

FEEDBACK

MLA – FOSTERING PROSPERITY

SUMMER 2023



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FEEDBACK

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



Cover (page 34): Tasmanian sheep producer Russ Fowler uses electronic identification to guide decision making. Image: Anvil Media.

Have your say!

We'd love to hear from you.

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A note from the MD

Welcome to the summer edition of *Feedback* magazine.

As 2023 draws to a close, it signals the end of a year which has delivered significant change for our industry.

It also marks the end of my time as MLA Managing Director, as I recently announced my resignation and will leave the organisation on December 22. It has been a privilege to lead MLA for nearly five years – now is the time to create an opportunity for the next leaders of MLA.

Markets

Following three years of herd and flock rebuild on the back of strong seasonal and market conditions, the threat of drier conditions – reinforced with the declaration of El Niño – meant restocker demand eased and an increased supply of livestock entered the market during 2023. This put downward pressure on prices as a result.

MLA acknowledges the challenging conditions being experienced by many producers and we continue to focus our efforts on investments and activities which drive meaningful outcomes for the industry.

To respond to current market conditions, we just launched an exciting beef and lamb ad to drive consumption in the run-up to Christmas. The ad sees iconic lambassador and ex-AFL star, Sam Kekovich, and ex-Brisbane Broncos NRL player and beef spokesperson, Sam Thaiday, putting aside their differences in football codes to promote their shared love of Aussie red meat. Learn more about our marketing activities to drive red meat consumption in the 'In market' section of this edition, starting page 42.

MLA does not predict prices, but we do know the weather and external global dynamics will continue to be the key influences on market improvement.

Keep up to date with what is happening in the markets with MLA's *The Weekly* e-newsletter – subscribe at mla.com.au/enews

Climate

To support producers through dry conditions, MLA has a range of resources – visit mla.com.au/dry-ready as an entry point for information and resources to guide decision making.

This edition also has a range of case studies exploring how producers across the country are implementing strategies to manage immediate seasonal challenges, including using climate forecasting tools (page 10), containment feeding (11), managing heat stress (14), wet season spelling (16), shade



and shelter (19), planting trees (26), and growing new forage options (33).

We also showcase how a group of producers are focusing on longer-term climatic challenges through their involvement in the Greenham Beef Sustainability Standard (GBSS). Turn to page 20 for more.

The GBSS is an important part of the industry's goal to be climate neutral by 2030 (CN30). The goat industry is also getting on board CN30 with a new sustainability project – read more on page 38.

Technology

MLA is also investing in technology which supports on-farm decision making and improves biosecurity and traceability. This includes the launch of the myFeedback platform to combine carcass, eating quality and disease/defect data into a single access point, and the release of the eNVD livestock consignments app by Integrity Systems Company.

We are also investing in projects to support producers as they move towards mandatory sheep electronic identification (eID) in 2025. Meet a producer who is leveraging the benefits of eID to improve productivity on page 34.

I reflected on these and other MLA investments in research to deliver impact to our industry at the recent MLA Annual General Meeting and MLA Updates at Bendigo. See more highlights from the past year on page 5 and meet the new MLA Directors on page 4.

Looking ahead

On behalf of MLA, I would like to wish all our members a restful and well-earned Christmas break, hopefully with beneficial seasonal conditions to welcome in the new year.

MLA is a fantastic organisation and I feel like I have made a positive contribution. I am confident the team I leave behind will build on this and make it even better. ■

- Jason Strong MLA Managing Director
- 📧 Have a question for me? managing.director@mla.com.au

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This season...

Attend

a Carbon EDGE
workshop: [mla.com.au/
carbonedge](https://mla.com.au/carbonedge)



Visit

the dry ready hub:
[mla.com.au/
dry-ready](https://mla.com.au/dry-ready)



Try

climate forecasting
tools: [mfa.com.au/
fwfa-tools](https://mfa.com.au/fwfa-tools)



All roads lead to Rocky

MLA is proud to once again be a major partner of the biggest event on the beef calendar – Beef Australia 2024, from 5–11 May.

The six-day event, which is held in Rockhampton every three years, attracts more than 100,000 visitors. It provides a unique platform to showcase MLA's work as well as great networking opportunities with a broad range of stakeholders.

Here's a sneak peek of MLA's Beef Australia 2024 activities:

- hosting two seminars and the sustainability lounge
- taking part in the school education program and the national carcass competition
- a trade display marquee to showcase research and development projects, on-farm practical adoption programs, market insights, marketing and communication activities



- information sessions for producers on key initiatives
- a networking opportunity for industry stakeholders to meet with the MLA Board, executives and staff.

MLA and Integrity Systems Company staff will be on hand throughout Beef Australia 2024 to provide support to producers who are keen to learn how to become more involved in carbon neutral by 2030 (CN30) initiatives, myMLA and MSA feedback, eNVDs and other key MLA initiatives.

- ▶ mla.com.au/events
- ▶ beefaustralia.com.au

Gain a carbon edge

Become carbon-savvy with MLA's new Carbon EDGE program.

Two more workshops have been announced for early 2024:

- **20–21 February:** Narrabri, NSW
- **27–28 February:** Coonawarra, SA

These workshops provide independent information to help participants identify technologies and methods which could be incorporated into their business to benefit their bottom line and the environment.

The program is also suitable for advisors and other service providers looking to enhance their understanding of the current operating environment.

- ▶ For details on these and other MLA events, visit mla.com.au/events
- ▶ Learn more about Carbon EDGE at mla.com.au/carbonedge

Be on the front foot this summer

Did you know MLA has a range of hubs on our website, providing need-to-know information and resources on timely topics?

Here are three places you can find practical tips, useful tools and producer case studies to guide management decisions this summer:

- ▶ Dry ready hub: mla.com.au/dry-ready
- ▶ Bushfire hub: mla.com.au/bushfire
- ▶ Grazing land management hub: mla.com.au/grazing



Third party access to LPA and NLIS

Third party authorisation is a popular request for both Livestock Production Assurance (LPA) and the National Livestock Identification System (NLIS) accounts.

Primary account holders should ensure any third parties are added to their accounts well in advance to avoid any account access issues or delays.

Examples of when third party access is handy include when account holders want to share access to existing accounts with family members or farm managers, or allow a separate LPA account to be created on their Property Identification Code (PIC) for agisting parties.

Adding a third party

Primary account holders can add a third party when setting up their accounts or by updating their details online.

Alternatively, scan the relevant authorisation form and return it to support@integritysystems.com.au

▶ LPA third party authorisation form

▶ NLIS third party authorisation form



Update your eNVD app to tap into new features

A range of new features are coming to the eNVD Livestock Consignments app in early 2024.

Make sure you download the latest version of the app (and check your auto-updates are enabled) to enjoy this improved functionality as soon as it's available.

In the meantime, follow these simple rules to get the most out of your eNVD app, even when you're working off-line.

- ✔ Do check that your transporter and receiver are set up to receive paperless consignments.
- ✔ Do share consignments when you're off-line by scanning the QR code on your eNVD app.
- ✔ Do use the 'Share PDF' feature to forward your consignment by text or email.
- ✘ Don't assume your transporter and receiver can accept a paperless consignment.
- ✘ Don't screenshot the QR code to send via text or email (the QR code only works in the app).
- ✘ Don't scan the QR code using anything besides the eNVD app (no other app can read the data).



▶ Scan the QR code to download the eNVD app:



State of the industry revealed

MLA has published new analysis of the broader market conditions and economic contribution of the red meat industry in the latest *State of the Industry Report 2023*.

The report provides an overview of Australia's red meat and livestock industry from financial year 2021–2022 and calendar year 2022.

Here are some highlights from the report:

Industry turnover

- In 2021–22, Australia's red meat and livestock industry turnover was \$75.4 billion, or around 1.7% of Australia's total industry turnover. This is 7.7% higher than revised 2020–21 figures and an increase of 10.7% on 2017–18 figures.
- NSW (28%), Victoria (24%) and Queensland (21%) represented the majority of turnover within the industry, with WA (13.7%), SA (8.5%), Tasmania (3%) and the NT (1%) rounding out the remaining turnover.
- The sector was worth \$75.4 billion in 2021–22 and employed more than 433,000 people.

Exports

- Red meat and livestock export value rose 17% year-on-year to total \$17.6 billion in 2021–22. This was 3.3% of Australia's key industry exports.
- In calendar year 2022, Australia was the world's largest sheepmeat and goatmeat exporter, as well as the fourth largest beef exporter after Brazil, India and the US.

Domestic consumption

- Australia's per capita beef and sheepmeat consumption continues to be one of the largest in the world.
- Australian per capita consumption of beef was approximately 23.7kg in 2022, while the global average is 6.3kg.
- Australian consumption of sheepmeat was approximately 6.8kg in 2022, while the global average is 1.8kg. While 2022 saw lamb consumption dip slightly, there was uplift in consumption in late 2022 and early 2023.
- When comparing the previous quarter with the same period in 2022, value growth for beef is 1.8% and for lamb is 4.2%. ■

👉 Scan this QR code to read the full *State of the Industry Report 2023*.



👉 Find more market trend analysis at mla.com.au/trends-analysis



👉 Some of the action from the 2023 MLA Updates.

Highlights from MLA Updates



More than 350 stakeholders gathered at Bendigo in November to hear the latest from MLA's research and development investments at its flagship event, MLA Updates.

The event featured a keynote address from Holly Kramer, who serves on the boards of Woolworths, Fonterra and ANZ. As Sustainability Chair at Woolworths, Holly shared her insights into sustainability and the rise of 'paddock to plate' supply chains.

👉 Scan this QR code to see highlights from the MLA Updates, including videos from the event.



Participants also heard from an industry panel, discussing solutions and technology which will set red meat businesses up for success.

Other highlights from the MLA Updates included:

- presentations on hot topics – from genetics to drone mustering to natural disaster preparation and recovery
- MSA Victorian award winners announced
- a sundowner networking event. ■



MLA Managing Director Jason Strong launched the revamped myMLA at the recent MLA Updates at Bendigo, Victoria.

Tap into 'everything MLA'

The new-look myMLA was launched at the MLA Updates, giving producers a single login-point for easier access to MLA's offerings.

While it still offers producers a customised dashboard with content filtered according to individual preferences, the new myMLA delivers a suite of additional new features.

Highlights include:

- quick access to MLA services
- a localised seven-day weather forecast
- events in your area (and for your livestock species)
- industry news.

"One of the best features of myMLA is that the content is tailored directly for you, based on your own preferences," MLA Managing Director, Jason Strong, said.

"This means it is providing information relevant to your region and production system, and even for your specific business."

The revamped site gives livestock producers a one-stop online shop for products and services, including:

- the National Livestock Identification System (NLIS)
- National Vendor Declarations (NVDs), including eNVDs
- Livestock Producer Assurance (LPA) accreditation
- subscriptions to Sheep Genetics.

Producers can also use myMLA to update their preferences for MLA communications such as e-newsletters, access online tools such as the Carbon Calculator, and check out the Aussie Meat Trade Hub. ■

Explore myMLA at mymla.com.au

New MLA Directors elected

MLA members elected two new Directors at the 2023 Annual General Meeting (AGM), held on 23 November both in-person at Bendigo, Victoria, and virtually.

The hybrid meeting format broadened the accessibility of the meeting among MLA's membership, while the physical AGM was held in conjunction with the annual MLA Updates, which were attended by more than 350 producers and other industry stakeholders.

Elections

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.



Russell Lethbridge

Queensland beef producer Russell Lethbridge was re-elected to the MLA Board, receiving 94.79% votes in favour. He's been on the Board since 2019.



Lucinda Hogan

Lucinda Hogan was elected to the MLA Board, receiving 91.54% votes in favour. Lucinda breeds prime lamb and trades beef cattle on the Northern Tablelands of NSW. She has worked in a range of agricultural research organisations in Australia.

MLA members also elected three representatives to the Director Selection Committee:

- Trent Radel (cattle producer)
- Michael Craig (sheep producer)
- Tony Fitzgerald (lot feeder member).

MLA Chair Alan Beckett thanked the members for participating in the 2023 AGM and welcomed Lucinda Hogan as a new MLA Director.

"On behalf of the MLA Board, I also extend my thanks to Andrew Michael, who concluded his tenure at the AGM," Alan said.

"Andrew has been on the Board since 2017 and we have highly valued his insights and contributions to MLA."

Year in review

Alan said the past 12 months have been a period of challenges and opportunities for the industry.

"After three years of intense stock rebuilding, restocker demand eased considerably in 2023 and the number of finished animals is considerably higher now than has been the case for several years," he said.

"As we head towards 2024, the supply of goats, sheep, lambs and cattle are all increasing as the national rebuild stabilises. This will translate into record volumes of Australian goat and lamb meat being slaughtered.

"With an El Niño declared, there is no disputing conditions have become more challenging. However, our industry has exciting opportunities and is well positioned to take advantage of the global demand for protein." ■

"As we head towards 2024, the supply of goats, sheep, lambs and cattle are all increasing as the national rebuild stabilises."

Highlights from 2022-23

Here are some highlights from major projects MLA led, managed or contributed to in 2022-23. Read the full *Annual Report 2022-23* at mla.com.au/annualreport

Annual summer lamb ad achieved its **highest-ever view count on YouTube**



1.8 million social media users reached through Australian Good Meat's influencer campaign



The MLA-supported **'FMD Beady' project** delivered new tools to prevent the spread of emergency animal diseases



MLA producer adoption programs delivered an annual net benefit of **\$59 million to producers**



The red meat industry's share of national greenhouse gas (GHG) emissions dropped from **22% in 2005 to 10.3% in 2020**



MSA beef program delivered an estimated **\$259 million** in additional farm gate returns



Shorter lairage time (<4 hours) was found to **improve hot standard carcass weight** for feedlot cattle by **up to 7.4kg**



eNVD Livestock Consignments app launched by Integrity Systems Company (ISC)



6.7:1 return on investment achieved by the **Advanced Livestock Measurement Technologies (ALMTech) program**



The combined benefit for integrated Lamb LEAP Boning Systems is **>\$7/head**



CN30 Co-Innovation program launched to support leading supply chains to accelerate carbon management strategies



World-first certified Australian organic **beef collagen** supplements developed and commercialised



Australian Feedbase Monitor tool used by more than **1,900 producers** to improve their grazing management



launched by **MLA's International Markets team**

» A Rural Aid truck stacked with hay to be delivered to producers short on fodder.

Rural aid a call or click away



In response to widespread dry conditions, Australian producer charity, Rural Aid, was on-hand to chat to producers at the MLA Updates.

Rural Aid began with the 'Buy a Bale' campaign to aid producers following the 2015 El Niño declaration. Eight years on, Rural Aid now has about 17,500 Australian producers as registered recipients.

Here, Rural Aid CEO John Warlters shares how producers can access the right support to weather tough times.

I'm feeling down – what can I do?

The first steps are to acknowledge those feelings and take time to do things you know you enjoy. This can be as simple as taking time to switch off with a good book or have some fun by playing footy with the kids and enjoying time with your partner.

It's also really important to reserve time for your family, friends and community – being socially connected gives us the opportunity to ask for help or check in on others.

The next step is to reach out to the professionals. Rural Aid counsellors are always available for a chat. It's as easy as picking up the phone and

calling 1300 175 594 from anywhere in Australia. Our team of counsellors also attend many industry events.

Money is getting tight – where can I get financial support?

Rural Aid provides a pre-paid VISA card for producers to use in the way which best meets their individual needs. Inevitably, these dollars find their way back into the local community which is great as these businesses are similarly impacted when times are tough in the bush. Find out how to apply on our website.

Our water supply is getting low – can Rural Aid help?

Requests for water services are received and processed via our website.

Typically, we deliver around 20,000L of water to requesting producers. We also provide water tanks and are well on the way to achieving our goal of supplying 500 tanks by 2025.

I'm running out of fodder – how can I get some more?

In the lead-up to Christmas, Rural Aid will relaunch our Buy a Bale campaign.

Fodder provided by Rural Aid is supported by a vendor declaration from the grower and every effort is made to ensure a

quality product is delivered. Requests can be made via our website.

I need help on the farm – who can I ask?

One of the best supports Rural Aid offers, but is also the least utilised, is the Farm Army. It's our free online job-matching platform which connects producers with people who can help. Tasks range from fencing to farm sitting, and just about everything in between.

I'm okay, but can I help others?

If you are worried about your neighbours, ask them to help out with an easy job on your property. It'll make them feel more comfortable asking for help from you in return and while they're helping you out, you can chat to them about Rural Aid resources.

You can also make a difference by donating time, money or fodder – our website has the details.

Rural Aid's free counselling is not limited to producers. Spouses and children, as well as others such as farm employees, accountants, governesses etc are also encouraged to use the service.

Don't be afraid to ask your loved ones if they're ok and to have the response be 'no'. Take the time to listen and work with them to find an appropriate support system. ■



▲ Rural Aid volunteer helping to clear debris on farm in preparation for bushfires.

TOOLBOX



▶ Call Rural Aid's free counselling services on 1300 175 594 between 9am–5pm AEDST, Monday to Friday.

For all other on-farm support services, apply via ruralaid.org.au or email disasterassistance@ruralaid.org.au

ON FARM

RESEARCH IN ACTION



Seasonal action plan

NT Grazing Land Management EDGE deliverer Trudi Oxley – page 16.

Northern

8

Learn how to use climate tools to weather the season.

15

Discover how testing dung can deliver feedbase insights.

Southern

14

Learn how to reduce the impact of heat stress on sheep this summer.

24

Planting trees on farm? Get on the front foot with site preparation.

Tools to weather the season

Australian red meat producers operate in one of the world's most variable climates. Dealing with climate extremes – drought, floods and heatwaves – makes maintaining a viable business year in, year out incredibly demanding.

MLA invests in programs and tools to help producers plan for and accommodate increasingly variable weather conditions. Here's a look at two of these investments – the Northern Australia Climate Program (NACP) and 'Forewarned is Forearmed' (FWFA) – as well as insights into how producers can make practical use of the research insights.

Northern Australia Climate Program

NACP is a partnership between the Queensland Government, MLA and the University of Southern Queensland (UniSQ) to help northern red meat producers manage drought and climate risks.

Dr Chelsea Jarvis is a climatologist at UniSQ and, until recently, led the NACP extension team.

"NACP comprises research, development and extension – it's unique that our research department focuses on the needs of producers," Chelsea said.

"We know what those needs are, because our extension team talks directly with producers."

Central to NACP's extension are the Climate Mates, 16 regionally-located extension officers. Climate Mates have:

- backgrounds in beef and/or natural resource management
- extensive networks within their regions
- an understanding of local production systems.

Tools for the job

Climate Mates work closely with NACP's research and development (R&D) team members, who are primarily based at the Bureau of Meteorology.

The R&D team attends roadshows with the Climate Mates in the 'BoM to the Bush'

program, giving them the opportunity to talk directly with producers.

These interactions have delivered insights for the R&D team. For example, when producers in Queensland's Gulf region met with the Bureau of Meteorology's Dr Tim Cowan after the floods, they had the chance to explain exactly what sort of climate information would be most helpful.

