FEEDBACK

MLA – FOSTERING PROSPERITY

JULY/AUGUST 2020

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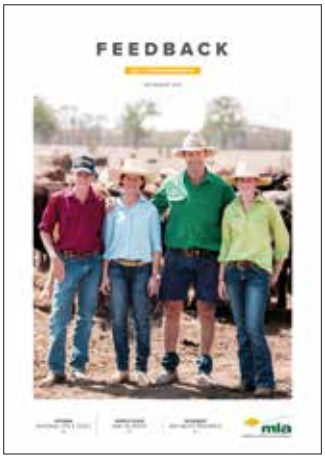
MEAT & LIVESTOCK AUSTRALIA

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 27): *Augathella producers Geoff and Kate Swanson with their children Lucinda and George.* Image: Katrina Lehmann.

Correction: The incorrect name was printed in the article 'Aussie beef a cut above' on page 42, March/April *Feedback*. It should have read: Chef Wei Lien Ling, executive chef at A Cut Steakhouse in the Ambassador Hotel, Taipei.

Have your say!

We'd love to hear from you

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A NOTE FROM THE MD...

Welcome to the July/August edition of *Feedback* magazine.

Update on COVID-19

COVID-19 is still causing disruptions in the market, both in Australia and around the world. MLA continues to support the red meat supply chain by providing market information and marketing support. I encourage you to listen to our fortnightly podcast, On the ground (**mla.com.au/on-the-ground**), which was developed in response to COVID-19 and provides the latest information from our key markets.

MLA has been responded to this disruption by adapting our marketing campaigns. We've completely reworked the majority of our domestic beef marketing campaigns as the Tokyo 2020 Olympic Games and Paralympic Games have been postponed to 2021 (Australian Beef is an official partner), so we've tapped into new channels to market Australian beef to domestic and global consumers.

MLA has also launched its winter lamb campaign, 'Share the Secret Recipe' (see page 4), which sets out to bridge the isolation gap and bring together Australians of different ages and cultures through the experience of cooking lamb.

These campaigns are important to support the growing demand for red meat in the retail sector. It is encouraging to see that since February, Nielsen Homescan data shows fresh meat retail sales of beef and lamb in Australia have increased against the same time last year:

- beef: 27% value growth and 20% volume growth
- lamb: 21% value growth and 6% volume growth. ■

What I'm working on

At the moment I'm focused on bringing our *Strategic Plan 2025* and *Annual Investment Plan 2020–21* to life and working on how we enhance our engagement with all our stakeholders to deliver MLA's ambitious program of work. There have been many lessons learned in the way we engaged with our stakeholders and consulted with them around our latest Strategic Plan. It has reinforced to me the importance of keeping our stakeholders across the development of our plans and clearly communicating the things we are going to focus on.

My key priority over the next few months

As we have now entered into a new financial year and have a new Strategic Plan, my main priority over the next few months will be to work with the MLA team to deliver this ambitious program of work and ensure our research and marketing activities have real, tangible impacts for producers.

Have a question for me?

Jason Strong
MLA Managing Director
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THE FEEDBACK PODCAST

PRESENTED BY

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Take MLA on the road

Did you know you can now take red meat news and information with you everywhere you go?

MLA recently launched two new podcasts:

- **Feedback** – featuring stories, news and interviews about all things red meat
- **On the ground** – all the latest from international markets. ■

Subscribe wherever you get your podcasts or visit: **mla.com.au/feedback-podcast** and **mla.com.au/on-the-ground**

Community resilience

MLA is supporting communities affected by bushfires to get back to business. As well as Back to Business webinars and one-on-one sessions with advisors, MLA also provided a bushfire recovery sponsorship program.

One of the events sponsored was the Alpine Valley Bushfire Forum: Our Community Supporting Recovery, held in Beechworth, Victoria. Visit **mla.com.au/bushfire-recovery** to watch presentations from this event. ■

MLA Back to Business program: **mla.com.au/back-to-business** or email backtobusiness@mla.com.au

MLA events: **mla.com.au/events**

Past recordings of the Back to Business webinars are available at Sheep Connect NSW: **sheepconnectnsw.com.au/tools**

Return of market indicators

MLA's full suite of market reporting tools, including all cattle and sheep indicators, is back.

These services were suspended on 25 March due to COVID-19 disruptions to market reporting. The reports, which include the Eastern Young Cattle Indicator, National Trade Lamb Indicator and indicator charts, tools and values, are available at **mla.com.au/prices-markets** ■

Beef's sustainability scorecard

The Australian Beef Sustainability Framework released its third *Annual Update* in June.

