

# FEEDBACK

MLA – FOSTERING PROSPERITY

AUTUMN 2022



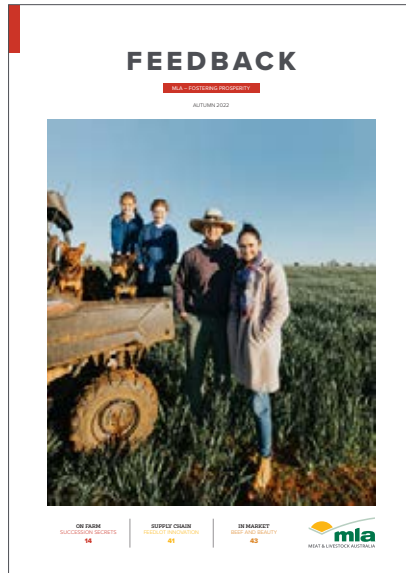
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# FEEDBACK

MLA fosters the long-term prosperity of the Australian red meat and livestock industry by delivering world-class research, development and marketing outcomes.



Cover (page 24): Central West NSW producers the Greig family have built a resilient sheep business. Image: Nic Fenton.

## Have your say!

We'd love to hear from you.

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# A note from the MD

Welcome to the Autumn 2022 edition of *Feedback*.

This is the second edition of *Feedback* to be released seasonally, to provide producers with relevant and important information to guide decision making on-farm.

The past few months have brought many challenges and opportunities to stakeholders across the industry. We are constantly reminded of our variable weather patterns, but with this variation comes a chance to develop new strategies.

A good example of this is the emerging area of mosaic agriculture, with WA producers tapping into groundwater or surface water resources in the west Kimberley and from mine de-watering in the Pilbara. Harnessing these water resources is helping to overcome issues such as low-quality feed over the dry season, which results in stock losing condition. Turn to page 26 to read more about investing in irrigation.

We explore other new feedbase opportunities in this edition. Studies into leucaena have proven it to be the most productive and sustainable legume-grass pasture for northern Australia. It can double productivity and profitability, compared with the performance of improved grass pasture alone. Read how one NT producer is putting leucaena through its paces on page 22.

Succession planning is an important process which many Australian producers need to consider carefully. It is an evolving process, to ensure the smooth continuation of a business through generations or layers of management. Turn to page 14 to see how producers can equip their businesses to be more resilient and sustainable into the future.

In January, Australian Lamb launched another successful instalment in the much-anticipated summer campaign series – see page 4. Over the years, MLA's summer lamb campaigns have built a strong legacy of highly topical advertising and thought-provoking creative, generating widespread conversation and publicity for Australian Lamb. Alongside the talkability for the Australian Lamb brand, the campaign aims to increase sales and consumption using integrated marketing at retail point-of-sale and foodservice.

It has been good to be travelling again on a more regular basis. Recently, I have been fortunate enough to travel to the US to attend meetings and events and visit our staff in the office, who haven't



seen us face-to-face in nearly two years. It has also been fantastic to visit field days and industry events within our borders and hear from producers in-person. Broadly, I am seeing first-hand the positive results for producers from favourable seasonal conditions, adoption of impactful research and careful planning.

While the success we have seen in recent times should be celebrated, our hard work must continue this year to build on the experience of the past two years, ensuring we are well-positioned to meet the next wave of challenges that will undoubtedly be thrown at us.

As international borders open and life returns to normal, we have many reasons to feel optimistic. Without hindrance from COVID-19, we are well-placed to continue on the path of creating greater impact for stakeholders from the investments we make with them and on their behalf.

We will continue to invest in resources that arm and prepare us all to better understand, respond to and communicate our industry opportunities and challenges. *Red Meat, Green Facts* (now including *Red Meat, Health Facts*) and last year's special edition of *Feedback* are great examples of how we are doing this. The next significant instalment of these resources will be another special edition of *Feedback* focused on sustainability. Keep an eye out for this publication later this year.

On behalf of MLA, we hope you enjoy this edition of *Feedback*. I am looking forward to working towards MLA's and our industry's goals this year. ■

• Have a question for me?

• Jason Strong MLA Managing Director

• [jstrong@mia.com.au](mailto:jstrong@mia.com.au)



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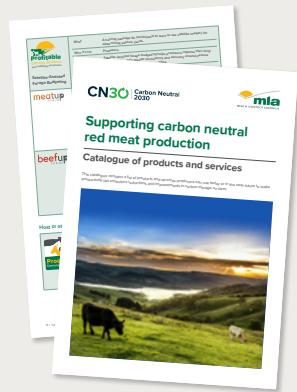
## CN30 product catalogue

MLA has released a catalogue of products and services which support carbon neutral red meat production. Producers can use the resource to make productivity-led emissions reductions and improvements in carbon storage on-farm.

The catalogue includes:

- integrated farm management system tools
- links to events, webinars and videos
- products and services to avoid greenhouse gas emissions
- products and services to increase carbon storage.

▶ Access the catalogue at [mla.com.au/carbon-neutral-catalogue](http://mla.com.au/carbon-neutral-catalogue)



## MSA Excellence in Eating Quality



Beef producers who consistently deliver carcasses with superior eating quality are set to be recognised when the Meat Standards Australia (MSA) Excellence in Eating Quality Series is held nationally in March 2022. Results will be in the Winter 2022 edition of *Feedback*.

▶ For more information, visit [mla.com.au/eeq](http://mla.com.au/eeq)



## Spot the QR code

Have you noticed we've introduced QR codes to some articles in *Feedback*? Simply scan these with your smartphone to access more information and bonus content, such as videos. It also makes it easier to share stories via email or SMS to others in your business.



## Carbon neutral network

Register for the Carbon Neutral Grazier Network to access the latest tips and information on positioning your business to take advantage of the rapidly evolving world of environmental markets and certification schemes. Participants will receive quarterly updates on the latest research findings, links to relevant and scientifically verified media articles and the opportunity to be involved in future research projects.

The Carbon Neutral Grazier Network is part of the From Method to Market project, which is jointly funded by Queensland Department of Agriculture and Fisheries, the Queensland Government's Land Restoration Fund, CIBO Labs and MLA.

▶ Visit [futurebeef.com.au/carbon-neutral-2030-grazier-network](http://futurebeef.com.au/carbon-neutral-2030-grazier-network) to register or email [carbon@daf.qld.gov.au](mailto:carbon@daf.qld.gov.au) for more information.



## Saleyard insights

Have you ever wondered about the throughput of saleyards around the country? The most recent edition of MLA's annual saleyards survey has revealed Wagga Wagga continues to reign supreme as the nation's busiest saleyard.

▶ For more insights into saleyard throughput, visit [mla.com.au/20-21-saleyard-survey](http://mla.com.au/20-21-saleyard-survey)

## Is everyone in your business informed?

Did you know *Feedback* is automatically sent to MLA members – but you can also receive copies for others in your business, such as family members and employees?

▶ Subscribing is easy, just visit [mla.com.au/feedback](http://mla.com.au/feedback) or scan this QR code.



You can also access and share interactive versions of *Feedback*. While you're at it, make sure you're not missing out on MLA's e-newsletters by subscribing at [mla.com.au/enews](http://mla.com.au/enews)





# Profit-boosting research delivers \$803 million to producers

**M**LA's second annual *Producer Adoption Outcomes Report* has reported 8,258 producers participated in learning and training activities to grow their businesses, with these programs delivering \$803 million\* in total net benefits to producers who adopted a new practice between 2015–2021.

For producers participating in programs this year, their annual net benefit is calculated to be \$52.6 million for the 2021–22 year.

The impact of COVID-19 restrictions and border closures meant several of MLA's adoption activities were postponed in the first half of the financial year.

However, the second half of the financial year saw MLA service providers out speaking with producers and delivering more in-person events.

MLA General Manager – Research, Development and Adoption, Michael Crowley, said MLA was proud to introduce new adoption products for producers last year. These include MeatUp forums across NSW, Queensland and South Australia and the eLearning platform 'The toolbox'.

"As a result of the rollout of these adoption programs and the continuation of other successful programs, MLA recorded an average 86.5% satisfaction rate among producers who took part. In addition, 82% of attendees indicated intent to change practices because of participating in MLA adoption programs," Michael said.

For livestock, 4 million sheep, 4.4 million cattle and 86,000 goats were positively impacted by practice change programs

rolled out by MLA, and 72.9 million hectares of Australian agricultural land was improved.

MLA's flagship programs for producers include Profitable Grazing Systems (PGS) and Producer Demonstration Sites (PDS). These programs provide supported learning packages and key management practices to producers across Australia.

PGS delivered \$225.4 million in total net benefits to participating producers as a result of supported learning packages delivered between 2015–2021.

"On average, this means producers can expect an additional net benefit of \$18/ha annually following their participation in the program," Michael said.

PDS has delivered \$168.8 million\* in total net benefits to participating producers due to completed projects between 2015–2021, with 90% of producers who completed a PDS project in 2020–21 indicating they have adopted new practices as a direct result of taking part.

Other successful programs for producers include the EDGENetwork and BeefUp Forums.

MLA's EDGENetwork offers practical learning opportunities through one-to-

three-day workshops to help producers develop skills necessary to improve their livestock enterprises. EDGE has delivered \$337.9 million in total net benefits to participating producers, the most of all adoption programs offered by MLA.

BeefUp Forums provide an opportunity for northern Australian beef producers to stay up-to-date with the latest on-farm research and technologies and to meet fellow producers. The BeefUp Forums delivered \$35.2 million, which is the equivalent to \$2.1 million in annual net benefits to participating producers.

On average, northern beef producers participating in an EDGENetwork workshop can expect an additional net benefit of \$44/km<sup>2</sup> annually. Southern producers participating in an EDGENetwork workshop can expect an additional net benefit of \$6.28/ha annually.

"The adoption programs offered by MLA demonstrate the potential return of investment available to producers across Australia. I would encourage all red meat producers, livestock advisors and industry stakeholders to get involved, so that we can continue to increase the productivity and profitability of the red meat industry," Michael said. ■

**\$803M\***

MLA adoption programs have delivered **\$803 million\*** in total net benefits to participating producers who adopted a new practice between 2015–2021.

**\$52.6M**

For producers participating in programs this year, their **annual net benefit** is calculated to be **\$52.6 million** for the 2021–22 year.

**\$18/ha**

**Profitable Grazing Systems (PGS):** Additional net benefit of \$18/ha annually as a result of participation.

**350 sites**

**Producer Demonstration Sites (PDS):** Additional net benefit of \$6/ha annually as a result of participation. There are currently more than 350 PDS sites covering more than seven million hectares.

**\$44/km<sup>2</sup>**

**EDGE Network:** \$6.28/ha additional annual benefit for southern producers and \$44/km<sup>2</sup> for northern producers who participate

\*Calculated as net present value of adoption to 2045, discounted at 5% annually.

Scan the QR code or visit [mmla.com.au/adoption-outcomes-report-2020-21](https://mla.com.au/adoption-outcomes-report-2020-21) to read MLA's 2020-21 *Producer Adoption Outcomes Report*.

MLA's EDGENetwork: [mmla.com.au/edge-network](https://mmla.com.au/edge-network) Profitable Grazing Systems: [mmla.com.au/pgs](https://mmla.com.au/pgs)

Producer Demonstration Sites: [mmla.com.au/pds](https://mmla.com.au/pds) BeefUp Forums: [mmla.com.au/beefup](https://mmla.com.au/beefup)

MeatUp Forums: [mmla.com.au/meatup](https://mmla.com.au/meatup) The toolbox online training and resources: [elearning.mmla.com.au](https://elearning.mmla.com.au)

Michael Crowley [mcrowley@mmla.com.au](mailto:mcrowley@mmla.com.au)





▲ Lambassador Sam Kekovich returned to the 2022 summer lamb campaign to help put Australia back on the world map.

# Lamb reunites Australia with the rest of the world

**M**LA's Australian Lamb summer campaigns have built a strong legacy of starting conversations – and this year's offering did not disappoint.

The highly anticipated 2022 campaign reunited Australia with the rest of the world after years of isolation – all thanks to lamb of course.

Through topical advertising and thought-provoking creative content, these campaigns generate widespread conversation and subsequent publicity for Australian lamb – encouraging shoppers to choose lamb in retail and foodservice.

MLA Domestic Market Manager, Graeme Yardy, said the 2022 ad, which builds on the 'Share the lamb' brand, was a reminder that Australia is a country not to be forgotten. It featured heart-warming reunions as returning travellers make their way back to sunnier climates and lamb barbies.

"Each year the 'Share the Lamb' brand gives us a great opportunity to showcase how the unmistakable flavour and aroma of lamb brings Aussies together, even through the very toughest of times," Graeme said.

"In 2021 we were all about breaking down state borders, but this year we're ready to finally open back up to the rest of the world, and what better way to issue the invite than with tasty Australian lamb."

The ad appeared on national TV with placements during the Australian Open, as well as online and social media platforms.

To keep lamb top of mind and drive purchases in store, the campaign

connected with consumers with a presence in major retail environments including Coles, Woolworth's, IGA, Costco, Drakes, ALDI and butcher stores. Product-focused digital screens, catalogue, magazines, digital assets and point of sale activity delivered meal inspiration and drive purchase in store.

These activities were supported with foodservice partnerships with Seagrass Boutique Hospitality Group, Australian Venue Co. and Pegasus Leisure Group to showcase a delicious range of lamb dishes on menus to further drive sales.

### Campaign highlights:

Although the summer Australian Lamb campaign was still running when *Feedback* went to print, by mid-February there were:

- more than 1.7 million views of the full (three minutes) ad
- more than 6.3 million views of all video assets
- more than 1,100 articles published about the campaign. ■



## Step up for ambassador training

People working across the red meat supply chain with a passion for telling the great stories about the industry are invited to apply for the next round of MLA's Ambassadors for the Red Meat Industry program.

The first four online workshops for the new program were very successful, with 50 people – including producers, chefs, stock agents, butchers, traders, vets and meat scientists from across Australia – taking part.

They received training in community engagement, communication through media and social media, and building trust with consumers, giving them the skills to be an effective voice for the red meat industry.

Ambassadors program participant Emma Fessey, Brewarrina, NSW, said it was a valuable opportunity to develop her skills and share her evolving journey and experiences across the red meat industry with others.

Emma works for AuctionsPlus, helps out on her family's sheep, cattle and goat property and is aiming to compete in rowing at the 2024 Paris Olympics.

"As an athlete who sees red meat as an integral part of my diet and a contributor to high performance, I enjoy discussing the nutritional benefits associated with red meat consumption and importantly, the journey of 'paddock to plate' as many consumers can be unaware of the process," she said.

"This is something I am passionate about sharing and educating others about.

"The workshop equipped me with important communication and interpersonal skills to be able to lead open and honest conversations about the many dynamic nuances of the red meat industry."



### Upcoming workshops

The Ambassadors program is an intensive development. Pending any COVID-19

related restrictions, the 2022 workshops will be held in-person at locations based on where the successful applicants are from.

Upcoming workshops are scheduled for:

- 6-7 April, plus a follow-up hour on 8 April
- 25-26 May, plus a follow-up hour on 27 May. ■

- To find out more about the program and to submit an expression of interest, visit [mla.com.au/ambassadors-program](http://mla.com.au/ambassadors-program).
- Lindsay Kasprovicz
- [lkasprovicz@mla.com.au](mailto:lkasprovicz@mla.com.au)



# ON FARM

RESEARCH IN ACTION

## Seasonal action plan

### Northern

10

Start collecting feedbase and herd data to support business decisions

21

Prepare paddocks to plant leucaena ahead of the next wet season

### Southern

6

Sow grazing crops in early autumn to increase biomass for winter grazing

12

Scan and condition score ewes for preferential management to increase lamb survival



# Grazing crops a gamechanger

**W**A sheep and cattle producer Richard Metcalfe has labelled a venture into grazing crops as a ‘gamechanger’ for the grassfed side of his business.

It’s boosted production and eased stocking rate pressure off the rest of his farm.

Richard first started growing grazing crops after a run of difficult seasonal openings and poor winter breaks resulted in his kikuyu-based pastures not establishing, creating a feed gap moving from autumn into winter.

“With pasture growth decreasing in early winter, this made trying to supply grassfed product to market in the August–September period extremely difficult for us,” Richard said.

“That was the prime motivator behind trialling grazing crops, to see if we could get more production out of our pastures during the growing season.”

## Finding the right fit

The Metcalfes’ first venture into grazing crops was to spray out some of their kikuyu-dominant pastures and plant Italian ryegrass and Graza oats in late summer.

A side benefit of spraying was it allowed their clovers to reinvigorate after previously being choked out by the kikuyu.

Initial results were pleasing, particularly for filling the winter feed gap, and they were able to cut hay or silage from the crops. However, the challenge remained on how to fill the autumn feed gap.

The Metcalfes trialled the brassica Pallaton Raphno® (sowing in September), but found it was expensive and didn’t achieve the production they wanted, so turned their attention to grazing canolas, specifically Hyola 970CL.

“We saw a number of advantages in the canola – it was cheaper, there was an opportunity to let it go to seed for

harvest and we’d heard reports from the eastern states of tremendous weight gains for cattle on it,” he said.

## Reaping production rewards

The Metcalfes first planted the canola in September 2020 and were grazing by Christmas eve along with ad-lib oaten hay for feed diversity.

“From the outset, we considered the crop a resounding success, with the autumn feed gap gone and significant production benefits,” Richard said.

“In one 34ha block we were able to produce 720kg/ha of beef from Christmas to June, and had steers ready for market by May.”

The Metcalfes planned to harvest their canola as it went to seed in 2021, but made the decision at the beginning of July to keep grazing it after a wet winter waterlogged the crops and caused plant loss and ill health.

“The silver lining from that decision is we’ve actually achieved terrific production from a grazing perspective post that decision point, running our lambs with a very high stocking rate.

“As late as October we’d grazed 670 lambs and 30 cows and calves on the 34ha block for five weeks.

“We haven’t done the figures yet, but I’m confident the lamb growth we got off that grazing would’ve equalled the value we’d have received from harvesting the canola.”

The Metcalfes now plan to grow 70ha of canola each year in spring and a further 40ha of a canola/oat mix in late summer if rain arrives, along with dry sowing around 400ha of oats and ryegrass into their annuals to bulk them up.



🔗 Southern WA producer Richard Metcalfe said grazing crops were a gamechanger for his grassfed beef and lamb operation.

## SNAPSHOT



**RICHARD METCALFE,**  
‘Melaleuca’,  
Manypeaks, WA



**AREA**  
4,400ha grazing

**ENTERPRISE**  
Grassfed beef and lamb, Angus and Murray Grey studs

**LIVESTOCK**  
3,000 Angus and Murray Grey cattle (1,500 breeders), 3,000 Dohne ewes joined to White Suffolk rams

**PASTURES**  
Clovers and ryegrasses with a kikuyu base

**SOIL**  
Sandy loams over gravel and clay

**RAINFALL**  
600–700mm

“We’re still learning about what the most suitable pastures will be for us, and a big part of this is looking at what works for others and adapting it to our own operation.”



The strategy means they have almost year-round feed provided by the grazing crops, filling autumn and winter feed gaps, providing strong feed diversity and creating an opportunity to harvest if the season permits.

Drawing on the successful experiences of one of his neighbours, Richard said he plans to experiment with DS Bennett<sup>®</sup> and long-season grazing wheat in the future.

