MLA Updates 2024 report
pages 4–5

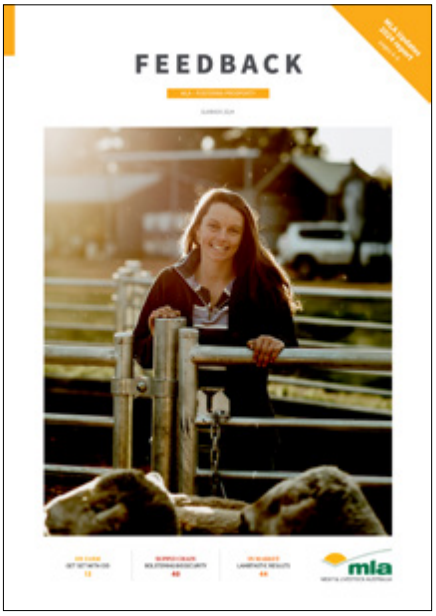
FEEDBACK

MLA – FOSTERING PROSPERITY

SUMMER 2024

MEAT & LIVESTOCK AUSTRALIA

MLA fosters the long-term prosperity of the Australian red meat and livestock industry by delivering world-leading outcomes that fuel global competitiveness, sustainability and producer profitability.



Cover: Victorian sheep producer Sammy Mitchell's proactive approach to incorporating electronic identification (eID) technology is improving the efficiency and effectiveness of her farm management. Read how on page 13. Image: Laura Poyner Photography.

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MLA acknowledges the matching funds provided by the Australian Government to support the research and development detailed in this publication.

This magazine was printed on Sumo Offset Laser, an environmentally responsible paper manufactured under the environmental management system ISO 14001 using Elemental Chlorine Free (ECF) pulp sourced from sustainable forests. Sumo Offset Laser is FSC Chain of Custody (CoC) certified (mixed sources).

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A note from the MD

Welcome to the summer edition of *Feedback* magazine.

Developing the new five-year plan for MLA has been a primary focus during my first year as Managing Director, to ensure the red meat and livestock industry is in a strong position to deal with strategic challenges and opportunities of the future.

This has involved extensive consultation with stakeholders. MLA will continue to work with all levy payers and members to collect feedback – including through an online forum early next year – before the *Strategic Plan 2030* is released in June.

Read more about the process on page 3, and make sure you're signed up to MLA's e-newsletter *The Weekly* (**mla.com.au/enews**) to stay informed.

AGM

MLA's recent annual general meeting (AGM) was an opportunity to reflect on the achievements over the past 12 months and discuss how our current and future strategy will shape the next iteration of research, development and marketing investments for the benefit of our levy payers. Page 8 outlines how MLA investments delivered benefits to our industry's productivity and profitability during 2023–24.

At the AGM, we farewelled Alan Beckett as Chair and welcomed John Lloyd into the role. Directors Manny Noakes and Jacqueline Wilson-Smith also concluded their tenures, and we welcomed three new Directors – Saranne Cooke, Lachie Hart and Stephen Lee. Turn to page 6 to learn more.

Another addition to MLA's leadership team is Allison Lee, who was appointed General Manager of Communications, after Jane Weatherley moved into the role of General Manager of Research, Development and Adoption. Allison brings a wealth of experience to MLA, having led communication teams across the private and public sectors.

Seasonal tools

Travelling across the country this year has given me a firsthand look at the variable seasonal conditions facing producers. We take a closer look at how producers can weather seasonal challenges through a better understanding of forecasting tools on page 10.

MLA is also investing in smart technologies to manage heat stress in the north – see page 12 – and there are some practical tips for producers relying on grazing stubbles in southern areas this summer, on page 31.

Powerful data

January marks the start of mandatory electronic identification (eID) for Australia's sheep flock – read our cover story on page 13 to see how this technology can be used to make better-informed decisions.

Merino producers who want to make more from data can learn about a new tool in development to accurately predict genetic merit for important production traits on page 18.

Fertility focus

For sheep producers looking to build up flock numbers, we've compiled tips for successfully breeding ewe lambs on page 23, as well as profiling producers who have implemented these strategies on page 24.

Likewise, beef producers can step through the gate of a northern beef business that has put the focus on females – learn about their weaning program on page 26.

With bull sales set to gear up again soon, be prepared with our tips for buying a high-performing sire on page 22.

We also chat with an emerging leader from WA, Billi Marshall, on page 20, who shares her tips for managing bulls, as well as her own journey into the red meat industry. Billi's story features on our new red meat industry career hub – please encourage anyone looking for a rewarding future in agriculture to visit **mla.com.au/career-hub** for information on scholarships, online learning and career pathways.

Marketing highlights

This edition looks at just a few of the many marketing activities on the go to encourage consumers to choose Australian red meat – learn how lamb is racking up impressive results on page 44, and how beef serves up greatness on page 48.

Looking ahead

On behalf of MLA, I would like to wish our members all the best for the new year, and I look forward to continue delivering great results with the MLA team for the benefit of our levy payers. ■

Michael Crowley – MLA Managing Director
Have a question for me? **mcrowley@mla.com.au**

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Adoption outcomes

MLA delivered $74.3 million in annual net benefits to producers involved in its adoption activities during 2023–24.

Read the latest *Producer Adoption Outcomes Report* at mla.com.au/adoption-report

New AI forecasting tool

MLA has partnered with 10 industry research and ag-tech stakeholders in a new $6.5 million project to improve on-farm forecasting using artificial intelligence (AI).

The 'Foragecaster' project will develop a planning tool that utilises seasonal climate forecasts, on-farm management practices and modelled pasture and livestock growth to predict the future status of forage, grazing livestock and farm sustainability.

The tool will also provide users with the ability to develop a range of different management scenarios through its AI-supported predictions – allowing for better-informed decision making and future planning.

Led by AgriWebb, the project is currently one year into its three-year developmental phase and includes key inputs from Australian Feedbase Monitor provider Cibo Labs, leading sustainability models deliverer FLINTpro, agrifood innovation deliverer Food Agility, and researchers from the University of Technology Sydney (UTS) and Queensland University of Technology (QUT).

Foragecaster's grazing planner is currently available in the AgriWebb Marketplace as an add-on to support rotational grazing land management.

Access the tool via agriwebb.com/grazing-management

Be on the front foot for bushfires

With bushfire season underway, make sure you're on the front foot to protect your family, livestock and property. MLA's research has found that compared with producers who are unprepared, those who have a farm fire plan, appropriate equipment and training lose fewer livestock or suffer less infrastructure damage and can get back to business sooner after a fire.

MLA's bushfire hub has resources to help you prepare for bushfire season, learn what to do during a fire and assist with bushfire recovery at mla.com.au/bushfire

Best practice tools at your fingertips

SRSP
Sheep Reproduction Strategic Partnership

The Sheep Reproduction Strategic Partnership (SRSP) program has launched a professional development webinar for sheep producers.

This five-part webinar series was designed to fit with the annual sheep breeding cycle – it presents the science underpinning best practice recommendations for sheep reproduction.

Developed and delivered by Dr Sue Hatcher, SRSP Program Coordinator, the training program creates links with and raises awareness of key industry resources (Making More From Sheep) and extension programs (BredWell FedWell, Lifetime Ewe Management).

The series covers:

- key pre-joining actions to set rams and breeding ewes up for a successful joining
- the breeding cycle from joining, pregnancy and lactation to weaning
- an overview of genetic improvement, to highlight how genetics complements best practice management to optimise the reproductive performance of sheep enterprises.

Extension teams from the Queensland Department of Agriculture and Fisheries (QDAF) and NSW Local Land Services (NSW LLS) participated in the program during 2024. The program is currently being delivered to AGnVET and Elders staff.

For more information contact Dr Sue Hatcher sue@makinoutcomes.com.au or visit mla.com.au/srsp

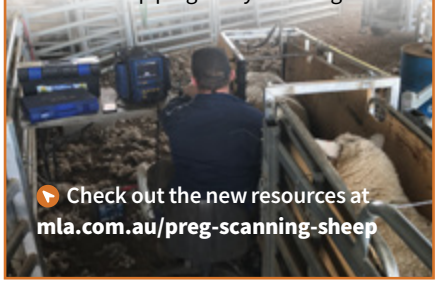
Red meat career hub

MLA has launched a new hub to showcase the broad range of career options available across Australia's red meat and livestock industry supply chain.

Read case studies, explore career paths and access information about scholarships and online learning at mla.com.au/career-hub

New preg scanning resources

Pregnancy scanning is an essential tool for improved ewe and lamb survival as well as providing an average increase in profit of $5.55/ewe scanned. MLA and Australian Wool Innovation (AWI) have released new resources for producers to get the most out of sheep pregnancy scanning.



Check out the new resources at mla.com.au/preg-scanning-sheep

Ground-up input sets strategic direction

A significant part of MLA's work involves looking ahead to ensure the red meat and livestock industry is in a strong position to deal with strategic challenges and opportunities.

To achieve this, MLA operates under a five-year *Strategic Plan*. The *Strategic Plan* is aligned to a broader red meat industry plan – *Red Meat 2030*.

The current *Strategic Plan* ends in 2025, so MLA is in the process of developing a new five-year plan for 2025–2030.

This involves extensive feedback and consultation across the industry to hear directly from stakeholders – including producers, peak industry bodies and the Australian Government – on a range of topics.

These topics focus on strategies to propel the industry forward to a profitable and sustainable future, such as:

- key opportunities and risks in the next five years
- research, development, adoption and marketing priorities for MLA to focus on, to put the industry in the best possible position
- services which are fundamental to the success of the industry
- recent and anticipated changes impacting the industry. ■

MLA will continue to work with all levy payers and members to collect feedback through an online forum.

Keep an eye on email communications from MLA in early 2025 or visit **mla.com.au/strategic-plan-2030** to learn how you can have your say.

Mary Johnson **mjohnson@mla.com.au**

Producer consultation spurs research into action

Did you know a producer consultation process underpins MLA's research, development and adoption (RD&A) priorities?

Interested producers can submit their application to join their local regional consultation committee to ensure their priorities are put forward. In this way, producers are empowered to directly influence the on-farm RD&A activities their levies are invested in.

To find your local committee, get in touch with the relevant council for your region:

- North Australia Beef Research Council: **mla.com.au/nabrc**
- Western Australian Livestock Research Council: **mla.com.au/walrc**
- Southern Australia Livestock Research Council: **mla.com.au/salrc**
- Scan or click the QR code to learn more about this process and find out the research priorities identified in the most recent Producer Investment Call:

Numbers up in saleyard survey

The latest National Livestock Reporting Service (NLRS) saleyard survey has recorded an increase of more than 2 million livestock transactions.

NLRS Operations Manager for MLA, Stephanie Pitt, said the survey was reported voluntarily for the 2023–24 financial year, and aims to inform industry of saleyard throughput across all states, except the NT.

"In the 2024 financial year, there were just over 18.5 million transactions made across sheep and cattle, an increase of 2.1 million livestock compared to the previous financial year," Stephanie said.

"There were significant increases of livestock transacted across the country, with the largest percentage changes in Tasmanian cattle (28.6%), SA cattle (27.6%) and Victorian cattle (26.5%).

"The biggest changes in sheep were seen in Victoria (+14.8%), NSW (+14.7%) and WA (+11%).

"Cattle throughput in WA and Queensland fell in the financial year, falling 3.4% and 1.1% respectively."

Value of data

Livestock throughput information can inform investment and strategic direction of saleyards, as well as highlighting the social, economic and cultural value saleyards provide to rural and regional communities.

The cyclical nature of the herd and flock rebuilds alongside changing market conditions can be attributed to adjustments in livestock supply via the saleyards as producers choose different sales channels to market their stock. ■

Scan this QR code to view the full report:

Visit mla.com.au/prices-markets for more information.

MLA Updates provided the opportunity for stakeholders across the red meat supply chain to connect and hear about the latest research and innovation.

WA hosts MLA Updates

Stakeholders from across the red meat and livestock supply chain headed west in October, for the annual MLA Updates.

About 350 attendees gained an insight into the latest research and had a hands-on experience of new technology during the one-day event in Perth.

MLA Managing Director Michael Crowley said the day was an opportunity to explore the tools and technology that will get the industry where it needs to be in the next five years.

"I really enjoyed working with producers and getting feedback on how I think things are shaping up and how we can create and capture value for all participants in the supply chain," Michael said.

The event saw experts from across Australia – including government and peak industry bodies – take to the stage to speak on a range of topics affecting the red meat industry.

Following the theme of 'Creating value across the supply chain', the keynote speaker for the morning session was Wayne Crofts, CEO of Craig Mostyn Group.

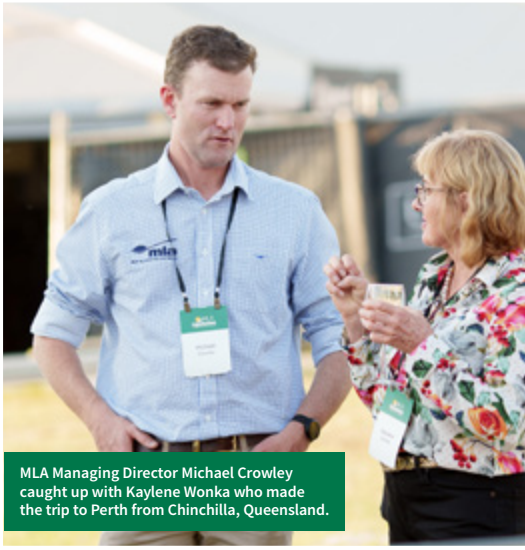
In addition, five panel speakers joined Michael Crowley to discuss how the industry can create as much value as possible from the Australian paddock to the global plate.

Other presentations explored different pathways to maximise value, including digital agriculture, carcase feedback and various MLA programs.

On the ground, MLA staff were present to discuss the latest research and development, adoption and marketing activities, with sheep, cattle and carcases present for live demonstrations.

Attendees were able to learn more about MLA's extensive activities and seek support to become involved.

As part of the showcase, the afternoon's 'Mini Carbon EDGE' session was an opportunity for event attendees to get a taste of the usual two-day Carbon EDGE workshop, explaining the opportunity for emissions reduction and carbon storage activities in a grazing livestock business. ■



MLA Managing Director Michael Crowley caught up with Kaylene Wonka who made the trip to Perth from Chinchilla, Queensland.

MLA's Manager – Market Information, Stephen Bignell; Global Manager – Trade and Market Access, Andrew McCallum; National Business Development Manager, Catherine Golding, and Group Manager – Science and Innovation, Michael Lee provided an insight into red meat markets.

Julianne Hill, Tanya Kilminster and Alison Lacey from the Grower Group Alliance, WA.

MLA's Group Manager – Adoption and Commercial Services, Sarah Strachan, was on hand to chat with producers.

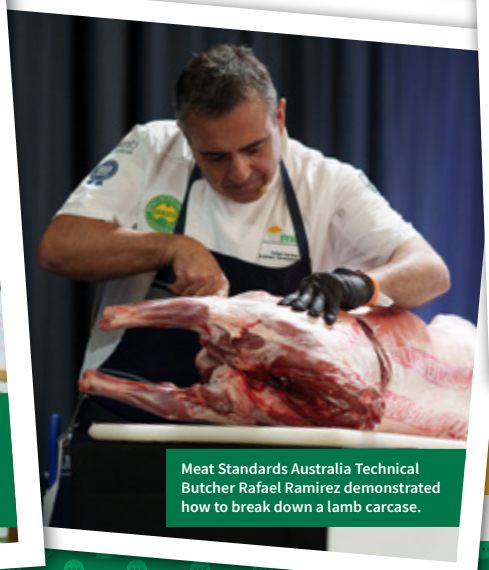
MLA's Manager – Livestock Exports, Peter Dundon, and Nick Baker, the Research, Development and Extension (RD&E) Manager for the Livestock Export Program, checked out the supply chain virtual reality headset. It provides users with the opportunity to tour live export ships via 360-degree videos.

MERINOSELECT Development Officer Chloe Bunter demonstrated how livestock producers can leverage genetics to improve productivity and profitability along the supply chain.

About 350 people from across the red meat and livestock supply chain attended the 2024 MLA Updates in Perth, WA.

Murdoch University's Jayaseelan Marimuthu demonstrated a handheld microwave-based device which can non-invasively measure intramuscular fat (IMF%) and girth rib (GR) fat depth in lamb carcases. The device recently achieved AUS-MEAT accreditation for both traits.

Senior Research Engineer at Murdoch University, Renji Karayakallile Abraham, holding the microwave technology he demonstrated to participants on the day.



Meat Standards Australia Technical Butcher Rafael Ramirez demonstrated how to break down a lamb carcase.

Meat Standards Australia (MSA) Development Officer Will Atkinson speaks to MLA Updates attendees about MSA.

- Watch videos from MLA Updates 2024: **updates.mla.com.au**
- Register for Carbon EDGE: **mla.com.au/carbon-edge**

The new MLA Chair John Lloyd (centre) with two of the incoming directors, Saranne Cooke and Stephen Lee – Tamworth, NSW.

MLA welcomes new Chair and Directors

MLA has appointed a new Chair, with John Lloyd stepping into the position following the 2024 Annual General Meeting (AGM), held in Tamworth, NSW, on 20 November.

John was elected to MLA's Board as a Director in 2019 and takes over the Chair role from Alan Beckett, who has been MLA's Chair since 2019 and a Director since 2014.

Alan congratulated John on his election as Chair, which came at a critical time for the organisation as it approaches a new five-year *Strategic Plan*.

New directors

MLA members also voted to elect three new Directors: Dr Saranne Cooke, Lachie Hart and Dr Stephen Lee.

They also voted to re-elect Julie McDonald as one of two grassfed cattle producer nominees to the Selection Committee.

The MLA Board is a skills-based board. Directors have complementary skills to make important decisions for the long-term benefit of the red meat and livestock industry.

Outgoing MLA Chair Alan Beckett thanked members for participation in the 2024 AGM.

He also welcomed John Lloyd as the new MLA Chair and congratulated the new MLA Directors for their appointments to the board.

"On behalf of the MLA Board, I extend my thanks to Professor Manny Noakes and Jacqueline Wilson-Smith, who concluded their tenures as MLA Directors as of this meeting. I thank them for their hard work and service," Alan said.

"It has been an honour to represent red meat producers and levy payers as a member of MLA's Board and as Chair. I congratulate John and wish him the best as he starts a new leadership chapter for MLA, supported by an exceptionally talented Board, management team, staff, and industry." ■

Year in review

Turn to page 8 to read about achievements from the past year, which were highlighted at the MLA AGM.

John Lloyd

MLA Chair

John and his family run a small agricultural enterprise at Borenore, near Orange, NSW. He has a deep understanding of red meat industry dynamics, knowledge and connections across the agri-food ecosystem including the Research and Development Corporations (RDCs) sector, government and research providers. He is the former CEO of Horticulture Innovation Australia/HAL, a Council Member of Charles Sturt University, and a Director of Menari Business Solutions Pty Ltd and Elders Limited.

He has broad experience across the Australian agribusiness sector with previous roles in senior leadership positions including Managing Director of Case IH/New Holland ANZ, General Manager of Commercial Incitec Pivot, General Manager of Merchandise Wesfarmers Dalgety and Director of Wine Australia.

Dr Saranne Cooke

MLA Director

Saranne is a highly experienced director, board chair, and audit and risk chair with experience on a variety of boards across the research and education, agricultural, health, sport, financial and not-for-profit sectors.

Her current roles include as Chair of the Royal Flying Doctor Service (south eastern), Chair of Racing NSW, Deputy Chancellor of Charles Sturt University, and Director of the Aged and Community Care Providers Association.

