

FEEDBACK

MLA – FOSTERING PROSPERITY

SUMMER 2021



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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 12): Flinders Island beef producers Tom and Jo Youl with their children (from left) Billy, Alice and Georgie. Image: Joe Chelkowski.

Have your say!

We'd love to hear from you.

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🌐 m्ला.com.au

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📺 [meatandlivestock](https://www.youtube.com/channel/UCmeatandlivestock)

Feedback is produced and published by Meat & Livestock Australia Ltd (ABN 39 081 678 364).

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

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A note from the MD

Welcome to the Summer 2021 edition of *Feedback*.

This is the first *Feedback* to be released seasonally – a new approach for us moving forward – and represents an effort to bring producers even more timely, relevant and impactful content to support productive, profitable decisions on-farm at key times of the year.



For example, if you're a southern producer seeking pasture management strategies through summer to take advantage of the wet conditions, turn to page 10 for practical tips.

For northern producers, take a look at page 14 for nutritional strategies to adopt now to drive even greater weight gains in your herd through the wet season and beyond.

In recognition that not all regions have received recent rainfall, we've also got you covered with strategies to be on the front foot to prepare for and recover from bushfires (page 19). Other seasonal resources include a guide to managing tick resistance (page 26) and for fighting the spread of pasture dieback (page 32).

A strong year creates optimism

It's been a year to be proud of for our industry.

We've made significant progress in the sustainability space, raising the profile of our goal to be carbon neutral by 2030 (CN30) and the opportunities this presents, especially in the face of global discussions on the environmental impact of red meat, such as the United Nations Food Systems Summit and COP26.

We've also been able to shift the conversation around livestock to position them as a solution to the climate change issue, rather than a hindrance. Some of our progress on this can be seen in stories on methane reduction on pages 8, 36 and 40.

While these achievements should be celebrated, our hard work must continue in the new year to ensure we're well-positioned to meet the next wave of challenges that will undoubtedly be thrown at us.

Next year is a big one for MLA as we continue to work to deliver results on key programs of work.

As I mentioned in my address at MLA's Annual General Meeting (AGM) in November, this includes continuing our efforts in the sustainability space and delivering on our Northern Breeding Business (NB2) and Sheep Reproduction Strategic Partnership areas of work. Turn to page 4 for the AGM report.

To achieve this, our focus in 2022 will be on executing these programs, consolidating the efforts we've already made to accelerate delivering the outcomes of these back to producers.

There's additional room for optimism in 2022 as it will arrive with new freedoms from COVID-19 across most of Australia. These aren't only going to improve our ability to conduct research, but also mean the opportunity to travel more – something I've been able to do recently by heading to Broome and Alice Springs for MLA BeefUp forums.

It's been fantastic to be back on the ground and hear from producers at these events, who are incredibly optimistic about the current position of the industry and the conditions we're seeing, including high prices and wet weather for many.

On behalf of MLA, we hope you enjoy the new seasonal magazine. I'd also like to wish all of our members a restful and well-earned Christmas break. I look forward to continuing to create impact with you in the new year. ■

• **Have a question for me?**

• **Jason Strong** MLA Managing Director

• jstrong@m्ला.com.au

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Flood recovery resources

MLA has compiled a hub of resources and information for producers who are impacted by floods, including rebuilding priorities and tools to manage animal health and pasture recovery.

▶ Visit mla.com.au/flood-recovery



Red meat's state of play

In 2019–20, Australia's red meat industry turnover was \$69.9 billion, up 5% on revised 2018–19 figures. Find more key insights in the *State of the Industry Report 2021*, which offers detailed insights on the status of exports, overseas markets, production, prices and key issues facing the red meat industry.

▶ Read the report at mla.com.au/soti-2021



MSA outcomes

The Meat Standards Australia (MSA) program achieved record-breaking results in 2020–21, with 3.3 million beef carcasses presented for MSA grading, representing 53% of the national adult cattle slaughter. This has resulted in an estimated \$157 million in additional farmgate returns in 2020–21, reinforcing the value the MSA program delivers to industry.

Other highlights from the latest *MSA Annual Outcomes Report* include:

- the first cuts-based sheepmeat model was developed in 2020–21, based on over a decade of research
- the number of MSA-licensed brands increased to 205 beef and sheepmeat brands
- businesses that represent 53% of MSA volume now use the Eating Quality Graded cipher to describe beef by eating quality outcome
- 57% of lambs processed went through MSA-licensed processing plants.

▶ For more information about MSA, visit mla.com.au/msa



Building drought resilience

Going through a dry patch or want to be on the front foot for the next one? MLA has compiled a list of tools and resources for building your business's resilience.

▶ Access these business tools at mla.com.au/drought-tools



Workshops and events

Now's the time to put some dates in your calendar for 2022 – check out MLA's program of events and workshops at

▶ mla.com.au/events to find one near you.



Industry ambassadors

MLA's Ambassadors for the Red Meat Industry Program is an intensive development opportunity that offers participants training in community engagement, media and social media, providing tools and techniques to build trust with consumers. The program is designed for producers and people in industry support roles throughout the red meat supply chain, with successful participants joining MLA's alumni of ambassadors across Australia.

▶ Learn more at mla.com.au/industry-ambassadors

▶ For more information on how you can help share the real story about red meat production, read the October 2021 edition of *Feedback* – scan this QR code with your phone to access an interactive online version or visit mla.com.au/feedback

» One of the red meat ambassadors featured in the October 2021 *Feedback*, Ali Hart, Stockyard marketing executive and producer.



Lamb outsmarts COVID for gold

MLA's *Make Lamb, Not Walls* campaign took home four awards at the Australian marketing communications industry's most distinguished awards, including gold for 'Outsmarting COVID'.

The Effie Australia awards honour effectiveness in advertising and marketing communications.

MLA General Manager for Marketing and Insights, Nathan Low, said the industry continues to reap the benefits of the success from the *Make Lamb, Not Walls* campaign.

"The *Make Lamb, Not Walls* campaign has received many accolades this year, but to receive a gold Effie against the best in the business, with only five golds awarded, is an outstanding result," Nathan said.





"The Effies are awarded to campaigns that have delivered superior results by surpassing the objectives they set out to achieve and we certainly did that for Australian lamb this year.

"The campaign generated outstanding results across the board, including a 16.8% uplift in sales during the campaign period, 1,421 total pieces of coverage and more than 10 million views.

"The Outsmarting COVID award is a category for effectiveness studies that help contribute to marketing knowledge during the challenges of the COVID-19 pandemic and the first Australian recession since 1990.

"Australian Lamb won a Gold Effie for its response to a pandemic extinguishing Australia's unity and BBQs. We combined an enduring brand strategy and culturally provocative idea to encourage Australians to break down state borders and reunite over a lamb BBQ".

MLA's received these Effie Australia awards:

-  **Gold**
Outsmarting COVID
-  **Silver**
Return on Investment
-  **Silver**
Food, Confectionery and Snacks
-  **Bronze**
Insight and Strategic Thinking

The campaign has been widely recognised for its success, and was also awarded TV Ad of the Year and Ad Campaign of the Year in the prestigious Mumbrella Awards.

The campaign also received Best Out of Home Campaign and Best PR Campaign at the B&T Awards in November.

The MLA campaign was created with agencies The Monkeys, One Green Bean and Universal McCann. ■

"The campaign generated outstanding results across the board, including a 16.8% uplift in sales during the campaign period, 1,421 total pieces of coverage and more than 10 million views".



◀ Scan the QR code to watch the award-winning *Make Lamb, Not Walls* TV ad.



How will lamb sizzle this summer?

Each year, MLA's marketing team sets out to make an iconic Australian Lamb campaign that captures the mood of the nation.

This year, lamb took on interstate borders and encouraged consumers and state leaders to forget their differences and come together over a lamb BBQ, ultimately delivering record results for lamb and a trolley full of advertising industry awards.

The 2022 summer campaign is already in production, with Australian Lamb taking on an even bigger challenge than state borders.

Lamb will work its tasty magic to overcome the isolation most of us have been feeling in 2021. Lamb, as always, will bring everyone together and encourage us all to 'share the lamb'. ■



Learn more about the latest Australian Lamb campaign and find delicious lamb recipes at australianlamb.com.au

Krystina Batt kbatt@mla.com.au

Industry set up for prosperous future

At MLA's Annual General Meeting (AGM) on 25 November, MLA Managing Director Jason Strong announced an era of unmatched strength was on its way for the red meat and livestock industry.

"Despite everything the past year has thrown at us, as an industry we remain in great shape," Jason said.

"This success should not come as a surprise – it's the culmination of many years of hard work, driven predominately by red meat producers.

"We find ourselves looking ahead to a period of untold prosperity that can transform our industry from what we know today, to what it can be tomorrow – and for decades to come.

"Make no mistake, we should all be incredibly proud of our industry and enthusiastic about what the future holds."

The AGM included the election of three MLA director positions.

Agri-food specialist board director and founder of Sustainable Innovation Company, Jacqueline Wilson-Smith, was elected as a Director to the MLA Board.

Nutrition and research scientist, Professor Manny Noakes, was re-elected as a Director to serve an additional term on the Board.

MLA members also voted to elect northern beef producer and chief financial officer of MHD Pty Ltd, Julie McDonald, as the cattle producer representative to the MLA Board Selection Committee for a three-year term. ■

Watch the recording of the MLA AGM at mla.com.au/AGM-2022 or by scanning this QR code with your smartphone.

✉ jason Strong jstrong@mla.com.au



Keep a finger on

During the AGM, MLA members heard about the impact of MLA activities over the 2020–21 financial year. Here are some of the highlights:

Keeping Australian red meat on the table

MLA's Tokyo-based Aussie Beef Clubhouse, which was attended by more than 80,000 visitors, brought Australian red meat to the forefront during the Tokyo Olympic Games and generated a combined media value of \$7.5 million dollars for industry.

Australian javelin thrower Kelsey-Lee Barber was the face of MLA's *Australian Beef. The Greatest.* campaign which also ran alongside the Tokyo Olympic Games – she put the health benefits of red meat firmly in the spotlight as she took out bronze in her event.

In other international marketing activities:

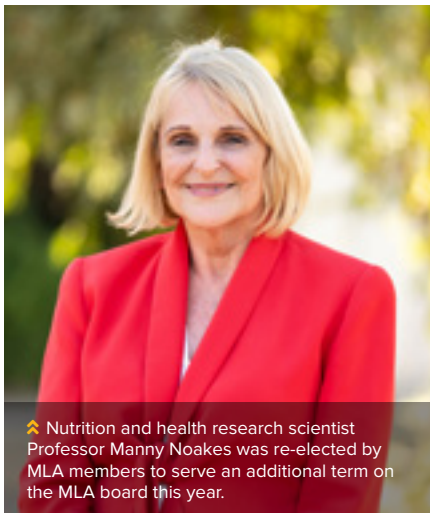
- MLA's *Eat Better...Feel Better* campaign in the US showcased Australian grassfed beef to more than 45 million viewers on digital channels.
- MLA's Lambassador program continues to build a team of brand ambassadors expanding into Asia and beyond.

Back in Australia, MLA's much anticipated *Make Lamb, Not Walls* summer lamb campaign received industry accolades (see page 3) and was MLA's most successful campaign to date, entertaining 10 million Australian viewers and boosting Australian lamb sales by 16.8% in the campaign period.

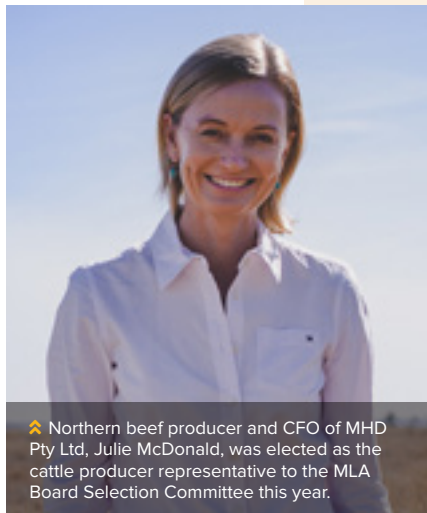
Sharing the red meat story

MLA focused on telling the positive truth around Australian red meat through industry initiatives in 2020–21. In May, MLA launched *Red Meat, Green Facts* as a research-backed pocket guide to the facts of Australian red meat production, with more than 55,000 copies distributed to date.

MLA's online platform Australian Good Meat also underwent a significant transformation to provide



👉 Nutrition and health research scientist Professor Manny Noakes was re-elected by MLA members to serve an additional term on the MLA board this year.



👉 Northern beef producer and CFO of MHD Pty Ltd, Julie McDonald, was elected as the cattle producer representative to the MLA Board Selection Committee this year.



👉 As part of the formal proceedings of the AGM, agri-food specialist board director and founder of Sustainable Innovation Company, Jacqueline Wilson-Smith, was elected as a Director to the MLA Board.

the pulse of key research

greater resources to support community understanding and trust in the Australian red meat and livestock industry.

MLA also produced a special edition of *Feedback* magazine in October, to share the stories of a diverse range of industry ambassadors, alongside shareable resources to equip readers to join MLA's efforts to strengthen trust in the Australian red meat industry.

Research, development and adoption

MLA's research, development and adoption (RD&A) programs continue to help implement practical ways to increase productivity, profitability and sustainability across the supply chain – from producers to processors. More than 8,500 red meat producers took part in MLA's adoption programs during the past year, with 8.5 million head of livestock across 72 million hectares of land benefiting from practice change programs.

MLA's Northern Breeding Business (NB2) project is on track to deliver an estimated \$20 million a year

in net benefits to 250 northern beef enterprises by 2027, with six new producer pilot groups now exploring how proven technologies and management practices could boost productivity.

Meanwhile, the commercial accreditation of the Meat Eating Quality Probe in November was a key development in eating quality for the Australian lamb industry, enabling processors and brand owners to benchmark their product and ensure it meets customer needs.

Leading the charge towards CN30

MLA is taking a lead role in the execution of industry's *Carbon Neutral by 2030 (CN30) Roadmap* by investing in emission reduction, on-farm carbon storage, integrated management systems and industry leadership.

In 2022, MLA will launch two additional initiatives to aid industry in efforts to be carbon neutral, including the Carbon Neutral Pathways Partnerships and the National Pasture Biomass project. ■

Research highlights

Sustainability

- ✓ Sheep Reproduction Strategic Partnership established
- ✓ CN30 Road Map activities underway
- ✓ Carbon Neutral Pathways Partnerships and National Pasture Biomass project set to launch in 2022
- ✓ Carbon Neutral Red Meat Product Catalogue released

Supply chain innovations

- ✓ \$157 million in additional farmgate returns delivered by the MSA program in 2020–2021
- ✓ Meat Eating Quality Probe received commercial accreditation

NB2

- ✓ Six producer pilot groups established to provide guidance for project
- ✓ Project on track to deliver \$20 million a year in net benefits by 2027 to 250 northern beef enterprises

Red meat positioning

- ✓ 55,000 copies of *Red Meat, Green Facts* distributed to date
- ✓ Special edition *Feedback* magazine published in October
- ✓ Australian Good Meat platform refreshed and the platform's Virtual Classroom program delivered to more than 6,500 students.



More information on these major projects is available at:

- CN30 mla.com.au/CN30
- MSA mla.com.au/msa
- NB2 mla.com.au/NB2
- Feedback mla.com.au/feedback

Watch our impact in action

In the lead-up to the 2021 AGM, MLA hosted a free, five-part webinar series exploring key investments and the positive impact they are having on profitability across the supply chain.

➤ Go to updates.mla.com.au or scan this QR code to watch the recordings to learn how MLA is working with industry to create real impact and double the value of red meat sales by 2030.



Webinar 1: Impact through supply chain innovations

Data and insights are key to unlocking new opportunities for profit within the red meat industry. Discover the emerging technologies and systems MLA is delivering through data, and the potential of feedback to boost on-farm performance and profits in the future.

Webinar 2: Impact through sustainability innovations

Being sustainable is now essential to remain competitive within industry. Learn how MLA's on and off-farm sustainability investments and carbon neutrality commitment (CN30) aren't just meeting the challenge head-on but are creating new-found business benefits.

Webinar 3: Impact through strengthened integrity systems

Industry's integrity system guarantees Australian red meat is clean, safe and traceable to ensure customer and consumer confidence in our products. Learn how our integrity system stacks up globally, the benefits the system provides and the resources available to make integrity easy.

Webinar 4: Marketing impact towards 2030

New attitudes to red meat coupled with increasingly fragmented sales and media channels has added challenges to engaging consumers. See how MLA is reshaping its domestic and international marketing programs to stay relevant and drive more impact from marketing investments.

Webinar 5: Impact of red meat positioning to build community trust

The need to share the positive story about red meat has never been greater. Hear about the key activities MLA is undertaking in partnership with industry to share the positive, real story about Australian red meat and bust myths on topics from animal welfare to plant-based fake meats. ■

2020–21 annual report highlights

Here are some highlights from major projects MLA led, managed or contributed to in 2020–21:

MLA was a principal partner of Beef Australia 2021. More than

2,500
people attended
MLA activities –

visitor feedback was overwhelmingly positive, with an average rating of 4.5 out of 5 for quality and relevance of content.