“We’re still learning about what the most suitable pastures will be for us, and a big part of this is looking at what works for others and adapting it to our own operation,” he said.

### Challenges

One of Richard’s tips for other producers when growing grazing crops is to be on the front foot for insect control, which can quickly cause significant damage if not managed appropriately.

“We see a lot of black beetles on our kikuyu pastures, which will destroy any seedlings you have if left uncontrolled,” Richard said.

“We’ve also got challenges with diamondback moth on seedlings in late November/early December, so are aware of controlling these too. For both, spraying has proved effective.”

Along with pests, Richard also said it was important for producers to consider their own seasonal outlook when it came to letting crops run to seed or continuing to graze them.

“Given our higher rainfall, letting our crops run to grain will probably be the less likely option than grazing them the whole way through, but it’s all dependent on your individual situation,” he said.

“If waterlogging isn’t an issue, then you should give more consideration to harvesting, but it’s also going to depend on how much pressure is on the rest of the place and if you have the feed on offer to do so.” ■

» Turn the page for tips to reap the benefits of grazing crops.

### LESSONS LEARNT

- ✔ Grazing crops can fill autumn and winter feed gaps in WA grassfed operations.
- ✔ Trial different varieties to find the right fit.
- ✔ Prevent insect damage by spraying crops.

### SEASONAL ACTION PLAN

- ! If sowing in autumn, **aim to sow in March or April rather than May**, as this will increase biomass in winter. Choose winter varieties if sowing at this time.
- ! Through autumn and winter, **pay attention to crop health** and assess whether to continue grazing or remove stock to improve grain yields at harvest.
- ! **Decide on stocking rate based on available labour** (higher stocking rates if more labour on hand).
- ! Access more information about grazing crops at [mla.com.au/grazing-crops](http://mla.com.au/grazing-crops) or scan the QR code.



» Hyola canola at ‘Melaleuca’, with a beer can to depict crop height.



# Seven steps to reap the benefits of grazing crops

**P**roducers in WA are increasingly embracing grazing crops as a tool to improve livestock productivity and whole-farm profitability – turn to page 6 to read about one producer reaping the benefits.

Historically, much of the information on crop grazing has come from research and experience from NSW and Victoria.

However, recent research has increased the knowledge and understanding of the economics and agronomics of crop grazing under WA conditions.

WA agricultural consultant Philip Barrett-Lennard, agVivo, has these pointers for producers considering adopting grazing crops in their mixed farming business.

## 1 Pay attention to varieties

While all crops can be grazed and so considered 'dual purpose', pay close attention to varieties that will appropriately respond to the season you are growing them in.

## 2 Always sow early

Mixed farming enterprises in WA typically suffer from feed shortages in late autumn and over winter.

Phil said a proven strategy to address this is to get grazing crops in the ground in autumn, rather than waiting for later in the season as this significantly reduces feed availability.

Trials at Wickepin have shown crops sown in late May produced 50–200kg/ha edible biomass by early to mid-July, while those sown mid-April produced 400–2,200kg/ha by the same time.

In another reason to sow early, 50% of the biomass produced by the April crop was also available to be grazed by mid-June.

## 3 Be prepared for reduced yield

In the majority of grazing trials conducted across WA, grazing reduced crop yield by between 0–10%.

Be mindful of potential yield losses and weigh up if productivity gains from grazing livestock on the crops will offset or exceed the lost income from yield reduction.

## 4 Graze earlier rather than later

Research has shown grazing crops at lighter stocking pressure (1–5 DSE/ha) early in the growing season will result in significantly greater yields at harvest than those grazed later and with heavier pressure.

Avoid crash-grazing, which can reduce grain yield significantly compared to crops that only had 5cm of length grazed off.

## 5 Select suitable stocking rates

Phil said while stocking rates have an impact on crop yield, it's important not to get hung up on them, as each individual enterprise will have varying levels of resources and labour available.

While high stocking rates can be successfully managed with labour on hand to regularly shift animals and erect temporary fences, low consistent stocking rates over longer periods of time can also produce significant productivity gains.

Regardless of the rates, stock grazing cereal crops should receive a sodium, calcium and magnesium loose lick, and those on canola should receive fibre supplements such as hay or straw.

## 6 Watch out for weeds

Crop grazing has the potential to exacerbate grass weed problems by removing some of the crop canopy, reducing competition.

To avoid this, spray to reduce the weed burden prior to planting and avoid grazing crops with a heavy weed burden.

With low weed burden, grazing off the very top of the canopy before removing livestock to let this recover to compete with weeds is also an option.

## 7 Be prepared to change farming systems

There are significant opportunities to improve profits and increase livestock production through grazing crops, but producers should also be prepared to make other changes on-farm to maximise these benefits.

For example, running a higher stocking rate to take advantage of the increased pasture available, and saving grazing these crops for the livestock class that will deliver the greatest economic returns. ■

There are significant opportunities to improve profits and increase livestock production through grazing crops, but producers should also be prepared to make other changes on-farm to maximise these benefits.





# Technology bridges distance

**P**icture this: an Indigenous stockman in remote north Queensland, standing in a dusty stockyard. It would be a commonplace scene except for one thing – he’s wearing a virtual reality (VR) headset.

It signals a new era in training, disease management and capability-building for northern Australia, regardless of distance.

Discovering new technologies is just one of the activities of a group of Indigenous cattle property operators, through the Northern Breeding Business (NB2) project.

The Indigenous Land and Sea Corporation and Animal Health Australia have provided funding, matched by MLA Donor Company (MDC), to form an NB2 producer group to ensure the voices of Indigenous men and women are heard as part of the project.

NB2 facilitator Ian Perkins said the group could make a significant contribution to the goals of NB2 because of their strong involvement in the industry.

“Indigenous people are significant landholders and players in the beef industry, with more than 200,000 cattle currently run on Indigenous-owned land in the north and the potential to lift this to more than 300,000,” Ian said.

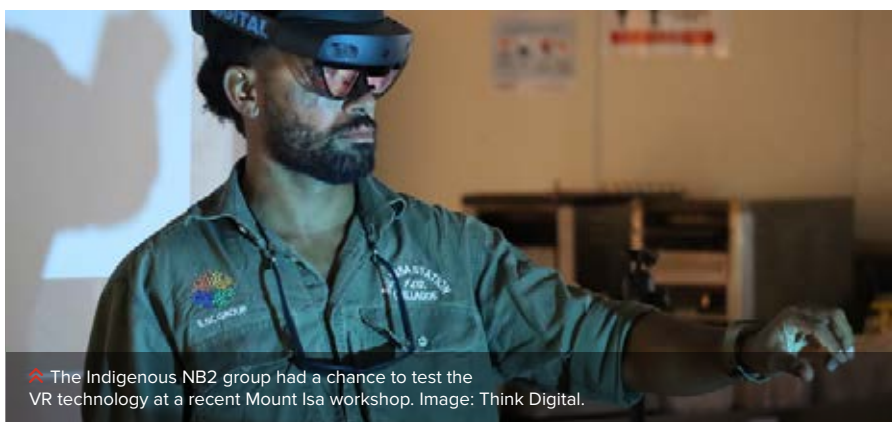
“This group recognises there’s capacity to significantly develop Indigenous-owned land. By bringing their voices together in NB2, we can ensure this is done in a way that is respectful to their culture and is sustainable.”

Morr Morr Pastoral Company Chair and member of the Indigenous group, Fred Pascoe, said NB2 was an appropriate program to take the performance of the Indigenous people in the northern cattle industry to the next level.

“Indigenous people are the backbone of the Australian cattle industry, particularly in the north, so having this group means we can come together and learn what each of us is doing well,” he said.

## New technologies

Along with sharing management ideas, the Indigenous group is learning about new technologies and techniques to improve on-farm performance – practices which



★ The Indigenous NB2 group had a chance to test the VR technology at a recent Mount Isa workshop. Image: Think Digital.

could be applied to other businesses across the industry.

Part of this is discovering how technologies such as VR can be used for training tools, using locally generated content. Potential applications include identifying animal diseases, learning post-mortem techniques, and identifying invasive species which impact the feedbase.

“At the early stages of putting this group together, we talked with Animal Health Australia, who want to lift the capacity of people in remote areas to identify diseases and know who to notify if they find something unusual in their cattle,” Ian said.

“Quicker identification of disease problems will improve cattle health and the productivity and profitability of the herd.

“Technologies such as the headsets for virtual farm tours and training videos are very powerful because they can be used remotely to upskill producers.”

## Strengthening the industry

Ian said the group environment, with a focus on on-property workshops, provided a space where Indigenous people felt comfortable to voice concerns about other aspects of the industry where they wanted to see improvements, such as employment.

“Addressing issues like employment are going to make for stronger cattle businesses overall if young, enthusiastic people can be attracted to and retained within the industry,” Ian said.

“There’s a lot of Indigenous men and women in remote communities who would love the opportunity to work on cattle stations, and this is something we can take steps towards through NB2.” ■

## RESEARCH UPDATE

### WHAT’S IT ABOUT?

Addressing calf loss, low profitability and low adoption of proven management practices and technologies in northern beef businesses.

### WHERE’S IT UP TO?

Ongoing – second year of five year project

### WHO’S INVOLVED?

Indigenous Land and Sea Corporation, Animal Health Australia, MLA

## Powerhouse for improvement

The Northern Breeding Business (NB2) program isn’t just about delivering significant improvements in profitability to northern cattle properties – it’s an opportunity to create a knowledge bank between producers to share ideas to improve together.

To achieve this, six regionally diverse pilot producer groups have been established to provide direction on the project and insights on the technologies and practices that can help deliver \$20 million a year in net benefits by 2027.

▶ Learn more at [mla.com.au/nb2](https://mla.com.au/nb2)



Scan this QR code to see the VR technology being trialled at an NB2 Indigenous group workshop.

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# Feed, finance and herd tracking to boost northern profits

Using data collected on-property to make informed decisions is a key focus for producers involved in MLA's Northern Breeding Business (NB2) program.



**Dionne Walsh**  
NB2's feedbase expert and  
Managing Director of Range IQ

NB2, which sets out to deliver an estimated \$20 million/year in net benefits to 250 northern beef enterprises by 2027, is a collaborative program exploring how reproductive losses, mortality rates and turn-off weights can be improved within northern breeder herds.

Here, two of the program's industry consultants – Dionne Walsh (feedbase) and Ian McLean (business) – explain how collecting and managing feedbase, financial and herd records is crucial for northern beef enterprises seeking to achieve long-term benefits.

“In my experience, producers who have managed to integrate these records have better performing businesses, because they know what all the different moving parts of the business are doing,” Dionne said.

Ian agrees, explaining that many producers run multi-million-dollar businesses, and so they also have to be business managers, who monitor and understand their business performance.

“The herd is the engine room of the business, so they need to have that production level detail, but they also need to know how this translates into cash flow, profit and return on assets of the business,” Ian said.

“Without all that information, producers are missing out on key information on how their beef business is performing and whether it could be performing better.”

maintain to understand their herd productivity as well as their businesses' financial performance.

“Producers should reconcile their herd each year, making it clear what they've got in each livestock class and reconciling what they had at the start of the year with what they've got at the end of the year,” Ian said.

“There are challenges in doing this – for example, from incomplete musters or animals being counted twice – so they're never going to be 100% accurate, but they should aim to have those numbers accurate within 2–3%.

“Having those accurate and reconciled herd numbers lets you work out your income from the herd and how many kilos have been produced – and over a longer period of time, it also shows you the reproductive rate and mortality rate of your herd.

“You may not think you have a productivity leakage because you don't have your numbers reconciled to calculate them accurately – so there's quite a few benefits to be had from accurate herd information.”



**Ian McLean**  
NB2's business consultant and  
Director of Bush AgriBusiness



## Keeping ahead of the herd

Ian said keeping track of herd numbers is one of the most important records producers can

“Measuring your feedbase gives you early forewarning of potential feed surpluses or shortages – the earlier you detect these situations, the more choices you have to manage them.”





### Running the right numbers

According to Dionne, keeping track of herd numbers can also help determine optimal long-

term carrying capacity, as well as stocking rates, when combined with consistent monitoring of the available feedbase.

“You need to get a handle on the quantity and quality of the feed supply if you want to manage that resource effectively and know how to apply the grazing pressure for optimal animal production,” Dionne said.

“Measuring your feedbase gives you early forewarning of potential feed surpluses or shortages – the earlier you detect these situations, the more choices you have to manage them.

“For example, on large properties, underestimating the available feed supply by just 100kg/ha translates to tens of thousands of kilograms of live weight production that is potentially lost that year.

“Conversely, over-ambitious estimates can hinder pasture performance for years and this has serious flow-on effects for the performance of the herd and the business.”

Ian said feedbase data, when matched with accurate herd records, plays a central role in maximising profits in a sustainable way within northern beef enterprises.

“Research shows that in northern Australia, production is optimised when stocking rates match the capacity of the country,” Ian said.

“Producers should run as many as they can but no more than they should.”



### Pushing for profit

Understanding the limits of the feedbase through effective data collection is also key to ensuring

herd numbers and profit margins are at optimal levels within enterprises.

“You can’t afford to have unutilised capacity, but you also can’t afford to be over capacity, as it reduces the production

of the animals you’ve got and degrades the natural resource base,” Ian said.

As Dionne points out, inputs aren’t getting any cheaper – especially for extensive operations.

“So you want to be sure the money being spent is delivering a justifiable return on that investment,” she said.



### One place, one person

When it comes to keeping effective records, Dionne recommends enterprises nominate one

person in the business to take charge of collecting and storing all relevant feedbase, herd and financial data.

“Even if the whole business team interprets the results of this data to make decisions, there does have to be a key person responsible for ensuring the quality of data and data collection,” she said.

Another tip is for producers to keep their records in the one place to ensure they could be retrieved quickly when needed.

“There’s no standard approach to record keeping – they can keep records in a ledger book, a notebook, spreadsheet or in farm management software – but it should be all in one place,” Ian said.



### Start small and upskill

Producers looking to improve their record keeping skills to benefit their

business can start small and expand their capabilities over time.

“If you’re a bit worried about the size of the task or your experience, start with one paddock or mob and get your skills honed tracking that one,” Dionne said.

“Then, once you’ve got more experience and confidence, you can scale up to more and more paddocks and mobs.

“There’s also a real benefit to be had from joining some like-minded

## SEASONAL ACTION PLAN

! **Attend one of MLA’s Grazing Fundamentals or Grazing Land Management EDGE workshops** to understand your feedbase and how to use it effectively, or sign up for a Business EDGE workshop to develop your business management and financial record keeping skills ready for the next financial year: [mla.com.au/edge-network](http://mla.com.au/edge-network)

! **Use the templates** available at [mla.com.au/nb2](http://mla.com.au/nb2):

- **Feedbase data collection template:** prepare a forage budget and benchmark your land condition
- **Herd flow data collection template:** reconcile your herd numbers when getting stock back into the yards following the wet season

! **Learn how the latest technology can streamline your forage budgeting** through MLA’s Profitable Grazing Systems (PGS) training course, Satellite-Assisted Forage Budgeting: [mla.com.au/pgs](http://mla.com.au/pgs)

producers for peer-to-peer learning or engaging in training in this area, at least early on in your journey.”



### Get going

Dionne advises producers start making improvements to their record keeping

practices as soon as they can to see the benefits sooner rather than later.

“There’s a lot of fads in agriculture, but at the end of the day, a disciplined approach to measuring feedbase, herd and financial performance is the best place to start if you’re serious about being in the business of grazing.” ■



For more information on the NB2 program, visit [mla.com.au/nb2](http://mla.com.au/nb2) | Ian McLean [ian@bushagri.com.au](mailto:ian@bushagri.com.au)

Dionne Walsh [dionne@rangeiq.com.au](mailto:dionne@rangeiq.com.au) | Nigel Tomkins [ntomkins@mla.com.au](mailto:ntomkins@mla.com.au)

# Strategic feeding lifts ewe survival

South-east SA sheep producer Sam Ward has all the fundamentals in place for what should be a stress-free lambing every year.

The joining program at his property 'Bunyule' begins with using teasers with adult ewes for two weeks, before a 28-day joining from 1 February. He scans and separates ewes into two 14-day groups.

Ewe lambs are teased for two weeks and joined for five weeks in mid-March for an August lambing.

Sam keeps a close eye on his flock's nutritional requirements, and puts ewes

into containment pens when ground cover hits 80%, where they receive a ration adjusted to condition score.

Despite this approach, Sam was losing seemingly healthy ewes each year but couldn't put his finger on the cause of death.

So, he was keen to be involved in the MLA-funded 'Unlocking the keys to ewe survival' project in 2020, to try and lower ewe mortality rates.

"We weren't losing a lot of sheep, but the ones we were losing looked perfectly healthy prior to death, so I wanted to get to the bottom of it," Sam said.

## Identifying the causes

Although the Wards' overall death rate during lambing (around 1.7%) was slightly below the average of all farms involved in the project, they recorded above average rates of vaginal prolapses, uterine tears and vaginal wall tears.

"The vet conducting the autopsies on our sheep said it was very likely that the



Sam Ward with his wife Fiona and son Ned.

## SNAPSHOT



SAM WARD,  
'Bunyule',  
Keppoch, SA



AREA  
870ha

ENTERPRISE  
Prime lambs and vineyards

LIVESTOCK  
4,000 adult ewes, 1,000 ewe lambs.  
Composite ewes joined to  
Primeline rams

PASTURES  
Perennial ryegrass and cocksfoot,  
annual clovers, lucerne

SOIL  
Ranging from deep sand  
to heavy clays

RAINFALL  
550mm

deaths were the result of older ewes being in condition scores of around 3.25 at the time of lambing, which we know is a little high," Sam said.

## New knowledge to drive ewe survival

An MLA-funded project has delivered new information about the extent and causes of ewe mortality, to open the gate for preventative strategies.

The 'Unlocking the keys to ewe survival' project by Livestock Logic in collaboration with the University of Melbourne, Murdoch University and Pinion Advisory, explored causes of death in ewes and preventative management options.

It involved 51 commercial non-Merino producers across southern Australia who contributed information on their management practices and provided deceased ewes for veterinarians to conduct autopsies to determine causes of death.

Whole-of-farm ewe mortality rates recorded by these producers ranged

from 0.5–5.9% over the lambing period, and on average was 2–2.5%.

Pinion Advisory Senior Consultant and the 'Unlocking the keys to ewe survival' project manager, Leanne Sherriff, said the work was an important step to fill a knowledge gap for non-Merino ewe deaths.

## Major causes of death

While many causes of death were identified during the project, the three major causes were dystocia, septicaemia (blood poisoning) and trauma.

The project revealed key risk factors for these conditions:

- triplet-bearing ewes were more likely to die than single and twin-bearing ewes
- single-bearing ewes were at higher risk of being diagnosed with dystocia at death than multiple-bearing ewes

- ewes in body condition score 2.5 had a lower risk of being diagnosed with dystocia compared to ewes in condition score 3 at death
- hypocalcaemia was more likely to be diagnosed on death in ewes five years and older than younger ewes, and in ewes in condition score 2 or less than those in condition score 3 at death
- dorsal vaginal wall ruptures were more frequently identified in ewes with a condition score of 3.5 or above, multiple-bearing ewes and ewes with a total litter weight of more than 10kg.