Saranne has a sound understanding of RDCs, was recently a Director of Australian Meat Processor Corporation from 2022–2024, and has held executive roles within the energy, financial, education and manufacturing sectors.

mla.com.au/about-mla

Lachie Hart
MLA Director

Lachie is a dynamic and accomplished leader with extensive experience within the red meat supply chain spanning more than 40 years. He is currently Chair of the Stockyard Group, a third-generation family business that operates across the beef supply chain, including Wagyu breeding and backgrounding near Glen Innes, NSW, and Yea, Victoria, a 20,000 head feedlot at Jondaryan, Queensland, and the marketing and distribution of 'Stockyard' branded beef to numerous domestic and international markets.

Lachie is a Director on the Foundation Board of the Royal Flying Doctor Service. His previous roles include with the Australian Meat Industry Council, Industry Market Access Advisory Committee, Japan–Australia Economic Partnership Agreement Taskforce, Red Meat Advisory Council and the Australia Japan Business Co-operation Committee.

Dr Stephen Lee
MLA Director

Stephen has a deep understanding of livestock research and adoption. He undertook his PhD with the CRC for Beef Genetic Technologies and has published research and led adoption programs spanning enterprise productivity and profitability, genetic improvement, greenhouse gas emissions reduction and improvement of carcase quality.

He is currently Director of the South Australian Drought Resilience Adoption and Innovation Hub.

He is the 2024 Southern Australia Livestock Research Council scientist/researcher award recipient and in 2021 received the Jim McColl Ag Institute Australia Young Consultant Award.

Stephen is a member of the Southern Australian Livestock Research Council Executive and the University of Adelaide Davies Livestock Research Centre Advisory Board.

National cattle herd in official destock

The latest livestock products data released by the Australian Bureau of Statistics (ABS) has revealed the Australian cattle herd is in an official destock with the female slaughter rate (FSR) at 52.2%.

Consecutive FSR figures above 47% indicates a destock where producers sell off breeding cows, usually once they reach maturity.

MLA analysed the data, which shows the last quarter was the largest quarterly slaughter since September 2015 at 2,241,200 head.

According to MLA's Manager of Market Information Stephen Bignell, this is not a destock due to depressed prices or weather conditions, but rather a stabilisation of the herd after a protracted multi-year rebuild.

"Paddock capacity is high and so producers are turning off older breeding cows, resulting in the highest cow and heifer slaughter since December 2019," Stephen said.

"Across the board we have seen elevated slaughter rates. Nationally, cattle slaughter lifted by 6% compared to the last quarter, up 17% compared to quarter three last year. Cattle slaughter rates lifted in all states except for Tasmania.

"If this trend continues it is expected slaughter will reach MLA's projection of 8.18 million head in calendar year 2024."

Beef production has also lifted. This quarter was the highest quarterly beef production on record at 690,694 tonnes, a 7% lift from the previous quarter and 17% higher compared to quarter three last year.

Cattle producers generated record receipts for the quarter, receiving $4.26 billion for slaughter-ready cattle – the highest value on record.

Lamb

Quarterly national lamb slaughter of 6.3 million head was 12% lower than last quarter and 5% below the same point last year, while production last quarter was also down 16% from last quarter at 177,147 tonnes.

Despite the dip in quarter three, Australia is still on track for record lamb slaughter and production this year.

Mutton

Mutton production rose 2% from the previous quarter and 26% from quarter three last year to 69,093 tonnes.

In year-to-date terms, mutton production has totalled 206,701 tonnes, which is 16% higher than the first nine months of 2023 and is the highest year-to-date production figure since 2002. ■

mla.com.au/trends-analysis
Stephen Bignell
sbignell@mla.com.au

Highlights from 2023–24

Here are some highlights from major projects MLA led, managed or contributed to in 2023–24. Read the full *Annual Report 2023–24* at **annualreport.mla.com.au**

MSA beef program delivered an estimated

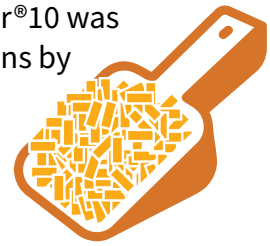
$326 million

in additional farm gate returns.

The feed additive Bovaer®10 was found to reduce emissions by

24.8%

when given to backgrounding cattle.



The Australian red meat industry has reported a

78% reduction

in net greenhouse gas emissions against the 2005 figures (145Mt CO_2e).

MLA producer adoption programs delivered an annual net benefit of

$74.3 million

to producers engaged in adoption programs.

Australian goatmeat production

in 2023–24 achieved the highest production volume ever recorded in Australia at

36,903t.

The annual summer lamb campaign 'Generation Gap' delivered a record audience reach of

24.8 million views.

Australia exported a record

$17 billion

worth of red meat in 2023.

Australian Good Meat's influencer campaign with the Fairbairn brothers gained

9.4 million

social media views.

ON FARM

RESEARCH IN ACTION

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Climate tool knowledge aids decisions

Northern producers have a new resource for managing risks associated with extreme seasonal conditions with MLA's 'Managing Climate for Decision Making' Profitable Grazing Systems (PGS) program.

With about 9,000 cattle across more than 1,000km^2 in the NT, Sally and Rohan Sullivan rely on an understanding of climate and rainfall to make informed management decisions across their enterprise 'Cave Creek Station'.

They took part in the PGS program, which was developed through the Northern Australia Climate Program (NACP) in collaboration with the University of Southern Queensland.

Through it, they learned how to interpret climate and weather tools and apply information in their enterprise.

Forecasting

The couple, along with their daughter Margo and a team of staff, supply feeder steers to Indonesia and heavier cattle to southern abattoirs or export to Vietnam or Malaysia.

How much, when and where rain falls throughout the wet season impacts their entire operation, from staffing to supplementation to timing musters.

"We agist steers further north over the wet, so Adelaide River needs to have rain before we can send cattle up there. We need to shift the cattle before it gets too wet at home," Sally said.

"The wet season also impacts the type of lick we use. We usually use a high urea supplement in the dry season, then we use a mostly phosphorus lick over the wet season.

"There is a river between us and most of the place, so we need to put out wet season lick before we lose access."

Rain responsive

Given their scale, the Sullivans can't be responsive to every rainfall event – but understanding longer-term weather forecasts enables them to be as responsive as possible.

"The Managing Climate for Decision Making course has been pretty interesting," Sally said.

"Some of the things we've talked about are the main climate drivers that affect us up here, and how to read and interpret those. It's important to understand so you can make informed management decisions particularly around logistics.

"It's good to have the knowledge base that comes with the course and to understand more about what we are looking at when we look at the Bureau of Meteorology and other apps, and the level of confidence we should place in it and how to apply it to what we are doing."

Risk management

MLA's PGS Project Manager, Elizabeth Thelander, said building climate literacy is a risk management strategy to assist northern beef producers to mitigate the impacts of poor, failed or extreme seasons by providing a longer lead-time to implement better informed business, land and livestock management decisions.

The Sullivans need to put out wet season lick before they lose access to paddocks each wet season.

"Northern Australia has one of the most variable climates in the world. Understanding the climate drivers, when they are active, and when they are relevant to individual regions is a key skill for managing risks associated with extreme seasonal conditions," she said.

Sally Sullivan.

SNAPSHOT

SALLY AND ROHAN SULLIVAN – 'Cave Creek Station', Mataranka, NT

AREA
1,000km^2

ENTERPRISE
Breeder operation (4,700 Brahman and Brahman-cross cows), selling steers into live export markets

PASTURES
Savannah woodlands

SOILS
Variable

RAINFALL
800mm

"By undertaking this course, producers will also know where to source climate information and seasonal and weather forecasts, as well as develop skills to assess their reliability and relevance."

About the course

The knowledge and skills gained through the course allows producers to become proactive when faced with adverse seasonal conditions, which helps build resilience within the business and wider industry.

PGS deliverer Emily Hinds, from NACP, said the course has shown producers how different climate drivers are

Understanding longer-term weather forecasts enables the Sullivans to be as responsive as possible to rain events.

Four tools to keep an eye on the sky

Scan or click the QR codes to access climate forecasting tools from the Bureau of Meteorology (BoM).

1. **Northern Rainfall Onset (NRO) forecast:** use it to determine early/late start to the wet season, to schedule transition from dry season to wet season supplementation.
2. **Chance of 3 day totals:** useful as an indicator to determine ongoing, sustained rainfall – useful for sowing forage crops.
3. **The Madden–Julian Oscillation forecast map:** bear in mind you may need demonstration of its use as it is not an intuitive product.
4. **MetEye rainfall forecast:** for total amounts and % chance of rainfall for seven days ahead. Use the text view on the web version or the BoM app.

"By undertaking this course, producers will also know where to source climate information and seasonal and weather forecasts, as well as develop skills to assess their reliability and relevance."

relevant at different times of the year and emphasised the importance of these drivers when implementing management practices on-farm.

"One climate driver, the Madden–Julian Oscillation (MJO), is being looked at a lot more often for those bursts of rainfall and active monsoon periods which can affect access, getting supplement and nutrition out to cattle, and as a deciding factor in moving cattle to less flood-prone areas," Emily said.

The course has also helped producers better understand how to read and interpret weather forecasts – such as understanding that when the forecast says 0–25mm, in reality this means there's a 75% chance of 0mm rainfall and 25% chance of 25mm rainfall.

PGS programs are delivered over a longer period of time, using small groups and mentoring alongside the program delivery. ■

The Sullivans operate a Brahman-based breeder operation in the NT.

mla.com.au/pgs **nacp.org.au** Sally Sullivan **cavecreek@bigpond.com**
Emily Hinds **emily.hinds@unisq.edu.au** Elizabeth Thelander **ethelander@mla.com.au**

'Smart' research takes stress out of heat

The MLA-supported research involved putting sensors on cattle to understand animal behaviour in hot temperatures.

The extreme heat of northern Australia can take its toll on anyone living there – and the millions of cattle produced across Queensland, WA and the NT are no exception.

Temperature challenges prompted by climate change threaten to increase the impact of heat stress, affecting the productivity of cattle in northern systems.

Two projects connected with MLA's Northern Breeding Business (NB2) program aimed to assess these threats and explore the effects of heat stress on beef cattle within extensive grazing systems, including behaviour, heat thresholds and productivity.

Here's a look at what this research has revealed so far.

Cattle behaviour

Understanding the behaviour of cattle during high heat is key to predicting the potential impact of rising temperatures on productivity and welfare, and identifying how producers can mitigate any threats to animals.

In a project with Central Queensland University, more than 200 cattle were monitored with sensors ('smart tags') over several months to gain important behavioural insights to understand how cattle adapt to heat.

The sensors measured animal behaviour and body temperature, and used GPS to track where the cattle went.

Lead researcher Dr Anita Chang said the sensors revealed how a combination of mechanisms helped the cattle deal with the heat.

"The cattle were decreasing rumination, increasing their time spent near water and seeking shade, and grazing in cooler temperatures, including at night," she said.

"These mechanisms occurred well and truly before we saw a change in the animal's body temperature."

Despite the cattle knowing how to reduce or delay heat stress, it often came at the expense of reducing their productivity.

Anita said on-farm interventions to help cattle maintain their temperatures could mitigate productivity losses.

"There are different avenues producers could take to reduce the impact of heat, so they don't slow productivity," she said.

While all the tracked cattle revealed similar behaviours, information from the sensors found the heat thresholds were different for all cattle, meaning some animals didn't need to slow their productivity until higher temperatures were reached.

"In some cases, it's about picking out the individual animals which are coping better with the heat stress, and breeding from them."

Dr Chang said the data from the research can be used to explore further interventions to reduce the impact of heat stress on animals, including increasing water points, providing extra shade, or finding a way to keep water cool.

"We want to make sure the industry is going to be ready for the changes that are coming, so we are resilient, sustainable and able to cope with what we anticipate is going to be quite a substantial increase in heat."

Keeping calves alive

Past research has identified associations between measures of heat load (as an indicator of likely heat stress) and calf losses, both during and after pregnancy.

In areas of northern Australia with low tree numbers and a constrained ability for cattle to manage their heat load, up to a 7% decline in calf survival was observed.

Dr Kieren McCosker from the University of Queensland led a pilot study which explored how providing additional shade could mitigate calf losses.

"We had two paddocks which were very similarly watered and had a very similar land type and production potential. The only difference was one paddock had shade with 75% UV protection within a few hundred metres of the water," Kieren said.

Over the three-year study, a new herd of heifers was inducted each year and their reproductive performance was measured.

The 'shade' treatment group consistently exhibited lower observed rates of foetal and calf loss compared with the heifers which didn't have the additional shade.

An estimated 5.9% improvement in weaning rates were observed for pregnant heifers in the paddock provided with additional shade. However, since this research was applied at the paddock scale and was not conducted across multiple properties, these results may be due to other factors or random chance.

"Some losses between confirmed pregnancy and weaning are in the order of 20–30%, meaning this one intervention could result in a meaningful improvement for some producers," Kieren said.

Going forward, he's eager to continue the research, to build evidence on shade as an intervention and better understand the threshold for heat stress on calves.

"Heat stress does result in calf death, even inadvertently. They tend to congregate around the water troughs, and sometimes get trampled by other cattle.

"While adding additional shade to paddocks is a possible intervention, producers should evaluate if it's the best investment for their specific operation.

"This includes calculating the cost-effectiveness of providing extra shade, likely welfare benefits and determining whether calf losses on their operation are linked to heat stress." ■

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Efficiency boost from eID

Victorian sheep producer Sammy Mitchell's proactive approach to incorporating electronic identification (eID) technology and modern infrastructure is improving the efficiency and effectiveness of her farm management.

By leveraging data-driven insights, Sammy is well-positioned to enhance productivity, make informed decisions and continue advancing her family's farming legacy.

She recently took over the management of her family's 2,900ha mixed farming operation at Willangie.

Until recently, Sammy's father assisted with seeding and harvest, but Sammy was responsible for the day-to-day operations.

Recognising the labour-intensive nature of the work, Sammy invested in ClipEx® yards and a ClipEx® sheep handler equipped with scales, a panel reader and auto draft capabilities to streamline operations.

She also installed a Zetifi tower for Cloud storage connectivity, enabling efficient data management.

This set-up is designed to enhance labour efficiency, improve animal management and facilitate better decision making through data collection.

Livestock management

Sammy currently maintains 550 Merino ewes. All ewes are mated with White Suffolk rams.

Her management practices are aimed at improving productivity and efficiency.

"For example, we constructed a small feedlot using a drought grant and used this for the first time to finish our lambs after adverse weather conditions delayed pasture establishment," Sammy said.

Implementing eID

Sammy has been familiarising herself with the new technology and has successfully used the sheep handler for ear tagging, managing health tasks and clipping dags.

The auto draft feature has not yet been fully utilised, but Sammy plans on using electronic identification (eID) technology to manage the drafting of ewes and lambs based on production data, aiming to reduce time and labour in the yards, and improve the accuracy and efficiency of her management decisions.

Sammy is participating in a five-year Producer Demonstration Site (PDS) project funded by MLA, Southern Farming Systems and Birchip Cropping Group. The PDS focuses on Victorian sheep producers utilising eID technology to make better-informed management decisions.

Sammy is currently using eID to record information such as:

- **Purchased ewe age:** eID has been used to record the age of purchased ewes to plan for the number of cast-for-age ewes and their replacements.
- **Pregnancy scanning:** Sammy uses eID to record the pregnancy status of ewes, with her scanner drafting ewes into pregnancy status groups. The ewes are then run back past the eID panel reader in their mobs, which records their pregnancy status into the Tru-Test XR5000 screen. Mobs are boxed up and managed together until late pregnancy, then auto-drafted into their pregnancy status, with twins allocated to better feed paddocks or to be fed in containment.
- **Lamb growth:** Body weights are recorded for lambs to be sold over-the-hooks, tailoring feeding for lighter lambs kept back to finish.

SNAPSHOT

SAMMY MITCHELL –
Willangie, Victoria

AREA
2,900ha

ENTERPRISE
Merinos, cropping and hay production

PASTURES
Vetch brown manure for sheep

SOILS
Predominantly clay-loam with some sand

RAINFALL
322mm

continued next page

Sammy Mitchell in her new yards. Image: Laura Poyner Photography

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- **Lamb survival until weaning:** Sammy records whether ewes kept their lambs, helping to assess maternal performance over time.
- **Lamb finishing:** She uses eID to monitor feedlot lamb growth rates, improving the management of finishing lambs.

"I would like to be able to collate production data to show which ewes are more profitable over time," Sammy said.

Challenges and solutions

Sammy faced several challenges, such as equipment malfunctions (for example, an air compressor failed) during critical times and the need to manually input data, which has been time-consuming.

"Having enough labour resources on-farm to implement the use of eID has also been challenging," she said.

"However, I've found solutions such as using YouTube tutorials and product guides to enhance my understanding of the equipment, manually entering data when needed, and ensuring data collection continued when the air compressor failed.

"Now that my partner Lachy has joined me on-farm, I'm hopeful we can utilise eID further, such as for selective breeding. This will involve using eID data to identify and select ewes that repeatedly produce multiples, to increase lambing percentage." ■

Sammy Mitchell on her farm at Willangie, Victoria. Image: Laura Poyner Photography

TOOLBOX

Scan or click the QR code to read more about the 'Realising benefits from sheep eIDs' PDS:

Learn more about the PDS program, sign up for PDS e-news and access resources including the PDS search tool to find sites by relevant topic or region: **mla.com.au/pds**

integritysystems.com.au/eid Sammy Mitchell **barrabogie@gmail.com**
Alison Frischke **alison@bcg.org.au** Alana McEwan **amcewan@mla.com.au**

Unlocking the potential of eID

Electronic identification (eID) is mandatory for the Australian sheep industry from 1 January 2025, to improve livestock traceability and biosecurity.

A new project, co-funded by MLA and Australian Wool Innovation (AWI), will raise producers' awareness of the opportunities for using eID to increase their productivity, with the aim to increase adoption of precision sheep management techniques. This includes the opportunity for individual carcase feedback.

How eID works

An eID device, which is generally in the form of an ear tag, contains a microchip that relates to each individual sheep.

Although mandatory eID is being introduced so animals can be traced quickly and more easily during a disease outbreak, eID can also provide on-farm productivity benefits for sheep producers.

AWI General Manager, Research, Bridget Peachey said eID creates an opportunity for producers to tap into the wide range of applications offered by individual animal management.

"Identifying the level of production – such as fertility, weight and wool traits – and the return each individual animal contributes to their business can enable more informed management decisions such as culling and breeding, thereby increasing profitability."

Project details

The new five-year project, led by the University of Adelaide, aims to unlock the broad potential of eID and precision sheep management for producers to improve their on-farm productivity and profitability.

"While the use of eID is now mandatory, using eID for individual animal management is optional. The decision to purchase, for instance, a tag reader and equipment for drafting and weighing is up to each producer based on preference and capability," Bridget said.

"To transition away from whole flock management towards managing groups and individuals within the flock, producers need to assess and see the value of precision sheep management to justify an investment in infrastructure and skills.

"This new project aims to help producers see the value in eID and how it can enable them to make better-informed decisions on individual animals in their flock.

"Utilising existing and novel sheep and wool industry extension channels, the project will firstly raise awareness of the opportunities for producers and then support adoption."

The project involves developing learning modules and establishing demonstration sites so producers can observe technologies and precision sheep management systems successfully operating on commercial farms. ■

A stick reader can quickly and accurately identify the eIDs of your livestock. Image: Shearwell

* Article reproduced from *Beyond the Bale*, December 2024.

integritysystems.com.au/eid Daniel Forwood **dforwood@mla.com.au**

SA beef producer Nick Radford.

Carbon skills part of best practice management

It's been a challenging year on Nick Radford's south-east SA property, but despite dry conditions keeping him busy, the beef producer is keeping one eye firmly on the future.

