



FARMANCO

FARMANCO *Facts*



EDITORIAL BY
RICHARD BRAKE

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Welcome to the September edition of Farmanco Facts. Last month I had the pleasure of hearing an entertaining speaker from outside of the agricultural industry present at a lunchtime Bankwest Connect Event. The title of the talk was 'Five elements of the digital revolution to watch', and the speaker was Stephen Scheeler. What struck me most was that although he was talking about the digital tech industry and associated businesses, his comments could be applied to just about any industry and any business.

Stephen was the Facebook CEO for Australia and New Zealand from 2012 to 2017, so from the time that Facebook was an unknown digital start-up with zero market share to be the market leader in the media space, all in the space of four years. He now consults to some of the biggest companies in Australia. Over lunch he talked about the digital revolution and five key elements that impact and change how businesses operate today, compared with forty or fifty years ago.

The first of the five elements is speed to market. The digital revolution has changed the way we, as business owners and operators in the agricultural sector can get new and innovative ideas, allowing us to open new avenues at a faster rate. It took radio forty years to reach 50 million users, whilst it took WeChat, a Chinese multi-purpose social media app - 4 months to reach the same number. This also creates challenges as it also means that the consumers of the products we produce, think a lamb cutlet consumer in a Beijing high-rise or a beer drinker in a London West End

bar, can obtain information about the food and drink they consume almost immediately. These consumers have no first-hand knowledge of how the lamb was produced, or the barley grown, other than what they obtained through digital platforms. What information are they receiving right now that in the past would have taken longer and been more filtered?

The second element was challenging boundaries. Stephen said that in the past, businesses could easily identify who their competitor was, but this has changed. Stephen used the example of Netflix. In 2010 no one saw Netflix as a competitor but with mobile devices becoming more prevalent, Netflix saw an opportunity to become a disruptor, they took a gamble and invented something completely new - streaming. They went from a \$3 billion company in 2010 to a market cap of \$153 billion in 2018. Don't be complacent, always think a few steps ahead and never underestimate your competitor. Identify the biggest point of friction in your business and fix it.

Element three was data is your fuel. Stephen went on to explain that most of the future value in your business lies in data that you currently don't collect or don't understand today - 90% of the data in the world today was generated in the last two years. Stephen went on to give that some context by saying that 107 billion people have lived, with just over 8 billion people alive today. Half of those alive today have no internet which means that just under 4% of the people that have ever lived have generated the majority of the data. How are you going to use the data you produce?

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In element number four Stephen told us to assess our business culture, saying that many businesses are going agile by changing their culture. He defined this by saying that an agile way of working focuses on individuals and interactions with a model that is able to respond to change, whereas non-agile models focus on processes and structures and follow a plan. He identified a number of traits of successful agile businesses, in no specific order, vision, humility, transparency, speed, data dexterity, customer obsession and adaptability.

The final element was – take a look at your talent. Stephen believes that we need to change the way we think about talent and believes that we over-value credentials and experience when hiring people, for almost every role. He found during his time at Facebook that in certain roles, experience and credentials can sometimes negatively influence the impact and drive someone has within the business and explains that we need to be more open when hiring people. Get them through the door and then assess their ability to solve problems and do the work, rather than have them self-limit by whether they feel they are able to apply for the job – how many suitable people for your business have you missed out on by how you have worded your job advert and they have not even applied? Stephen also talked about time management and the role of meetings or lack thereof within Facebook, highlighting that you only have meetings to tell something, ask something, decide something or brainstorm. How much time is wasted because none of those four factors apply in the meeting you have asked for, or are attending – is it the best use of your time?

In this edition Jane Packard takes a look at pulses, specifically peas, lentils and faba beans, given the renewed interest and need for a non-grass based rotational break; and the impact that government policies, especially in the Indian subcontinent can have on prices creating greater uncertainty although demand appears to be on the increase. With harvest fast approaching David Cameron reviews crop topping and provides some insight into using Diquat more effectively for this purpose; whilst Ben Curtis poses the question: Are you worth an extra \$27,000? This article explores the importance of negotiation and being prepared to shop your business around. 🌱



WELCOME TO EVE KENT

Eve Kent has recently joined Farmanco, starting in May as Finance Manager based in Mundaring. Eve completed her MBA (Master of Business Administration) whilst working as Practice Manager for a West Perth Chartered Accounting firm. Eve worked in this role for 8 years, before launching her own bookkeeping business in 2007. Eve continues to oversee this business, with her staff managing day to day activities.

With Eve's strong bookkeeping background, Farmanco launched Farmanco bookkeeping in August. Eve leads our team of bookkeepers and is looking forward to growing this area of Farmanco's services that we can offer to our clients.

Eve has lived in the Perth Hills for over 25 years and enjoys spending her weekends with her husband, two children and three alpacas on their 3-acre property. Eve is looking forward to applying her financial and business management skills to assist the Farmanco team achieve their goals and also see the growth of Farmanco Bookkeeping and the benefit this will add to our clients. 🌱

Cover Photo: 'International Truck'
Photo courtesy of Matthew Page
Entered into the 2019 Farmanco Photo Competition

<p>Eve Kent - Lead Consultant With a Master of Business Administration (MBA) and BAS Agent registration, Eve brings over 20 years of bookkeeping knowledge and experience to Farmanco Bookkeeping. Eve leads our team of bookkeepers from our Mundaring, Walliston and Albany offices. E: eve@farmanco.com.au</p>	<p>CONTACT FARMANCO P: (08) 9295 0940 E: mundaring@farmanco.com.au A: 2 Hartung Street MUNDARING WA 6073 WWW.FARMANCO.COM.AU</p>	<p>FARMANCO BOOKKEEPING</p>
<ul style="list-style-type: none"> • Certified Partner and Advisor MYOB, XERO and Quickbooks • On Site Support & Remote Assistance • Registered BAS Agent • Over 50 Years Combined Bookkeeping Experience 		<p>FARMANCO</p>



CROP-TOPPING AND RYEGRASS SEED SET CONTROL

By David Cameron and Michael Lamond, Lamond & Co

KEY POINTS:

- If used later, Diquat can sterilise more ryegrass seed than we have previously considered possible;
- Late diquat will work better in situations where the season finishes sharply;
- The permit to use glyphosate in feed barley has been extended, to allow it to be used prior to this harvest.

THE PROS AND CONS OF CROP TOPPING

Crop-topping is effective at reducing the amount of seed set by weeds in a crop. The negatives of crop-topping are the cost of the operation and the yield loss. Yield is lost through wheel tracking and because the crop maturity doesn't match the weed maturity. A crop-topping pass also uses up a shot of herbicide as it places selection pressure on the weed, taking it along the path to resistance.

THE BARLEY ISSUE

There are growing concerns from markets about pesticide use in crops. Other than grain storage pesticides, those used for crop topping are the last applied prior to consumption. Increasingly, feed barley has been crop-topped with glyphosate, especially in areas with milder finishes. Until mid-2018 there was consideration that malt barley also be included for this practice. However, things changed and by harvest 2018 glyphosate-treated feed barley was being segregated to manage market risk.

This year the use of glyphosate in feed barley has been on a roller coaster ride. On the 4th of June 2019, the day after a Melbourne gardener commenced legal proceedings against Bayer seeking compensation for cancer, Nufarm declared that it would not seek an extension to the permit for Weedmaster DST® to be applied to feed barley. The permit expired on the 31st July 2019 and at the time of writing there is no permit. Fortunately, Bayer have committed to be the registrant in a Grain Producers

Australia permit for feed barley, which has just been granted an extension until 30th April 2020.

Even when a product with its residue profile is registered for use in Australia, it doesn't mean that export markets will accept these residues. When this happens, as it has with glyphosate and imidazolinone herbicides in barley, expect issues with pricing and delivery (access to segregations).

This is inconvenient for us but consider the implications for Nufarm and Bayer. Both companies have seen their share prices roughly halve over the last 12 months. Nufarm's announcement on the 3rd June 2019 to the Australian Stock Exchange about its exposure to litigation for having sold glyphosate can be read at:

<https://www.asx.com.au/asx/statistics/announcements.do?by=asxCode&asxCode=NUF&timeframe=D&period=M6>

CURRENT CROP-TOPPING OPTIONS

Glyphosate can be used in most of the crops we grow except barley and lupins. Paraquat can be used in the legume crops, but not cereals or canola. Sharpen® can be used in most crops except canola and oats, where it is useful for reducing wild radish seed set. Interestingly there is a herbicide which is legally able to be used in all crops we grow - Diquat. Table 1 shows the options available for crop topping.

CROP-TOPPING WITH DIQUAT

Diquat is able to desiccate crops and get them ready for harvest, but in the past, variable ryegrass control has been achieved. In many situations there is only a small reduction of viable seed. Mike Lamond, the crop topping pioneer, has found that higher levels of seed sterilisation with diquat can be achieved by delaying the time of application and getting good coverage of the ryegrass panicles. While diquat can come close to the level of sterilisation of paraquat, (see Figure 1), diquat will never be as good because it requires some of the early maturing ryegrass to set seed so that most of the ryegrass seeds have emerged from the leaf sheath to be exposed for desiccation.