"The results from the project emphasise the role of managing condition score outliers to decrease the likelihood of some causes of death, and the importance of recognising ewes struggling to lamb – to limit complications from dystocia," Leanne said.





Sam said before the project he didn't understand why seemingly healthy ewes were getting sick and dying over lambing.

## SEASONAL ACTION PLAN

- ! Scan ewes for single/multiple lambs and separate based on body condition score – the Bred Well Fed Well program has useful tools [mla.com.au/bred-well-fed-well](http://mla.com.au/bred-well-fed-well)
- ! At lambing, separate ewes into age classes to manage specific risk factors for each.
- ! During ram buying season, focus on sires with birthweight and lambing ease Australian Sheep Breeding Values (ASBVs). Visit [genetics.mla.com.au](http://genetics.mla.com.au) for genetic resources, including guides on using ASBVs.

“For us, this meant making a decision about how to best balance our feed rations to lower ewe condition scores slightly without them ending up too poor and suffering from all the issues associated with that.”

### Optimal feeding

The most significant change the Wards made was related to their first and second trimester feeding regimes.

“The biggest take-home message from the project for us was to be extremely cautious with weight gains around this time.”

They now condition score ewes and split them into weight groups prior to containment.

Ewes that exceed a score of 3 are fed just below that requirement to put the brakes on their gains, but come the third trimester feed matches their requirements as they don't put weight on at this time.

After making the change last year, in the following lambing Sam observed a lower rate of unexplained deaths and significantly reduced vaginal prolapses and wall tears.

Along with increasing survival rates, Sam said they've also recently been able to boost their twin rates by flushing their ewes on high protein feeds for two weeks prior to rams going in. ■

## LESSONS LEARNT

- ✓ Condition score pregnant ewes, separate into groups and feed according to this, aiming for condition score of 2.8–3.0 in singles and 3.0–3.3 in multiples.
- ✓ For ewes exceeding condition score 3, feed below requirement in the first and second trimesters to minimise weight gains.
- ✓ Feed to match requirement in third trimester.



✉ Sam Ward [samward@rbm.com.au](mailto:samward@rbm.com.au) ✉ Joe Gebbels [jgebbels@mla.com.au](mailto:jgebbels@mla.com.au)

### Management options

Leanne said there were several management strategies to reduce ewe deaths, many of which were already industry best practice.

“Scan for singles and multiples so you can separate ewes and manage body condition scores appropriately, aiming for a target condition score of 2.8–3.0 in singles, and 3.0–3.3 in multiples,” she said.

There's also evidence to suggest scanning for triplets and managing those ewes in separate flocks is appropriate, given their higher risk of death over lambing.

Other management strategies to try to increase survival rates include:

- Minimise variation in ewe condition scores and aim for the entire flock to be close to 3.
- Where practical, draft off light and heavy ewes at scanning to manage condition score appropriately.

- Separate ewes aged five and older, maidens and ewe lambs into their age classes, to manage specific risk factors for each such as hypocalcaemia and dystocia.
- When selecting rams, focus on birthweight and lambing ease breeding values, and avoid outliers for birthweight.
- Monitoring and intervention are important for lambing ewes, but it's also important to reduce disturbance, so familiarise ewes with vehicles in the four weeks prior to lambing, and don't use the same vehicle to monitor and feed.
- Ideally, check ewes at least once a day during lambing, especially high-risk groups like older ewes and maidens.
- Work with a veterinarian if you're concerned about ewe deaths to devise appropriate treatment and management plans. ■

## RESEARCH UPDATE

### WHAT'S IT ABOUT?

Exploring major causes of death in non-Merino ewes at lambing and preventative management options.

### WHY IT MATTERS

Improving knowledge about ewe survival will contribute to more lambs, improved animal welfare and productivity outcomes.

### WHERE'S IT UP TO?

Final report due this year.

### WHO'S INVOLVED?

Livestock Logic, Mackinnon Project (University of Melbourne), Murdoch University, Pinion Advisory, MLA.



# Planning for succession?

## Here's what you need to know

**O**rganising the future of a business through succession planning can be daunting, but it's a critical component of moving forward in a direction that satisfies all parties involved.

It doesn't need to be a stressful undertaking, as long as business owners take the appropriate steps to ensure a fair and equitable outcome.

Proagitive Succession Planner, Tim Lane, said although there's often negative connotations surrounding the process, it's just a normal part of effective business planning.

"If you've got a good business and want this to continue to operate within the family control framework, you need to go through a process of recognising how that's going to happen," Tim said.

Here, Tim talks about common roadblocks to succession planning he's seen from more 10 years with Proagitive, and provides his tips to avoid these when the time comes to think about the future.

### The roadblocks to successful succession planning

It's important for producers to understand some of the common pitfalls during

succession planning so they can avoid these when the time comes to work through it themselves.

"The most common roadblocks we see in the process come from disagreement or uncertainty around management, leadership and ownership, which are all critical aspects to get right in good succession planning," Tim said.

"Management creates the most conflict and challenges, as it means deciding who's going to be doing what in the business when the time comes for the older generation to step aside.

"To successfully navigate this, there needs to be a reasonable framework put in place around who's going to make what decisions, which comes down to determining who has the right skills in different areas to help the business succeed."

After management, Tim said leadership is the second aspect to be accounted for to achieve a satisfactory outcome.

Leadership concerns who makes the

higher-level strategic decisions of a business, like its future direction, whether more land is needed and if there will be an enterprise change.

"Leadership is tricky, because we often find with the older generation, if someone isn't in the driver's seat in the business, they may lose a sense of place and purpose, so they're reluctant to let go of the wheel.

"That's why it's crucial to get clear on who's in charge of business decisions currently, and who's going to be in charge of these when the time comes to step away, so everyone has clarity."

For ownership, Tim said this is about asking the tricky questions such as what happens if someone passes and what this means for the business.

"The issue with ownership is that if you start with it, rather than looking at management and leadership, then you might end up with a scenario where the next generation can't actually run the business effectively anyway, so it's all been a waste of time."



"An effective plan also includes an effective retirement strategy for the older party so they have the financial security and flexibility, and the independence to effectively transition away from the business."



### Personal challenges

Tim said if these three aspects could be sorted out, there are other roadblocks which could arise at a personal level, such as a sense of entitlement from the next generation, and a lack of financial planning for the older generation.

“Everyone’s going to have ideas in their mind about what they should be getting, but ultimately you need to reach a decision everyone can agree on. If people have pre-determined positions and an unwillingness to engage in discussions, it puts the other parties in a very awkward position,” Tim said.

“An effective plan also includes an effective retirement strategy for the older party so they have the financial security and flexibility, and the independence to effectively transition away from the business.

“If they haven’t sorted financials prior to this, it could leave the business in a position where it needs to fund them on an ongoing basis, and if you lose those labour units but can’t release that financial pressure, there are going to be problems.”

### Avoiding roadblocks

Tim said although roadblocks were common in succession planning, many of them could be avoided if the parties took the necessary steps and were genuine on wanting to achieve a fair outcome.

The first step to a smooth process is to start as early as possible. This could be as basic as having casual conversations

“Having those early conversations makes it clear to everyone what the long term looks like, and will mean when it comes time to make the big decisions around management, leadership and ownership, everyone’s on the same page.”

with family members in their teenage years to determine their intentions and develop a level of communication.

“Having those early conversations makes it clear to everyone what the long term looks like, and will mean when it comes time to make the big decisions around management, leadership and ownership, everyone’s on the same page,” he said.

Another important aspect to avoiding roadblocks is to have open and effective communication, or to seek out training for this if it isn’t present.

“Poor communication can mean an inability or unwillingness to participate in discussions, which will be detrimental to working out what’s going to happen to a business,” he said.

“If you find this to be the case, sort it out as soon as possible, because it’s likely that communication will only deteriorate further and create conflict if you don’t.”

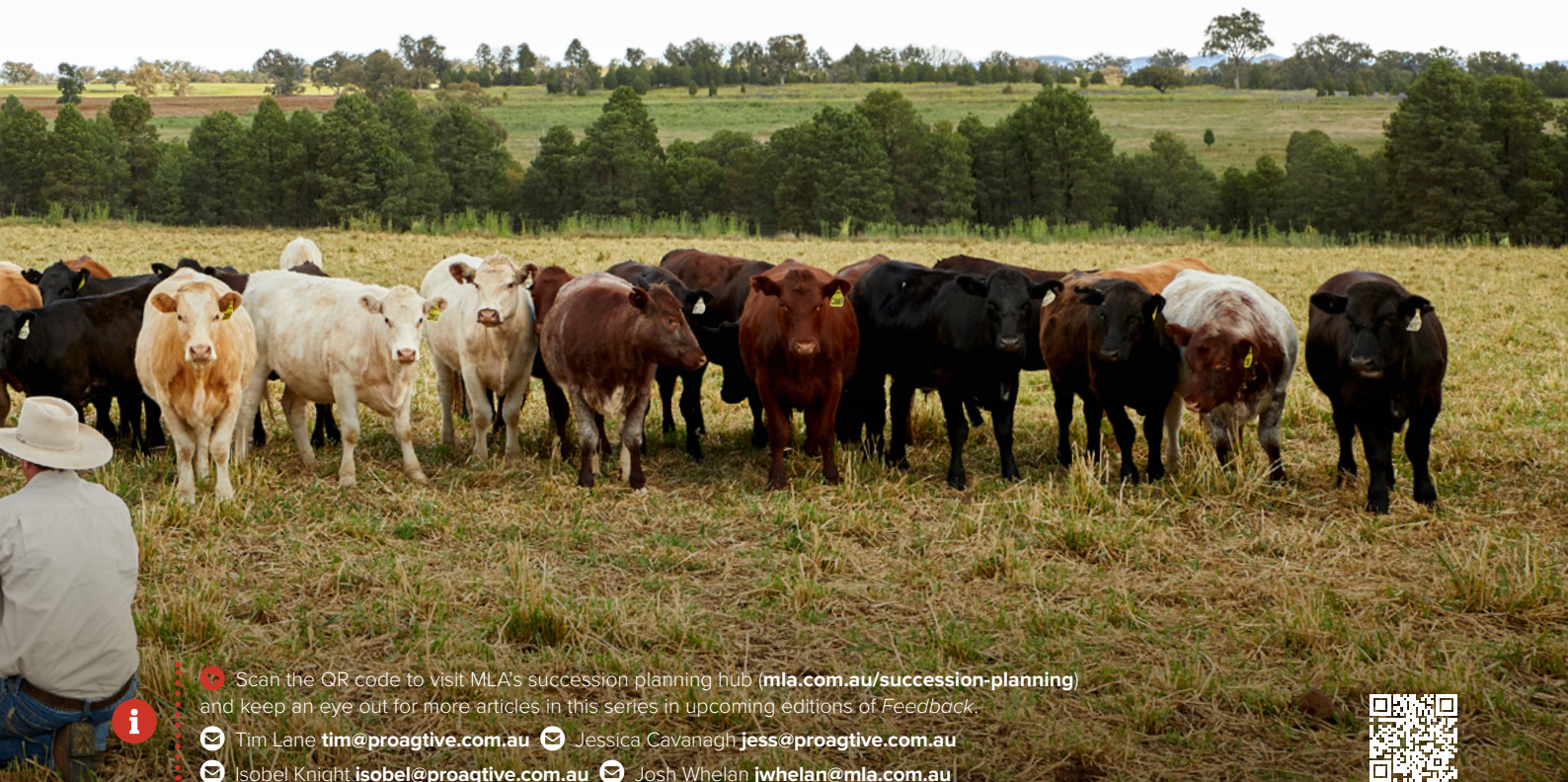
Another way to avoid roadblocks is to develop a clear strategy and document every agreement from the outset.

Tim said documentation doesn’t mean the parties are untrusting of one another. Rather, it gives people clarity and comfort that they can carry on and get a plan in place if the worst happens.

“Word of mouth doesn’t cut it with succession planning, because everyone’s going to have ideas about what they should be getting, so documenting everything each step of the way will really help,” Tim said. ■

### LESSONS LEARNT

- ✓ Start the succession planning process as early as possible.
- ✓ Maintain good communication with all parties, or seek training if parties aren’t communicating.
- ✓ Document all discussions from the beginning.



Scan the QR code to visit MLA’s succession planning hub ([mla.com.au/succession-planning](http://mla.com.au/succession-planning)) and keep an eye out for more articles in this series in upcoming editions of *Feedback*.

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# Five steps to get ready for the next financial year

**H**aving a straightforward process to follow to get your business loans approved is essential as producers face an ever-changing lending environment.

The Lender Ready Program, supported by MLA and the Agri-Business Development Institute (ABDI), is providing practical support for producers to successfully finance better business management and growth.

Here, Lender Ready facilitator and ABDI Director Gordon Stone shares five key steps to take now, ahead of the new financial year, to ensure lending success in the current lending climate.

## 1 Plan early

“Producers tend to underestimate the time, energy and support needed when preparing their loan applications,” Gordon said.

He recommends allowing six months’ lead time to prepare for loan applications – so if you’re planning to do anything with lenders in the first six months of the financial year, it’s important to start sooner than later.

## 2 Prepare a clear business plan

“Once you’re clear on your plan of attack, the first step is to start developing a business plan,” Gordon said.

He said there’s a double benefit to this:

- It helps you become crystal clear on your plans – the why, what and how – and it means those plans are clearly set out and written down.
- It also gives lenders confidence as they can see the detail of these plans to help their risk assessments.

## 3 Get your finances in order

Financials are pivotal to lending assessments.

“Producers must be able to comment on any changes from past to present financial position, as well as forecast their future financial potential,” Gordon said.

Be prepared to discuss why any changes have occurred, which could be due to drought, or other minor or major changes in the nature of the business.

Whatever the circumstances, the reported financials must build on the past and present to help forecast how the next three to five years are expected to play out.

## 4 Consider climate risk

“In order for lenders to diminish their risk when lending money, they look for clients who demonstrate diminished risk around areas such as climate, sustainability and also succession,” Gordon said.

Climate risk and sustainability measures are increasingly risk factors which lenders assess.

Climate is one of the more complex issues, but it’s still critical for lending risk assessment, management and mitigation considerations.

“It’s also equally a business management and business growth risk, as climate variability is so pivotal to individual businesses throughout the whole agribusiness sector,” Gordon said.

## 5 Polish and propose

“It’s important that lenders see the most professional and polished proposal as possible for the loan deal, as that increases lender confidence in the proposition,” Gordon said.

This includes a plausible explanation of any planned changes to a producer’s business direction – an explanation of why they’re changing, how it’s going to work and how it’s going to contribute to their enhanced profitability. ■

» Read the article on the next page to meet a producer who is reaping the rewards of the Lender Ready Program in their business.



ABDI Director Gordon Stone presenting a Lender Ready Program workshop to producers.

## SEASONAL ACTION PLAN

📌 **Sign up to the next Lender Ready Program** at [abdi.com.au/lender-ready-program](http://abdi.com.au/lender-ready-program) to learn how to set yourself up for effective financial relationships and grow your business.

📌 **Visit MLA’s Climate Hub** at [mla.com.au/climate](http://mla.com.au/climate) for practical tips and tools to help you manage your climate risk through the winter months and beyond.

📌 **Access ABDI’s free e-book library** at [abdi.com.au/free-reports](http://abdi.com.au/free-reports) for more advice on developing your farm business plan.

- 📍 Visit [abdi.com.au/lender-ready-program](http://abdi.com.au/lender-ready-program) for more information on the Lender Ready Program.
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- ✉ Josh Whelan [jwhelan@mla.com.au](mailto:jwhelan@mla.com.au)



» Brenden McClelland with his sons Cory and Nick.

# Setting a business up for success

## SNAPSHOT



### BRENDEAN AND MADELENE MCCLELLAND,

their sons Cory and Nick and families, 'Bellmont', Bell, Queensland



### AREA

1,600ha

### ENTERPRISE

Cropping, cattle and pigs

### LIVESTOCK

500 head of cattle (Angus/Droughtmaster/Charolais cross and Santa Gertrudis), 300-sow piggery

### PASTURES

Natural pastures including Queensland bluegrass, forest bluegrass, buffel grass and green panic

### SOIL

Black with a small area of light scrub soils

### RAINFALL

660mm

## LESSONS LEARNT

- ✓ **Plan ahead** – you should have a solid business plan for the next 12 months and beyond which considers how you could manage exceptional circumstances such as drought.
- ✓ **A polished, professional lending proposal** will help you grow your business in the future.
- ✓ **Identify the climate risks within your enterprise** and take steps to manage these challenges for continued lender confidence.

and even further – it's clear you need to do your homework," Brenden said.

"You've also always got to have plans in place to cover yourself if something arises.

"There'll be times where circumstances change but if you're prepared, you can deal with it without any big dramas." ■

**F**or the Darling Downs-based McClelland family, decision-support tools like the Lender Ready Program (see previous page) have proved vital in growing their business into a diverse, long-lasting enterprise that can weather the region's mounting climate challenges.

The family operates a mixed farming enterprise, encompassing a heifer trading operation, grain crops, a piggery and pig genetics business.

While a long dry spell in the region has seen annual rainfall down 24% over the past eight years, the McClellands are determined to ensure their business is profitable for years to come.

### Getting set for success

"We found the Lender Ready Program was extremely comprehensive, covering the whole lending process to give us a really good insight into what you need to do to prepare for loan applications," Brenden McClelland said.

"It particularly gave us a good insight into what lenders are looking for now, as with the Royal Commission into banking, there's been a few quite significant changes.

"It's probably one of the best courses I've been through, so I highly recommend it."

The McClellands also found the Lender Ready Program essential when creating a profitable business plan for the long term.

"We've got some thoughts about what we'd like to do with the business in years to come and that's one of the reasons why we signed up to the program," Brenden said.

"We've got two sons, they're in the business here with their families and in the longer term we want to grow the business.

"We thought, if we plan to grow the business in the future, it's worth doing things professionally – and the program

helped us present our business plan in a very professional manner to our lender."

### Going green

The program also played a part in the family's decision to place a more concerted focus on regenerative agriculture in their enterprise to minimise the risk that a changing climate posed to their business in the long term.

To manage the challenges of a shifting climate, the McClellands have a range of plans in store for both their grazing and cropping country.

"We've been cell grazing for probably 10 years now but we're looking at making further changes to our operations to minimise climate risk.

"Getting better water infiltration and water retention in our cropping country and also in our grazing country will help us manage the rainfall pattern we're seeing emerge," Brenden said.

"What we have happening is we're getting two major falls a year, six months apart, with small falls in between that don't really amount to anything – so these systems will help capture the major rainfall and store it for use until the next fall of rain."

### Playing the long game

Brenden said the Lender Ready Program had played a large part in the family's shift to a business plan to ensure continued growth for years to come.

"The program showed us the benefit of planning for at least the next 12 months

# Grazing for long-term gain

**M**anaging stocking rates and running low-maintenance livestock are just two of the strategies NSW producer Will Morphett and his family employ to protect and capitalise on their natural assets despite variable seasons.

The Morphetts, who have owned 'Alma' at Booligal for more than 60 years, take a strategic, long-term management approach to their grazing enterprise to minimise the impact of the region's highly variable rainfall on their pastures and productivity.

"Our biggest issue is trying to maximise our profitability while balancing variability in seasonal rainfall," Will said.