Australian Lamb's annual summer campaign showed the country uniting over lamb – and laughs.

The campaign led to

retail sales of
lamb increasing
16.8%

(the campaign target was 5%).



Rare Medium Academy was launched to help the foodservice industry with COVID-19 recovery.

More than **4,250**
foodservice professionals

tuned in to view the videos and masterclasses.



Use of the
electronic
National
Vendor
Declaration
(eNVD) increased
in 2020–21, with

236,000
consignments and

68,000
unique users
to the system



MLA fast-tracked the delivery of lean beef yield data generated from more than

33 million
carcass records

to MSA processors and made inroads towards the commercialisation of technologies to objectively measure carcass quality traits. The availability of such data can equip supply chains to potentially capture increased carcass value.



MLA entered into several strategic partnerships to boost the productivity and profitability of Australia's red meat industry, including **Northern Breeding Business (NB2)**, **Sheep Reproduction Strategic Partnership (SRSP)**, **Carbon Storage Partnership (CSP)** and **Emissions Avoidance Partnership (EAP)**.



MLA launched two major publications:

Red Meat, Green Facts

brought together clear, evidence-based messages and information to empower Australia's red meat producers and advocates.

Sustainability update

captured, in one place, the significant level of MLA's investments in sustainability across the red meat supply chain.

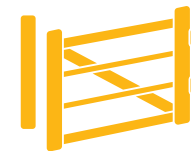
50,000 copies of each publication have been distributed to date.



The MSA beef program delivered an estimated

\$157 million

in additional farm-gate returns over the past financial year.



The program has returned

\$1.46 billion

to the farm gate since 2011–12.

MLA launched a new online healthy soils hub in April 2021. More than

10,470 people visited the **healthy soils hub** and **727** soil resources were downloaded from the hub by 30 June 2021.



In late 2020, MLA ran a first-of-a-kind series of international virtual trade seminars. There were more than

16,000 registrations

for the six seminars across North America, the Middle East and North Africa, South-East Asia, Japan, Korea and China.

To read the full 2020-21 MLA Annual Report, scan this QR code or visit



mla.com.au/annualreport



👤 Young Henrys co-founder Oscar McMahon.

Beef and beer partner for the planet

Beef and beer have always gone hand-in-hand, but a new collaboration between MLA, Young Henrys Brewing and the University of Technology Sydney is taking this iconic duo to a whole new level – converting by-products from brewing beer into livestock feeds that reduce methane emissions

The aim is to accelerate and expand MLA's efforts to bring cost-effective, methane-reducing livestock feeds to market to help industry achieve its Carbon Neutral by 2030 (CN30) target – a key objective under the *Red Meat 2030 Strategy* and MLA's *Strategic Plan 2025*.

Feed additives that can reduce livestock methane emissions and improve livestock productivity are an important part of the CN30 Roadmap. Investments like this also support the circular economy, by converting by-products from one industry into valuable products for the red meat industry.

The partnership is developing a methane-mitigating feed supplement in the form of 'microalgae' (grown using the carbon dioxide produced during the brewing process).

Animal feeding trials will be conducted to evaluate the methane

reduction and animal productivity benefits of the microalgae. If successful, this process could be implemented in breweries everywhere, plus pave the way for applications in other industries with carbon dioxide suitable for algae production.

If enough product can be produced to incorporate into feedlot rations and supplementation programs on-farm in a safe, cost-effective way, it stands to make a significant impact on livestock emissions, as well as introduce a new feed supply to industry.

With steady beer consumption in Australia (35.6% of the population in an average four-week period, according to the 2021 Roy Morgan's Alcohol Consumption Report) and more than 90% of Australian households regularly enjoying beef, it makes sense to bring partnerships like this together. ■

- 📄 Learn more about the Young Henrys Brewing algae project at younghenrys.com/algae
- 📄 Read more about the red meat industry's goal to carbon neutral by 2030 (CN30) at mla.com.au/cn30
- ✉️ Doug McNicholl dmcnicholl@mla.com.au

Favourable conditions to strengthen herd rebuild

With above-average rainfall predicted for all major cattle regions through summer and increased rainfall in northern Australia, pasture growth is expected to surge and strengthen the national herd rebuild into 2022, according to MLA's latest *Australian Cattle Industry Projections*.

Good seasonal conditions across the eastern states and southern WA continued to underpin demand and confidence in the sector, with restocker and feeder demand fuelling record prices at the saleyard, which is flowing along the supply chain.

The extent of rain post-drought has resulted in slaughter being revised down to six million head for 2021, the lowest level in 36 years. While carcass weights are still expected to reach record levels, they have been revised down slightly to 308kg, bringing overall production estimates to 1,848 million tonnes carcass weight (cwt).

Seasonal conditions started to improve in autumn 2020, and by the end of 2022 calves born since this time are expected to hit the market, which will increase the supply of cattle available.

The rebuild is expected to continue into 2022, with the Bureau of Meteorology's declaration of a La Niña will ensure ground water supplies are available. The favourable harvest conditions of 2020 and 2021 have also allowed Australia a feed grain buffer should the 2022 season deteriorate. ■

- 📄 Access MLA's latest projections and other market reports by scanning the QR code or visiting mla.com.au/trends-and-analysis



ON FARM

RESEARCH IN ACTION

Seasonal action plan

Northern

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Map out your herd nutrition plan, ready to go when the wet season ends

32

Start monitoring pastures for mealybugs, a causal agent in pasture dieback

Southern

10

Set pastures and livestock up for the year ahead

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Dig deep in the paddock this summer to assess soil needs and optimise inputs

Be on the front foot this summer

Although autumn and spring are often the focus for on-farm management decisions, summer is also a critical period for producers, as it creates the opportunity to respond to the outcomes of spring and set pastures and livestock up for the year ahead.

Here, Senior Agronomy Advisor and Board Director at Meridian Ag, Andrew Speirs, shares his top management strategies for this time of year.

Feedbase

For producers who are coming off a wet spring, it's important to utilise available pastures as well as prepare them to respond well to the autumn break.

"A lot of producers are going to have good standing dry feed this summer, which they should aim to get back down to around 1,000–1,200kg of dry matter per hectare (DM/ha) before the break," Andrew said.

"This will ensure they're getting the most out of that feed, but also setting up the pastures for legume germination when the break arrives.

"Depending on how much summer rainfall you have, there may be a risk in the quality of dry feed dropping quickly – a feed test will help confirm feed quality. If this is the case, focus on supplementation to stop stock losing weight."

For producers who had a dry spring, Andrew said their feedbase focus should be on removing stock from pastures at the right time to ensure perennial grasses aren't over-grazed and persistence lost.

"As you start to see small, bare patches appear in your pastures (meaning you are approaching 1,000kg/DM/ha on offer), stock should be removed from these paddocks so grasses have a chance to recover and respond when rainfall arrives.

"Another really helpful tool for those who didn't have the spring they wanted is to do a feed and water budget in early summer.

"Not only will this help you plan on how to use available feed and water efficiently, but you can also work out if you need to

secure product like grain or hay in order to get to the autumn break as well.

"From a water point of view, it gives you the forward planning to either sell stock down without rushing, or to put plans in to find more water in your district if possible.

"Budgeting gives the chance to evaluate the available products on the market and their costs, and you can also consider other options like selling or agisting stock before the feed or water runs out."

Soil

While most producers elect to do soil testing in spring, Andrew said it's not too late to carry these out in summer to learn what fertiliser applications for autumn are appropriate.

"With the increasing cost of fertiliser, soil tests are more important than ever to ensure you aren't wasting money applying product that your country doesn't need," Andrew said.

Producers should also use soil tests to determine if soil pH levels are suitable, and adjust these in summer as necessary through lime application.

Livestock

Andrew said there are two critical areas of animal management producers need to focus on through summer:

- maintaining the growth curve of young and growing animals
- maintaining a rising plane of nutrition and building condition score for breeding stock to be joined in autumn.

"The best way to maintain the growth of young animals is to look at the pastures you're going to run them on to ensure they have suitable energy and protein levels," Andrew said.



👉 Andrew Speirs – Senior Agronomy Advisor and Board Director at Meridian Ag.

"If you aren't sure, do a feed test to confirm those levels."

For breeding stock, in particular ewes, Andrew said a rising plane of nutrition that would put ewes at a condition score of three by joining was key for higher pregnancy rates.

"If you need to supplement stock to achieve that rising plane, it's a worthwhile investment," he said.

Animal health

A wet spring can increase the risk of animal health issues in summer, including worms, flies and bloat.

New bloat control measure on the way

A new reformulated product for bloat is on the horizon, with MLA and Elanco Animal Health partnering to bring Rumensin™ controlled-release capsules back to the Australian market.

This project will generate the remaining data needed to fulfil the Australian Pesticides and Veterinary Medicines Authority's registration requirements for the reformulated Rumensin capsules, including manufacturing and field trial data.

Field trials and feedlot transition studies planned as part of the project will demonstrate the efficacy and safety of the reformulated capsule under commercial conditions.

The insights generated from this research, along with the new product, will assist producers who are witnessing bloat issues in more seasons of the year as they experiment with more productive pasture mixes, ensuring they can get the most out of their grazing programs. ■



“Another really helpful tool for those who didn’t have the spring they wanted is to do a feed and water budget in early summer.”

“Sheep producers should monitor fecal egg counts in summer to check if they have worm issues,” Andrew said.

“There’s also a risk of Barber’s Pole in specific areas. You should do a separate worm egg culture test to look for this and get onto it early as it kills sheep quickly.”

Flies can also be an issue, and management strategies include:

- ensuring sheep are well crutched and clean
- considering spray-on fly prevention treatments in high-risk years to reduce flystrike
- keeping young sheep out of taller pastures, as they can stay wet if summer rain arrives.

With good growing conditions for legumes, Andrew said cattle and sheep producers face an increased risk of bloat.

Management tips include keeping bloat oils and licks on hand, rotating

stock on and off high-risk pastures, and providing stock with quality fibre.

Clostridial vaccinations should be up-to-date in sheep and cattle over the summer to avoid issues such as red gut and pulpy kidney when on quality legume pastures such as lucerne.

Fire management

An abundance of dry feed over summer will lead to an increased risk of fire, so Andrew recommends producers plan accordingly for if the worst happens.

“Plan for this early, because on the day of a fire you physically don’t have time to do all the preparation,” Andrew said.

“Have some areas cleared that you can move stock to such as lane ways, lucerne pastures or paddocks with low food on offer that stock can easily be shifted to, and prepare a strategy for protecting yourself and your assets in the event of a fire.” ■

SEASONAL ACTION PLAN

! **Perform feed and water budgets in summer** – MLA has tools including a stocking rate calculator, feedbase planning and budgeting tool and rotation planner at etools.mla.com.au

! **Aim to efficiently utilise your feedbase** before the autumn break, grazing it back to 1,000–1,200kg dry matter per hectare (DM/ha).

! **Monitor for flies and bloat**, particularly if you have had a wet spring – scan this QR code or visit paraboss.com.au for parasite control resources.



✦ The Quoin' homestead, plus the Youl family's on-farm, short-term accommodation, Wombat Lodge and Dwarfs Cottage, with Mt Killiecrankie in the background. Image: Joe Chelkowski.

Simplicity backs island enterprise

Running a beef enterprise across two farms plus tourism and hospitality ventures on Flinders Island sounds anything but simple, especially with three young children – but Tom and Jo Youl have focused on simplicity as a guiding principle when designing their farm business model.

Tom and Jo opened their front gate as part of a virtual farm tour for the 2021 Tasmanian Red Meat Updates conference, to give an insight into life and red meat production on the Bass Strait island.

They run 800 Angus breeders on 'The Quoin', the northern-most farm on the island, and raise weaners on a second property 20km south, 'Tilba', which they purchased two years ago.

Tom manages the farms and Jo is responsible for accommodation, restaurant and tourism ventures in nearby Killiecrankie and Whitemark, as well as on-farm accommodation on The Quoin.

The Quoin's original homestead block has been in Jo's family since 1932 – with a break of several years as part of the soldier settlement program.

A builder by trade, Tom hails from a Merino farm in the Tasmanian midlands. He was already planning a move to Flinders Island in 2011 when he met Jo, who was working in marketing in Melbourne.

In 2014 the pair took over The Quoin. Over the next few years they purchased about 600ha of adjoining land and began a major redevelopment process.

Their redevelopment program has encompassed:

- advice and support
- external fencing
- pasture renovation
- internal fencing and infrastructure
- herd management and genetics.

Advice and support

Soon after taking over the farm, Tom joined a benchmarking group run by Holmes Sackett, now Aggregate Consulting.

"I got a lot out of the group, especially in the first year or two when I was learning about cattle and farming on the island," Tom said.

"It helped me make a lot of decisions which have lifted my business from 20% to 80% productivity.

"It's going to be harder to achieve the next 10–20% of gains – it will be tinkering around the edges rather than big, structural fixes."

One of Tom's key performance indicators for the enterprise over the next 5–10 years is to increase stocking rate by 1–2 dry sheep equivalent per hectare (DSE/ha) per year, which will increase preg-tested in calf breeder numbers to about 850 next year.

About three years ago, Tom joined a Flinders Island productivity group run by Basil Doonan from Macquarie Franklin, now Pinion Advisory. As part of this group, he completed their Pasture Principles grazing management course.

"I always wanted to do rotational grazing with cattle and this group all have rotational grazing systems," he said.

"I've found it very useful to learn from peers, while having one-on-one conversations with Basil has also given me the assurance to go with some of my ideas – or not go with them."

SNAPSHOT



TOM AND JO YOUL,
'The Quoin' and
'Tilba', Killiecrankie,
Flinders Island, TAS



AREA

The Quoin: 800ha arable, 400ha bush beachside. Tilba: 300ha.

ENTERPRISE

Angus breeding herd

LIVESTOCK

800 cows and followers

PASTURES

The Quoin: 400ha of existing kikuyu pasture with some ryegrass and cocksfoot. About 400ha renovated pasture, mostly ryegrass, red, white and sub-clovers, plus some phalaris, cocksfoot and fescues. Tilba: improved pasture, mostly ryegrass, cocksfoot and fescues.

SOIL

Grey to brown sandy loams with limestone base

RAINFALL

650mm

External fencing

The first step in developing the property was to fence out native animals, whose numbers had soared in response to pasture improvement on the island.

"When we took over, the property was running about 50,000 wallabies and thousands of wombats.

"It helped me make a lot of decisions which have lifted my business from 20% to 80% productivity."

“We started off running 100 cows and it was a struggle. Admittedly it was dry as well, but I had to supplementary feed.

“I built exclusion fencing around the entire property over the course of three years and the results have been amazing.

“Combined with internal fencing and subsequent better pasture management, we’re seeing more perennial ryegrass and cocksfoot coming back in the existing, kikuyu-based pastures and carrying capacity has risen from about 1 DSE/ha to 7–8 DSE/ha on the hilly country.”

Pasture renovation

The external fencing has also meant Tom can safely invest in pasture renovation on paddocks with the potential to offer the biggest gains.

“Areas with minimal perennial grasses and the most potential in terms of fertility and soil type are the first areas I consider,” he said.

“I renovated 100ha/year for three years running, and this year I’ve done 20ha.”

The paddocks were sown to a mix of ryegrass cultivars, white, red and sub-clovers, plus some phalaris. Pastures were sown with a power harrow/air seeder at a rate of about 10kg/ha ryegrass and 5kg/ha clover.

Paddocks were sprayed, disc ploughed twice, fertilised pre-sowing, and 10t/ha of lime sand was applied.

“It’s lime sand, not crushed limestone, so the larger particles and variation in liming value require higher rates,” Tom said.

“The lime sand is sourced on property, so it’s relatively cheap.

“We want a pH of about 6 (in water) and we only want to plough this ground once, so we’ve taken the opportunity to fix pH to depth.

“The idea of correcting pH is simply to increase the availability of the macronutrients and to capitalise on the fertiliser we’re applying.”

Carrying capacity on the pasture-improved paddocks has risen from 1–2 DSE/ha to 15–20 DSE/ha.

Internal fencing and infrastructure

Along with the external fencing, Tom has a program to develop both farms into 10ha paddocks serviced by laneways, with one trough under a fence per two paddocks, to support his rotational grazing regime.

They have already increased paddocks from five to around 60 on The Quoin, with a plan to establish 80 in total there and 31 on Tilba.

“We’re also building two new sets of cattle yards,” Tom said.

“The design brief was for me to be able to handle cattle through the yards on my own, with ease.”

Herd management

Tom’s herd management philosophy is: keep it simple.

He currently runs about 800 breeders and expects to reach 1,000 cows in the next 5–10 years.

The Youls run an eight-week joining and calve from the end of August, to target feed availability.