Diquat will work more reliably in seasons and environments with abrupt finishes. Softer environments with later tiller production and



CROP	Active Ingredient	Specific Registered Product	Low Rate	\$/ha	High Rate	\$/ha	Adjvant	Harvest Withholding Period	Timing & Comments
Barley	2,4-D Ester 680	MFR	1700					NRD	GS37 (hard dough).
	Diquat 200 gai	MFR	1000		3000			NRD	Spray as soon as the crop has reached full maturity.
	Senflufenacil 700g/kg	Sherpen	34g ^a			+1% MGO	14		Apply between GS71 (watery ripe where first grains have reached half their final size) and GS83 (early dough). For the reduction of seed set and viability of weed seeds.
Canola	Glyphosate 470g/L	Weedmaster DST	2000					7	Below 28% moisture. Do not apply to malt barley. Glyphosate-treated feed barley is required to be declared on delivery.
	Glyphosate 340g/L	Weedmaster ARIGO	1700					7	Below 28% moisture. Do not apply to malt barley. Glyphosate-treated feed barley is required to be declared on delivery.
	Diquat 200 gai	MFR	1500		3000			4	Spray when 70% of the pods are yellow and the seeds are brown/ bluish and pliable. Direct harvest 4 to 7 days after spraying.
	Glyphosate 470g/L	Weedmaster DST	1400		4100			5	Minimum of 20% of seeds have changed to a dark brown/black colour. Do not apply after windrowing, to seed crops or direct on windrows.
	Glyphosate 370gai	Roundup Ultramax	1200		3400			4	Minimum of 20% of seeds have changed to a dark brown/black colour. Do not apply after windrowing to seed crops, or direct on windrows.
Chickpeas	Diquat 200 gai	MFR	2000		3000			4	Spray as soon as the crop has reached full maturity.
	Glyphosate 450g/L	MFR	815		2100			7	Apply when physiologically mature and less than 15% green pods.
	Glyphosate 470g/L	Weedmaster DST	780		1800			7	Apply when physiologically mature and less than 15% green pods.
	Glyphosate 340g/L	MFR	680		1800			7	Apply when physiologically mature and less than 15% green pods.
	Glyphosate 370gai	Roundup Ultramax	645		1700			7	Apply when physiologically mature and less than 15% green pods.
	Metsulfuron + glyphosate 470g/L	Aly + Weedmaster DST	5g+380		5g+1200			7	Mature and less than 15% of green pods are present.
	Metsulfuron + glyphosate 540g/L	Aly + Weedmaster Argo	5g+500		5g+1100			7	Mature and less than 15% of green pods are present.
	Paraquat 250 gai	MFR	400		800		0.1% Wet	7	
	Senflufenacil 700g/kg	Sherpen	34g ^a		645		+1% MGO	7	80 to 85% of pods within crop have turned yellow-brown.
	Glyphosate 370gai	Roundup Ultramax	300		3000			7	Apply when pods turn black and average seed moisture content is below 30%.
Faba Bean	Diquat 200 gai	MFR	2000		3000			4	Spray as soon as the crop has reached full maturity.
	Glyphosate 450g/L	MFR	385		2200			7	Below 30% seed moisture, pods going black.
	Glyphosate 470g/L	Weedmaster DST	365		2100			7	Below 30% seed moisture, pods going black.
	Glyphosate 340g/L	MFR	320		1800			7	Below 30% seed moisture, pods going black.
	Paraquat 250 gai	MFR	400		800		0.1% Wet	7	
	Senflufenacil 700g/kg	Sherpen	34g ^a		645		+1% MGO	7	Hilum black in the pods at the top of the canopy (30 to 80% of pods ripe and dark).
	Diquat 200 gai	MFR	2000		3000			4	Spray as soon as the crop has reached full maturity.
	Glyphosate 450g/L	MFR	385		2200			7	Below 30% seed moisture, pods going yellow.
	Glyphosate 470g/L	Weedmaster DST	365		2100			7	Below 30% seed moisture, pods going yellow.
	Glyphosate 340g/L	MFR	320		1800			7	Below 30% seed moisture, pods going yellow.
Field Peas	Paraquat 250 gai	MFR	300		645			7	Apply when seeds turn yellow and average seed moisture content is below 30%.
	Paraquat 250 gai	MFR	400		800		0.1% Wet	7	
	Senflufenacil 700g/kg	Sherpen	34g ^a		645		+1% MGO	7	30% seed moisture or when lower 75% of pods are brown with firm seeds and testary pods.
	Glyphosate 470g/L	Weedmaster DST	1400		4100			3	Apply to mature standing pasture within 1 to 10 days prior to cutting or mowing.
	Glyphosate 370gai	Roundup Ultramax	1200		3400			3	Apply to mature standing pasture within 3 to 10 days prior to cutting or mowing.
Hay/Silage	Diquat 200 gai	MFR	2000		3000			4	Spray as soon as the crop has reached full maturity.
	Glyphosate 450g/L	MFR	815		2100			7	Apply when physiologically mature and less than 15% green pods.
	Glyphosate 470g/L	Weedmaster DST	780		2100			7	Apply when physiologically mature and less than 15% green pods.
	Glyphosate 340g/L	MFR	680		1800			7	Apply when physiologically mature and less than 15% green pods.
	Glyphosate 370gai	Roundup Ultramax	645		1700			7	Apply when physiologically mature and less than 15% green pods.
	Paraquat 250 gai	MFR	400		800		0.1% Wet	7	
	Senflufenacil 700g/kg	Sherpen	34g ^a		645		+1% MGO	7	Just after crop starts to yellow (or senesce).
	Diquat 200 gai	MFR	2000		3000			4	Spray as soon as the crop has reached full maturity.
	Paraquat 250 gai	MFR	400		800		0.1% Wet	7	80% Leaf drop.
	Senflufenacil 700g/kg	Sherpen	34g ^a		645		+1% MGO	7	80% Leaf drop. Do not apply if lupins are to be windrowed.
Lupins	2,4-D Ester 680	MFR	1700					NRD	GS37 (hard dough).
	Diquat 200 gai	MFR	1000		3000			NRD	Spray as soon as the crop has reached full maturity.
	2,4-D Ester 680	MFR	1700					NRD	GS37 (hard dough).
Oats	Diquat 200 gai	MFR	1000		3000			NRD	Spray as soon as the crop has reached full maturity.
	Diquat 200 gai	MFR	1000		3000			NRD	Spray as soon as the crop has reached full maturity.
	Glyphosate 450g/L	MFR	1100		2200			7	Below 28% moisture.
	Glyphosate 470g/L	Weedmaster DST	1400		4100			5	Below 28% moisture.
	Glyphosate 340g/L	MFR	900		1800			5	Below 28% moisture.
Wheat	Glyphosate 370gai	Roundup Ultramax	830		3400			5	Below 28% moisture.
	Senflufenacil 700g/kg	Sherpen	34g			+1% MGO	14		Apply between GS71 (watery ripe where first grains have reached half their final size) and GS83 (early dough). For the reduction of seed set and viability of weed seeds.

CONTROL KEY: NRD - Not required when used as Directed. ^a Apply with recommended label rate of Paraquat or Glyphosate. #NS (not specified) MFR (multiple products registered, check label)

Table 1: (Opposite Page) Pre-Harvest Desiccation options (Farmanco 2019 Pestbook)



Figure 1: Ryegrass seed sprayed at the optimal time for diquat. (Left:) Untreated Control; (Centre:) Paraquat at 1L/Ha; (Right:) Diquat at 1.5L/Ha

regrowth are not going to experience good results even with higher diquat rates, as the ryegrass plants carry-on and produce seed.

Diquat sterilises seed in florets which have emerged from the sheath, if they are still in the leaf sheath,



there is no control. This is unlike glyphosate which translocates and sterilises, and paraquat which at high rates can desiccate seed through the leaf sheath (See Figure 2).

The time of application is when the abscission line on the ryegrass seed is detectable. This looks like 40-60% seed colour change from green to purple-light brown (See Figure 3). At this timing the ryegrass panicles will be gold in colour, with less green (See Figure 4).

Figure 2: (Left:) Fully emerged panicle desiccated by diquat; (Centre:) Partially emerged panicle, only the top florets and the leaf sheath have been desiccated; (Right:) An unemerged panicle at the time of spraying was not desiccated at all.



Figure 3: The two seeds on the left are too early for diquat, the two seeds on the right are at the correct maturity for diquat sterilisation.



Figure 4: (Left:) These green/yellow panicles produce the green seed on the left in Figure 3, which is too early. (Right:) These golden panicles produce the purple seed on the right in Figure 3, which is the correct timing.

The labelled timing for diquat use in crop is at the 'fully mature' stage. In Mike's trials in the WA wheatbelt in barley, the crop timing may be as early as no green on the glumes or flag.

