosted hay or straw with urea to increase protein levels
- Protein levels in ration for maintenance 8- 12 %
- Fibre - aim for at least 40 % NDF in mix (affects rumen health but also dry matter intake)  $120 / \text{NDF} = \% \text{ of live weight stock can consume}$
- Recommendation; 20% hay or 15% straw
- Provide Minerals / Vitamins & Buffer



# TEN TIPS FOR REDUCING THE RISK OF HARVESTER FIRES

Ben White  
GM Research and Editor  
Kondinin Group



**KONDININ**  
G R O U P

**HARVESTER** fires over the past few years have highlighted the importance of harvester hygiene and maintenance, especially when harvesting more volatile crops including pulses.

Research reveals that on average, about seven per cent of harvesters per year will start a fire. In these cases, one in 10 will cause significant damage to the machine or surrounding crop.

Research engineer Ben White, who has reported to industry on harvester fires, says once harvest is underway it may be too late for growers to make modifications such as exhaust system shielding treatments or fire suppression systems, so attention should be directed to ongoing monitoring of machinery throughout harvest.

“Mechanical failure is in many cases responsible for fires starting so harvester maintenance and hygiene is incredibly important – operators should be conducting regular clean-outs during harvest and exercising particular caution when harvesting leafy pulse crops, as these are renowned for dust build-up,” Mr White said.

Machines operating weed seed mills also generate a lot more fine dust and operators need to apply extra vigilance and implement thorough harvester hygiene.

Mr White offers the following 10 tips to improve harvester fire safety:

- 1** Most harvester fires are caused by dust and trash build-up and bearing failures. Keep the machine cleaned down regularly, starting at the front then working in a top down approach. A final revisit and blast of air over the exhaust system to dislodge any dust that may have been disturbed and settled in the course of the clean down is recommended.
- 2** Pulse crops are substantially more volatile than cereals so extra care and vigilance is required when harvesting these.
- 3** Monitoring and logging bearing temperatures with an infra-red heat gun or thermal images helps identify at-risk bearings so they can be replaced before failure.
- 4** Recognise the big four factors that contribute to fires: relative humidity, ambient temperature, wind and crop type and conditions. Abide by state-based grain harvesting codes of practice and declared harvest bans, and observe the Grassland Fire Danger Index (GFDI) protocol on high fire risk days.
- 5** Have at least the minimum required water and fire-fighting unit in the paddock being harvested.



- 6** Having a pair of extinguishers (water and A/B/E) at the cab entry ladder and a pair at the rear of the machine closer to the engine means fire-fighting options are available when and where they are needed. A fire suppression system provides the best chance of extinguishing a fire on a harvester.
- 7** Having a fire plan in place with the harvest team is imperative. Knowing who will do what and identifying communications channels to be used means everyone knows what to do. Having a listing of emergency numbers or uhf channels in the cab is essential.
- 8** Harvesting highly volatile crops across the paddock into the prevailing wind gives operators a better chance of containing the fire as incendiaries are blown onto stubble, not standing crop.
- 9** If operators do have a fire on board, pulling out of the crop immediately and facing the machine into the wind before attempting to fight it gives the operator the best chance of controlling the fire. Remember, harvesters are replaceable so prioritise personal safety.
- 10** Static does not start fires on harvesters, as it does not have enough energy for the ignition of crop residues. Be mindful however, that static can contribute to dust/fuel loads on the machine.

Mr White has reported to an industry working group on what he sees as the “unknowns” about harvester fires, stating that while it is recognised that some crops are more volatile than others, it is unclear as to whether this is due to agronomics, varietal or crop history. Limited work has been done to determine ignition temperatures.

“Some operators have modified their exhaust streams with ceramic coatings, high-temperature paints, mouldable alumina-silica, double skin exhaust components, insulative blankets and fiberglass bandages,” Mr White said. “We don’t know how these perform relatively and what temperature reductions we can expect with each of the different treatments.”