Heifers are retained and joined at around 14 months old, while steers are sold at 400–450kg to Tasmania Feedlot.

After preg-testing, any dry females – along with a few steers that don’t hit feedlot criteria – are finished and sold to Greenham Tasmania.

LESSONS LEARNT

- ✓ Keep it simple
- ✓ Ask for advice
- ✓ Learn from other producers

The logistics involved in shipping cattle from Flinders Island to Bridport (on the north-east coast of Tasmania) then trucking them to the feedlot at Powranna (in the northern midlands) means Tom needs to be on top of his organisation and feed budgeting to ensure the cattle are ready to go and booked on the boat on time.

Genetics

Tom plans on using artificial insemination (AI) for heifers to introduce some superior genetics.

As they’re still building numbers, he’ll also put a bull over the heifers after AI as a backup. The heifers will be preg-tested as early or late calvers, so Tom can separate those with AI calves from the bull’s calves. This will create the opportunity to sell any surplus bull-bred calves and retain the AI genetics.

Tom also has plans to eventually tighten up the joining period for heifers, aided by the AI program.

“We will keep it at eight weeks in the cows for now, as we’re still building our herd, but checking on calving heifers can be an annoying sport – if you can do it over three to four weeks rather than eight weeks, then that’s good,” he said. ■



📍 Flinders Island beef producers Tom and Jo Youl with their children (from left) Billy, Alice and Georgie. Image: Joe Chelkowski.

SEASONAL ACTION PLAN

! Register for a Pasture Principles course near you by contacting your local MLA Profitable Grazing Systems coordinator – listed here: mla.com.au/pgs

! Access tools and information to improve soil fertility at MLA’s healthy soils hub: mla.com.au/healthy-soils.

! Virtually visit the Youls’ farm through the 2021 Red Meat Updates Virtual Farm Tour, sponsored by Nutrien Ag Solutions: redmeatupdates.com/red-meat-updates-2021 or scan this QR code.



Take nutrition action now to drive dividends

When the wet season draws to a close and first-round musters kick off, Queensland livestock management consultant Désirée Jackson recommends producers have their finger on the pulse when it comes to nutrition to maximise the turn-off weights and overall fertility of their herd.

“With high market prices, there’s such a benefit to strategic nutritional management – the return on investment from strategic supplementation is manifold at the moment,” Désirée said.

“If producers get in early to make those decisions around nutrition – such as targeted, strategic supplementation – that’s where it really pays for itself.”

As well as operating her own livestock consultancy, Désirée delivers MLA’s Nutrition EDGE workshops, which are held throughout northern Australia to guide producers on how they can adopt nutritional strategies to achieve their herd performance targets.

According to Désirée, the end of the wet season can be a crucial time for producers to take a look at their herd’s nutrition, as the season shifts and nutrient availability changes.

Here are some of her top nutritional strategies for producers as they come out of the wet season to maximise productivity on-farm:

1. Monitor phosphorus status

“When producers can get out into the paddock again, I recommend they check the phosphorus (P) status of their cattle

to determine how much they might need to feed a P supplement,” Désirée said.

“If their herd’s diet quality is still high at the end of the wet, then there could be some significant benefit from extending out the P feeding period to animals coming out of the wet season in terms of breeder performance and weight gain.

“Particularly for breeders weaned in the first-round muster, if diet quality is still high at the end of the wet season, then feeding P where it is deficient and limiting – at weaning time – will allow cows to recover body condition more quickly early in the dry season.

“This will ensure they are in good enough body condition at the next calving to resume cycling sooner post-calving.”

2. Time supplementation programs strategically

Désirée said implementing supplementation strategies while energy is still reasonable in the diet pays big dividends.

“Keeping a close eye on the change in pasture conditions and getting the timing right on implementing some of those supplementation strategies is critical to cost-effective supplementation.” ■



Six steps to strategic supplementation

Here, Queensland livestock management consultant and MLA Nutrition EDGE deliverer Désirée Jackson shares supplementation strategies to consider implementing over the coming season.

- 1 Extend out wet season phosphorus (P) supplementation programs** while the diet quality remains high and P is the most limiting nutrient.
- 2 Supplement with urea or protein** in the early dry season when protein is deficient and the most limiting nutrient.
- 3 Ensure adequate P during the dry season** particularly when feeding urea-based supplements to ensure P and nitrogen are balanced in the diet.
- 4 Ensure P and energy are balanced in the diet.**
- 5 Determine when energy becomes the limiting nutrient and how to manage for this** either by weaning, selling, or changing over to an energy-based supplement.
- 6 Ensure there’s sufficient pasture available** when feeding nitrogen and P-based supplements to account for the increase in grazing pressure.



Queenland livestock management consultant Désirée Jackson presenting at one of MLA’s Nutrition EDGE workshops.



Nutrition is king when it comes to weight gain

Paying attention to nutrition pays dividends when it comes to herd weight gains, according to Queensland producers Megan Bayles and Doug Waddell.

The couple have a dual perspective on livestock nutrition, merging Megan's role as Branch Manager for Elders Meandarra with Doug's experience managing beef cattle at 'Miramar' near Surat.

They've finessed their knowledge of ruminant nutrition at MLA's Nutrition EDGE workshops.

"The way cattle prices are at the moment, producers need their stock to be performing effectively in their desired lines and need them to be efficient," Megan said.

"Nutritional value is a major cog in the wheel if you actually want to turn over the kilos.

"I recommend going to Nutrition EDGE to either brush the surface to upskill yourself or even go further into the nuts and bolts of it all – it'll open your mind to the bigger picture about nutrition."

Monitoring nutrients

Megan encourages her clients to monitor nutrient levels on their properties so they can take steps to address any nutrient deficiencies affecting productivity.

"If you're grazing the country either lightly or intensively then it's imperative to be putting back into the country what you're taking out of it," Megan said.

Her strategies include:

- consider fertilising grazing areas
- introduce new herbage for winter
- establish a sustainable ecosystem to house and nurture dung beetles and healthy soil.

"If you're not finding where your feed gap is and not testing your soil, you can't know what your cattle are deficient in and what levels your country currently is at – you're most likely wasting money on the incorrect feeds and supplements by not buying the right products and getting that bang for your buck."

Targeted supplementation

Megan said phosphorus supplementation programs tailored to the needs of individual enterprises have proved effective for many of her clients seeking to meet their production targets through better herd nutrition.

"You'll find most of Australia is phosphorus deficient and there'll be areas that are highly deficient," Megan said.

SEASONAL ACTION PLAN

! **Sign up to attend a Nutrition EDGE workshop** – find out more at mla.com.au/edge-network

! **Assess your phosphorus supplementation strategy** to improve herd diet quality at mla.com.au/phosphorus

! **Be on the front foot** – check out MLA's autumn hub for tips and tools to support on-farm decision making coming out of the wet season: mla.com.au/autumn-actions

"When people come in and they ask for lick, it's imperative to ask what type of country they're on and what they're wanting from it – are they wanting weight gain, to maintain weight, or are they wanting to make sure all the trace elements and vitamins and minerals are there, so bodies are functioning well for calving.

"It's about asking the questions first to help get the desired results."

Nutrition and innovation

Megan encourages producers to remain open to learning more about nutrition through tools such as the Nutrition EDGE workshops, as well as the services offered by livestock agencies, to ensure long-term profitability on-farm.

"The industry is ever evolving, it's just a matter of being on the front foot and not being afraid to try things." ■



LESSONS LEARNT

- ✓ **Monitor on-farm soil nutrient levels** regularly to ensure maximum animal productivity.
- ✓ **Tailor your phosphorus supplementation program** to the individual needs of your animals for that country.
- ✓ **Be open to new strategies** for improving herd nutrition.

« Megan Bayles with her partner Doug Waddell and their two children.

» Katie and Greg Honor and their children Samuel, Abigail and Isabelle. Image: Sally Gall, *Queensland Country Life*.

Going into goats a profitable move

A well-calculated decision to transition a former cattle property into a 100% goat operation is paying dividends for Queensland producers, Greg and Katie Honor.



The Honors have been breeding rangeland goats for the past four years on their Surat property, 'Glenmore', and are now in the next phase of building their goat business.

When the Honors bought 'Glenmore' in 2017, they recognised the landscape was better suited to goats than cattle and invested in infrastructure accordingly to facilitate the transition.

Improvements have included converting cattle yards with a three-way draft and ProWay bulk handler, new fencing and more watering points, with paddocks set up to enable ease of mustering.

"What we're trying to do is get the best bang for our buck out of the country that we've got," Greg said.

"The property has a lot of timber, including Brigalow, Box, Bendee and Wilga, and regrowth is a problem. It is also marginal, having an average annual rainfall of 500mm.

"To produce beef, you've got to grow a lot of grass, and to have a lot of grass you need rain.

"For us, going into goats was about managing drought tolerance and risk, and creating a profitable business to support our family.

"In an area with a lower than 760mm rainfall, it's high risk trying to produce cattle. Goats are a lot more tolerant and resilient and will eat plants that cattle won't eat, such as browse and shrubs.

"The previous owners were running 350 cows, whereas we're running 6,000 nannies.

"We had agistment cattle here for two years when we first came here, and at the end of the drought, going into 2019, we had to

destock completely, but we still bought in 2,000 goats on a 1,620ha paddock and they were fine at a time when cattle were struggling."

Business model

The Honors started their herd by purchasing 2,200 nannies and have retained nannies to build their herd.

"The property is divided into four, 1,620ha paddocks, but we're only utilising half the place at the moment because we've just finished fencing the last paddock and we're developing another paddock," Greg said.

"Next year, the third paddock comes into rotation. Our aim is to have two, 610–1,620ha paddocks as what we call grower areas, where we can grow weaners out in."

While retaining nannies to build their herd, the Honors also sell weaner nannies, aged between six and nine months, into the restocker market and are currently receiving \$150/head.

"We also produce a meatworks article with our weaner billies, which we hold on to for three to six months post-weaning to get them to a liveweight of 30–40kg and target carcase weight of 15–20kg," Greg said.

"We're aiming to sell about 6,000 a year to processors and restockers."

Forage preferences

The goats' forage preferences change depending on the season.

"We have a range of grass species including buffel, Mitchell grass, wire grass and kangaroo grass, but particularly now when the grass has hayed off, the goats are predominantly on the browse and not eating much grass at all," Greg said.

SNAPSHOT



GREG AND KATIE HONOR, 'Glenmore', Surat, QLD



AREA
7,273ha

ENTERPRISE
Rangeland goats

LIVESTOCK
6,000 nannies

PASTURES
Range of species including buffel, Mitchell grass, wire grass and kangaroo grass

RAINFALL
500mm

"We do notice between November and March they like the grass, particularly when it's green, but once it hays off, we see them put that load onto the timber, which is great for the grass because when it rains, we've got a good body of feed to start with.

"The first thing they go to in the paddock is any Wilga, Silver-leaved Ironbark and Box suckers.

"If you've got the right country type with the browse on it, that's your drought insurance. I think people will look at browse country differently in the next couple of years." ■

Access goat resources at [mла.com.au/goats](https://mla.com.au/goats)

Greg and Katie Honor greg.honor@honorprojects.com.au Joe Gebbels jgebels@mла.com.au

Reinventing sheep reproduction through genetics

Producers can now genetically target gains right along the reproduction cycle thanks to a new component trait analysis introduced for maternal and Merino sheep breeds.

The reproduction cycle, from joining to weaning, is crucial to get right in any productive and profitable sheep breeding enterprise.

That's why the new analysis breaks down the Australian Sheep Breeding Value (ASBV) Number of Lambs Weaned (NLW) into three specific components related to the reproduction cycle:

1. **Conception:** *Does the ewe get in lamb?*
2. **Litter size:** *If a ewe gets in lamb, how many lambs does she give birth to?*
3. **Ewe rearing ability:** *What proportion of the litter does the ewe rear?*

These new traits are now available as ASBVs which producers can select on.

If breeders look closely at their own flock's reproductive performance at all three stages, the new analysis will help to genetically target those areas that need improvement.

While the model is foremost a genomic analysis, it is also a multi-trait analysis, so also includes favourable correlations with other traits too, including:

- ewe reproduction components
- maternal behaviour
- pre-joining weight and condition score
- muscle and fat in growing animals
- scrotal circumference.

Targeting profitability

UNE's Animal Genetics and Breeding Unit (AGBU) Principal Scientist, Andrew Swan, said the shift means breeders can use the data to effectively target component traits for greater profitability.

"When looking at the economic values of the three different component traits, we know that as a flock's litter size increases, rearing ability becomes relatively more important in maintaining high rates of lamb survival," Andrew said.

"With the new analysis – because the component traits have been separated – breeders have the opportunity to place varying levels of emphasis on each, depending on the nature of their individual production systems, in order to achieve better revenue and welfare outcomes."

SEASONAL ACTION PLAN

- ! **Look closely at reproductive performance** throughout the reproductive cycle.
- ! **Identify poor performance in these cycles** and use targeted genetics to improve where required.
- ! **Be on the front foot coming into next year's sire season** and prepare your selection priorities ahead of time.

Record then apply

The new component trait analysis is a powerful tool to improve reproduction, but it's only useful if producers have first recorded their flock's performance and know the right areas to target.

"To make gains in reproduction, seedstock breeders need to measure reproduction," Andrew said.

"Aside from this, when reproduction data is available it is possible to account for the impacts on other key traits, such as lifetime wool production in breeding ewes." ■

"When looking at the economic values of the three different component traits, we know that as a flock's litter size increases, rearing ability becomes relatively more important in maintaining high rates of lamb survival."



Access genetic tools and information at genetics.mla.com.au or by scanning this QR code with your smartphone.

Andrew Swan andrew.swan@une.edu.au Peta Bradley pbradley@mla.com.au



Soil strategy cuts costs and boosts crops

South Australian producers Steen Paech and Deanna Lush have implemented a soil testing program on their mixed farm 'Hillydale', near Palmer, to better manage costs while maintaining productive soils during some of the driest conditions on record in the region.

Soil tests have provided the couple with insights into the specific nutrient requirements for their cropping program and pastures, enabling them to focus on exactly what's required for optimal production and avoid excess applications and costs.

Monitoring soil health

Steen and Deanna have ramped up the soil testing program on their property to investigate how they could minimise on-farm expenditure during severe drought.

"Soil testing is about knowing exactly what nutrients are present in soil so you can make informed decisions," Deanna said.

"Part of running a profitable business is not just being able to maximise income in good times but to be able to minimise losses, particularly around variable costs, in dry times.

"In the past 12 months, we've increased our flock size by 30% to boost our stocking rates, so soil health and pasture

improvement has been integral to success."

Soil testing program

They test soil annually in February:

- a series of topsoil tests from 0–10cm, on pasture and crop stubble paddocks to monitor micronutrients with the aim of testing every paddock over a three-year period
- deep soil testing for nitrogen and any soil constraints down to one metre in one wheat, barley, canola and pulse stubble paddock in the rotation each year.

Pinion Advisory partner Tony Craddock works with the couple and assists with crop agronomy, informed by the results of soil testing and benchmarking.

The results of the soil testing program provide Steen and Deanna with concrete information on their soil health to accurately plan the amount of fertiliser required to ensure their soils are at optimal health for maximum productivity.

"The seasons in 2018 and 2019 were worst-on-record droughts for our property and so in 2019 and 2020, because we had soil tested and knew what nutrients were stored in the soil bank, we were able to reduce our fertiliser costs by 20% with confidence that we wouldn't compromise production," Steen said.

"Soil testing has been even more important this year because we are trying a mixed-species sown pasture of vetch, Moby barley and arrowleaf clover in our low rainfall zone country for the first time.

"We'll be looking for this mix to boost soil nitrogen for next year's crop, and we'll be measuring this through soil testing coming into sowing." ■

SNAPSHOT



STEEN PAECH AND DEANNA LUSH,
'Hillydale', Palmer, SA



AREA
4,500ha

ENTERPRISE
Merino sheep and cropping (wheat, barley, canola and pulses)

LIVESTOCK
3,500 breeding ewes
1,000 ewe lambs

PASTURES
Sub-clover pastures, native grasses, mixed-species sown pastures

SOIL
Sandy loam/loam over clay and rock

RAINFALL
330–550mm



Deanna Lush and Steen Paech ramped up the soil testing program on their property two years ago to investigate how they could minimise on-farm expenditure during a period of severe drought.

SEASONAL ACTION PLAN

! **Get your soil into shape** before the start of the season to optimise pasture and crop production: mla.com.au/healthy-soils

! **Boost your soil testing skills** using MLA's The toolbox training package: elearning.mla.com.au/courses/soil-testing

! **Sign up for a Making More From Sheep or More Beef from Pastures workshop** at mla.com.au/events

! **Read Deanna Lush's tips on being an industry ambassador** in October's special edition of *Feedback*: mla.com.au/feedback

Plan now to reduce bushfire impact

Despite widespread rainfall across many regions, bushfires will still be at the top of mind for many producers through summer – so it’s a good time to think about what you can do now and throughout the year ahead to be bushfire prepared.