When it comes to ensuring his business prospers in the long term, Nick is focused on addressing emissions within his operations. He recently attended an MLA Carbon EDGE workshop to learn how.

"I wanted a better understanding of it all, particularly carbon credits and carbon trading," Nick said.

"I felt like I was a bit naïve, but knew it was something I wanted to be across."

At his family enterprise near Penola, keeping up with industry best practice has always been an important consideration.

"We're always trying to find the next thing to do properly and stay ahead of the curve, and carbon is one of the areas which is going to get a lot of traction going forward," he said.

"We wanted to get in early and find out a bit more about the carbon space to maximise the benefit to our business."

Making a move

As he manages the impact of the severely dry year, there's been little time for Nick to focus on implementing any new processes within his business in recent months.

However, when time allows, his priority will be working towards a new benchmark for his business – measuring the carbon emissions on his property.

"Our energy is focused on business survival at the moment, but then we'll look at getting a third party in to measure our emissions," Nick said.

Despite the delay, Nick's carbon journey isn't stagnant.

"Carbon EDGE explained a lot of misconceptions I had about what it would mean for my business," Nick said.

"What I learned is that best farming practice aligns with the practices of carbon sequestration.

"It turns out we're already doing a lot of the basics to sequester carbon, so as far as implementation, there's probably not much we're going to change, other than measuring whether it's working."

On-farm changes

Nick has already implemented a range of management practices which put him on the front foot.

"We have a lot of shelterbelts on our farms, a lot of scattered trees, and we lock up some more natural areas, although at the moment they're not measured for carbon sequestration."

After tying together those elements by measuring the impact they're having, Nick is hoping his efforts will work towards a bigger goal.

"In the long term, it would be great to work towards being carbon neutral. We're a cattle-only business, so methane is something we're eager to address.

SNAPSHOT

NICK RADFORD –
Penola, SA

AREA
4,400ha

ENTERPRISE
Angus cattle

PASTURES
Chicory, rye, clover, lucerne

SOILS
Heavy clay, sand over clay

RAINFALL
711mm average
(343mm to November 2024)

> **"What I learned is that best farming practice aligns with the practices of carbon sequestration."**

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"Hopefully applying what I learned at Carbon EDGE and continuing what we were already doing will help move us towards carbon neutrality."

Getting a leg up

During the two-day Carbon EDGE workshop, Nick and other producers learned everything from the basic terminology and concepts, to developing a carbon action plan tailored to their individual enterprises.

"The workshop was filled with like-minded and open-minded producers, and to hear everyone else in a candid environment asking the questions that I had, but thought might have been silly, was really valuable," Nick said.

"It was a great opportunity to learn more about it amongst people who knew just as little as me."

MLA's Carbon EDGE workshop, which launched in early 2024, was developed by producers, advisors and industry experts to ensure it was practical and applicable to all producers.

The workshops are aimed at providing the knowledge and skills required as the red meat industry works towards the target of achieving carbon neutrality by 2030 (CN30).

Nick said taking the time away from his property to build his skills will be invaluable for his business.

"Like anything new, it will be a slight challenge while we build up our knowledge, but the more you do, the more of a leg up it is.

"When it comes to carbon emissions and a producer's footprint, it's something they need to measure and move forward with to ensure best practice and accountability." ■

TOOLBOX

- Build your carbon knowledge – scan or click the QR code to register for a Carbon EDGE workshop:
- Calculate your enterprise's carbon emissions: **carbon-calculator.mla.com.au**

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Vast distances

Road Trains of Australia (RTA) is one of the largest cattle transporters in the country, operating primarily in the NT, WA and Queensland.

Livestock export is a substantial part of their business, along with station-to-station work and carting cattle south to finishing properties and feedlots.

With 24 trucks transporting an average of 500,000 cattle a year, it's extremely important that everything's good to go on time.

Timing is everything

According to RTA's NT Manager Nick Vereker, communication before and during loading ensures there are no surprises, so his team can complete the job as efficiently and safely as possible.

"Good directions and signposts are important in the extensive areas that we work in," Nick said.

"Missing a turn can result in delays for everyone, so communication between the producer, transport company and drivers is critical.

"All our trucks are equipped with GPS trackers and satellite phones, so we've got modern gear to keep in touch and make sure we're on track."

Pre-transport preparation

Nick said when drivers get to the station at the agreed time, ideally cattle and the yards should be ready, and everyone should be on the same page with weights and numbers.

"In most cases, the cattle have been mustered in the previous day and are either kept in holding yards or adjacent holding paddocks," he said.

"Making sure they have access to feed and water is essential."

Nick said keeping cattle off water for 6–8 hours does make a notable difference in their capacity to travel and is also better for their welfare.

"It's about working out the consequences of loading them full, not travelling well and potentially losing some or having them rejected due to injuries sustained on the truck from going down.

"In our experience, the risk is less if they've had the break off water."

Ensuring yards and ramps are in good condition also makes the process more efficient and safer during loading.

Pen density is also critical for animal welfare and successful journeys over long distances.

"We generally work on 10t/deck for our NT work. At this pen density, the cattle are comfortable, have room to get up if any go down and travel pretty well," Nick said.

"We prefer producers not to try to squeeze a few more on. There's a higher risk of cattle being injured if they're too tight."

An RTA truck on the move at 'Gogo Station' – Fitzroy Crossing, WA. Image: Road Trains Australia

drive need for preparation

Right for the road

Cattle should be drafted the day before trucks arrive, allowed to recover and settle from handling during drafting, and be ready to load when the trucks arrive.

"Most of our NT jobs are 1,000–1,200km and take 12–18 hours, so the cattle have to be right or they don't travel as well," Nick said.

"If we're carting cattle out of Mount Isa or Cloncurry, they may be on the truck for 24–26 hours up to Darwin for export."

The number of rough roads encountered over lengthy trips means cattle must be fit and strong for the intended journey.

Road Trains Australia NT Manager, Nick Vereker. Image: Road Trains Australia

"Generally, live export cattle are in store condition – not fat and heavy – and subsequently they travel very well.

"We won't load cattle that are unacceptably lame or blind, or if we don't think they're fit to load.

"If it's a live export job, they're rejected at the quarantine yard anyway and the producer has to pay transport to the next location."

Looking after trucks and their drivers

With RTA trucks covering 140,000–180,000km/year, thorough and regular maintenance is critical.

"Everyone in the supply chain has to take responsibility for their part and we take our responsibilities seriously by making sure our gear is right to go," Nick said.

RTA prioritises their drivers, providing a modern fleet of comfortable vehicles and support for their welfare.

"Without drivers we don't have a business, so it's important our drivers look after themselves, eat properly, take advantage of rest breaks and have a clear head for each day's work," Nick said.

"Achieving consistent, high performance is a team effort and requires everyone in the supply chain to do the right thing and to be aware of their responsibilities.

"MLA's Transport Hub has some great information for everyone, covering best practice preparation for transport and chain of responsibility." ■

Transport prep tips from the Transport Hub

- Plan the journey with your transporter and discuss timing and any recommendations for managing the heat.
- Yard animals well in advance (up to 48 hours) so they're settled and calm for loading.
- Preferably load livestock early in the morning and get them on the road.
- Feed livestock up on good quality, dry hay and clean, fresh water.
- Don't handle or load livestock in the heat of the day.

Best practice livestock transport improves outcomes for livestock, boosts profits throughout the supply chain and contributes to the sustainability of the industry. Find more tips at MLA's Transport Hub: **mla.com.au/transport-hub**

mla.com.au/transport-hub Road Trains of Australia **info@rta.net.au** Sharon Dundon **sdundon@mla.com.au**

New tool to power-up Merino productivity

A new tool is being developed to accurately predict genetic merit for important production traits in Merinos – ultimately improving on-farm decisions for producers looking to upgrade their flock's genetic profile or breed their own rams.

The project is a partnership between MLA Donor Company, University of New England (UNE), the Animal Genetics and Breeding Unit (AGBU), SheepMetriX, Neogen, Xytovet and Weatherbys Scientific.

Commercial Merino producers are involved in the project to help develop the tool and evaluate its cost–benefit propositions. This collaboration has included 20–30 flocks with approximately 300–500 ewes in each.

How it works

Project lead and Professor in Animal Breeding and Genetics at UNE, Julius van der Werf, said the tool's focus on describing genetic merit will help boost genetic progress and productivity within commercial Merino flocks.

"As we work towards commercialising the tool, the project has focused on collecting data, including genotypes, on more than 10,000 ewes over a 12-month period," Julius said.

"By taking DNA samples from every individual animal in each flock, we utilised genotype information to generate genomic predictions through the Sheep Genetics database."

He said these predictions are what allow producers to see the rank of each animal within their flock.

"The producers involved have then compared these genomic predictions with performance data to validate and demonstrate the accuracy of ranking based on the genomic test results," Julius said.

"These observed accuracies will enable us to develop a cost–benefit analysis to determine the true value of using genomic predictions of genetic merit to aid with decision making. This will drive genetic progress and the productivity of the flock."

Julius said the key aspects behind this improved informed decision making lay in the tool's ability to showcase the animal's genetic merit individually.

"Currently, when it comes to genotyping, we have the Flock Profile tool allowing producers to see where their flock sits compared to the nation's sheep population," he said.

"However, this new genomic tool takes it one step further, allowing producers to see where an individual animal sits compared to the rest of that individual producer's cohort of animals – actually allowing producers to better decide which animals to join, and which to cull."

How to use it in your business

When it comes to understanding where this new genomic tool can fit in with other genetic resources, MLA's Sheep Genetics Manager Peta Bradley said it depends on the production goals for individual Merino flocks.

Do you purchase rams?

Peta said the best way to improve the genetic merit of your flock is by selecting rams to purchase based on Australian Sheep Breeding Values (ASBVs).

"Using ASBVs to accurately select rams (or semen for artificial insemination) is the fastest way to make genetic progress," she said.

"ASBVs allow producers to compare the genetic merit of animals from different flocks and select rams on a range of traits. However, to make the most of ASBVs and selection indexes, it's important producers have a clear breeding objective."

The Flock Profile tool – which is already available – complements ASBVs as it can further inform ram purchasing decisions.

"The Flock Profile tool involves genotyping 20 animals, selected randomly from the current drop of lambs, to benchmark the genetic merit of an individual flock relative to the wider Merino industry population.

"For most producers, I would say you're making the most of the genetic resources available if you're using ASBVs for ram selection, tracking your ram team's average ASBVs, and using Flock Profiling."

She said Merino producers who breed their own rams can benefit from adding the new genomic tool to their genetic toolkit, to improve flock genetic and reproductive performance.

"When it comes to the new genomic tool being developed in this project, there may be opportunity for producers to use the tool's outputs for decisions on ewe replacement or, in a multiplier situation, to select rams."

Do you breed your own rams?

Introducing genomic testing will enable you to select for traits that are considered lowly heritable.

"Lowly heritable traits, such as reproduction, are traits where you cannot easily see the genetic potential," Peta said.

"These traits also happen to be key drivers of profit, so to be able to identify these traits and drive progress for these traits through informed genetic decision making is a great benefit of introducing this new genomic tool to some Merino systems." ■

TOOLBOX

- Learn more about ASBVs and Indexes: **sheepgenetics.org.au/getting-started/asbvs-and-indexes**
- Benchmark your flock with the Flock Profile test: **neogenaustralasia.com.au/flock-profile-test**

genetics.mla.com.au Julius van der Werf **jvanderw@une.edu.au** Peta Bradley **pbradley@mla.com.au**

App takes guesswork out of buying and selling cattle

Queensland beef producers Megan and Andrew Miller recently launched an app for producers to compare scenarios when buying, selling or trading cattle.

The 'Herd XL' app provides five tools to take the guesswork out of selling decisions and maximise profit through better decision making.

These tools can be used to:

- evaluate trading decisions
- compare selling scenarios
- optimise turn-off dates
- forecast future weights
- calculate carcase weight.

"When you're selling cattle, there are so many variables to consider, whether it's using AuctionsPlus, the local saleyards, or direct-to-feedlot," Andrew said.

"Each has their own commission and varying freight costs associated with it. Herd XL compares all those variables and calculates which option provides the best value and the least inefficiencies."

From the office to the paddock

The Millers used insights from their participation in the inaugural MLA Challenge years ago – which measured business improvement over a 12-month period – to develop a series of spreadsheets that compared selling scenarios and forecasted results.

"We manage an operation owned by someone else – it's important to be able to justify any decisions you've made to make sure the owner is getting bang for their buck," Andrew said.

The Millers recognised the need to take the spreadsheets beyond the office doors.

"We had the tools, but the next step became wanting them on your phone, and to be able to use them when you're out in a paddock, or at the saleyards," Megan said.

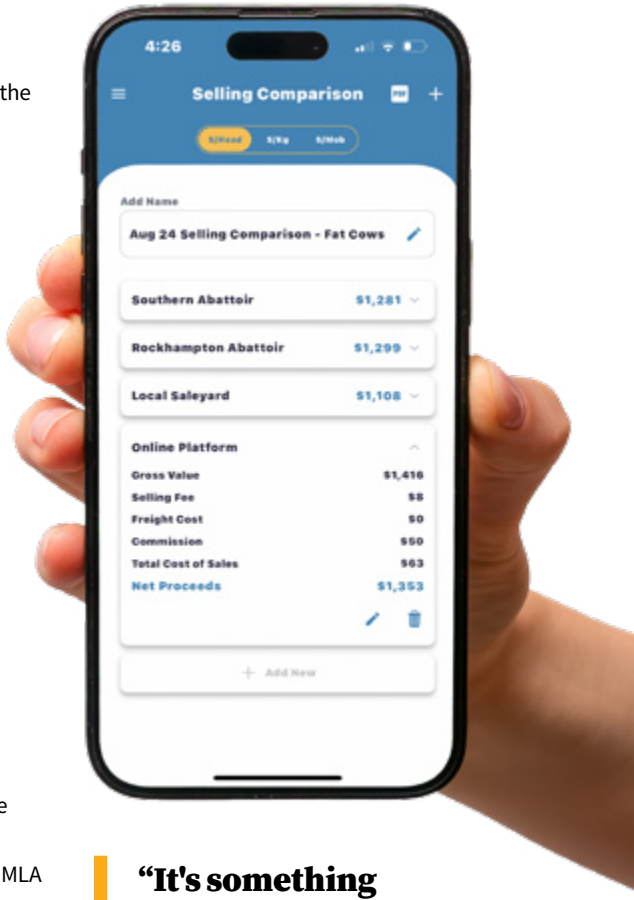
The Millers partnered with an app developer and agribusiness advisor, and Herd XL was developed as an app which could be used offline with no mobile reception.

"It's something simple a producer can download on their phone, and it will help them compare a variety of options from wherever they are."

For Megan, who isn't a fan of spreadsheets, Herd XL was an accessible way to run the numbers.

"I don't have the confidence when it comes to complex spreadsheets. Having something simple and easy to use which you can access on your phone anywhere, anytime, is a game changer."

MLA co-invested in Herd XL through the MLA Donor Company to accelerate producer-led innovation and demonstrate new venture concepts which create revenue beyond the farm gate. ■



"It's something simple a producer can download on their phone, and it will help them compare a variety of options from wherever they are."

Megan and Andrew Miller tried and tested their own tools for years before making them available to other producers.

TOOLBOX

Scan or click the QR code to download the Herd XL app:

Download on the App Store | GET IT ON Google Play

mla.com.au/mdc herdxl.com.au admin@herdxl.com.au

Selecting careers to selecting bulls, and everything in-between

For Billi Marshall – the 28-year-old owner and director of Imperial Bovine Breeding Services – the long roads stretching from WA's coastal sandplains to red desert are a familiar sight.

Traveling an average 10,000km a month, Billi provides breeding services for producers located across the Pilbara, through the Gascoyne, and deep into the WA's mid-west.

Here, Billi – who recently celebrated her business's third year of operation – shares how she entered the red meat industry as a young woman with a non-producer background, and her advice on reproductive decisions to boost herd performance.

Stepping into the beef industry

By the time Billi hit her teens, she knew she was interested in the agricultural industry.

"I started out by completing a couple of ag certificates through school to test the waters, but it wasn't long before I felt ready to completely dive in and gain some practical experience," she said.

When she finished school, Billi began spending her weekdays at ag college and her weekends working on nearby properties.

"I dedicated every spare minute I could to working with cattle, moving sheep or lamb marking – I had really fallen in love with everything ag," Billi said.

"After finishing college, I worked in cropping for a few years and while it was a great experience, it ultimately confirmed that working with beef cattle was where my true passion lay."

In 2018, Billi was invited by a cattle vet, Dr Matt Carrick from BOS Vet and Rural in Dongara, WA, to work alongside him as a technician.

"Over three years, Matt trained me in all aspects of cattle reproduction before offering for me to buy out half his business and go off on my own," Billi said.

"So, at 24-years-old, I put on my big girl pants, created Imperial Bovine Breeding Services, and I haven't had a day off or looked back since."

Planning ahead

Today, Billi's schedule regularly includes all things reproduction, from embryo transfers to vaccine programs to artificial insemination.

Billi Marshall conducts pregnancy testing on a WA beef breeding herd.

She said these practices deliver the most benefit when they are well planned.

"The first thing I tell my clients when they ask for advice on managing reproductive procedures is to plan ahead," Billi said.

"It can be quite easy to fixate on one particular area of your production system over others, but it's essential producers remember that they all have an important hand in the overall productivity and profitability of their enterprise. A three-year pasture plan won't see the full potential gains if it's not being grazed upon by cattle with good genetics."

In terms of managing your reproduction system, Billi recommends planning two years ahead to ensure you have an adequate bull buying budget and you don't miss out on booking the right people for routine procedures such as semen and pregnancy testing.

"Having semen testing completed, a well-established budget prepared and your breeding objectives revised ahead of bull sales is really important as it ensures you're heading to those yards knowing if you're going to buy, what you're looking for, how much you're prepared to invest – all part of that informed decision making."

Preparing to buy

Whether you're looking to buy the bull or the sperm, Billi said appraising the bull in person is a great first step towards ensuring that you're making the right reproduction decisions.

"Taking the time to have a look at the animal before the sale is a really important step in making reproductive decisions," she said.

"While reviewing and analysing the data will tell you a lot, taking the opportunity to view the animal in person and assess their physicality and how they carry themselves will tell you that little bit more.

"Looking at the bull, you should be able to pick up on any abnormalities in the skeletal structure or signs within the animal's gait that would indicate it may have issues walking longer distances for food," she said.

"I highly recommend taking the time to

chat to the seller as well. Find out their breeding objectives, what their market is, what key genetic features their herd possesses – this is the kind of information that will ensure you are making an informed decision when buying."

Sharing and asking for insights

Even if you're not looking to buy any bulls this year, Billi said there are still benefits to attending your local bull sales and connecting with other producers.

"Beyond providing an opportunity to get off-farm and catch up with some people, your local bull sales are filled with people who are all working to do the same thing as you – produce quality Australian beef," Billi said.

"There's a lot that can be gained through connecting with people who are encountering all the same challenges as you, so don't be afraid to take the opportunity to ask other producers what they're doing – and in return, don't be afraid to be open when someone asks you."

Embracing education opportunities

"While we young people have a lot to gain from those who have been in the industry for years, I think the older generations would be surprised to know there's a few things they can gain from us as well," Billi said.

"The next generation are coming through alongside ever-evolving technologies, resources and strategies, which create solutions to improve the profitability and longevity of our industry. I think it's important for producers to keep an open mind to learning something new from their young staff – especially if they are completing or have recently completed agricultural studies."

However, when it comes to boosting your industry knowledge, Billi said you can't go wrong with attending education programs.