The relative benefits of fire suppression systems, low-cost alternatives to thermography for hot-spot detection and the use of chains and cables to dissipate static also require further investigation, according to Mr White.

A GRDC publication; Reducing Harvester Fire Risk Back Pocket Guide, available at [www.grdc.com.au/GRDC-BPG-ReducingHarvesterFireRisk](http://www.grdc.com.au/GRDC-BPG-ReducingHarvesterFireRisk), serves as a summary of fire prevention and minimisation methods and also includes a handy Harvester Fire Reduction Checklist.



A harvester lost in 2005 which hospitalised a family member who tried to put it out.  
Photo: Ben White



## AGRONOMY FOR LUPIN SEED PRODUCTION

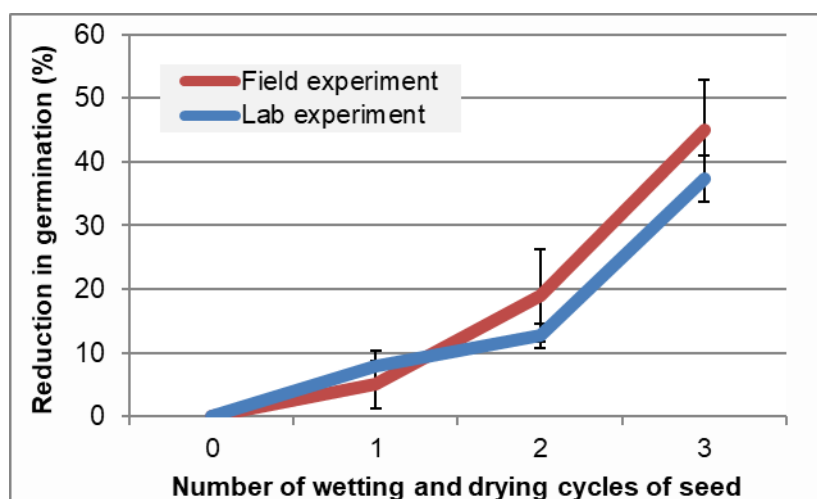
Martin Harries  
Research Officer  
DPIRD



Department of  
Primary Industries and  
Regional Development

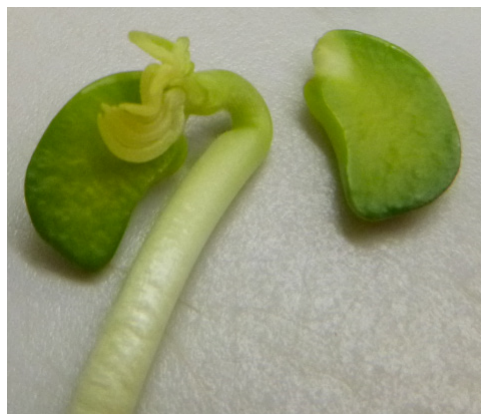
**I**n recent years there have been several reports of poor lupin establishment and many paddocks producing high amounts of split lupin seed. The tactical break crop agronomy team have investigated several aspects of lupin seed quality to try and get to the bottom of this.

The first experiments looked at whether rainfall at harvest would reduce seed quality...and it did. From both field and laboratory trials we found that if we had one 10 mm irrigation (simulated thunderstorm) germination was reduced by 5 to 10%. With 2 simulated storms germination was reduced by 10 to 20% and with three down by 45%, Figure 1. Not only is early harvest a good way to avoid thunderstorms and reduced germination but we also found that all the varieties tested lost 15% yield when we delayed harvest by 6 weeks from when plants were first ready.



**Figure 1.** Field and laboratory experiments showed that wetting and drying of seed reduces germination.

When harvesting it is recommended to go early, at around 14% moisture and use the slowest drum/rotor speed possible to thresh the grain so that physical damage is minimised. Physical damage usually shows up in germination tests with a high percentage of plants having a cotyledon sheer off, Figure 2. This is commonly observed in paddocks as seedlings with one cotyledon.