Bushfire researcher and veterinarian Dr Caitlin Pfeiffer said there are steps producers can take year-round to be prepared.

“Think about it year-round and integrate it into your overall farm business plan. Doing small things at appropriate times during the year really adds up,” Caitlin said.

“All preparation is important.”

Understanding fire effects on livestock

Caitlin is co-lead researcher on an MLA-funded project that is examining the long-term impact of bushfires on the health, welfare and productivity of sheep and cattle.

The project is a collaboration between The University of Melbourne, The University of Sydney and Ausvet Pty Ltd, with assistance from Local Land Services NSW and private veterinarians in Victoria. A key output will be an evidence-based *Livestock Bushfire Preparedness and Recovery Manual* for producers, due to be published in early 2022.

As part of the project, researchers interviewed 46 fire-affected producers from the devastating 2019–20 bushfire season.

Producers discussed their bushfire risk management, recovery strategies and any successes, and Caitlin said a common theme was the importance of having a fire plan.

“One of the strongest predictive factors for farms that didn’t lose livestock was having a fire plan in place,” she said.

“Many producers also found they were under-insured and warned other farmers: make sure your insurance is up to date.”

Three key aspects of a fire plan

Caitlin said the key aspects of a bushfire plan for livestock farms are:

- preparedness
- response
- recovery.

“Every farm is different, so your plan needs to be specific to your land, your livestock and your business.”

Preparedness involves:

- thinking about keeping yourself safe – if you will stay, is your house a safe shelter?
- regularly reviewing and updating insurances with your advisor
- identifying safe places for stock to be moved in the event of a fire
- undertaking fuel reduction around key assets, yards, stored feed and water, and critical fences
- finishing projects like burying water pipes underground or installing sprinklers.

In terms of fire response, producers said it was useful to:

- move stock to safe areas
- have appropriate fire-fighting equipment and adequate water reserves
- have radios for communication.

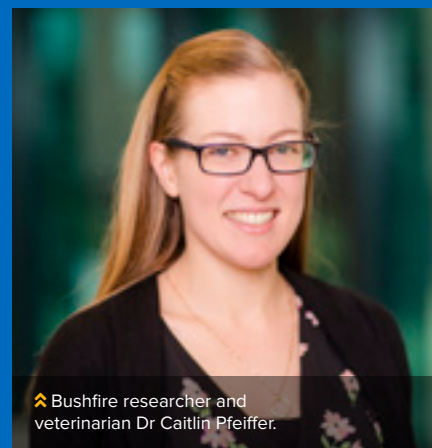
Recovery planning includes:

- having an area of the farm where stock could be kept after a fire with fire-proof water supply
- having a support network of advisors, neighbours or friends.

“An important message from the producers involved in this research is that you can do everything right and still have losses. Having a plan that supports recovery is really important, not just for the future of the farm business, but also the emotional wellbeing of the farmers,” Caitlin said.

“More than half the people we spoke to sought professional advice to support recovery, including talking to agronomists, vets and nutritional advisors.

“Having a fresh set of eyes and someone to bounce ideas off is very helpful, whether that’s a paid advisor or your peers. Just talking to friends and neighbours who understand the local environment was also valuable during fire recovery.” ■



▲ Bushfire researcher and veterinarian Dr Caitlin Pfeiffer.

SEASONAL ACTION PLAN

Check out MLA’s bushfire recovery resources at mla.com.au/bushfire-recovery

Keep an eye on fire updates at the National Farmers’ Federation Farm Hub farmhub.org.au/live-bushfire-assistance-key-contacts

Access fire recovery advice from MLA’s Back to Business webinar recordings – scan this QR code or visit MLA’s YouTube channel youtube.com/meatandlivestock and search ‘bushfire’.



- Caitlin Pfeiffer
caitlin.pfeiffer@unimelb.edu.au
- Sharon Dundon
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In this series, *Feedback* catches up with producers profiled in previous editions, to see how their business is evolving in response to new challenges and opportunities.

Down the track

Looking back to 2013 – the year which marked the start of many of their on-farm adjustments, Matt and Angela Pearce had just completed succession planning with Matt’s family.

Matt had been involved in the family farm prior to this, but the couple discovered that running their own entity was a different proposition.

To assist in their transition, the Pearces applied to participate in the inaugural MLA Challenge. The 12-month Challenge offered six producers the chance to utilise MLA’s tools, resources and advice to transform their farming business.

“We thought it would be a good opportunity to learn some skills and get an understanding of the options we should be considering for our business,” Matt said.

The Challenge gave them the opportunity to scrutinise every aspect of their business, clarify their business goals and formulate a plan to get there.

Strategic grazing systems

The Pearces’ grazing operation at Adelong on the NSW south-west slopes focuses on a self-replacing breeding herd of Angus-Hereford cattle, joined to Angus bulls. They have a relationship with a

Queensland feedlot to supply steers and also background cattle.

“During the MLA Challenge, we moved from a set stocking system to what I call a strategic grazing system,” Matt said.

While it’s not a full rotational system, across a 12-month period all their grazing country receives a three-month rest.

“By monitoring our species composition and resting our pastures, we wanted to see whether there was a change in our feedbase and an increase in perennials.

“The subsequent increase in deeper-rooted perennials has given us a longer growing season, better ground cover and better water-use efficiency.”

Looking back



Over the past eight years, NSW cattle producers Matt and Angela Pearce have steered their enterprise on a journey of change, weathering their fair share of challenges along the way. Their involvement in the MLA Challenge in 2013–14 was the springboard for a more resilient business.



Narrowing the calving window

Another major change the Pearces implemented as a result of their participation in the MLA Challenge was to tighten their calving window, a process that took longer than anticipated.

They initially brought joining down from a 12-week period to four weeks, because they thought they had enough females. But after a couple years, they started running out of females.

“We were losing so many on the bottom end of that joining, or they weren’t going into calf.”

They now have a six-week joining window and this year experienced their best result to date, with 94% preg-tested in calf (PTIC) in cows and 78% PTIC in heifers in 2021.

Fixed-time AI

In the years following the MLA Challenge, the Pearces ran a fixed-time AI program, partly to tighten up the joining and push as many heifers as possible into the first cycle.

However, during those seasonally challenging years, the pregnancy rates weren’t as high as they needed to be, and they abandoned the practice, but Matt hasn’t discounted reinstating it.

“It was just too much, too soon. For a couple of years, we still had enough heifers coming into the system, but then we had some bull failures and some tough seasons on top of that. Our female numbers dropped right back, but I think we might get a better result now.”



Angela, Hunter, Minnie, Sped and Matt Pearce.

Fire devastation

Those difficult seasons turned out to be the precursor to the period of devastation wrought by the black summer fires of 2019–2020.

When a massive fire started on Dunns Road near Adelong on 31 December 2019 and spread through the region, 95% of the Pearces' property was burnt out.

They lost a shed full of hay and all their pasture base, but incredibly didn't lose their house, any stock or machinery, which Matt credits in part to their practice of an annual insurance review every November.

During this process, timed around when they have a clearer idea of how the fire danger season is shaping up, the Pearces knew the 2019–20 summer would be a high fire risk. So, they had already moved machinery to a part of the property away from heavily timbered country where it would be easiest to protect.

Coming into the 2019 summer on the back of few tough seasons, their stocking rate was a little lower than normal.

They had preg-tested all joined females and had forward sold empty females for a January delivery.

Once the Dunns Road fire started, Matt mustered stock into a paddock adjacent to the house, which required moving them through areas of burnt ground.

He suspected there were some livestock he hadn't been able to reach and dreaded the worst – but when he went out and checked after the fire and found the remaining cattle uninjured, he recalls throwing himself onto the ground and almost crying with relief.

"I just couldn't believe it," he said.

Following the fire, the Pearces were able to deliver their forward-sold stock early. They moved pregnant females to leased country in Cootamundra. This freed the property of stock after the fire to give their pasture base the best chance to recover.

"Without stock, we had more free time to consider what we needed to do," Angela said.

"We set ourselves a goal that within 12 months we would have everything back as close as possible to where we were before."

They completed their re-fencing program before Christmas 2020 and have now also put water systems back in place.

While the layout of the property worked reasonably well prior to the fire, they took the opportunity to restructure fences and add laneways to improve safety and efficiency.

With help from Local Land Services (LLS), Matt and Angela have been able to replant some of the tree plantations that were lost in the fire.

Angela said the support they received across all levels of government and the community was amazing.

"At the time you're in a fog and just trying to get through, but it was quite amazing to see there was that much care for the people that went through it."

Now that things are returning to normal, Matt is reinvigorated to promote the beef industry he is so passionate about.

In the past, he has travelled to the US on an MLA-hosted tour to share his perspective as a producer to chefs, food critics and social influencers. Matt and Angela have also hosted visiting chefs and food critics on-farm to provide an insight into Australian livestock production.

"I'm a big believer in the industry and we've always got an open-door policy here," Matt said. "We're proud that we're producing food that everyone needs. It's something that we are happy to share." ■

SNAPSHOT



MATT AND ANGELA PEARCE,
 'Muronga',
 Adelong, NSW



AREA
 1,000ha

ENTERPRISE
 Breeding and backgrounding cattle

LIVESTOCK
 Self-replacing Angus–Hereford breeding herd and backgrounding for feedlot

PASTURES
 Mixture of improved perennial, improved annual and natives

SOIL
 Acidic granite-based loams

RAINFALL
 850mm

SEASONAL ACTION PLAN

Be bushfire ready – turn to page 19 for insights on what you can do now. MLA's bushfire recovery hub outlines the steps to take in the immediate aftermath of a fire: mla.com.au/bushfire-recovery

Get your paddocks ready for autumn. Check out mla.com.au/feedbase-hub and mla.com.au/healthy-soils

Build a more resilient business through mla.com.au/edgenetwork



👉 May-drop calves in the yards at 'Muronga'.

LESSONS LEARNT

- Build good business relationships.** Those people will be there when you need them.
- Involve consultants** in your business decisions.
- To make things happen and move forward, **make decisions quickly and with confidence.** Making no decision is the wrong way to go.
- In difficult times, **learn to accept help when it's offered.** It's hard, but people genuinely want to help.

Raising the bar for safe loading

When it comes to transporting livestock, loading and unloading are some of the most dangerous parts of the process and contribute to high rates of workplace injuries and even fatalities.

A safer transporting process begins on-farm, where producers have an important role to play by ensuring their own facilities, particularly their ramps and forcing yards, are up to scratch.

Australian Livestock and Rural Transporters Association (ALRTA) Executive Director, Mathew Munro, said the statistics are stacking up, so safe loading has become an industry focus area.

“We recently ran a survey asking our members if they’d experienced any injuries while loading and unloading livestock in the last five years – 87% said they had, and 70% said people in their businesses are often injured during these activities,” Mathew said.

“This is a significant issue for industry, which is why there was a need to develop some clear guidelines so producers can evaluate their own ramps and forcing yards and create safer set-ups.”

New safety standard

In 2020, Standards Australia released a new Standard – *Livestock loading/unloading ramps and forcing pens (AS 5340:2020)* – which sets out the requirements for ramps and forcing pens to ensure the safety and welfare of animals and livestock handlers.

Former Chair of the Animal Welfare Committee and ALRTA livestock transporter, Mick

Debenham, said most producers will need to update elements of their ramps and forcing yards for compliance with the Standard.

“Almost everyone is going to have aspects of their facilities that aren’t safe when compared to the current state of knowledge, so there are going to be actions everyone can take,” he said.

The safest option is to comply with the new national Standard. It is available to order via Standards Australia and costs around \$125.

The ALRTA free publication, *Guide for safe design of livestock loading ramps and forcing yards* is still available as a guide to producers who want to assess the safety of their facilities.

“The Standard was actually produced based on the guide, which has been freely available since 2015 and provides information on what safe loading facilities should look like,” Mick said.

“However, the benefit of having a Standard is that if you’re buying a ramp or upgrading your yards, you can stipulate to the manufacturer that it must meet the Standard.”

Modifications don’t need to be expensive.

“If a ramp is more than 20 years old, it might be time to replace it, but most facilities newer than that are going to come close to meeting the Standard and might only require a couple of hundred dollars in retrofits,” Mathew said.

Some of the critical points outlined in the Standard that producers should be aware of:



Separate people and animals.

Handlers should never have to get inside the ramp or forcing yard to shift animals.



Access walkways should be included on the outside of the ramp.



Include escape gates at the top of loading ramps that make it easy for handlers to quickly exit.

for handlers to quickly exit.



The ramp should be fit for purpose. Unloading ramps are often wider than loading ramps, which can lead to risks if they are used for loading stock.

Unloading ramps are often wider than loading ramps, which can lead to risks if they are used for loading stock.



Avoid protrusions in ramps and yards that handlers and animals can get caught on.

that handlers and animals can get caught on.

“At the moment, the government also has write-off incentives for equipment, so if anyone has a ramp they think might need attention, now’s a good time to get hold of a copy of the Standard and invest.” ■

Scan this QR code to access the Standard or visit alrta.org.au/resources



Access walkways on the outside of the ramp are an important feature of a safe loading set-up.

Three benefits for your business

Improving loading facilities doesn’t just bring greater safety for workers – it can also deliver other significant benefits for producers:

- 1 Improved animal welfare.** Well-designed loading facilities reduce distractions for animals, encouraging faster loading without the use of cattle prods or forceful measures. Animal stress will also be significantly reduced.
- 2 Market compliance.** Unsafe facilities, those with protrusions in yards and slippery ramps, can bruise or injure animals, reducing the value of the end product.
- 3 Fatigue and time management.** Better facilities have the potential to significantly improve loading time, reducing driver and worker fatigue and giving producers more time for other jobs.



Mathew Munro mathew@alrta.org.au Mick Debenham mr.debenham@yahoo.com.au Sharon Dundon sdundon@mia.com.au

Queensland producer Russell Lethbridge has improved his cattle yards, ensuring safer, more efficient loading.

Upgrading yards ticks the boxes

SNAPSHOT



RUSSELL AND DONNA LETHBRIDGE, 'Werrington', 'Amber' and 'Rainmore', north and central Queensland



AREA

Werrington – 20,000ha, Amber – 110,000ha, Rainmore – 30,300ha

ENTERPRISE

Brahman cattle

LIVESTOCK

12,000–15,000 head

PASTURES

North – native pastures infused with stylo. Central – buffel-based pastures.

SOIL

North – alluvial granite. Central – heavy brigalow and lighter scrub

RAINFALL

North – 750mm. Central – 525mm

LESSONS LEARNT

- Updating yards** improves loading times, safety and welfare.
- Adding rails to ramps** improves handler safety.
- Driver fatigue can be reduced** if producers prepare their animals for transport before the truck arrives.

When Central Queensland Brahman producer and MLA director Russell Lethbridge realised the benefits he could achieve from improving his loading facilities, upgrading was a no-brainer.

Updating his facilities not only improved loading times but brought additional benefits to safety and welfare for himself, his transporters and his animals.

Retrofitting yards

Russell started making modifications to the first of his four cattle yards before the Australian Standard for loading ramps and forcing pens was developed.

However, he used the Australian Livestock and Rural Transporters Association (ALRTA) guide and researched the upgrades, so is confident they comply with the Standard and current requirements.

“Before upgrading, we did a lot of research through the ALRTA guide, looked at what other producers had in their yards and consulted with transporters, then adapted these findings to our own operation,” Russell said.

“We’re always loading double deck cattle crates up here, so the biggest change we made was adding a ramp that could load the top deck of a crate to the existing single ramp we had.

“We also added new rails on the ramps that would improve handler safety by reducing fall

risks and which are compliant with the Standard.”

Benefits from modifications were evident from the first load Russell sent out, with greatly improved loading efficiency, free-flowing cattle that didn’t need to be pushed up the ramp and all-round improvements to workplace health and safety.

Managing fatigue

Russell is a firm believer that northern producers have a responsibility in managing driver fatigue, and that updated loading facilities are a key part of this.

“A driver’s day often starts when you start loading. If you’re taking an unreasonable amount of time to get animals onboard, turning a 45-minute job into a three-hour job, you’re adding to their fatigue,” he said.

“In northern Australia, most trips already take a whole day, so the onus is on producers to do what they can to decrease loading times, including through improving their facilities.”

Fatigue can also be reduced if producers prepare their animals for transport before the driver arrives, such as drafting cattle and adding tags ahead of time. ■

“In northern Australia, most trips already take a whole day, so the onus is on producers to do what they can to decrease loading times.”

A transporter’s perspective

Queensland livestock transporter, Gerard Johnson, has additional advice for northern producers to contribute to driver safety.

“A lot of northern operations

require road trains for transport – which in turn requires sideloading,” Gerard said.

“It’s a lot safer for the handlers and the cattle if, when sideloading, the doors and ramp can be locked into position by chaining them to the crate or pinning them to the ramp.