The update examines the beef industry's sustainability progress against 23 priority areas, such as animal husbandry, profitability across the value chain, climate change risk and the health and safety of people. ■

To check out the scorecard, as well as an overview of the sustainability highlights and challenges for the industry over the coming years, visit: **sustainableaustralianbeef.com.au**

Sheep projections released

A recovery in the national flock is underway, according to MLA's *2020 Sheep Industry Projections June update*, with sheep producers in key regions now in a position to consider increasing flock numbers, buoyed by improved seasonal conditions. ■

For more forecasts and insights, visit: **mla.com.au/sheep-projections**

Sharing secret lamb recipes

At a time when Australians were feeling more isolated than ever before with the outbreak of COVID-19 and social distancing restrictions, MLA's winter lamb campaign set out to bridge the isolation gap.

This year's campaign, 'Share the Secret Recipe', brought Australians of different ages and cultures together through the experience of cooking lamb.

Recipes and videos from the campaign are available at: **australianlamb.com.au/sharethesecretrecipe**

Turn to page 43 for more insights into MLA's domestic red meat marketing campaigns. ■

Webinars to watch in winter

Got some spare time? Kick back and catch up on MLA's recent Productivity and Profitability webinars, where livestock experts provide practical strategies to seasonal challenges.

The webinars are coordinated by Holmes Sackett. Watch them at **youtube.com/meatandlivestock/videos**

Managing bloat in cattle

Dr Bruce Allworth of Charles Sturt University discusses the options to manage bloat in cattle.

Topics include:

- What is bloat and why does it occur?
- What are the most cost-effective management options?

The effects of temperatures on pasture production

Dr Jim Virgona of Graminus Consulting looks at the effects of cold temperatures on pasture production.

Jim delves into:

- When is cold temperature the limiting factor?
- How does temperature impact nitrogen response?
- How does temperature impact plant production in different perennial species?

Your one-stop winter cleaning agronomy panel

It's time to clean out those pesky annuals from your perennial grass pastures.

Before you get the spray gear out, listen to Dr Jim Virgona of Graminus Consulting and Tim Prance of T Prance Rural Consulting as they answer the important agronomy questions of winter cleaning.

Infectious diseases causing abortion in sheep

Paul Nilon from Nilon Farm Health drills down into the different causes, impacts and treatments of infections causing abortions in sheep.

Topics include:

- Identifying if there is a problem
- Campylobacter, toxoplasmosis and listeriosis – what is expected and what can we do about them?
- Other causes of abortions.

Working towards trade certainty

MLA's market access program supports industry and government to defend and maintain existing favourable access conditions, position Australia favourably in trade negotiations and assist with the alleviation of non-tariff (technical) trade barriers.

mla.com.au/ia-cepa
mla.com.au/a-uk-fta

Here's an update on recent trade negotiations.

Indonesia

The Indonesia-Australia Comprehensive Economic Partnership Agreement (IA-CEPA) entered into force on 5 July 2020, paving the way for more trade certainty for live cattle exports and the elimination of tariffs for all boxed product exported to Indonesia.

The benefits IA-CEPA will deliver for the Australian red meat and livestock industry include:

- duty-free quota for 575,000 head of live male cattle in the first year, which will grow by 4% a year over five years to 700,000 head
- import permits to be issued automatically on an annual basis (without seasonal restrictions)
- liberalised access for live female cattle exported to Indonesia, with 0% tariffs and no quota or import permit restrictions
- immediate or gradual liberalisation of tariffs applicable to boxed beef and sheepmeat exports to Indonesia. The tariffs will be eliminated altogether over five years.

UK

The Australia-United Kingdom Free Trade Agreement (A-UK FTA) negotiations were launched in June.

As a consequence of Brexit, the UK is now on the path to securing trade relationships independently of the EU for the first time in 48 years.

Australia's beef and sheepmeat access has been limited by virtue of the UK being a member of the EU.

Compared with other countries supplying the EU, Australia has disproportionately low volume quota access coupled with trade prohibitive above quota tariffs. This has stifled Australia's ability to respond to growing UK consumer demand for high quality beef, sheepmeat and goatmeat.

MLA represents the Australian red meat industry on the issue as a member of the Australia-UK Red Meat Market Access Taskforce. The Taskforce will encourage negotiators to embrace the merits of liberalised trade. ■

MLA's *Strategic Plan 2025*: Delivering tangible value

MLA has released its new five-year strategic plan, outlining how it will focus efforts through to 2025 to ensure red meat producers see a positive return on their levy investment.