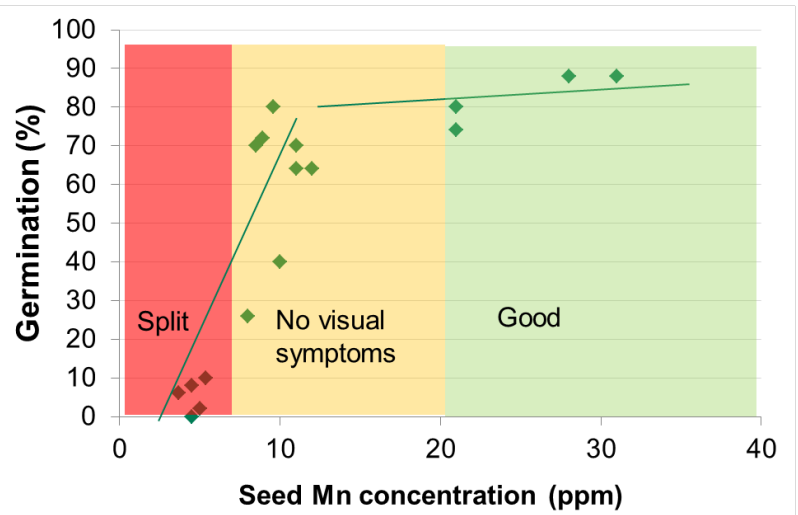
**Figure 2.** Lupins harvested at low moisture content and high drum/rotor speed often have a high



Split seed, which is caused by low seed manganese concentration, is a sign that the seed lot is not great. Even if only a small percent of the seed has split seed (Figure 3) it is likely that the rest is quite low, which is bad for germination. In general seed below about 7-8 ppm Mn concentration will look split but seed between 8 and 20 ppm looks ok but may have low germination and/or vigour (Figure 4). You should be aiming for Mn concentrations of 20 ppm or higher to be safe.



**Figure 3.** Seed with less than about 8 ppm Mn will be split.



**Figure 4.** The relationship between seed Mn concentration and germination

## How to produce lupin seed with good Mn concentration

Low Mn is a problem associated with pale sands and dry years. This is because Mn is not relocated within the lupin and it must be taken from the soil while the seed is forming, which is difficult when the soil is dry. On west coast pale sands it is recommended to put 4 units of Mn with the seed, however it is much more effective to deep band it into soil that will stay wet for longer. Top-dressing is not very effective at all, particularly in a dry year. For seed production areas 0.8 units of a foliar Mn when the main stem pods are at 2-3 cm long is advised.

## Other things to consider

### Seed testing

It is most important have the seed tested, germination should be around 90% or better, seed size should be around 16 grams per 100 seed or more and Mn concentration above 20 ppm.

### AgWest plant laboratories

Email: [DDLSTAC@agric.wa.gov.au](mailto:DDLSTAC@agric.wa.gov.au), Phone +61 (0)8 9368 3721

### Chemistry centre of WA

T: +61 8 9422 9800 W: [www.chemcentre.wa.gov.au](http://www.chemcentre.wa.gov.au)

### Croptopping

Choose a clean paddock for seed production so you are not tempted to go too early with the croptopping and always grade croptopped seed so that immature seed is not used for seeding next year.

### Storage

This needs to be below 25°C and 13% moisture for lupin.

In summary we know a lot about how to produce good quality lupin seed. Ensuring the lupin seed you plant is of good quality comes down to some attention to detail.



# MAKING EFFECTIVE BUSINESS DECISIONS

All content has been  
republished from the GRDC  
Factsheet July 2013



## KEY POINTS

- Effective decision-making is at the core of successful farm business management.
- Making informed, logical and timely business decisions is crucial to achieving business objectives.
- Understand the different elements that influence how decisions are made and the possible outcomes.
- Consider who is responsible for the final decisions in the different areas of your farm business.
- Ensure the decision is finalised and implemented in a timely manner.