“Another common problem I’ve

seen is with the walkways up the side of the ramp. Lots of these have trip hazards and holes in them, and if they are made of logs, sometimes these aren’t secured on one side and can tip up.”

Gerard said a lot of northern yard set-ups aren’t currently up to scratch, which could be attributed

to low knowledge of the new Standard and its requirements.

“Most of the time it’s only about a few metres of their yard that we’re working with, so recommended modifications shouldn’t be expensive and will greatly improve the safety of handlers.” ■



Continued from previous page.

✓ Mallee producer Leonard Vallance.



Safer yards deliver efficiency

Victorian cattle producer Leonard Vallance is well aware of the risks associated with handling cattle – 13 years ago he was seriously injured by a cow in his yards.

It's one of the reasons the former Victorian Farmers Federation livestock group president and Australian Livestock and Rural Transporters Association member was motivated to sit on the committee tasked with developing the Australian Standard for loading ramps and forcing yards.

He saw the Standard not only as an opportunity to improve safety for handlers, but as a means of ensuring producers can purchase yards and ramps from manufacturers that are up to scratch.

"The most critical point of the Standard is that your yards should be operable without the need for you to ever get in with the cattle," Leonard said.

"This not only protects you, but also keeps other handlers, such as transporters or agents, safe.

"The Standard also ensures that if producers need to update their yards or ramp, they have a checklist for manufacturers about whether their product meets the Standard, such as making sure there are no unacceptable protrusions and handrails comply."

Leonard only updated his yards 10 years ago, but he recognised through the Standard that there were areas which could still be improved.

He's currently making upgrades and is using this opportunity to correct other issues he's found in his set-up, including:

- extending the race to make sure it fits 8–10 cattle
- replacing the wind-up ramp with a permanent two-deck ramp.

What to think about

Leonard said southern producers who need to upgrade their yards have some unique considerations they should think about when planning the design to boost safety and efficiency.

As many southern yards were built when four tonne trucks were common, the prevalence now of B-doubles and even road trains means that, in order to access older ramps, some trucks end up parked halfway across a main road.

Key factors when considering how trucks will access your yards include:

- where trucks will park so they don't get bogged getting to the race
- ensuring powerlines are out of the way
- which direction the race faces so livestock don't run into the sun when loading, which can lead to slower loading times.

Leonard said it's also a producer's responsibility to ensure they have labour available to load a truck as a safety consideration.

"It's absolutely unacceptable to put the cattle in the yard and then to expect the transporter to load on their own, because this only increases the chance of injury," Leonard said.

SNAPSHOT



LEONARD VALLANCE,
'Blue Hills', Mallee, VIC



AREA
9,000ha

ENTERPRISE
Euro-cross cattle and cropping

LIVESTOCK
12,000–15,000 head

PASTURES
Cereal rye/legumes for fodder crops

SOIL
Light and sandy

RAINFALL
270mm

LESSONS LEARNT

✓ **Use the Australian Standard** for loading ramps and forcing yards to purchase or design compliant yards.

✓ **Southern producers face unique factors** when it comes to loading stock.

✓ It's our responsibility as the producer to **ensure labour is available** to load a truck.

"As a producer, you are responsible for those animals until the back door of the truck closes."

Safety and efficiency

Leonard said of all the benefits which can be achieved from building an appropriate set of yards, the biggest by far is safety.

"The greatest benefit from your investment is going to be that you and everyone who works in your yards gets to go home and have tea at night," Leonard said.

"You can also go from taking an hour and a half to load two decks to getting it done in 20 minutes, animals will be less at risk of injury and you'll require less handlers to load, which means labour can be used to achieve productivity in other areas of the farm." ■



The Standard is available from alrta.org.au/resources ✉ Leonard Vallance itokawyle@bigpond.com

Lime lifts clover

Applying lime to an established pasture has paid dividends in terms of clover vigour and production for Wimmera Merino producers Sue Holden and Malcolm Nicholson.

Sue and Malcolm run a fine wool enterprise with Sue's father George and stepmother Cath Holden on 'Overdale', east of Stawell, Victoria.

While the couple regularly applied lime to paddocks before sowing new pastures, their involvement in a MLA-funded Healthy Soils Group was the catalyst to use lime to reinvigorate established pastures.

In response to challenging seasons, they had undertaken extensive pasture improvement by sowing phalaris-based pastures and dryland lucerne.

"We were struggling to get sub-clover going in newly sown phalaris-based pastures," Mal said.

"We were having issues with false breaks at the start of the season triggering sub-clover germinations which didn't survive, and then we were dealing with springs cutting out early which was affecting the sub-clover seed set.

"When we looked at our established pastures, we could see the sub-clover was struggling."

Sue said lime applications before sowing new pastures had been part of the pasture improvement program since 2006, but the couple had not considered applying lime to older established pastures until taking part in the Healthy Soils Group.

They have hilly country with light buckshot soils, the pH ranges from 4.6 to just over 5, and there can be high aluminium levels.

Following a Healthy Soils Group workshop, Sue and Mal picked one of the lighter paddocks with no history of lime applications and applied 2.5t/ha of lime at the end of autumn to an established phalaris-based pasture with some sub-clover.

The paddock had been grazed heavily and sprayed with MCPA to take out erodium in autumn before the lime was applied and was grazed again before being locked up for spring.

"The response was obvious – the clover was far more vigorous, producing



Wimmera Merino producer Sue Holden.

"When we looked at our established pastures, we could see the sub-clover was struggling."

a lot more dry matter and was a completely different colour," Mal said.

"I dug some of the clover up and there was great nodulation on the roots which will improve nitrogen fixation. The plants also flowered well which will hopefully result in a promising seed set for next year."

The potential to apply lime to responsive established pastures across the property is now an option to improve pastures growth, clover performance and nitrogen fixation.

"We have about 1,200ha of phalaris-based pastures and will be looking at applying lime to responsive established pastures," Sue said.

"We also have lots of hill country and light soils which are prone to erosion so need to be optimising pasture cover."

Economics

Treating established pastures with lime is looking to be a highly cost-effective way of extending the productivity of established pastures, according to Mal.

SNAPSHOT



SUE HOLDEN AND MALCOLM NICHOLSON, GEORGE AND CATH HOLDEN,
'Overdale',
Stawell, Victoria



AREA
3,200ha

ENTERPRISE
Fine wool

LIVESTOCK
5,000 Merino ewes

PASTURES
Pasture improvement program with phalaris-based pastures and dryland lucerne

SOIL
Hilly country with light buckshot soils

SEASONAL ACTION PLAN

Get your soil into shape before the start of the season to optimise pasture and crop production – scan this QR code to access practical tools or visit: mla.com.au/healthy-soils



Boost your soil testing skills using MLA's The toolbox, where our training package will guide you through the soil testing process and the interpretation of the results: elearning.mla.com.au/courses/soil-testing

Sign up for a Making More From Sheep or More Beef from Pastures workshop at mla.com.au/events

"Resowing a pasture costs us around \$300/ha, whereas applying 2.5 tonnes/ha of lime to an established pasture is about \$162/ha." ■



Sue Holden sueholden@bigpond.com Andrew Morelli amorelli@mla.com.au



Targeting tricky ticks

Cattle ticks (*Rhipicephalus australis*) might be tiny, but these eight-legged parasites pack a punch, spreading tick fever – which can be fatal – as well as causing hide damage and slowing down growth rates of cattle.

Although chemicals are available to keep tick numbers under control, ticks adapt genetically and rapidly develop ways of living with our chemical treatments, so resistant cattle ticks are common across northern Australia.

Here, NSW vet Matt Playford, Dawbuts Animal Health, gives an insight into ticks and how resistance can be diagnosed by submitting ticks to a laboratory.

History of resistance

Chemical-resistant cattle ticks were first identified in Queensland in 1937, 40 years after the introduction of arsenic dips.

Since then, organochlorines (DDT), organophosphates, carbamates, amidines (amitraz) and synthetic pyrethroids have all

been used in dips and sprays, and fluzaron in a pour-on application.

All these chemicals have developed some level of resistance, on average 10 years after the release of the chemical class.

Overseas, resistance in cattle ticks has also been detected to fipronil and spinosad, chemicals that have not been registered for use against cattle ticks in Australia. More concerning, cattle ticks in Central and South America have developed resistance to the mectins (macrocyclic lactones or MLs), a class of chemical used widely in Australia to control ticks and seen by many as ‘the last bastion’ in our chemical armoury.



⚡ *Bos indicus* cattle are more resistant to ticks and babesiosis tick fever than European breeds (*Bos taurus*) or Wagyu cattle. Crossbreeding programs can also provide benefits in hybrid vigour and tropical adaptation.



⚡ An engorged adult female cattle tick. Image: Ralph Stutchbury (tickboss.com.au).



Know your chemicals

Here’s a closer look at the different chemical groups for treating cattle ticks:

Chemical group	Application	Notes
Amitraz (amidine)	Dips and sprays, including spray races	Knockdown
Organophosphates (OPs)	Ear tags*, back-rubbers*, dips and sprays	Knockdown. Also effective against buffalo fly.
Synthetic pyrethroids (SPs)	Ear tags*, dips and sprays (sometimes in combination with OPs)	Knockdown. Also effective against buffalo fly.
Macrocyclic lactones (MLs, mectins)	Pour-on, injectable or ear tags* (injectable gives prolonged period of tick control)	Knockdown. Also effective against buffalo fly, lice, mites and internal parasites.
Fluzaron (tick development inhibitor)	Pour-on	Preferably used in combination products (with ivermectin), or concurrently with another product for knockdown effect.

*Some applications not registered for treatment of cattle ticks

The silver lining for resistant ticks

Research has shown that if amitraz is not used for three years, populations of cattle ticks will lose their resistance and revert back to susceptibility.

This is because amitraz-resistant ticks are less 'fit' and don't survive or breed as well as susceptible (non-resistant) ticks.

Preventing resistant ticks

Decreasing the number of treatments is the most effective way to avoid selecting for resistant ticks. Each time a chemical is used for tick control, ticks can survive treatment and lay resistant eggs. As the number of resistant ticks increases, they make up a greater proportion of the tick population, until only resistant ticks remain.

However, this strategy leads to higher risk of tick fever and tick-related production losses.

The solution? Vaccinate for tick fever and use a range of methods (integrated pest management) to keep tick numbers down below the economic threshold.

The right combination of methods is different for each property, and includes:

- selecting appropriate cattle genetics
- timing treatments to spring and summer to suppress build-up of tick numbers
- spelling paddocks and controlling feral tick hosts to allow larval ticks to die out
- rotating chemical groups and using combination products
- ensure correct dose for pour-on or injectable products and complete coverage of chemical when dipping or spraying cattle (see product label for directions).

Testing for resistance

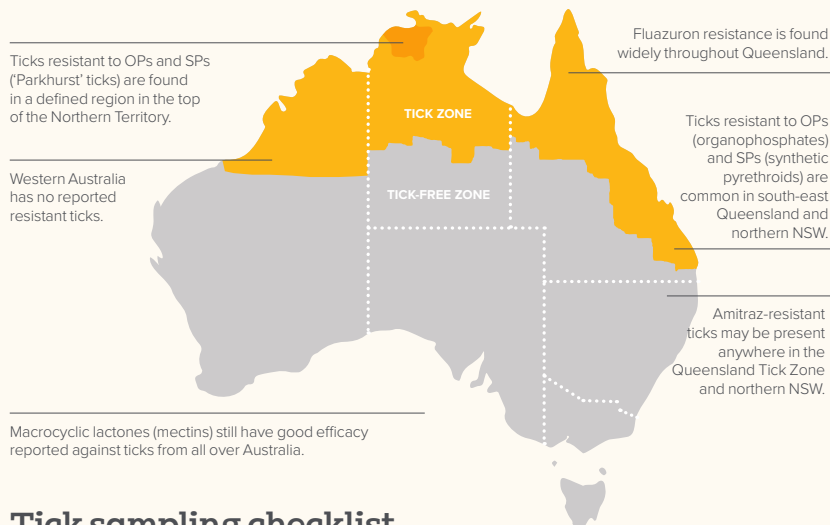
Ticks can be tested for resistance to the chemical groups listed on page 26.

Queensland Biosecurity Sciences Laboratory carries out two different types of resistance tests (bio-assays) for cattle ticks:

- **Adult Tick Immersion Test (fluazuron test):** this requires female ticks that are engorged but not yet laying eggs.
- **Larval Packet Test:** this tests knockdown chemicals.

Results are generally available in seven to eight weeks.

How are the different chemicals faring across Australia?



Tick sampling checklist

- Contact your vet or Biosecurity Officer to let them know you will be sending samples.
- Collect before treatment (or at least 49 days after).
- The right ticks are the 'engorged' ones about 10mm long and round, not the smaller, flatter 'un-engorged' ticks.
- Pluck engorged ticks (30 minimum but preferably 60) gently from several animals.
- Place in a small, non-crushable cardboard or plastic container with air holes in the lid. Add in a few blades of grass to provide some moisture and keep container in the shade.
- Place securely in esky or strong cardboard box (with wrapped ice brick in hot conditions) and send immediately to lab by courier.



Producers across northern Australia are encouraged to contact their local Biosecurity Officer or private veterinarian prior to submitting samples.

What about the tick vaccine?

Many producers will remember Tickguard™, a vaccine which, when used every six to eight weeks, would reduce cattle tick numbers by half and reduce infestations on paddocks by up to 70%.

This product stopped being sold in Australia in 2002, but research continues (supported by MLA) to provide producers with a tick vaccine with higher efficacy and longer protection period that can make a real difference to sustainable tick control. ■

SEASONAL ACTION PLAN

! **Test for resistant ticks** by talking to your vet or Biosecurity Officer and submitting engorged ticks to the laboratory.

! **Use integrated pest management** to avoid chemical-resistant ticks – this includes vaccination for tick fever, paddock management and genetic selection. Combinations of chemicals and rotating chemicals can be used if frequent treatments are conducted.

! **Access tools and guides to manage ticks** at tickboss.com.au/cattle (part of Paraboss, which is supported by MLA).



Easy way to feed P for profit

A method of phosphorus (P) supplementation that removes the need to deliver P to stock during the wet season is proving just as effective as traditional methods of supplementation.

An MLA-funded project is assessing the 'Easy P' strategy, which aims to provide a method of supplementation suitable for areas that are difficult to access during the wet season by including P.¹

This method provides enough P for stock until the next dry season – removing the time, effort and labour required to supplement stock with P during the wet season, especially in areas which are difficult to access.

The Easy P strategy is being compared against traditional wet season P supplementation strategies through a research trial and several

Producer Demonstration Sites (PDS) currently underway across WA, Queensland and the NT.

Promising results

One trial being conducted on NT research station 'Kidman Springs' by the Northern Territory Department of Industry, Tourism and Trade is already returning promising results, according to the department's Principal Livestock Research Officer, Tim Schatz.

"What the data is telling us is that the Easy P treatment is performing the same as traditional wet season supplementation," Tim said.

"That's really pleasing to see because even if it was only 70–80% as effective as traditional programs, the benefits you get from P supplementation in deficient country would still make it worthwhile."

"There are massive benefits from phosphorus supplementation for survival, growth and reproductive rates."



¹ Cattle feeding on the bulk phosphorus put out prior to this year's wet season as part of the Easy P strategy currently being trialled at 'Kidman Springs'.

Comparing P strategies

Dry season

Traditional

Regularly feed out urea-based mineral supplement (not containing any P).

Easy P

Include P in dry season supplement.

Wet season

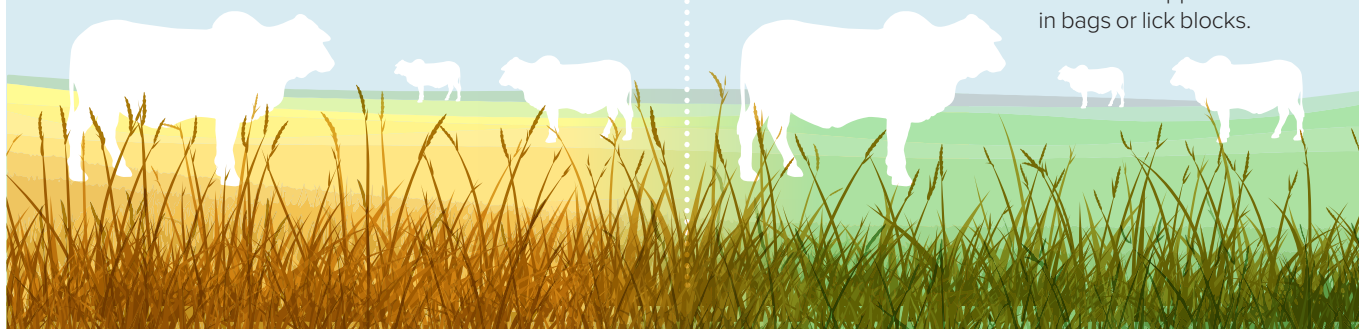
Traditional

Regularly feed out P supplement.

Easy P

No action required – cattle feed on bulk P already in the paddock.