"Our rainfall is not necessarily winter dominant – it varies seasonally as to whether you get more in winter or if it's spread out throughout the year."

## Stocking rates

To counter these seasonal challenges, the Morphetts pay close attention to stocking rates to ensure Alma's native pastures are grazed in a way that is not only profitable for their business, but is also sustainable.

"Our main tool for managing variability out here is stocking rate," Will said.

"We take a reasonably conservative approach to our stocking rate in order to protect pastures for the long term."

The Morphetts' grazing strategy includes shifting stock off areas with poorer pastures to allow pastures to regenerate sufficiently and remain productive for seasons to come.

"We'll identify paddocks which we might want to improve or which we might have a certain goal for – such as more ground cover, more diversity or more of a certain

type of species – and then we'll try to manage to achieve that goal," Will said.

"This can mean destocking areas over key growth periods and allowing pastures to regenerate and become established.

"As a general rule, we aim to keep ground cover above 50% and place a particular focus on keeping perennial bushes, particularly saltbush, as well as perennial grasses in our system."

## Hardy stock

Low-maintenance Merino sheep is another key element of the family's property management strategy for long term productivity and natural asset health.

"Low-maintenance livestock are animals that can utilise the pasture – animals with a large body and long legs, so they can walk out from a watering point to get food as opposed to being restricted around a watering point and running that country hard."

Watering points are placed strategically to keep pressure on pastures to a minimum, while trying to maintain lambing rates above 100%.

"We make sure we've got plenty of watering points spread out around the country – that helps us out with lambing percentages and feed utilisation across the property," Will said.

"We try to avoid having one section of a paddock that gets really run down

## SNAPSHOT



**WILL, PETER, GRAHAM AND HELEN MORPHETT,**  
'Alma', Booligal, NSW



**AREA**  
42,500ha

**ENTERPRISE**  
Stud and commercial Merinos

**LIVESTOCK**  
12,000 Merinos (including 2,000 stud ewes and 6,000 commercial ewes)

**PASTURES**  
Native pastures, including open shrubland dominated by bladder saltbush with various annual and perennial grass, as well as medic species

**SOIL**  
Self-mulching and cracking clays to red duplex soils

**RAINFALL**  
304mm

by stock because that area won't regenerate as effectively in the future."

## Biosecurity

Careful management of pests and weeds on the property also ensures native pastures can thrive. In particular,

✓ Ewes and lambs coming in for shearing on 'Alma' in 2020. Image: Will Morphett.

"If you've got a healthy environment with lots of species diversity and great ground cover, your country will be able to respond effectively to a rainfall event and grow more feed."





▲ Peter, Graham and William Morphett. Image: Zeldia Chambers.

## SEASONAL ACTION PLAN

### ! Access practical strategies

to improve productivity and sustainability with the Making More From Sheep package: [makingmorefromsheep.com.au](http://makingmorefromsheep.com.au)

### ! Develop your understanding of

**pasture management** through the Improving Tactical Decision Making, part of MLA's Profitable Grazing System (PGS) program: [mla.com.au/pgs](http://mla.com.au/pgs)

### ! Use MLA's stocking rate

**calculator** to determine the carrying capacity of your paddocks: [etools.mla.com.au/src](http://etools.mla.com.au/src)

the Morphetts focus on feral animals such as pigs and foxes, and invasive weed species such as African boxthorn, Noogoora burr and Bathurst burr.

"We use spot spraying to manage these weeds, targeting key areas such as channel systems, ground tanks and creek systems because that's where they often like to grow," Will said.

"A lot of those weeds are invasive, so if we can exclude them, it helps keep our native pastures as healthy and productive as possible."

### Understanding the environment

Will prioritises ongoing education and research to further improve his management.

One of the latest workshops he's attended is the Improving Tactical Decision Making pilot program, hosted as part of the MLA-funded Profitable Grazing Systems (PGS) program conducted in partnership with Local Land Services.

"It has been great to get local landholders together through the program and

compare the different strategies we use to manage the landscape," Will said.

"We've been learning more about how the natural system operates out here and how we may be able to manage it.

"The last two years of above-average rainfall in this region has really highlighted the ability of this environment to regenerate when managed well."

### Long-term benefit

Will said the family's careful management of their natural assets on-farm was key to the ongoing productivity of their business.

"It works hand in hand – good management of our pastures has flowed on to good results in our stock, with our lambing rates in excess of 100% and the flock producing a 21 micron wool clip.

"If you've got a healthy environment with lots of species diversity and great ground cover, your country will be able to respond effectively to a rainfall event and grow more feed.

"That means you'll have more feed available to your stock, who can use that to produce more lambs and more wool."

Healthy pastures will also ensure the sustainability of livestock enterprises for generations to come, despite the variable seasons.

"If you run the country hard and deplete the seed base of a species, it's going to take a long, long time for those seeds to spread and for the species to become established in the paddock," Will said.

"I think now there's a lot greater understanding of that and a lot more respect for those native environments and pastures – people value them a lot more rather than letting their stock eat them down and hoping they'll grow back." ■



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Turn the page for strategies to strategically graze natural assets.

# Three ways to capitalise on your natural assets for better grazing

**M**anaging the natural resources on a livestock property is critical to the long-term productivity and sustainability of an enterprise.

There's never a better time than now to start paying attention to your property's natural assets and how they can be managed for long-term profitability and sustainability, according to Southern Farming Systems' Manager – Soils, Pasture and Livestock, Lisa Miller.

"One of the examples of the production gains that can come from managing your natural resources is good soils, which are a huge asset to your grazing enterprise. You can also get the satisfaction of looking after the land as well," Lisa said.

Her top three strategies are:

## 1 Monitor ground cover

Ground cover management maintains good soil across low and high-rainfall environments.

"Ground cover has several functions, including preventing wind erosion – which can take away many nutrients and organic carbon – and water erosion, which can really cause a lot of soil to wash off," Lisa said.

She recommends aiming for 70% or more ground cover on flatter areas and 90% ground cover on slopes in high-rainfall zones, while striving to achieve as close to these levels as possible in lower rainfall zones.

Adjust stocking rates accordingly and employ grazing strategies such as rotational grazing to maintain ground cover.

"Those ground cover targets will become triggers for getting stock off pastures or to perhaps put stock into areas where there is more ground cover, or confinement areas."

## 2 Fence strategically

Planning property layout and fencing paddocks according to soil type or vegetation can assist with managing grazing pressure to protect soil and pasture health.

"Fencing to land class can help you with your grazing management, as different areas require different management," Lisa said.

"With light-textured soils, you lose ground cover a lot quicker than heavier soil types, as they can't hold onto as much moisture and they'll dry out more quickly.

"Dividing off different soil types is a good idea because you can match pasture species to their preferred soil conditions and strategically graze that pasture to ensure its persistence and soil protection."

## 3 Consider confinement feeding

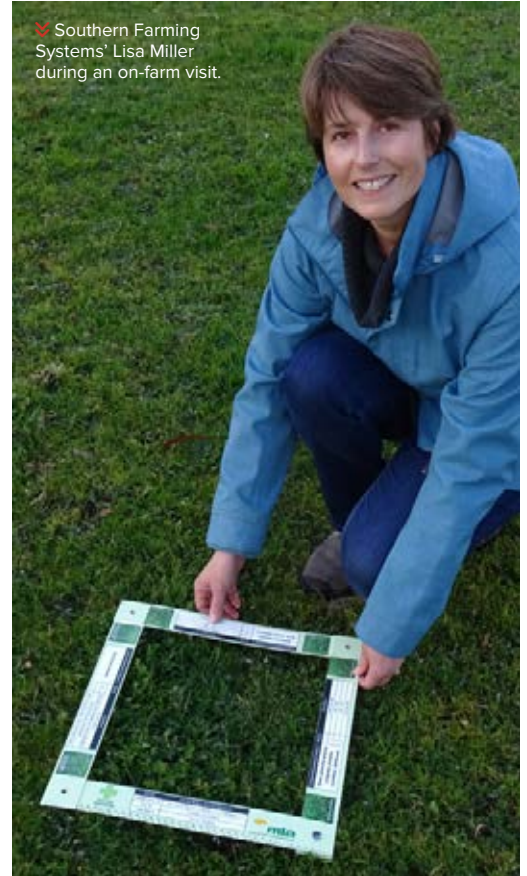
Confinement feeding during seasonal feed gaps or dry conditions is an option for producers who need to maintain ground cover and protect their natural assets.

"Confinement feeding has been a real bonus for many producers – they've found it's much more time-efficient than having to feed many individual mobs across the farm and it provides a solution to maintain ground cover during that time."

## Act now to safeguard the future

Lisa urges producers to get on the front foot and start implementing these strategies now to reap the many benefits of maintaining a healthy natural resource base.

✓ Southern Farming Systems' Lisa Miller during an on-farm visit.



"Always plan prior to having to act on something – like a drought," Lisa said.

"It's all that prior planning that goes into setting up the farm that helps to protect your natural assets." ■

## SEASONAL ACTION PLAN

- ! **Assess the quality and quantity of available ground cover** using the Pasture Paramedic tool: [mmla.com.au/pasture-paramedic](http://mla.com.au/pasture-paramedic)
- ! **Take part in MLA's Profitable Grazing Systems (PGS) training package**, Satellite-Assisted Forage Budgeting, to learn how to use satellite imagery to develop large-scale grazing budgets for your business: [mmla.com.au/pgs](http://mmla.com.au/pgs)
- ! **Complete Module 5 – Protect your natural assets** from the Making More From Sheep manual for more practical tips and tools to help you manage your natural assets: [makingmorefromsheep.com.au](http://makingmorefromsheep.com.au)
- ! **Consider confinement feeding** when ground cover is lacking [mmla.com.au/confinement-feeding](http://mmla.com.au/confinement-feeding)

\* Targets according to the technical manual supporting the Pasture Paramedic tool (scan the QR code): [mmla.com.au/pasture-paramedic](http://mmla.com.au/pasture-paramedic)

» Turn to page 18 to see how NSW sheep producer Will Morphett strategically grazes his native pastures.



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« Peter Shotton at Douglas Daly Research Farm, NT.

# Top tips for leucaena in the Top End



**P**eter Shotton knows a thing or two about leucaena in the Top End – he’s been growing it as a Research Agronomist with the NT Government’s Department of Industry, Tourism and Trade at the Douglas Daly Research Farm for more than 20 years.

So, he’s seen firsthand what works and what doesn’t when establishing, growing and managing leucaena.

Here, he shares his top tips to give leucaena the best chance of survival and optimise its management for the greatest productivity benefits.

## Planting and establishment

Peter said the single most important factor in successfully growing leucaena in the NT is that it needs to be given every possible chance of establishing, which carries a cost.

This includes being on the ball with pre-planting preparation, planting, fertiliser, plant competition and insect management, and following MLA’s guidelines, The Leucaena Network’s recommendations and the leucaena code of practice.

He recommends selecting a site with minimal weed and legume competition, as it’s hard to establish the desired legume while trying to control an undesirable one.

Conduct soil analysis of this site as part of preparation, and address low nutrition levels, such as phosphorous and sulphur, with fertiliser.

Addressing weed competition and erosion issues should be a priority.

“Make sure you’ve got no weed competition, which means spraying out strips 3–4m wide at least 12 months out from planting,” Peter said.

“Because of the high rainfall in the NT, many producers face erosion issues. Spraying out the strips leaves a mulch cover, and planting into this mulch cover with zero-till reduces the risk of erosion,

as well as helping hold soil moisture and keeping the temperature down.

“Be careful the mulch isn’t too thick, because the planter might not get underneath it to get the seed in the ground.”

Producers should aim to plant leucaena into moisture at the start of the wet season (around mid-late November–December if they can) at approximately 1.5kg/ha, using good quality scarified seed and ensuring inoculum is applied prior to planting.

After planting, Peter recommends insecticides to deal with potential pests such as harvester ants and termites, which can destroy developing plants.

A pre-emergent can be used, but be mindful this would be a waste if there’s a mulch cover.

## Germination and growing

It’s critical to manage leucaena well in the early growing stages – this includes controlling competing plants and grasses within 0.5m of the rows and not grazing it throughout the wet season and most of the dry season.

“Once leucaena gets 1m tall, it’s generally quite robust, but in those early stages you need to look after it by keeping the weed pressure down and cattle off it,” Peter said.

## Grazing and height control

Height control can be a unique challenge for NT producers, according to Peter, because the high rainfall means fast-growing leucaena and grasses.

“We’ve found that when it comes time to graze, when we let the cattle into the paddock, if there’s too much fresh grass,

## SEASONAL ACTION PLAN

### Wet season

! After selecting the area planned for leucaena, **conduct a soil test to confirm the nutrient status** is suitable.

! **Begin to spray strips with herbicide** after the first rain at least 12 months prior to planting.

! **Continue to spray strips to reduce weed pressure** throughout the wet season and again the following wet season.

! **Always plant into moisture.**

### Dry season

! **Fence off areas intended for leucaena** to reduce pests.

they will only graze this and leave the leucaena to continue growing,” Peter said.

“Because the leucaena grows quickly, its leaf matter can get out of reach of the cattle and you end up needing to mechanically knock it down.

“The best way to mitigate this is heavy rotational grazing, so cattle are more inclined to browse the leucaena along with the companion grass.”

Mechanically controlling leucaena shouldn’t be done in the dry season as it can result in plant loss.

“While slashing removes the opportunity to graze, it can actually benefit the leucaena by making it branch out and develop multiple stems which produce more leaf matter,” Peter said. ■

» Turn the page to read about one NT producer’s experience with leucaena.

- ! Scan the QR code to download a copy of MLA’s *Leucaena – a guide to establishment and management* or visit [mla.com.au/leucaena](http://mla.com.au/leucaena).
- ! Learn more about growing leucaena in the NT at [nt.gov.au](http://nt.gov.au) (search ‘pastures and fodder crops’)
- ! The leucaena code of practice and other practical resources are available from The Leucaena Network: [leucaena.net](http://leucaena.net)
- ! Peter Shotton [peter.shotton@nt.gov.au](mailto:peter.shotton@nt.gov.au) Nigel Tomkins [ntomkins@mla.com.au](mailto:ntomkins@mla.com.au)





✔ Logan Reid, Blackbull Station, Douglas-Daly, NT.

# Weeds, wallabies and water

## Taking on the northern leucaena challenge

**P**roducers in drier regions might think an average wet season rainfall of 1,300mm would be more than enough to successfully establish and manage the tropical legume forage crop, leucaena...

...but for Douglas-Daly producer Logan Reid, his environment has provided a unique set of challenges.

Logan has dedicated 47ha of the property he manages, 'Blackbull Station', to a producer demonstration site (PDS) run by The Leucaena Network and MLA, which looks at sustainable long-term leucaena production in northern Australia.

The leucaena variety Cunningham was already established on the station, so Logan was keen to be involved to test the suitability of other varieties, Wondergraze and Redlands, to meet his production goals.

Throughout the trials, he's picked up on some key learnings which he'll apply for future leucaena planting.

"Leucaena has amazing potential, but the management early on is crucial to reap the rewards," Logan said.

"Once it's up and going, it's pretty hard to knock, but you have to prepare accordingly, or it's just going to be a wasted investment."

Here are three of Logan's tips for successful leucaena in the Top End.

### 1 Prepare early and prepare well

The first step was to establish whether Blackbull's soils could support leucaena, so soil testing was used to determine phosphorous, sulphur and calcium levels – which were adequate.

The next step was to deal with weed pressure, which Logan said was immense due to their high rainfall.

"We started knock-down spraying in the season prior to planting, using herbicides after the first rain right up until sowing to get a weed-free seedbed," he said.

"Try to get as many sprayings in as you can to give the leucaena the best chance."

When planting, they sowed each variety in twin rows with 60cm centres, depth of 25mm and with 5cm intervals, only changing the row spacings from 6m–12m–18m.

They also applied 220g/m of fertiliser (Legume Xtra Agfert) at planting followed by the weed control Spinnaker® and pesticides over the rows the day following planting.

Logan said although the preparation and management were vigorous, it was worth it, with Blackbull recording emergence rates of 80% for their leucaena and resilience of 70%.

### 2 Be aware of water flow

Another challenge presented by the high rainfall was water flow damaging leucaena establishment.

"We had a really good germination of a section of leucaena, then ended up getting a huge fall of rain," Logan said.

"This caused a sheet of water to go straight across that area and it wiped out 90% of those seedlings.

"We're going to build up contour banks to prevent this in the future, but it's something to consider when planning where you grow, because young plants are very fragile and don't hold up well to water flow."

### 3 Keep pests away

Logan also credits good establishment in their leucaena crop to fencing the site off from pest pressure at the beginning of the trial.

"Leucaena is quite expensive to establish, so we weren't taking any chances with it, ringlocking the paddock to stop any little critters from getting to the plants," he said.

"Another site in the PDS didn't initially fence off their leucaena, and it copped a hammering from wallabies over the dry season.

"While it's an additional cost, it's a very worthwhile investment to make sure the leucaena remains exclusively for cattle."

### Trial observations

Due to lower-than-average rainfall over the first two seasons of the PDS, the leucaena on Blackbull only began to record serious growth over the 2021–22 wet season, meaning Logan's weight gain data to date is limited.

However, he's observed the growth of the varieties and how they've responded to the row spacings.

"On our block, the Cunningham and Wondergraze do seem to be faster growing than the Redlands, and with no psyllid pressure where we are, it would make sense to plant these varieties in the future," he said.





## SNAPSHOT



**LOGAN REID**, 'Blackbull Station', Douglas-Daly, NT



**AREA**  
15,000ha

**ENTERPRISE**  
Cattle for live export

**LIVESTOCK**  
4,000 Brahmans

**PASTURES**  
Jarra, Buffel, Sabi grass

**SOIL**  
Highly variable

**RAINFALL**  
1,300mm

## LESSONS LEARNT

- ✔ **Early preparation of soils and land is critical** for successful leucaena establishment.
- ✔ **Do not plant in areas with high water flow**, as this can wash seedlings away.
- ✔ **Fence leucaena crops off** to reduce the impact of pests.

"With the spacings, we've not noticed a great deal of difference between the varieties.

"Because of our high rainfall, I'm leaning towards tighter spacings being the way to go as they increase the leucaena to grass ratio, but for producers with less rainfall, they might need more grass so would be better suited to wider spacings." ■



- 🔍 Find leucaena and legume resources at [mla.com.au/leucaena](http://mla.com.au/leucaena) and [mla.com.au/legumes](http://mla.com.au/legumes)
- 📄 The Leucaena Network has information about growing and managing leucaena: [leucaena.net](http://leucaena.net)
- ✉ Logan Reid [Logan2387@hotmail.com](mailto:Logan2387@hotmail.com)
- ✉ Nigel Tomkins [ntomkins@mla.com.au](mailto:ntomkins@mla.com.au)

## Spreading leucaena's benefits across northern Australia

The benefits of leucaena for central Queensland cattle producers are well-known, with the forage legume delivering increased weight gains and carrying capacities, and boosting overall profit and production.

However, there was previously a lack of data for the high rainfall zones of northern Queensland and the NT. MLA, in collaboration with The Leucaena Network, is working to identify the benefits of leucaena in these zones and how producers can ensure successful establishment and management.