This may not apply in all seasons or in other regions, so the usual discretion required with timing and crop yield loss is required.

Coverage is key to success with diquat. It is more important than the rate. The 1.5L/Ha rate is optimal for ryegrass where panicles have emerged. Increasing the rate to 2L/Ha hasn't helped where emergence is staggered, reiterating that this is not going to work everywhere. The best results have been achieved with high water rates, around 100L/Ha, with high pressures, in the order of 450kPa (not with high pressure air inducted), using slow forward speeds, down to 14km/hr. Adjuvants haven't been as important as these other aspects of the spray job, but the adjuvant system which has delivered good results is LI700 at 0.5% with 0.25% wetter 1000.

Diquat has the advantage of being the best herbicide for seed set control in radish, followed closely by



glyphosate, which is followed by paraquat. The speed of desiccation gives diquat the edge over glyphosate.

CROP-TOPPING WITH GLYPHOSATE

Glyphosate is registered for a pre-harvest application to desiccate the crop and weeds seeds (See Table 1). The formulations registered are either Roundup Ultra[®]Max, Weedmaster[®] Argo[®] or Weedmaster[®] DST[®]. The rate for canola, wheat and hay, which includes all the cereals, is Weedmaster[®] DST[®] 470g/L @ 4.1L/Ha. The rate for the pulses (other than lupins which aren't registered) is 2.1L/Ha, and in the past the barley permit rate was 2L/Ha, but this could change.

With low use rates, as is the case with spray-topping, it is important to target ryegrass at flowering while the other grasses can progress to the milky dough stage (See Figure 5). With the high rates used in crop-topping you can achieve sterilisation of ryegrass seed at the milky dough stage. Glyphosate at higher rates can do this because it works more rapidly. (Be aware of this effect in situations where the feed quality is important for grazing, because higher rates decrease the feed quality).

Rates above 2.5-3L/Ha are effective at controlling large reproductive wild radish;

LI700 at 0.3-0.5% with its spreading, penetrating and anti-evaporant properties is the preferred adjuvant.



Figure 5. Crop-topping timing for glyphosate (circled).

CROP-TOPPING WITH PARAQUAT

Crop-topping can occur in pulse crops up to a maximum rate of 800mL/Ha. Although the desirable timing stated on the label is to have all seed heads emerged and just past flowering, the 800mL/Ha rate has proven itself to be reliable when applied prior to soft dough. At this timing, the panicles are red and green in colour (See Figure 6). The 800mL/Ha rate is required because this provides some penetration and sterilisation of florets under the leaf sheath.

This is not experienced at the lower rates used in spray-topping pasture.

It is worth noting that while paraquat is not the most effective herbicide for sterilising wild radish seed, it still provides significant desiccation, especially at rates of 1.5L/Ha, which is permissible in pastures (The label allows for the use of 2.4L/Ha in pasture).

Being a contact herbicide, coverage is critical, so surfactants must be used. These are formulated into the original Gramoxone[®] 250, but they are not formulated into Gramoxone[®] 360 for which the label requests wetter 1000 or LI700 at 0.25%. With generic paraquat formulations you cannot be sure if the formulation contains surfactant so add the wetter 1000. There is some benefit in adding oil in late spring or summer as an anti-evaporant, in this case use mineral oil at 1% with the wetter, or a crop oil concentrate, which contains both oil and surfactants e.g. Uptake[™] or Hasten[™] at 0.5-1%. In general, paraquat is not as responsive to adjuvants as diquat.



Figure 6: Crop-topping timing for paraquat (circled).

CROP-TOPPING WITH SHARPEN[®]

Sharpen[®] is registered in wheat, barley and triticale for wild radish seed set control. It doesn't always kill the radish plants, but it does remove the flush of pods ripening with the crop. The plants usually need to be controlled after harvest to stop all seed set.

The timing in the crop is between watery ripe when the grains are half their final size and the early dough stage. Sharpen[®] is effective because it catches the radish at this earlier timing. For the radish, ideally the most advanced pods will be just starting to segment. The younger, thinner pods with pre-embryonic seeds will be well desiccated.

Good coverage penetrating through the canopy to the base of the radish plant is required for the best results. This is because saflufenacil will translocate upwards to the seed. The application volume



recommended is 100L/Ha and the adjuvant is an MSO/ESO at 1%.

SUMMARY

When used at later timings, diquat is more effective at crop-topping than previously thought. It is not going to work as well in softer environments with staggered panicle emergence and later tiller production.

Glyphosate is ideally applied during ryegrass flowering and not after milky dough. Paraquat cannot sterilise after soft dough. To be successful, diquat is applied slightly later than this when most panicles have fully emerged, and half the seed is purple/light brown in colour. At this stage some of the ryegrass will have set seed.

The use of glyphosate in barley in the future is uncertain. While hopeful for a permit for this harvest, it is yet to be approved. In the longer term and with weed seed destructors coming, we are going to transition towards swathing cereals, especially barley. 🌱

GREG EASTON CELEBRATES 10 YEARS



Farmanco would like to congratulate Greg Easton on 10 years with us. Greg is based out of the Mundaring office and consults to farm business clients up and down the central part of the wheatbelt, from Coorow to the Stirlings.

Greg expresses surprise that 10 years have passed and remembers a client asking, when he first started, how long he would be working with Farmanco. Greg said at least five years, and now he has reached double that figure!

Greg comes from a farming background; from a small town of Tincurrin. He completed a mature age degree then worked in finance in regional Western Australian, before moving to commercial finance in the Perth CBD.

During the GFC, Greg was working in the finance sector and was looking for a career outside of finance that would enable him to work with rural Australians; preferably farmers. Farmanco advertised on SEEK and that encouraged him to

apply for the job. Rob Sands and Ken Severson completed the initial interviews.

The things that Greg most likes about the role of Farm Management Consultant is the clients and being invited into their business and lives and then watching their businesses grow and succeed - even if the time frame is sometimes slower than the client or I would like. Greg has a real admiration and respect for farming families.

Pressure comes on to the role from late December until early April. This is the busiest time of the year for a Farm Management Consultant, with the bulk of tight deadline work occurring during that period. August to October is the next busiest time but it doesn't have the same hectic pressure as early in the year.

Some key benefits that Greg believes he offers a farm business are:

- providing an outsider view of the business;
- assisting with the strategic long-term view;
- bringing experience and ideas from researchers and other businesses that will help improve productivity and/or reduce costs to improve business long-term profitability.

When asked what Greg thinks are particularly interesting or exciting for agriculture in Australia, he said that autonomous farming is what he sees as being the next big step. Whether it is in small multifunctional robots or the automation of larger equipment that we already have, (he suspects the latter) it will be interesting to see.

Agriculture is producing vast quantities of data: Yield data, satellite imagery, drone imagery, soil moisture probes and localised weather stations. I am sure that the aggregation of this data will provide better long-term outcomes.

Also, it might be better if more scientific rigor was applied to things that we intuitively believe. Perhaps leading to better yield predictions, rather than using multiple models, in areas such as:

- Dry years with canola under stress in the northern wheatbelt (WA) is likely to see an increase in Diamond Back Moths;
- Dry summer and lower disease;
- Heat being as damaging as frost.

Greg has a life outside of Farmanco! He became involved in the WA water ski community as his children Eliza and Lucas learnt to ski. Greg has been a committee member of the WA Barefoot Club for several years and was initially in charge of keeping the website and social media pages current.



Greg has also picked up lower level judging and driving qualifications on the way through, which enables him to assist at tournaments.

The Easton family is likely to remain involved in water skiing and swimming for the next few years. Eliza became champion girl this year in swimming at Swan Christian College, and runner up in the Inter School Carnival. Lucas remains interested in competitive skiing, in particular barefoot water skiing and water ski jumping.

Greg and his family have plans to travel to the USA, in the longer-term. His wife Yvette would like to take the family to America to see the families she stayed with as a Rotary Exchange student. Greg

would also like to take them to the UK to catch up with his sister and her family. And if possible, would take the family back to the Solomon Island now that the children are above the age of 10, to swim in the Pacific and see the remnants of WW2 tanks and shipwrecks.

To windup, Greg believes that the strength of Farmanco and what it brings to our clients is diversity of thought. By that he means that whether you are a Management Consultant, Agronomist or Grain Marketer in Farmanco - if a client has a question that you can't answer then somebody in the broader group is very likely to have the experience required to offer thoughtful insights into the issue. 🌱

ARE YOU WORTH AN EXTRA \$27,000?

By Ben Curtis, reviewed by Eric Nankivell



KEY POINTS:

- Being a low-cost operator is an attitude;
- A 1% cost saving is worth around \$27,000 pa to the average business;
- Good relationships should work both ways;
- Don't be afraid to shop around;
- Pick some of the largest transactions first.

If you travel overseas you soon get to learn that bargaining for a better price is a part of many cultures. In Australia we are probably not as good at it as many other nationalities, but that is starting to change.