Before the start of the wet season, put out bulk P supplement in bags or lick blocks.



Do you have a question about phosphorus supplementation for cattle? **Ask the experts – email your question to phosphorus@mla.com.au**

Removing barriers

One of the key challenges many producers face when supplementing P is accessing paddocks during the wet season, when many grazing areas become inaccessible.

“Feeding out phosphorus can make a huge difference – to the point where it’s probably one of the most important things you can do for your cattle in deficient areas,” Tim said.

“Much of northern Australia is phosphorus deficient and if you don’t supplement in these areas, growth and reproduction are really adversely affected, as well as actual survival.

“However, there are places where it’s just very difficult to put the supplement out during the wet season – they’re remote, the roads get boggy and you can’t get around.”

By removing the need to feed out P during the wet, Tim said the Easy P strategy could provide a more efficient way for producers to supplement livestock while not having to compromise on herd performance.

“This strategy is a way of getting around that access issue by putting out the supplement before the wet season, before access becomes tricky,” Tim said.

“You then don’t have to try and get supplement out across creeks and

boggy roads in the wet season, you just put out bulk bags before it starts raining – and the results so far are showing that’s an effective way of doing it.”

Initial results

The trials on Kidman Springs, which began in mid-2020, compared the performance between two herds of 18-month-old heifers. One herd received P via traditional wet season supplementation and the other via the Easy P method.

To date, the average weight gain within both herds has been near identical, with the herd fed P via the traditional method weighing in at 386kg on average after first mating in May 2021, while the average weight of heifers in the herd using Easy P was 385kg.

Pregnancy rates in the two herds were identical and high at 95%, and Tim expects the performance of heifers fed via the Easy P strategy to continue to perform well thanks to the continued supplementation of P during the dry season.

“The Easy P strategy also includes P in the dry season supplement, so cows can replenish their P stores after their calves have been weaned as lactation drains a lot of P from their bodies,” Tim said.

“That way they have higher P stores for their next lactation.

“There are massive benefits from this phosphorus supplementation for survival, growth and reproductive rates.”

The Easy P strategy will continue to be trialled on Kidman Springs over the course of the next three years, in tandem with other similar trials taking place on a range of PDSs hosted on properties across northern Australia. ■

SEASONAL ACTION PLAN

Check out **MLA’s phosphorus hub** for information on supplementation to improve your herd’s diet quality at mla.com.au/phosphorus

Register your interest in **hosting a PDS project on your property** to trial the effectiveness of the Easy P strategy, by contacting Tim Schatz at tim.schatz@nt.gov.au

Review your own **supplementation strategy** to identify opportunities to adjust your P strategy.

The dry season supplement fed out as part of the Easy P treatment contains 25% MCP, while the wet season supplement contains 42.5% MCP. The supplement being used in this trial is being sponsored by Causeway Beef Nutrition, who are providing the supplement made to the specifications required for the trial. The phosphorus source is a high quality MCP (European Legislated GlobalFeed MCP, 22.7% total P, TAC value 85%).

P an important piece of the productivity puzzle

At 'Myroodah Station' in the Fitzroy River region of WA, phosphorus (P) is a key piece of the productivity puzzle.

Here, station manager Shane Dunn shares how MLA's P Challenge propelled him to get his P supplementation strategy right to improve live weight gain, reduce herd mortality and increase weaning rates on the Kimberley Agriculture and Pastoral Company (KAPCO) property.

Shane put his hand up for MLA's P Challenge in 2019 to determine if:

- P deficiency was an issue on Myroodah Station
- his P supplementation program was adequate.

The P Challenge involved collecting a blood sample from 20 animals within a mob to test for plasma inorganic P (PiP). When combined with diet quality assessments, based on faecal NIRS results from samples collected at the same time as the blood test, the P status and diet quality of the mob was determined.

Cattle need P for almost every vital function of the body. It's used for building bones and teeth, metabolising fat, carbohydrates and protein, producing milk and increasing feed intake.

Identifying the problem

The Challenge revealed Myroodah Station was located in one of the most P-deficient areas in northern Australia.

"I was surprised by the results as we were providing P in a traditional sense (wet season supplementation) and understood the area was P-deficient, but the results showed we were still deficient and needed to look at our supplementation strategy," Shane said.

"To make our business work we were looking at three key drivers – reducing herd mortality, increasing weaning rates and selling heavier cattle. So, we were looking at all of the options and P supplementation was an important tool to improve productivity overall."

The new P approach

Traditionally, Shane would put a urea-based product out in June before the cattle needed it and then supply a P-based supplement prior to start of the wet season in November/December.

However, now the P Challenge is done and dusted, Shane is taking a different approach to P supplementation.

"We're increasing the P percentage in our lick blocks from 12% to 15% and supplying the blocks on a year-round, 24/7 basis," Shane said.

Shane uses a Mack six-wheeled ex-army truck with a Hiab crane to distribute approximately eight tonnes of lick blocks at a time. The blocks are a blend of urea, phosphorus, sulphur and trace element in the dry season.

"I use P in lick block format because it's convenient for my staff to distribute over a larger area, rather than concentrated in certain points – and we can leave more blocks out in the wet season without having to worry about conditions," he said.

"I find the free choice approach in the dry season works well with cattle in different areas looking for different supplement. You can easily drive out and observe the use across the property." ■

SNAPSHOT



SHANE DUNN, MANAGER,
'Myroodah Station'
(owned by Kimberley Agriculture and Pastoral Company),
West Kimberley, WA



AREA
404,000ha

ENTERPRISE
Beef cattle

LIVESTOCK
Brahman and Brahman-cross

PASTURES
Ribbon grass, soft, curly spinifexes,
wire grass, buffel and kangaroo grass

SOIL
Cracking clays on river frontage,
Pindan, stony plains through
to deeper desert sands

RAINFALL
500mm

LESSONS LEARNT

- ✓ Phosphorus (P) is just as important as urea in northern beef production.
- ✓ 24/7 P availability in the breeder herd has become part of the supplement program.
- ✓ Working with MLA in these challenges provides underlying information that can help yourself and others in the livestock business.



- ✉ Shane Dunn shane.dunn@kapco.com.au
- ✉ Nigel Tomkins ntomkins@mla.com.au

Phosphorus has been shown to be critical for breeders,

- ✓ increasing live weights by up to 130kg and
- ✓ reducing mortality by up to 50%.



Raising the productivity bar

P supplementation is just one piece of the puzzle boosting productivity at Myroodah Station, where manager Shane Dunn has a suite of tools to increase the return on investment for station owner, the Kimberley Agriculture and Pastoral Company (KAPCO).

Here's how Shane is improving productivity on-farm by focusing on four key areas.

1 Decreasing herd mortality

Shane manages calf mortalities by:

- focusing on a mustering and weaning program
- providing a thorough supplementation program
- having a good supply of feed available by monitoring stocking rates and paddock spelling
- implementing a feral animal control program for wild dogs and pigs.

2 Reducing stress

Breeder mobs are drafted and processed in a day and back on hay with calves that night. With the right infrastructure and station hands, approximately 1,000 breeders plus progeny can be processed comfortably in a day. Shane also tries to leave cow groups together and just takes out the non-performers.

Weaners are on pellets and hay, and put through the yards twice a day for six days – this is done once with horses and then on foot.

Having completed this weaner management program for three years, the benefits are now coming through the herd – the heifers are relaxed in mustering and through the yards which reduces costs and hopefully reflects in the future calving percentage. Sale cattle are also handling the mustering and yards easily with turn-off weights increasing each year.

3 Boosting fertility

To boost fertility across the herd, Shane takes a holistic approach including:

- implementing a thorough vaccine program from weaning onward, including vibrio for bulls and heifers, and 7-in-1 vaccination
- buying good quality bulls
- control mating maiden heifers
- taking out non-productive cattle from the herd post pregnancy testing
- supplementing with P year-round
- reducing the stress on the herd through management, staff training and infrastructure.

4 Building seasonal resilience

Good water infrastructure is one of the tools Shane uses to build seasonal resilience.

Over the past three years, KAPCO has made significant investments in water infrastructure by:

- replacing diesel motors in their water pumps with solar (they are nearly 90% solar)
- increasing the volume-holding capacity of all bores to avoid a shortage of supply
- improving access to water with more bores and trough upgrades.

Land use is also being managed by:

- rotating and spelling some areas
- identifying where cattle can do better as a breeder
- putting dry (sale) cattle in areas that are better for non-lactating animals
- managing a fire program and adapting to seasonal conditions.



SEASONAL ACTION PLAN

! **Assess your supplementation program** – MLA's phosphorus hub has information, tools and producer case studies. Scan this QR code or visit: mlla.com.au/phosphorus



! **Keep a finger on the pulse of new research** for the northern cattle industry through MLA's Northern Breeding Business initiative: mlla.com.au/nb2

! **Be on the front foot coming into the dry** with key seasonal strategies from northern advisors at mlla.com.au/autumn-actions

📍 Shane Dunn manages 'Myroodah Station', an extensive beef enterprise located in the Fitzroy River region of WA.

Digging deeper into pasture dieback

Where there are mealybugs, there's usually pasture dieback.

That's the takeaway from MLA-funded research undertaken by the Queensland University of Technology (QUT), investigating the pasture mealybug, *Helicococcus summervillei*, as a causal agent of dieback.

QUT work with Queensland Biosecurity has confirmed this is the same mealybug that caused pasture dieback in Queensland in 1926 and the 1930s, in New Caledonia in 1998, and currently in Barbados and Puerto Rico.

Lead researcher, Associate Professor Caroline Hauxwell, said the mealybug *H. summervillei* has been found at more than 40 sites with active dieback, from the central highlands in Queensland to northern NSW.

"There's significant correlation between the number of mealybugs present in a pasture and the severity of dieback symptoms in a range of grass species," she said.

"We can reproduce the symptoms by infesting grasses with the mealybugs, and grasses recover if treated with systemic insecticides.

"Quantitative sampling over 18 months has also revealed how the mealybug hides in pastures and soils, and how management can be targeted at vulnerable stages.

"This is encouraging research because the more we learn about the mealybug, the more we can assist producers to target them."

Managing mealybugs

QUT research ties mealybug biology to management and pasture varieties.

"Understanding the seasonal biology is important. If mealybugs are deep in the soil, or breeding in the crown, or emerging in their thousands to infest the leaf, then how you manage them needs to adapt.

"If you have the capacity to invest in improved pastures, there are a few options you can adapt to your property," Caroline said.

"Our work has shown mealybugs don't survive as well on more tolerant varieties, but thrive on susceptible ones."

Bluegrass, buffel and broadleaf paspalum are all highly susceptible to mealybug, but panic grasses are less so.

Mealybugs don't feed on legumes, brassicas and other forbs, and adding these to existing pastures appears to have a significant benefit, reducing mealybugs and dieback symptoms.

Forage crops such as sorghum, barley, legumes (lucerne, desmanthus) and brassicas are all unaffected and can provide valuable feed though winter or when dieback is severe.

Caroline said producers are reporting that increasing soil phosphate levels has had an impact on dieback.

"Phosphate levels are often low, especially in old and burnt pastures," she said.

"Good soil health supports pasture recovery and resilience."

The key is understanding the interaction between management, seasonal biology and the pasture grasses.

Caroline said it's important to know how to find and identify the mealybugs.

"If you know where they are, you can manage them."

Use a hand lens to check for mealybugs in the soil around roots up to a few centimetres deep, in the crown and the thatch of the plant, and under debris in the paddock such as cow pats and logs.

The researchers use a quantitative method using dug samples – see box to the right for details. ■

RESEARCH UPDATE

WHAT'S IT ABOUT?

Digging down on mealybugs as a causal agent of pasture dieback

WHY IT MATTERS

Understanding the biology of the mealybug, including growth, reproduction, seasonal interaction with grasses and natural enemies, will help producers manage them.

WHERE'S IT UP TO?

Ongoing field and lab work to understand life cycle and control measures.

WHO'S INVOLVED?

Queensland University of Technology, MLA



How to check for mealybugs

Quantifying the number of mealybugs in an affected pasture can help determine their severity and give producers insights on how to manage them.

Here are five steps to checking for mealybugs: →

"This is encouraging research because the more we learn about the mealybug, the more we can assist producers to target them."

Seasonal strategies to manage mealybugs

QUT researchers used fortnightly monitoring at eight sites over 18 months to quantify how mealybug behaviour changes by season, and to target promising management practices.

Here's a closer look at where mealybugs are found and possible seasonal management strategies.

Winter



During cold and dry conditions in winter, the mature females stop feeding and disperse, heading into the soil to follow the moisture and avoid frosts, or become dormant under cow pats and logs.

"It's hard to find mealybugs in the winter because they can be up to a metre underground and hide where you don't expect them, especially under cow pats and windrows," Caroline said.

These dormant adult females don't feed, so insecticides are less effective, and they can be too deep in the soil for burning to be effective.

"There are few management options at this time, which is why it's important that producers monitor as the seasons start to warm again or when they get rain."

Summer



Once the rains and warmer weather combine, mealybugs move from the soil and thatch and onto the crown and leaf, where they mate and reproduce.

"You have to be on the ball with monitoring in spring as mealybug numbers can increase rapidly," Caroline said.

At this stage, management is critical.

"If you monitor your paddocks for patches of symptoms and find mealybugs feeding in the leaf and crown, you can target the affected area and several metres around it with insecticide, which will help to stop them spreading," Caroline said.

"Two insecticides, Movento® and imidacloprid, currently have permits available for the treatment of mealybugs. These are not for large area treatments and come with long exclusion periods, so target carefully."

In summer, mealybugs reproduce and thrive in the humid, protective

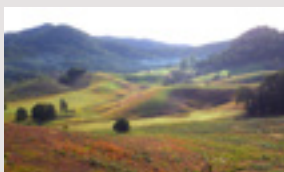
ACT NOW

thatch of the plant. Caroline said some producers have reported good results from slashing and grazing at this time, which disrupts mating adults in the dense crown.

"For this reason, slashing or short, intensive grazing may be an effective management practice, opening up the canopy and exposing the pests to sunlight, dry air and natural enemies, which knocks them around, but at all costs avoid 'flogging' the pasture. We don't want to replace one problem with another."

Burning is sometimes used as a short-term management option, but in the long-term this may cause more problems.

"Burning a paddock can cook the soil, reducing the beneficial microorganisms that we believe improve resilience and recovery, and removing valuable phosphate," she said. ■



1 Find an area of pasture with the red and yellow symptoms of dieback.

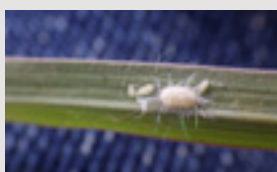
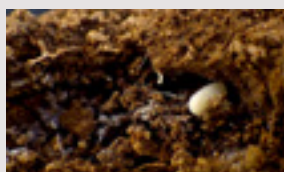
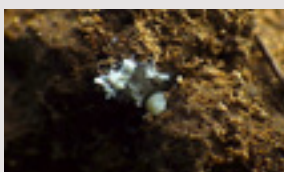


2 Run a transect of 50 metres and use a post-hole shovel to dig up and carefully lift a clump of grass, soil and roots onto a plastic sheet or tarpaulin.



3 Search the clump thoroughly from top to bottom for 10 minutes and count the mealybugs, using a hand lens to locate small mealybugs.

4 Repeat five to ten times at 5m intervals along the transect.



5 Record which instars (adult females or small neonates) are present and where they are (in soil and thatch or up on the leaf). Monitor through the seasons to determine management strategies.

SEASONAL ACTION PLAN

! MLA is supporting a crowd sourced pasture dieback tool, led by AgForce - **scan this QR code to report an area of dieback.**



! **Learn more about pasture dieback** – including how to identify it and what do to if you find it – at mla.com.au/dieback

! **Dig deeper into overall paddock health** at MLA's feedbase and soil resource hubs: mla.com.au/feedbase-hub and mla.com.au/healthy-soils

! **Be on the front foot for autumn** with these seasonal tips from advisors across the country: mla.com.au/autumn-actions

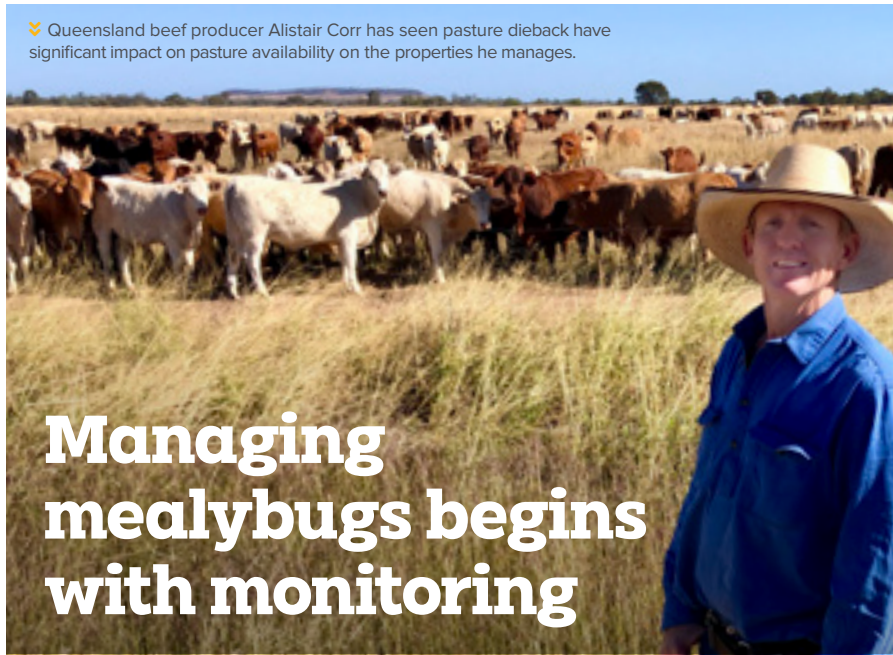


Report mealybug sightings with the QUT dieback team by emailing pasturediebackteam@qut.edu.au
 Associate Professor Caroline Hauxwell caroline.hauxwell@qut.edu.au Felice Driver fdriver@mla.com.au

Continued next page

Digging deeper into pasture dieback

Queensland beef producer Alistair Corr has seen pasture dieback have significant impact on pasture availability on the properties he manages.