MLA's *Strategic Plan 2025* was developed with consultation with representatives from across the red meat supply chain.

It has six strategic focus areas (see box below) to help producers and their supply chains:

- make better decisions informed by data
- address industry's big, complex challenges
- identify new ways to capture value and increase profitability (through new revenue streams and developing high value products)
- look beyond today's farm gate to strengthen collaboration
- access improved delivery of core services.

Representatives from across the cattle, sheep and goat industry supply chains were involved in workshops, meetings and discussions and their feedback was a key input into the plan's development.

Targeted investment

Here's how MLA will increase investment to deliver the strategy.

Adoption and extension

MLA's *Strategic Plan 2025* sees a significant increase in funds allocated to adoption and extension activities. MLA programs will have clear adoption and extension pathways helping to ensure red meat producers can successfully implement practical solutions for their farm businesses.

Programs to support red meat industry integrity systems

The plan highlights the importance of strengthening existing systems in support of biosecurity, food safety and traceability.

It also highlights the importance of activities which accelerate data capture, end-to-end supply chain verification and knowledge transfer within the supply chain to support business decision making.

There's also an emphasis on ensuring MLA investments contribute to a socially, environmentally and economically sustainable Australian red meat industry.

MLA Managing Director, Jason Strong, said MLA will focus on programs of work which help producers be more productive to deliver a global competitive advantage.

On-farm practice change will go hand-in-hand with adapting to climate variability, delivering world-leading animal health and welfare outcomes and adopting Carbon Neutral 2030 (CN30) pathways.

MLA's strategic focus areas

MLA's *Strategic Plan 2025* has six focus areas to help producers and their supply chains:

Decisions informed through data and insights

Transitioning to a culture which captures and shares data across every point in the supply chain to enable the highest value opportunities to be identified and a shared understanding of challenges to be addressed.

Targeted investment to address the industry's big, complex challenges

Prioritising the challenges to combat by the impact they could deliver for the industry. MLA will explore ways to optimise resources and address seasonal and climate variability. It will also continue to focus on meeting community expectations of animal health, animal welfare and environmental stewardship.

Enabling new sources of revenue

Identifying new sources of revenue to capture value and increase profitability alongside red meat production, including providing environmental and ecosystem services.

Developing new, high value products which maximise the whole carcase

Diversifying products to drive growth through new usages and occasions for red meat.

Beyond today's farm gate

Balancing the known challenges and opportunities and anticipating the future issues industry will face, by fostering a culture which looks both to the future and to other industries to inform today's decision-making.

Strengthening our core

Continuing to invest in the essential services which underpin the competitiveness of our industry, specifically integrity systems, market access, nutrition and domestic and international marketing and promotion activities.

for producers

"MLA's *Strategic Plan 2025* is clear in its ambition as we continue to drive demand for red meat, with activities informed by data, evidence and insights," Jason said.

"For MLA's research and development work, we will continue to push our industry forward by building on-farm productivity through improved adoption of research outcomes. We must build more sophisticated and efficient supply chains, with a shared commitment from all of industry."

Collaboration with stakeholders is essential for MLA to deliver its strategic objectives.

Industry vision

MLA's *Strategic Plan 2025* is founded on the industry's ten-year strategic plan, *Red Meat 2030*, to ensure it's aligned with the vision and priorities shared across the supply chain and with the other red meat Rural Research and Development Corporations.

"The *Strategic Plan 2025* highlights MLA's contribution to the red meat industry's long-term vision to double the value of red meat sales by 2030 and for Australia to be the trusted source of the highest quality protein, as outlined in *Red Meat 2030*.

"It will also play an important role in taking Australian agriculture to a $100 billion industry by 2030," Jason said.

"Our ambition was to build a plan which ensures MLA can capitalise on the areas where we already have a competitive advantage but also asks some tough questions about what we can do better for producers and how we can turn today's challenges into tomorrow's opportunities.

"Success will ultimately be measured by producers' ability to create and capture additional value from these investments."

MLA's *Strategic Plan 2025* will undergo a constant cycle of review and inform MLA's Annual Investment Plans, which outline MLA's programs and the activities, key performance indicators and budgets for each financial year. ■

Jason Strong
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Read the MLA *Strategic Plan 2025* at: **mla.com.au/strategicplan**

Read MLA's *Annual Investment Plan 2020–21*, the first under the new strategic plan, at: **mla.com.au/aip**

Red Meat 2030

***Red Meat 2030* is the 10-year strategic plan for the Australian red meat and livestock industry – it forms the foundation for MLA's *Strategic Plan 2025*.**

The vision of *Red Meat 2030* is: Together, we will double the value of Australian red meat sales as the trusted source of the highest quality protein.