Decisiveness is a widely admired and recognised skill in business. Ensuring the decision-making process is effective is very much dependent on the people and resources involved in the business.

Some decisions are made intuitively on a daily basis, while others require careful consideration, gathering of information and sometimes external guidance. Whether your decision-making skill is an innate gut feeling or learnt over the course of years, you can practice becoming a more effective decision-maker.

Reflect how decisions are made in your farming business, and identify where there are opportunities to make more effective business decisions.

## How are decisions made?

There is no right or wrong way to make a decision. However, learning to make more effective decisions requires an understanding of the decision making process. This will also help manage the impact of personal bias and emotion.

Each decision follows the same basic decision-making process as outlined in Figure 1. The speed at which the process occurs varies depending on the type of decision being made. The importance of the decision, the frequency it is made and the information available to the decision-maker, all impact on the length of time spent on the individual steps in the decision-making process.

Strategic and complex decisions generally demand a systematic approach. Effective decision-making in these situations involves collecting facts, evidence and data to support or challenge an initial gut feeling. Time should be spent analysing information and considering different options before making a strategic decision. Strategic and complex decisions should involve discussions with other members of the business and potentially external advisers.



Figure 1: The steps in the decision-making process.



In a family, business, or farm setting decisions are often made in one of four ways:

### *Autocratic*

Made by one person who takes control and is responsible for the final decision; the fastest way to make a decision; lacks group or team ownership.

### *Democratic*

Made on the basis of majority rules; encourages participation and is good for large groups.

### *Consensus*

Made by the group; fact based; lists the pros and cons; seeks consent of all participants.

### *Collaborative*

Constructively explore the different options; can be time-consuming; referred option for major business decisions.

*Think about the way decisions are commonly made in your farming business. Does it vary depending on the importance, complexity or impact of the decision and the outcomes?*

Decisions can be:

- Simple – these are the easiest decisions to make. They have few variables and a clear right or wrong outcome. Often these decisions are made automatically or intuitively, such as when to stop work and collect the children from the school bus.
- Complicated – these decisions have several variables with clear relationships but generally require new knowledge or information, such as crop type and variety choice.
- Complex – involves several ‘complicated’ decisions that are interlinked. There are multiple variables and the trade-offs are difficult to quantify or compare easily, such as machinery purchases or expanding farm scale.

Resources are available to help during the stages of the decision-making process. Some people like to attend field days, information sessions and discussion groups when collecting data and information to assist them identify and analyse the alternatives. Other people feel more comfortable in one-on-one situations, consulting an adviser or mentor. The internet is a common source of information and provides an opportunity to get feedback through social networks.

It is important to be clear who is responsible for making the final decision. This may vary depending on what the decision relates to within the farm business. Sometimes, a group discussion about the different options can be confused with making a final decision. Make sure the discussion is drawn to a conclusion and the decision is clear to all. Once a decision is made, the next step is to communicate the decision to all parties and ensure it is carried out.

The individual responsible for the final decision should guide the implementation. For example, when developing a grain marketing plan, external advice can be coupled with a discussion between all members of the business. Then, once a decision is made, one person can be clearly identified to implement the grain marketing plan at key points.

### Types of decisions

Decisions are made at different management levels within a business. They generally fall into one of four categories:

1. Strategic or long-term;
2. Tactical or within a single production season;
3. Operational or short-term; and
4. Transactional or daily tasks.

The sources of information, complexity of the decision and frequency it is made varies for each of the different levels, as outlined in Figure 2.