Managing mealybugs begins with monitoring

Central Queensland producer Alistair Corr knows that to manage dieback, you need to understand what it is you're actually dealing with.

He first noticed the condition on the properties he manages for Mactaggart Pastoral in the summer of 2016–17 and has since watched it spread comprehensively across the buffel-based pastures.

"A few years ago, we'd noticed dieback but hadn't felt the impact of it," Alistair said.

"Then a year later, we did a grass budget in April to work out pasture rationing for the dry season, but we realised by September the grass we had available just wasn't there because the dieback had significantly reduced the available pasture.

"It was a really significant moment because it put us on this progressive learning curve, looking more closely at the condition and the ways we can manage and build buffers against it."

Looking into the cause

Alistair started to explore the mealybug as a causal agent of dieback in early 2021 after hearing QUT dieback researcher Associate Professor Caroline Hauxwell speak at a field day (turn to page 32 for more information about this research).

"We decided to get involved in the research by looking for mealybugs on the properties and counting numbers if we found them," Alistair said.

"It was really interesting that once we started to look for them, it became apparent they were in all the affected pastures."

Alistair said a key reason they successfully found mealybugs was because they understood how to locate them.

"They're tricky to see if you don't know what you're looking for, so if you can, get someone to come and show you how to find them in the first instance, which is what we did," he said.

Finding mealybugs has been a win for Alistair, as he said they'll be able to monitor them as they become active in the spring and make considerations based on population numbers.

"Everyone is pretty desperate to know what dieback is, so it's encouraging to know that mealybugs can be identified in affected pastures and are associated with it," Alistair said.

"Like anything else, if we know what the vector is and can successfully count the population, we'll be able to start making assumptions about management and what the impact on the business could be going forward."

Managing dieback

Alistair said pasture and grazing management have been their key focuses so far in dealing with dieback.

"We're watching the grass more closely to ensure it isn't struggling or grazed too hard, keeping it in a position so that when it rains, it can spring away," he said.

SNAPSHOT



ALISTAIR CORR, MANAGER,
'Wirranda' (Mactaggart Pastoral), between Moura and Bauhinia, QLD



AREA
12,000ha

ENTERPRISE
Trading and backgrounding cattle

LIVESTOCK
4,500 head

PASTURES
Buffel grass, improved and native pastures

SOIL
Black

RAINFALL
655mm

LESSONS LEARNT

- ✓ **Check for mealybugs** to determine if they're present in your pastures.
- ✓ **Count mealybug numbers** and consider management strategies based on population density.
- ✓ **Keep an eye on new research**, and use findings if applicable.

"We haven't used burning as a grass management tool on this country, and spraying isn't something the company is considering at this stage, so pasture management is crucial."

They are also constantly looking at research findings about dieback, and the control measures others are using. ■



- For more information on pasture dieback visit mla.com.au/dieback
- Alistair Corr wirranda1@bigpond.com
- Felice Driver fdriver@mla.com.au

Forging links in WA

More profitable, consistent and sustainable beef yields are on the horizon for WA producers – from north to south.

BeefLinks is an innovative partnership with the University of Western Australia (UWA), through which MLA is driving integrated research, development, extension and adoption.

The five-year program brings together producers, researchers, businesses and state agencies to explore a range of practical opportunities to improve the management and movement of cattle from WA's northern rangelands.

Ultimately, the program aims to facilitate a more productive, sustainable value chain within the WA beef industry, delivering an estimated \$72 million dollars in net benefits to more than 750 producers by 2024.

Unique challenges

BeefLinks Program Leader, UWA Professor Philip Vercoe, said the project tackles the unique challenges faced by the WA beef industry to boost productivity and profitability.

"It's a diverse industry based largely on a mosaic feedbase, with animals moving from the northern parts of the state – the northern rangelands – down to backgrounding regions and potentially into feedlots prior to processing," Philip said.

"Very recently there has also been animals moving between grazing rangelands plants and being fed fodder produced under centre pivot irrigation.

"There was such a potential to look at how we could make use of the mosaic better to improve productivity, while also improving the health of the rangelands through better management decisions and grazing practices."

The industry partnerships forged as part of BeefLinks will ensure significant benefits will be yielded to the WA beef value chain, with an integrated research and develop program established to increase the number of cattle that meet specifications right down the supply chain.

"If we are going to grow the beef industry in WA, we don't want to be working in isolation.

"We need to create links and communicate right down the supply chain to help industry figure out how best to manage those animals that they effectively share as part of that supply chain," Philip said. ■

Joining the dots for more value

Here's a look at how BeefLinks projects and producer engagement currently underway across WA's diverse production zones work together to enhance the state's red meat value chain.

1 Pilbara: testing virtual fencing technology

Virtual fencing technology (VFT) is being tested in the Pilbara to manage animals in the WA rangelands while improving productivity and rangeland health.

This project will assess the potential VFT offers to improve grazing management and nutrition, monitor livestock health and welfare, and exclude livestock from sensitive areas.

Initial results have been encouraging, with a large-scale trial now underway with 100 cattle fitted with virtual fencing collars to further test the technology.

2 Rangelands: grazing management

The Diet ID BeefLinks project is investigating the movement and diet of livestock in the WA rangelands and key backgrounding areas, to explore grazing management practices which could be used to increase productivity and carbon in the landscape.

The project uses GPS trackers on cattle, walk-over-weighing systems and dung analysis to identify what livestock are eating and where, to inform new grazing management strategies for maximum productivity and environmental health.

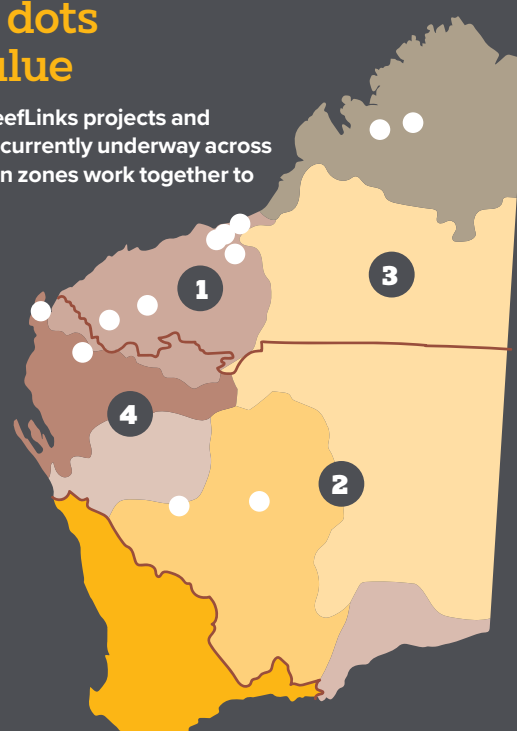
3 Northern rangelands: carbon-neutral feed

The nutritional value and methane-reducing potential of the northern rangelands feedbase – including naturally occurring and commercially available plant species – is being explored.

The data from this project will inform the development of a comprehensive resource for producers to use to identify anti-methanogenic feedbase options that will support the achievement of a carbon-neutral beef industry by 2030 (CN30).

4 Gascoyne/West Midlands: Smoothing transitions to backgrounding

This project seeks to develop practical management practices to improve the transition of animals from the pastoral zone into backgrounding systems, as well as between grazing rangelands and forage produced under pivots.



On the hunt for methane-reducing nutrition

A promising glimpse of the nutritive and methane-reducing qualities of the feedbase in northern WA rangelands has been revealed as part of research underway through the MLA-supported BeefLinks program (see page 35).

BeefLinks' Carbon Neutral by 2030 (CN30) research project is studying commercially available and naturally occurring plant species in the region. Researchers Dr Zoey Durmic and Dr Peter Hutton from the University of Western Australia (UWA) said the data gathered would provide producers with information to inform grazing management for increased sustainability and profitability.

"There's a lot of diversity in the plants in the northern rangelands of WA and while a lot of pastoralists have an idea about what their stock eat, they don't necessarily know the nutrient composition of those species," Peter said.

"We're trying to bridge that gap by identifying the key species being consumed, what their nutritive components are and how that's likely to affect their production – and importantly, what their potential is to reduce methane.

"At the end of the project, we'll have a set of guidelines built on data around every species that we've collected for pastoralists to use to manage their systems to improve production, while looking after the environment."

The data will also support MLA and broader industry to achieve its CN30 goal, with enteric methane being a significant greenhouse gas generated by the livestock sector.

"Our research has already shown that sheep grazing Australian native plants in southern regions had reduced methane emissions – but we don't have that knowledge yet for northern beef production to support our goal of carbon neutrality," Zoey said.

To date, researchers have collected plant species from 10 properties across the northern rangelands for analysis.

"We've collected about 100 plant species so far and we're currently incubating these plants in rumen fluid to observe their potential for supporting animal production and methane-reducing properties, and we are also analysing the nutritive values of these species," Peter said.

"We ideally want plants that have good nutritive profiles, meaning they will support animal production – but are producing a relatively low amount of enteric methane."

Initial analysis of these plant species has returned encouraging results, with 19 species already identified as having high anti-methanogenic potential and 58 species proving ideal as fodder.

"We've found quite a few plants, particularly the shrubs and trees that are already a big part of the diet of the cattle in the rangelands, coming out as being anti-methanogenic," Peter said.

Further results will become available as the project progresses, with final results – as well as a range of practical resources for producers to use based on the research – expected to be released in 2023. ■

"We're trying to bridge that gap by identifying the key species being consumed, what their nutritive components are and how that's likely to affect their production – and importantly, what their potential is to reduce methane."



For more information on BeefLinks visit mla.com.au/beeflinks or scan this QR code with your smartphone.

✉ Peter Hutton peter.hutton@uwa.edu.au ✉ Zoey Durmic zoey.durmic@uwa.edu.au



Feedbase findings for the future

Understanding the potential of specific plant species to reduce methane emissions from cattle is the key to verifying the carbon-friendly nature of the industry, according to WA beef producer Annabelle Coppin.

In addition to overseeing another property in southern WA, Annabelle manages two pastoral leases in the Pilbara region of northern WA, running around 4,000 head of Droughtmaster cattle across 500,000ha.

A keen advocate for industry, Annabelle became involved in the CN30 feedbase research as part of the BeefLinks program (see previous page) as a way of gathering the information necessary to promote the industry's strong environmental credentials.

"As an industry, we want to be known as the producers making a difference to the environment in a positive way," Annabelle said.

To support BeefLinks' research into anti-methanogenic feedbase options, Annabelle has provided researchers with access to grazing land across her pastoral leases 'Yarrie Station' and 'Coongan', to enable their study of the anti-methanogenic and nutritional values of the northern WA feedbase.

While the results of studies conducted on pastures present at Yarrie and Coongan are yet to be released,

Annabelle is confident the research will arm her with the knowledge she needs to advance the environmental credentials of the beef industry.

"It's about getting some knowledge behind us," Annabelle said.

"If we could work out what percentage of which grasses and herbage they're eating – and how much of that is actually depressing enteric methane – we could work out how much of an impact these grasses and herbage are actually making on carbon and how we can make more of an impact to achieve a carbon-neutral system."

According to Annabelle, gathering the data to support the beef industry's achievement of carbon neutrality may also help boost customer understanding of beef products and their sustainability, ultimately encouraging future sales. ■

✂ WA producer Annabelle Coppin with her husband Thomas and daughters Tanami Ann and Daisy Pearl.

SNAPSHOT



ANNABELLE COPPIN, 'Yarrie Station' and 'Coongan', Pilbara, WA



AREA
500,000ha

ENTERPRISE
Droughtmaster cattle

LIVESTOCK
4,000 head

PASTURES
Open rangeland country with spinifex, buffel, ribbon and button grass

SOIL
Mainly red clay with gilgai clay and Pindan soil, as well as river flats and hills

RAINFALL
300mm



✂ 'Yarrie Station' in WA's Pilbara region.

- Annabelle Coppin annabelle@yarriestation.com
- Nigel Tomkins ntomkins@mla.com.au

✓ Jason and Penny Schulz with their children Audrey and Heston. Image: Pandy Morphett.



SNAPSHOT



JASON, PENNY AND JOANNE SCHULZ,
'Coolaroo', Field, SA



AREA
1,000ha

ENTERPRISE
Sheep and cattle

LIVESTOCK
Merino ewes joined to Border Leicester rams, Limousin and Lim-Flex seedstock business and cattle trading

PASTURES
Rotationally grazed lucerne and veldt grass pastures, some crops sown for winter grazing and fodder conservation

SOIL
Well-drained sandy loams over clay

RAINFALL
450mm

SEASONAL ACTION PLAN

⚠️ **Consider water security technologies** such as water meters and remote-monitoring tools.

⚠️ **Register for one of MLA's livestock management workshops** at m1a.com.au/edgenetwork or m1a.com.au/pgs

⚠️ **Visit an ag-tech best practice farm field day** at Struan, SA on 2 February, **followed by an MLA MeatUp Forum** at Naracoorte on 3 February: pir.sa.gov.au/struan-kybybolite-field-day and m1a.com.au/events

The Schulz family are implementing a range of ag-tech solutions including management software, water monitoring, electronic identification (eID) and sheep handling infrastructure at their SA farm.

The family is targeting an extensive list of improvements, including:

- improved record keeping
- increased lambing rates, lamb survival and lamb growth rates
- easier and more efficient animal handling
- enhanced water security.

'Coolaroo' is one of 13 Focus Farms identified by the South Australian Government's Red Meat and Wool Growth Program supported by MLA, SA Sheep and Cattle Industry Funds, and SheepConnect SA. Focus Farms demonstrate the practical application of ag-tech and biosecurity best practice.

Here's a look at the Schulzs' seasonal strategies to address water security and reproductive efficiency through summer and into lambing.

Water security

Coolaroo uses mains water due to the high salinity levels of underground water. There are two water meter monitors, which provide daily SMS updates of minimum and maximum water use, and alerts if usage is outside threshold values to identify water supply issues.

"The great benefit of the system is in detecting excessive use and water leaks before they become costly (detecting a major leak early can pay for set-up of the system)," Jason said.

"Water monitoring also provides peace of mind in knowing water usage is in the normal range, especially when we're away from the farm."

The system allows the family to detect and fix minor leaks by switching off different lines over successive nights.

Reproductive gains

Penny and Jason, who have completed the Lifetime Ewe Management and Lambs Alive programs, pay particular attention to lamb survival.

They condition score ewes regularly in spring and use silage supplementation to ensure a score of 3 or higher at joining. Ewes are teased with testosterone-treated wethers for two weeks before joining, with rams introduced mid-late October for five weeks.

Ewes are pregnancy scanned for multiples 90–100 days after joining, and multiple-bearing ewes are drafted off at scanning to allow preferential nutrition to begin.

Twin-bearing ewes are run in the smallest mobs possible (70–90 ewes) on the best feed in the best lambing paddocks. Penny and Jason record lamb survival in every paddock and find twin survival can reach 90% in small mobs in the best lambing paddocks.

"The ideal lambing paddock is probably small and square with scattered single trees rather than a block of scrub or a treeline, reducing the chance of mismothering," Jason said.

Because ewes are teased, most lambs are born within the first two to three weeks of lambing.

Livestock handling

Penny and Jason are installing new technologies to support flock management, including new sheep yards with a roof over the main work area, and a permanent six-metre ProWay bulk handler and three-way auto-drafter.

The new equipment will significantly reduce manual labour in the sheep operation and enable easier recording and more convenient

weighing, animal health treatments and condition monitoring.

In the beef enterprise, cattle are currently weighed in a crush, but Penny and Jason plan on installing a dedicated weigh box in front of the crush for more convenient weighing of cattle. ■



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Cutting edge safety milestone

The MLA-funded BladeStop™ technology is now bringing safety benefits for workers in processing plants across 25 countries.