Executive Officer of The Leucaena Network, Bron Christensen, currently manages two projects that demonstrate the value of leucaena in the high-rainfall zones of northern Australia:

### Value chain economics for leucaena:

This project set out to build a bank of knowledge on the performance of leucaena in northern Queensland with trial sites at Mount Garnet and Forty Mile, and in the NT with a trial at the Douglas Daly Research Farm.

"Leucaena grown in high-rainfall zones was traditionally heavily impacted by psyllids so it wasn't a viable option for many producers, leading to very little data on the performance of cattle grazing on leucaena in these regions," Bron said.

"The emergence of Redlands as a psyllid-tolerant variety has resulted in more successful grazing opportunities, so is allowing us to observe and record these weight gains for the first time."

Now at the halfway point, this project is producing positive results.

"There's been an increase in gross margin per hectare of 324% at Mount Garnet with the introduction of leucaena, as well as quadrupled carrying capacity and top live weight gains of 1.5kg a day," Bron said.

"At Forty Mile, the gross margin per hectare increase is 250% with a top live weight gain of 41.1kg/ha, while at Douglas Daly there's been a 32% increase."

### Sustainable long-term leucaena grass production in northern Australia:

The second project Bron manages looks at establishing and managing leucaena in the NT, so producers can make more informed decisions.

"Leucaena's been around the NT for 20 years, but producers haven't had much success with it," she said.

"This is because the establishment and management conditions for leucaena in the NT are completely different to places like central Queensland, where most of the knowledge on this has come from."

Four sites have been established in the Douglas-Daly region throughout the 2019 to 2022 wet seasons, planting three varieties – Redlands, Cunningham and Wondergraze – at row spacings of 6m, 12m and 18m to observe the responses. Meet one of the producers involved on the previous page.

Due to issues such as high predation and low rainfall, growth has been limited, but three sites have still managed to successfully establish leucaena and will be showcased at a field day hosted by The Leucaena Network in May 2022. ■



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- ✉ Nigel Tomkins [ntomkins@mla.com.au](mailto:ntomkins@mla.com.au)

# ‘Bulletproof’ sheep backed by



David and Melissa Greig with their two daughters Evelyn and Lila on ‘Bellevue’. Image: Nic Fenton.

## SNAPSHOT



DAVID AND MELISSA GREIG, ‘Bellevue’,  
Tottenham, NSW



AREA  
5,300ha

ENTERPRISE  
Merino sheep and winter cropping

LIVESTOCK  
3,600 ewes joined, with  
4,300 lambs at foot

PASTURES  
Mostly native pastures,  
including windmill grass,  
kangaroo grass, Queensland  
Bluegrass and winter medics

SOIL  
Predominantly red loams

RAINFALL  
400mm

## Central west NSW producer David Greig’s ‘bulletproof’ Merino flock has been bred to withstand a troubled climate, with minimal management needed to double lambing rates over the past 10 years.

David, his wife Melissa and their two daughters operate a winter cropping and Merino enterprise at Tottenham, producing first-cross ewes for prime lamb producers and Merino ewes for first-cross ewe and wool producers.

Maintaining high rates of lamb survival and production on ‘Bellevue’ has proved a significant challenge in the face of unreliable rainfall.

“However, trying to maintain production through those tighter climatic times is a challenge that I think we’re getting better at addressing,” David said.

### Building resilience

Introducing more resilient genetics into their Merino flock eight years ago with the help of Australian Sheep Breeding Values (ASBVs) has enabled the Greigs to maintain productivity through adverse conditions.

“We’ve chosen plainer-style Merinos, as the plainer skin grows just as much wool as the traditional Merino but has less problems, such as flies,” David said.

“We’ve also been selecting animals that are positive for fat and muscle and, on breeding values, they’re very strong for growth.

“Those strong carcass figures make a very resilient animal – I call them a bulletproof sheep.”

David’s decision to move into plainer-bodied Merinos has had many positive flow-on effects for flock management and

productivity. For example, they have stopped mulesing as their sheep are not as susceptible to flystrike.

As well as the animal welfare benefits, this has reduced labour requirements and created marketing opportunities.

“The added value of having non-mulesed ewes in our enterprise is that we’ve got more markets open to our wool,” David said.

### Minimising management

Introducing more robust genetics has contributed to reduced labour requirements in the business.

“Plainer-style Merinos require less management, so they’re only coming into the yards during key management times – shearing, weaning or selling lambs.

“In an average season, we don’t drive into the lambing paddocks during lambing – we leave them be in their natural environment. Our ewe mortality rate during lambing has fallen significantly from 5% to 1.5% since adjusting our flock genetics.”

### Targeting survival

Another strategy David employs to ensure maximum flock productivity is matching the condition score of his ewes with their reproductive cycles and nutritional needs – a tactic he credits as crucial to the high lamb survival rates recorded on the property.

“I was involved in AWI’s Lifetime Ewe Management program, which really put our focus on looking after the animal, including keeping them in a desired condition score throughout the year to allow them to express their genetic potential,” David said.

His strategy is:

- condition score a percentage of ewes at shearing and put in place a program to get them in an average condition score of 3 by joining
- aim to keep ewes carrying single lambs in condition score 3 at scanning and ewes carrying twins in a condition score above 3
- shear just before lambing and condition score ewes again
- prioritise the best paddocks to ewes which need the best pasture for lambing.

“It’s all about knowing what level of nutrition you need to provide your ewes with leading into joining, and then having them in the right condition score once they’re scanned in lamb to ensure lamb survival,” David said.

“As a result of using this strategy, our lamb survival rates are at 96% for single lambs



# genetics and management

## LESSONS LEARNT

- ✔ Plainer-style Merinos are less susceptible to flystrike than traditional Merinos – as result we've been able to stop mulesing.
- ✔ Matching animal nutrition and reproductive cycles with ewe condition scores can help increase lamb survival.
- ✔ Rotational grazing and planting native species to supplement existing pastures maintains adequate ground cover throughout variable seasons.



✔ The Greigs' plainer-style Merino sheep are hardy and require minimal management. Image: Nic Fenton.

and 85% for twins, up from 91% and 61% respectively a decade ago.

“Our percentage of lambs marked per ewes joined is up to 143.5% from 73%.”

### Pay attention to pasture

Careful grazing management is another tool which contributes to productivity as well as keeping on-farm costs low.

The Greigs moved away from set stocking rates more than a decade ago and now rotate grazing over their native country to better utilise available feed.

“We usually rotate stock around depending on the season, rotating stock more frequently when feed is still growing to take advantage of the fresh growth.

“It certainly builds the ground cover we've got and, by rotating sheep, we haven't needed to drench for 10 years on this

place – which takes a lot of the heavy lifting out of the sheep enterprise.”

Maintaining ground cover has been a particular focus of David's grazing management strategy.

“Leading into the last drought, we were mindful of maintaining ground cover. So, we used agistment as a way to maintain that ground cover rather than setting up confinement feeding – which we knew we didn't have the labour or infrastructure for at the time,” David said.

“We've also planted 40,000 saltbushes on the property to provide nutrition and shelter as well as ground cover in our paddocks.”

### Projecting profit

Considered management of Bellevue's flock, coupled with their robust genetics, has ultimately meant the Greigs can now forward

budget lamb turn-off years in advance to ensure reliable profitability throughout variable seasons.

“We're very confident in our conception rates and what our lamb survival will be, because it's been consistent for a number of years now – so we can just forward budget what lambs we can expect next year and the year after,” David said.

### Sharing strategies

David's strategies to ensure consistent performance on-farm are something he actively seeks to share with other producers facing similar challenges to production, offering a close look at his enterprise through platforms such as MLA's Good Meat website in the hopes of helping others.

“With a tiny little change in their management, people could be increasing their productivity by a huge amount.” ■

✔ David with some of the 40,000 saltbushes he's planted on the property. Image: Nic Fenton.

## SEASONAL ACTION PLAN

- ✔ Learn how to use **Australian Sheep Breeding Values (ASBVs)** to select high-performing sires at [genetics.mla.com.au](http://genetics.mla.com.au)
- ✔ Visit **MLA's persistent pastures hub** for resources to maintain pasture productivity through the cooler months and beyond: [mla.com.au/persistent-pastures](http://mla.com.au/persistent-pastures)
- ✔ Access **new management strategies** to improve flock reproduction and improve lamb survival from Making More From Sheep (module 10) and Profitable Grazing Systems' Lifting Lamb Survival package: [makingmorefromsheep.com.au/wean-more-lambs](http://makingmorefromsheep.com.au/wean-more-lambs) and [mla.com.au/pgs](http://mla.com.au/pgs)



# Is irrigated fodder production the right fit for your business?

**Irrigation systems to grow high quality forage can help overcome a key constraint with pastoral systems – the low quality of feed over the dry season, which results in stock losing condition.**

There's been considerable interest in mosaic agriculture using ground water or surface water resources in the West Kimberley and from mine de-watering in the Pilbara and in other regions across northern Australia.

The WA Department of Primary Industries and Regional Development (DPIRD) with co-funding from MLA Donor Company (MDC) undertook a five-year project to identify the most viable crop and pasture options and their expected production, and develop management packages.

The research highlighted that before investing in irrigation, a pastoral enterprise should fully investigate the pros and cons.

Investing in on-station irrigation can give producers the ability to grow high quality forage year-round and turn-off cattle to a boarder range of markets, however it can be a costly exercise and requires specialist skills.

Kevin Bell is Technical Innovations Manager at the WA enterprise Pardoo Beef, where he has seen first-hand how irrigation development can underpin a productive beef herd.

He said that although Pardoo's irrigation development underpins a valuable Wagyu herd, there was initially scant information available on how to create a profitable irrigated system in northern WA.

"As an early adopter in this space, we had to take a trial-and-error approach to see what worked and what didn't," he said.

"We had a sketchy idea of the performance of tropical grasses, based on what we knew from their use in the south-west of WA, Queensland and a little bit in the Kimberley, but not in the Pilbara or in the context of a large-scale, intensively grazed system."

Seizing the opportunity presented by ground water and mine dewater resources in the area, DPIRD and Pardoo Beef collaborated on a five-year project as part of the MDC research to evaluate a range of irrigated forages for productivity, feed quality and the economics and irrigation requirements.

## Economics

DPIRD Senior Research Scientist Clinton Revell said there are some important steps to put in place before investing in irrigation.

"Producers developing an investment plan must ensure their production targets are realistic and explore the sensitivity of different cost and production scenarios on financial performance," he said.

"Our economic modelling demonstrated that small-scale irrigation developments (30–50ha) can be profitable. However,

investment decisions should be made carefully given the high sensitivity of income to feed quality, the sale price of steers, hay yield and the discount rate.

"One of the more profitable scenarios is early weaning calves and feeding them in a cut-and-carry system (harvesting the crop and feeding animals off-site) with high quality irrigated hay. This allows breeders to recover body condition earlier, thereby improving conception rates and reducing mortality rates."

A single 40ha centre pivot irrigation enterprise in the Pilbara was estimated to cost about \$1 million to become fully operational (including costs of borrowing funds) and the payback time ranged from 7–13 years.

Intensive management through high nitrogen (N) and phosphorus (P) inputs can substantially lift the productivity of Rhodes grass and improve financial returns, but variable costs are high and the system requires constant and consistent management with staff skilled in farming operations.

"Development and production costs will vary considerably according to the location, water source and scale of operation, so it is important to work through these specifically for each individual business," Clinton said.



WA enterprise Pardoo Beef has developed irrigation to underpin a productive beef herd.





▲ Cattle at Pardoo grazing irrigated crops. Image: Nathan Dyer.

“Good irrigation management produces more uniform crops, uses fewer inputs and increases profitability through efficiency gains.”

### Water supply

DPIRD Senior Development Officer Chris Ham said if the economics are favourable, a reliable supply of good quality water is the cornerstone to any irrigation development.

“Reliability of supply and water quality are obviously key factors, however a range of considerations need to match up when choosing location and scale of an irrigation development.

“These include site-specific considerations such as soil type and surrounding topography, proximity to sensitive environmental assets, Aboriginal heritage and cultural assets, access and trafficability in the wet season.”

Water quality analysis will identify potential risks to crops or soils prior to commencement of irrigation. The use of irrigation water above 180mS/m (i.e. 1000mg/L TDS) is not recommended in northern WA.

“Good irrigation management produces more uniform crops, uses fewer inputs and increases profitability through efficiency gains,” Chris said. “System capacity is a very important factor to consider when designing an irrigation system.”

### Rule of thumb: system capacity

For the semi-arid tropics, DPIRD recommends a minimum constant water supply of 1.5L of water per second per hectare of irrigated land for a centre pivot system, regardless of crop type.

The water available will then determine the irrigable area. For example, a bore that produces 60L per second is capable of irrigating a maximum of 40ha. This system will have the capacity to apply up to 13mm of irrigation per hectare in 24 hours over the whole 40ha (at 100% efficiency).

Two other important considerations for beef production are matching the class of cattle with the type of feed they require and deciding whether to focus on a stand-and-graze (direct grazing) system or a cut-and-carry system. There is no ‘one size fits all’ solution and the decision depends on the specific context. Many of the larger irrigation developments use a combination of these systems, while also producing hay for on-station use and opportunistically for sale. ■



▲ The project produced detailed management packages, which are available from DPIRD.

### SEASONAL ACTION PLAN

! Find out more about growing irrigated crops and pastures in WA’s rangelands by checking out detailed management packages from the project [researchlibrary.agric.wa.gov.au/bulletins/266](http://researchlibrary.agric.wa.gov.au/bulletins/266). Hard copies are available from the DPIRD offices in Karratha, Broome and Kununurra.

! Learn more about crop selection for irrigation at [mla.com.au/mosaic-ag-crops](http://mla.com.au/mosaic-ag-crops)

! Gain more insights into the Pardoo irrigation development at [mla.com.au/pardoo-beef](http://mla.com.au/pardoo-beef)



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# Joining forces to drive genetic gains

**T**he genetic future of a flock or herd begins with investing in the right genetics.

Achieving genetic gain requires accurate and accessible genetics, so MLA works with producers through co-investment to improve the accuracy of genomic predictions for important, hard-to-measure profit traits such as reproduction and eating quality.

## Reference populations

Sheep Genetics is one such space where this co-investment plays a critical role in delivering benefits to the participants and to the wider industry.

How it works:

As part of the MLA Resource Flock project, producers can co-invest in satellite flocks, with sheep measured for their genotype (through a DNA test) as well

as phenotypic on-farm production traits and hard-to-measure carcase data.

These DNA tests allow performance data collected to be linked to genotypes. This contributes to the reference population as future DNA testing will enable more accurate prediction of breeding values (ASBVs) for these traits.

The satellite flocks encompass a range of breeders and are managed by a team of University of New England (UNE) staff as part of the MLA Resource Flock project.

Elise Bowen, Sheep Data Management, works with 15 satellite flocks – seven concentrate on eating quality and eight focus on reproduction.

She said the key outcome for the satellite flocks is greater accuracy of ASBVs through building the reference population for hard-to-measure traits like eating quality or later-in-life traits such as reproduction.

Animals that have a genotype as well as phenotypes (measured traits) become a part of the genomic reference population, which is the reason the MLA Resource Flock project is prepared to contribute toward the cost of genotyping and collection of the carcase data.

“The eating quality flocks I look after are focused on terminal-type meat sheep like Suffolks and Poll Dorsets, where the main goal is to produce prime lambs with good growth rates and carcasses,” Elise said.

The sires’ lambs have on-farm measurements taken like growth rates, fat and muscle scans, before being sent for slaughter. Their carcasses are then measured by the UNE meat science team for eating quality traits including lean meat yield, intramuscular fat and shear force.

“These traits are difficult to measure for stud breeders, but within the trials they are able to get that data back, which can be extremely useful to inform their decisions.

“If your sires have a lot of progeny going to slaughter, not only will you have enough data to increase the accuracy of predictions for those sires, but MLA will also be able to improve the size of the reference population, which other Sheep Genetics clients can benefit from through the utilisation of genomic testing to enhance their ASBVs.”

In the reproduction satellite flocks, breeders collect data on conception rates, litter size, birth weights, maternal behaviour at the birth site and lamb survival to weaning. The ewes that have these reproduction traits well recorded are also genotyped.

“This work will increase on-farm data to better inform genetic analyses, improve reproduction breeding values and underpin genomic prediction for reproduction traits,” Elise said.

## Industry benefits

Elise said the motivation to co-invest for producers and breed societies wasn’t purely about receiving information on terminal and maternal sires, but about creating a stronger industry overall.

“There’s an opportunity for individuals to know more about their flock through the data the project can return, but it goes much deeper than that,” she said.



Elise Bowen manages some of the satellite flocks. Image: Kim Woods, Outcross Media.

## How to use ASBVs to make selection decisions

Accessing and using Australian Sheep Breeding Values (ASBVs) to make informed selection decisions is the most significant way producers can accelerate genetics gains within their flock.

Data from the satellite flocks is included in the Sheep Genetics database as soon as the progeny go to slaughter, meaning rams purchased this year may already have half-siblings from the project contributing to the accuracy of their ASBVs.

Once producers are clear on their breeding objective, they can use this data to select for a number of traits, including growth, carcase quality, wool, reproduction, animal welfare and sustainability.

To get started with breeding values, visit [sheepgenetics.org.au](https://sheepgenetics.org.au).





## How do the satellite flocks for eating quality work?

→ Rams are contributed by producers to be joined as part of the MLA Resource Flock project.



← The rams' progeny have genotypes recorded and on-farm measurements taken for traits including growth rates, fat and muscle.



→ The lambs are sent to slaughter and measured for traits including lean meat yield, intramuscular fat and shear force.



↑ On-farm and slaughter data is made available to participating producers and Sheep Genetics as ASBVs. Ram breeders can genotype young animals and get accurate ASBVs for slaughter traits.

## RESEARCH UPDATE

### WHAT'S IT ABOUT?

Co-investment in satellite flocks to build a reference population and fast-track genetic gains.

### WHY IT MATTERS

A larger reference population means more accurate breeding values for producers to support selection.

### WHERE'S IT UP TO?

Ongoing

### WHO'S INVOLVED?

MLA, University of New England

## Producers flock together to build breed data

Stud principal of Telpara Suffolk stud in Hartley, SA, Anthony Pearce concentrates on Australian Sheep Breeding Values (ASBVs) that increase growth traits while maintaining intramuscular fat, using the Terminal Carcase Production (TCP) index. For each, it's important that he has reliable data to use and share with clients – just as he needs to know accurate data when he's purchasing genetics.

As well as co-investing in the satellite flocks by contributing two of his own rams, through his role as President of the Suffolk Sheep Society of Australia, Anthony encouraged other members to participate to strengthen the breed. As a result, two Suffolk eating quality satellite flocks are part of the project.

“We knew we needed to build up our reference population, because the larger and more diversified it is for the carcase traits of interest to us, the more accurate it will be to underpin the use of genomics in Suffolk flocks.”

🔍 Scan this QR code to learn more about the Suffolk co-investment and how producers are applying the results.