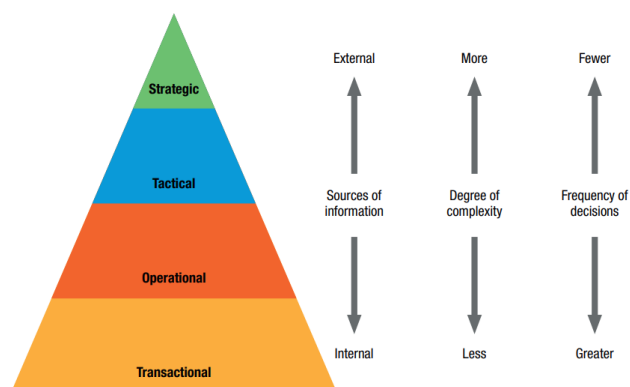
For example, long-term strategic decisions are likely to be more complex and require external information or advice. However, they are made less frequently than operational or daily transactional decisions.

A strategic decision about land use, adopting a new enterprise, or farm expansion can require analysis of factors such as finances, profitability, plant and equipment capacity and land class suitability. This type of strategic decision making is important for determining the most appropriate farming systems and can often involve more than one external adviser as well as all members of the farm business.

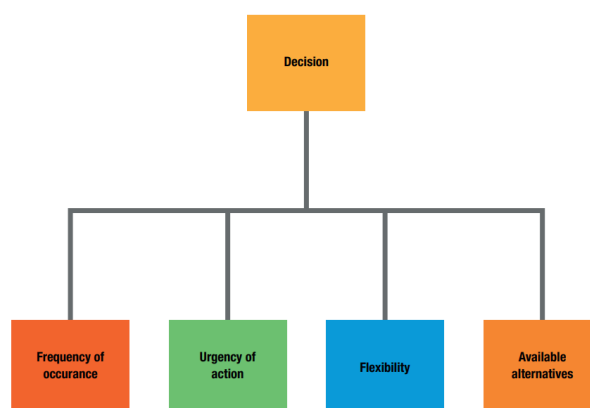
Tactical decisions are similar. They can be complex and may require some outside input. Tactical decisions are those made around crop type, rotations and sequences.

In contrast, operational decisions such as paddock sowing order, seeding depth and rate, or fertiliser and pesticide use, are made regularly throughout the year. Operational decisions and skills make sure the farming system is efficient and productive.

Transactional decisions, generally made on a daily basis, are often the most straightforward, made regularly and rely on internal sources of information. Examples include deciding the amount of land and which paddocks should be sown each day, or which tractor to use for different tasks.



**Figure 2** An illustration of the different levels at which decisions are made within a business showing the relationship with information, complexity and frequency.



**Figure 3** There are a number of influences when making important decisions.

### Skills & Knowledge

Developing the skills and knowledge to make effective business decisions is important for driving profitable farming systems and enterprises.

Decision making skills are often overlooked when assessing the strengths and weaknesses of a business and its personnel.

However, these personal management skills are likely to be more important than actual business assets when assessing the potential of an individual farm business.

Access to whole farm or enterprise records supports the analysis of how efficiently an enterprise is operating, and can point to areas where decisions need to be made to improve profitability.

If there is good quality, relevant data then less time is spent debating the data and more time is spent assessing the options.

**Tip: What records does your farm have to support your decision making? Can they be accessed and analysed easily and quickly?**



### Influences

An individual's reaction to a given situation, how they think and their previous experiences are central to effective decision-making.

When making decisions there are often many factors that can influence the decision making process and therefore the final outcome (Figure 3). These include the frequency that the decision is made, the urgency of the actions around the decision, and the flexibility and number of alternative options available.

### Timeline

All decisions have an optimal timeline in which they need to be made. In some instances the timeline may be extended, however, usually the decision needs to be made within a certain period to optimise the outcomes.

Often operational decisions need to be made urgently once a problem is identified, therefore thinking ahead and anticipating upcoming decisions is particularly important. Where possible, allow time to plan ahead and collect information that is likely to be needed in advance to avoid rushing an important decision.

An effective manager must determine the appropriate amount of resources and time to spend when making individual decisions. Knowing when to stop investigating and actually make a decision is important and avoids 'paralysis by analysis'.