"There are a plethora of workshops and forums which offer education on how to make the most of tools and resources available, provide market insights, discuss strategies on managing on-farm production systems, and provide information on current and completed research."

Billi has previously presented at one of MLA's BeefUp forums in Newman, WA, and said there was even opportunity for her to learn a few new things while there.

"It's never too late to learn something new or make changes to your production systems," Billi said.

"So, subscribe to mailing lists, follow businesses on social media and keep up to date with MLA's events calendar, and when the opportunity to attend an event comes, ensure that you and/or your staff attend."

Billi Marshall clocks up the kilometres visiting beef producers across WA.

Turn the page to learn more about selecting a high-performing sire.

Billi recently celebrated three years of running Imperial Bovine Breeding Services.

"At 24-years-old, I put on my big girl pants, created Imperial Bovine Breeding Services, and I haven't had a day off or looked back since."

TOOLBOX

- Learn how to select a high-performing sire: **genetics.mla.com.au**
- Attend a BeefUp forum near you: **mla.com.au/beefup**
- Check out other MLA events: **mla.com.au/events**
- Learn about careers in the red meat industry: **mla.com.au/career-hub**

Billi Marshall **imperialbovine@outlook.com** Sarah Hassall **shassall@mla.com.au**

How to shop for a high-performing sire

Bull sales are gearing up across northern Australia and, in the face of seasonal challenges and market demands, the integrity of high-performing sires has never been of greater importance for profitable beef businesses.

There are three key times when you can ensure you're buying the right bull for your enterprise. These are before the bull sale/bull sale season, on sale day and after the sale when your new sire/s have arrived on-property.

Before the sale

Here are three tips before the sale, to optimise your sire purchases and ensure the bulls you're investing in are fit for the job.

Know your herd and set clear breeding objectives

Before you even open the catalogue for this year's bull sales, take a step back and consider your own herd and your breeding objectives for the future.

Breeding objectives should correspond to individual business requirements, such as resilience to specific environments, fertility for increased production and market compliance.

Identify a relevant selection index and estimated breeding values (EBVs) which align with your breeding objective and production system.

Search the catalogues and BREEDPLAN database to find animals and studs

You can use the databases and catalogues to help you filter out the animals that don't meet your objectives and find the potential high-performing sires to purchase.

If you've identified some sires you're interested in at a particular stud, it's best to contact the stud directly to gain a clearer insight into their breeding objectives and the traits they're recording.

Short-list animals to purchase and decide on a budget

Choose your top sires that meet your breeding objective.

Use the relevant index first to rank and narrow down the available sires in priority order, then use the EBVs identified in your breeding objective to create a shortlist of sires to view on sale day.

Sale day may be competitive so decide how much you would like to spend when you're at home, away from the sale and pressure of other bidders. A high-performing sire will provide greater productivity to your herd, so it's important to decide what that's worth. A dollar index indicates the net profit per female joined.

Doing your homework now and objectively selecting sires by their breeding values and indexes means you can focus on the sires' physical characteristics on sale day.

On sale day

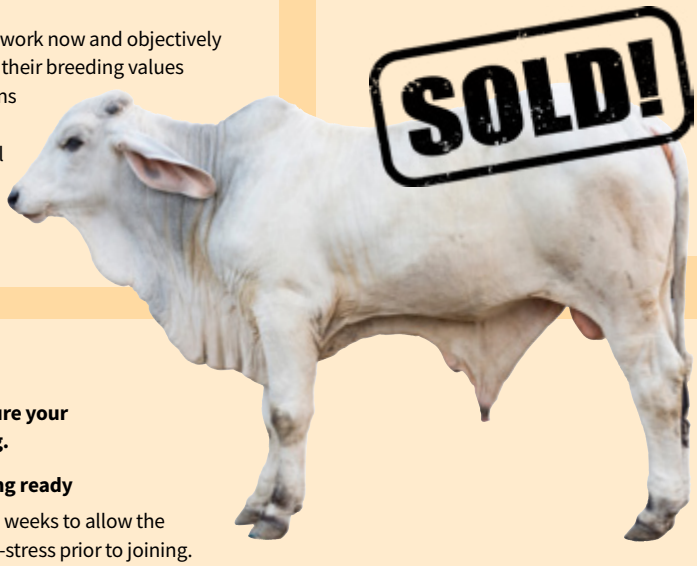
With your homework done, you're now freed up to focus on the physical characteristics of your short-listed sires on sale day.

Visually appraise your short-listed sires

The basics have not changed. On sale day, cross off sires on your shortlist that don't meet your structural and temperament assessments or that are not reproductively fit.

Set a purchasing plan and bid accordingly

With your short-listed animals now visually assessed and budget determined, use this to purchase the animals that meet your requirements.



After the sale

There are also several important steps after the sale, to make sure your high-performing sire stays in optimal condition ahead of joining.

Treat your sire according to your biosecurity plan and record movements

Practising sound biosecurity is important for your farm and for the health and fitness of your new high-performing sire. As soon as he steps off the truck, treat him according to your own biosecurity plan. This includes, at a minimum, recording his tag number (provided by the stud) and appropriate animal movement records. This will help you when it comes time to evaluating your sires and identifying the traits you need for the future.

Get joining ready

Allow 6–8 weeks to allow the new sire/s to de-stress prior to joining. Providing an adequate diet prior to joining and ensuring good condition will enhance your sire's reproductive performance.

Monitor and evaluate

Sires can be injured or break down between use. A sire's health and fitness are important to deliver good genetics to the herd each year.

To ensure reproductive performance, conduct annual animal health treatments and, for bulls, conduct a BULLCHECK, including morphology on your whole bull team prior to joining.

For more information about the BULLCHECK accreditation scheme, search 'BULLCHECK' at **ava.com.au**

genetics.mla.com.au Sarah Day **sday.mla.com.au**
Scan or click the QR code to download a guide on how to shop for a high-performing sire:

Unlock productivity with keys to breeding ewe lambs

Joining ewe lambs is an opportunity to build flock numbers, but low weaning rates can deter producers. The solution has been unlocked with new research finding the keys to successful breeding of ewe lambs.

A five-year MLA-supported project, which quantified ewe and lamb survival rates from joining ewe lambs, has just wrapped up. It investigated methods to improve both lamb and ewe survivability for ewes bred at 12–15 months of age.

Lead researcher Jason Trompf said ewe lambs are an underutilised cohort of the national flock.

A national survey of 500 sheep producers revealed only one in five producers join their ewe lambs. If seasonal conditions were suitable, that number increases to one in three.

"Reproductive efficiencies are a critical lever to be able to pull if we want to sustain our turn-off rates and, simultaneously, grow the national flock," Jason said.

"Ewe lambs have the most variable breeding performance, and there's a lot of scope to improve."

During the project, commercial producers were engaged for two key trials to find clear answers to improve the success of breeding ewe lambs, and to ultimately increase the conversion of producers engaging in the practice.

Joining weight and pregnancy nutrition

The early years of the project focused on quantifying the survivability of lambs from ewe lambs. Out of more than 20,000 foetuses scanned, around 65% survived.

Previous research suggested lamb survival was 70%, and is governed by lamb birth weight.

"Analysis of the early data collected and other data from seedstock farms found the biggest driver of birth weight of lambs out of ewe lambs is the joining weight," Jason said.

"By ensuring ewe lambs have a decent joining weight, they'll have better placental development early in pregnancy, which is critical for transferring nutrients from the mother to the foetus."

Treatment trials were then established with commercial flocks to evaluate the impact of joining weight and pregnancy weight gain on ewe and lamb survival.

Within the trial, one treatment group of ewe lambs were on low-growth treatment – they recorded an average daily rate of 128g/day through pregnancy. The second, high-growth treatment group grew an average of 284g/day. (Daily weights were measured between scanning and lambing.)

"We found that ewe lambs need to be 45kg as a minimum joining weight and need to be gaining at least 15kg extra during pregnancy," Jason said.

Jason said for successful lambing, those numbers need to be firmly implemented.

"Having 45kg as a target or flock average rather than a minimum critical mating weight won't do, as each ewe lamb must weigh at least 45kg before joining."

Weighing ewe lambs after scanning is a critical step which is often neglected, with pregnancy weight gain left untracked, despite being a big driver of lamb birth weight.

Figure 1: **Impact of growth during joining on lamb reproduction rates**

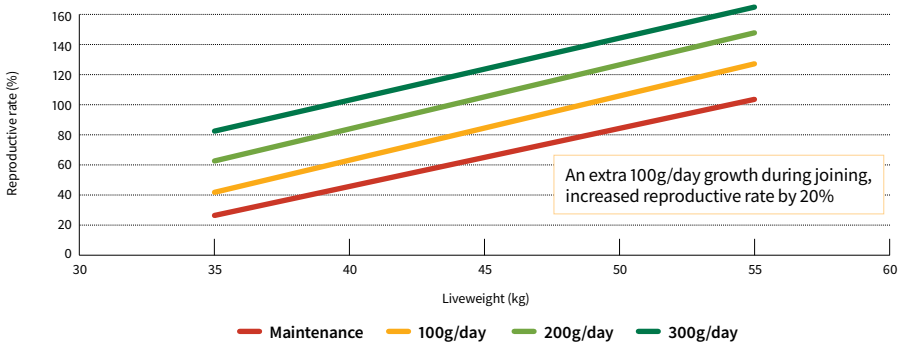


Table 1: **Optimal mob sizes for lambing ewe lambs by singles and twins**

Singles				Twins		
DSE/ha	Ewe lambs	Adults	Proportion	Ewe lambs	Adults	Proportion
2.1	107	210	51%	53	89	60%
4.2	93	193	48%	48	80	60%
8.4	82	178	46%	44	72	61%
14.7	77	168	46%	42	67	63%

continued next page

In the project's survey of 500 sheep producers, only:

20% join ewe lambs

33% join if good conditions

continued from previous page

The impact of mob size

A second trial investigated the impact of mob size and optimum mob size at lambing for ewe lambs (Table 1).

The trial involved commercial farms lambing single and twin-bearing ewe lambs at varying mob size to quantify the impact of mob size at lambing on lamb survival.

"Ewe lambs have a smaller optimum mob size than adults, at around 50% less," Jason said.

According to the research, 40–60 head is ideal for twins, and 60–80 is best for singles.

"Ewe lamb weaning success is much more influenced by the need for privacy and the subsequent risks of mismothering when mob sizes are elevated."

Improving Australia's flock

Jason believes improving the success rates for lambs weaned from ewe lambs will support wider adoption of the practice across Australia.

"The ewe base is such a precious thing in our flock – unlocking this efficiency is the jewel in the crown," Jason said.

"By making these improvements, we can produce more lambs to supply to global markets and have support when it comes to rebuilding the flock.

"As joining season approaches, producers should consider whether they can commit to these requirements for greater lamb survival. If not, it might not be the best option for them to join ewe lambs."

Following the project's completion, a Producer Demonstration Site (PDS) has been established to equip southern sheep producers to build skills and confidence to increase the number of lambs weaned from ewe lambs. ■

Read on to meet one of the producers involved in the project.

TOOLBOX

- Build flock productivity: **makingmorefromsheep.com.au**
- Scan or click the QR code to join the More lambs from ewe lambs PDS:
- Upskill at a workshop: **mla.com.au/bwfw**

Daniel Forwood
dforwood@mla.com.au

Better breeding from ewe lambs

The de Fegely family has been breeding ewe lambs for almost 15 years, but the practice has not been without its challenges.

The family, who participated in the MLA-supported 'More lambs from ewe lambs' research (see story previous page), spent the past year changing their breeding processes – and the results have been pleasing.

They deliver 700 lambs to Thomas Foods International each week, so having efficient and effective breeding systems in place for their self-replacing flock is essential.

After years of poor lambing results in ewe lambs, Charlie de Fegely said they thought they could only achieve success with a genetic breakthrough.

"We've had some really unsuccessful breeding results in past seasons, which has been extremely disappointing," Charlie said.

While they saw more success with mature ewes, their ewe lambs were delivering survival rates of around 60% for twins and up to 85% for singles.

SNAPSHOT

DE FEGELY FAMILY –
Ararat, Victoria

AREA
2,000ha

ENTERPRISE
11,400 composite breeding ewes

PASTURES
Annual rye and clovers

SOILS
Heavy clay, loamy

RAINFALL
520mm

Making changes

This year, after implementing practices from the research project, the outlook is looking much sunnier.

Charlie's son, Richard, runs the operation alongside his parents, and was eager for the property to be part of the research.

"Joining ewe lambs is a space we can do a lot better in, not only in our business, but across the industry," Richard said.

During their one-year involvement in the project, they used electronic identification (eID) to record ewe lamb weights from joining and throughout the pregnancy.

They also condition scored ewe lambs – while this requires a considerable investment of time to add into the breeding process, Richard said it was a worthwhile practice which they'll implement in seasons to come.

"It's going to be an important tool for dealing with dry conditions as well. It's just a few more levers you

Richard, Alastair and Charlie de Fegely. Image: Shan Goodwin, ACM

> **"In previous years, the ewe lambs have been a minimum of 38kg when joining, and it was an absolute disaster. This season, they've been a minimum of 48kg before the ram has been brought in."**

can pull if you do go through a tough winter leading up to lambing," Richard said.

"If they're a little bit heavy, you've got more options."

Charlie said having minimum joining weights to refer to during joining and pregnancy – with research finding 45kg to be the minimum – also had a significant impact on reproductive success.

"In previous years, the ewe lambs have been a minimum of 38kg when joining, and it was an absolute disaster. This season, they've been a minimum of 48kg before the ram has been brought in," Charlie said.

"At lambing this year, our ewe lambs have been around 60kg, whereas in other years we've been lucky to get them to 50kg."

A busy day lamb marking

It was only at lamb marking, once the count had been done, that the de Fegelys could truly consider the changes a success.

While any true results won't be measured until the systems have been in place for a few years, the season delivered a significant increase in lambs from ewe lambs, achieving a lambing percentage of 138%.

Next year, the de Fegelys will continue the new processes, including a minimum joining target of 50kg, and paddock assessments to ensure both mobs and paddocks are at the optimum size.

"Given it's the first year we've done it, it's inconclusive, but the results have been outstanding, it's definitely made a difference," Charlie said. ■

SEASONAL ACTION PLAN

- Join ewe lambs at a minimum weight of 45kg. To reach minimum weight, supplementary feeding will be worthwhile if lamb is at least $9/kg and feed cost is no more than $200/t.
- After scanning, separate twin and single lamb mobs into small mob sizes: 40–60 head is ideal for twins and 60–80 is best for singles.
- Monitor weight throughout pregnancy, ensuring minimum 15kg weight gain during pregnancy.
- During lambing, maintain small mob sizes, allowing for privacy and reducing the risk of mismothering.

TOOLBOX

- Making More From Sheep: **makingmorefromsheep.com.au**
- Scan or click the QR code to learn more about the More lambs from ewe lambs PDS:
- Containment feeding resources: **mla.com.au/containment-feeding**

genetics.mla.com.au Charlie de Fegely **quambydobie19@gmail.com** Daniel Forwood **dforwood@mla.com.au**

Good maintenance of breeder BCS has meant a high proportion of early calves, creating an even line of weaners for backgrounding.

Mum's the word for Gulf weaning program

Maintaining breeders' body condition score has resulted in a high proportion of early calves at 'Boomarra Station', creating an even line of weaners for backgrounding.

Achieving production goals at the North Australian Pastoral Company's (NAPCo) 'Boomarra Station' centres on managing the mother.

Located north of Cloncurry, in Queensland's Southern Gulf region, the breeder operation is a cornerstone to NAPCo's production system, producing steers and surplus heifers for the company's grower properties, and bulls for its western breeder operations.

Fred and Carmel Shephard have managed Boomarra Station since the late 1980s. They oversee a herd of composites developed for breeder performance and market suitability.

This 'Kynuna Composite' is:

- ¼ Angus
- ⅜ Shorthorn
- ¼ Tuli
- ⅛ Brahman.

Boomarra-bred weaners are retained to a minimum of 150kg before being transported to the channel country for backgrounding. They are then finished at NAPCo's Wainui Feedlot, Bowenville, to target three major markets:

- Woolworths direct contracts
- JBS 100-day fed market
- NAPCo's Five Founders brand.

Good cows, good weaners

When it comes to deciding on a target class of animal for turn-off, Fred said it's essential to focus on the production potential of the country.

"Designing your operation to the environment will allow your business to be the most profitable it can be," Fred said.

A key management focus point at Boomarra Station is the body condition score (BCS) of the breeding herd.

"The aim is to have all calves removed from their mothers at approximately seven months of age, which is not an easy feat on these extensive properties," Fred said.

"This allows the cows five months to recover and achieve the optimal BCS before calving again.

"This creates a flow-on effect into our calving period, where our breeding herd regularly achieves 70% of calves at foot in the first eight weeks of the calving period."

These early calves are easier to wean and manage in the production system at Boomarra Station and are set up to move through the NAPCo growing and finishing system.

Joining begins in mid-December and runs until May/June/July depending on seasonal conditions, as bulls are removed during weaning.

Approximately 5% of females mated form a 'tail' of late-calving cows which are segregated into their own paddock, where they graze bluegrass species as well as Flinders grass.

Dry pregnant cows go into the 'first chance paddock' – which Fred said is really the 'last chance paddock'. In this paddock, breeders need to be pregnant and have a weaner at pregnancy diagnosis or they are culled.

SNAPSHOT

THE NORTH AUSTRALIAN PASTORAL COMPANY –
'Boomarra Station' – Cloncurry, Queensland

AREA
108,000ha

ENTERPRISE
6,000–7,000 breeders (Kynuna Composite) producing weaners, stud bulls

PASTURES
Mitchell grasses, silky browntop, bluegrass species, Flinders grass, forbs, Buffel grass, spinifex, bottle washer grass

SOILS
Grey and brown cracking clays, sandy ridges running into red and yellow earths

RAINFALL
610mm

Targeted nutrition

Boomarra Station's supplement regimen is designed to address nutritional deficiencies.

Cattle are fed a mono dicalcium phosphate (MDCP) and salt mix during the wet season.

"Intakes of wet season phosphorus supplement have always been variable here at Boomarra Station, despite manipulating the ingredients," Fred said.

To contend with this, Fred offers breeders MDCP in his 25% urea dry lick as well, so phosphorus repletion is possible throughout the year.

Dry season feeding starts around June, with intakes starting low and ramping up to 200g/head/day.

In September and October, when only low-quality feed remains, supplement intakes will increase. In particularly dry years, dry season supplement will commence in May.

Replacement heifers are supplemented until selection to enter the breeder herd with a 12% urea lick that contains 15% protein meal to help maintain intakes and growth.

Fred is confident that, in most years, this supports young females to maintain a consistent rate of weight gain to a target mating weight of between 260–300kg, when most of the composites are cycling.

Weaner management

Fred's key tips for weaner management focus on managing the breeder herd.

All decisions, from the time females are born until when they are culled, focus on keeping them in the best possible condition, so they can deliver a productive calf each year.

Constant observation of the pasture is also paramount. A forage budget is performed each year to determine how much feed is available so that stocking rates can be adjusted accordingly.

"It's important to consistently monitor the pasture and the cattle to not let them begin to slip, as it's difficult to reverse," Fred said.

"Leaving as much residual pasture as possible in the dry season means that when the season breaks, our paddocks respond rapidly to the rain to increase the breeder body condition score."

With constant observation of the pasture and the cattle, timing of key management decisions like weaning, supplementing and reducing of stock numbers become much more accurate.

Feeding weaners

Weaners are separated into two groups:

1. Underweights (<150kg at weaning)

These weaners receive a highly digestible and palatable weaner supplement, with 60% protein meal and 30% grain. Target intakes of the 25% crude protein and 11 megajoules of metabolisable energy (MJ ME)/kg mix are approximately 1kg/head/day. This ensures smaller weaners maintain a weight gain of 0.5kg/head/day, enabling them to be offloaded to the backgrounding properties within an appropriate time frame.