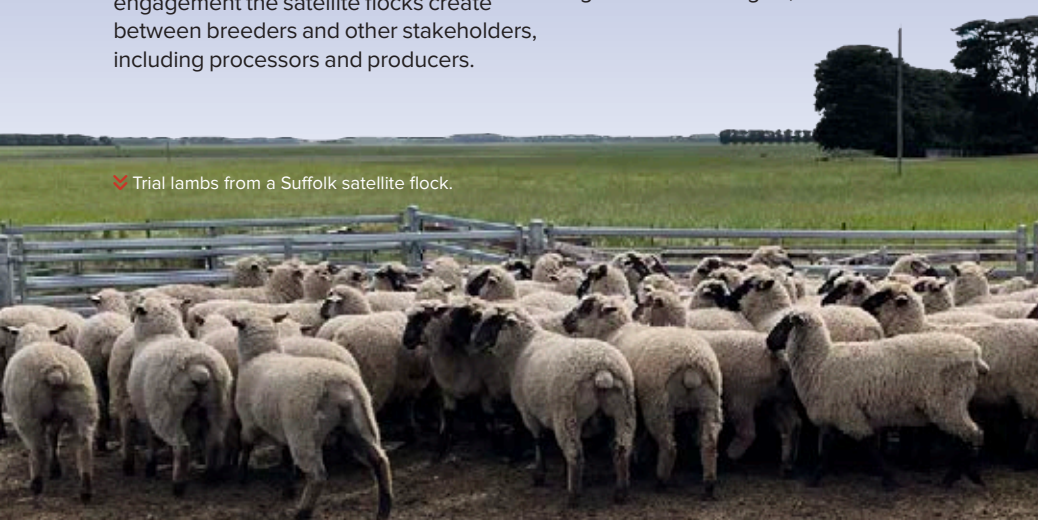


“If we can screen enough animals to create a larger reference population, this means a greater accuracy of genomic testing and increased genetic gain for all breeders.”

Another benefit is the increased engagement the satellite flocks create between breeders and other stakeholders, including processors and producers.

“Co-investing can be utilised by breed societies to demonstrate the value of ASBVs to those who might not be using them yet, which is going to speed up their adoption of genetic technologies,” she said. ■

✔ Trial lambs from a Suffolk satellite flock.



MLA is hosting a free **Livestock Genetics Forum** for sheep and cattle producers in **Adelaide on 5–6 April**.

The forum will discuss a range of topics including the impact of using genetics to adapt to climate variability while increasing profitability.

For the program and to register, visit [mla.com.au/genetics-forum-2022](http://mla.com.au/genetics-forum-2022)



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» Harriet, Graham and Cathy Finlayson.  
Image: Nviro Media.

# Rain ready in the rangelands



**NSW producers, the Finlaysons, are using two simple and reliable tools to be ‘rain ready’, by harnessing their plants and livestock to help rebuild soil health and animal productivity on the rangelands.**

In the 20-plus years Graham and Cathy Finlayson have owned their Brewarrina property, ‘Bokhara Plains’, they’ve experienced significant variations in rainfall averages – ranging from 100–850mm.

“Early on we had the Millennium drought, and we thought that was about as bad as it could get, but then this most recent drought was statistically worse, with a consecutive 96 months well below the average rolling 12-month rainfall,” Graham said.

They learned hard but valuable lessons during the Millennium drought, and planning for the inevitable dry spells is now part of the Finlaysons’ overall strategy.

When droughts last beyond 2–3 years, their focus is to minimise damage so their country can respond when it does eventually rain.

The Finlaysons attribute their ability to weather this latest drought to their ‘rain ready’ strategies for the ecology, and business diversification for their resilient economic position.

When they bought Bokhara Plains, Graham and Cathy were at first daunted by the amount of hard bare ground, so set out to address degradation to develop healthier and more productive land.

They drew on their knowledge gained from holistic management programs (such as Resource Consulting Services) to increase overall ground cover and create maximum diversity.

They initially used mechanical strategies by ripping lines to catch water and stimulate the seed bank, but in recognition of the beneficial role of livestock, they combined the two methods to drive their long-term progress forward despite tough seasons.

They manage cattle to provide strategic ‘disturbance and rest’, in which animal biological processes can be used to disturb and fertilise the soil, and trigger plant growth to fill the moisture void in dry landscapes.

“It’s not just the drought, but it’s the land’s capacity and ability to be able to respond after the drought,” Graham said.

“The best and most economical way to create positive change in these dry, brittle environments is to utilise biology, and the most consistent biology we have available is in the rumen of domesticated livestock.”

## **Grazing strategy**

The Finlaysons have developed about 170 paddocks, in a traditional cell grazing wagon wheel design, with the watering points in the centre. Paddock size ranges from 20–400ha and averages 50–60ha.

They move their cattle – which most of the time run as one mob – through an extensive paddock system according to feed growth and availability, in conjunction with their 8–12 month grazing plan.

With such regular movement of cattle, ease of handling is critical – they use low-stress stock handling, select sires with calm temperament and cull any

## **SNAPSHOT**



**GRAHAM, CATHY AND HARRIET FINLAYSON,**  
‘Bokhara Plains’,  
Brewarrina, NSW



**AREA**  
9,300ha

**ENTERPRISE**  
Cattle and sheep

**LIVESTOCK**  
1,400 cattle (half on Bokhara Plains, half agisted on a similar grazing system), 1,000 sheep

**PASTURES**  
Open native summer-dominant grasslands, with a wide range of seasonal herbage. Some lightly timbered areas and saltbush/chenopod belts.

**SOIL**  
Heavier deep cracking black soil floodplains through to lighter clay areas

**RAINFALL**  
385mm average but can range from 100–850mm



animals which do not match their goals for grass efficiency and good handling.

An added benefit of the resulting calm herd is that paddocks can be fenced using single electric wire.

Graham said a flexible approach – as long as it aligns to his principles – is key to what could appear to be a complex grazing system.

These principles boil down to:

- plan, monitor and manage: watch what's going on and change if you need to
- match stocking rates to carrying capacity
- ensure pastures have adequate rest.

To plan, monitor and manage, the Finlaysons use graze charts, including MaiaGrazing software, to accurately monitor feed utilisation, as well as physical and theoretical budgeting of grass and time available ahead of the cattle.

Allowing perennial grass plants time to fully recover (rest) is crucial in their goal to build resiliency back into the landscape.

“You want to make sure the cattle only have one graze of a plant. Herbivores didn't evolve to out-compete grasses, if so, they wouldn't have evolved very far,” Graham said.

He believes well-managed livestock are the key to reversing many environmental problems, particularly in the rangelands.

“What's good for increasing plant health and diversity is also good for the animals in our production system.

“The best investment to be made in any grazing business is ‘wire and water’ infrastructure, second only to investing in our own education.” ■

Case study supplied by Soils for Life.

## Collectively learning with Rangelands Living Skin project

The Finlaysons' on-property experimentation and learning is evolving through a new phase with the MLA-supported Rangelands Living Skin project.

This project aims to measure the impacts of a variety of practices on four rangelands production systems to understand the impacts on productivity of soil, pasture and animals, and then the subsequent impacts on business and ecosystem sustainability.

Lead researcher, Suz Orgill, said the project is about identifying practical, cost-effective practices that regenerate the rangelands to support production into the future.

“This means more reliability from year-to-year, improved pasture health, improved ground cover, more feed for livestock and recovery of plants after dry conditions.

Over the coming year, the Finlaysons will explore additional practical and non-expensive methods of becoming rain ready, including planting old man saltbush, pasture cropping, and building on their experiments and



▲ New trees growing during the most recent drought at 'Bokhara Plains'. Image: Katie Ross.

comparisons between ripping and high-intensity livestock disturbance.

The Finlaysons are interested in the rangelands' soils biota and how micro-biomes can help continue to support regrowth and rehabilitation, so will experiment with the impacts of composted worm cast brew in rip line regrowth.

The Rangelands Living Skin project will share learnings through training, field days, fact sheets and other case studies, to equip producers to monitor soil and vegetation to adapt grazing management to manage plant species and pasture composition, and improve business resilience under a changing climate by slowing drought onset and speeding up drought recovery.

The Rangelands Living Skin project has been co-designed over two years in collaboration with producers (including the Finlaysons), researchers, education and extension specialists, and carbon aggregators. This collaborative project is being undertaken in partnership with NSW DPI, RCS, Carbon Link, Select Carbon, ANU, Western LLS, Western Landcare, and Soils for Life. ■

### LESSONS LEARNT

- ✔ Disturbance and rest are critical in brittle, dry environments.
- ✔ We have the capacity through our management to reverse degradation and create healthy land and production systems.
- ✔ It's critical to use objective measurements to accurately assess, monitor and manage flexible stocking rates.



▲ An example of strategic soil disturbance with cattle to stimulate plant growth and support productivity at 'Bokhara Plains'.

- Rangelands Living Skin project [soilsforlife.org.au/rangelands-living-skin](https://soilsforlife.org.au/rangelands-living-skin) and [mla.com.au/rangelands-living-skin](https://mla.com.au/rangelands-living-skin)
- To get involved in the Rangelands Living Skin project, contact [susan.orgill@dpi.nsw.gov.au](mailto:susan.orgill@dpi.nsw.gov.au) or [claudia.bryant@lls.nsw.gov.au](mailto:claudia.bryant@lls.nsw.gov.au)
- Graham Finlayson [bokharaplains@outlook.com](mailto:bokharaplains@outlook.com) ● Andrew Morelli [amorelli@mla.com.au](mailto:amorelli@mla.com.au)

# Looking to the future

**F**eedback caught up with a group of young people who work on cattle stations at a recent BeefUp forum in Mount Isa. Here, two of them share their experiences and how they see their future in the red meat industry:

## Kristen Ayliffe

Assistant Manager  
of stud cattle at Fort  
Constantine (Stanbroke)

**What tools and resources have helped you build your skills?** A lot of networking, schools and clinics, and forums like this.

**Why did you choose to enter the agricultural industry?** My dad managed properties in SA so I grew up in this industry – it's the one thing I always thought I would do.

**What's the best advice you've ever received?** When frustration hits and when you start to get angry, that's generally when your knowledge has run out. You have to take a step back, regroup, and find some extra knowledge.

**Where do you see yourself in the next five to 10 years?** Hopefully on a similar track to what I'm on now. I'd like to be managing a place one day.



**What do young people need to stay in the industry?** They need to see a long-term goal and future within the industry – especially a lot of people who don't grow up in a family scenario but come to bigger companies. A lot of the time they miss out on forums and things like this, but it's the sort of thing they need to be going to, to keep developing their skills.

**What makes you good at what you do?** I just really love what I do, and it's something I've always dreamed to do. And I'm a pretty hard worker. It doesn't just fall in your lap. Anything's achievable if you're happy to work hard and take on advice. ■

## Harry Evans

Livestock Analyst, Fort  
Constantine (Stanbroke)

**What tools and resources have helped you build your skills?** Getting experience from meeting producers. You can pick up a lot more in conversation than at training days, but I think the training days are a good way to start those conversations.

**Why did you choose to enter the agricultural industry?** My family have a small place near Roma. I studied in Brisbane and I've tried a few other jobs in finance, but I think there's a lot more potential for growth in the ag industry.

I've tried a few other jobs in finance but I think there's a lot more potential for growth in the ag industry.



**What's the best advice you've ever received?** Never say no to an opportunity.

**Where do you see yourself in the next five to 10 years?** Hopefully on the way to buying my own place, but also still assisting producers or a company I'm working for to make better decisions.

**What do young people need to stay in the industry?** I think you need to engage people or give them access to information to help make better business decisions. This encourages them to stay on and they might then be willing to take a step into a leadership role. ■



✉ Kristen Ayliffe [kjayliffe@gmail.com](mailto:kjayliffe@gmail.com) ✉ Harry Evans [hehevens25@gmail.com](mailto:hehevens25@gmail.com) ✉ Katelyn Lubcke [klubcke@mia.com.au](mailto:klubcke@mia.com.au)

## Do you lead with certainty?

North Queensland leadership coach Tammy Kruckow is delivering a 'Lead with certainty' coaching program through MLA's Profitable Grazing Systems (PGS).

The program helps participants develop key leadership, effective communication and efficient planning skills.

This coaching program will equip you with the skills to:

- understand communication and behaviour styles
- build a productive and positive team culture
- deliver effective feedback.

The program includes a two-day workshop followed by three one-on-one accountability sessions and a monthly one-hour group Zoom session.

Tammy brings more than 20 years' experience in agriculture, including 15 years leading teams on pastoral properties. She was awarded a Nuffield Scholarship in 2020.

'Lead with certainty' groups are scheduled throughout northern Australia in March and April – visit [mia.com.au/events](http://mia.com.au/events) for dates. ■

📍 For more information visit [mia.com.au/pgs](http://mia.com.au/pgs) or to express your interest in this program, contact Tammy Kruckow on **0419 315 614**, [tammy@tammykruckow.com](mailto:tammy@tammykruckow.com)



# Producers band together to boost productivity

**A**pplications open on 1 April for producer groups interested in pursuing new skills, management practices and technologies to improve their enterprise management through MLA's Producer Demonstration Sites (PDS) program.

The program supports producers to conduct research and build skills designed to increase the productivity, profitability and sustainability of their unique production systems.

Here's a look at one of the 70 PDS projects currently underway across Australia:

## Projects for productivity

A PDS delivered by the MacKillop Farm Management Group (MFMG) is taking significant steps to improve heifer reproduction from weaning to second calving for more than 18,000 breeding cows across the Limestone Coast region of SA.

It supports producers across 20 beef businesses to develop best practice management skills for reducing reproductive losses while boosting cattle herd health, welfare and profitability.

PDS Project Facilitator and consultant, Elke Hocking, said the project came about after a survey conducted in conjunction with MLA Livestock Consulting Intern, Emma Peters, revealed strong interest in the initiative.

"We rang 15 producers across the Limestone Coast region, who indicated there was a large gap in beef extension and adoption services in the area and that they were eager to conduct a PDS project

to address some common issues impacting animal health and reproduction in the region," Elke said.

"We put together a preliminary application for the project with MFMG and, after it was accepted by MLA, we then worked with the participating producers to get consensus on the project's focus before submitting our final application for the PDS project."

## Building the foundations

Now in its second year of operation, considerable progress has been made as part of the project to build the group's capabilities in maximising herd reproductive performance.

"We've collected baseline data from producers about what their current reproductive records were and we're now conducting sessions to help producers adopt best practice management systems for optimum reproductive performance.

"This year, we'll be collecting reproductive data from our participating producers' heifers and discussing what they're observing, as well as how they're applying what they've learnt in the first year to improve their heifer reproduction rates and get set up for the subsequent joining."

## Regroup and reflect

Elke said effective coordination and evaluation were key to running a successful PDS project.

"My advice is to get help from a professional consultant, facilitator or a farming systems group to run your PDS if possible," Elke said.

"I also run an evaluation after each session we do as part of the project, so we can think about what we could do better each time.

"Continuous improvement is always essential if you want to get the most relevant outcomes for the project participants and ensure the topics covered are producer-driven."

## Learning for life

Elke recommends producer groups interested in finding new ways to improve their enterprise consider applying to undertake a PDS, with the peer-to-peer learning and skill development facilitated by the program already proving invaluable to producers involved in her project.

"Producers appreciate having technical experts delivering sessions, but they really value getting out onto other people's properties and seeing how other producers manage their enterprises." ■



📍 The MFMG PDS group watches on during a practical session held in the cattle yards of one of the project's host properties.

## How to apply for a PDS:



MLA's PDS program calls for levy and co-contributor PDS projects on an annual basis. The 2022–23 PDS Open Call preliminary application round opens on 1 April 2022 and closes on 13 May 2022.

📄 For terms of reference, project priorities and application forms, visit [mla.com.au/pds](https://mla.com.au/pds)



✉ Elke Hocking [elkehocking@gmail.com](mailto:elkehocking@gmail.com) ✉ Alana McEwan [amcewan@mla.com.au](mailto:amcewan@mla.com.au)

# Flock improvement grounded on good records

**S**A sheep producers Chris and Leanne Lymn have selected for individual traits for more than 20 years but are now fast-tracking genetic gains by using electronic identification (eID) to collect data on a wider range of performance traits.



The Lymn family manage a mixed dryland enterprise spread over 4,000ha and 50km between properties at Wudinna and Minnipa on the upper Eyre Peninsula.

Their journey with individual animal selection and data-based decision making began with the following goals:

- increase wool cut, reduce fibre diameter, maintain or improve weaning rate
- reduce manual labour associated with weighing sheep and lambs
- easier recording of individual animal traits and stock movements.

## Technology

To achieve these goals, Chris and Leanne have adopted a suite of technologies into their business.

These include:

- eID eartags in all sheep
- a radio-frequency identification (RFID) wand for recording sheep eID
- weigh crate for easier weighing of sheep
- wool weight and micron testing on hoggets
- using a Dual Purpose index to class hoggets based on wool traits and weight.

## Animal recording

The family began individual animal recording in the 1970s using a weigh table with a spring balance to record weights.

Ewes were raddled with a number, their fleece weights were recorded manually against each number and heavier cutting ewes were kept on as breeders.

Over a five-year period, this selection led to heavier fleece weights – but wool became stronger and sheep became smaller, highlighting the need to better understand sheep traits and their correlations.

## A new approach

When Chris returned to the farm after completing an agricultural degree at The University of Adelaide's Roseworthy campus in the early 2000s, he wanted to try a new approach.

He began individual animal recording using numbered tags on ewe replacements (hoggets) each year to see if fibre diameter could be reduced without reducing fleece weight and body weight.

Initially, an extra person was employed at shearing to read tag numbers and manually record fleece weights.

Micron testing and body weights were assessed in a separate operation in the

## SNAPSHOT



**CHRIS AND LEANNE LYMN**, 'Lymn Farms', Wudinna and Minnipa, SA



**AREA**  
4,000ha

**ENTERPRISE**  
Self-replacing Merino flock and cropping

**LIVESTOCK**  
1,500 ewes, with wether lambs and cull ewe lambs finished to export weights in on-farm feedlot

**RAINFALL**  
270–300mm

yards, using a weigh crate and side sampling with an electric handpiece, again with manual recording of tag numbers.

This led to a gradual improvement in fleece weights and wool quality over the next 10 years, without adverse impact on body weight.

## Introduction of eID

To simplify and partially automate data collection and handling, the Lymns introduced eID eartags to ewe lambs in 2015.

Lamb weights are collected through a Combi Clamp handler with load bars and scale head at key stages of development (usually at weaning and as hoggets) using a hand-held stick reader to read eID tags.

At shearing, the stick reader is also used to read eID tags as the sheep enter the board. The reader is connected via Bluetooth to a portable barcode printer clipped to the operator's belt – it prints a paper copy of the eID number, which is then scanned with a barcode reader during fleece weighing and micron testing to ensure individual data is assigned to the correct sheep.

Chris' biggest tip for others who are adopting eID technology is simple: "If you're thinking of getting into eID data collection, make sure all electronic equipment is fully charged, paired and



» Chris and Leanne Lymn with their children.



“The advantage of this system has been accuracy of data recording, and easier data management.”

working before the shearers arrive – shearers hate waiting around while technical glitches are sorted.”

### Classing

During classing, hoggets are ranked using an index based on micron, fleece weight and body weight which aligns with the Lymns’ breeding objective.

The Lymns work with Lazerline from Peterborough, who conduct wool and eye muscle depth scanning, and assist in collating data and making selection decisions.

“The advantage of this system has been accuracy of data recording, and easier data management – and steady progress has been made in reducing fibre diameter, increasing wool cut and increasing body weight,” Chris said.