Most of us feel uncomfortable when trying to push for a better deal or a better price. It is easier just to take the offered price and be done with it. During the farming year, there are several large business transactions that take place for which you have the power to influence the deal that is being offered.

If you think of grain marketing, we have come from a place where we delivered grain into a pool and took the price that was given to us. Now we are in a position where we actively trade and seek the highest average grain price possible. Many growers have a strategy to do this and they judge how well they went by the price they achieved at the end

of the year. This is becoming second nature to us and is an important part of business, because it can make a big difference.

There are savings to be made in the upfront costs to the business. "Being tight on costs is an attitude". Making savings in your business today can still be significant, a 1% saving for the average sized business today is \$27,000 pa – not a bad holiday?

Most of us do not want to spend all of our time and energy haggling over price. However, if you target a few of the larger bills it could make a significant difference to the bottom line. Chemicals, fertiliser and finance are the three biggest bills most farms have, and there are plenty of opportunities here to save money. The companies that sell these products have a strategy to encourage loyalty and this has a flow-on effect where people are more reluctant to then shop around their business and look for better prices. Everyone is mates in the farm retail shop.

It is often said that:

"If I am a loyal client, I will be serviced better."

There is good chance that exactly the opposite is possible.

If the supplier thinks that you might move your business away then the chances are they will do their best to service you.



The fertiliser companies often use 'service' as an argument so you will remain loyal and will push that they will supply their preferred clients first. It is a rare event that farmers don't get the products that they have paid for and the chances of missing out are low.

In our view, the main aim is not to change supplier, particularly if you have a good relationship, but rather to make sure that the price is as good as they might give to a new business coming in.

Here are two recent examples of shopping for alternatives. In the first example, a client was keen to see what alternatives were around for their finance business. After a lot of thought, he asked me to assist in putting their banking business out to tender.

To do this, we summarised the business with a balance sheet and cashflow, explained the business in a brief summary and put these in a document. We informed the client's current bank, then contacted a range of other banks presenting this material to them. It was explained that the business was going out to tender and that the process was genuine.

By doing this, we did two things. Firstly, it demonstrated that the businesses were prepared to look for the best deal and weren't going to just take what was given and secondly, it provided the opportunity to look at other banks (their service, products and rates).

The process involved estimating scores for:

- Bank products, facilities and ease of use;
- The quality of the banking relationship and banker;
- The interest rates offered by the bank.

Each of the banks that tendered, provided very sharp interest rates and from my observation the rates were well in front of what they are offering to many existing clients. They knew that the finance aspect of the tender was very important, so they put in their best potential offer. In the end, the deal that was taken was more than 1% better than the existing finance the client was getting.

There are some items to be aware of here. In another tender, the alternative financier offered a rate 1% better than the existing financier, but they had built in a 0.25% fee that we had noticed was not present in another tender. Upon querying the 0.25% fee, it was quickly waived.

The second example was pricing fertiliser: The client was comparing different compounds

from the various companies and trying to measure them up against each other. With the complexity of fertiliser: it is a little bit like comparing phone plans. However, Farmanco has a spreadsheet that allows you to do just this and it showed that many of the products from the different companies lined up fairly similarly (as you would expect), but it was hard to tell without going through the exercise.

The message in this case was that the client should let their existing fertiliser supplier know that they were prepared to shop around for the business. I don't believe that this would have any damaging effect on the existing relationship, but it could also make sure that the price he was being offered by his existing company would be as sharp as possible, not only this year but into the future.

People are often reluctant to do this for fear of upsetting the existing relationships. While relationships are important, we see many examples where the relationship is not well respected by the price on offer. It is possible to build a stronger relationship over a price renegotiation.

We all know that being competitive is something we SHOULD do, but often are just too good natured and trusting to ask directly for the best price. In the end it is just a mindset change. After all, we are moving away from the term "farming families" to "farming businesses" and getting the best price is just another part of doing business.

Negotiation is another skill, but there is no harm in trying and I think there is more to be gained than lost, by going through this process. If you think about all the areas that you spend your money, there are many opportunities to do this. Focusing on the larger bills at first will be the most lucrative for you and perhaps give you the impetus to start pursuing this type of negotiation throughout the transactions that you undertake. 🌱





OVERVIEW OF GLOBAL PULSE MARKETS

By Jane Packard, reviewed by Mae Connelly

KEY POINTS:

- WA's pulses are typically exported to the Indian subcontinent or the Middle East;
- Government policies in key pulse markets can have a large influence on prices, especially in India;
- Pulse markets can be more volatile than other crops;
- Increasing demand means that in the long-term pulse markets are bullish;
- The major drivers of pulses are discussed, focusing on field peas, lentils and faba beans.

The Indian subcontinent is the biggest consumer and importer of pulses and is therefore our most important export market. The sub-continent includes India, Sri-Lanka, Pakistan and Bangladesh. Their pulse import demand varies with changes in local crop yields but is usually around 3-4 million tonnes (mmt).

This article provides an outline of the global pulse market, with a focus on field peas, faba beans and lentils. It includes the major price drivers of each. Look out for a follow-up article in Farmanco Facts soon that will cover grain marketing strategies for these pulse crops.

Figure 1 is a global production calendar, showing seeding and harvest timing for the world's major pulse crops. Figure 2 shows the major markets for Australian pulses. On average, 2.13 mmt of pulses are produced in total, with WA growing 479,000t of this. Around 500,000 tonnes (t) are used domestically, with the remaining 77% of tonnes exported nationally.

INTRODUCTION

Australia usually produces an exportable surplus of pulses, and our export destinations include Asia, North Africa, the Middle East and India.

Pulse markets are volatile, and price changes can be large and rapid. High prices generate an increase in the crop area sown the following season, leading to over-supply and prices falling back down again. The lack of futures markets or significant forward contract markets means that pulses are generally traded on a spot basis.

The fundamentals of supply and demand drive prices, however government intervention can also have an impact on pulse markets. Global production of pulses remains stable, despite increasing demand as the population that relies on pulse protein in developing countries continues to rise.

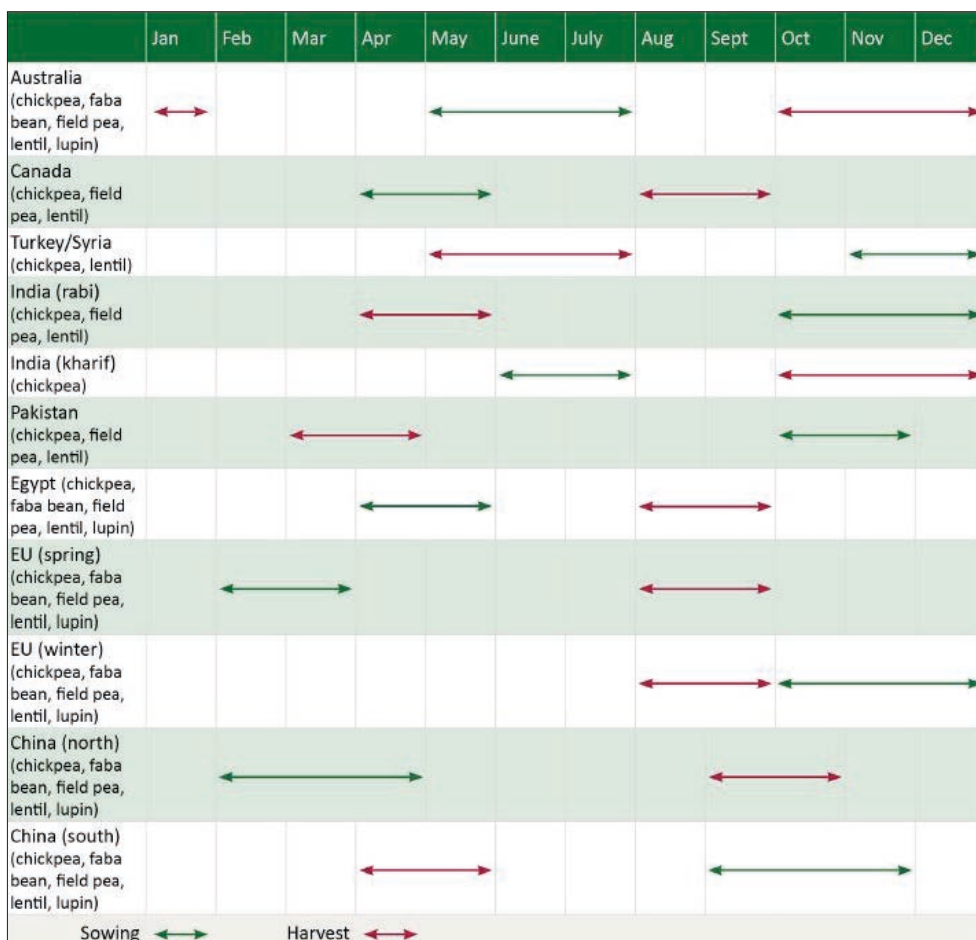


Figure 1: Global Production Calendar (Source: Pulse Australia)



Figure 2: Major markets for Australian pulses (Source: AEGIC)

INDIAN GOVERNMENT INTERVENTION

India held their general election over a five-week period in April and May this year. It was the biggest election ever held in the world, with 900 million votes cast. The incumbent Prime Minister Modi won a strong majority with his BJP (Bharatiya Janata) party.