2. Good weights (>150kg at weaning)

This group receives a lick with 47% crude protein equivalent (8% urea, 45% protein meal and 15% grain) and 7MJ ME/kg. Intakes are approximately 150g/head/day.

This process helps weaners recover more quickly from branding and be in good order for transfer to growing properties.

While in the yards, weaners have access to high quality hay and clean water. Most of the branding occurs at weaning (around seven months of age), apart from the 5% tail, which is branded at the main muster and weaned later at a younger age and fed.

Fred has noticed a significant improvement in weaner recovery after husbandry procedures with the use of meloxicam.

"Animals have the pain relief at branding and are seen to be eating straight away, walking freely around the holding paddocks and have a more positive demeanour," Fred said.

No shortcuts in education

Weaners are put through a systematic education routine, which allows Fred and Carmel to work all classes of cattle safely and efficiently.

Calves are educated for 4–5 days in separate male and female groups. Separating the sexes enables more efficient handling and educating, as well as preventing heifer pregnancies from the males.

Both mobs of cattle are worked through the yards each day, with one mob being worked in the yards while the other is in a holding paddock, or 'coolers'.

All animals are penned overnight with access to high quality hay and water, and walked back out to paddocks in the morning.

» A Kynuna Composite weaner.

» Supplementation is designed to address nutritional deficiencies.

Jiggers are not used on the property to ensure a calm environment is associated with yard work.

After education, weaners are put into the designated weaner paddocks which are spelled over the wet season. These paddocks are on some of the better country, giving the best opportunity for the weaners to grow well before they leave the property.

Fred and Carmel have been supported by NAPCo to develop a plan for breeding cattle that is the best fit for the company's production systems, while at the same time contending with the challenges of extensive Gulf grazing conditions.

By focusing on finding what works and making it routine practice, they've achieved success in producing high quality weaners for the NAPCo brand. ■

LESSONS LEARNT

- Design your enterprise to match the production potential of your environment.
- Schedule weaning to give breeders time to recover and achieve the optimal BCS before calving again.
- Pain relief achieves significant improvement in weaner recovery after husbandry procedures.

TOOLBOX

- Read *Weaner management in northern beef herds*: **mla.com.au/weaner-management**
- Tools and resources for northern cattle producers: **mla.com.au/northern-cattle**
- Feed planning and budgeting tool: **mla.com.au/feed-budget**
- Pain relief resources: **mla.com.au/pain-relief**

napco.com.au Sarah Hassall **shassall@mla.com.au**

Rental goats deliver weed solution

Elisabeth Larsen and Jim Shields run a goat herd with a difference – producers across southern NSW can rent their goats to control weeds on their own properties.

Elisabeth Larsen with her goats. Image: Rob Evans

The unique service was born from Elisabeth's background as an ecologist, which has afforded her a different perspective when considering weed control using goats.

The ecological benefits goats can deliver are significant, particularly through their ability to control woody weeds, although the goats must be managed well to optimise their potential.

"Goats are browsers and have the ability to utilise woody plants and weeds not typically eaten by other livestock such as cattle and sheep," Elisabeth said.

"They have a very efficient digestive system and are highly dexterous grazers which allows them to consume a wide variety of different plant species. In addition, goats happily work in steep and rocky terrain which would be unsafe and inaccessible for people and machinery."

Herds for hire

Elisabeth hires her goats out for 3–4 months of the year.

The goats are dispatched from a holding block in the Bega Valley – the herd size is variable depending upon the weed control task being undertaken but usually there are about 30 goats contained within temporary fencing to apply intense grazing pressure.

Elisabeth is very careful when agreeing to rent the goats for weed control.

"Foremost is animal welfare. If I have any concerns that their needs cannot be met, I will not let them go," she said.

Biosecurity

Elisabeth's goats have been across the coastal zone of south-east NSW and along the edge of Lake Burley Griffin in the ACT, primarily for the control of blackberry, as well as fireweed, wandering trad (*Tradescantia fluminensis*), privet and other common weeds.

As the goats are regularly moved between different blocks of land, biosecurity is an important consideration. Elisabeth ensures the reporting requirements associated with the Livestock Production Assurance, National Vendor Declaration and National Livestock Identification System programs are carried out to ensure the ongoing integrity of her business as well as her clients.

Site criteria

Every site is different, so Elisabeth always carries out a thorough site assessment which focuses on the key aspects of goat management for weed control.

This includes:

- **Site security:** Can the goats be contained safely? Can risks (dogs, people, traffic) be managed properly?
- **Vegetation distribution**: Is there a variety of palatable and nutritious plants available? Are any toxic plants present? (Just one leaf of plants like thornapple or green cestrum can be fatal.) Are there any threatened or endangered native species present that need to be protected from grazing?
- **Animal welfare:** Do the goats have plenty of room to move about freely? Is there a sunny area for them to rest, ruminate and dust bathe? Is it a wetland or boggy area that will cause feet problems? Are internal parasites in check?
- **Client expectations:** Does the client understand the impact goats will have? Are they aware that follow-up mechanical or chemical control may be required?

> **"They have a very efficient digestive system and are highly dexterous grazers which allows them to consume a wide variety of different plant species."**

"These are some of the factors which should be considered by landholders before using goats for weed control," Elisabeth said.

Weeds no match for goats

Weeds greatly reduce the short and long-term profitability of pasture and can require expensive chemical or mechanical control.

As Australia's goat industry has grown, goats have emerged as the unlikely champions of weed control in Australia.

Using goats to control weeds not only reduces the costs of chemical and mechanical control but can also result in the production of high quality goatmeat.

MLA's recently updated *Weed control using goats* guide reflects the evolution of the role of goats in weed control, and the expansive list of weeds goats can help control.

Tackling the big weeds

Peter Schuster, who contributed to the guide, said it includes strategies to manage priority weeds including blackberry, which is a top 10 priority weed for southern Australia.

"In high rainfall areas, blackberry is extremely invasive, particularly in areas which can't be readily accessed, with steeper terrain and creeks," Peter said.

Peter said goats are diverse grazers and need to be used strategically, rather than putting them in a paddock and expecting them to handle the weeds.

"They like a very mixed diet, and tend to pick and choose," Peter said.

"The most effective way to control plants like blackberry is to regulate the goats' stocking rate using temporary fencing, so you can 'crash graze' the target weed, when it's most palatable to the goats."

Crash grazing involves placing animals in a small area for a very short time, to intensely graze the area, before removing for a time. Then, they can be reintroduced to crash graze again to manage regrowth. This process depletes the plants' reserves and opens up the understorey to sunlight, allowing pastures which are more favourable to grow.

Blackberry sees the most growth in spring, which is both the most palatable time for the goats to enjoy the weed, and an opportunity to reduce seed set.

"Slashing around the area will help the animals find and access more difficult parts of the plant," Peter said.

"When you're crash grazing the goats in temporary fencing, make sure they have ample feed – preferably the target weed – and access to water, such as a repurposed 1,000 litre water container.

"Solar-powered electric fencing can be very effective for containing goats used to such fencing." ■

Scan or click the QR code to read the *Weed control using goats* guide:

Grazing management

Once a site and objective are agreed, Elisabeth uses portable electric fencing or fencing panels, often in combination with existing permanent fencing, to create areas where the grazing pressure can be high enough to achieve the desired control.

"We use a cell grazing pattern so larger areas are broken up into smaller grazing blocks to achieve the appropriate grazing pressure."

Within the portable grazing areas, Elisabeth always provides shelter to protect from sun and chill risks, and water is supplied using portable tubs that are regularly checked.

Elisabeth doesn't breed goats but instead buys young goats from a trusted breeder – the Boer and Boer-cross wethers are typically calm and easy to handle. Selection for temperament reinforces ease of handling which is important for the business.

The goats must be familiar with electric fencing before they are used for weed control elsewhere.

Her advice is to ensure fences are well maintained, tall and taut, and to reinforce with additional posts if necessary.

"Don't give the goats the opportunity to jump the fence – if they can, they will thanks to their quick intelligence and natural curiosity. Once one goat escapes, the rest of the herd will often follow the leader," Elisabeth said.

Interested in hiring?

Elisabeth recommends developing a clear and realistic plan before embarking upon weed control using goats.

"Carry out a thorough assessment of the site and be realistic about what you will be able to achieve with the goats," she said.

"Expect that you might have to follow up with mechanical and/or chemical control measures if you are aiming for complete weed eradication." ■

TOOLBOX

Find the new *Weed control using goats* guide on MLA's goats hub: **mla.com.au/goats-hub**

Subscribe to our quarterly goat newsletter, Goats on the Move, through myMLA: **mymla.com.au**

Elizabeth Larsen **e.larsen@bigpond.com** Joe Gebbels **jgebbels@mla.com.au**

Taking on a full-time load

Truck driver John Matthewson is no stranger to the red meat industry.

He's now a producer and owner of livestock transport company BeefTrans, but John's extensive resume as a buyer for the two major supermarkets, a 10-year stint in the export industry, and as a partner in another transport business, has crafted his unique insights across the red meat supply chain.

"Trucking has always been in my blood. My father had a business which started in our home in Grafton," John said.

Despite several other roles across the industry, he always came back to trucks.

BeefTrans takes off

John started BeefTrans alongside his wife Jenneke – the small trucking operation quickly expanded from a side hustle to a full-time opportunity. They now manage their fleet of eight trucks out of the New England area, as well as their own farming enterprise.

"After close to 30 years of working for other businesses, we decided to move into our own business. We have three sons and are trying to create a mixed business that gives our family members some options to become a part of it, if they choose," John said.

The company opened in a high-demand market.

"The need for transport for our own farm quickly grew and morphed into what I do, pretty much Monday to Friday.

"Not only did we want to do it, but it was needed. So many small trucking companies have fallen to the wayside because of difficult circumstances in the industry."

Preparation an ongoing challenge

Despite abattoir curfews and required resting periods, John said there's still room for improvement when preparing cattle.

"There are a lot of different factors we can't control, but we try to communicate with the people who use our services that the animal has to be as important as a person on a bus – they deserve a comfortable ride.

"It's so important to have cattle in the yards and settled.

"We consistently see cattle who are hot and galloped to the yards to be loaded on the truck – they're no end of trouble."

The true cost of being unprepared

John's professional background has given him an insight into how the entire supply chain relies on good livestock preparation.

"I've been involved with processing a lot of supermarket cattle over time and have seen a lot of meat quality issues that come down to animal welfare and animals not being properly prepared prior to trucking," John said.

"The minute you go into the paddock to get that animal, their clock starts ticking and their stress rises. This affects everything from meat colour, fat colour and pH levels.

"Once they're on the truck and on their way, there's not a lot that can be done. If producers talk to us ahead of time about how they can best prepare the class of livestock being moved, everything runs more smoothly."

John said a lack of preparation creates hazards for animals and transporters after driving out of the farm gate, with the ongoing challenge of managing effluent.

What was a side-hustle quickly turned into a full-time transport business for John Matthewson.

"Once again good preparation prior to transport assists with us being able to better manage this battle.

"Despite having up-to-date vehicles and tanks, a rain event can mean the overflow comes out the side of the trucks."

Drivers face penalties of around $500 for effluent-spilling trucks.

Keeping consistent

While growing demand has given the Matthewson family an opportunity to expand further, the family is keeping their focus trained on maintaining a quality service.

"We've grown because people trust us – there's surety of who drives into their place and the calibre of person who handles the cattle," John said.

While a shortage of truck drivers has made recruitment difficult, the business is careful about who they put behind the wheel.

The quality extends to the trucks on the ground.

"Rather than grow in size, we want to keep our gear modern, and just keep rolling along as best we can.

"It's been quite a ride and a constant workload, but it's very enjoyable."

"If producers talk to us ahead of time about how they can best prepare the class of livestock being moved, everything runs more smoothly."

mla.com.au/transport-hub Sharon Dundon **sdundon@mla.com.au**

Five tips for grazing sheep on stubbles

Crop stubbles grown in Australia could provide about three billion ewe grazing days, or enough forage to feed Australia's sheep flock for six weeks.

Most broadacre crops are grown in mixed farming areas, where cropping and livestock enterprises are combined. In these areas, stubbles make up an important part of the seasonal feedbase.

Why graze stubbles?

Stubbles provide a substantial feedbase component, with ewes in mixed farms typically spending 20% of their time on stubbles each year. These stubbles not only provide a high quality source of feed during summer, but grazing also removes spilt grain from paddocks to reduce risk of pests such as mice or birds.

Breaking down the stubbles makes the following cropping season easier as seeding into high-volume stubbles can be difficult.

MLA and Australian Wool Innovation (AWI) co-funded the Modern Stubbles project to help producers understand how to effectively graze sheep on stubbles.

Here, project lead researcher, Dr Dean Thomas from the CSIRO, gives his five tips for grazing sheep on stubbles.

1 Maintain a good source of nutrition

Grazing stubbles is often done when ewes are pregnant so it's important they're kept in good condition. Producers should aim for a condition score of three and have them on a rising plane of nutrition.

Stubbles are a feed source that starts as high quality but depletes quickly (as the sheep clean up the spilt grain) so producers need to keep this characteristic in mind to ensure a good source of nutrition is maintained.

Grains and young green plants have a higher proportion of digestible carbohydrates and protein, so they typically have a higher nutritive value. Leaf and fine stem components are low quality but generally edible, and make up roughly half of the energy for a typical diet from dry stubbles (where the remainder is grain and green material).

However, ripe wheat stems (these make up a large component of stubbles) have a high proportion of structural carbohydrates that are poorly digestible, making them lower in nutritive value and generally little of this material is eaten.

2 Prioritise stubbles for grazing

It's important for producers to prioritise stubbles for grazing by:

- providing ewes or finishing lambs with the highest quality stubbles, followed by pregnant ewes (or in preparation for joining)
- allowing older ewes to graze on lower quality stubbles, such as wheat or canola stubbles, although provision of adequate nutrition is still key.

3 Keep an eye out for metabolic diseases

There are a few risks associated with grazing stubbles, such as acidosis. Spread out any piles of grain left in the paddock after harvest to reduce this risk. Acclimatise ewes first by starting them on barley or lupin stubbles prior to grazing wheat stubbles.

Vitamin E deficiency can occur if sheep graze stubbles for an extended period without access to green feed. Supplement with vitamin E (drenched or injected) or provide access to adjacent areas of perennial grasses and shrubs for a source of vitamin E.

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Grazing stubbles made easy

The Modern Stubbles project has developed a stubble grazing calculator. This Excel-based tool allows stubble grazing scenarios to be entered so producers can predict the likely liveweight gain based on:

- the type of livestock
- type of stubble
- supplementary feeding.

Want to try the calculator out? Scan or click the QR code to download the spreadsheet:

4 Have the right infrastructure in place

Stubbles are a drier feed, so producers need to have good fences and a source of water. Sheep will require 3–5L of water per sheep/per day to graze stubbles (more during hot weather).

5 Select paddocks carefully

Graze carefully on paddocks which are susceptible to wind erosion because grazing stubbles can break down ground cover, and sheep will often camp in susceptible areas such as hill crests and sandy patches. Extended grazing may result in sheep tracks, which increase erosion risks. ■

TOOLBOX

Scan or click the QR code to read *Grazing modern stubbles – a guide to the nutrition and management of sheep grazing stubbles in mixed farming*:

Paddock-to-plate enterprise serves up top-notch fare

These days, NSW beef producer Allan Waldon leads a quiet life compared to his 20-odd years running a thriving retail butcher shop on Sydney's North Shore.

Over his career, Allan estimates he's sold 10,000 beef carcases and 55,000 lamb carcases – many from animals raised on his own properties.

It's given him a unique perspective on what it takes to produce and market consistently high eating quality red meat to a discerning customer base eager to source quality meat they feel good about eating.

A passion for provenance

Allan's dual perspective as both a producer and a butcher has given him a unique insight into the changing nature of consumer trends. Fascinated by the process of food production, Allan saw the value in showcasing this via his marketing strategies.

"We were the only one doing paddock-to-plate stuff in Sydney back then – a quarter of what I was selling was my own meat. It was a genuine 'mum and dad' wholesale operation offering quality meat. People appreciate that and will spend the money for good products that they know the provenance of," Allan said.

Allan reflects on a commonly-held customer belief that to get a well marbled, good eating quality steak, it needs to be grainfed.

"Over my 45 years face-to-face with retail customers in various butcher shops, I saw people's eyes open to the fact that grassfed beef, raised well, could deliver equally good marbling and eating quality," Allan said.

More than beginner's luck

Allan's grassfed cattle are certainly raised well, and he has the results to show for it.

"My cattle have never seen grain – my management strategies don't include any complicated activities. The most basic farming practices, done right, can lead to excellent eating quality results.

"We've achieved highest MSA Index scores at the 2021 and 2023 Wingham Beef Week with our entirely grassfed cattle. In 2024 we had the second highest marble score and took out Champion and Reserve champion lightweight," Allan said.

SNAPSHOT

ALLAN WALDON –
'Nunyara' –
Barrington, NSW

AREA
56ha

ENTERPRISE
50 Angus, Simmental, Murray Grey and crossbred cows joined to Angus and Murray Grey bulls

PASTURES
Tropical grasses setaria and Kikuyu with winter clover and other native grasses

SOILS
Grey loams with heavier flats

RAINFALL
1,000mm

Allan on his property, 'Nunyara', in Barrington, NSW. Image: Allan Waldon

"Over my 45 years face-to-face with retail customers in various butcher shops, I saw people's eyes open to the fact that grassfed beef, raised well, could deliver equally good marbling and eating quality."

Breeding strategy

Allan's fertility-first approach favours lighter-framed animals with calm temperaments, leading to easier calving and safer conditions on-farm.

He takes a value-for-money approach which gives him access to great genetics and more options to play with.

For example, he'll opt for Angus heifers rather than Angus sires, to access genetics at a lower price tag and then join them to Murray Grey bulls to round out the traits he wants.

Allan aims for carcase weights of 180–240kg at 12–15 months for purely grassfed cattle, to fit retail butchers' requirements.

Quality feed year-round

Key to his growth and eating quality successes is the provision of quality feed to his cattle year-round. This avoids cattle losing condition at any point in their life.

"I've seen cattle struggle to recover from dips in feed availability – it's directly linked to their eating quality," Allan said.

He doesn't rely on grain to achieve this however, and instead grows setaria and Kikuyu with winter clover and other native grasses, which he manages and slashes to avoid becoming rank and stalky. This adds nutrients back into the soil ready for the pastures to benefit from.

His property's dung beetles work to aerate the soil and reduce the manure load and its impact on water quality.

Allan Waldon and Merv Presland at the Wingham Beef Week Competition. Image: Allan Waldon

Murray Grey and Square Meater calves at 'Nunyara'. Image: Allan Waldon

Protecting pasture

Frequent rotational grazing keeps paddocks in good condition.

"I split my 56ha into 12 paddocks and cattle are taken out once the pasture is the height of a coffee cup," Allan said.

Sown clover provides winter feed with the additional benefit of fixing nitrogen for the summer feed. The area's high rainfall impacts on soil fertility, so he adds chicken manure, lime and superphosphate.

As setaria shoots quickly after rain – even in winter when the Kikuyu and paspalum have gone dormant – Allan manages it with grazing, slashing and, in summer, cutting it for hay.

Supplementation

Allan provides loose lick supplements so the cattle can get more into them.

"It doesn't matter where you are there will be some sort of deficiency. I use a urea-based lick which is beneficial when the pasture is not at its best. We are deficient in phosphorus and this supplement meets the cattle's needs for this as well as for magnesium and iodine.