"The producers told Tim they need to know when they're going to get significant rain, such as 10, 15 or 20+ mm," Chelsea said.

"From this, Tim was able to develop a forecast product – the chance of three-day totals – which is now on the Bureau website as one of the new Forewarned is Forearmed products."

Seasonal forecasts

As climate variability increases and producers look for ways to ensure their businesses remain profitable, Chelsea has this advice:

- Start looking at seasonal forecasts before summer.
- Make proactive decisions early, such as whether to buy a piece of equipment or fix roads.

"If producers understand their green date is going to be delayed, their growing window will be shorter. This may require adjustments to herd numbers and so on," she said.

Climate Mates run workshops and talk one-on-one with producers about what forecasts and tools are available.

"Producers learn about climate, then get a monthly update. It's about building a habit of looking at the forecast each month. The Climate Mates can then talk with them about decisions on a particular property.

"We don't advise them to sell cattle – that's outside our scope – but if people ask, we can give general information that might allow them to make a more informed decision," Chelsea said.

"If people are able to accommodate a variable climate, if they have a plan to deal with unusually dry seasons or unusually wet seasons, it sets them up really well."

➤ Turn to page 10 to meet a Climate Mate.

"If people are able to accommodate a variable climate, if they have a plan to deal with unusually dry seasons or unusually wet seasons, it sets them up really well."



▲ L-R: Emily Hinds (UniSQ), Jack Farthing (Territory Natural Resource Management) and Andrew Marshall (UniSQ and Bureau of Meteorology) at Katherine, NT.

Know your green date

The 'green date' is useful in grazing systems where summer perennial grasses are the main component of the pasture base. The green date is when there is a significant amount of rainfall to initiate pasture growth at the beginning of the growing season. The growing season starts when all key environmental conditions – soil moisture, temperature, day length and nutrients – are favourable for pasture growth.

Forewarned is Forearmed

FWFA was a significant five-year project, managed by MLA and co-funded by the Commonwealth Government's Rural R&D for Profit program. It involved several rural Research and Development Corporations, the Bureau of Meteorology, universities and state departments of agriculture.

Agricultural consultant Russell Pattinson coordinated the project. He said its genesis lay in determining how to obtain better medium-term forecasts, beyond zero to seven days, and being better able to predict extreme events.

"At the outset, the project team posed the question: apart from improving seasonal climate forecasts, what's the next area that needs some work? The answer back from researchers and producers was that we need to know more about extreme events," Russell said.

"We can handle the moderate events fairly well, but those big droughts, big floods, heat waves and cold snaps at unexpected times of the year can be devastating for producers."

Prepared for extremes

The project consisted of four main areas:

- understanding producers' needs for products to predict extreme events, and seeking improvements in seasonal forecasting
- developing new extreme event forecast products
- involving feedback from producers – the 'user interface'
- developing extension and training materials.

The project established an online 'community of practice' of researchers and producers, as well as industry reference groups made up of producers to give feedback on experimental products.

The result was five new forecast products, which are now on the Bureau's website.

These include:

1. **Maps:** these show the likelihood of unusually dry/wet and unusually cool/warm conditions in the weeks to seasons ahead.
2. **Bar graphs:** these show the likelihood of rain/temperature being in the lowest and/or highest 20% of historical records, and three ranges in between.
3. **Rainfall and temperature time series forecasts:** these forecast the weeks to months ahead.
4. **'Probability of exceedance':** the probability of a comprehensive range of rainfall amounts for the coming weeks to seasons ahead.
5. **The likelihood of exceeding three-day rainfall totals:** these range from 15–75mm in the weeks and fortnights ahead.

Specific information

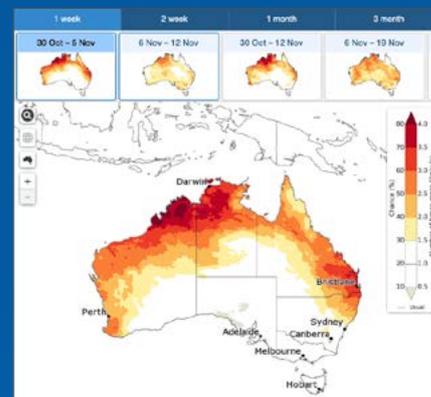
Russell said the project showed how, if producers are to be confident in their on-farm decision making, they need to be able to drill down to their own location to find very detailed answers to questions such as:

- What's the chance of an exceptionally wet period over the next two to four weeks?
- If I'm shearing or intending to muster over the next couple of weeks, what are the chances of a warm spell or cold snap?

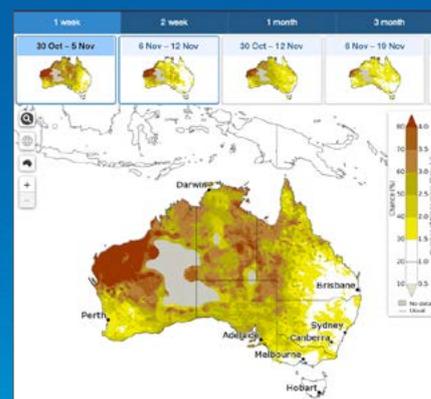
"At the end of the day, forecasting is not a perfect science, but we need to continue to try to make the products better," he said.

"Through Forewarned is Forearmed, producers now have access to new tools that give them that little bit more information than they would otherwise have when they make climate-sensitive decisions." ■

Examples of the Bureau of Meteorology's forecasting products.



Max temperature – chance of being in the highest 20% of the historical range map.



Rainfall – chance of being in the lowest 20% of the historical range map.

TOOLBOX

▶ Dry ready hub:
mla.com.au/dry-ready

▶ MLA climate hub:
mla.com.au/climate

▶ Forewarned is Forearmed tools:
mla.com.au/fwfa-tools

▶ Scan this QR code to access the FWFA Southern Australia red meat industry workbook – a training resource for southern producers.

▶ NACP climate calendar: nacp.org.au/hubspots/climate_calendar

▶ Bureau of Meteorology climate outlooks – scan QR code:

▶ My Climate View (tailored climate information):
myclimateview.com.au



- Hilary Connors hconnors@mla.com.au
- NACP – Andrew Marshall andrew.marshall@unisq.edu.au
- FWFA – Russell Pattinson miracledog@bigpond.com

Climate-smart, drought-ready

Q ueensland beef producer Vicki Mayne knows all too well the challenges of managing an enterprise through tough times. This personal experience cements her role as a Climate Mate, a regionally located extension officer with the Northern Australia Climate Program (NACP) – see story on page 8.

Vicki and her husband Shane returned to the Western Downs in 2016 to work their own place and be closer to family, after managing properties in the NT for 10 years.

Initially, they used a red (Akaushi) Wagyu bull over their Santa Gertrudis and Santa Gertrudis/Hereford-cross cows to lift eating quality and fertility. They're now transitioning into Wagyu in response to how the breed performed during the last drought, in 2019.

This drought served up some tough experiences, paving the way for Vicki's role as a Climate Mate.

Drought support

During the last drought, Vicki and Shane had to find off-farm income.

"I was working for a drought charity, so by 2020 I was working and living in drought, with my business also impacted by drought," she said.

With this insight into the toll drought can take mentally and financially, Vicki is a strong advocate for a better understanding of climate as a way to support decision making through tough times.

"Previously, I had seen how industry initiatives and extension can help producers implement practice change. My experience in these areas held me in good stead, and learning how to

better manage our own property was also hugely appealing."

Climate challenges

The Western Downs is now one of many regions nationally to be facing a rainfall deficit compared with previous years.

However, her Climate Mate experience means Vicki has a defined strategy to manage the variability.

"We understand we're facing an increased chance of below-median rainfall and higher temperatures, so we implemented our strategy back in February," she said.

Vicki and Shane set a 'green date' (the date after 1 September when they expect to receive 50mm of rain within three consecutive days) of 6 February.

"We hadn't hit our green date, so we sold those cattle which weren't going to help us achieve our genetic plan. Because we sold early, we got some very good prices."

Have options

Vicki and Shane have also changed from spring to autumn calving, as it's a less challenging time of year in terms of thermal load on cows.

"By then, even if we haven't hit our green date, at least we've got potential to have pasture ahead of those early lactating cows," she said.



Queensland beef producer and Climate Mate, Vicki Mayne.

SNAPSHOT

VICKI MAYNE,
Burncluth (near Chinchilla),
Queensland



AREA
440ha

ENTERPRISE
Breeding and backgrounding Wagyu

PASTURES
Improved pastures (Bambatsi, Rhodes, creeping bluegrass), improving native pastures with Progardes desmanthus, some seca and buffel

SOIL
Self-mulching grey cracking clay, brigalow melon country, lighter pine/box country near creeks

RAINFALL
646mm

"I wish I'd known this information years ago. I could have saved us a lot of money, pain and heartache."

Performance through the dry was a factor in Vicki and Shane's breed selection.



Dry season strategies

« Jillian Kelly founded her consultancy business in 2022 after almost 20 years as a production animal veterinarian in the private and government sectors. She also runs a sideline cattle trading business. Image: Jillian Kelly.

“If the season is looking really grim, we’ve got PTIC (pregnancy-tested in calf) cows to sell to producers who’ve had summer rainfall.”

Climate resources

Vicki trusts the Bureau of Meteorology’s long-range forecasts as a decision support tool.

“Leading into summer, I rely on the three-monthly rainfall outlook and the chance of extreme rainfall and temperature events, and the ‘75% chance of likely’ outlook. This allows me to plan any cattle movements,” she said.

She also uses MetEye, another Bureau of Meteorology forecasting tool.

“When I see fires cropping up around us, MetEye gives me my humidity, wind speed and temperatures, to determine what my riskiest days are.”

At the end of the summer growing season, Vicki also looks at the sea surface temperature anomalies map to ‘get a bit of a vibe’ about what El Niño-Southern Oscillation (ENSO) phase may be next.

Improved decision making

Vicki’s Climate Mate role has taught her some valuable lessons.

“I wish I’d known this information years ago. I could have saved us a lot of money, pain and heartache,” she said.

“I know how to make better business decisions now, rather than emotive decisions such as hanging on to genetics.

“I understand about having rain-ready pasture, and the importance of temperature as well as rainfall.

“Temperature not only drives welfare decisions for our cattle and for people, but evaporative stress on our pastures and surface water.”

As a result, Vicki and Shane are allowing more areas of shade to establish, intensifying their rotational grazing and increasing access to watering points. ■

TOOLBOX

- ▶ Dry ready hub: mla.com.au/dry-ready
- ▶ Northern Australia Climate Program: nacp.org.au
- ▶ Bureau of Meteorology weather app: bom.gov.au/app
- ▶ MetEye: bom.gov.au/australia/meteye

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Preparation and early decision making are key ways producers can cope with increasingly volatile weather patterns.

Here, NSW veterinarian Dr Jillian Kelly, of Animal Health and Nutrition Consulting, shares some strategies for managing the dry.

“Play the hand you’re dealt. If your pasture isn’t meeting your animals’ needs, you need to do something about it,” she said.

“Weight loss in livestock is fine for a short period, if it’s recognised, controlled and for a production outcome (e.g. in lactating breeders) but eventually, if it doesn’t rain, you’ve got to make a decision – either feed them or sell them.

“In dry or variable environments, you have to make decisions early. This can avoid kilos of weight loss and retain kilos of feed per hectare.”

Informed decision making

Seeking expert advice and staying connected with community are important confidence boosters.

“There are good decisions, bad decisions and no decisions – and no decision is by far the most costly in a dry time. A wait and see approach is not a good option under the current conditions,” Jillian said.

When considering destocking, feeding in the paddock or containment feeding, data is king.

“Put some figures around your decision. You’ll then have the evidence to back yourself even if you decide feeding isn’t feasible.

“For example, a 20kg lamb might only be worth \$10–\$20 in the current market and it’s a hard decision to

sell for that price. However, to feed it through to a 55kg liveweight for slaughter on a grain ration is going to cost around \$93 purely for the ration,” Jillian said.

“There needs to be a lot of faith in the future lamb market to commit to this level of feeding and if this is going to take away feed and labour resources from breeding ewes, it may not be worthwhile.”

▶ Continued next page

Containment feeding tips

- ✔ Containment feed in sacrifice paddocks to protect pastures and reduce labour.
- ✔ Beware of containment feeding risks: acidosis, pulpy kidney, urinary stones, pneumonia, pink eye, shy feeders, hypocalcaemia, water belly and vitamin A deficiency.
- ✔ Know your mob/flock sizes, body weight and behaviour issues (i.e. bullying).
- ✔ Minimise costs by extending existing yards and installing basic fencing.
- ✔ Use decent feed troughs and ensure good water access and some shade.
- ✔ Streamline your system to reduce labour inputs – this will give you a chance for a break.

Which containment feeding system is the best fit for your operation?

There are many methods to containment feed, including yards, purpose-built pens or sacrifice paddocks.

There are also different feeding options:

- Trail feeding is simple, however it's wise to minimise feeding on the ground to reduce faeco-oral transmission and disease risk.
- Bunk feeding or trough feeding are better options and reduce wastage.
- Self-feeders are convenient and reduce labour inputs as you can fill them up every few days rather than daily.

Achieving consistent feed delivery in containment pens can be difficult, especially if hay is fed separately, so it's important to monitor stock closely. There are several automated feeding systems that offer convenience, regular

feed delivery and precision. A significant investment, it's prudent to thoroughly research the options and get advice from others in the industry before purchasing.

Induction

The first two weeks during induction onto a new feed must be done with care and regularity to ensure even uptake and avoid acidosis and other health issues. Educating the rumen to grain is vital to successful confinement feeding. Mob sizes need to be even in terms of body weight and sufficient feed trough space is required during induction. Identify shy feeders and remove them from larger mobs for separate management.



Daily water trough cleaning provides clean, cool water – essential for animal health and production.

“A good system, well developed rations and careful daily attention to stock, will generally prevent most health issues,” Jillian said.

“Work closely with your veterinarian and contact them if there are any sick or dead livestock.” ■

◀ Continued from previous page

Decision making – points to consider

There are a series of decision points which need to be worked through and periodically reviewed alongside the economics of each situation, including your personal preference and risk profile.

Example decisions include:

Is feed demand (stocking rate) forecast to exceed feed availability (carrying capacity)?

- Stocking rate can be reduced in regular small increments, or occasional large blocks.
- Reducing stocking rate early means a less dramatic reduction is required as more time is bought.

What avenue of reducing stocking rate is most preferable?

- selling stock
- agisting stock
- containment feeding.

Under each method of reducing stocking rate, there are various considerations additional to the economics.

These include:

- What classes of stock are on hand, and which are saleable/unsaleable?

- What degree of feeding is required to move stock to a saleable class? Should stock be fed for maintenance or production?
- What infrastructure and skills are needed and available to implement various strategies?
- Do you have the mental capacity and labour units to commit to long-term feeding of large numbers of stock? Factoring your lifestyle, family and relationships into feeding decisions is important in terms of drought resilience.

Rumen key to resilient livestock

When containment feeding, carefully balanced rations will ensure optimal rumen health.

“Keeping the rumen microbes happy will keep animals functioning well and able to convert feed into beef, lamb, milk and foetuses,” Jillian said.

Consulting a nutritionist will ensure your rations are fit-for-purpose. When containment feeding adult livestock, energy is the biggest productivity driver. ■

➤ Read more of Jillian's tips for the right rations in her article on MLA's dry ready hub: mla.com.au/dry-ready



TOOLBOX

- ▶ Nutrition EDGE: mla.com.au/nutrition-edge
- ▶ Production feeding for lamb growth – a guide for producers: mla.com.au/lamb-production-feeding
- ▶ Managing breeding ewes in containment areas: mla.com.au/managing-breeding-ewes

What to consider before containment feeding:

- ▶ NSW DPI's *Managing drought handbook*
- ▶ NSW DPI's drought and supplementary feed calculator
- ▶ NSW Local Land Services' *A guide to confinement feeding sheep and cattle in NSW*



P boosts weaning rates

Providing critical nutrition to livestock year-round can be a challenge for northern producers – here, Cunningham Cattle Company’s General Manager Ray Thieme shares his insights.

In his role overseeing the company’s stations across Queensland – from the Gulf country in the north to the NSW border – Ray has seen the benefits from supplementing phosphorus (P) as part of the company’s critical nutrition plan.

“Our model is centred around low-cost production and breeding. However, we’re in a very nutritionally challenged environment and the biggest impact of this is the lack of phosphorus and protein our pastures provide,” Ray said.

Start with the breeders

Fertility rates are a focal point for Cunningham Cattle Company and Ray believes a breeding cycle that works with the environment is the key to success.

“While we don’t seasonally mate, we do work to manipulate our breeders into a certain cycle that ideally has calving occurring in October,” Ray said.

“For our first-time breeders, we aim to join them at 24 months and 320kg which usually occurs from January through to March.

“We want rebreeding to occur in the future, so it’s important our breeders’ first pregnancy occurs while they’re benefiting from wet season pastures, and will benefit again when they’re in their final stages of pregnancy or lactation.”

During the wet season, Ray segregates cattle by production status to better meet each animal’s nutritional needs.

“We complete our segregation process as the wet season begins, by identifying which breeders are pregnant or lactating and moving them to paddocks that have pastures suited to that stage of production,” Ray said.

“Healthy breeders mean healthy calves so it’s really important we utilise the wet season to give our calves the best start in life.”

Wet season supplementing

Understanding the status of breeders and their nutritional needs underpins how Ray plans grazing management strategies.

“We supplement all year round. However, we find our livestock yield the greatest economic benefit from wet season supplementing,” he said.

“Because our weaning period begins in June as we enter the dry season, we need our supplementing to be consistent with not only the environment but our average breeding cycle.”

Ray said supplementing P through the wet and continuing into the dry has influenced a 20% growth in weaning rates.

“Our weaning rates are currently sitting at 70%, which is reflective of the benefits it’s providing breeders who are in their late-pregnancy stages or lactating,” he said.

As they exit the wet season, Cunningham Cattle Company begins feeding non-protein nitrogen supplements alongside P to continue improved pasture consumption and animal productivity. ■



✓ Cunningham Cattle Company General Manager Ray Thieme.

SNAPSHOT

RAY THIEME (MANAGER),

Cunningham Cattle Company. Five stations across Queensland (Gulf, north-west, Maranoa and southern border regions)



AREA

1,100,000ha

ENTERPRISE

65,000 Brahman

PASTURES

Northern Gulf forest native species, improved Buffel pastures

SOIL

Gulf forest, river frontage, heavy downs

RAINFALL

400–650mm

LESSONS LEARNT

- ✓ Match livestock’s nutritional needs to pastures.
- ✓ Keep on top of supplementation – supplement phosphorus to meet the needs of breeders during different stages of production and increase weaning rates.
- ✓ Manage your herd’s breeding cycle to coincide with seasonal changes.

TOOLBOX

✓ MLA’s phosphorus hub:
mla.com.au/phosphorus-hub

✓ Scan this QR code to read the updated *Phosphorus management of beef cattle in northern Australia – second edition.*



✓ Cunningham Cattle Company produces Brahman across five stations in Queensland.

Research shines new light on heat stress

Sheep producers have new insights into the impact of heat stress on ewes.