Red Meat 2030 sets out six priorities to guide activities for whole of industry benefit:

- Our people
- Our customers, consumers and communities
- Our livestock
- Our environment
- Our markets
- Our systems.

Red Meat 2030 was launched in 2019 by the Red Meat Advisory Council. It was developed through consultation with around 300 stakeholders, including levy payers, representatives from industry bodies, state farming and representative organisations, customers and community members.

redmeat2030.com.au

BUILDING CAPABILITY

Did you know...

MLA supports PhD students who are researching topics with practical value for Australia's beef, sheep and goat industries?

It's one way MLA bridges the gap between education and agriculture.

Here's some more information about MLA's Postgraduate Study Awards.

Who is eligible?

All Australian citizens and permanent residents undertaking areas of study relevant to the Australian red meat and livestock industry.

What do recipients receive?

The award stipend is up to $10,000 a year.

What areas of research are eligible?

The awards focus on improving knowledge about topics related to Australia's livestock industry. This gives students huge scope as to what they choose to study and how they direct their research.

In 2019 MLA awarded seven scholarships to students with topics as varied as remote autonomous detection of calving and calf loss, immunity transfer in lambs, and analysing community perceptions of Q fever.

What other awards does MLA sponsor?

MLA supports other industry programs which grow research and knowledge in agriculture and support leadership capability, including:

- Australian Government Department of Agriculture, Water and the Environment – Science and Innovation Awards (**agriculture.gov.au/scienceawards**)
- Nuffield Australia Farming Scholarships (**nuffield.com.au**)
- AgriFutures Horizon Scholarships for undergraduates (**agrifutures.com.au/horizon-scholarship**)
- Australian Rural Leadership Foundation – Australian Rural Leadership Program (**rural-leaders.org.au**). ■

Angelica Pickup
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MLA scholarships and awards
mla.com.au/scholarships

The future is

MLA is paving the way to a more productive red meat and livestock industry by supporting postgraduate students who are researching topics which add value.

Meet two young guns who have used MLA scholarships and grants to grow their research and return this knowledge to the industry.

Anna Reboldi

Recipient of the MLA award at the Australian Government Department of Agriculture, Water and the Environment's 2020 Science and Innovation Awards

Anna Reboldi (pictured) is a researcher at the Australian National University, Canberra. She's passionate about soil conservation and is currently researching how satellite imagery can be used to map biological soil crusts.

I got to where I am today by understanding that food security and conservation were important to me.

I grew up in Italy and, although I lived in a few different cities, my dad's family owned a small piece of land, and this is where I started developing a connection to agriculture. When I came to Australia in 2012, I had the opportunity to follow my interests through study.

A day in my life is full of coding, analysing literature and spending time in the lab gathering data. Once COVID-19 has been contained, I hope to be able to conduct fieldwork on sites across Australia.

My research matters to red meat producers because it will improve models relating to pasture productivity. The biocrusts I'm mapping can indicate if land is healthy and well-maintained.

This research also extends what we know about carbon sequestration and nitrogen fixation in rangeland areas. It can contribute to reporting systems so producers can show the sustainability of their farming practices.

MLA's support means I can develop my research through fieldwork across Australia and collaborate with producers and researchers at workshops and conferences. It will also enable me to purchase high-resolution satellite data if COVID-19 restrictions continue and prevent us from carrying out fieldwork.

My advice for other young people involved in red meat research is to put yourself out there and say yes to new opportunities. Don't let self-doubt as a researcher hamper your belief in achieving in your field.

Anna Reboldi
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in good hands

Jack Koci
Recipient of the MLA Postgraduate Study Award

Jack Koci (pictured) recently graduated from the University of the Sunshine Coast where his PhD research focused on managing gully erosion in the rangelands of north-east Queensland.

He developed and applied new technologies such as drones to produce high-resolution topographical and landscape information.

This information can be used to identify erosion hotspots, target management interventions and monitor landscape condition improvements.

Jack is now researching the effectiveness of gully-remediation strategies in rangelands in partnership with the CSIRO, while working part-time as a water quality scientist at Seqwater.

I got to where I am today by pursuing my passion for sustainable agricultural production.

My family had avocado farms on the Atherton Tablelands in Queensland, so I've always been surrounded by agriculture.

I completed a Bachelor of Science with Honours at James Cook University before starting at the Australian Centre for International Agricultural Research in Canberra in 2013.

I moved back to Queensland in 2016 to complete my PhD.