"It works well – it's expensive but if the cattle are eating, then they need it. Cows are fat and calves are happy," Allan said.

He also uses superphosphate with molybdenum every five years on his pastures. This sures up his winter feed – particularly clover, and hay and loose licks provide extra nutritional requirements.

> **"We've achieved highest MSA Index scores at the 2021 and 2023 Wingham Beef Week with our entirely grassfed cattle."**

Animal handling

Allan frequently educates his cattle in the yards which has benefits down the line and ultimately on the plate.

"If they're used to being handled, when they walk up the race in the last minute of their lives, they'll be calm. I have them in and out of the yards and it's not always a bad experience being drenched or needled. It means they don't fear the yards so much," he said.

"Trust is key. Cows will get to know you – I always talk to my cattle."

TOOLBOX

- Feed and pasture calculators: **mla.com.au/tools-calculators**
- Meat Standards Australia **mla.com.au/msa**
- BREEDPLAN: **breedplan.une.edu.au**
- Dung beetle hub: **mla.com.au/dung-beetles**

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Skin in the game for rangelands future

Creating farm carbon accounts has been an important part of the four-year Rangelands Living Skin project, helping participants establish a baseline from which to identify and embrace opportunities for farm greenhouse gas (GHG) emissions improvements.

The Rangelands Living Skin (RLS) project kicked off in 2021 with a core group of four producer families and a team of scientists and other collaborators.

Together they're evaluating cost-effective practices – chosen by the producers – which focus on regenerating the NSW rangelands to support production now and into the future.

Rotational grazing, ponding, ripping, multi-species plantings and biological soil amendments are just some of the management practices being trialled.

The project aims to create an evidence base for encouraging widespread adoption of practices that benefit soil, plants, animals and people – the living skin of the rangelands. The project is funded by MLA and led by the NSW Department of Primary Industries.

The four core producers involved in the project are:

- Andrew and Megan Mosely, 'Etiwanda', Cobar, NSW
- Gus and Kelly Whyte, 'Wyndham Station' and 'Willow Point', Wentworth, NSW
- Graham and Cathy Finlayson, 'Bokhara Plains', Brewarrina, NSW
- Glenn Humbert and Julie Conder, 'Gurrawarra', Bourke, NSW.

Greenhouse gases and carbon accounting

As part of the RLS project, the Moselys and Whytes worked with Dr Jessica Rigg from Select Carbon to understand their farm emissions and create a 'farm carbon account'.

"A farm carbon account is useful to benchmark and understand your farm emissions, by accounting for sources and sinks of greenhouse gases within a farm business," Jessica said.

"If you know where you are starting from, you can determine strategies to reduce emissions and identify opportunities to store more carbon in soil or trees. You can't manage what you don't measure."

The Mosely family said the exercise has been beneficial to their business.

"We have found great value in working alongside Select Carbon to create a whole farm carbon account as this has allowed us to benchmark where we currently sit in terms of whole farm emissions," they said.

"Going one step further, the exercise has highlighted the potential of our soil to not only offset emissions to achieve carbon neutrality but increase soil carbon to potentially achieve a net positive position.

"We're excited to be taking the steps to increase our business resilience and performance, with carbon being a key indicator."

The carbon accounts were created using the Greenhouse Accounting Framework (GAF) tools developed by the University of Melbourne and the Primary Industries for Climate Challenges Centre (PICCC).

Understanding the numbers

The Etiwanda enterprise includes cattle, sheep and goats, while Wyndham Station includes cattle, sheep and wool enterprises. Etiwanda and Wyndham have average annual rainfalls of 390mm and 290mm, respectively.

The average annual net farm emissions were:

- Etiwanda: 2,233t CO_2-e/farm (0.13t CO_2-e/ha)
- Wyndham Station: 1,078t CO_2-e/farm (0.011t CO_2-e/ha).

Average emissions varied across the five years assessed – 2018 to 2023 – and, not surprisingly, methane from livestock was the largest source of emissions for both enterprises.

Emissions intensity (the amount of CO_2-e per kilogram of product) was calculated for each property and each commodity (Figures 2 and 3). Emissions intensity varied over the five-year period and varied by farm enterprise.

Emissions reduction opportunities

"While only carbon sequestration in planted trees is included when using the PICCC GAF tools, carbon sequestration in regenerating vegetation and soil are both important and relevant considerations in whole property carbon accounts," Jessica said.

"Soil is an important and large store of carbon in the landscape. There are well known benefits of increasing soil organic carbon for agricultural productivity and landscape function. There is also evidence of the role of grazing management and rehydration techniques in building and retaining soil carbon in the rangelands."

Figure 2: Annual net farm emissions – Etiwanda

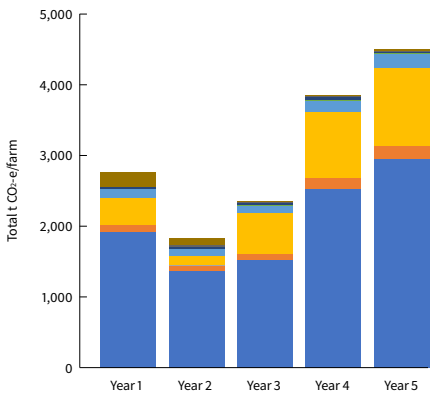
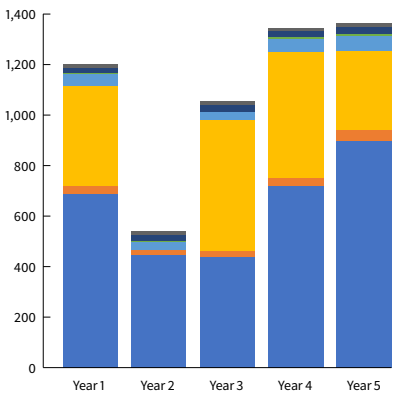
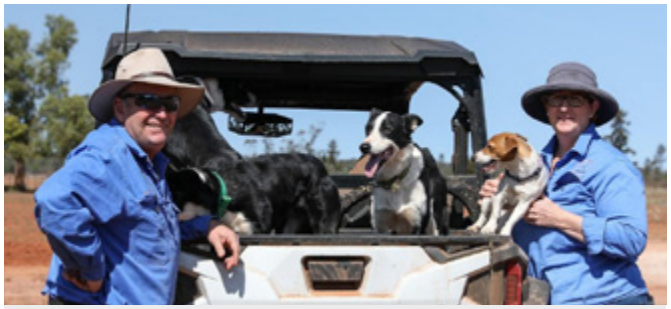


Figure 3: Annual net farm emissions – Wyndham Station



Total emissions are the sum of all livestock enterprises on the property including sheep and beef (SB-GAF) and goat (Go-GAF). The assessment was made over five production years, from June 2018–May 2023 for Etiwanda and from July 2017–June 2022 for Wyndham. Electricity, fuel and diesel were apportioned to each enterprise (therefore, not double counted). The category 'Other pre-farm' includes fertiliser, purchased feed, herbicides and pesticides, lime and livestock away on agistment.



The Mosely family

Andrew and Megan Mosely (pictured) run White Dorper sheep, semi-managed rangeland goats and Red Angus cattle on Etiwanda.

When they took over the property in 1997 it was a wool operation facing significant challenges, including landscape degradation through capped soils and invasive native scrub, which was inhibiting the growth of grass and profitability of the business.

As a result of their intensive rotational grazing practices and subsequent improvements in land condition, Andrew and Megan are currently able to run twice as many domestic livestock than prior to their management change, and to the regional average.

As part of the RLS project, the Moselys are trialling plantings of multispecies pastures and annual legumes, as well as trialling biostimulants.

Scan or click the QR code to read their full case study:

Andrew and Megan are able to run twice as many domestic livestock than prior to their management change, and to the regional average.

The Whyte family

Two decades ago, Angus and Kelly Whyte (pictured) were frustrated with the increasing amount of work they were doing at Wyndham Station, where they run a sheep and cattle breeding and trading enterprise, and the increasing degradation of the landscape.

Attending a Resource Consulting Services Grazing for Profit course in 2001 was a turning point – they moved away from the traditional low-level set stock management regime, and began creating smaller paddocks to facilitate rotational grazing and to match stocking rate to carrying capacity.

By changing to rotational grazing, moving the animals has become less labour-intensive, and there has been greater plant growth and diversity, as well as reduced erosion.

While they continue to manage holistically to drive productivity, profitability and landscape health, the Whytes are also interested in the potential co-benefits of ecosystem services (such as soil carbon and biodiversity) markets.

As part of the RLS project, the Whytes have undertaken a water ponding trial, rehydrating a 300ha clay plan area on Willow Point.

Scan or click the QR code to read their full case study:

Research has estimated a carbon sequestration rate of 0.17t C/ha/year in the 0–30cm soil layer (over 20 years) in the Western Division of NSW, if a relative increase of 10% ground cover can be achieved.

"In the rangelands, well-managed grazing animals are important tools in the landscape to build soil organic matter – the first step in accumulating SOC – by stimulating plant growth, influencing plant composition, ground cover and nutrient redistribution, and breaking down vegetation and litter through trampling," Jessica said.

"Using Etiwanda as an example, even a conservative increase in soil carbon sequestration (e.g. 0.53% to 0.58% over 100cm over a 25-year period) could potentially offset their average annual emissions (2,233 tonnes CO_2-e).

"This demonstrates the potential to sequester more CO_2-e than is emitted each year by the farm business. It must be noted, however, that soil carbon sequestration is not currently included in the SB-GAF accounting methodology."

Where to from here?

For producers interested in developing a carbon account, benefits include:

- understanding your current position, where emissions are coming from and what levers you could pull to influence your carbon footprint
- improving future market access and social licence and continued market support for red meat
- having records or data to voluntarily provide to your supply chain partners
- accessing green finance (i.e. sustainable finance). ■

TOOLBOX

Soils for Life – Rangelands Living Skin: **soilsforlife.org.au/rangelands-living-skin**

Check out MLA's new Southern Rangelands hub for region-specific tools, resources and case studies: **mla.com.au/southern-rangelands**

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Preventing pestivirus: strategies to keep your cattle disease free

When weaners on the Australian Agricultural Company's (AACo) Surat property, 'Wylarah Station', presented with respiratory symptoms in 2020, Breeding and Genetics Regional Manager Matias Suarez took a closer look.

He noticed symptoms suggestive of pestivirus infection, which was a possible cause behind the onset of bovine respiratory disease (BRD) in the weaners.

To confirm this suspicion, testing was conducted to identify stock which were persistently infected (PI) with pestivirus.

When the results indicated high incidence of PIs, the team at Wylarah took action and implemented a whole-herd Pestigard® vaccination program and a continuous weaner PI testing program.

Since then, AACo has reported a significant decrease in the annual incidences of calves testing positive for the disease, as well as a reduction in BRD in weaners.

Here, Matias joins University of Queensland Professor of Veterinary Science, Michael McGowan, to share key strategies to control and manage pestivirus.

Disease detection

When it comes to identifying if pestivirus infection is in your herd, Michael said there's no single distinctive presentation of the disease.

"The appearance of infection in a herd can vary from lower pregnancy rates, with many cattle conceiving later than expected, to higher-than-expected losses between confirmed pregnancy to weaning," he said.

"Probably one of the more common signs observed by producers is a large increase in number of 'poor doing' calves around the time of weaning."

Signs of pestivirus infection in cattle can also include:

- stillbirths
- calves showing signs of incoordination or malformation of their eyes
- poor suckling response from calves
- arthrogryposis (joints fixed in abnormal positions)
- mouth and tongue ulceration
- diarrhoea
- wasting
- pneumonia in recently weaned calves or feedlot cattle
- respiratory disease symptoms.

"Because an infected herd can display a broad range of symptoms which often overlap with other diseases and issues which impact on-farm productivity, testing to confirm if pestivirus is the cause is a very important first step," Michael said.

Reducing transmission

Matias said pestivirus is very infectious when cattle are in close contact with each other.

"If you put a persistently infected animal in a yard with susceptible animals for 24 hours, at least 60% will become infected," he said.

So, when he received confirmation that it was pestivirus impacting the herd's health and production, Matias immediately took steps to reduce transmission.

"AACo's beef cattle enterprise extends across Australia and has a vertically integrated supply chain, so we take a lot of care with regards to managing and reducing the spread of infectious diseases," he said.

"One key aspect of our production that poses significant risk for transmission is our bull breeding units as they are annually transported to herds across northern Australia for joining.

"This is why, in this instance of a confirmed pestivirus outbreak, the first thing we did was commence a program of testing to verify they were not PIs.

"We then implemented a whole-herd vaccination program, specifically with all our breeding females, to reduce risk of further PI cattle being born.

"Alongside the implementation of the vaccination program, we've also been testing all calves annually to ensure we are keeping on top of any risk of PIs.

"Between the first and second year of the vaccination program, we recorded a significant decrease in the number of PI calves born – demonstrating the effectiveness of the vaccine in controlling and managing dam-to-progeny transmission."

Matias Suarez, with the aid of his colleagues at AACo, implemented a vaccine and disease testing program to prevent the spread of pestivirus.

Heifers at AACo's 'Wylarah Station' undergo a pestivirus vaccination program to prevent persistently infected progeny being born.

Long-term management

When it comes to vaccination, Michael sees it as equivalent to buying insurance.

"We've only had the vaccine since 2004, but in these past 20 years studies have found it to be 80–85% effective in stopping the cycle of dam-to-progeny transmission," he said.

"The vaccine operates like any other killed vaccine with an initial injection that must be followed up by a second booster, which can occur up to six months later.

"In seedstock herds, or in herds conducting artificial breeding programs, the cost-to-benefit ratio for whole-herd vaccination is positive.

"However, the cost of initiating a whole-herd vaccination program in commercial herds may be too great for many businesses."

To combat this, Michael suggests commercial producers start with a heifer-only vaccination program.

"Heifers are the future of your herd, and they are also the group most vulnerable to experiencing an outbreak due to their lack of natural immunity," he said.

"By protecting them from pestivirus infection, you're insuring the future of your herd."

Avoiding risks

Michael and Matias agree it's important producers avoid attempting alternative measures in order to save money, as this can risk the long-term health, productivity and profitability of their herd.

"While producers may be tempted to purposely introduce a PI to their herd in hopes to encourage the development of natural herd immunity, this is a very risky approach," Matias said.

"In theory, this may sound like a cheap and easy solution, but in practice it will likely devastate the productivity of the herd.

"At the end of the day, you simply cannot afford to not vaccinate." ■

TOOLBOX

- Learn more about pestivirus: **mla.com.au/pestivirus**
- Access tips for vaccinating: **mla.com.au/vaccinating**
- Improve biosecurity on your farm: **integritysystems.com.au/biosecurity**

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Ticking off a pesky problem

Ticks and buffalo fly present a costly challenge to beef producers.

It's been estimated the cost of treatment, prevention and lost productivity just from cattle ticks is more than $160 million a year.

Most pesticides used currently work non-selectively against both pests – but also impact beneficial arthropods.

So, MLA-funded research at the University of Sydney aims to develop a selective pesticide that is harmful to cattle tick (or alternatively buffalo fly), but safe for beneficial insects such as dung beetles.

As well as a valuable tool for producers, it's the starting point for developing pesticides which target other harmful mites.

A target-based approach

Here's a look at the research, led by the University of Sydney's Professor Joel Mackay, Professor Ron Hill and Dr Emily Remnant.

In cattle ticks (and all other arthropods), a hormone-binding protein called the 'ecdysone receptor' is a promising target for selective pesticide development.

This protein interacts with the hormone 'ecdysone' to regulate tick development, reproduction and behaviour. Disrupting this interaction through custom-designed chemicals would significantly impair tick development and reproduction, making such chemicals great candidates for pesticides.

So far, the team has purified significant quantities of the ecdysone receptor protein and demonstrated the lab-generated protein can bind to the native ecdysone hormone. It can therefore be used as a target for pesticide development, with further research commencing to find chemicals that can hit that target.

A needle in a haystack

The search for selective chemicals will take advantage of subtle differences in the shape of the receptor protein found in the cattle tick, compared to the equivalent protein from the dung beetle.

By searching through hundreds of thousands of commercially available chemicals, the researchers hope the needle in the haystack can be found: a chemical that interferes with the cattle tick ecdysone receptor while leaving the equivalent protein in the dung beetle untouched.

The same strategy will be used to target the buffalo fly – again without harming the dung beetle.

It's hoped this new approach to pesticide discovery will lead to the development of safe, more selective, and environmentally friendly agents for the control of insect and arachnid pests. ■

mla.com.au/ticks
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How premium lamb brands are changing the game for producers

Willow Bend French racks.

A quarter of a century ago, NSW seedstock producer Tom Bull established LAMBPRO. In doing so, he set out to breed lambs with production traits that delivered more kilograms per hectare and a higher carcase quality that returned more dollars per kilogram.

Today, LAMBPRO is a thriving seedstock business providing rams to more than 400 clients annually, with around 1.2 million lambs sired each year.

A portion of those clients now supply LAMBPRO's premium lamb brands Kinross Station and Willow Bend – enjoying significant returns for their high quality carcases and helping establish LAMBPRO as a market leader, exporting lambs to more than eight countries.

MLA support

With a view to helping capture additional value from those premium lamb brands, MLA has partnered with LAMBPRO to deliver a three-year co-innovation program designed to drive adoption of objective measurement (OM) technologies.

A first for the industry, the project seeks to emulate the beef industry's success in creating a value-based product by capturing baseline genetic and carcase data, increasing capability in supply chain management, and engaging producers to ensure consistent year-round supply that complies with brand specifications.

The project is managed by Sophie Angus, a LAMBPRO employee whose role is co-funded by MLA.

Genetics and nutrition deliver productivity gains

LAMBPRO's priority has always been to deliver increased productivity from its genetics and nutrition program, and then help its clients profit from a superior value-based product.

Sophie said a good example of this can be seen in Tom's work on one of LAMBPRO's primary breeds, the Primeline.

"In only a couple of generations, Tom has produced a Primeline sheep that now sheds its wool annually while still maintaining a comparable level of carcase quality to a traditional Primeline," she said.

"That's going to increase the return for producers because they aren't having to wear the additional costs that come with wool-producing sheep."

Beyond the genetics, LAMBPRO's clients are also leaders in their field – delivering lambs with a liveweight around 60kg for a carcase weight between 28kg and 36kg. All lambs are pasture-raised and grain-finished for a minimum of between 42 days (Willow Bend) and 60 days (Kinross Station), and they must be free of antibiotics and hormone growth promotants.

"By focusing more heavily on OM, we're going to be better able to capture data to quantify the value of our genetics and nutrition programs," Sophie said.

Managing supply

A large part of Sophie's job has been to manage the supply chain and engage regularly with clients to ensure a steady supply of lambs are getting to the abattoir each week.

"With many of our producers selling back into the brands, we're processing around 1,000 lambs a month for the Kinross Station brand alone," she said.

"Part of the supply chain management is remaining in continual contact with clients, keeping track of what lambs are coming on and identifying any gaps throughout the year."

Double the marbling

As well as securing supply, Sophie also attends the abattoir regularly to grade the lambs based on their intramuscular fat (IMF)

> **"It's finding the value in forequarter cuts that is really going to drive up the value of the carcase and deliver returns back to the producers."**

and get a feel for their marbling so she can provide feedback to LAMBPRO's clients.

"The current lamb marbling average in Australia is about 4.2%, but we've got clients who are averaging well above 7%," she said.

"The real challenge is to work out how to add producer value by segregating these higher value animals and selling them based on their marble score value – similar to beef."

After using the SOMA device to grade IMF for more than a year, they installed the MEQ probe – both technologies were developed with MLA support. Sophie said the MLA co-innovation project has helped iron out many of the teething issues that come with setting up OM technology.