This latest research follows a review by MLA in 2020, which showed when ewes and rams were exposed to heat stress, they experienced reduced fertility. Researchers also observed impaired foetal development and lower lamb survival.

To quantify these impacts, MLA commissioned two projects through the Sheep Reproduction Strategic Partnership (SRSP):

- 1. Investigating heat stress in ewes** – led by Professor Shane Maloney from the University of Western Australia (UWA) along with his colleague, Associate Professor Dominique Blache. This project aims to demonstrate how shade and shelter minimise heat and cold stress to improve the production and welfare of sheep, as well as having other benefits for pasture production and biodiversity.
- 2. Design, establishment and benefits of edible shelter to improve lamb survival and whole-farm profitability** – led by Murdoch University's Dr Serina Hancock. This project is investigating how different types of edible shelter impact the welfare and survival of sheep and lambs, along with the nutritional benefits of the feedbase in mixed farming enterprises.

Understanding heat stress

The UWA project team have established trials on the UWA farm and four commercial farms, with another commercial farm to be added next season. The trials involve running mobs of ewes across three

treatments, ranging from minimal shade to ample shade. Each treatment has 250 ewes, aged three to five years.

The team is utilising novel technology in the form of rumen bolus data loggers, to understand rumen temperature changes. The loggers are delivered into the rumen, where the units then log the temperature of the rumen every five minutes and send the data back to the researchers.

The technology, developed by CSIRO, was originally designed to deliver slow-release animal health products into the rumen. Around 10 years ago, Shane and Dominique had the idea to replace these products with a temperature logger.

“Each logger has a unique ID, and we record this against the animal's electronic ID,” Shane said.

“Because each treatment group is comprised of three, four and five-year-old ewes, and the devices are retrieved at the processing facility, the slaughter dates will be staggered over three years.

“By the end of the project, we will have body temperature data for all the animals for three joining periods.”

More than temperature

Dominique said an animal's temperature is not the whole story when it comes to understanding heat stress.

“We know there's an environmental threshold, called temperature–humidity index (THI). This should induce heat stress in the animal, but the THI is missing one important thing: what the animals are doing.

“Sheep – particularly Merinos– are very clever. They'll do things to prevent

heat stress, even when the THI is above the threshold.”

The adaptive behaviours the team has observed include:

- seeking shade
- panting
- drinking more water
- seeking spots in the paddock where they are in a draft or wind, which helps cool them down.

These behaviours appear to have mitigated the effects of heat on the animals' reproductive performance.

“Without pre-empting our story too much, at the end of two years we've seen minimal difference in reproductive outcomes between the three treatments,” Shane said.

According to the researchers, much of the literature describing the impact of heat stress on reproduction is years, sometimes decades, old. Shane said it's possible that over the years, through culling ewes with poor reproductive performance, producers have inadvertently selected for heat-tolerant animals.

However, they caution heat-stressed animals are still paying a much higher price than an animal with access to shade.

Cost of heat stress

“If the animals in the no-shade paddock are working a lot harder to maintain their thermal state, this should incur a longer-term physiological cost,” Shane said.

“It's also possible the lambs from ewes which were heat-stressed during pregnancy will be lighter at birth and lamb marking. We will have those results soon.”



⚡ The sheep heat stress team is utilising rumen bolus data loggers to understand rumen temperature changes. The units log the temperature of the rumen every five minutes and send the data back to the researchers.

The researchers encourage producers to keep an eye on sheep this summer.

“From a welfare perspective, the panting rate of those animals in a paddock with no shade is higher than in a paddock with shade,” Dominique said.

“No good producer wants to see their sheep trying to expel heat by panting like that.”

She recommends sheep producers focus on providing their animals with shade and ready access to water, and ensure their animals are in good condition, with a body condition score of around 2.5 to 3.

“For an animal which works hard for two to three months of the year, there will be a carryover effect. They might be more susceptible to disease. It may not be something we see in our study, but there’s a cost to everything. Biology is very good at that.” ■

➔ Turn to page 18 to read about MLA-funded research into the provision of shade for cattle in feedlots.

TOOLBOX



➔ Scan this QR code to learn more about the heat stress project:



➔ MLA climate hub:
mla.com.au/climate

➔ MLA dry ready hub:
mla.com.au/dry-ready



- ✉ Shane Maloney
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- ✉ Dominique Blache
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Dung delivers diet insights

Using near infrared reflectance spectroscopy (NIRS) to analyse dung towards the end of the pasture growing season provides a quick, cheap and reliable prediction of your herd’s diet quality.

MLA Beef Productivity Manager, Lindsey Perry, said dung sampling – or F.NIRS – can be a useful tool in northern cattle production systems.

“F.NIRS analysis of dung samples for cattle grazing tropical northern pastures indicate the nutritional status of a herd. Results can be used to make more informed grazing management and nutrition decisions,” Lindsey said.

What to look for

The key outcomes of the analysis include predicted estimates of dietary crude protein (CP), dry matter digestibility (DMD) and the non-grass proportion of the diet.

The DMD value is expressed as a percentage and indicates how much of what the animal grazes in the paddock is digested in the gastrointestinal tract.

Good quality, digestible pastures which support production should be above 55% in tropical grasses. As digestibility declines towards 50% or below, energy will be limiting and animals will be maintaining or losing weight.

“The percentage of non-grass in the sample tells you that cattle are consuming legumes, forbs, or temperate grasses,” Lindsey said.

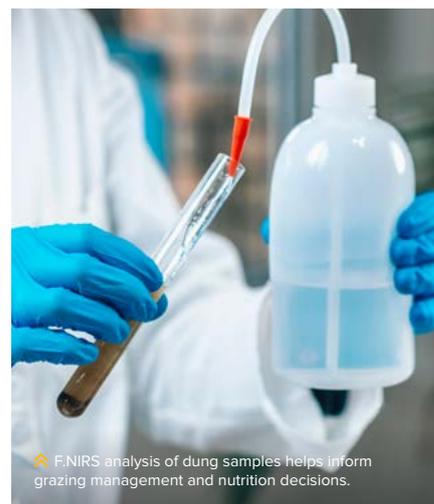
Another prediction included is ‘ash’, which estimates how much soil has ended up in the dung sample. This could be from poor sampling technique or may indicate feed quantity is too low and cattle are grazing close to the ground.

“It’s important to consider the values against what’s happening in the paddock,” Lindsey said.

“Is the quality good, but the quantity of feed limiting? Is the quality declining but cattle are in very good condition? Balance the results against other data and observations to make informed decisions.”

Local beef advisors or private consultants can provide useful support to interpret F. NIRS results appropriately.

✉ Lindsey Perry lperry@mla.com.au



⚡ F.NIRS analysis of dung samples helps inform grazing management and nutrition decisions.

Planning for your season

Testing can be done at any time, but during the pasture growing season, results will change quickly. Dung sampling done from the end of the growing season and during the dry season is ideal.

“Identifying the quality of your herd’s diet helps to determine when stock are likely to require supplements, when weaners should come off and when cattle are likely to lose condition.

“This way, producers can make strategic management decisions,” Lindsey said.

“We encourage all producers to be proactive in their herd planning and F.NIRS analysis is one tool to support productive overall herd management.” ■

TOOLBOX



➔ MLA phosphorus hub:
mla.com.au/phosphorus-hub

➔ Australian Feedbase Monitor:
mla.com.au/afm

➔ MLA grazing land management hub:
mla.com.au/grazing

➔ F.NIRS testing is available at:
Gilmac – Perth (08) 9429 4912
or Symbio Laboratories –
Brisbane: (07) 3340 5700
admin@symbiolabs.com.au

Grazing strategies for the wet season

Regardless of what this year's wet season serves up, there are important actions to take to set up northern pastures for the year ahead.

NT Grazing Land Management EDGE deliverer Trudi Oxley has first-hand experience in managing northern summers, as she produces beef at Katherine stations, 'Larrakeyah' and 'Yeltu Park'.

When it comes to making the most of the wet and improving land condition, Trudi recommends producers consider the level of rainfall they've had before turning their focus to critical decision dates.

Set critical dates

Trudi said decisions on critical dates for grazing management would be impacted after a low rainfall wet season.

"If producers haven't received enough rain by February and their pastures aren't meeting the average growth rate seen in previous years, they may need to start planning their critical production dates around the possibility of drought," she said.

"This generally means producers will need to implement a drought plan and potentially do an early muster if this plan involves early weaning and sales."

Trudi said this is also the time to prepare a forage budget.

"By the time you reach May/early June, you'll be able to see the amount of pasture available to carry through until the next rainfall," Trudi said.

"However, it's important to note that in recent years, producers have seen their wet season cut out at the end of February/early March, so be prepared to do the forage budget at an earlier date."



Trudi Oxley with fellow producers Kathy Tasker and Casey Schmidt at Tanumbirini Station, pictured calibrating pasture measurements to undertake satellite forage budgeting with Cibo labs.

Supplementation

While the implication of low rainfall is insufficient feed, Trudi said producers should be equally prepared for the ramifications of a high rainfall event.

"Producers who experience a heavy rainfall during the wet season may experience drought in terms of protein," she said.

"Very high rainfall years can dilute protein and nitrogen in grasses, so while producers may see great ground cover, it may be of low nutritional value."

Trudi recommends producers who experience high levels of rainfall take time to

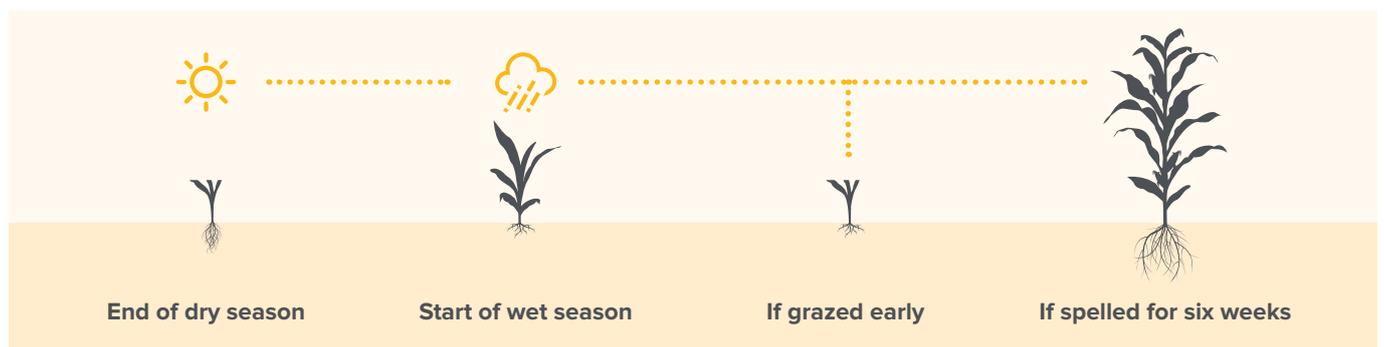
utilise faecal near infrared reflectance spectroscopy (F.NIRS) testing to assess the quality of the diet – see page 15.

"You might find you have to change your supplement regime earlier to make the most of the rain and improve the overall quality of your feedbase."

Wet season spelling

Wet season spelling is a key strategy to maintain land condition, but it's particularly beneficial for producers who have identified paddocks with declining land condition and are trying to improve pasture production and health.

Figure 1: How pastures respond to spelling



For those who had a wet season last year, this year may be a good opportunity to spell.

To allow root reserves to replenish, Trudi recommends a minimum spelling period of approximately six to eight weeks.

However, if an increase in plant population is required, Trudi said paddocks may need to be locked up for the whole of the wet to allow for seed set.

“For paddocks which have had serious declines in land condition, it may take a number of years of wet season spelling to restore pasture condition.”

Figure 1 shows the spelling process, and how grazing and spelling impact a plant’s root system.

Trudi said wet season spelling programs can range from complex rotations to a simple four-paddock system. However, they all benefit pasture condition by allowing:

- root reserves to recover
- pastures to store more carbon
- pastures to absorb more water.

“Ultimately, you end up with more drought-resilient pastures which will carry you beyond the wet season and well into the dry,” Trudi said. ■

TOOLBOX



▶ Australian Feedbase Monitor (AFM): mla.com.au/afm

▶ Grazing land management hub: mla.com.au/grazing

▶ Grazing land management EDGE, Grazing fundamentals EDGE and Nutrition EDGE workshops: mla.com.au/edgenetwork

▶ Profitable Grazing Systems (PGS) grazing land management training packages: mla.com.au/pgs

- Trudi Oxley trudi@uprivernt.com
- Harriet Bawden hbawden@mla.com.au

Reaping the rewards of rest

Following in his father’s footsteps, beef producer Eiren Smith aims to maximise feedbase production and resilience on his family’s Charters Towers property – and this is where wet season spelling plays an important role.

The Smiths first started spelling country following a severe drought event in 1987, which ended with rains brought on by Cyclone Charlie in 1988.

“At the time our cattle were away on agistment, so Dad made the call to extend the agistment for another couple of months to give the property a chance to recover,” Eiren said.

“The pasture recovery on spelled country compared to country which was stocked throughout the wet season triggered a lightbulb moment and confirmed the significance of wet season spelling.”

After investing in additional infrastructure, Eiren’s father was able to implement a rotational grazing system and spelling regime.

Since then, the Smith family has slowly increased the number of paddocks they spell annually and seen continuous benefits in pasture recovery following the dry season.

They now aim to rest 50% of their country, year-round.

“We aim to increase the percentage of spelling country during the wet season. However, if it’s very dry and water infrastructure is struggling, we’ll reduce stocking rates in each paddock throughout the dry season,” Eiren said.

Benefits

Two of the main benefits of Eiren’s rotational grazing system are greater production and better land condition.

“Over time, we’ve seen significant improvements to our pasture composition,” he said.

“With spelling, we’ve transformed paddocks which were once dominated by Indian couch into something much more diverse, and we’ve been able to run more cattle as a result.”

The Smiths, who run approximately 3,500 adult equivalent (AE) across 22,000ha, have found implementing a rest period for paddocks has also benefited their bottom line.

“If we can produce more feed, we can run more cows – it’s cheaper than buying more land.”



Eiren Smith (pictured on right) presented on a ‘resting country’ panel discussion at this year’s Hughenden BeefUp forum.

Considerations

Eiren shared his wet season spelling experiences at an MLA BeefUp forum in Hughenden earlier this year. He was on a panel with fellow producers Anita McNamara and Michael Lyons (pictured above with Eiren), and presenters Brett Abbott, CSIRO, and Queensland Department of Agriculture and Fisheries Principal Extension Officer, Bob Shepherd.

For producers wanting to introduce spelling into their grazing land management strategy, the panel recommended a well-planned and gradual approach. However, Eiren’s advice was to be ready for unexpected challenges along the way.

“A plan is very important, but producers should also be prepared for that plan to change,” Eiren said.

“Some of the hurdles we faced were keeping cattle out and providing adequate water supply. This meant we had to invest in more infrastructure.”

Balance the benefits

Bob, who delivers MLA’s Grazing Land Management EDGE course, said producers should make sure the improvement of degraded country doesn’t come at the expense of better country.

“It’s important to look across all your paddocks – look at the condition and balance of your paddocks and stocking rates,” he said.

“Note the paddocks in fair condition because you will need to monitor and maintain those. Be careful not to spell poor condition paddocks only to overgraze the ones in better condition.

“I recommend destocking the paddocks which require a wet season spell at the final round muster of the year.

“Don’t wait for the rain to start before deciding to spell the paddock – the decision has to be made in the previous year.” ■

● Eiren Smith eirensmith@gmail.com

Cool cattle: feedlot shade boosts health and productivity

The first evaluation of shade in the WA beef feedlot industry, funded by MLA, has delivered insights to help manage the impact of heat on animal health and productivity.

The impact of heat is particularly topical at this time of year, heading into an El Niño summer. Research provides insights to support the move towards the Australian industry’s pledge to have all beef feedlots shaded by 2026.

Murdoch University’s Associate Professor David Miller had a lead role in the study. He said in a typical WA summer, providing shade in a commercial feedlot delivered benefits to the wellbeing of cattle, as well as financial advantages.

Benefits of shade

In very hot conditions, cattle will often exhibit changes in physiology and behaviour to cope with heat stress, such as panting (see Figure 1).

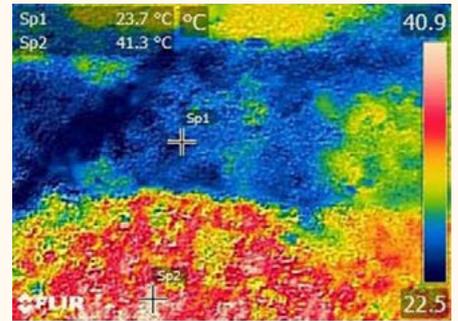
David said these ‘coping mechanisms’ come at a cost to performance as energy is diverted away from growth. They can also increase susceptibility to diseases such as bovine respiratory disease.

“If these behavioural and physiological coping strategies are insufficient, body temperature will increase, resulting in hyperthermia and death,” David said.

“In our study, black Angus cattle with access to shade demonstrated a decreased level of panting and were more settled.”

This research involved providing 3.1m² of shade per head of cattle and a minimum 75% UV protection.

The trial site – which had approximately 80 head/pen over a 110-day feeding period – produced an increased average daily gain and better feed conversion in cattle. The improved cost of weight gain delivered an estimated saving of \$2,000/pen.



Temperature map depicting the difference shade-providing infrastructure makes to pen floor temperature. The blue areas on the right match the shade patterns seen on the left.

Based on the production system and cost of shade structure used in the study, providing shade could deliver a return on investment within five years.

Consumer confidence

While livestock care is fundamental to the success and sustainability of every feedlot, David said providing shade also delivered the added benefit of improving consumer confidence.

“Australia’s red meat consumers, both domestic and overseas, seek reassurance our livestock are cared for humanely and ethically,” David said.

“Better knowledge of the benefits of shade to animal health and welfare may facilitate further adoption of shade in the Australian feedlot industry, and provides powerful information for public education and greater product awareness.”

First steps

For lot feeders looking to get on top of shade provision, David said MLA’s *Beef cattle feedlots: design and construction* is a

handy resource to select the shade structure best suited to their production system.

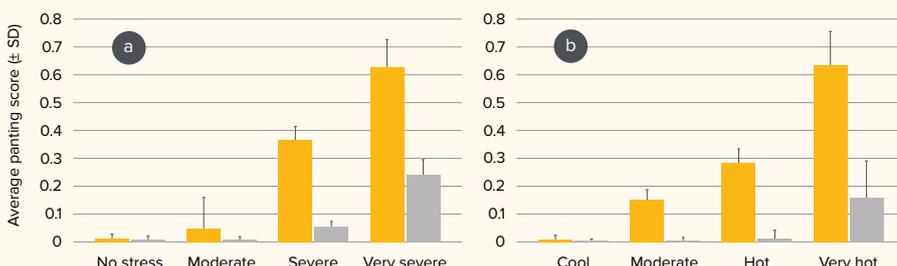
“Shade-providing infrastructure should ideally be installed across all feedlot pens, including entry, exit and hospital pens, to ensure all animals have the opportunity to access shade or shelter if environmental extremes occur,” David said.