The next Indian election is now five years away, so the government will be under less pressure to keep their farmers happy. Indian farmers had been pressuring the government to help increase the prices they receive for their pulse crops. The Indian government is also facing pressure from high inflation. Pulses, being a major food staple, have a significant influence on food price inflation.

If Indian domestic pulse prices inflate too much, or production issues develop in global pulse crops, expect the Indian government to reduce or remove import tariffs on pulses.

Current import restrictions imposed by India:

- Lentils attract a 33% import tariff;
- Chickpeas attract a 60% tariff;
- Peas have an import quota of 150,000t, and a 50% import tariff.

FIELD PEAS

The major field pea producing countries globally are shown in Figure 3. Australia is a minor producer, in a market dominated by crops from Canada and the Black Sea. The Black Sea is increasing their production, as they have for most other crops. The average Australian field pea crop is 279,000t, and field peas make up around 10-15% of the average annual national pulse crop.

	2014	2015	2016	2017	2018	2019
Canada	3.81	3.2	4.84	4.11	3.58	4.49
Russia	1.5	1.72	2.2	3.29	2.21	2.12
Ukraine	0.36	0.38	0.75	1.05	1.1	0.95
Indian subcontinent	0.67	0.9	1.08	1.15	0.9	0.94
US	0.78	0.83	1.26	0.64	0.72	0.72
France	0.53	0.66	0.55	0.77	0.65	0.74
Australia	0.29	0.21	0.42	0.29	0.15	0.29

Table 1: Field peas – The major producing countries (million tonnes, 2014-2019, biggest producers only). Source: AGRI-OZ Exports (AustP/L)

The Australian field pea crop is usually a 50:50 split of export and domestic, with WA and SA being the export focused states. Victorian peas are mostly consumed domestically, although there is some demand for peas to be processed domestically and



exported as a split product to destinations like Sri Lanka. Domestic demand for feed varies with the season and supply of alternatives.

India has traditionally been our biggest export market, with up to 136,000t exported in a recent season (2016/17). This dropped down to an estimated 15,000t last season (2018/19) due to the import tariff imposed by the Indian government.

Other export markets are small and stable. They include:

- Bangladesh – an estimated 20,000t exported from Australia in 2018/19;
- Malaysia – 10,000t;
- China – 5,000t.

The Indian subcontinent and the Middle East use field peas for human consumption (dahl, soups, pies and sprouts), while Asian and European destinations use them for both human consumption and stock feed.



Figure 3: Field pea pods, Albany port zone crop 2015 (Kaspa variety).

Australian area planted to peas in 2019 is estimated at 301,600 hectares (ha), with 39,000ha of this in WA. Canadian total pea area is up 20% from last year to 1.75 million ha. Since Canada is the biggest global exporter of field peas, their production numbers have a big influence on export market prices.

Major market drivers for field peas:

- Size of the Canadian pea crop, as they are our biggest competitors on the export market;
- Australian domestic feed grain demand;
- Supply and demand fundamentals of alternative sources of feed such as corn and soybean meal;
- Indian demand;
- Indian government intervention (eg tariffs or quotas on imports).

LENTILS

Lentils are perceived as a high-quality pulse by consumers. There are two major types of lentils grown around the world:

- Green lentils – Grown in Canada;
- Red lentils = Australia's principal lentil as it is more adapted to lower rainfall regions.

Although Australia can be up to 30% of global tonnes traded, generally Canada dominates the world export market for lentils. Last year (2018/19), Canada made up 54% of global exports, followed by:

- Turkey 11%;
- US 11%;
- Australia 9%.

Australia's major export market is India. When there are no export restrictions, India usually take about 80% of our lentils. There is smaller demand from Bangladesh, Sri Lanka, Pakistan, UAE and Egypt. Lentils are mostly used for human consumption by our export markets (dahl, soups, flour, snacks and pappadams).

Figure 4 shows the area sown to lentils in Australia each season, between 1996 and 2018. Most hectares are in SA and Victoria. The national area expanded to a peak in 2017, before contracting with seasonal conditions last year. The long-term average Australian lentil production is 226,000t. Lentils usually make up around 10-15% of the national pulse crop.

The 2019/20 area is forecast to be down 20% from last year, however a rebound in yields following the widespread eastern states drought is expected to see production increase 5% to 341,000t. WA area is estimated at 15,000ha by Pulse Australia, with production at 18,000t.

Figure 5 shows Canadian lentil production and yield from 2010 to this season. It also shows the breakdown in the types of lentils that are grown in Canada.

Major market drivers for lentils (assuming the absence of an east coast drought so we are relying on export markets):

- Indian government intervention (import tariffs and/or quotas);
- Indian production, as our major customer;
- Canadian production and stock levels, as our major competitor.

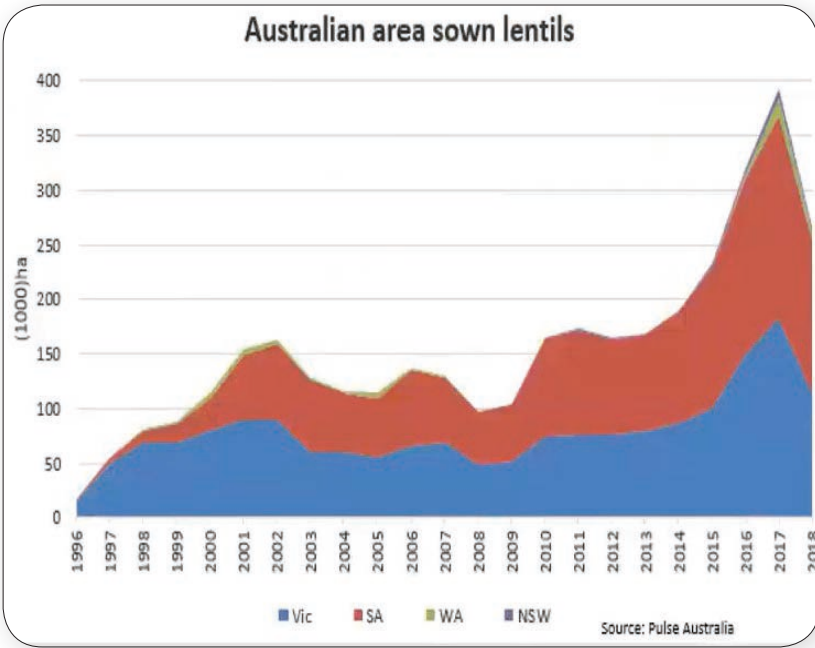


Figure 4: Area sown to lentils in Australia from 1996 to 2018 (hectares, by state). Source: Pulse Australia and Janine Sounness of PBSeeds www.pbseeds.com.au



Figure 5: Canadian lentil production and yield from 2010 to 2019 (production in thousand tonnes, and yield in pounds per acre). Source: Leftfield Commodity Research and StatsCan

FABA BEANS

The long-term average national faba bean crop size is 304,000t, which makes up around 10-15% of the national pulse crop. They are grown in SA, Victoria, NSW and WA. Australia is usually one of the five biggest producers in the world and is often the biggest exporter.

The Middle East is our major export destination for faba beans, including Egypt, Saudi Arabia, the UAE and Lebanon. The biggest importer of faba beans is Egypt, taking 70% of our exports and up to 50% of global imports. They like the

quality and colour of Australian beans, and this can provide us a price premium of \$20-100/t over other origins. However, the Egyptians are price sensitive and if the price gets too high, they import much less.

Faba beans are used in a traditional Egyptian breakfast meal called Ful Medames and Falafel. Our other export markets generally also use them for human consumption, as flour, roasted as snacks, and many other purposes.

Table 2 shows the destination of Australian faba beans from 2012 to 2018.

Our main competitors are France, the UK and the Baltic States (Estonia, Latvia and Lithuania). France have recently stopped exporting into Egypt based on the EU's banning of an insecticide that is vital in producing faba beans for the human consumption market. French faba beans have been replaced by those produced in the Baltic States. They have increased their production and can produce reasonable quality.

The high prices we saw in 2018/19 were a result of major production issues in all the major suppliers into Egypt, including Australia. Egypt usually imports 600,000t in total, from at least four supplying countries. Last harvest they could source less than 400,000t from only two supplying countries.

China is a possible new market for Australian faba beans, but we need a phytosanitary protocol between Australia and China which GIMAF (the Grains Industry Market Access Forum) are working on. Having another export destination like China would help provide some balance to our market and take some reliance off the Middle East.