**Tip: Avoid potentially missing an opportunity because a decision wasn't made in time. Be particularly conscious of procrastinating for too long on decisions that have a relatively small impact.**

### Thinking styles

Other factors such as goals and management style, attitude and personality can also impact the decision-maker's approach as most family farming encompasses business and personal goals. Understanding different thinking styles can help explain different approaches to decision making.

Individuals use different cognitive or thinking styles when making decisions. Some use linear or systematic approaches, where facts are gathered, advantages and disadvantages are analysed, and decisions are generally easily explained. Others use non-linear or intuitive approaches that typically look at the relationships of the different options and the possibilities and assumptions for the future. In this case, the final decision or course of action may be harder to explain to an external party.

One approach is not necessarily more effective than the other and a mixture of both can deliver the best outcome. However, being aware of the influences involved can help determine if the final decision is rational. Often non-rational influences are based on an individual's emotions, and acknowledging such influences will make decision-making more effective.

### Experience

Severe events such as drought and natural disasters can bias a farmer's decision making without them being aware. While personal experience is valuable, it can override more rational possibilities when emotions take over.

Think about whether the decision is being heavily influenced by past experience, peer groups or research information. This can help when explaining the decision and outcomes to different people, and determining whether it is the most appropriate option. A good check is to ask if the decision makes common sense and has positive benefits.



## Sound decisions - good outcomes

Top farmers consistently make effective decisions despite seasonal, price and cost variations. Identifying appropriate decision outcomes requires a sound understanding of the various sources of risk, their chances of occurring and their impact on the business and people involved.

An appreciation for the decision-making process can assist in achieving timely, effective and profitable outcomes. In some instances deferring a decision is a legitimate outcome.

To make more effective decisions:

- Be clear on the desired outcome;
- Be objective and communicate clearly;
- Listen to your gut feeling, be aware of your emotions, but also consider the data and information available to you;
- Discuss the alternatives with business partners and an external source such as a neighbour, trusted adviser or discussion group; and
- Try not to procrastinate in making the decision.

Ultimately, you need to be satisfied that the right decision has been made given the context, data available and relative impact on the business at the time.

## Frequently asked questions

### How do I know if I have made the right decision?

Sometimes a decision can be the right decision given the information and resources available at that point in time. Timing and luck can play a role in the outcome. It is easy to say “in hindsight maybe we should have ...”; however, if you accessed objective information, analysed the possible options and involved other people in the decision making process, you made the right decision at the time.

### Who should be involved when making a decision?

It depends on the type of decision being made. Strategic or tactical decisions should involve all members of the farm business, including family. They also benefit from some form of external input, which may be from an agribusiness consultant, financial planner, accountant, agronomist or a mix.

Operational decisions are more likely to involve knowledge from within the business, or occasionally from a specialist adviser depending on the nature of the decision. Transactional or daily decisions are generally made by one person, especially when they need to be made urgently.

### How do I become a better decision-maker?

Understanding the process and influences involved when making decisions can help you become a more effective decision-maker. Practise is also important. When you make a decision, reflect whether or not it achieved the desired outcome, and why. Visualise which step you are at in the decision-making process (Figure 1) and mentally categorise the decision as strategic, tactical, operational or transactional.

### How can my neighbour make good decisions quickly?

It may appear that the neighbour makes effective decisions quickly. However, they have most likely planned ahead and gradually built up the knowledge and resources so that when an important decision needs to be made, they can do so in a timely manner.

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# CALENDAR OF EVENTS

Event	Date	Location
Liebe Group Annual Dinner	December 2019 Date to be confirmed	Liebe Group office

2020 Events		
Trials Review Day AgChats & Annual General Meeting	Thursday 5th March 2020	Liebe Group office
Crop Updates	Wednesday 11th March 2020	Dalwallinu Recreation Centre
Women's Field Day	Tuesday 16th June 2020	Dalwallinu Recreation Centre
Post Seeding Field Walk	Wednesday 22nd July 2020	Main Trial Site, Latham
Spring Field Day	Thursday 10th September 2020	Main Trial Site, Latham

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