Consult with shade specialists and your local council before investing in infrastructure.

“Shade manufacturers can support the design of infrastructure to ensure maximum effectiveness of your shade provision, increased productivity of your cattle and reduced occurrence of microclimates.

“Lot feeders should also be aware that there may be local planning requirements they will need to adhere to. These requirements can vary on a state or regional level, so I suggest checking in with your local council before building.”

Figure 1: Average panting score (± SD) collated by (a) temperature–humidity index (THI) category and (b) heat load index (HLI) category, for shaded cattle (grey) and unshaded cattle (gold)



TOOLBOX

.....

- ▶ MLA funded the development of a cutting-edge tool for early warning of extreme weather events – scan this QR code to learn more:
- ▶ For more information on shade provision in feedlots, visit: mla.com.au/feedlot-design-manual
- ▶ Australian Lot Feeders’ Association shade hub (includes details of shade manufacturers and government grants/loans for infrastructure development): feedlots.com.au/shade

Animal welfare focus delivers results

Kylagh Feedlot in WA is a testament to how best practice management to create a low-stress environment for cattle delivers results – with shade one of the key ingredients.

Kylagh was a trial site for Murdoch University’s evaluation of the benefits of shade for feedlot cattle in a temperate climate (see story opposite).

Across 110-day programs in summer and again in winter, Kylagh Feedlot’s owner and general manager Ivan Rogers saw first-hand how shade benefited his cattle.

Recognising importance

Kylagh Feedlot has three pillars of priority when it comes to running their business: environment, animal welfare and people. Of these, Ivan said they have identified animal welfare as the most important investment.

“Shelter is a necessity for all walks of life. However, our lot holds predominantly black Angus and Waygu which are not very heat tolerant,” Ivan said.

Since implementing the shade, Ivan has observed changes to physical displays of heat stress, including:

- less or no panting
- more movement
- greater feed intake (increase of 0.13kg average daily gain)
- calmer behaviour.

Providing choice

Kylagh developed their shade and shelter infrastructure plan to give their livestock choice.

“While we were sure our cattle would seek shade, especially during summer, we found it was better to allow them the choice if they wanted to use our shade infrastructure or not,” Ivan said.

“During the summer, we saw the majority of our cattle making the most of the shade but there were still enough outliers who found the pen floor temperature to be cool enough to endorse our theory of providing the choice.”

Ivan said Kylagh Feedlot also allowed for choice by providing different types of shade.

“The style I have found most beneficial is a shade cloth supported by a six-metre-high steel infrastructure,” he said.

“Our shade cloths are about 10x25m, and we look to have enough of them to provide shade to 80 adult equivalents (AE) per pen which is at least 3m² per head.

“In addition to our shade infrastructure, we’ve planted trees around our yards to provide a different form of shelter should our cattle seek it.

“This was done after surveying wind maps which showed our feed yard to be in a moderate to high wind environment, meaning trees would not have any detrimental impact of air flow.”

➔ Turn to page 26 to read about the benefits of trees on-farm in reducing the impact of wind.

Supporting strategies

The feedlot is located 170km inland and experiences high levels of dry heat during summer, so Ivan has other strategies in his toolbox to reduce heat stress in cattle.

“To help us prepare our cattle for extreme heat events, we keep a close eye on the predicted weather forecast through sources like the Bureau of Meteorology, which provide us with plenty of time to take action.

“It’s unusual for us to need to move our cattle from their pens, however we have a number of large yard areas which contain open water and we let our cattle move into these if the temperature calls for it.”

Other benefits

Ivan said providing shade to livestock had the added benefits of improving staff welfare and profit.

“Knowing our cattle have the resources to keep themselves cool during high temperatures reduces a lot of stress for us as their carers,” Ivan said.

“It’s a big investment but it’s worth it. Our cattle are now reaching their target weights earlier, leading to reduced feeding costs and time – we’re likely to experience payback within 2–10 years.”

Ivan encouraged other producers and lot feeders to adapt their feedlots where needed, to match shade provision to their climatic requirements. ■

✔ Ivan Rogers and his son Nick, with cattle using shade at Kylagh Feedlot. Kylagh was named Most Outstanding MSA Feedlot in WA at the 2021 MSA Excellence in Eating Quality Awards.



SNAPSHOT

IVAN, JILL, NICK, SOPHIE AND ALEX ROGERS (ROGERS AGRI), Kylagh Feedlot, Augusta, Tammin and York, WA



AREA
5,200ha

ENTERPRISE
7,000-head feedlot (Angus, Wagyu and Angus/Waygu-cross), 1,500 Angus/Waygu breeders

RAINFALL
Augusta: 1,000mm, Tammin and York: 320mm

LESSONS LEARNT

- ✔ Consider your average stocking rate – at Kylagh, the aim is to provide 3m² of shade/head.
- ✔ Invest in a specialist, as poorly designed shade infrastructure can lead to worse outcomes for cattle.
- ✔ Let your cattle guide you – livestock behaviour will tell you how the heat is impacting them.



✉ Ivan Rogers ivan.r@kylagh.com.au ✉ Joe McMeniman jmcmeniman@mia.com.au

» Greenham's Livestock Supply Chain Manager, Jess Loughland. Image: Greenham.

Greenham Standard drives its producers towards CN30 finish line

By setting the stage – and indeed the blueprint – for Greenham to develop its own voluntary sustainability standard, the Australian Beef Sustainability Framework (ABSF) is a clear embodiment of the industry's mission to demonstrate continual improvement in all facets of this area.

The Victorian and Tasmanian beef processor and exporter, Greenham, developed the Greenham Beef Sustainability Standard (GBSS), which takes the red meat industry one step closer to effectively demonstrating its sustainability credentials.

The first-to-market accreditation roadmap guides and supports Greenham's extensive network of grassfed beef producers towards more sustainable farming practices. Accreditation opens the door to more premium, 'green' markets as well as financial and ecological benefits.

Shared goals

The GBSS provides a practical set of indicators and measures covering critical animal, environmental and business priorities which align closely with the ABSF, as well as other wider industry requirements.

This is a key strength, according to Greenham's Livestock Supply Chain Manager Jess Loughland.

"There's so much power in working together – we wanted everything in the Standard to align with industry priorities and goals, as well as our customers' requirements. We didn't want to be sending conflicting messages to our producers," Jess said.

"By benchmarking themselves and tapping into industry tools and resources they'll have that much more support on their journey."

Jess said the long-term goal of the GBSS is future-focused.

"It's not about immediate perfection – we're working towards delivering consistent, premium-quality beef raised in a manner which aligns with our customers' values," Jess said.

A step-by-step approach

The GBSS has three tiers:

- **Tier one** prioritises education, planning and setting a baseline for sustainable management.

LESSONS LEARNT

Greenham's pilot producers share this advice to others considering similar accreditation programs.

- ✔ Don't be overwhelmed if the requirements seem unfamiliar – take it step-by-step and access all available resources.
- ✔ Tick off what you're already doing well and start with the low-hanging fruit. You may already be doing much of it.
- ✔ Get help if you're unsure where to start. There are several free services and tools available.
- ✔ Many requirements overlap with other industry accreditation schemes including wool, cropping and dairy. Identify any overlaps and integrate these with your existing systems and processes.
- ✔ Don't rush – move at your own pace.
- ✔ Really think about where you see yourself and your farm in 30 years. Who will be farming it, what will they be growing, and what will your markets be? Use the answers to direct and motivate you.

- **Tiers two and three** focus on continuous improvement and strive for optimum ecological health, carbon neutrality and best practice financial, people and safety management.

Reaching tier two means producers' beef is eligible for price premiums at slaughter and an on-pack Certified Regenerative® label – endorsed by third party agricultural and environmental consultants, Integrity Ag & Environment, and US-based animal welfare body, Certified Humane®.

"This assures our consumers of the integrity of the accreditation process," Jess said.

GBSS implementation

In 2022, 21 Greenham grassfed cattle enterprises from a range of southern Australian production systems were audited against the GBSS to establish a baseline and determine relevant opportunities.

Greenham worked closely with these producers as they implemented the optional GBSS during the pilot to keep it firmly grounded and practical.

GBSS accreditation begins with producers completing an expression of interest form and a self-assessment questionnaire, which indicates where they sit in relation to tier compliance.

Following an on-farm audit, producers are supported by Greenham to close any compliance gaps.

Greenham covers the cost of audits and ensures GBSS indicators and measurements complement existing practices and goals, to make accreditation as smooth as possible.

"Collecting and showcasing this data demonstrates our sustainability credentials to key customers and markets but also improves monitoring of key performance drivers," Jess said.

"This process helps to bolster business resilience and productivity while highlighting new opportunities."

For example, undertaking the required soil testing informs better decision making around improving pasture productivity.

Looking ahead

Production of accredited cattle in Tasmania began in March 2023.

Greenham aims to incrementally roll out the GBSS to its broader supply chain over the next two years as an additional market option for their NEVER EVER Beef Program-accredited producers.

Jess said others who want to embark on a similar process should talk to their customers to understand their wants and needs, both now and into the future.

"Any standards should be practical, straightforward and backed by science to deliver real value on-farm," Jess said. ■

- Turn the page to meet producers involved in the GBSS pilot.

SEASONAL ACTION PLAN

Healthy soils are a key indicator in the GBSS, and summer is the ideal time for soil testing:

- ⚠️ Conduct soil tests when there's some soil moisture (which makes it easier to take the sample) but avoid waterlogged conditions.
- ⚠️ Proactive nutrient management is important to identify what may be limiting production so you can invest in appropriate inputs.
- ⚠️ Tracking key soil parameters such as organic carbon, pH and salinity over time can also be used to monitor soil health.

TOOLBOX



- Australian Beef Sustainability Framework: sustainableaustralianbeef.com.au
- Visit MLA's Sustainability hub at mla.com.au/sustainability-hub to:
 - download MLA's *Sustainability Impact Report 2023*
 - read MLA's special edition of *Feedback* magazine 'Our sustainability story'
 - view videos showcasing innovation, tools and practice change leading to improved profitability and productivity.
- Australian Feedbase Monitor: mla.com.au/afm
- Carbon calculator: carbon-calculator.mla.com.au
- CN30: mla.com.au/cn30
- Carbon 101 eLearning module: elearning.mla.com.au
- Create your carbon account: piccc.org.au/resources/Tools
- Healthy soils hub: mla.com.au/healthy-soils
- Scan the QR code to learn about the Farm business resilience program
- People in Ag training courses: peopleinag.com.au
- Making More From Sheep: makingmorefromsheep.com.au
- More Beef From Pastures: mbfp.mla.com.au



Three steps to success

The Greenham Beef Sustainability Standard (GBSS) was piloted in 2022 with 21 Greenham grassfed cattle producers from a range of southern Australian production systems. This process generated valuable producer insights and ensured the end product is relevant and accessible. It drives ecological and productivity improvements and opens the door to financial and market access benefits.



Insights included:

- 1 Producers' motivations for accreditation extend beyond acquiring potential premiums and include:
 - an actionable path towards CN30
 - best practice people and land management
 - farm resilience
 - connection to end markets and consumers.
- 2 No two farms are the same, and they all start from different baselines. The three-tiered structure of the GBSS meets producers where they're at on their sustainability journey.
- 3 Producers should consider their own enterprise's unique business, infrastructure and environmental characteristics when engaging in a sustainability project.
 - Find out more or complete an expression of interest at greenham.com.au/GBSS



greenham.com.au

✉ Jess Loughland jloughland@greenham.com.au

✉ Jacob Betros jbetros@mla.com.au



Upper Murray Angus cattle producers Joe, Linda and Gary Nankervis were part of the pilot for the Australian Beef Sustainability Framework-inspired Greenham Beef Sustainability Standard. Image: Greenham.

Better reporting underpins business resilience

SNAPSHOT



LINDA AND GARY NANKERVIS, 'The Ranch', Corryong, Victoria



AREA
1,100ha

ENTERPRISE
1,400 self-replacing Angus

PASTURES
Phalaris and sub-clover

SOILS
Granite sand

RAINFALL
750mm

Upper Murray, Victoria, cattle producers Linda and Gary Nankervis and their son Joe jumped at the chance to be part of the Greenham Beef Sustainability Standard (GBSS) pilot – see story previous page.

They see it as a perfect match with their existing business strategy and values and a pathway to enduring prosperity.

“Everything in the GBSS is just good management – we were already aligned with a number of the accreditation requirements, so it was an easy decision for us,” Linda said.

Lasting benefits

Gary and Linda regard their journey towards full GBSS accreditation as a long-term goal and a great place to start from in terms of benchmarking.

They acknowledge there are challenges involved in reaching tier three, however Gary and Linda are confident their current business strategy of targeting 400-day growth when making genetic purchases aligns positively with the sustainability standards which they see as a non-negotiable future direction for their business.

“We want to be right at the forefront of industry, running as efficiently and sustainably as we can so we can stay here and keep doing what we’re doing,” Linda said.

“We’re at the coalface of a changing environment – ethically we want to leave the land in a better state than we found it.”

Adjusting their reporting

Despite regularly checking ground cover and feed, the couple said prior to the GBSS pilot they didn’t have the right type of data to document their pasture quality.

“Ground cover was an area which needed our attention so we could get to tier one of the GBSS. We’ve tightened up the way we collect data so we can fit with the accreditation requirements and make use of MLA’s carbon calculator.

“We’re used to talking in cow-calf units or how many weaners a particular paddock will run, but we don’t necessarily convert it back to dry sheep equivalent (DSE),” Gary said.

Despite the initial challenge, Linda sees the shift as a positive.

“It’s about using a language everybody speaks and is universally understood. We’re converting what we already know into what we can actually report,” she said.

Linda and Gary said their involvement in the pilot and use of the available training and tools have helped ease the learning curve. Their contribution to the development of supporting resources ensured they were relevant and accessible. They were also involved in reviewing some of the MLA carbon e-learning modules to make sure they were easy to understand from a producer perspective.

Pasture management

The Nankervis family has planted out much of the riparian zones on their property to indigenous tree and shrub species and grow perennial, deep-rooted, sub-clover-based pastures. These were selected to withstand fire and drought – especially timely with the recent declaration of El Niño.

“The Standard provides structure and incentivises some of the activities or improvements which have been in the pipeline for a while, such as improving biodiversity in a way which benefits our property,” Gary said.

Balancing priorities

Rotational grazing at set intervals, depending on seasonal conditions, is not always a straightforward process for their business.

“A good season can mean a lot of clover, which is great for soil nitrogen and protein to promote growth and productivity for grassfed cattle, but too much puts cattle at risk for bloat,” Gary said.

“During calving you don’t move them or there’ll be mismothering. Likewise, during joining don’t move them just because the pasture is nipped down. We do rotational

grazing when possible, but it comes second to animal health,” Gary said.

In the long term, they’d like to move towards smaller paddocks and more laneways and tree guards, to keep bulls further apart and cows and calves well fed.

Future focused

Gary and Linda believe being early adopters of sustainable beef production practices makes sense ethically and business-wise. They consider sustainable farming to be the only way to ride out the incoming waves of climate and consumer-led change.

This is where programs such as the GBSS are crucial to maintain Australian beef’s good global reputation.

“We want to be able to back up our environmental and animal welfare claims and be seen to make adjustments where necessary,” Linda said. ■

SEASONAL ACTION PLAN

📌 Start building your confidence using carbon calculators and other tools: mla.com.au/tools-calculators

📌 Visit elearning.mla.com.au for carbon workshops and to learn more about on-farm carbon management and access stocking rate and feedbase tools.

Setting goats up for the future

Australia's goat industry is undergoing a transformation – moving from largely opportunistic harvesting to semi-managed and managed production systems – and MLA is investing in genetic knowledge and tools to support this evolution.

The MLA Donor Company invested \$3.7 million into a five-year project, 'Measured rangeland goats – realising the potential', to establish and implement genetic selection and crossbreeding strategies in Australia's goat population.

It involves the establishment of a genetic resource herd at the NSW Department of Primary Industries (DPI) Condobolin Research Station. The herd of 1,000 Rangeland, Boer and Red (including Kalahari) breeders will be joined five times over a four-year period. Traits to be recorded include growth, reproduction, carcase and worm egg counts.

MLA's Project Manager – Genetics Adoption, Dr Sarita Guy, said while KIDPLAN (the national genetic evaluation for goats) provides tools such as estimated breeding values (EBVs) and selection indexes, the information is currently limited to the Boer breed, and has been compiled from pedigree and performance data only.

"There's no genomic information incorporated into this analysis – that's where this project comes in," Sarita said.

"We want to achieve a multi-breed genetic evaluation system so we can compare across breeds for multiple traits. Genomics give us greater accuracy of our EBVs, allowing us to select more intensely, more accurately and more objectively."

Benefits of breeding

Sarita said the benefit of moving from wild harvesting to structured breeding programs was the ability to make significant performance gains in the key areas of growth rates, carcase weights and eating quality.

"In controlled mating systems, we can gain a baseline understanding of how well we're performing and then use genetics to improve our profitability."

Australian goatmeat is mainly sold through export channels, and has significant growth potential. The project is in its infancy, but when it's completed Australia will have

one of the largest goatmeat reference populations in the world.

Finding the answers

Dr Tom Granleese, Research Officer – Animal Breeding and Genetics at NSW DPI, leads the project.

"At the outset, people across the industry were asking us: what's the best breed to be bred to a Rangeland doe? And the answer is, we don't know," he said.

"We don't know how Boers compare genetically to Reds, and we don't know how either of those breeds compare to Rangelands.

"By running Rangelands, Reds and Boers side by side and crossbreeding, we can start coming up with some answers."

The researchers are measuring a range of production traits, such as weaning weight, post-weaning weight, eye muscle and fat scores. They're also looking at reproduction traits to ensure fertility isn't sacrificed in the quest for larger carcasses.

Economic gains

Early economic modelling showed gains of \$2/doe/year from genetic strategies, but Tom said this was conservative.

"Because goats are so genetically diverse, we anticipate very high rates of genetic gain early on," he said.

"While we're estimating \$2/doe/year, in the first few years producers could probably realise even greater returns by finding the right bucks. Because there is little benchmarking occurring, commercial and stud breeders struggle to understand where they sit."

For producers looking to take the next step, he recommends they upskill their knowledge of how KIDPLAN breeding values can increase their on-farm profitability. The next step is to look for bucks at sales which are genetically benchmarked.

It's anticipated this project will encourage more producers to benchmark and, ultimately, lift the overall performance of the industry. ■



Dr Tom Granleese, Research Officer – Animal Breeding and Genetics at NSW Department of Primary Industries.

SEASONAL ACTION PLAN

- Learn what KIDPLAN breeding values can do for your on-farm profitability.
- Find out which seedstock producers are genetically benchmarking their animals.
- Be part of this MLA project by joining a focus group and/or having your animals genetically benchmarked – contact project lead Tom Granleese or MLA's Sarita Guy for more information. (contact details below).