"Once the MEQ probe is up and running properly, we'll be marble grading and that's when additional value is going to come through for producers."

Maximising the carcase

Marble grading will not only increase the price/kg producers can command for their lamb, but will also help identify opportunities to maximise the value of the carcase beyond the usual racks and loins.

"It's finding the value in forequarter cuts that is really going to drive up the value of the carcase and deliver returns back to the producers," Sophie said.

"For example, if you can pack a box of consistently highly marbled neck fillets, you will attract that premium price in the Asian markets where they might slice it super-fine for a hibachi grill."

Delivering pricing certainty

As they work towards an increasingly value-based product, LAMBPRO is already delivering pricing certainty for its clients.

> **"We are aiming to give our producers a more stable pricing model, working backwards from meat returns."**

As part of her ongoing engagement with producers, Sophie delivers regular price forecasts months in advance – providing LAMBPRO's clients with higher returns and a level of certainty in the face of a fluctuating market.

"We are aiming to give our producers a more stable pricing model, working backwards from meat returns," she said.

Building a global customer base

Those LAMBPRO relationships are largely built on buyer confidence in the quality and consistency delivered by LAMBPRO genetics.

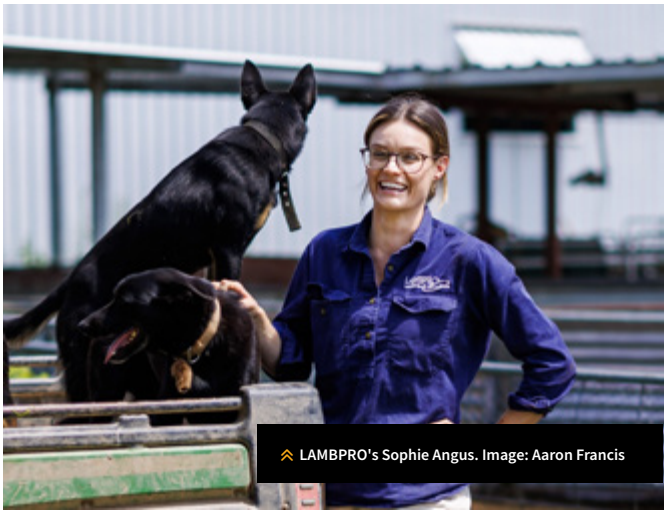
"It is all about relationships," Sophie said. "We're sending Willow Bend lamb to North America all year round.

"Because the Primeline has been bred with a focus on carcase quality rather than wool, we don't have the typical gamey flavour profile associated with wool sheep. After finishing these lambs on grain, we have a product that is sweet and subtle, very suited to the pallet of customers in the US."

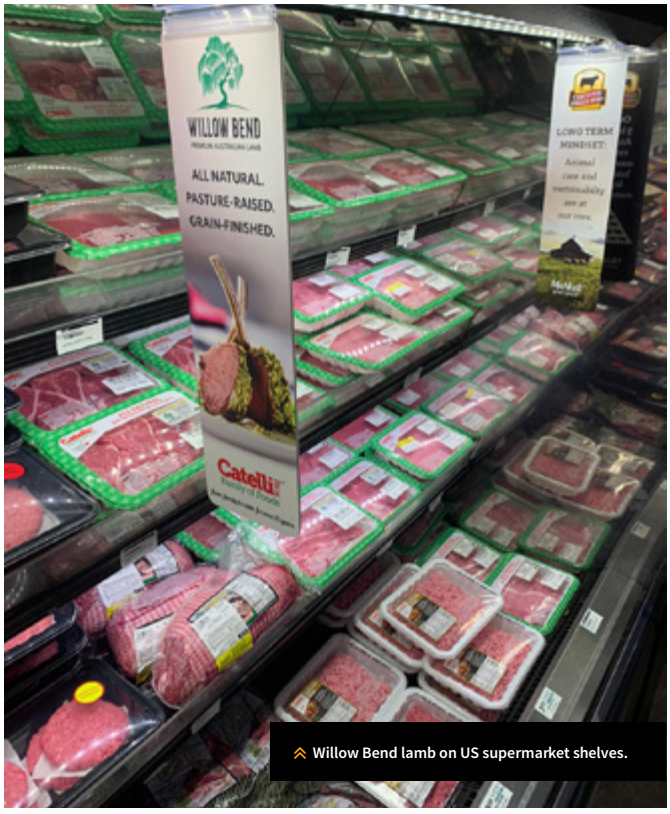
Sophie said demand in the US has remained strong off the back of COVID-19, when more people were cooking at home and open to trying new things.

"From one of our customers in the US, we've seen overall Willow Bend sales lift by 23% and Willow Bend racks alone up 145% since 4 July 2024, so the demand is there." ■

A Hampshire Down ewe with lambs on 'Kinross Station'.



LAMBPRO's Sophie Angus. Image: Aaron Francis



Willow Bend lamb on US supermarket shelves.

lambpro.com.au Sophie Angus **data@lambpro.com.au**
mla.com.au/objective-measurement Josh Whelan **jwhelan@mla.com.au**

Keeping a finger on the pulse of Indonesian biosecurity

Indonesian demand for Australian cattle remains critical for our export industry and the Indonesian Biosecurity Support Program will play a vital role in securing the future sustainability of our largest live cattle export market.

The program was initiated following the outbreak of foot-and-mouth disease (FMD) and lumpy skin disease (LSD) in Indonesia in 2022.

It was established by MLA in June 2022, and is funded by the Department of Agriculture, Forestry and Fisheries (DAFF) and run in partnership with the consultancy firm Ausvet.

Prior to the outbreak in 2022, FMD hadn't appeared in Indonesia since the 1980s, while LSD had never been present. As a result, biosecurity was a lower priority for Indonesian feedlots up to that point and feedlots were very hard hit by the outbreak.

MLA understood how the economic effect of multiple outbreaks would impact the Indonesian feedlot industry and the possible impact on Australian cattle exports to that country, and recognised an emerging opportunity to help build biosecurity capabilities across these feedlots.

Since then, Australia's multi-phased Indonesian Biosecurity Support Program has seen Ausvet work collaboratively with industry on the ground to deliver rapid and impressive results.

Here's a look at the two phases of the program.

Phase 1: Refining capabilities with expert guidance

Senior Ausvet consultant Emma Zalcman is a veterinarian epidemiologist with extensive experience helping prevent and control disease outbreaks in a wide range of contexts.

During the first phase of the program, Emma said Ausvet focused on delivering three key priorities for the Indonesian feedlots:

- technical information
- workshops
- risk assessments.

She said Indonesia's feedlots had already begun implementing high levels of biosecurity by the time the Ausvet team arrived in-country in September 2022.

"Our role was to work with the very capable Indonesian feedlot vets to help expand their knowledge in highly specialised areas of veterinary epidemiology and biosecurity," Emma said.

"These aren't areas most vets would be experienced in, but Ausvet has that expertise so it was an area where we could really add value."

The first priority was to create a suite of new technical materials to bridge the gaps that existed.

"Up to that point, the literature on managing FMD generally fell into two camps," Emma said.

"It either focused on high-income countries that were free of FMD (like the UK) where humane destruction of infected and exposed livestock is a key component of the response, or it looked at low-income countries (like Laos or Cambodia) where FMD continues to be endemic.

"Indonesia fell somewhere in between the two – it might be a middle-income country, but its feedlot system is quite sophisticated with relatively high production."

Ausvet also ran workshops with Indonesian feedlot vets to discuss the basics of disease transmission and take them back to first principles: what things would bring disease into a feedlot and how can they be stopped.

Structured risk assessments were then conducted onsite at 35 feedlots, using a checklist to assess what biosecurity measures were already in place and get an understanding of any challenges.

"On the basis of the risk assessment, we provided recommendations reports that summarised what they were doing right, what they were missing and what practical things they could do to improve their biosecurity."

Ausvet's Dr Sonny Handaru and Dr Isabel MacPhillamy onsite at a feedlot conducting a structured risk assessment. Image: Dr Prama Rangga

Ausvet's Dr Prama Rangga and Dr Isabel MacPhillamy onsite at a feedlot conducting a structured risk assessment. Image: Dr Sonny Handaru

Phase 2: Embedding biosecurity practices

The second phase of the program will be fully funded by DAFF, with an initial $300,000 provided in May 2024.

It will focus on two priorities:

- reducing the incidence of other diseases besides FMD/LSD
- achieving accreditation for Indonesian feedlots.

Treating other diseases for improved productivity

Like many countries, Indonesia's feedlots have endemic diseases, such as respiratory diseases.

"Eliminating diseases in feedlots makes the whole value chain a lot more cost-effective," Emma said.

"That will help make Australian beef much more competitive with the local product."

Accreditation

Currently, Indonesia makes no differentiation between large feedlots which invest in remaining FMD-free and smallholdings which operate without biosecurity measures.

"Despite the huge difference in their risk profile, the feedlots are subject to the same constraints as the smallholdings when moving animals to the abattoir," Emma said. "Helping Indonesian feedlots achieve accreditation as a biosecure 'compartment' to recognise their low-risk status is a key priority of this second phase of the program."

Emma said it was repeatedly raised as an issue by both industry and the Indonesian Government during Phase 1.

"Everyone is keen to see this addressed because the feedlot industry can't operate effectively until unnecessary red tape is eliminated."

The results

Six months after delivering the recommendations reports from Phase 1 of the program, Ausvet revisited each feedlot to assess the results and found around 75% of the 228 recommendations made had already been adopted, demonstrating real industry-wide reform over an eight-month period.

Emma believes the program's success was largely due to the recommendations being achievable and cost-effective.

"We kept the recommendations reports brief so managers would read them and made sure we focused on practical, easy-to-implement changes that reflected the individual circumstances of each feedlot," Emma said. "Often, they were inexpensive to implement, or they actually saved money.

"When people think of biosecurity, they immediately think it will require a dramatic investment. In reality, someone with a high-pressure hose who knows how to use it properly is going to be more effective than some technology that sprays the top of the vehicle while the disease is carried on the wheels and undercarriage."

Ausvet consultant Emma Zalcman presents at a program workshop.

TOOLBOX

Scan or click the QR code to:

- learn more from the latest project progress report
- read case studies from the project
- access the project's technical materials.

ausvet.com.au/projects/indonesia-biosecurity-support **mla.com.au/fmd-and-lsd**

Emma Zalcman **emma@ausvet.com.au** Rashelle Levonian **rlevonian@mla.com.au**

Welfare at sea:
rethinking animal welfare on export voyages

A pioneering initiative is underway to create a better system capable of interpreting animal welfare.

It will use data being collected on livestock export vessels to help inform real-time decision making and improve welfare outcomes.

Over the past decade, the livestock export industry has dedicated substantial resources to identifying animal welfare measures.

This latest project commenced in June 2024 and will span over two years. It's funded by the Livestock Export RD&E Program (a collaboration between LiveCorp and MLA) with research led by the University of Western Australia (UWA).

Lead researcher Professor Shane Maloney, a teaching and research academic at UWA, said the project has potential benefits for livestock producers, and beyond.

"If we're successful, the system could be adopted by many other animal industries, including zoos and aquariums," he said.

"The opportunities are endless if we can successfully apply this system to livestock voyages."

Animal welfare measures

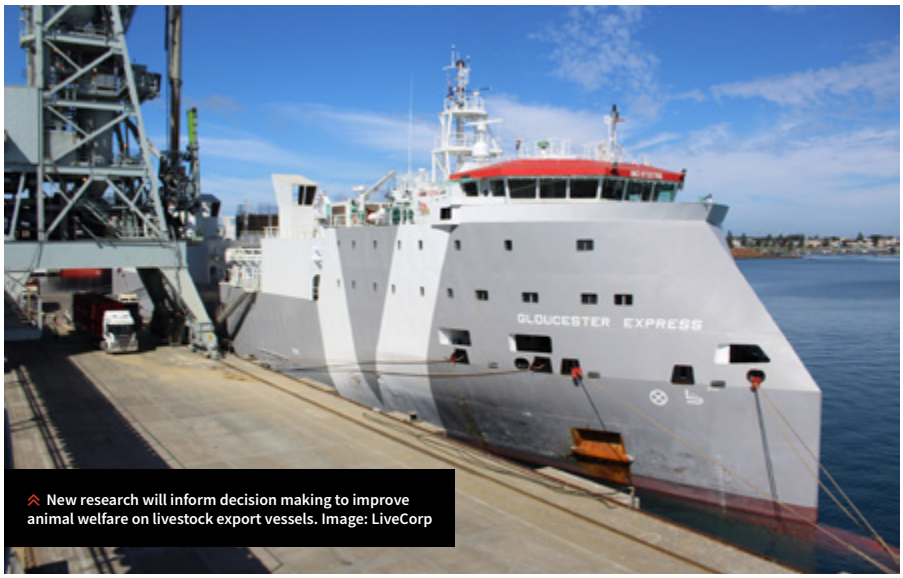
Shane is an internationally recognised scientist in the field of thermoregulation and energetics in large mammals.

His expertise and experience working on previous research for the livestock export industry will be valuable in refining existing animal welfare indicators to develop the new system.

"We're adopting a multidisciplinary approach to better understand the complex landscape of animal welfare," he said.

"The research team behind the innovative project consists of academics from a wide range of disciplines including statistics, thermal physiology, endocrinology, animal welfare and neuroscience.

> **"The system will enhance the industry's ability to evaluate risks by focusing on the indicators with the greatest impact on welfare."**



New research will inform decision making to improve animal welfare on livestock export vessels. Image: LiveCorp


Professor Shane Maloney, UWA, is leading the research.

"Our aim is to develop a model to tell us if the welfare of a group of animals is 'good' or 'bad', based on the interaction between a range of factors, while recognising there is a large grey area in those extreme states of welfare.

"We also need to deal with sometimes contradictory measures and determine which ones should have the most weight."

Industry alignment

Aligning with the livestock export industry is pivotal to the success of this project, so the team will collaborate with a consultative committee consisting of industry representatives. The committee will ensure that the industry's voice is heard, and that the project will yield practical outcomes.

The project aims to refine existing animal welfare measures by using data being collected on every voyage, with the ultimate goal of developing a comprehensive system that can create objective scores. Following this, the scores would need to be validated by conducting onboard data collection.

"The system will enhance the industry's ability to evaluate risks by focusing on the indicators with the greatest impact on welfare," Shane said.

"For exporters, this will come through overall welfare scores for their individual consignments, and for shipboard personnel, they will receive alerts to emerging issues during a voyage."

When developed, the system promises to provide industry with an additional method to deliver transparent reporting of its performance to the community, to demonstrate that it is meeting and exceeding animal welfare expectations. ■

livecorp.com.au/researchanddevelopment Nick Baker **nbaker@livecorp.com.au** Peter Dundon **pdundon@mla.com.au**

Manabotix ute with the Bunk Scanner.

Bunk management set to get easier

Automated bunk management for feedlot operations of all sizes and locations could soon be a reality thanks to an innovation which can be used with or without a bunk scanner to increase lot feeding capability.

Bunk calling manages feed intake over 24-hour feeding cycles. The process is usually manual, and directly influences the performance of feedlot cattle and carcase weight gain.

Decision making is complex and involves numerous factors to determine the best allocations for cattle to optimise productivity and health, while minimising waste.

After extensive research and development, Manabotix launched the Bunk Scanner in 2019 to enable lot feeders to read feed remaining in bunks consistently.

Dr Stuart McCarthy, Managing Director at Manabotix, said the Bunk Scanner has been successful in feedlots, but customers wanted to build on its application.

“The Bunk Scanner is already being used in six commercial feedlots in Australia, and we're currently in the process of commissioning our seventh,” Stuart said.

“We've received feedback from our Bunk Scanner customers that there could be further opportunities to ingrain automated bunk reading within bunk management processes. This contributed to the establishment of a research campaign to automate the decision making process.”

Developing the software

A pilot software application (with working title Feedmetrix) had previously been prepared and tested by Manabotix and MLA.

Experimental results showed that automated bunk management in a commercial setting was feasible, producing comparable carcase results to manual processes by high-performing callers with no adverse health effects for the trial cattle.

Feedmetrix 2.0 is the next evolution of the software, which has been developed following ongoing consultations with lot feeders and nutritionists. This is to ensure the application is suitable for varying operational processes, allowing lot feeders to get more out of their cattle.

Stuart highlighted the complexities of the various models and inputs that must be considered, as feedlots operate within a variety of conditions.

“One singular algorithm wasn't going to suit everyone. There are so many different models which are required even within one feedlot, let alone multiple feedlots,” he said.

“We were engaged to advance the software so that anyone can use it, input their ideas or strategies and produce consistent results 365 days a year.

“The key difference about this project is that nobody has been able to demonstrate an automatic model or software system in the context of bunk calling in larger commercial feedlots. They may have been able to do it in smaller research lots, but not on a larger scale.”

Stuart said the Bunk Scanner has already been proven to be higher performing than humans for bunk reading.

Looking ahead

The Feedmetrix 2.0 project is still in its early stages, with the beta version of the software currently undergoing peer reviews. In the upcoming months, the project will be transitioning into infield experimental campaigns.

“Ultimately we'll move into year-long load campaigns, actively feeding cattle with the technology,” Stuart said.

“It's been a long process, and there are many subtleties to lot feeding which need to be considered. There is so much history, legacy and corporate knowledge about how things are done.”

Stuart highlighted the importance of education when it comes to the development and implementation of new tools for the industry.

“A large part of what we're doing is communicating. Over time, we hope to demonstrate an alternative way for things to be done, to produce year-round, consistent results.

“It takes the right technologies and the right partnerships between research organisations and lot feeders to create meaningful shifts in thinking. With the technology available to us we can use it to improve the feeding process and help transform the industry.”

When commercialised, the software will be able to be used either integrated with the Bunk Scanner or as a standalone package. Through its customisable algorithms, the software will be able to enable fully automated bunk calling ready for use by Australian lot feeders. ■

manabotix.com/products/bunkscanner Dr Stuart McCarthy **stuart@manabotix.com**
Dr Matt Van der Saag **mvandersaag@mla.com.au**

MLA's 2024 Summer Lamb campaign, 'The generation gap'.

Lamb racks up results

As it prepares to mark its 21st campaign in January, MLA's iconic Summer Lamb campaign is still racking up wins for the nation's sheep producers – recently taking home an impressive six Effie Awards.

Celebrating outstanding campaign effectiveness, the Effies recognise measurable campaign results – something this year's campaign, 'The generation gap', delivered in spades.

Taking gold in the Colin Wilson Brown Chairman's Award (at the Effies), as well as a slew of silver and bronze awards, the campaign helped elevate lamb's retail performance significantly compared to the previous year. The 2024 campaign delivered:

- 18.9% lift in total purchase volume
- 25% lift in lamb shopping trips
- 9% increase in purchase volume per trip during the campaign.

'The generation gap' is now the most successful Summer Lamb campaign to date, garnering 24.8 million views for its three-minute video. A YouGov poll found 32% of Australians were more likely to purchase lamb after watching it.

Humorously positioning lamb as the great unifier, the campaign saw the humble chop close the generational chasm between baby boomers, Gen Xers and millennials – with all three happily reunited over a summer barbecue.

Recipe for success

With its focus on finding a topical issue that's dividing opinion and using classic Aussie humour to defuse the tension by bringing the country together around lamb, 'The generation gap' follows a tried and tested recipe for success.

MLA's Marketing and Insights General Manager Nathan Low said since its earliest days, two aspects of the campaign have remained unchanged.

"Summer Lamb has always defied the conventions of fresh meat advertising," he said.

"Instead of focusing on those traditional selling points such as flavour and nutrition, it's spent 20+ years building Australia's emotional and cultural affinity with lamb."