Harvest	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Egypt	202,577	235,263	196,680	176,246	331,947	234,985	150,000
Saudi Arabia	35,357	56,523	32,590	31,348	44,222	31,166	35,000
Indonesia	11,358	17,884	12,729	18,968	10,463	13,910	11,771
UAE	14,254	17,181	18,280	15,755	17,671	13,883	12,000
Lebanon	5,708	7,303	6,146	2,661	3,561	2,661	1,500


Table 2: Destination of Australian faba beans from 2012 to 2018 (tonnes, period November at start of harvest to October following harvest, top 5 buyers shown only). Source: AGRI-OZ Exports (Aust) P/L



OVERVIEW OF GLOBAL PULSE MARKETS CONT:

The area planted to faba beans in Australia has lifted this year, largely at the expense of lentils. National planted area is estimated at 191,000 hectares by Pulse Australia, just below the long term 200,000-hectare average. This is despite the drought persisting in key growing areas of NSW limiting area, but also providing additional feed demand for fabas.

Major market drivers for faba beans (assuming the absence of an east coast drought so we are relying on export markets):

- Size of the crop grown by our major competitors (France, UK and the Baltics);
- Import demand from Egypt;
- Stock levels and availability of new crop from Australia. 

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Figure 7: Faba beans produced in the Esperance port zone in 2018 (Source: River Plains farm)



Figure 8: Faba Bean Flower. Photo courtesy of GRDC



Figure 9: Farmanco Management Consultants discuss with DPIRD the latest legume opportunities in the Esperance region. (August 2019)



WHAT TO DO WITH A DRY START AND NOW A DRY SEASON?

By Greg Easton, reviewed by David Cameron

KEY POINTS:

- Be realistic about potential yields;
 - Late crops often yield lower than expected;
 - Low levels of subsoil moisture will limit yields unless rainfall occurs;
- Crop Yields above 200 kilograms hectare are economic to harvest;
- All costs already incurred are sunk costs, therefore the decision is “will the next cost improve the outcome by more than the cost?”
- Oats can be grazed or taken through to grain or hay;
- Compare relative profit, but low soil moisture levels and low probability of rainfall favour hay.

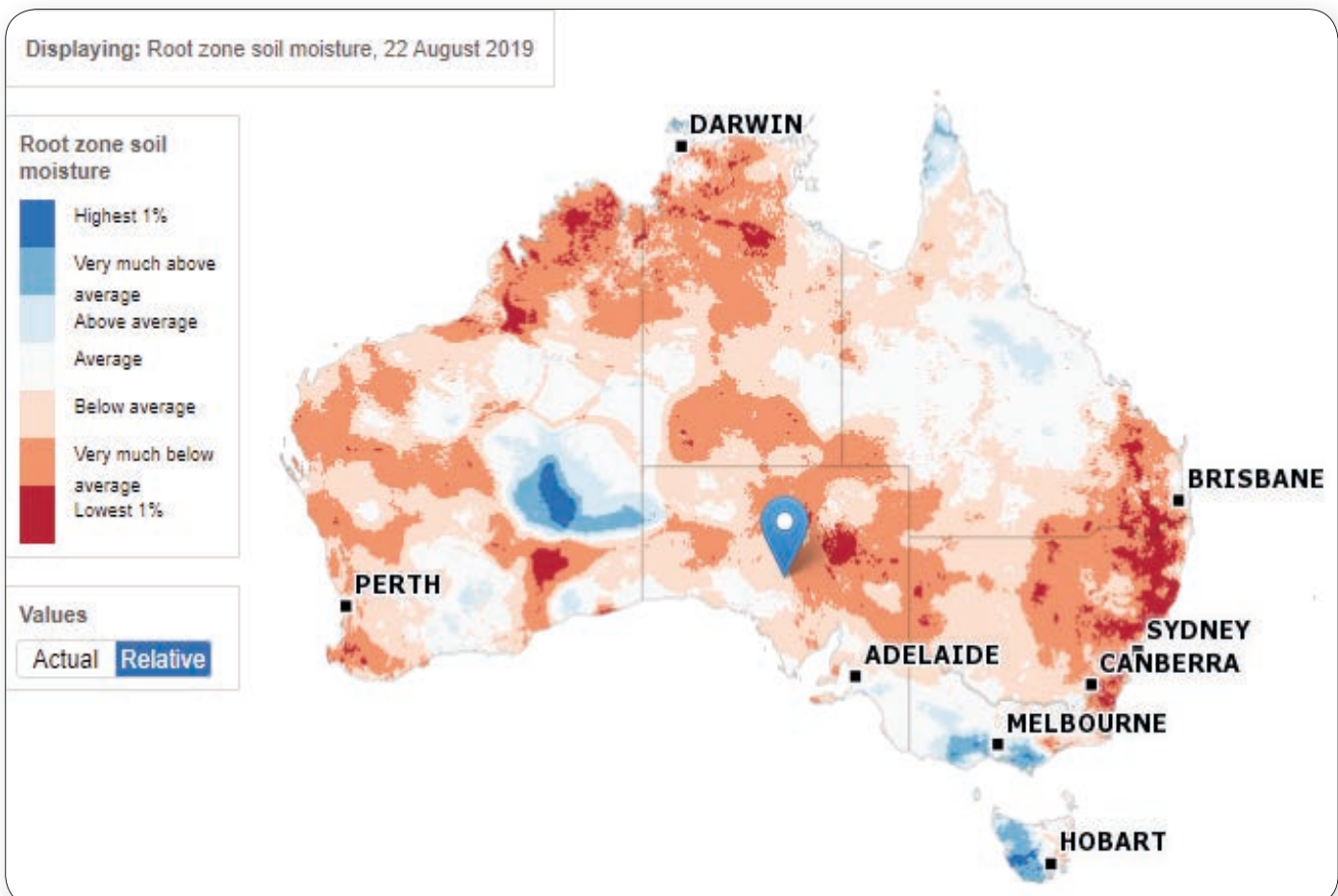


Figure 1: Soil Moisture Map 22 August 2019



In early June, Farmanco circulated an email about the late start to the season. With some parts of the state, particularly the Geraldton Port Zone and Central West of NSW, having been through a dry winter and facing a dry spring, we thought it was worth revisiting these topics. There is also a podcast available in the Farmanco App (Management Podcasts area) discussing this specific issue.

With low levels of subsoil moisture different decisions will be made depending on soil type.

When faced with an adverse season, all decisions fall back to two broad principles:

1. My business is under financial pressure and therefore all decisions are based on the cash impact on the business:

- Is the decision I am making today going to generate a Cash Margin, because generating a Cash Margin will have a positive impact on your business?
- All costs already incurred are sunk costs, therefore the decision is “will the next cost improve the outcome by more than the cost?”

2. My business is in a strong position and therefore decisions can be based on a profit basis and should include depreciation, cost of machinery and future rotational benefits.

To calculate the gross margin, deduct variable costs from the income as demonstrated in Table 1 using 2017 Profit Series Averages.

With variable costs calculated, a breakeven yield to cover variable costs can also be calculated.

Rainfall Zones	Low	Med	High
Wheat Yield	1.63	2.48	3.21
Farm Gate Wheat Price	\$255	\$255	\$255
Gross Income	\$415	\$632	\$818
Wages	12	24	34
Fertiliser	67	100	129
Pesticide	58	75	84
F & O	22	27	30
R & M	27	38	44
Seed	22	26	33
Contract	21	36	52
Other	12	18	25
Total Variable Costs	241	344	431
Gross Margin	\$174	\$288	\$387

Table 1: Calculation of Gross Margins.

Rainfall Zones	Low	Med	High
Farm Gate Price	\$255	\$255	\$255
Break Even Yield T/Ha	0.95	1.35	1.69

Rainfall Zones	Low	Med	High
Farm Gate Price	\$275	\$275	\$275
Break Even Yield T/Ha	0.88	1.25	1.57

Rainfall Zones	Low	Med	High
Farm Gate Price	\$295	\$295	\$295
Break Even Yield T/Ha	0.82	1.17	1.46

Table 2: Break even prices in \$20 increments.

In the example in Table 1, we divided the Total Variable Costs by the Farm Gate Price and are tabled below in \$20 increments.

With crops already sown, sprayed and fertilised, these costs are “Sunk Costs” therefore your cash margin should only include variable cost from now on.

CANOLA AND LUPINS

In 2017 we learnt that canola does not perform well in dry years. This was confirmed again in many areas in 2018 where late established canola did not perform anywhere near as well as wheat, even with a soft finish.

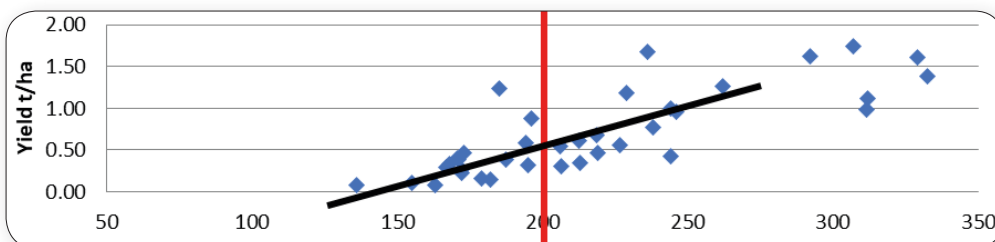


Figure 2: Breakeven yield for canola.