TOOLBOX

Scan this QR code to learn more about the project and producer activities:



KIDPLAN: sheepgenetics.org.au/resources/kidplan

MLA's goats hub: mla.com.au/goats-hub

Sign up for MLA's *Goats on the move* e-newsletter: mla.com.au/enews

Scan this QR code to access *Going into Goats*



MLA's genetics hub: genetics.mla.com.au



Strategies for successful trees

Producers have new tools for planting trees on-farm, paving the way to improve productivity and reduce emissions.

The 'Trees on Farm' project, led by the University of Melbourne, falls under the Carbon Storage Partnership between MLA and the Victorian Department of Energy, Environment and Climate Action. It brings to life MLA's investment goal to build industry capacity and capability around managing carbon.

Project manager Dr Rachele Meyer oversaw the development of a suite of producer-honed tools to reduce emissions, hand-in-hand with increasing livestock productivity.

Significantly, the project contributes to the carbon neutral by 2030 (CN30) target of integrating trees on 10 million hectares of grazing land. The associated shade and shelter from this goal are set to contribute to a 10% increase in livestock productivity and storage of more than 25 metric tonnes of carbon dioxide equivalent (CO₂e) emissions/year by 2030.

The myriad of benefits delivered by planting trees also include increased stocking rates and enhanced animal welfare and biosecurity.

Tools of the trade

The project responded to input from producers during field days and interviews, and expanded on the original conceptions of the planned decision matrix and database tools.

A range of tools, suitable for producers at all stages of the tree planting process, are now available.

These include:

- a step-by-step guide to planting trees
- fact sheets (topics include carbon sequestration and productivity benefits)
- an index of resources
- an online decision matrix.

To ensure producers can access relevant information, the index of resources is a searchable database which offers location-specific resources according to the type of plantings they're interested in.

"Producers won't have to plough through the internet searching for information – the index will direct them to sound, evidence-based material on areas such as how to plant, site prep and species selection. It will also connect producers with local groups," Rachele said.

The tools are complementary and enable producers to select information that is relevant to them.

"The functionality is set up to enable flexibility – you can just read one fact sheet or you can start with the step-by-step guide and then jump back to the index of resources to really figure out how you're going to implement it on-farm," Rachele said.

Producers can use the tools to consider:

- how to incorporate trees into their farm to achieve their goals
- details of implementing tree planting specific to their situation, including site preparation, species selection and risk management
- local knowledge, to connect with nearby producers, nurseries or Landcare groups for understorey options for wind blocks, such as acacia or fast-growing eucalypt varieties suited to their area



Rachele Meyer manages the Trees on Farm project.

- likely co-benefits associated with planting, particularly carbon sequestration and livestock productivity benefits.

Weighing up your options

For those getting started, Rachele suggests planting trees in areas which aren't suitable for grazing.

"It's an obvious place to start in terms of getting a good return on investment. You'll also see better results in terms of productivity benefits on farms with more wind," she said.

As part of her research, Rachele conducted a case study analysis on tree plantings which provided a 10% annual return. The following factors were recognised as important considerations:

- any revenue the trees provide (e.g. harvest)
- the pasture quality being replaced with trees (i.e. a pasture with a higher dry sheep equivalent (DSE) will reduce



Carbon benefits from trees

Sequestering carbon in trees allows you to:

- claim carbon stored in trees to 'inset' credits against your emissions*
- access new markets for low carbon or carbon neutral products
- earn income from selling carbon credits as 'offsets' to external buyers.**

* Scan the QR code for more information on inset requirements e.g. tree plantings need to have the potential to be >2 metres, >20% canopy cover and be planted in/after 1990.

** Since sold credits can't be used to reduce net farm emissions, it is important to get trusted advice when making decisions about whether to hold or sell credits.



Benefits of tree planting:

- healthier soils
- improved water quality
- less erosion and nutrient depletion
- additional fodder during feed shortages (for some woody species)
- increased pasture production in cold conditions
- reduced waterlogging and soil salinity
- biosecurity
- privacy
- biodiversity benefits, including habitat for pollinators or birds which eat insect pests
- reduced heat/cold stress in livestock and improved animal welfare
- increased stocking rates (sheltered livestock expend less energy and require less feed)
- improved working conditions and aesthetic environment for the farmer and workers
- potential sale or on-farm use of timber
- increased land value.



return on investment compared with replacing a lower value pasture)

- weight gain/survival/productivity benefits expected for a given tree planting plan
- costs associated with verifying carbon sequestration.

Shelter belts versus paddock trees

The right tree planting configuration depends on individual goals and situations. Shelter belts are an obvious choice for sheep and cold protection, but paddock trees provide better airflow as well as shade for hot sheep or cattle.

“To run a system effectively and be able to have sheep carrying the wool when it’s warm, paddock trees are really critical.

“Or is it better to keep the livestock warm? You need to balance your objectives and the decision matrix can help,” Rachele said. ■

SEASONAL ACTION PLAN

! Summer is an ideal time to get started, however many activities require long lead times before seeding/planting begins:

- planning (two or more years prior)
- soil preparation
- weed control (one year prior)
- pest control
- fencing
- seed collection, cleaning and ordering (order seed two years prior)
- plant orders and propagation (order plants one year prior).

Note: This timing suits semi-arid and medium to high rainfall environments.

Source: Greening Australia Victoria (2003).
Revegetation techniques: A guide for establishing native vegetation in Victoria.

TOOLBOX



▶ To view examples of how others have made decisions using the ‘Decision Wizard: Farm decisions made clear’, search for ‘trees’ in the e-library: decisionwizard.sfs.org.au/matrices#/dashboard

▶ Access the Trees on Farm decision framework tools, including a step-by-step decision guide, factsheets and searchable index of resources: piccc.org.au/research/project/TreesOnFarm

▶ MLA’s Sustainability special edition of *Feedback* (scan QR code)



▶ MLA’s Carbon Calculator: carbon-calculator.mla.com.au

▶ CSIRO’s LOOC-C – a landscape options and opportunities for carbon abatement calculator: looc-c.farm



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Trees on-farm part of lofty vision

Extensive grazing and conservation business Dunkeld Pastoral Co Pty Ltd (Dunkeld) produces beef, lamb and wool with a vision to ‘leave the world in a better condition’.

Dunkeld Manager Tom Polkinghorne oversees the highly productive grazing business which produces 40,000 lambs and 2,500 calves annually, while Kai Dailey leads Dunkeld’s dedicated conservation and land management programs.

Dunkeld has been planting trees on its properties since the 1970s, so getting on board with the MLA-supported ‘Trees on Farm’ project (see previous page) has been a good fit with its productivity and conservation priorities.

During the past two years of an enhanced planting program, 100,000 trees have been planted across three Dunkeld properties.

The program includes:

- plantations of mixed native trees and small shrubs, to create wide, dense windbreaks and eventually, multiple layers of wildlife habitat
- priority planting areas, which include waterways and dam overflows to reduce erosion, as well as areas which will most positively impact stock wellbeing and productivity such as northern boundary plantings to reduce wind to lambing paddocks
- plantings and double fencing on title boundaries, which add another layer of biosecurity.

A measured approach

Trees on Farm project manager Dr Rachelle Meyer said the productivity improvements from tree plantings have been significant, however results can vary according to each farm’s characteristics including the wind chill index.

“At Dunkeld, our modelling found obtaining a wind reduction of 30% from tree planting

led to an increase in lamb marking rates of 5.6%,” Rachelle said.

“For wind speed reductions of 60% there was a predicted increase in lambs of 12.8% – for a farm of Dunkeld’s size, that means thousands of extra lambs each year,” Rachelle said.

The extent of wind reduction depends on the height and porosity of the shelter belt. Taller shelter belts impact a larger area.

Very dense plantings have very low wind speeds right next to the trees, but this increases quickly with distance. Porosity of 25%–50% is recommended to provide substantial reductions in wind speed over the largest area.

Lamb survival

Tom said shelter belts have had a positive impact on lamb survival.

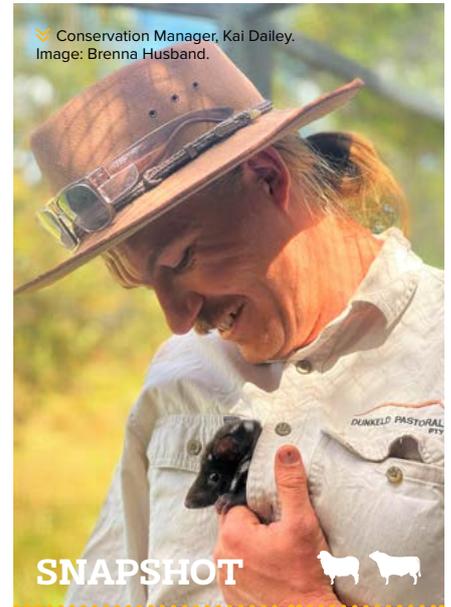
“Anecdotally, we’ve seen around a 10% increase in lamb survivability on properties with shelter belts, compared to those without them,” he said.

“It’s hard to attribute this to one practice as so many factors are involved in survival rates such as mismothering, weather, stock handling, feed availability and quality, and nutrition of sheep.

“However, we deeply believe the increased productivity and biodiversity values of the tree shelter belts are well worth the expense and effort.”

Costs and benefits

At Dunkeld, the project team undertook an economic analysis of planting out nine dry sheep equivalent (DSE)/ha pasture to trees with 10% of value going towards carbon verification costs.



SNAPSHOT

DUNKELD PASTORAL CO,
Dunkeld, Victoria



AREA

12,700ha across six management units

ENTERPRISE

2,700 Angus breeders, 2,500 weaners, 33,000 composite breeding ewes and 2,700 Merino ewes plus wethers

PASTURES

Perennial ryegrass with clover base, lucerne and phalaris

SOILS

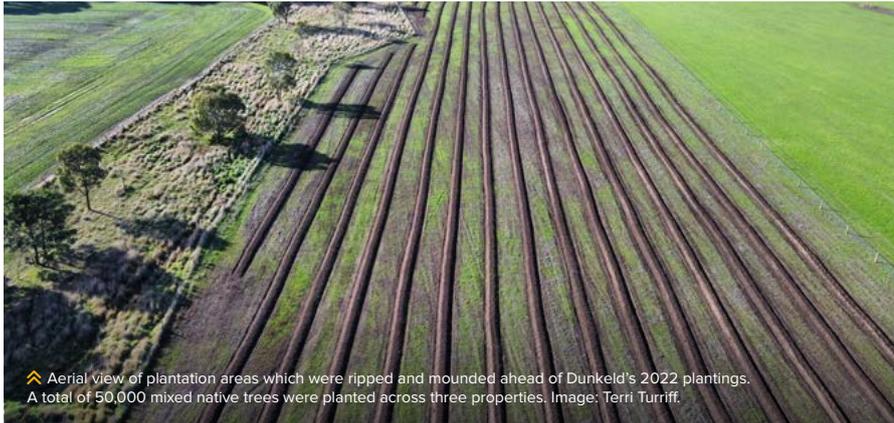
Heavy basalt loams over clay, dark cracking clays, sandy loam

RAINFALL

680mm



Trees planted at the Blackwood property in 2023. Image: Kai Dailey.



📍 Aerial view of plantation areas which were ripped and mounded ahead of Dunkeld's 2022 plantings. A total of 50,000 mixed native trees were planted across three properties. Image: Terri Turriff.

LESSONS LEARNT

- ✔ Record keeping to demonstrate that the vegetation is planted will reduce regulatory risks associated with harvesting. Follow harvesting codes of practice and local government requirements such as forest management and harvesting plans.
- ✔ Focus on what you can control, such as getting animals up to sale weights prior to feed cutting out. Dunkeld has invested heavily in improving soil health, pasture quality and reducing paddock sizes to improve pasture utilisation.
- ✔ Proactively manage your finances. Revising budgets or forecasts helps with forward planning – banks and boards don't like surprises.

SEASONAL ACTION PLAN

- ⚠ Establish boundaries for tree plantations, decide on species and placement, work out densities, and order trees 12 months prior to planting.
- ⚠ Install fencing during summer (or your region's drier seasons) to minimise wet weather challenges.
- ⚠ Undertake a first knockdown herbicide of pasture and weeds.*
- ⚠ Rip and mound plantation rows to allow soil to settle and grasses and weeds to germinate.
- ⚠ Conduct a second knockdown herbicide.
- ⚠ Start tree planting in late winter/early spring to maximise soil moisture.**

*Wind can delay herbicide application and rain can impact ripping and mounding.

**Beware of frosts – last year Dunkeld planted very early in the season and some new plantations experienced severe frosts which stunted growth.

Carbon credits on the horizon

Dunkeld recently measured its carbon footprint as part of a separate emissions project with The University of Melbourne, which tied in well with the 10-year sequestration forecasting done through the Trees on Farm project.

“Time will tell how many credits trees generate for us – regardless of whether we sell them or hold on to them, we aim to use them progressively to recover a large portion of our planting costs,” Kai said. ■

“The modelling showed you have a 90% chance of getting 10% return per year on the investment in trees with a 60% reduction in wind speed,” Rachelle said.

She said the odds of getting a good return are reduced if wind speed reductions are lower, higher value pastures are taken out, or carbon verification costs are higher.

“Tree projects require patience and a long-term view and investment of time – it's reasonable to expect production benefits from trees within seven years of planting,” Rachelle said.

Be prepared

To successfully establish trees, Tom and Kai recommend producers don't cut corners.

“Planning and preparation are key to plant survival – you need to get your weeds under control prior to planting to maximise tree survival,” Tom said.

“Ripping and mounding assists trees in the first couple of years to bounce out of the ground by allowing them to be deep rooted.”

Kai said this gives trees better access to moisture so they can grow more quickly and out-compete grasses and weeds for light and soil moisture.

“We plant trees at a high density and protect them with tree guards – which type depends on your situation,” Kai said.

“We use large plastic guards for trees on the properties with high macropod grazing pressure, but for those with low grazing pressure, we use small, 2L paper milk carton guards.”

Their other tips include:

- Unless you're promoting grazing under the treed areas, fence off plantations to keep stock out.
- Reduce competition by using herbicide to reduce grass and weeds in the first year.
- Ensure seedlings are pressed down deep enough to create good contact between the root system and soil – this can reduce root disease and increase survivability.
- For maximum impact, choose an orientation and location that shields against prevailing winds.

Biodiversity benefits

In addition to these broadscale environmental plantings, other conservation projects at Dunkeld include:

- threatened species programs for eastern quolls, brush-tailed rock wallabies and southern brown bandicoots
- native grassland management
- pest and weed management programs, such as fox baiting programs.

Kai is pleased with the biodiversity benefits trees have delivered.

“We're taking part in Birds Australia surveys and have anecdotally seen increased bird life and some native animals like water rats in our plantations,” he said.

“We hope the combination of predator control and habitat restoration will increase the biodiversity of native wildlife in the years to come.”

“We deeply believe the increased productivity and biodiversity values of the tree shelter belts are well worth the expense and effort.”



- 🌐 dunkeldpastoral.com.au
- 🌐 carbon-calculator.mla.com.au
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Beef producers set the standard

Some of Australia's tastiest beef – and those who produce it – have been recognised in the 2023 Meat Standards Australia (MSA) Excellence in Eating Quality Awards.

The awards recognise producers from across the country who consistently deliver beef of superior eating quality, based on the parameters of the MSA program.

MSA is based on more than 1.7 million taste tests by more than 250,000 consumers from 13 countries and considers the factors that affect eating quality from paddock to plate.

Here's a look at two of this year's winning enterprises:

▶ For a full list of winners, visit mla.com.au/msa



Low stress recipe for success

When it comes to maximising weight gain and carcass performance, a low-stress approach has proven successful for NSW beef producers Roger and Missy Wilkinson.

The Wilkinsons, who run a steer-trading enterprise near Bathurst with their daughter Primrose, won the 2023 MSA Excellence in Eating Quality Award for NSW large non-grainfed producers.

Roger and Missy have specialised in steers for more than 20 years. They've been MSA producers since 2011.

Over the past two years, they consigned more than 900 head and achieved an average MSA Index of 65.16 and a high compliance rate of 97%.

It's an exceptional result given the Wilkinsons don't breed any of their own cattle, instead buying them in via a trusted commission buyer who selects on type and temperament over specific genetic lines or suppliers.

The buyer is based in Wagga Wagga, and the Wilkinsons generally source steers from southern NSW and northern Victoria.

Type and temperament

Roger said specific genetics haven't typically played a role in their results – their achievements are better attributed to the type of cattle bought and the way their nutritional requirements are managed.

"Temperament and type are probably the main things we look for, seeking out quiet cattle who are later maturing," Roger said.

Originally the Wilkinsons bought steers in at around 300kg. Today, they target an entry weight of 350kg and find the cattle perform better.

"Buying them when they're that little bit older, we find they go on a bit faster, metabolise better and are easier to handle," Missy said.

"They're also through the stress of weaning, rather than having come straight off their mothers."

The Wilkinsons have found handling and management to be key drivers of performance for their steers, to meet their target of supplying 400–410kg carcass weight to JBS Scone.

On-farm strategies

On arrival, steers are unloaded into holding paddocks and left to settle for a week or two, before being brought in, weighed, drenched and vaccinated. They are then grouped into mobs of about 40 head of similar weights and placed into paddocks with improved pastures.

"From there, we really try to leave them alone as much as possible. We avoid mixing mobs during their time on the farm as they are very social, and become comfortable in their familiar paddock," Roger said.

SNAPSHOT



ROGER AND MISSY WILKINSON, 'Ardsley', Bathurst, NSW



AREA
1,215ha

ENTERPRISE
600–800 Angus and Angus-cross steers

PASTURES
Improved – predominantly prairie grass, with white and sub-clover and some phalaris and cocksfoot

SOIL
Granite loam

RAINFALL
650mm

Since focusing on trading steers, the Wilkinsons have gathered a lot of data on weight gain and meat quality.

"As a result, we've changed some of our management practices, particularly around not mixing and moving cattle unnecessarily as this can have a big impact on weight gains for a number of months.

"We closely monitor our stocking rate overall and at the individual paddock level, as well as assessing the available feed in the paddocks to ensure all the steers are on a rising plane of nutrition and the pastures remain in a healthy state."

Stockyard rounds up MSA win

A focus on attention to detail and all aspects of eating quality has seen Stockyard Beef win the Most outstanding beef producer – feedlot category at the MSA Excellence in Eating Quality Awards.

Stockyard, which operates the Kerwee Feedlot at Jondaryan in Queensland, also won the top gong in the feedlot category for 2019–21 and 2017–19 (and was runner-up in 2015–17).

Stockyard General Manager for Livestock Operations, Marcus Doumany, said the award was a testament to the huge team effort across the Stockyard supply chain.

“This award is an objective verification of Stockyard beef and is underpinned by the fantastic carcass results on every single animal leaving our supply chain,” Marcus said.

“It really starts with the strong relationship we have with our suppliers. We have very open conversations and they’re also keen to improve the quality of their animals based on our feedback and carcass results.

“Once the animals are here within our feedlot, our focus is on making our practices second to none.”

He said this encompassed low-stress animal handling, health and tailored nutrition.

Stockyard’s Kerwee Feedlot focuses on Wagyu and Angus cattle and can have up to 20,200 cattle in its care at any one time.