“However, we’ve seen lamb marking rates decline by approximately 5% over the past five years.”

He attributes this to the fact that, as hogget classing has been based on body weight and wool traits alone, there’s probably been an inadvertent selection of sheep born as singles over those born as twins.

The Lymns have also found that relying too heavily on wool and body traits for hogget classing has led to a slight increase in faults in feet and body conformation.

They operate six-monthly shearing (March and October) to optimise staple length and quality and for animal health benefits, even though getting wool to optimal length can be a challenge.

### Next steps

The Lymns will start scanning ewes for litter size each year, recording pregnancy status (multiples, singles and drys) using eID while ewes are in the scanning crate. At lamb marking, they will also identify ewes which have lambed and lost.

This will generate data on lifelong productivity for each ewe. Other approaches the Lymns will pursue include:

- preferential management for ewes bearing multiples
- preferential selection of hoggets born as twins to help drive fertility
- culling less-productive ewes
- potential retention of most productive ewes for an extra year.

Chris and Leanne will also place more emphasis on checking hoggets for visual faults.

### Other technologies

As well as these flock management tools, to achieve their goal of reducing labour and expense in maintaining stock water, the Lymns also use leak-detection technology on four SA Water meters.

Messages are sent to Chris’ mobile phone and email, providing information on daily total and minimum flows which has led to faster detection of water leaks, savings in water bills and has helped avoid stock losses from lack of water supply.

They are also trialling AgriWebb management software. ■



### Growing the profitability and productivity of South Australia’s red meat and wool sector

Chris and Leanne’s property is a Focus Farm within the Red Meat and Wool Growth Program, an initiative of the Government of South Australia, supported by MLA, SA Sheep and Cattle Industry Funds, and SheepConnect SA.

Visit [pir.sa.gov.au/livestock-focus-farms](http://pir.sa.gov.au/livestock-focus-farms) for more information.

### SEASONAL ACTION PLAN

! Learn how ag-tech such as eID could contribute to your business at [pir.sa.gov.au/focus-farms](http://pir.sa.gov.au/focus-farms)

! Check out MLA’s Profitable Grazing Systems programs to find one which fits your business goals: [mla.com.au/pgs](http://mla.com.au/pgs)

! Access tools to manage livestock and feedbase through autumn at [mla.com.au/autumn-actions](http://mla.com.au/autumn-actions)





# How dung beetles can improve herd health

**S**outhern NSW producer Jill Coghlan describes the process of moving cattle every day or so on 'Eurimbla', the property she runs with her husband, Ian, as almost a meditative experience.

Using her electric bike, Jill quietly moves the cattle on as part of their tight rotational grazing system, which sees the entire property grazed in a six to eight-week cycle.

The Coghlan's have worked to improve environmental outcomes for almost 40 years and are now seeing the benefits of increased plant and animal biodiversity and focusing on soil health.

As part of a project facilitated by the Holbrook Landcare Group and Landcare Farming Australia, they've been measuring and calculating their carbon emissions and soil carbon levels.

Jill believes achieving a carbon positive status will come from fine-tuning the management of three key areas:

- faster turn-over of cattle
- lifting soil carbon levels
- making further biodiversity gains.

An important influencer on these three areas is the humble dung beetle.

## Dung beetles deliver

At Eurimbla, dung beetles support better animal health and increased growth by quickly disposing of dung and creating a healthier grazing environment. They improve soil biota through dung burial and deliver nutrients more deeply to create a soil which holds moisture and an environment where a range of

plant and animal species can thrive.

After first identifying *Bubas bison* dung beetles on their property in 2013, Jill and Ian set about to facilitate the build-up of a local population.

They teamed up with researchers from the national Dung Beetle Ecosystem Engineers (DBEE) project, which is supported by MLA, and have identified three additional beetle species (*Digitonthophagus gazella*, *Onthophagus taurus* and *Aphodius fimetarius*) on Eurimbla.

"The cattle seem much healthier. Removing the dung also helps break down that worm cycle, and it's reducing bacterial diseases, such as scours or mastitis," Jill said.

The Coghlan's attribute the combination of short grazing rotations and good soil health, driven by dung beetles, to their reduced reliance on fertiliser.

They are mindful on minimising disturbance to the dung beetles. For example, during their annual program of renovating pastures to increase production and quality, they try not to disturb any deep-rooted perennials or legumes. They use a Kelly plough, which just scrapes the surface of the paddock to create a bit of a seed bed, and then use an air seeder to sow directly into that.

## Carbon benefits

Professor Leslie Weston, researcher in plant biology and soil health at Charles

## SNAPSHOT



**JILL AND IAN COGHLAN**, 'Eurimbla', Gerogery, NSW, and Mitta Valley, Victoria



**AREA**  
303ha total

**ENTERPRISE**  
Red Poll and Shorthorn cattle studs

**LIVESTOCK**  
600 head

**PASTURES**  
Mixed grasses and legumes

**SOIL**  
Grey loam, river flats

**RAINFALL**  
730–990mm

Sturt University and theme leader for the DBEE project, said active dung beetle populations can effectively contribute to improved soil fertility, pasture growth and water infiltration.

"Dung beetle activity also has the potential to enhance soil organic matter levels and subsequently improve soil carbon status," she said.





« Jill Coghlan using her electric bike to move cattle. Image: The Coghlan family.

## LESSONS LEARNT

- ✔ Dung beetles help create a healthier environment and then thrive because of the environment.
- ✔ Dung beetles like good quality dung.
- ✔ Growing biodiversity of plant and animal species is good for business.

“We’re currently assessing the longer-term impact of dung beetles on soil structural changes and carbon sequestration.

“We predict that increased dung burial by dung beetles will have a net positive impact on soil carbon status and eventually lead to carbon sequestration – the long-term storage of carbon in soils.

“We want producers to think of their farms as active dung beetle nurseries, where species can easily gather, reproduce and spread onto neighbouring properties,” Leslie said.

“We’re only now developing an understanding of what ecosystem services dung beetles are capable of offering to the agricultural sector, but the future looks bright.” ■



- ▶ Learn more about the MLA-supported Dung Beetle Ecosystem Engineers (DBEE) project at [dungbeetles.com.au](http://dungbeetles.com.au)
- ▶ Visit MLA’s dung beetle hub at [mla.com.au/dung-beetles](http://mla.com.au/dung-beetles)
- ✉ Jill Coghlan [eurimbla@live.com.au](mailto:eurimbla@live.com.au)
- ✉ Carbon Neutral by 2030: [mla.com.au/cn30](http://mla.com.au/cn30)

# Five ways legumes can benefit your business

**I**n the right environment and production system, incorporating legumes, either as standalone pasture or in mixes, can boost productivity and drought resilience, and provide environmental benefits to a grazing business.

Here are five ways investing in legumes could benefit your business:

### 1 More feed, less fertiliser

Legumes form a symbiotic relationship with Rhizobium bacteria, which enable plants to fix nitrogen (N) from the atmosphere through their root system and make it available to other pasture species.

This provides (free) soil nitrogen to non-legume plants, reducing reliance on applied N fertiliser and bringing down costs and labour.

Adequate N available to plants in the soil is also essential for an optimal response to applied phosphorus and sulphur.

The N fixed by legumes boosts the performance of pasture grasses to produce higher quality and quantity of dry matter.

### 2 Faster weight gains and healthier animals

Legume pastures provide palatable, digestible, high-protein feed.

Ruminants’ feed intake of legumes can be higher than grasses due to the rapid breakdown of legume material.

Legumes in pasture can extend the period of high quality green feed when feed quality from grasses is in decline or low, giving producers a more reliable and flexible feed for meeting market specifications year-round.

They can also contain beneficial compounds that reduce bloat risk.

### 3 A more resilient feedbase

Incorporating hard-seeded and woody legumes in pasture can reduce production risks and bolster resilience to seasonal variations.

Some perennial legumes can persist for decades with

good management. They also respond quickly following drought-breaking rainfall, due to their deeper root systems and capacity to produce sufficient seed for regeneration, even under adverse growing conditions.

Additional ground cover provided by legumes helps reduce risks of run-off and erosion, and can help to reduce weed burden.

### 4 An ally against dieback

Annual and perennial forage legume species are not affected by dieback and are not mealybug hosts.

Incorporating tolerant pasture species such as legumes and tolerant grasses or other forages are key practices to consider in addressing dieback.

### 5 Towards carbon neutral by 2030 (CN30)

Benefits of legumes include carbon capture and storage, as well as emissions reductions.

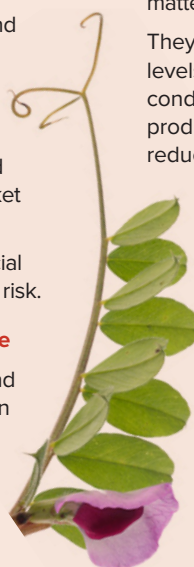
Legumes help to build soil carbon by improving soil health and promoting root growth. Some of the woody plants help to lock up carbon in stems and root matter.

They can also contain different levels of useful compounds such as condensed tannins that assist animal production and have potential to reduce livestock methane emissions.

Specifically, research has shown in the northern Australian context that leucaena and Desmanthus look promising in reducing enteric methane production.

Like any plant, legumes will perform best in the right environment and the right production system.

Legumes must be inoculated with the correct strain of Rhizobia bacteria to grow well and managed for the conditions. ■



Common vetch (*Vicia sativa*)



- ▶ MLA’s new legume hub is a one-stop source of information on establishing and managing legumes: [mla.com.au/legumes](http://mla.com.au/legumes). Other MLA resource hubs are: Healthy soils: [mla.com.au/healthy-soils](http://mla.com.au/healthy-soils), CN30: [mla.com.au/cn30](http://mla.com.au/cn30), Pasture dieback: [mla.com.au/dieback](http://mla.com.au/dieback), and Leucaena: [mla.com.au/leucaena](http://mla.com.au/leucaena)

# How much is disease costing you?

**M**anaging livestock diseases is part of running a sustainable grazing business, but many producers may not be aware of how much their profits are being impacted by diseases due to lost productivity and reduced carcase quality.

For example, conditions such as liver fluke and hydatids are prevalent across Australia and create industry-wide challenges.

Veterinary epidemiologist Dr Richard Shephard was involved in an Integrity Systems Company project, 'Enhancing animal disease feedback reporting', to determine the diseases identified at meat inspection and the links these have to carcase quality.

The project produced practical information for producers and processors to address the diseases before they impact the carcase.

"We've found in the past, producers were told they had diseases present at slaughter, but weren't told what those diseases were costing them or how to control them," Richard said.

"If producers can act on this feedback, not only will it lead to more productive livestock and less condemnments for them, but the processors are also left with better carcasses, so the benefit

runs across the supply chain."

One disease Richard focused on in the project was liver fluke.

He said for every 10% increase in the number of animals diagnosed with liver fluke in a processing line, he found:

- the Meat Standards Australia (MSA) marble score decreased by 4 score steps (equal to 40 points difference)
- on average, hot carcase weight was down by 5.4kg
- approximately 1% of animals were less likely to meet MSA minimum requirements (pH and rib fat)
- minimal negative differences were also observed in fat, eye muscle area (EMA) and lean meat yield (LMY) measurements

Richard said there were similar results with other diseases. For example, hydatids also reduced MSA marbling and carcase weight in pneumonia-affected carcasses.

Richard hopes communicating data

such as this to producers will help to highlight the value they're losing from animal diseases and how they can take measures to deal with these diseases to bring long-term profits to their business.

Producers can access animal disease and defect data on their own individual consignments (with participating processors) through Livestock Data Link, available at [ldl.mla.com.au](http://ldl.mla.com.au)

This data can be used to determine why a consignment complied or did not comply with market requirements and provide other information on animal health issues. ■

» Read the next article to learn more about liver fluke and how to manage it.

## SEASONAL ACTION PLAN

! Livestock diseases can have a significant impact on productivity and profitability – **use data year-round** to reduce these impacts, such as from Livestock Data Link: [ldl.mla.com.au](http://ldl.mla.com.au)

! Before using a drench to treat liver fluke, **conduct a resistance test** to understand if the flukicide is effective. Paraboss has information on effective parasite control strategies: [paraboss.com.au](http://paraboss.com.au)

! **Develop targeted strategies to control liver fluke** throughout its life cycle – learn more at [mla.com.au/liver-fluke](http://mla.com.au/liver-fluke)





# How to manage liver fluke

**L**iver fluke is a growing issue across Australia due to difficulties around diagnosis and recent issues with resistance to treatments.

That's why veterinary parasitologist, Matt Playford, said the strategies for dealing with liver fluke have changed substantially in recent years.

"Not only is there more fluke in Australia now because there's more trading of sheep and cattle across the country, but there's also greater resistance to treatments," Matt said.

"This means the practical measures producers have used to handle fluke in the past, like April and winter drenches, can't be relied on anymore."

Matt said recent fluke trials on a farm on NSW's South Coast were a good example of resistance, as liver fluke eggs were present before and after treatment.

"The product used for treatment in this case was the number one product on the market, which means we could be staring down the barrel of a widespread resistance problem," Matt said.

Matt said the most important step producers can take in the fight against fluke is to do a resistance test, which would notify them if their flukicide of choice was effective.

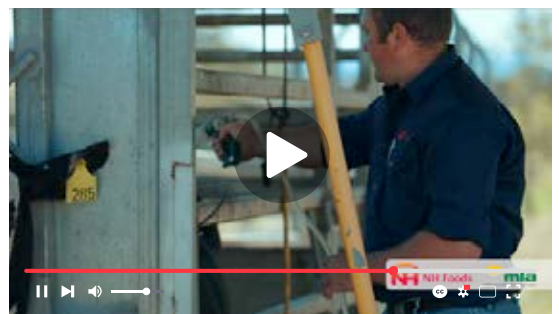
"A resistance test is going to tell you whether you're wasting money treating your stock with a particular flukicide, and can help us understand the products where there's resistance so we can work to develop new solutions," he said.

The second strategy Matt said producers should undertake against fluke was to visit Paraboss's Wormboss website to learn more about the biology and life cycle of liver fluke.

"Once you've confirmed resistance, you can use this tool to learn more about the disease and some of the

effective measures you can put in place relative to your own farm," he said.

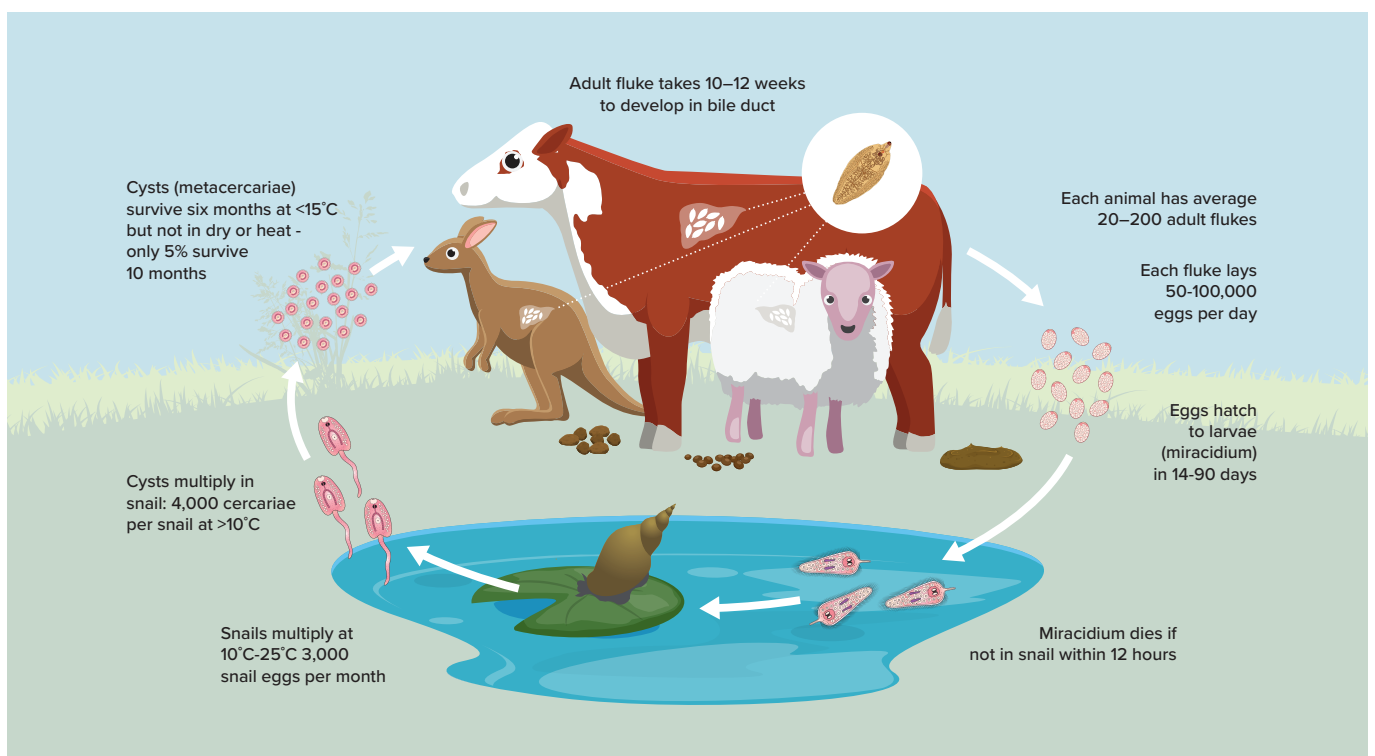
"Bear in mind that some of the strategies that might work for you, like fencing off low-lying country and removing stock from wet areas, won't be the same strategies the next producer can use." ■



MLA and NH Foods developed the video 'NH Foods Australia – liver fluke in cattle': Scan the QR code to watch on YouTube.



## The liver fluke life cycle



## National cattle and sheep rebuild drives supply chain

**W**ith above-average rainfall predicted across NSW and parts of Queensland, the national cattle herd and sheep flock rebuilds are set to continue, according to MLA's first industry projections update for 2022.

Here's a look at what the projections mean for the red meat supply chain.

### Cattle

The national herd is projected to grow by 1.1 million – or 4% – to 27.2 million head.

MLA's Market Information Manager, Stephen Bignell, said the pace of the rebuild will vary across different states, underpinned by a third year of favourable seasonal conditions for southern Australia.

Increased supply will see slaughter numbers increase by 11% in 2022, with production volumes expected to reach 2.08 million tonnes, a positive sign for export markets.

"Following a challenging 2021 for export markets, Australian beef will enter a significant high-value export market when the Australia-UK Free Trade Agreement (A-UK FTA) comes into effect later this year," Stephen said.

"As many countries continue to recover from the pandemic, demand for Australian beef is expected to grow in line with improving supply of cattle from the second half of 2022.

"However, headwinds remain for the industry in 2022 with transportation, staff shortages and the potential for the Australian dollar to appreciate all challenges for industry to manage.

"While these challenges remain, the beef industry is experiencing market conditions and confidence never seen before at a producer level.

"Overall, the industry is in an incredibly positive position and will continue to deliver high value, high quality Australian red meat to emerging and established global markets."

**"While these challenges remain, the beef industry is experiencing market conditions and confidence never seen before at a producer level."**

### Sheep

The national flock is predicted to grow by 4.9% to 74.4 million head in 2022, reaching its highest level since 2013.