A broad rule for canola and lupins is that you need 200mm of Effective Rainfall to cover variable costs. (See Figure 2)

If using a breakeven yield of 0.5t/ha for canola, the yields for each sowing date or emergence date in Figure 3 will assist you in determining the potential yields for the canola program.

Given this is trial data and paddock yields are often 30% below the trial data, you might want to adjust this even further. (Figure 3, Page 17)

WHEAT, BARLEY AND OATS

Using wheat as a proxy for both wheat and barley, Figures 4a and 4b give an indication of the impact of sowing date or emergence date on when cereals are likely to become unprofitable.

Figure 4 (Page 17) indicates that in the low rainfall

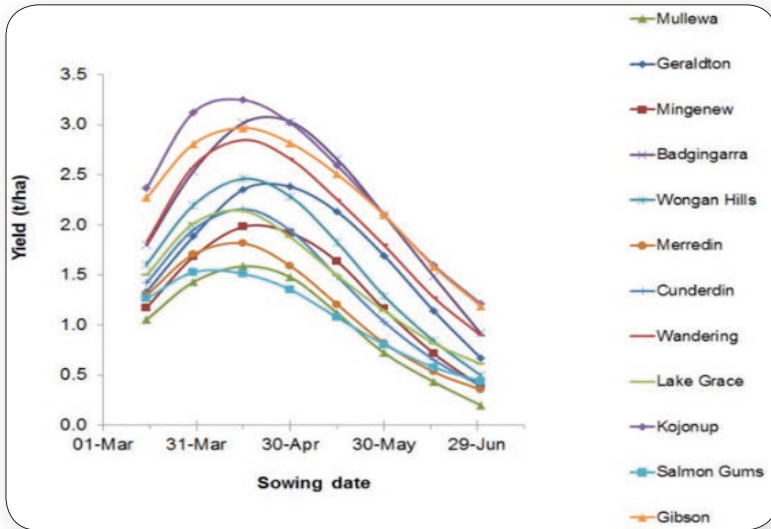


Figure 3: Simulated Bonito Canola Yields.

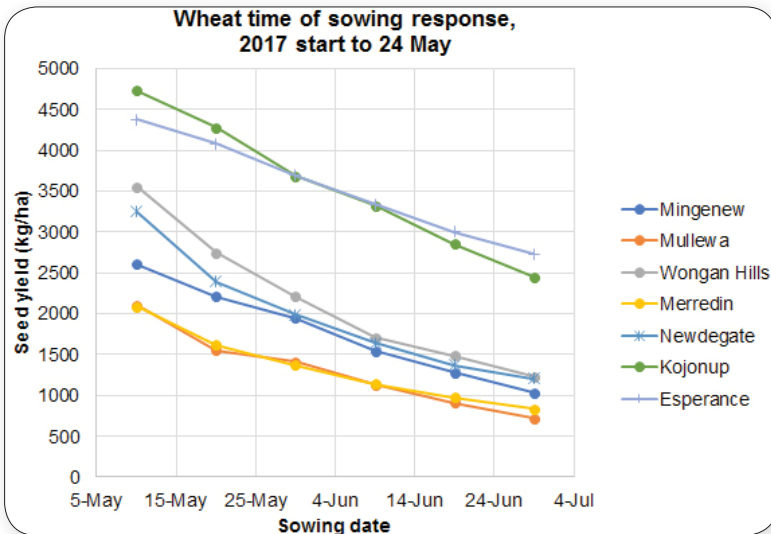


Figure 4 a: Wheat yield by sowing date - WA

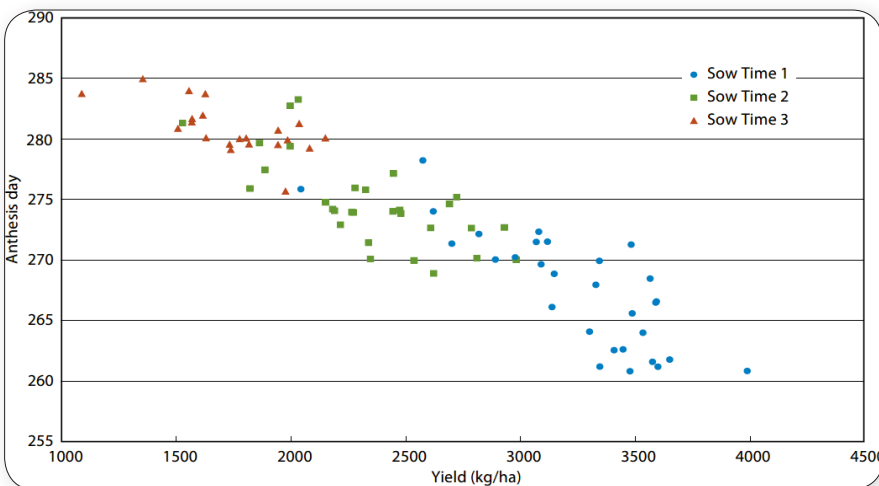
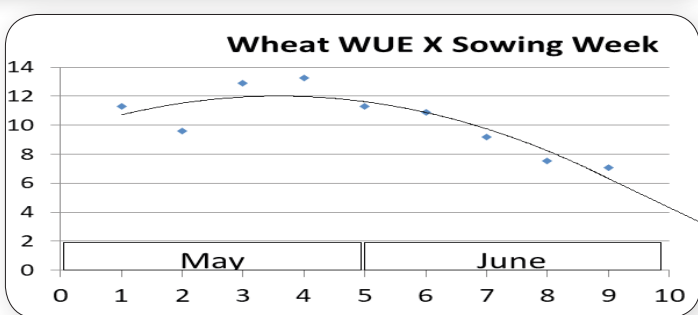


Figure 4b: (Above) NSW Time of Sowing Trail NSW DPI Wheat Time of Sowing

Figure 5: (Right) Water use efficiency (kg/mm) for different sowing or emergence dates. WA



zone cereals emerging after the middle of June are unlikely to be profitable whereas those in the high rainfall areas, such as Esperance or Kojonup, can be profitable as late as the first week of July.

POTENTIAL CROP YIELDS

These can be calculated by using the rainfall to-date and expected rainfall for the remainder of the growing season, multiplying this by 67%, which accounts for the evapotranspiration. Then multiply this by your expected water use efficiency (WUE). Figure 5 shows how, as the season gets later, the WUE declines. This is because of the impact end-of-season heat and the moisture deficit has on crop yield. Either directly use the WUE in Figure 5 or use it to adjust down your own farms WUE.

For example; where you have 200mm of expected rainfall.

$$200\text{mm} \times 0.67 = 134\text{mm}$$

$$130\text{mm by } 10\text{kg} = 1,340 \text{ kg or } 1.34 \text{ t/ha}$$

Beyond using an oat crop for grazing, the options are to make hay or harvest as grain. The decision can be reviewed when the oat crop reaches maturity for hay cutting. If the outlook for grain production is poor because of low soil moisture levels and a low probability of rainfall, then hay may be the preferred option. Hay production will not be a consideration until potential hay yields are above 2.00t/ha as very low yielding hay crops cannot be cut and baled effectively. To favour hay over grain production requires a differential between hay prices and oat prices of less than \$135/t.

LATE SEASON DECISIONS

Often if the season is unfavourable there is a need to consider spraying out the crop. This not likely to be the case this season as the inputs have been applied, the weed control is good and the crop has used the water. This means there will be no fallow benefit, and the breakeven yields will be exceeded.

If you are in a position where this may be required, it will come down to the cost of harvest. Past experience suggests that 200kg/ha of wheat will be required to cover the cost of harvest and although canola breakeven yield may be lower, to effectively harvest a canola crop you are looking at 150kg/ha.