Angus cattle are fed for a minimum of 200 days, while Wagyu cattle are fed 400-plus days. Both breeds supply Stockyard brands which go into markets all around the world.

The ration is tailored for the breed and specific requirements by a nutritionist. It’s based around steam flaked grain, silage, straw, liquid supplement, molasses, vegetable oil and protein meals.

MSA Program Manager, David Packer, congratulated Stockyard on improving its compliance and eating quality outcomes over time, with the company achieving a compliance rate of 99.9% and an MSA index of 65.1.

“This is the 25th year of the MSA program and in that time, it’s become the world-leading eating quality grade program for Australian red meat,” David said.

“It’s a key driving force behind the quality of Australian red meat, so these awards are a prestigious achievement for the producers.” ■



MSA Program Manager David Packer presents the MSA award to Stockyard General Manager of Livestock Operations, Marcus Doumany.



⚡ Roger and Missy Wilkinson won the 2023 MSA Excellence in Eating Quality Award for NSW large non-grainfed producers.

Low-stress stock handling and improved technology in the cattle yards have also helped the Wilkinsons get better results with their steers.

“We upgraded the yards recently and have started using a Tru-Test weighing system which gives us immediate average daily weight gains, alongside real-time weights,” Missy said.

“It gives a good and timely indication of nutritional value in the paddocks, and if we see cattle weight gains start to slide, we can intervene before it’s too late.”

Value of data

This management style has been supported by the objective data and measurement tools the Wilkinsons use through myMSA.

“Initially we moved to MSA because it allowed us to differentiate our product from

standard cattle and it is now a requirement for our farm assurance program,” Roger said.

“We really rely on the MSA feedback to understand our performance and make changes where we need to.

“Getting objective measurement helps you understand how your management style is impacting the end product, and you can make business decisions based on that.”

The objectivity of MSA and the eating quality measurements also allow producers to connect in a meaningful way with others in the supply chain.

“It gives producers, processors and end consumers some common ground and a framework to work out how we can best complement each other,” Missy said. ■

LESSONS LEARNT

- ✔ Temperament and type are the main things we look for – we purchase quiet cattle who are later maturing.
- ✔ Avoid mixing and moving cattle unnecessarily as this can have a big impact on weight gains.
- ✔ Collecting data gives valuable insights into how cattle are performing, in real-time.

MSA celebrates 25 years with \$259 million return



Australia's quality grading program for beef, Meat Standards Australia (MSA), has set a record for estimated farm gate returns for the Australian beef industry.

The MSA system, which was established by MLA in 1998, is based on more than 1.7 million consumer taste tests by more than 250,000 consumers from 13 countries. It considers the factors which affect eating quality from paddock to plate.

The program delivered \$259 million in estimated additional farm gate returns to MSA beef producers in 2022–23.

MSA Program Manager, David Packer, said this was a significant increase from the estimated high of \$204 million the previous year.

"In this milestone year of 25 years of MSA, the program's value and benefits are reflected throughout the red meat supply chain from producers through to consumers," David said.

Outcomes report

The *MSA Annual Outcomes Report* for 2022–2023 has just been released.

In the past year, more than 3.39 million cattle were presented for MSA grading through 39 Australian beef processors.

This equates to 54% of all cattle slaughtered in Australia, with 3.23 million cattle meeting the minimum MSA requirements.

"Behind this excellent compliance rate are producers who continue to build on their MSA performance," David said.

In 2022–23, the average MSA Index (which represents the eating quality of a carcass) for MSA compliant carcasses was 57.52, an increase of 0.15 from the national average MSA Index of 57.37 in 2021–22, and an increase of 0.48 from 10 years ago.

An additional 2,882 cattle and/or sheep producers became MSA registered in 2022–23, taking the total number of MSA producers to 49,688.

Increasing awareness

In the past year, the MSA team delivered a range of training workshops and information sessions across the country, enabling more than 1,200 beef and sheepmeat

producers to make on-farm changes towards improved outcomes.

Key supply chain stakeholders also participated in MSA education and training, with more than 700 industry service providers, processor representatives, advisors and livestock agents attending events.

MLA has undertaken research with Australian independent butchers and wholesalers for more than a decade to understand their perceptions of, and satisfaction with, MSA-graded meat.

Survey results for 2022–23 show 78% of butchers rated their satisfaction with MSA-graded meat as 'very good to excellent', up from 73% in 2021–22.

Sheepmeat

More than 2.31 million sheep followed MSA pathways through 14 MSA-licensed processing facilities across NSW, Victoria, SA and WA in 2022–23 (200,000 more than 2021–22).

Of the total lambs processed in Australia, 71% were processed through MSA-licensed processing plants that follow processes to improve eating quality.

MSA carried out benchmarking activities with 10 sheepmeat supply chains, which comprised 68% of national lamb slaughter, to understand the range in eating quality of the commercial flock.

This was done by using technology to measure intramuscular fat in sheepmeat, coupled with lean meat yield measurements, to provide eating quality scores for nine cut-by-cooking method (grill or roast) outcomes.

"This will ultimately allow processors and brand owners to apply eating quality segregation within their supply chains," David said.

"As it moves towards commercialisation, the exciting prospects of the MSA sheepmeat cuts-based model is another way the MSA program continues to add value for the Australian red meat industry." ■

54% of the national adult cattle slaughter were presented for MSA grading, or **3.39 million cattle** 

 MSA delivered a record estimated **\$259 million in additional farm gate returns** to beef producers

 **95.1%** compliance to MSA requirements for beef

11,320  beef producers consigned cattle for MSA

 **57.52** national average MSA index

 **2,882** producers became MSA registered

2.31M sheep followed MSA pathways, representing **10% of total lambs** processed in Australia 

2,870  producers used the myMSA feedback system **14,362 times** 

194 beef brands  **22** sheep brands now MSA-licensed

 **1,200** beef and sheepmeat producers received MSA education



Broad benefits from forage brassicas

Sheep grazing a paddock of forage rape.

Developing regional and system-specific feedbase options can boost productivity in red meat enterprises, as well as improve ruminant efficiency, enterprise profitability and sustainability.

The Livestock Productivity Partnership* (LPP), which recently wrapped up, comprised a suite of projects for producers in eastern Australia. It aimed to contribute to a national increase in productivity from 1% to 2.5%/year.

Here's a look at how one of the LPP projects delivered practical feedbase tools for producers.

Forage brassicas

This project, led by Dr Lindsay Bell, Dr Lucy Watt and Dr Rebecca Stutz from CSIRO, aimed to improve the use of forage brassicas in mixed farming systems.

Forage brassicas can provide quick, abundant, high quality feed to fill the winter feed gap and improve weight gain in livestock (>300g/day in sheep or >1.5 kg/day in cattle). Like canola, they also provide benefits for weed and disease control in subsequent cereal crops or perennial pastures.

In some areas of the mixed farming zone, including subtropical Queensland and northern NSW, canola is more risky and potentially unprofitable. Here, producers typically grow forage oats.

Lucy said her team looked at autumn-sown forage brassicas as an alternative to oats, and as a potential break crop in cereal cropping rotations.

"We found forage brassicas can grow really well in very diverse environments," she said.

"We tested 10 different genotypes, including multi-graze and single-graze types, and compared them to forage cereals and dual-purpose canola."

Forage rapes and raphanobrassica were more drought tolerant.

"They grew for extended periods and were able to retain their biomass and quality for much longer than other genotypes, such as leafy turnip," Lucy said.

"They also either matched or exceeded the yield

of metabolisable energy provided by forage cereals."

Consistent feed

In areas where dual-purpose canola is typically grown, forage brassicas can fit neatly into the existing system and complement the feedbase.

Their wide sowing window gives producers the option to stagger sowing, so they can plant dual-purpose canola in early autumn, then plant forage brassicas a few weeks later.

"Dual-purpose canola can provide a bulk of feed over winter, which is supplemented by forage brassicas to provide a consistent feed supply," Lucy said.

"Once the dual-purpose canola is locked up for grain production by early spring, forage brassicas can still be grazed."

Forage brassicas also have a fit in areas where typically only cereals are grown.

"Soil-borne diseases and pests are a massive issue in areas which typically rely on cereals," Lucy said.

"Incorporating a broadleaf crop into your cropping rotation can increase productivity of subsequent crops."

Fertiliser tips

Forage brassicas require nitrogen (N) fertiliser – the researchers recommend applying around a third of the N budget at sowing, and the rest after each grazing.

However, brassicas are sensitive to excessive N on germinating seedlings, so avoid using starter fertiliser applied at more than 30kg N/ha in close contact with the seed.



Hunter leafy turnip and ryegrass.

Continued next page

◀ Continued from previous page

Higher rates are safe if fertiliser is side-banded (>50mm from seed row) or surface spread.

There's risk of nitrate poisoning with grazing forage brassicas, so applications should ideally be timed so there's a decent rainfall event before livestock go back onto the paddock.

Grazing management

Livestock should be introduced onto forage brassicas gradually, with other feed options made available.

"You could keep the gate open to a neighbouring pasture paddock and allow animals access to both pasture and the forage brassica," Lucy said.

She said providing a reasonable-quality hay option in the paddock will avoid a rapid change to livestock's diet.

Increased stocking

Modelling showed incorporating forage brassicas into 15% of the farm forage area can decrease the frequency of feed gaps by 25 to 40% or may allow producers to increase the stocking rate by 10 to 30%.

The project developed management guidelines, which detail the agronomic and grazing management requirements and provide an overview of the potential systems fit.

Lucy said there's been increasing interest in forage brassicas, with a 25% increase in seed sales through the life of the project.

"If producers are keen to integrate forage brassicas into their system, speaking to their agronomist or advisor is key. Genotype selection is important, so they need to choose the best option to suit their system and what they want to achieve." ■



▲ Autumn-sown Hunter leafy turnip and ryegrass.

Nine tips for successful forage brassicas

- 1** Target winter–spring feed gaps – make the most of forage brassicas to maintain high forage quality or fill gaps from other on-farm forage options.
- 2** Select the right variety for your requirements, as there are numerous forage brassica types available.
- 3** Choose smaller paddocks (if possible) and avoid those with a risk of residual herbicides, brassica weeds or recent brassica crops (in the past two years).
- 4** Boost early growth with a focus on establishment, early weed control and initial crop nutrition.
- 5** Apply a third of the nitrogen budget at sowing, and the rest after each grazing.
- 6** Monitor for pests and weeds throughout the season and manage with grazing and/or pesticides as needed.
- 7** Manage grazing to maximise animal performance – don't graze within four weeks after applying fertiliser. Leafy types should be 30–40cm high before grazing. Remove stock once leaf is fully utilised.
- 8** Slowly introduce animals to forage brassicas so they can adapt, and provide access to fibre-rich feed of good quality hay. Avoid a rapid change in diet (aim for at least four weeks or brassica grazing).
- 9** Monitor animal health closely, particularly during the first week of grazing and ensure vaccinations (such as 7-in-1) are up to date.

▶ Learn how forage brassicas can fit into a grazing system on the next page.



SEASONAL ACTION PLAN

- 📌 Control weeds pre-sowing to ensure forage brassicas are planted into a clean paddock.
- 📌 Sow in autumn to target winter–spring feed gaps.
- 📌 Apply a third of nitrogen fertiliser at time of sowing, and the rest after each grazing. Time applications so there's rainfall between the application and putting livestock into the paddock, to give plants time to recover after grazing and reduce the risk of nitrate poisoning.
- 📌 At the end of the grazing period, grain growers can spray the forage brassica crop out then plant a cereal crop. For producers looking to sow another forage crop, a spray operation is unnecessary, and the next forage crop can be sown directly in.

*MLA Donor Company, NSW Department of Primary Industries, CSIRO, University of New England, University of Melbourne and Tasmanian Institute of Agriculture.

▶ Read MLA's new guide, *Managing forage brassicas in Australian mixed farming regions*, at mla.com.au/feedbase-hub

📌 Livestock Productivity Partnership: mla.com.au/lpp ✉ Lucy Watt lucy.watt@csiro.au ✉ David Beatty dbeatty@mla.com.au

Forage secures place in grazing mix

Forage brassicas have earned a spot in the Kershaws' mixed farming operation at landra, on the NSW south-west slopes.

Nick Kershaw and his father Rod run a prime lamb and wool enterprise, with a complementary cropping program designed to keep paddocks clean.

They try to avoid buying in feed, instead relying on pastures and grazing crops, making their own hay and storing grain at harvest.

Grazing program

Nick plants dual-purpose canola in late summer – February or March – and puts pregnant ewes out into paddocks in May, just prior to lambing. He locks up the canola in June and moves the ewes and lambs onto grazing wheat crops.

“We lamb in autumn in our pastures, so we’re quite reliant on our grazing crops to carry us through,” Nick said. “When lambs are dropping on the ground, that’s when ewes require the most feed.”

He locks the wheat up at the end of July and weans lambs in August. The nutritional requirements for the ewes drop off after weaning, so they can return to pastures, but at this point, the weaners need to maintain a high quality feed intake to maximise weight gain.

Dry-time solutions

Prior to the run of wet years he’s experienced since 2020, Nick trialled forage brassicas as an option for these weaner lambs.

“During the drought years from 2016 onwards, we weaned lambs in spring and everything was drying out, so we didn’t have a lot of quality feed,” he said.

“We were looking to grow something which could be sown in early winter and be ready to wean our stock onto.”

The Kershaws trialled Greenland forage rape, Raphno and Hyola® 970CL, all sown at the end of winter.

“The weaners went really well – our wether lambs gained 250g/day on the Raphno and 320g/day on the 970. That’s fantastic for Merino lambs. Second-cross lambs might do even better.”

Multiple grazings

Nick likes the fact forage brassicas can be grazed heavily and, in favourable years, will give multiple grazings.

He grazes the autumn-sown grazing wheat at 25–30 dry sheep equivalent (DSE) per hectare, while canola is grazed at 30–40 DSE. In comparison, he crash-grazes brassicas in spring at 60–80 DSE.

“Initially we grazed it as we would dual-purpose canola at 30–40 DSE, but it wasn’t enough – it needed to be stocked a lot more intensively or it will run up and go to head and the animals then don’t want to eat it.

“We get a lot of numbers on there, get a good graze, then move them off to somewhere else. We then spread urea before a rainfall event, and we can then graze it again.

“Depending on the season, you can get three, four or even five grazings, all the way through to summer.”

Because of the recent run of wet years – which meant Nick wasn’t chasing feed for his weaners – he hasn’t planted forage brassicas during this time.

However, once the seasons get back to a drier or even a more ‘normal’ pattern, he’ll reintroduce them.

“If we go into a hotter, drier year, I’ll go back to that system. Forage brassicas will always be there for us as an option.” ■



SNAPSHOT

NICK AND ROD KERSHAW,
landra, NSW



AREA

1,250ha (500ha cropping)

ENTERPRISE

1,800 Merino ewes (1,400 joined to Merinos and 400 to terminal sires)

PASTURES

Phalaris, fescue, clover mixes and lucerne

SOIL

Deep loam

RAINFALL

600mm



Forage brassicas are an important source of feed during dry seasons for Nick and Rod Kershaw.

LESSONS LEARNT

- ✔ It’s important to sow forage brassicas into clean paddocks.
- ✔ Forage brassicas can be stocked intensively – we doubled the stocking rate compared to how we graze dual-purpose canola and used 3–4 smaller paddocks to graze hard and rotate stock.
- ✔ Forage brassicas have a high nitrogen requirement.

New tech shapes historic enterprise

The roots of his family farm may reach back almost 200 years, but Tasmanian sheep producer Russ Fowler is using new technology to help his business flourish.

Here, Russ shares why he decided to become an early adopter of electronic identification tags (eIDs) and how data-informed decision making is benefiting his business.

Shifting with the times

The seventh-generation sheep producer's family began breeding Merinos at the foothills of Tasmania's central highlands in 1825. Not surprisingly, Russ said the business has weathered many changes since then.

"We've gone from just a handful of paddocks in those early days, to more than 3,000ha today. The business itself has evolved into a mixed farming enterprise comprised mainly of composite sheep, with some cattle and irrigated cropping," he said.

Over the past decade, the Fowlers' stock numbers have jumped from 6,000 ewes to around 10,000, with a third of this growth coming in the last three years alone. Russ attributes this to their shift away from Merinos into the simpler, easy-care composite breeds.

Early adopter

The business has been using eID tags for more than a decade and began tagging all lambs from birth in 2018.

The technology was more flexible and efficient than manual recording, allowing them to monitor weight gains in the yards and make on-the-spot decisions.

"Initially, it was a simple tool we used to monitor weight or eye muscle depth. But we've become more sophisticated in how we're using the data and we're getting real commercial insights as a result," Russ said.

"For instance, we can see if weights or lambing percentages rise when sheep are in a particular paddock. In the past, we couldn't quantify those gains but the

individual data we now draw from our electronic tags is giving us clear indicators and helping us identify those benefits."

Creating value

Traditionally, the Fowlers finished all lambs on-farm, but as they transition to a fully composite flock, Russ anticipates production will far outweigh available feed and they will need to focus more on the store lamb market.

"We're using eIDs to record each of our store lambs the whole way through," he said. "This helps us put together a really good saleable item for those buyers, and also gives them an extra layer of useful information about the animal."

For example, he weans triplets at 45 days and introduces them to grain very early on. Normally, lamb condition slips a bit after weaning, but the eIDs show these lambs are gaining an average of 200g/head/day during the first three weeks.

"That means when they arrive at the finisher's property those lambs are ready to go forward, and the buyer will be able to see that in the data."

Growing numbers

During a flock growth phase, Russ retained his dry ewe lambs, joining them the following year. He tracked their individual progress using eID and found a third of them produced triplets, while only 10% of the entire group were dry a second time.

"Everyone thinks if you have a dry ewe lamb it must be infertile so get rid of it. Instead, we found these were just late maturing, probably because they were out of a triplet and had a lower body weight," he said.

"They just needed more time to mature, but without individualised eID data, we wouldn't have been able to determine that."

Tasmanian sheep producer Russ Fowler.



SNAPSHOT

RUSS FOWLER,
'Bendeveron',
Bothwell, Tasmania



AREA
3,000ha

ENTERPRISE
10,000 composite ewes

PASTURES
Annual pastures, with a focus on building up perennial pastures (phalaris, cocksfoot, clover, fescue)

SOIL
Volcanic, heavy clays, sandy loam

RAINFALL
400–450mm

Identifying issues

In December 2021, the flock had a bout of pneumonia, which wasn't diagnosed until the following March. While the lambs looked okay, the weights Russ was seeing from the eID data were telling a different story.

"We were seeing 150g/day weight gains, when normally they'd be gaining 200g/day," he said. "When we finally suspected pneumonia in March, the eIDs meant we could easily pull the lightest lambs out to biopsy and get a definitive diagnosis."

Russ said this highlighted the importance of being able to identify small but significant changes and make data-informed decisions.

"The real win for us was that we knew early on we weren't getting the weight gains we needed, so we weren't booking those

« Russ Fowler's family has bred Merinos in Tasmania's central highlands since 1825.