Original, light-hearted and recognisably Australian humour has also remained a constant throughout the campaign's history.

"It's never been afraid to embrace Australia's unique and innate larrikin humour," Nathan said.

"That's enabled us to push some boundaries without offending the audience and helped deepen their emotional connection to lamb."

Those two elements were pivotal in embedding Summer Lamb into the Australian psyche.

"People believe barbecuing lamb was already synonymous with summer and Australia Day and MLA just came along and told people about it," Nathan said.

"It was our ingenious marketing team who, more than 20 years ago, recognised there was a commercial opportunity for lamb as it historically under-indexed compared to other proteins during that season, so they created a new consumption occasion and made it part of our national culture."

> **"When you combine all media including the ad, billboards and PR, our four most recent campaigns (2021–24) delivered a staggering total of 1.25 trillion opportunities for consumers to see the lamb ad and engage with it."**

Measurable success

“Because our campaigns are funded by producers' MLA levies, the responsibility of delivering return on investment weighs heavily on us,” Nathan said.

“The Effies win was tremendous recognition of how much we've been able to shift the dial over the past four to five years, in terms of how much more lamb is purchased and consumed by Australians during the campaign, and the emotional attachment to lamb that remains beyond the end of the campaign.”

'The generation gap' campaign saw average weekly sales soar by 14.1% and average weekly volumes go up by 3.1%. Per capita consumption rose by 3.9%, the highest seen since 2016.

Putting lamb back in the spotlight

However impressive they might be, Summer Lamb's commercial returns aren't its only measure of success.

“Without the big budgets many other advertisers enjoy, we can't buy the views we need so we've always had to earn it,” Nathan said.

That's why making sure lamb is on the tip of everyone's tongue throughout summer has always been a key priority for the campaign.

“We hit it out of the park this year, with views eclipsing the previous record high from 2023's 'Un-Australian' campaign,” Nathan said.

“When you combine all media including the ad, billboards and PR, our four most recent campaigns (2021–24) delivered a staggering total of 1.25 trillion opportunities for consumers to see the lamb ad and engage with it.”

Australians have fallen back in love with lamb

“We know from experience that growing Australians' emotional connection with lamb is our best bet to hedge against price increases – particularly in a cost-of-living crisis,” Nathan said.

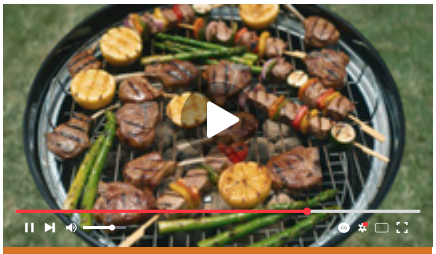
“This year, Summer Lamb's brand affinity hit a record high of 39% (a rise of 3%) and the number of Australians who thought lamb was 'worth paying more for' also grew 3% to reach a record high of 28%.”

The future

Starting as a simple idea to boost lamb consumption during summer, the campaign has evolved into a platform that's helped MLA tackle increasing price sensitivity, steady declines in red meat consumption, and even the changing cultural fabric of Australia.

“Throughout it all, Summer Lamb has proven its adaptability in the face of a changing Australian landscape,” Nathan said.

“If it continues to provide entertainment and speak to Aussie cultural truths, then it will keep Australians talking about lamb and delivering real returns for our producers.” ■



The Generation Gap | 2024 Lamb ad: **Scan or click the QR code to watch on YouTube.**

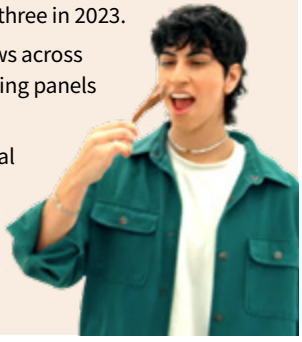
Spring Lamb

This year's Spring Lamb campaign 'The ultimate social device' showcased a social tool that actually works – the humble lamb cutlet – and aimed to boost the popularity of lamb amongst younger Australians, using an advertising style they're very familiar with. It saw consideration for lamb lift +3% compared to quarter three in 2023.

Running over four weeks, the ads garnered 14.8 million views across all digital and social channels with the 540+ digital advertising panels reaching 56.7% of 18–54 year olds nationally.

Gen Z influencers created comedy content using lamb 'social device' kits, resulting in 1.64M views and 103,840 likes.

Scan or click the QR code to read more about the campaign:



australianlamb.com.au Nathan Low **nlow@mla.com.au**

Campaign highlights

2004

The first week-long Summer Lamb campaign launched

2005

MLA appointed inaugural 'Lambassador' Sam Kekovich, who lambasted the nation as 'un-Australian' if we didn't eat lamb on Australia Day.

2015

Summer Lamb extends from the Australia Day week to a month-long January campaign to maximise the potential for sales growth.

2016

Calling out to the million Aussie expats abroad and their loved ones at home, 'Operation Boomerang' became one of Australia's most loved and awarded ads.

2021

A new Summer Lamb brand strategy is born. 'Unity', coupled with lamb's sharing quality, forms the creative springboard that continues to underpin the campaign.

2024

'The generation gap' ad goes viral on TikTok and X and reaches 24.8m views, more than double the reach of any previous lamb ad.

High-value solutions to low-value products

Did you know only 20% of beef and lamb carcases deliver 80% of their overall value?

That's expected to change over the next few years, with a range of MLA partners playing a role in boosting the profitability of the Australian red meat industry by driving full carcase utilisation.

Here, MLA's Food Innovation Project Manager, Angelica Pickup, looks at some of the new products that are changing the way value is generated from red meat.

Gut-healthy hydration

Valued at US$2 billion in 2021 and expected to grow, the global collagen supplements market is a key opportunity to target consumers' increasing focus on healthy lifestyles.

"The combined market for collagen and gut health supplements is an emerging segment gaining traction, with consumers seeking products with multifunctional health benefits," Angelica said.

Startupbootcamp Australia, in conjunction with TIIGA, is developing a novel collagen and gut health infused powder sachet that is added to liquid to create an on-the-go beverage.

The project builds on a recent MLA–Organic Technology Holdings investment to develop bovine/ovine collagen powder.

"Understanding the optimal ingredient combination of fibre (from baobab fruit) and Australian collagen supports the development of products which meet specific nutritional claims and further leverage Australian-sourced ingredients for enhanced health and wellness benefits," Angelica said.

"This project will look to formulate a range of 'beauty and inner glow health drinks', but also provide a solid foundation for making informed decisions about product naming, packaging and marketing.

"It will also demonstrate to the wider industry how collagen is a highly valuable and incremental alternative to leather production for hides/skins."

'Fifth quarter' opportunities

Under the banner of Kilcoy Nutrition, MLA and Kilcoy Global Foods recently developed and launched a range of beef organ food supplements.

Kilcoy Nutrition markets beef organs as the most nutrient-dense component of the animal.

The team built and tested business model innovations to identify and establish key resources and relationships for an Australian beef nutraceutical supply chain. The research behind this project demonstrated multiple value chains for 'fifth quarter' (the usually undervalued percentage of beef carcases) ingredients.

While third party rendering can attract a price of $0.20/kg, a wholesale frozen supply chain can generate 5–15x greater value, and a dried ingredient value chain can deliver value multipliers between 75–100 times the rendered product.

What's in a bone?

The bones of beef carcases can make up to 20% of animals' liveweight and are typically treated as a by-product or waste. Bones are usually sent to renderers, where they're converted into tallow and bone meal.

Further value-adding opportunities for bones are typically seen in the production of bone broths, where additional ingredients can be added to make a flavourful liquid.

"This project with Highlands Natural seeks to identify the differences in amino acid profiles, collagen content and mineral content in the different bones and joints of the animal to determine a hierarchy of nutritional value," Angelica said.

"This, in turn, could affect which bones and joints to prioritise when processing and preparing bones for broth and other products."

« Under the banner of Kilcoy Nutrition, MLA and Kilcoy Global Foods recently developed and launched a range of beef organ food supplements.

MLA continues to explore red meat inputs as an ingredient – for example, bone broth was identified as an opportunity to utilise low-value red meat products as an ingredient in the wider food industry. There's also ongoing research into bone by-product processing.

This research aims to grow awareness among consumers worldwide about the numerous, scientifically-backed health benefits associated with broth consumption.

In June 2024, the average price of 50% meat bone meal was valued at $0.52/kg (MLA *Co-product market report*).

Converting this to a nutritionally-dense health and wellness product could generate up to $40/kg, which would represent a 44-times value multiplier (exclusive of production, packaging and any associated marketing costs). ■

TOOLBOX

Scan or click the QR code to access the latest MLA *Co-product market report*:

mla.com.au/innovation Angelica Pickup **apickup@mla.com.au**

Lambassadors elevate story of Australian lamb

MLA's latest Lambassador delegation recently headed to Australian shores, bringing together international food professionals who are passionate about sharing the story of Australian lamb.

These 'Lambassadors' volunteer their time and resources to showcase Australia's lamb in their home countries, encouraging others to consume the product by creating dishes which highlight its unique qualities.

Learning from the experts

This November, 15 Lambassadors from 12 different countries gathered in Victoria to immerse themselves in the Australian farm-to-fork journey of its globally recognised lamb.

The Lambassadors kicked off the event with tours of the de Pury family's sheep and viticulture enterprise, 'Yeringberg', and the Jackson family's 'Smith & Jackson' beef enterprise.

As well as highlighting Australian producers' focus on genetics, animal welfare and sustainable grazing, the tour provided an opportunity to observe on-farm practices, giving the Lambassadors insights into the management behind great-tasting red meat.

MLA's International Markets Group Manager Joshua Anderson, who played a key role in organising the event, said the producer visits highlighted a connection between those who grow the meat and those who consume it.

"Our Lambassadors share the same commitment to quality and excellence that our producers uphold," he said.

"They're telling the story of Australian lamb not just as chefs but as passionate advocates for our industry's sustainability and quality."

During the on-farm tours, the Lambassadors also had the opportunity to enjoy an outdoor cooking session led by MLA's Corporate Chef Sam Burke who noted the exceptional dedication and professionalism the Lambassadors brought to their role.

Showcase event

In partnership with the Victorian Government, the visit also featured a showcase event hosted by MLA.

The event provided guests with a unique glimpse into the Lambassador journey and their culinary skills, showcasing how the Lambassadors captivate and influence their network in home countries towards Australian lamb.

Through innovative team-crafted dishes inspired by their local cuisines and flavours, the Lambassadors created unique Aussie lamb masterpieces to share with guests.

Outgoing MLA Chair Alan Beckett attended the event and said the lamb dishes prepared by the Lambassadors were impressive.

"The week was a great opportunity for our Lambassadors to see not only our world-leading production and the care producers take from soils to pastures to quality product firsthand, but to show us how they are consuming and promoting our product back home," Alan said.

"Through my engagement with the Lambassadors, I am confident the program continues to effectively serve its role in assisting food professionals to understand how good Australian lamb is and enabling them to go back home and sell the 'Australian' story."

New flavours

The Lambassadors will take their new knowledge home, to introduce diners to the flavours and traditions of Australian lamb.

UK Lambassador Francisco Martinez,

Lambassador Ridzwan Bin Rasit creates a unique Aussie lamb masterpiece to share with guests at a showcase event.

Executive Chef at Fazenda, said he was proud to be associated with the Australian red meat industry.

"Our company is proud to promote Australian red meat on menus and work closely with its producers," he said.

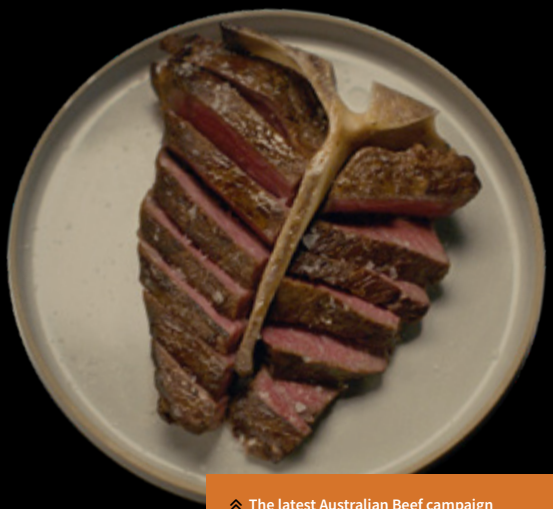
"Australian lamb is considered to be very special and fits the palate of many of our customers across different regions, including the Middle East, US and Europe.

"The quality and consistency of Australian lamb is highly valued, and it has been a long-time favourite among diners." ■

Lambassadors gathered in Victoria to immerse themselves in the Australian farm-to-fork journey.

lambassadors.com Joshua Anderson **janderson@mla.com.au**

Irresistible beef serves up greatness



The latest Australian Beef campaign showcases the irresistible protein.

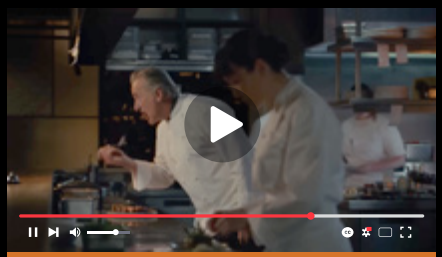
MLA recently launched a new advertising campaign reminding Australians why Australian beef is 'The greatest'.

The campaign, which ran through October and November and will run again in March 2025, showed beef at its best, and how the irresistible taste and flavour leads to some irreversible yet humorous decisions.

MLA's General Manager for Marketing and Insights, Nathan Low, said this Australian Beef marketing campaign invoked a slightly different type of greatness for beef than previous ads.

"After focusing on beef's nutritional greatness and value for money for the past few years, the new campaign is shifting to remind consumers how much they desire beef by highlighting its superior flavour and eating satisfaction," Nathan said.

"This underpins beef's position as a premium protein choice and is one of the main reasons why beef remains good value for money across the price spectrum."



The Greatest – Kitchen: **Scan or click the QR code to watch on YouTube.**

Australians love beef

MLA's latest research shows 92% of Australian households purchased beef in 2023.

Australians are the third largest consumers of beef, with per capita consumption averaging 23.4kg.

"Australians have a strong affinity for the sensory experience of consuming beef, knowing that nothing else quite delivers the same level of satisfaction," Nathan said. "It's a choice you can always feel great about, a sentiment heavily emphasised in this campaign."

The campaign appeared across mass media channels, reaching a broad audience that reflects beef's iconic position within the protein category. These channels included free-to-air TV, on-demand TV, large-format billboards, online video and social. There were also in-store retail activations to drive beef sales along the path to purchase.

Domestic demand for beef was strong throughout 2024, with cattle slaughter and production at historically high levels.

Adult cattle slaughter is forecast to rise by 16% over 2024 to 8.2 million head, which is the highest figure since 2019.

Beef production is forecast to rise by 18% in 2024 to 2.53 million tonnes, which will be the highest production volume since 2015, meaning there will be plenty of beef on the shelves ahead of the new year. ■

australianbeef.com.au Nathan Low **nlow@mla.com.au**

Lamb proves a deli-cious choice

Australian lamb is making waves in the American charcuterie market, with 'lamb pastrami' now available in the deli section of 73 Costco stores across the south-eastern US.

A project between MLA and Aussie Select – a company specialising in handcrafted, modern charcuterie – developed and tested ready-to-eat deli meats featuring premium Australian lamb, to grow demand for value-added products.

MLA's Group Manager – Science and Innovation, Michael Lee, said American retailers had seen a 154% increase in weekly ready-to-eat or deli meat purchases, but there were no lamb products on offer.

"Research indicated US consumers spent $7.7 billion a year on deli meats, including ready-to-eat or ready-to-heat foods," Michael said.

"Turkey, pork, chicken and to a lesser extent beef dominate the deli. Yet, lamb, particularly lamb from Australia, is growing in popularity in the US.

"American consumers indicated pressures around cooking time and that they have little confidence in cooking lamb. As the number one provider of lamb to the US market, the Australian industry has a massive opportunity to break into this market as the first to market ready-to-eat lamb products."

Aussie Select developed four handcrafted, modern charcuterie offerings – agave rosemary lamb, tikka masala lamb, lamb pastrami and lamb prime rib.

Aussie Select's Chief Executive Officer, Jaclyn Glatzer, said it was exciting to see the lamb products rolled out through Georgia, Florida, Alabama, Tennessee, North Carolina, South Carolina and Puerto Rico.

"Based on the research, current tonnage projections to meet the demand for Aussie Select show a potential for 3,700,000-plus pounds of exclusively Australian raw product over the next five years," she said.

"The initial products in the Aussie Select line only scratch the surface – there is exciting growth opportunity for lamb in the ready-to-heat, ready-to-eat and snack-kit categories." ■

mla.com.au/international-markets Michael Lee **mlee@mla.com.au**
Scan or click the QR code to read the project report:

Steak with chimichurri and quinoa salad

Add some spice to summer dinners with this South American take on steak. Visit **australianbeef.com.au** for more delicious beef recipes.

Serves **4** Prep time **10 minutes** Cooking time **20 minutes**

INGREDIENTS

2 x 500g T-bone steaks

olive oil

salt and pepper

2 zucchinis, thickly sliced into rounds

100g cherry tomatoes

1 red onion, cut into wedges

2 cups cooked quinoa

4 large eggs, fried

Chimichurri sauce

1 cup firmly packed parsley, thick stems removed

2–3 garlic cloves

½ cup olive oil

1 tbsp red wine vinegar

1 tbsp lemon juice

2 tsp dried oregano leaves

½ tsp sea salt and cracked black pepper

½ tsp chilli flakes, optional

METHOD

1. To make chimichurri sauce, finely chop parsley and garlic, or quickly pulse in a food processor. Tip into a bowl and whisk in remaining ingredients (oil through to chilli flakes). Adjust seasoning to taste.
2. Thread zucchini, tomato and onion onto skewers, and brush with a tablespoon or so of chimichurri sauce. Preheat a heavy-based pan or BBQ grill plate to medium-high. Cook veggie skewers 5–6 mins, turning once. Arrange over quinoa.
3. Drizzle steaks with olive oil and season both sides with salt. Increase barbecue heat to high and cook T-bone steaks for 5 mins, until a golden crust has formed on one side. Turn and cook a further 3–4 mins. Using tongs, hold steak on the centre bone and turn to sear all the way around, including the flat-bone end. Transfer to a board, cover loosely with foil and rest for 10 mins. While the steak rests, cook eggs to your liking.
4. Cut both sides of the steak from the bone, slice and spoon over half the chimichurri sauce. Serve steak with fried eggs, quinoa, roasted veggies, and remaining chimichurri.

TIPS

- Swap T-bone for rib-eye on the bone steaks.
- Pushed for time? Use shop-bought chimichurri.
- If you don't have skewers for your veggies, grill them on the BBQ grill plate or in a heavy-based pan.

Take carbon from a concept to an action plan

mla MEAT & LIVESTOCK AUSTRALIA EDGE NETWORK

Transform your livestock grazing business with practical strategies for emissions reduction and carbon storage.

Carbon EDGE is a two-day workshop designed to guide red meat producers, advisors and industry service providers toward carbon action plans tailored to their goals.

- **Master key terminology:** gain essential knowledge on greenhouse gases in the red meat industry.
- **In-depth guidance:** explore practices for reducing and sequestering GHGs.
- **Carbon credit insights:** learn to weigh risks and opportunities in carbon credit generation.
- **Tailored action plans:** develop your own carbon action plan using your business data.
- **Expert facilitation:** benefit from small group learning and practical exercises with expert deliverers.
- **Practical resources:** case studies, templates, regional examples, participant manual and more.

Carbon EDGE

Workshops in Emerald and Tamworth early 2025 – register now!

mla.com.au/carbon-edge