The industry developer, Scott Technology, announced the milestone of 1,000 BladeStop bandsaws installed worldwide earlier this year – and is now up to 1,150 units in the market.

Here's a look back at the challenge, how the solution was created and what it means for the processing industry.

Optimal safety

Processing beef and sheep carcasses can be dangerous work, so MLA set out to reduce serious saw blade injuries. Bandsaws are an essential tool in the meat processing industry, but can cause severe cuts, muscle and nerve damage, or even amputations.

The challenge was to develop a mechanical braking mechanism for bandsaws, commonly used in meat processing, capable of stopping the blade when the unit senses the operator has come in contact.

BladeStop bandsaw technology did this successfully and is capable of stopping the blade within 15 milliseconds.

This can mean the difference between a loss of limb injury for an operator, or just a skin cut.

Along with the touch-sensing capability, BladeStop is also supplied with the GloveCheck™ sensing system which detects the operator's gloves moving at high speeds in a zone directly upstream from the blade.

Complimenting the mechanics, the BladeStop Connect data recording system was developed to capture real-time and historical data from an individual operator login. This operational log provides detailed shift reporting and machine status.

Data from all connected saws are displayed in a web application and offer critical system information such as:

- overview of bandsaw status
- operator hours/access
- BladeStop and/or GloveCheck triggers
- bandsaw faults, warnings and other events
- saw utilisation information
- saw run hours
- saw maintenance details
- operation and maintenance manuals.

Outcomes that make a difference


MLA's investment over five years – through MLA Donor Company – to bring this technology to market has meant impactful outcomes in safety for workers in meat processing, and industry benefits.

It lessens the economic and social effects that result from serious workplace injuries and provides an even safer work environment to help attract and retain staff to the meat processing industry.

BladeStop is designed and manufactured in Australia. ■



MLA Donor Company no longer funds the program as the technology is being widely adopted in the marketplace.

- 
 - ▶ Watch BladeStop in action at scottautomation.com/en/bladestop or scan this QR code.
 - ▶ Learn more about MLA Donor Company at mla.com.au/mdc
 - ▶ Darryl Heidke dheidke@mla.com.au



Revision of feedlot nitrous oxide emissions

In a win for the feedlot industry, the emission factor for nitrous oxide (N₂O) emissions from feed pads has been revised as a result of research funded by MLA and the Australian Government.

According to a review of previous Australian research, the default parameters used to calculate emissions from manure sources in Australian feedlots resulted in emissions being overestimated.

The Australian feedlot industry has invested in several research programs over more than a decade to understand emissions from manure sources and assist the development of a revised emission factor for N₂O emissions from feed pads.

The research review, completed by Queensland Department of Agriculture and Fisheries and led by Dr Matt Redding, and by the University of Melbourne, led by Professor Deli Chen, has significantly improved understanding of factors that control emissions in Australian feedlots.

The MLA-supported review of research of the feedlot N cycle, specifically focused on N₂O emissions from feedlot manure pads and proposed the emission factor for feed pads be revised down to reflect

industry practice and research findings.

The review was submitted to the Climate Change Division of the Commonwealth Department of Industry, Science, Energy and Resources and was adopted in the most recent *National Inventory Report*, published in April 2021.

The revision in the emission factor for N₂O emissions from feed pads decreased the reported emissions of the Australian feedlot sector by 19%.

Dr Stephen Wiedemann from Integrity Ag & Environment, who led the review, said the implications of revising the emission factor for feed pads and subsequent reduction to reported greenhouse gas emissions from the feedlot sector are significant.

“The review of feedlot feed pad N₂O emission research determined that the default emission factor previously used in the National Inventory Report for estimating GHG from feedlots was not supported by Australian research.

“On average, Australian studies report 73% lower emissions than the current Intergovernmental Panel on Climate Change (IPCC) inventory estimates,” Stephen said.

“The result is that emissions aren’t nearly as high as we thought they were.

“People use these numbers to make judgements about the industry and we need to have knowledge to guide where research is directed and practice change is undertaken.” ■

The revision in the emission factor for N₂O emissions from feed pads decreased the reported emissions of the Australian feedlot sector by 19%.



New guide to carbon neutrality for feedlots

A new guide, *Moving towards carbon neutrality – opportunities for the Australian feedlot industry*, has been released, outlining pathways to carbon neutrality for Australian feedlots.

Funded by MLA and produced by Dr Stephen Wiedemann and Emma Longworth from Integrity Ag & Environment, the guide:

- defines carbon neutrality
- provides guidance on generating a carbon account for a feedlot
- reviews emission reduction strategies
- outlines the economics of carbon neutrality for Australian feedlots.

Download the guide at mla.com.au/feedlot-carbon-neutrality



Feed reduces methane emissions

The use of the feed additive Bovaer® (3-NOP) was recently evaluated as part of an MLA-funded project on reducing enteric methane emissions in Australian feedlot operations, and was found to reduce methane production by up to 90%.

The trial, which tested Bovaer at different inclusion rates, was completed at the University of New England and is linked to the Australian red meat industry's target to be carbon-neutral by 2030 (CN30).

The target means that by 2030, Australian beef, lamb and goat production, including lot feeding and meat processing, will make no net release of greenhouse gas (GHG) emissions into the atmosphere.

Bovaer (3-NOP), developed by DSM, was evaluated for the first time under Australian feedlot conditions under the supervision of Professor Roger Hegarty and Dr Amélia De Almeida.

In the trial, 20 Angus steers were provided with different rates of Bovaer, ranging from 0.5g up to 1.25g a day over 112 days in a typical Australian feedlot finisher ration.

At the lowest rate, a methane reduction of 60% was observed, and at the highest inclusion rate, methane emissions reduced by 90%.

Steers in the study had average daily gain and feed conversion ratios in line with industry expectations, with Bovaer treatment steers performing as 'good or better' than control steers in these performance parameters.

Roger said he had seen research about Bovaer from other geographies and was curious how the product would perform under Australian conditions.



"We're excited about the strong results, and we'll continue to research how to bring this product to more extensive operations," he said.

Next steps

The full results of the research will be published in a scientific peer-reviewed journal in the coming months.

Planning is underway for further scaled trials with the support of MLA, as well as discussion on inclusion in carbon accounting methodologies and sustainability frameworks.

DSM is preparing for a launch in Australia, as one of the first markets globally to have access to Bovaer. ■

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In market

growing demand

IN MARKET
MARKET INFORMATION



True Aussie brand grows globally

It's been a seven-year journey of growth for the True Aussie brand since MLA launched it in 2014 to promote Australian-origin beef, lamb and goatmeat products in export markets across the globe.



The True Aussie logo can now be found on Australian red meat products sold in more than 35 of the world's key export markets.

MLA General Manager – International Markets, Andrew Cox, said the brand has emerged as a symbol of integrity and provenance for consumers worldwide.

“Consumers globally place great importance on the country of origin of their fresh food, and red meat is no different,” Andrew said.

“The True Aussie brand sets Australian red meat products apart, making it easy for shoppers to find the product they want.

“It's built on the unique offering that is Australian red meat, recognised for its integrity, taste and quality.”

The brand has grown steadily since its launch, with more than 135 businesses – from exporters to international retailers of Australian red meat – now licensed to sell products bearing the True Aussie logo.

Growing presence

MLA recently commissioned a report into the True Aussie brand in China, Korea and Japan, which found the brand has a growing presence in retailers across these key export markets.

“More than 57% of the stores we surveyed in China are now selling True Aussie-branded red meat products,” Andrew said.

“We found 35.4% of beef products available from the Korean stores we surveyed were also True Aussie products.

“In addition to this, 453 stores in Japan were selling Australian beef products, with 80% of these being marked by the True Aussie logo.”

Andrew believes the program's growth has been the result of a collaborative effort to build the logo's presence worldwide.

“Support from Australian exporters, in-market distributors and customers, alongside the marketing campaigns that lead consumers to seek out the brand in store, has been critical to the ongoing success of the program.”

A recent refresh of the True Aussie logo will ensure the program continues to succeed.

This included creating guidelines to ensure consistent use of the logo by retailer and export brands. ■

True Aussie: the evolution

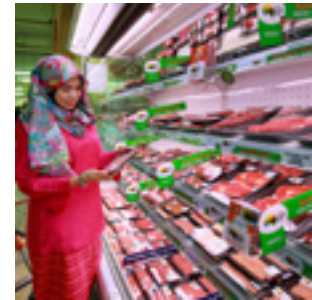
2014

- True Aussie brand launched



2019

- 135 businesses are licensed to sell True Aussie products.



2018

- True Aussie brand worth more than \$63m.
- 33 businesses – from exporters to international retailers – are licensed to sell True Aussie branded red meat products.

2021

- 57% of stores surveyed in China sell True Aussie branded red meat products.
- 35.4% of beef products available from Korean stores surveyed are True Aussie products.
- 453 stores in Japan sell Australian beef products, with 80% of these being marked by the True Aussie logo.

“The True Aussie brand sets Australian red meat products apart, making it easy for shoppers to find the product they want.”

Supply chain sees value in True Aussie

Australian-origin beef products bearing the True Aussie brand are now stocked in more than 35 of Australia's key export markets.



Here, two stakeholders share their insights into the value of the True Aussie brand.

Dong Wook Lee – Grocery Merchandise Department Buyer for E-Mart Traders, Korea

Why do you use the True Aussie brand in your business?

Preference for Australian beef in Korea, especially in E-Mart Traders, is very strong.

Although the share of US beef in the Korean market has increased, Australian beef's safety and clean image remains strong.

E-Mart Traders has highlighted the strength of Australian beef to differentiate itself from its competitors and is willing to introduce a wide range of items to customers and Australian grainfed beef and Wagyu, which are currently on sale as our flagship items.

Why do you want your customers to use the True Aussie brand?

The perception that Australian beef is clean and safe and the True Aussie brand currently used by E-Mart Traders gives customers confidence and

reliability. Satisfaction with price and quality has led to continuous purchases by customers, and E-Mart Traders seems to have a more positive image of using the True Aussie brand.

What do you think about the food safety of the True Aussie brand?

Until now, customers have been satisfied with Australian beef, and E-Mart Traders' highest sales product is Australian beef, which is a testament to the food safety that consumers perceive.

These days, when anyone can track their history of products with smartphones and their awareness of healthy food has increased more than ever, brands that value 'truth' give customers more faith.

The staff in the store have relatively higher confidence in the freshness of Australian beef, so they can confidently offer it to their customers. ■

Nadine Giusti – Brand Manager, NH Foods Australia

How is NH Foods using the True Aussie logo?

We have a commitment to showing and utilising the True Aussie Beef logo as much as possible.

We use the logo on our products, and we've gone one step further and on many of our beef brand websites rolled out over the past eight months, we have ensured that each website and brand carries the True Aussie Beef logo.

Why does NH Foods choose to participate in the True Aussie licensing program?

There's a lot of work being done by MLA to build the image of quality Australian beef and connect it with this logo. A consumer recognises that and so if we're using the True Aussie logo, it strengthens this connection and reinforces the quality of our Australian beef products.

What value does NH see in the True Aussie brand – what do you think the brand is a symbol of?

Using the True Aussie logo simply reinforces the key messages MLA is already promoting about the products and industry as a whole. By using the logo, we are reinforcing for consumers that what they're choosing is quality Australian beef and that they've made the right beef choice. ■



LEARN MORE

- Learn more about the True Aussie brand at trueaussiebeefandlamb.com
- Apply for a True Aussie Trade Mark Licence – so you can use the trademark to promote your Australian red meat products in international markets – at trueaussielicence.mla.com.au
- Sign up to receive the latest international marketing news and insights from Australia's key red meat and livestock export markets, through MLA's Global Markets Update newsletter: mla.com.au/enews

Za'atar lamb cutlets with fattoush-style salad

Serves  4 Prep time  15 minutes Cooking time  25 minutes

INGREDIENTS

8 lamb cutlets, excess fat trimmed
 4 Lebanese pita bread pockets
 ¼ cup olive oil
 ¼ cup za'atar spice blend
 ½ iceberg lettuce, roughly chopped
 200g baby tomatoes, halved
 250g baby cucumbers, roughly chopped
 1 small red onion, thinly sliced
 6 radishes, thinly sliced
 6 fresh dates, pitted, roughly chopped
 1/3 cup marinated feta, crumbled
 1 tbsp pomegranate molasses
 Juice of one lemon

To serve: parsley leaves, pistachio nuts, roughly chopped, pomegranate seeds

METHOD

1. Preheat oven to 200°C (180°C fan-forced). Line a large baking tray with baking paper and place pita pockets on the tray. Brush pita pockets with one tablespoon oil, sprinkle with half the za'atar and cook in the oven for 8–10 minutes, turning halfway, or until crisp and golden. Set aside to cool. Break into pieces.
2. Meanwhile, brush cutlets with one tablespoon of oil and season. Sprinkle with remaining za'atar. Preheat a heavy-based skillet or barbecue to medium-high. Cook cutlets for 2–3 minutes each side or until cooked to your liking. Set aside on a plate loosely covered with foil to rest for five minutes.
3. In a screw-top jar place remaining oil, pomegranate molasses and lemon juice. Season and shake well to combine.
4. Place lettuce, tomatoes, cucumbers, onion, radishes, dates, feta and pita onto a serving dish. Drizzle with dressing and toss well to coat.
5. Serve cutlets with salad, topped with parsley, pistachios and pomegranate seeds.

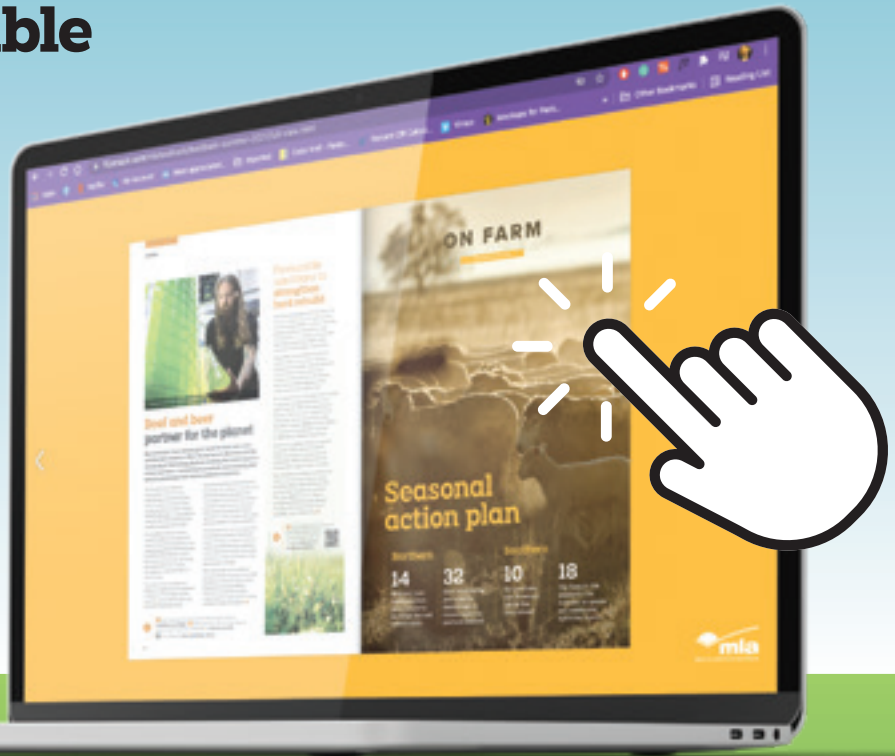
TIPS

- Lamb loin chops, forequarter chops or chump chops would also work well in this recipe.
- For frenched lamb cutlets, reduce cooking time by half.
- Use your choice of garnishes – coriander or mint would work well as alternative herbs; almonds, hazelnuts or macadamias as alternative nuts. Add an extra drizzle of pomegranate molasses if pomegranate seeds are unavailable or out of season.
- Za'atar spice blend is available at most green grocers or delis; try dukkah as an alternative.



Did you know *Feedback*

is also available online and can be easily shared with others in your business?



BONUS CONTENT

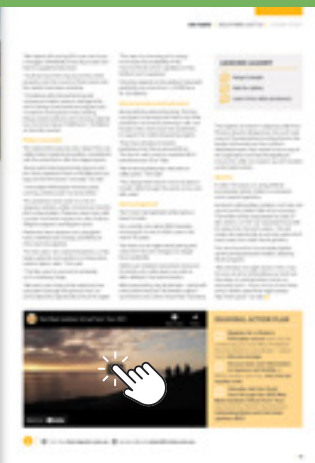
you can access in the interactive version of the summer edition of *Feedback* includes:



3 Watch MLA's award-winning *Make Lamb, Not Walls* campaign.



12-13 Meet Tom and Jo Youl as they take you through a virtual farm tour.



23 Learn more about safe stockyard design with a video case study.

Check out the interactive magazine at mla.com.au/feedback or by scanning this QR code with your smartphone.