“Initially, it was a simple tool we used to monitor weight or eye muscle depth. But we've become more sophisticated in how we're using the data and we're getting real commercial insights as a result.”

lambs in only to find out months later we couldn't fulfill those contracts,” he said.

Controlling what you can

Russ has been surprised by the rapid rate of change in the sheep market this year.

“Normally, when prices drop, it's a gradual thing off the back of a bad season but this time round it's been a cliff face,” he said. “It's highlighted how little we can really control in this industry, and I think that's often what brings people down and causes a lot of the mental health issues we see.

“We're so vulnerable to those changing conditions, but if you've got the data to make informed decisions or see what you're doing right, I think that can make a big difference when you're trying to deal with things that are out of your control.”

Refining sheep genetics

Going forward, Russ sees eIDs having a significant role to play in realising the value of the work he's doing to refine his stock's genetics.

“At the moment, prices are driven by the sheep's breeding rather than the quality of the meat. They drop as you move down from a Merino to a first-cross but there will be second crosses that are just as good as Merinos,” he said. “We just need to be in a position where we can back that up with data.”

This means using the eID to track stock all the way through the supply chain and improving the quality and scope of the abattoir data – moving beyond dressing percentage or weight.

“At the moment, most of the value we're getting from the eID lies in how we're using or interpreting the weight-monitoring data. But if we can start looking at what's happening through the whole process at the abattoir, we'll start to see benefits flow through to our genetics,” he said.

“That's when producers who are doing the work and delivering that higher quality product will start being rewarded for it.” ■



Benefits of eID tags with Russell Fowler:
Scan the QR code to watch on YouTube.



SEASONAL ACTION PLAN

- 1 Familiarise yourself with the eID rules in your state or territory.
- 2 Participate in National Livestock Integrity System (NLIS) and eID workshops and online training offered by your state or territory departments.
- 3 Research the available electronic tags and choose the one which best suits your needs.

Mandatory sheep eID

Mandatory sheep eID will come into force nationally on 1 January 2025. Specific rules apply to each state/territory.

For more information, refer to:

- **The Department of Agriculture, Fisheries and Forestry** for specific details on requirements and timing across jurisdictions – scan the QR code.
- **Integrity Systems Company** for guidance on animal identification tags and traceability: integritysystems.com.au/eID



« Russ Fowler uses eID to inform his flock management decisions.



Growing beef from dairy good news for all

The 'Growing Beef from Dairy' (GBfD) project marks the first time MLA and Dairy Australia have joined forces to jointly fund a project – with rewards expected on both sides of the fence.

Giving dairy calves a quality lifespan and establishing a productive pathway through the beef supply chain is a win-win for both the calves and the dairy industry's social licence.

The five-year, levy-funded project will encourage producers to identify target markets for surplus dairy calves and will aim to upskill and support producers on how to breed, feed and manage calves to meet market specifications.

AgSTAR Projects manages the project, which includes a pilot Producer Demonstration Site (PDS), facilitated with the support of GippsDairy's Regional Extension Officer Kristen Davis.

The PDS, based in west and south Gippsland, will demonstrate different surplus calf market pathways and bring together producers and supply chain stakeholders for facilitated discussions, peer-to-peer learning and field days.

A complex challenge

Louise Sundermann, Policy Lead Animal Health and Welfare at Dairy Australia, stresses the importance of maintaining a strong social licence to operate (SLO) for the dairy industry.

"Without an SLO, we don't have a market to buy our milk," Louise said.

The stark reality for dairy farmers is that more calves are born than can be absorbed back into the herd as milking cows or bulls.

"Typically, these surplus calves are sold to abattoirs as bobby calves at 5–30 days old, or if no other options exist, euthanised at birth.

"There's no simple solution – who raises these calves? Which markets do they go to? Who pays for the additional infrastructure? What happens when beef prices are too low to cover rearing costs?"

"It's been characterised as a 'wicked' problem¹ requiring multifactorial and multi-stakeholder approaches to address," Louise said.

New pathways

Management of surplus calves is recognised as a key issue by dairy producers.

Australian Dairy Farmers, the national advocacy body representing dairy farmers across the six dairying states, has committed that all calves will enter a valued supply chain by 2035.² Dairy Australia now has the remit to resource this issue through strategy, research, development and extension.

"Beef from dairy animals isn't new – we know when beef prices are good, fewer dairy bobby calves are slaughtered³ and more calves are raised to take advantage of these prices," Louise said.

"We want to build more resilience in the beef from dairy supply chain, even when beef prices are lower, by addressing the knowledge gaps at the farm level on producing animals specifically for the beef market."

Lasting benefits

MLA's Project Manager - Animal Wellbeing RD&A, Sharon Dundon, sees growing beef from dairy as a long-term, strategic investment.

"If it's done well, it will have positive, ongoing business benefits while enhancing animal welfare and protecting industry's social licence," she said.

"Dairy beef animals can fit into the Meat Standards Australia (MSA) program if reared and fed well.

"The extension resources produced through this project will guide producers on mapping out optimal feeding schedules to get the best outcomes."

Piloted resources

The two-year pilot PDS will review and trial extension and adoption resources to help producers make better informed decisions on how to breed, feed and manage surplus calves. This process will ensure the package is relevant and meets the needs of all stakeholders.

AgSTAR's Maria Thompson said it would be a flexible, bespoke offering.

"We aren't being prescriptive on the market producers may identify, or on any particular breeds or genetics. Instead, the package will support producers' decisions about surplus dairy calves through strategies to meet market specifications more efficiently.

"Producers will be directed to relevant modules which align to the age and target weight of the calves. These resources will cover all components from breeding and genetics to nutrition, animal husbandry, animal health, welfare, biosecurity, transport, housing, markets and meat quality," Maria said. ■

PDS Q&A

Here, PDS co-facilitators Callen Thompson (AgSTAR Projects) and Kristen Davis (GippsDairy) share more about the Growing Beef from Dairy PDS.

What producers are involved in the PDS?

Callen: "Most are experienced dairy producers who don't want to sell bobby calves and see an opportunity for extra income. We also have beef producers, milk processors, vets, advisors and a genetics company – there's a good mix."

Kristen: "There's a good range of production systems, breeds and herd sizes represented in the PDS. Participants are looking to work through complex problems as a group and learn from each other, as well as tap into the service providers on-hand to find solutions."

What does this mean for beef producers?

Callen: "We'd like to raise awareness about how beef producers can make the most

out of dairy cattle with good management, nutrition and breed selection."

What do you hope the PDS achieves?

Callen: "By bringing together stakeholders from the whole supply chain, they can see the need to all be on the same page. Calf rearers, lot feeders, meat buyers and processors all need to know that well managed dairy beef has the potential to be a quality product."

Kristen: "We would like increased involvement from beef producers and calf rearers. A large proportion of dairy farmers have excess calves but not the facilities or land availability to rear them. We need more people willing to rear, trade and buy dairy beef calves."

What industry trends are on your radar?

Kristen: "We're seeing a constant increase in the utilisation of sexed semen within dairy herds, which coincides with a rise in the use of beef semen in breeding programs. Sexed semen allows for at least 90% accuracy for selection of female calves. It costs around \$50 per straw for sexed semen whereas conventional semen ranges from \$15–\$25. The sorting process for sexed semen does impact conception rate, which some people are a little cautious of. Although, with thorough selection criteria and targeted mating programs, we're seeing good results with its utilisation in dairy herds."

✔ F1 Angus-cross calf. Image: Dairy Australia.



Benefits of growing beef from dairy include:

- consistent supply due to year-round calving
- high quality genetics – 87% of dairy farms use artificial insemination
- high meat quality – contrary to historic thinking, dairy beef produce excellent quality meat with high marbling scores.

* The key finding was beef from dairy steers had equal eating quality to those from beef breeds when finished in feedlot or supplemented pasture-based systems. Scan this QR code for more information.



1. frontiersin.org/articles/10.3389/fvets.2021.660934/full
2. australiandairyfarmers.com.au/surplus-calves-taskforce
3. dairyaustralia.com.au/resource-repository/2023/02/09/dairy-calf-market-pathway-trends-2010-22

TOOLBOX



✔ Get in touch with your local Dairy Australia regional office: dairyaustralia.com.au/contact

✔ Scan the QR code to read more about Dairy Australia's involvement in the Growing Beef from Dairy (GBfD) project.



✔ Sign up to AgSTAR Project's GBfD newsletter for the latest project news (scan QR code).



✔ Subscribe to the Producer Demonstration Site (PDS) newsletter: mla.com.au/pds

A dairy producer's perspective

PDS participant and South Gippsland dairy producer Will Jelbart shares his thoughts on the Growing Beef from Dairy PDS.

What are the benefits of being involved in the PDS?

"It's great to be in contact with like-minded producers and industry insiders who we otherwise don't get to talk to. It helps give us an insight into what they're looking for – I think it also gives them an idea of what we are and aren't able to do to better meet their needs and expectations."

How will the project help you make better-informed decisions about managing surplus calves?

"We'll have a better understanding of the possibilities and options for our surplus calves. It's given us some great contacts and information to be able to make better, more informed decisions for our businesses and for the welfare of our surplus animals."

What's your message for others, about the project or the broader issue?

"This project is a great start to help the dairy industry tackle the issue of bobby calves. Dairy beef has great potential as a high quality product which has a lower carbon footprint than traditional beef. I grew up on a dairy farm and since I was a child, I've always struggled to watch really happy, healthy calves getting sent off to slaughter at around seven days of age.

"That's why as soon as we possibly could, we went bobby calf-free. I also think now, with the advent of sexed semen, it's becoming a lot easier to go bobby calf-free. We only use sexed dairy semen and the odd bull calf that comes out of the sexed semen is reared through and sold when we can get the best return." ■

SNAPSHOT



WILL JELBART,
Loch, Victoria



AREA

280ha (dairy) + 175ha (beef)

ENTERPRISE

520 Holstein Friesian cows

PASTURES

Ryegrass, clover, rape and millet

SOILS

Clay loam, river flats and coastal sand

RAINFALL

1,100–1,600mm



✔ Project participants at the first 'Growing Beef from Dairy' PDS meeting, with PDS facilitators Callen Thompson (far left) and Kristen Davis (far right). Will Jelbart (fourth from left) is a dairy farmer who has experience with dairy beef production. Image: Callen Thompson.

- Louise Sundermann louise.sundermann@dairyaustralia.com.au ● Callen Thompson callen@agstarprojects.com.au
- Kristen Davis kristen.davis@gippsdairy.com.au ● Maria Thompson maria@agstarprojects.com.au ● agstarprojects.com.au/about
- Will Jelbart admin@jelagri.com.au ● Sharon Dundon sdundon@mla.com.au

Getting goats on board CN30

Ruminant livestock have come under scrutiny across the globe for their production of greenhouse gas (GHG) emissions. Until now, this focus on livestock emissions has mainly centred on the beef, dairy and sheepmeat sectors, with little data existing for goats – but a new MLA-supported project is filling this gap.

Led by the Queensland Alliance for Agriculture and Food Innovation (QAAFI), the three-year project will see goats play an active role in the red meat and livestock industry's goal to be carbon neutral by 2030 (CN30).

Louwrens (Louw) Hoffman, Professor of Meat Science at QAAFI, leads the 'Goat industry – sustainability credentials project'.

The research will look at goat industry sustainability, with a focus on:

- emissions quantification and reduction
- sustainable landscape outcomes
- productive goatmeat enterprises.

"As an animal scientist, I'm interested in GHG emissions from livestock – I realised there was no data on goats," Louw said.

"We needed a more accurate assessment of what their GHG impact is."

The team is examining what factors impact the level of GHG emissions from an individual animal. For example:

- Does it change when the goat is pregnant?
- Does it differ for young versus old animals?
- How does the animal's nutrition impact its emissions?

Research focus

There are two main aspects to the project.

Firstly, the researchers are looking at three goat-producing properties – these are in a mulga land bioregion, a Mitchell downs bioregion and a brigalow bioregion.

"We hope to get an idea of what impact the different environments and diets will have on the animals' GHG emissions," Louw said.

The second part of the project involves bringing the goats into experimental conditions, giving them different feeds, keeping them at different environmental temperatures, then measuring their GHG emissions. Researchers will use the C-Lock GreenFeed system, which is designed to measure gas fluxes of methane and carbon dioxide.

Each goat has an electronic identification (eID) tag. When they visit the feeder, the animal's eID is scanned and the sensors around the head collect measurements of GHGs. There are also external sensors on the equipment which correct for the GHGs which occur naturally outside.

Production efficiency

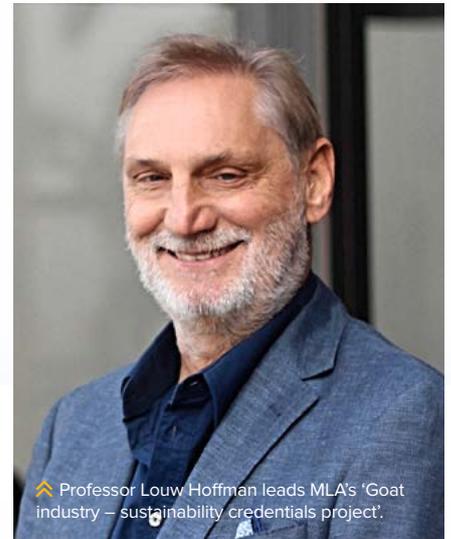
Louw said understanding GHG emissions has strong links to efficiency in production and sound landscape management.

"The goal for producers is to get as many kilograms of red meat per surface area as possible, and this is linked to kid survivability.

"If you have a doe which doesn't produce a kid, she's been emitting GHGs for a year without giving anything back. If you can measure this, you can manage your herd more effectively.

"We need to move away from the idea goats are free-roaming animals and therefore we should leave them alone. If you don't know how many animals you have, you can't manage your carrying capacity in an optimal way."

Louw is interested to see what management practices used in cattle and sheep can also be used in goats, as he



Professor Louw Hoffman leads MLA's 'Goat industry – sustainability credentials project'.

"This project will allow us to show our export markets that our goat industry is efficient and sustainable."

sees enormous potential for growth in the goat industry if it's done sustainably.

"Goats are highly adapted to marginal areas," Louw said.

"We know we need to increase food production on a global scale, but there's very little new arable land available without large-scale deforestation. Goats provide an opportunity to increase the amount of meat we are producing without the need to open up new land to agricultural production.

"The goat industry is growing, and it is export focused. If we start moving into high-end markets, there'll be a need to be able to demonstrate our sustainability credentials. This project will allow us to show our export markets that our goat industry is efficient and sustainable." ■



Biomass powers processing

A pilot program to develop and test the potential for biomass boilers to provide sustainable fuel options for Australia’s meat processing facilities has successfully produced heat at a supply cost of below \$3 per gigajoule (GJ), at JBS Riverina’s Yanco facility in NSW.

Instigated by the Australian Meat Processor Corporation (AMPC), the trial demonstrated how different types of biomass, such as the partially digested grain and grass found in an animal’s paunch, in addition to woodchip, nut shells and sawdust, could be blended and processed in a boiler to supply thermal energy.

Bioenergy is currently the third most common source of energy used by meat processing facilities behind grid electricity and grid gas, with coal in fourth place.

Multi-fuel biomass can compare favourably with traditional forms of thermal energy such as on-site coal at \$10/GJ and grid gas at \$25/GJ.

Profitability

The Australian Beef Sustainability Framework (ABSF) highlights the high cost of energy as one of the factors which puts pressure on processors to be price competitive in global markets.

Profitability across the value chain is a key pillar of the ABSF, as is the commitment to achieve carbon neutrality by 2030 (CN30).

Conversion of waste into bioenergy is one option for processors to reduce production, processing and consumption waste, and research is continuing into the use of renewables within the energy mix to achieve CN30.

JBS Sustainability Engineer, Michael Lang, said sharp price rises for natural gas and coal, along with the industry’s commitment to reduce greenhouse gas (GHG) emissions, are prompting processors to seek cheaper, more sustainable energy options.

Using biomass can reduce GHG emissions by up to 98% compared to coal, and by 96% compared to natural gas.

“This trial shows that the potential to replace fossil fuels with a lower carbon emission biomass

alternative using purpose-built boilers is now a genuine possibility,” Michael said.

“During the trial we monitored the feasibility of various blends of biomass sourced on site and externally, and successfully blended paunch materials – usually a waste stream – into multi-fuel blends of up to 80% paunch, 20% woodchip.

“This provided process heat to the plant at sub \$3/GJ at the same time as reducing emissions and achieving energy reliability.”

Next steps

AMPC Program Manager Sustainability, Matt Deegan, said the 500kW trial boiler used at JBS is smaller than full-scale biomass boilers, which may be up to 15 megawatts.

“This pilot program will build the confidence of processors to hopefully advance to a full-scale boiler. It’s a considerable investment but the payoff is reduced energy prices and emissions,” he said.

AMPC teamed up with All Energy to design, cost and manage the construction of the biomass boiler, which is now scheduled for trials in SA, Queensland and WA. ■



All Energy Principal Engineer, Gareth Forde, (left) and ACT Group CEO, Gary Ridout, at JBS Riverina.

On the road to better effluent management

Effluent is an unavoidable by-product when livestock are transported by road, but a new code of conduct is now in place to manage this issue.

It's a challenge which has plagued the industry for years, particularly as urban sprawl brings cities and suburbs closer to abattoirs – increasing the frequency of infringement notices to transport companies for effluent spillage.

Graeme Hoare, Compliance Manager at Martins Stock Haulage and Chair of the Australian Livestock and Rural Transporters Association's (ALRTA) Driver and Animal Welfare Committee, has taken up the mantle to address this pressing issue.

"The trucking industry of the livestock sector had a problem – we had to fix it," Graeme said.

Effluent code

The Effluent Code was created by producers and transport operators working closely with the National Heavy Vehicle Regulator (NHVR). It blends industry knowledge and experience to outline measures across the entire land transport journey, from preparing livestock for transit to unloading them at the destination, providing a chain of responsibility during livestock transport.

"*The Effluent Code* is not just a set of guidelines but a comprehensive strategy to ensure the wellbeing of livestock, drivers, and all road users," Graeme said.

"It's a reminder that effluent management is more than a matter of compliance – it's a collective responsibility impacting the sustainability and safety of the entire livestock transportation industry."

On-farm responsibility

Producers have a vested interest in effluent management for three main reasons:

- **Biosecurity:** managing effluent overflow protects the industry from potential disease outbreaks. Proper effluent disposal and containment can help prevent the spread of diseases, safeguarding the livestock industry.
- **Animal welfare:** if effluent tanks are full, the effluent will come up under the floor of the crate, creating slippery conditions for livestock.
- **Road safety:** effluent management impacts the safety of all road users. The responsibility of producers extends beyond their farm gate – until livestock safely reach their destination, producers bear a portion of the risk.

Preparing livestock for transport

Managing water and feed intake prior to consignment is an important part of pre-transport livestock preparation.

It differs depending on the commercial requirements of the supply chain, seasonal conditions, feeding regimes and journey plans.

Producers should check these requirements with the receiver and transporter to manage effluent.

Consider limiting feed intake (particularly lush green pasture) prior to transport and provide access to adequate dry roughage. If livestock are fed prior to transport, dry feed or hay will

likely result in less effluent and a smoother journey for all involved.