Continued strong seasonal conditions across key sheep producing states of NSW and Victoria, as well as a favourable autumn and winter rainfall for WA in 2021 are key drivers.

"With an influx of lambs expected to hit the market in early to mid-2022, slaughter volumes are predicted to reach 21.6 million head in 2022 meanwhile sheep slaughter is expected to reach six million head in 2022, marking a 17.6% increase on 2021 levels," Stephen said.

Average national lamb carcass weights are expected to gain a modest 0.2kg to reach 25kg in 2022, and in 2023 it's predicted production for lamb will be at an all-time high of 567,000t which will subsequently flow through to higher exports.

"Overall, Australia's sheepmeat industry is positioned to strengthen, and confidence remains high across most parts of the industry, including the production end where seasonal conditions and overall historical market prices have never been more favourable."

As the high-value A-UK FTA comes into effect later in 2022, the Australian sheepmeat industry is in a position to further strengthen and capture global opportunities in emerging and established markets.

"Australia will benefit from enhanced access to the UK market. This will include a tariff-free volume of 25,000 tonnes of sheepmeat in year one, increasing to 75,000 tonnes by year 10," Stephen said.

"Australia is likely to emerge as the only country with the production and transport infrastructure available to meet supply challenges over the next decade as well as ongoing demand from markets that lack the capacity for domestic supply." ■



Scan the QR codes to view the latest *Industry projections 2022* for cattle and sheep, or visit [mla.com.au/industry-projections](https://mla.com.au/industry-projections)  
Stephen Bignell [sbignell@mla.com.au](mailto:sbignell@mla.com.au)





# Automated bunk management tools are up to the job

**A**n evolution in feed bunk management is now available for feedlot operators, with a recent trial demonstrating that automation systems stack up against highly skilled bunk callers.

The trial assessed the productivity and health status of cattle using two automated bunk management methods compared to highly skilled bunk callers.

Using a bunk scanner commercialised by MLA and Manabotix, Bovine Dynamics managed the trial in a commercial feedlot on the Darling Downs in Queensland. Custom algorithms were implemented based on scanner information, feed consumption history and weather data.

Over seven weeks, 5,500 cattle were inducted and randomised across three different bunk management treatments:

- the conventional (control) method, reliant on bunk callers
- a semi-automated method, where bunk scanning data was used by bunk callers to make feed allocation decisions
- a fully automated method, combining bunk scanning and automated feed allocation.

The automated systems were shown to perform as well as conventional methods while also offering greater accuracy in determining the amount of feed consumed and improving consistency in feed allocations.

Research Project Officer at Bovine Dynamics, Sam Platts, said the outcomes showed that both automated methods performed just as well as highly trained callers.

“We concluded there was no difference between the semi and fully-automated system compared to the highly trained bunk caller in achieving cattle daily gain, feed conversion ratio and exit weights,” he said.

“Moreover, both treatments when compared to the control didn’t have any negative impacts on animal health parameters, mortality or economically relevant carcase values.”

This is good news for feedlot operators, offering a precise and reliable tool to enhance decision making and feed bunk management.

“Where the system is now, it will provide management and bunk callers with a really good decision support tool which eases the



Dr Stuart McCarthy of Manabotix with the Manabotix Bunk Scanner.

pressure and potentially reduces those areas where we see human errors,” Sam said.

“By implementing this system into your feedlot, you’ll have more accurate information on what your cattle have actually consumed on a daily basis, which will help you to mitigate the risks of performance losses that arise when cattle are underfed.

“Providing staff with better information allows them to better achieve the goals that management has set, keeping feed intake high and consistent.”

Feedlot veterinary and nutrition consultant with Bovine Dynamics, Dr Matt George, said that in addition to the day-to-day benefits, the technology could provide more security to businesses.

“As businesses are getting bigger, feedlots could be delivering between 500 to 1,000 tonnes of feed per day. The bunk caller is making allocation decisions on feed rations worth hundreds of thousands of dollars each day.

“You’re running on a dedicated platform, and with the system automatically adapting for variables such as seasonality and cattle inputs, it’s adding an element of security to the operation.

“In the long term, if you had a fully automated yard, you would see staff freed up for other important tasks, and hopefully with algorithm updates going forward, we would see improvements in gain or feed saved compared to human bunk callers.”

Although the trial was run on a single feedlot, results suggest that with small adjustments to the algorithm, it could be adapted for any environment, system or cattle type.

Manabotix is currently integrating the technology with commonly used feedlot software programs.

The Bunk Scanner system is already in use at several Darling Downs feedlots. ■



See the bunk scanner in action: ‘BunkBot testing at Mort & Co Pinegrove Feedlot’. Scan the QR code to watch on YouTube.



Find out more about feedlot management at [mla.com.au/feedlot](http://mla.com.au/feedlot)

Stuart McCarthy [stuart@manabotix.com](mailto:stuart@manabotix.com) Joe McMeniman [jmcmeniman@mla.com.au](mailto:jmcmeniman@mla.com.au)

# Supporting data-backed decisions

**H**elping producers to better understand their animal health data and make changes on-farm to improve compliance is a key priority of the MLA/Integrity Systems Company's Digital Supply Chain Officers program.

One of the officers is Michael Burnett, a Livestock and Supply Chain Coordinator at Wingham Beef Exports. Here, he shares an insight into his role and how he's involved in the program.

## What does your role involve?

I work on day-to-day operations at Wingham Beef Exports, as well as planning opportunities, such as events, to help educate producers and assist them improve their on-farm profitability.

This means being a contact on the end of the phone or a face at a field day for producers to reach out to if they have questions about animal feedback and their Livestock Data Link (LDL) data, so I can talk them through what it means and how they can address it.

## What common animal health issues present during processing?

We see a wide range of animal health issues that present at slaughter, many of which would have been treatable prior to consignment to improve carcase quality or add weight to the animals.

Utilising LDL allows us to actively track the consistently high occurrences of disease and defects, such as liver fluke, hydatids and pneumonia and provide this feedback to producers.

« Turn to page 38–39 to learn more about liver fluke and how producers can address it.

## How can information such as animal disease and defect feedback assist producers to make data-driven decisions on-farm?

Animal disease and defect data can help producers make on-farm management decisions as simple as drench selections and scheduling, through to establishing whether they have a wild dog problem (because of consistent hydatid positives) or fluke issues to address.

Having the data in-hand allows you to go through the processes currently in place on-farm that produced those results. Working backwards from that allows you and the producer to establish any issues that many have arisen and correct them.

Normally producers are aware of the performance they can expect from their animals, so when they aren't seeing the results, they know there's something wrong. I help them find the problem and fine-tune the 1% to correct it and generate the difference.

## What challenges do these issues create across the supply chain – especially for producers?

Many health issues have the direct impact of being condemned at the point of slaughter (like livers for fluke infestation and hydatid infection). There's also the underlying issue of the affected animal not being at its full potential.

This could show up as a reduction in carcase weight because of fluke infestation. Like any disease or defect, this could have a potential impact on live animal performance. This has a direct impact on the physiological age of an animal and is therefore related to the increased ossification score identified at grading.

Ossification has major impact on eating quality, and therefore the Meat Standards Australia (MSA) Index. As ossification increases by a score step (like 150 to 160), there's potential for the MSA Index to decrease by 0.6 index units per step. This could push livestock out of the desired target market within a payment grid.

## Why is it so important to have industry-supported roles such as supply chain officers?

The support offered through the program has been instrumental in allowing me to deliver items to producers locally and to industry in general.

The ability to speak with people who are at the cutting edge of issues and challenges in the industry has allowed me to offer current, correct and impactful information to producers when on-farm.

Having the backing of MLA gives you a foot in the door when talking with producers, as people are aware of and generally trust the information provided by MLA. ■

“The ability to speak with people who are at the cutting edge of issues and challenges in the industry has allowed me to offer current, correct and impactful information to producers when on-farm.”

« Livestock and Supply Chain Coordinator at Wingham Beef Exports, Michael Burnett.



• Livestock Data Link [ldl.mla.com.au](http://ldl.mla.com.au) • Michael Burnett [mburnett@winghambeef.com.au](mailto:mburnett@winghambeef.com.au)  
• Demelsa Lollback [dlollback@integritysystems.com.au](mailto:dlollback@integritysystems.com.au)



# Aussie red meat 'supplementing' beauty and wellness regimes

**R**ed meat products which were previously discounted as 'lower value' are securing their spot in the beauty and wellness supplement industry.

The 'nutraceutical' market is booming, with consumers devouring health supplements such as beef liver capsules and ovine and bovine collagen in true nose-to-tail style.

These products don't just bring health and wellness benefits – it's a boon to Australian red meat producers, with new markets boosting the value of these cuts 10-fold.

Research through MLA's High Value Food Frontier Program is tapping into this strong demand for low-value red meat cuts, such as smaller beef glands and organs, for use in nutraceutical products.

#### So what are nutraceuticals, exactly?

"Nutraceuticals is a very broad term for products that provide sustainable sources for better nutrition, better health and better wellbeing," MLA Program Manager – Food Innovation, John Marten, said.

"Red meat bovine glandules and organs from grassfed cattle raised free of any pesticides and herbicides are particularly in demand for use within nutraceuticals, as more people become aware of the health and wellness benefits that can be attributed to some of these products."

#### Breaking into the beauty and wellness market

With latest estimates indicating the global nutraceutical market will increase in value by 8.7% annually to reach over US \$438 billion by 2026, MLA has taken significant steps to determine how low-value red meat cuts can be used in nutraceuticals to meet the demands of this growing market.

"We're looking at using red meat glandules and organs for nutraceuticals and in particular health supplements," John said.

"In partnership with NXGEN Wholefoods, we've developed and tested several health supplements that use red meat bovine glandules in a powdered format, including beef liver capsules and beef thyroid capsules.



» Continued next page.



« Continued from previous page.

“We’re making significant investments into these projects because they’re using the parts of the carcase that traditionally have little value.”

“Through this, we’ve found that beef liver capsules can be an effective natural vitamin for supporting muscle recovery, brain function and blood, skin and eye health, while beef thyroid capsules are a beneficial supplement for regulating the production of thyroid hormones.

“These products also increase the value of these red meat cuts by up to 10 times their original value – so we can attract significantly more for these historically low-value parts of the carcase.”

Additional investigations are underway to understand how ovine and bovine collagen can be used within beauty products, as well as to support tendon strength and bone and joint health within health supplements, with the results of this project expected soon.

MLA has also partnered with Kilcoy Global Foods to further understand how the red meat supply chain can capitalise on the nutraceutical market, as part of ongoing efforts to create value for the Australian red meat industry.

“We’re making significant investments into these projects because they’re using the parts of the carcase that traditionally have little value,” John said.

“Currently, 20% of the carcase delivers 80% of its value, with some parts of the carcase being considered as waste.

“Through these investments, we can encourage nose-to-tail eating and attract far greater values for red meat cuts – value that will flow down from processors to producers.” ■

\*Nutraceuticals Market Size, Share & Growth Analysis Report (bccresearch.com)

-  For nutraceuticals market size, share and growth analysis report visit [bccresearch.com](http://bccresearch.com)
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# Beef liver capsules for building health

**B**eef liver produced organically in Central Australia’s Channel Country can be transformed into capsules with unmatched health benefits, according to the results of a recent MLA project undertaken in partnership with NXGEN Wholefoods.

As part of the project, beef cattle grazed on more than 240 native grasses in the region were used to produce organic beef liver, which was then freeze dried to make a desiccated powder to use in the capsules.

Through the project, the capsules were trialled by health store customers, who gave glowing reviews of the product’s organic origins and nutritious content.

Renowned as one of the most nutrient-dense superfoods on offer, organic beef liver contains 20 protein amino acids along with a host of vitamins and minerals ideal for boosting protein levels and improving skin, blood and eye health, among other well-documented benefits.

Athletes needing to increase protein levels to improve muscle development and strength have shown particular interest in beef liver capsules for these purposes, as well as those deficient in vitamin A, essential for skin and eye health.

Widespread interest in the organic origins and health benefits of these capsules has resulted in recent increased demand for beef liver capsules in Australia, with sales of capsules exceeding \$500,000/year.



However, the majority of beef liver products currently being sold are imported into Australia from countries such as the US, due to a lack of Australian-made products in the market.

According to the project findings, production of organic beef liver capsules sourced from Australian cattle would not only meet emerging demand for these nutraceuticals but also boost the value of beef liver by 10 times or more.

These profits would flow down the red meat supply chain right to producers, ensuring their healthy, nutritious red meat products attract ever-increasing value. ■



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# Could this be the best steak on the block?

## Argentinian chilli garlic steak

Serves ✂ 2 Prep time 📄 10 minutes Cooking time ⌚ 20 minutes

### INGREDIENTS

1 x 600g or 2 x 350g beef rib eye on the bone  
3 garlic cloves  
1 tsp chilli powder or paprika  
1 tbsp olive oil  
salt and pepper

### Veggie hash

2 medium red potatoes, cubed  
1 tbsp oil, divided  
1 small red capsicum, sliced  
200g asparagus, trimmed and halved  
100g marinated artichoke hearts  
1/4 cup parsley leaves, chopped  
1/2 lemon  
200g pumpkin, steamed

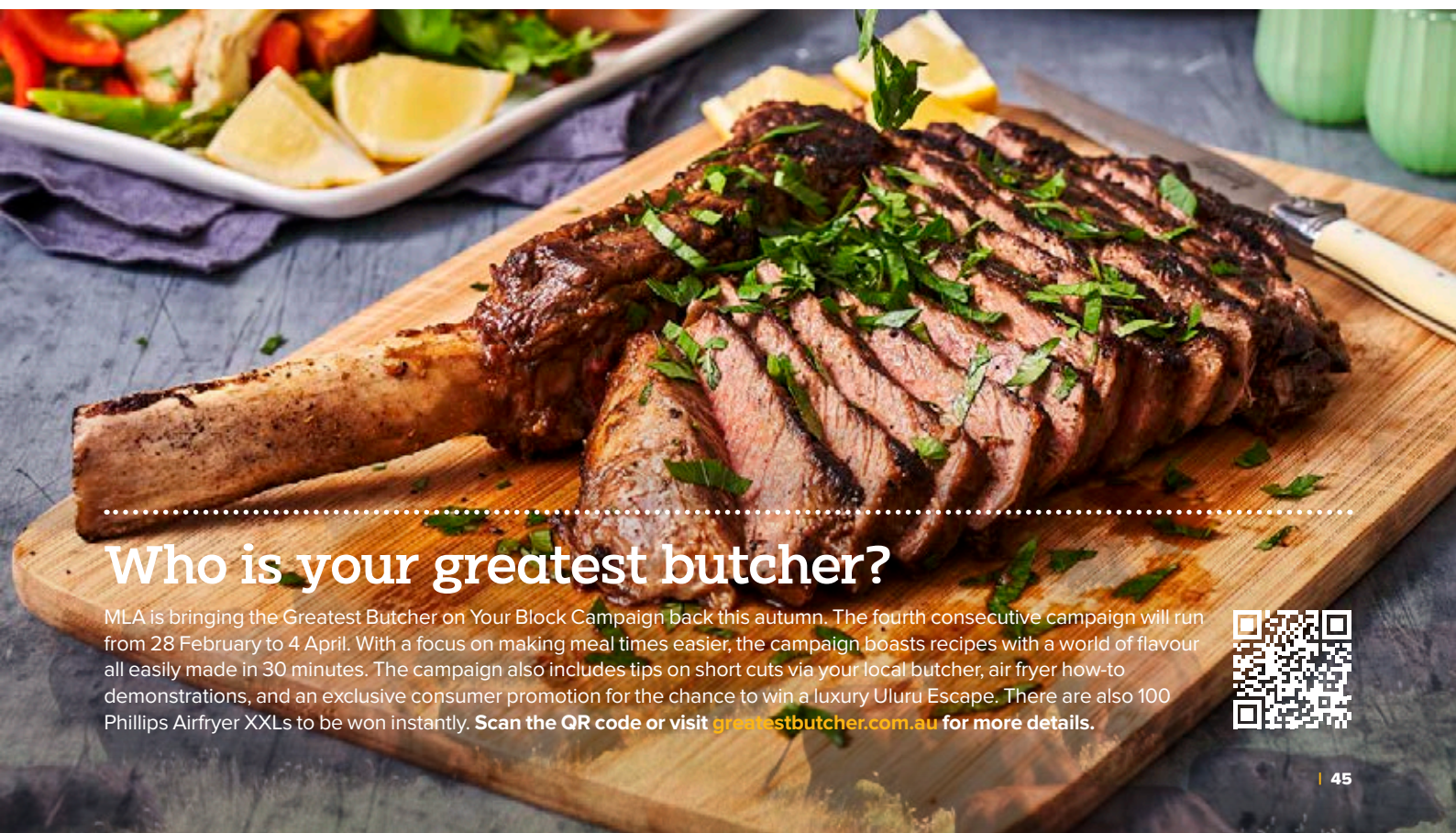
### METHOD

1. Place garlic cloves and 1/2 teaspoon salt in a mortar, pound to a paste. Add chilli powder and one tablespoon of oil, and stir to incorporate.
2. Pat steak dry with paper towel, spread garlic chilli paste over both sides, and set aside until ready to cook. Steam pumpkin until tender.
3. Drizzle two teaspoons of olive oil into a skillet over medium-low heat. Add potatoes and toss to coat in the oil. Cover and cook, tossing regularly, for 8–10 minutes, until golden and starting to soften. Add red capsicum and asparagus to pan with remaining oil, increase heat to medium and cook a further 3–5 minutes. Remove from heat, add artichoke hearts, parsley and juice from the lemon.
4. Preheat BBQ or a heavy-based skillet over medium heat. Cook rib eye steaks 5–10 minutes per side, depending on size, until cooked to your liking. Transfer to a clean plate and cover with foil to rest.
5. Serve steak with steamed pumpkin and vegetable hash.

### TIPS

Want to try cooking this recipe in an air fryer? Follow these tips:

- Bring rib eye to room temperature, as you would when cooking on a pan or BBQ.
- Preheat airfryer to 200°C for 10 minutes, before adding steak. This helps with browning and keeps the inside moist.
- Cooking in an air fryer takes roughly the same amount of time as cooking on a pan or BBQ. A meat thermometer is the best tool for achieving desired doneness.
- For medium, remove steak from air fryer when the internal temperature of the thickest part reaches 60°C. Check temperature, initially, five minutes prior to the end of cooking.



## Who is your greatest butcher?

MLA is bringing the Greatest Butcher on Your Block Campaign back this autumn. The fourth consecutive campaign will run from 28 February to 4 April. With a focus on making meal times easier, the campaign boasts recipes with a world of flavour all easily made in 30 minutes. The campaign also includes tips on short cuts via your local butcher, air fryer how-to demonstrations, and an exclusive consumer promotion for the chance to win a luxury Uluru Escape. There are also 100 Phillips Airfryer XXLs to be won instantly. Scan the QR code or visit [greatestbutcher.com.au](http://greatestbutcher.com.au) for more details.





# RD&A stocktake 2019–2021

Find out about the latest research, development and adoption for the Australian red meat industry including:

- projects completed between June 2019–December 2021
- all projects currently underway across Australia.

More than 650 projects added this year, reflecting \$179.5 million in new RD&A programs.



To view or download, scan the QR code or visit [mla.com.au/rda-stocktake](https://mla.com.au/rda-stocktake)