FARMANCO AT THE DOWERIN FIELD DAYS



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FARMANCO Facts SEPTEMBER 2019





WA WOOL AND LIVESTOCK MARKET REPORT

By Richard Brake

WOOL PRICING AND TRENDS

Date 16/8/2019	Market Analysis			
	Fremantle	Micron Spread		Percentile
Micron	c/kg	c/kg	%	Years 10
18	1717	69	4%	58%
19	1670	22	1%	88%
20	1648	0	0%	92%
21	1648	0	0%	93%
22	1679	31	2%	93%

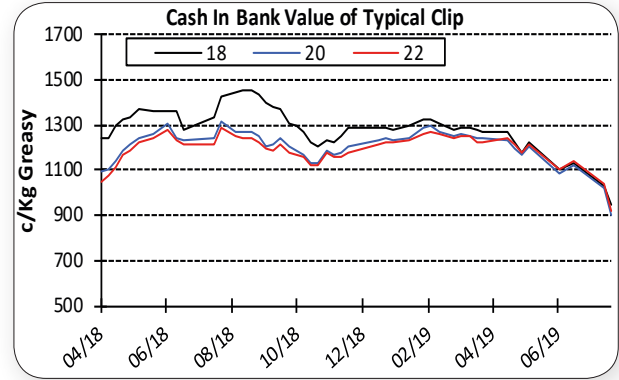


Figure 1: Cash In Bank Value of Typical Clip

SHEEP PRICING AND TRENDS

Date 28/8/2019	Katanning Market Analysis			
	Market Spread		Average	Percentile
Class	High \$/hd	Low \$/hd	\$/hd	Years 4
Young Lamb (18.1-20)	160	160	160	98%
XB Lamb (16.1-18)	123	107	115	74%
MR Young Ewe (14.1-18)	91	50	71	49%
MR Young Wether (14.1-18)	91	91	91	70%
MR Ewe (18.1-24)	120	78	99	80%
LE Wethers (18.1-24)	100	100	100	66%
RM Rams (26.1+)	80	40	60	61%

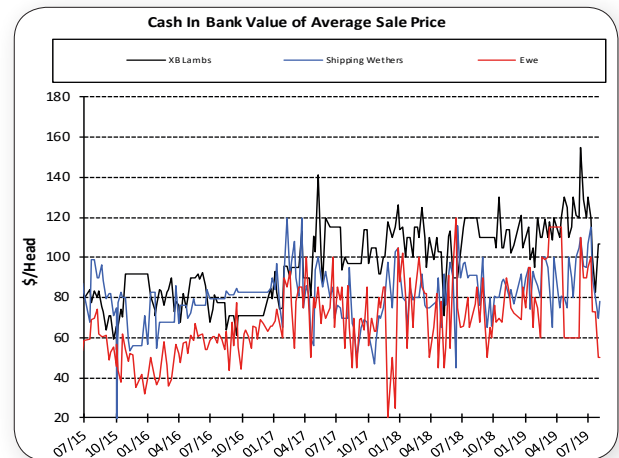


Figure 2: Cash In Bank Value of Average Sale Price

CATTLE PRICING AND TRENDS

Date 26/8/2019	Mucchea Market Analysis			
	Market Spread		Average	Percentile
Class	High c/kg	Low c/kg	c/kg	Years 4
Vealer Steer (200-280)	322	240	281	44%
Vealer Heifer (200-280)	288	224	256	57%
Yearling Steer (200-280)	298	240	269	57%
Yearling Heifer (200-280)	264	180	222	45%
Grown Steer (500-600)	290	262	276	80%
Grown Heifer (0-540)	270	270	270	92%
Cows (400-520)	236	140	188	66%
Bulls (600+)	268	240	254	72%
Yearling Steer PC (200-280)	158	152	155	25%
Yearling Heifer PC (200-280)	150	100	125	24%
Grown Steer PC (500-600)	236	236	236	41%
Grown Heifer PC (0-540)	220	208	214	58%
Cows PC (400-520)	248	210	229	91%
Bulls PC (600+)	238	202	220	65%

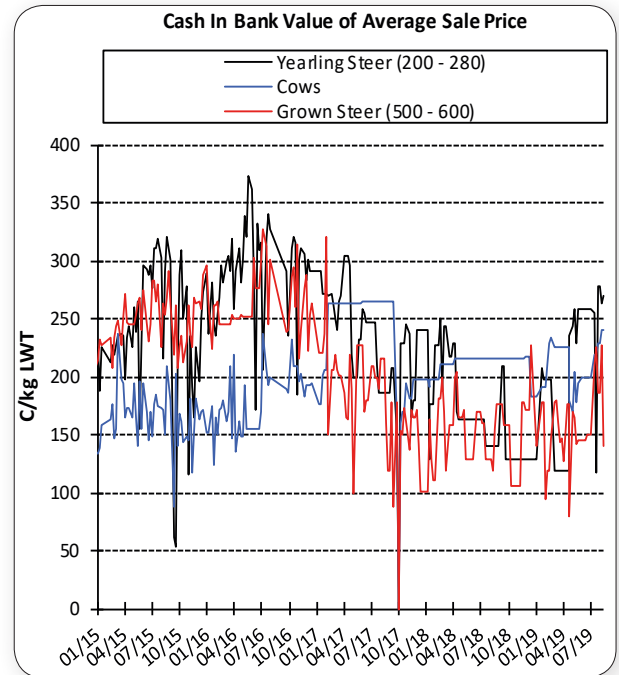


Figure 3: Cash In Bank Value of Average Sale Price

Analysis Assumptions: The data being analysed is for each "Sale Week". Sales data is supplied by MLA Livestock Report Service



NSW / VIC WOOL AND LIVESTOCK MARKET REPORT

By Richard Brake

WOOL PRICING AND TRENDS

Date 22/8/2019	Market Analysis			
	Melbourne	Micron Spread		Percentile Years 10
Micron	c/kg	c/kg	%	
19	1860	179	11%	62%
20	1734	53	3%	63%
21	1681	0	0%	74%
22	1675	-6	0%	76%
23	1675	0	0%	77%

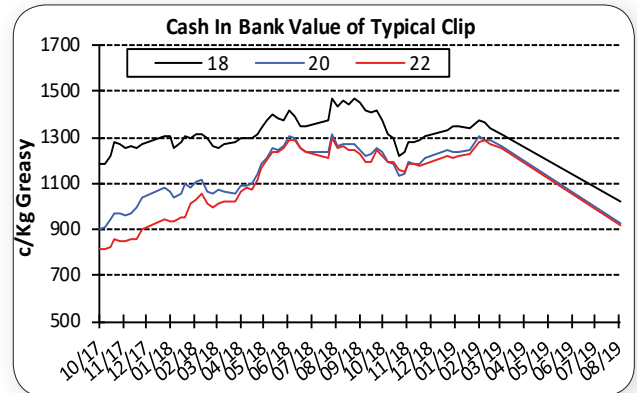


Figure 1: Cash in Bank Value of Typical Clip

SHEEP PRICING AND TRENDS

Date 29/8/2019	NSW Wagga Wagga Market Analysis	
Class	\$/hd	Percentile Years 4
Restocker Lamb (20-22kg)	169	95%
Restocker Merino Lamb (16-18kg)	129	81%
1st Cross Lamb (18-20kg)	142	86%
Feeder Lamb (26-30kg)	229	96%
Processor Young Lamb (22-24kg)	183	83%
Ewe (24kg+)	169	89%

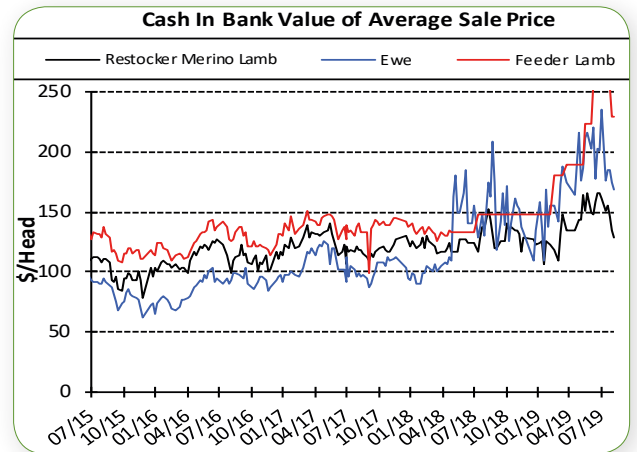


Figure 2: Cash In Bank Value of Average Sale Price

CATTLE PRICING AND TRENDS

Date 26/8/2019	NSW Wagga Wagga Market Analysis	
Class	c/kg	Percentile Years 4
Vealer Steer (280-300kg)	280	35%
Vealer Heifer (280-300kg)	246	24%
Yearling Steer (330-400kg)	297	39%
Yearling Heifer (330-400kg)	281	45%
Grown Steer (400-500kg)	283	50%
Manufacturing Steer (540kg+)	293	72%
Cow (400-520kg)	248	93%

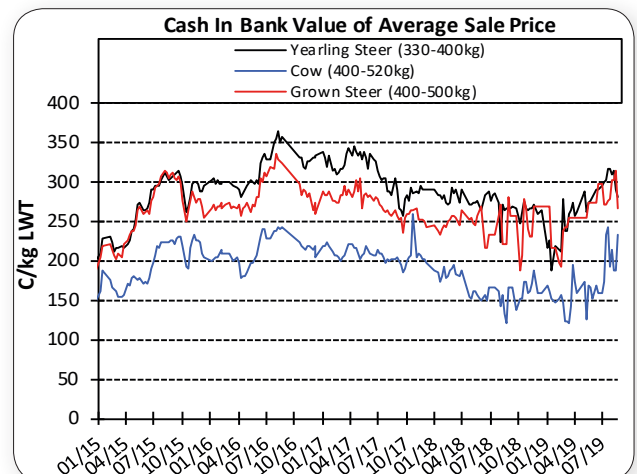


Figure 3: Cash In Bank Value of Average Sale Price

Analysis Assumptions: Sales data is supplied by MLA Livestock Report Service. Data was a composite of NSW yards until 01 June 2018