A safe space for more efficient loading

As well as ensuring animals are fit to load, it's important to prepare a safe loading environment.

This includes providing safe loading ramps, adequate lighting and well-designed gates for a safe, more efficient loading process.

Additionally, producers should be mindful of the wellbeing of drivers, especially during delays.

"While they don't need to provide a three-course meal, ensuring drivers have access to shade or basic amenities can make a significant difference," Graeme said.

Understanding transport regulations is crucial as well.

"Drivers operate under strict fatigue management laws, and delays can disrupt their schedules, affecting road safety and animal welfare."

Use a TruckSafe company

Another tip for producers when it comes to safe transport of their livestock is to choose the right transporter.

Look for transport operators with TruckSafe accreditation. TruckSafe provides a best practice standard for trucking operators when transporting livestock and underpins industry programs such as Meat Standards Australia and Livestock Production Assurance to maintain supply chain integrity. ■



Chair of ALRTA's Driver and Animal Welfare Committee, Graeme Hoare.

TOOLBOX

- ▶ Scan the QR code to read the NHVR *Effluent Code*: 
- ▶ Read MLA's *Is the animal fit to load?* guide for more information on how to prepare animals for transport, including curfew strategies: mla.com.au/fittoload
- ▶ Book a free *Effluent Code* workshop presented by ALRTA and NHVR. Contact ALRTA on 02 6247 5434, office@alrta.org.au or NHVR on 13 64 87, codes@nhvr.gov.au
- ▶ Find out if your livestock transporter is TruckSafe accredited: trucksafe.com.au or 02 6253 6900.

Insights into live export industry

Research was commissioned to understand the economic contribution of the live sheep export trade in WA, as well as nationally.

The economic analysis was carried out by the Livestock Export Research, Development and Extension Program, a collaboration between LiveCorp and MLA.

History of live export

The start of the sheep trade from WA to the Middle East in significant numbers can be traced to the 1940s and 1950s. There has been significant investment since then by exporters and importers in ships, farms, feedlots (in both Australia and importing countries) and pellet mills.

The trade provides a valuable marketing option for producers, particularly in times of high turn-off such as drought. Live exporters tend to select sheep not favoured by processors, so it is more flexible than the prime lamb market in terms of age, quality and timing of delivery. The trade also complements the state's mixed farming systems.

Economic analysis

In 2021–22, live sheep exports accounted for 17% of WA sheep turn-off and provided \$71 million in value added to the WA economy.

In recent years, industry initiatives, regulatory changes and research have meant significant improvements in animal welfare, with record low average mortality rates for sheep shipments of 0.14% in 2022. This equates to about one-sixth of the average rate in 2010.

The economic study found the annual value of the trade was \$143 million, based on a five-year average (2017/18–2021/22).

Nationally, live sheep exports supported 320 full-time equivalent workers directly and indirectly in post-farm-gate positions, with 249 of those in WA.

The report noted a range of factors contributing to a drop in the number of live sheep exported from Australia in recent years. These include:

- regulatory changes
- good seasonal conditions across the country causing an increase in the transfer of sheep from WA to the eastern states
- a shift to cropping influenced by relatively high grain prices
- the high price of Australian sheep relative to international competitors
- impacts associated with the COVID-19 pandemic.

If live trade were to cease, it's estimated the potential value of a Merino wether (the type of sheep most commonly exported) could drop 19.19% or by \$21.84 per head. If the cessation occurred during a period of high supply and low demand, the price response would likely be more pronounced, potentially as high as 32.90% or \$37.44.

The five major importers of Australian sheep are Kuwait, Israel, the United Arab Emirates, Oman and Jordan, accounting for 92% of the total live sheep trade in 2022. Although they also buy sheep from other countries, many customers have a preference for Australian sheep because of their quality and disease-free status.

All five countries are highly dependent on imports for food security. The analysis also highlighted they are more likely to import live sheep from other countries than directly replace Australian sheep with processed sheepmeat. This supports claims that the importance and requirement of live sheep in the Middle East are ingrained in culture, religion and tradition. ■

Growing acceptance of live exports

There's growing confidence in Australia's livestock export industry, including its animal welfare standards, according to the latest in a series of surveys dating back to 2019.

The research delves not just into what Australians think about live exports, but why they think that way.

Surveys of 4,000 Australians have consistently shown the community strongly values the role of live exports in regional communities, its contribution to the Australian economy, and the important market it provides for livestock producers.

There is also recognition of the benefits of the industry to people overseas, including improvements in diet and nutrition, the transfer of know-how, and breeding stock to increase food security.

Animal welfare remains a key component of the conversation between the industry and community, but there has been a significant improvement in responses over time.

Focus questions added in 2023 identified no significant differences in attitudes toward the live sheep export industry specifically, compared to the industry overall. For instance, almost three-quarters of participants said benefits outweighed the costs, or the costs and benefits were about equal, in both instances (73% and 74% respectively).



Read the full reports at livecorp.com.au Access the latest market reports at mla.com.au/prices-markets

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Lamb brand leaps into the luxury market

Margra Lamb can be found on menus from Los Angeles to Singapore, but the brand's shift from family dinners to fine dining relied on finding the right recipe.

According to Tim Leahy, one of Margra's founding directors, the key ingredients have been a drive for data, the willingness to embrace outside expertise, and an openness to forge strategic partnerships.

Here, Tim shares how the company had to focus on its strengths and acknowledge its weaknesses to reinvent lamb as a luxury dining experience.

A point of difference

Margra was built on the back of Australian White sheep. The name recognises the Gilmore brothers – Martin and Graham – who helped pioneer the breed from the family's Tattykeel Stud near Oberon, NSW.

The Gilmore family knew they had something different from an early stage and they wanted scientific data to back up their claims.

In 2016 they partnered with Associate Professor Aduli Malau-Aduli at James Cook University, whose research established their lamb had a very low fat melting point. These days, Margra's fat melting point is shown to sit between 28°C and 35°C, on average.

"That's well below body temperature, so it literally melts in your mouth," Tim said.

"This, together with the fact our sheep don't produce lanolin, gives Margra such a clean finish on the palate."



👉 Chef Mark Best selects a Margra Lamb leg.

Building a brand

Tim saw creating the brand as an opportunity to tell the Gilmore family story and wanted timeless and distinct brand assets.

"Building a brand required expertise. We partnered with Special Group, a creative agency which worked on the RM Williams rebrand. Their in-house team of creatives were so important to bringing romance and meaning to the Margra story.

"MLA's CoMarketing Program* was terrific in supporting the development of the brand as well. It helped us fund the production of marketing collateral, together with high quality photography and videography which have really helped enhance the brand," he said.

Brand advocates

One of the biggest challenges facing the producers behind Margra was how to enter the fine dining market – but they were fortunate to have found industry support early on.

"From the beginning, we've had a great relationship with our Sydney wholesale butcher, Haverick Meats. Through them, Margra started out in some really elite restaurants – places like Jonah's at Whale Beach, Woodcut and Nomad, where we've been on the menu consistently over the past three years," Tim said.

Mark Best, one of Australia's top chefs, came across Margra Lamb during a blind tasting and was instantly struck by the quality.

"Mark actually reached out to us during COVID. Since then, he's been instrumental in helping us define our point of difference, as well as creating opportunities for us to showcase our product with other world-class chefs," Tim said.

As a result, Margra can now be found on fine dining menus around Australia and overseas, where Tim says they're competing with other high-end proteins – not just lamb.

Margra was recently added to QANTAS' first-class menu, joining Glacier 51 Toothfish as the only two protein options. This was another opportunity which flowed from their strong ongoing relationship with Haverick Meats.

Building an international following with MLA's help

Following its domestic success, Margra's footprint now extends to South-East Asia, the US, and the Middle East.

MLA has also played a role in supporting Margra's international events, showcasing their product to elite chefs in places like Los Angeles, Dubai and Singapore.

Red meat, good vibes

Perceptions and trust of the red meat industry are strong among metropolitan Australians, as is the desire to learn more about how the beef and lamb industries operate, according to MLA's latest consumer sentiment research.

Conducted annually since 2010 by strategic consultancy firm Pollinate on behalf of MLA, the research measures and tracks consumer sentiment in the community towards the Australian red meat industry.

The research is used to inform MLA's community engagement strategy to address community concerns and benchmark the impact of MLA's programs on building community trust in the red meat industry.

This year's consumer insights reflected an increasing desire to understand more about how the industry works from metro Australia.

Of those surveyed, consumers are most interested in learning about how producers ensure the humane treatment of their livestock (46%), and how they look after the environment (44%).

Knowledge of the industry also impacts on trust, with 61% of metropolitan Australians having a strong level of trust in the Australian beef industry, and 60% having trust in the Australian sheep industry.

Trust drivers

The top three drivers of trust in the industry were the perceptions that producers:

- are ethical and trustworthy with animals humanely raised
- listen, respect and respond to community concerns
- are taking actions to reduce environmental impact, improving sustainability.

Just as knowledge relates to consumption, a higher level of trust also corresponds to a higher level of consumption.

Changes in consumption

Over the past 12 months, red meat consumption patterns have remained relatively stable, with 71% of metro Australians eating the same amount or having increased their consumption of red meat over the past year.

The main reasons cited for maintaining or increasing red meat consumption come down to nutrition, taste and ease of cooking. While cost was named as the main reason as to why 29% of consumers reduced red meat consumption in the past year. ■

- Learn more about the consumer sentiment research: mla.com.au/consumer-sentiment-research
- Find out how this research will be used in MLA's community programs: mla.com.au/community-programs



✦ Magra Lamb's fat achieves a similar crispness to roast pork.

“MLA's relationships on the ground are great. They've also been awesome in suggesting certain markets we could take our product to.”

“We've been able to link with MLA staff in those key markets and get them along to support us,” Tim said.

“That's been really positive for us because MLA's relationships on the ground are great. They've also been awesome in suggesting certain markets we could take our product to – asking what we're doing in Japan or suggesting we should be doing something in places like the US or Singapore.”

Partnering to extend their global reach

Tim said another one of Margra's biggest challenges lay in scaling up distribution to support their growing

international footprint. Fortunately, they were able to leverage an existing relationship and establish a new partnership with Paradigm Foods, a division of AgTrade, Australia's largest livestock exporter.

“As a result, over the past year we've evolved from being a very, very small distribution business to one that now has a full sales and marketing arm, a logistics arm and a full processing side,” he said.

“We've had to be nimble and we've made mistakes, but through the relationship with Paradigm we can now look to accelerate our growth and win a bigger market share globally.” ■

**MLA's CoMarketing Program was discontinued in mid-2023. It has been replaced by the MLA Market Development Partnerships program.*

- margralamb.com ● MLA Market Development Partnerships
- mdp.mla.com.au ● Tim Leahy t.leahy@margralamb.com
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Global mates connect over beef

The international spotlight was on Australian beef recently, when food ambassadors from around the world delved into Queensland cattle production from paddock to plate.

The latest Aussie Beef Mates program involved 25 globally acclaimed chefs and food professionals, representing 15 nations.

The trip, organised by MLA in strategic partnership with Trade and Investment Queensland (TIQ), included visits to beef properties, feedlots, processing facilities and restaurants from north Queensland down to the state's south-east.

These Aussie Beef Mates also had a beef masterclass session where they delved into topics such as Meat Standards Australia, Australia's food safety programs and integrity systems, beef cooking inspirations and product showcases.

MLA Global Business Manager Josh Anderson said the program aimed to ignite international demand for Australian red meat.

"Through the Aussie Beef Mates program, international chefs and food experts gain deep insights into Australian beef production, empowering them to share this compelling story within their global networks," he said.

It builds on the inaugural Aussie Beef Mates delegation to NSW earlier this year, in collaboration with Investment NSW.

Beef Mate's insights

One of the Aussie Beef Mates was Korean chef Shinae Hong, a top chef who frequently hosts famous cooking programs.

She was impressed by Australia's beef industry and its treatment of livestock.

"It was great to see such a commitment to sustainable livestock farming," she said.

"In a world full of health trends, I believe that the healthiest food still comes from nature. Keeping in line with that, Australian beef's commitment to bringing nature into its business through practices like open pasture grazing and healthy feed is what makes Australian beef really stand out.

"Australian Beef has always stood for quality and I'm excited to cook up new ways to share it with more kitchens around the world." ■

🔗 aussiebeefandlamb.com.au

📖 Read about the inaugural Australian Beef Mates delegation to NSW earlier this year in the spring 2023 edition of *Feedback*. mla.com.au/feedback

✉️ Josh Anderson janderson@mla.com.au

✔️ Spring lamb ambassador, Marion Grasby, serves up her panang lamb chops.



Say more, with lamb

This year, MLA's 'Say more, with lamb' campaign focused on encouraging more Australians to choose lamb to help them celebrate and come together for life's shared moments, such as Easter and Christmas.

It's also been working to reach younger consumers by showing off lamb's diversity of flavour and different cuts, ideas that go beyond the traditional roast.

Spring lamb

With this younger audience in mind, this year's spring lamb campaign launched on 3 September. It featured Masterchef personality and 'Marion's Kitchen' founder, Marion Grasby, who used lamb steaks and cutlets in two Thai-inspired recipes which were perfect for spring entertaining.

Marion promoted her recipes for panang lamb chops and crying tiger lamb steaks to her 1.8 million subscribers on YouTube and 900,000 followers on Instagram throughout the two months of the campaign, showing how easy and delicious it can be to include these new takes on lamb at spring get-togethers.

The campaign advertising also promoted lamb as the perfect protein for spring entertaining and

garnered more than 3.5 million views and 11.4 million impressions on social media during September and October. This activity aligned with MLA-led Woolworths and Costco promotions designed to drive both online and in-store purchases.

Nielsen Homescan data shows lamb has continued its strong retail sales momentum leading into summer, with double digit percentage growth in sales volumes recorded during the September quarter versus the same period last year.

Check out the recipe opposite to spice up your next meal of lamb.

Summer campaign heats up

This year's 'Un-Australia' summer lamb ad became the most viewed lamb ad of all time, helping to recruit more than a quarter of a million new households to purchase lamb during the campaign – delivering a 7.9% lift in sales value and eclipsing both the 2022 and 2021 campaigns.

Next year's ad is already in development and will again tap into a hugely topical theme as the springboard to drive lamb sales.

Keep an eye on MLA's social media channels for the 2024 summer lamb ad. ■



📺 Facebook [@AustralianLamb](https://www.facebook.com/AustralianLamb) 📺 YouTube [@AustralianLamb](https://www.youtube.com/AustralianLamb)

🔗 Try delicious lamb recipes at australianlamb.com.au

Crying tiger lamb steak

Share
the
Lamb
100% AUSTRALIAN

Australian Lamb has teamed up with chef Marion Grasby for a fresh, Thai-inspired take on lamb which is perfect for summer entertaining. Discover more ways to cook with lamb at australianlamb.com.au

Serves **4** Prep time **5 minutes** Cooking time **20 minutes**

INGREDIENTS

1 tbsp oyster sauce
1 tbsp fish sauce
4 x 150g (5oz) lamb steaks
vegetable oil, for brushing
fresh lettuce leaves, to serve

fresh mint, to serve
trimmed green beans, to serve
snow pea shoots
(optional), to serve

**Spicy dipping sauce
(nahm jim jaew)**
2 tsp raw glutinous rice (also
known as sticky rice)
1 tbsp tamarind concentrate
3 tbsp fish sauce
1 tbsp brown sugar

1 tbsp Thai chilli powder
1 tbsp lime juice
1 small red shallot, sliced
into fine wedges
2 tsp finely chopped
coriander (cilantro)

METHOD

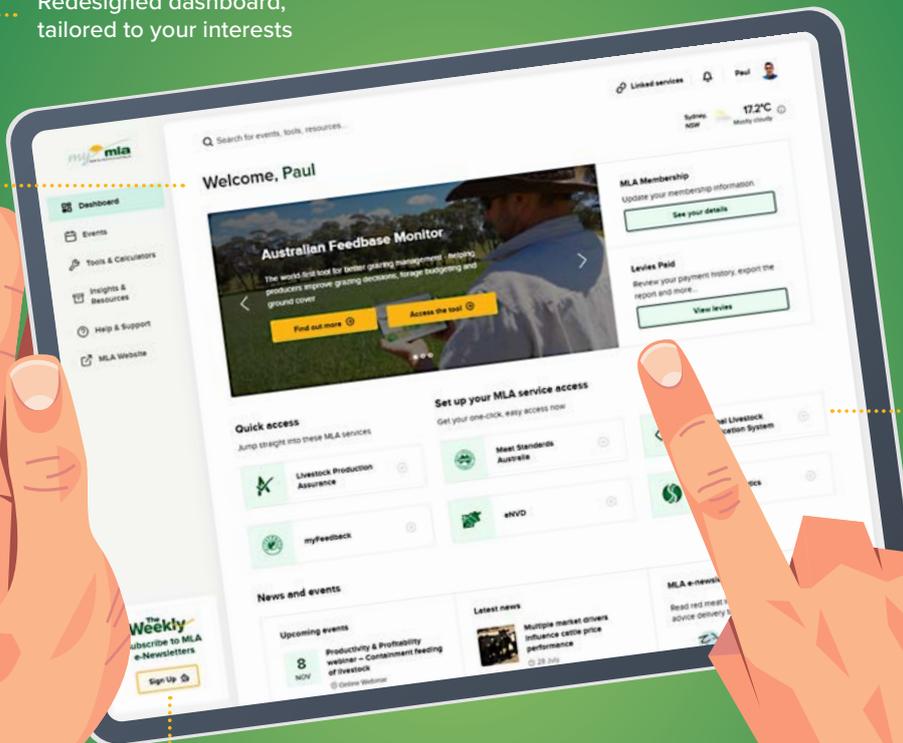
1. Preheat the oven to 180°C.
2. Place the lamb steaks in a shallow dish and pour over the oyster sauce and fish sauce. Use your fingers to massage the marinade all over the steak pieces, then set aside to marinate while you prepare the remaining ingredients.
3. For the spicy dipping sauce, toast the rice in a dry frying pan over high heat for around 2–3 minutes or until golden brown and fragrant (it should smell like popcorn). Use a mortar and pestle or a spice grinder to grind to a fine powder.
4. In a bowl, combine the tamarind, fish sauce, sugar, chilli powder, lime juice, shallot and coriander. Add in the toasted rice powder and mix until well combined. Transfer to a small serving bowl and set aside until ready to serve.
5. Heat a large heavy-based, ovenproof frying pan over high heat. Brush with oil. When hot, add the lamb steaks and cook one side for 2 minutes until you get a nice charred colour. Flip the steaks and cook for a further 2 minutes on the other side until golden. Now transfer the pan to the oven and cook for 4–5 minutes (for medium rare, using 3cm thick steaks) or until cooked to your liking. Transfer to a cutting board and allow to rest for 5 minutes.
6. Slice the lamb steaks on the diagonal and then transfer to a large platter or board along with the fresh lettuce leaves, mint, beans, snow pea shoots (if using) and the spicy dipping sauce, and serve family-style for sharing.



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