A typical day of research involved spending time on cattle stations for drone surveys, soil measurements and monitoring water quality. During this fieldwork, I spoke to producers regularly about the challenges and realities of land management. These discussions were extremely valuable to guide and inform my research. Of course, I also spent a lot of time analysing my data and writing up the results.

My research matters to red meat producers because maintaining healthy grazing lands is critical to ensure the long-term productivity and profitability of grazing enterprises.

My research is dedicated to developing tools and approaches to better manage grazing landscapes for dual environmental and production benefits.

Consumers place ever-increasing scrutiny on the red meat and livestock industry to demonstrate sustainable production. This creates potential new market opportunities which could reward producers who implement strategies for these in their enterprises.

My research can be used to support the positive steps producers are taking to achieve sustainable production.

MLA's support meant I could spend lots of time in the field collecting valuable data and information to support my research, while gaining greater insight and exposure to the red meat and livestock industry.

MLA's post-graduate conferences were a highlight of my PhD experience as I interacted with other PhD students working on diverse topics and met industry representatives to learn how my research fitted into other MLA programs.

My advice for other young people involved in red meat research is to find a topic you're passionate about and where there's a real need for new knowledge, and to take every opportunity that comes your way. ■

Jack Koci
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Rounding up the latest research

MLA's latest e-newsletter, *R&D Round-Up*, presents a short, sharp look at the latest research and development (R&D) outcomes for the red meat industry.

The monthly e-newsletter summarises technical projects in an easy-to-read format, so readers can stay up-to-date with new ways to improve business profitability and productivity.

Information in the newsletter is grouped by species to help easily navigate the content. Readers have the option of how much information they want to receive.

Only got three seconds? There's a quick introduction which highlights a key finding. If you've got three minutes spare, the project overview summarises the project, outcomes and resources. For information-hungry readers, there's an option to spend more time reading the entire R&D report. ■

Stay up-to-date with all the latest red meat R&D by subscribing at: **mla.com.au/rd-round-up**

***R&D Round-Up* includes new summaries which provide a snapshot of projects, with links to dig deeper:**

- A short summary of the project to set the scene
- At-a-glance outline of the project's objectives
- The main findings from the research
- How the project findings will benefit the red meat and livestock industry
- What else MLA is doing in this area
- What new research is needed to fill the gaps
- Links to publications and other relevant resources

Reproduction in R&D spotlight

MLA is supporting improved performance and profitability of sheep producers, with a new research and adoption collaboration to improve flock reproductive performance.

The Sheep Reproduction Strategic Partnership (SRSP) was recently established to help producers profitably and sustainably increase lamb production through increased weaning rates and decreased mortality.

The SRSP will:

- bring industry organisations together to collaborate on research
- develop larger, long-term programs balancing investment across research, development and adoption rather than stand-alone projects
- deliver greater benefits for the industry by working towards a common goal.

This approach will support producers to successfully implement practical solutions to improve reproductive performance and weaning rates, as well as animal health and welfare.

The SRSP uses existing MLA structures, including the Red Meat Panel, which makes recommendations to MLA on investment priorities as part of the regional consultation and investment call process.

Michael Crowley
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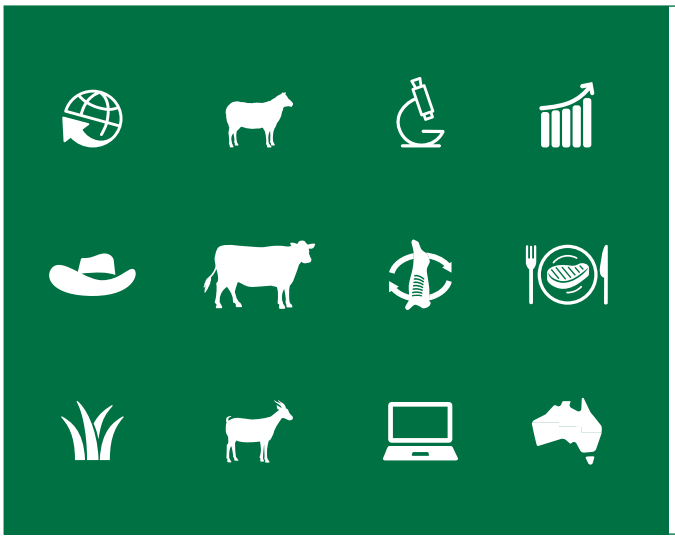


MEAT & LIVESTOCK AUSTRALIA

R&D Round-Up

A summary of MLA's latest R&D reports

Subscribe to new updates **mla.com.au/rd-round-up**

ON FARM

RESEARCH IN ACTION

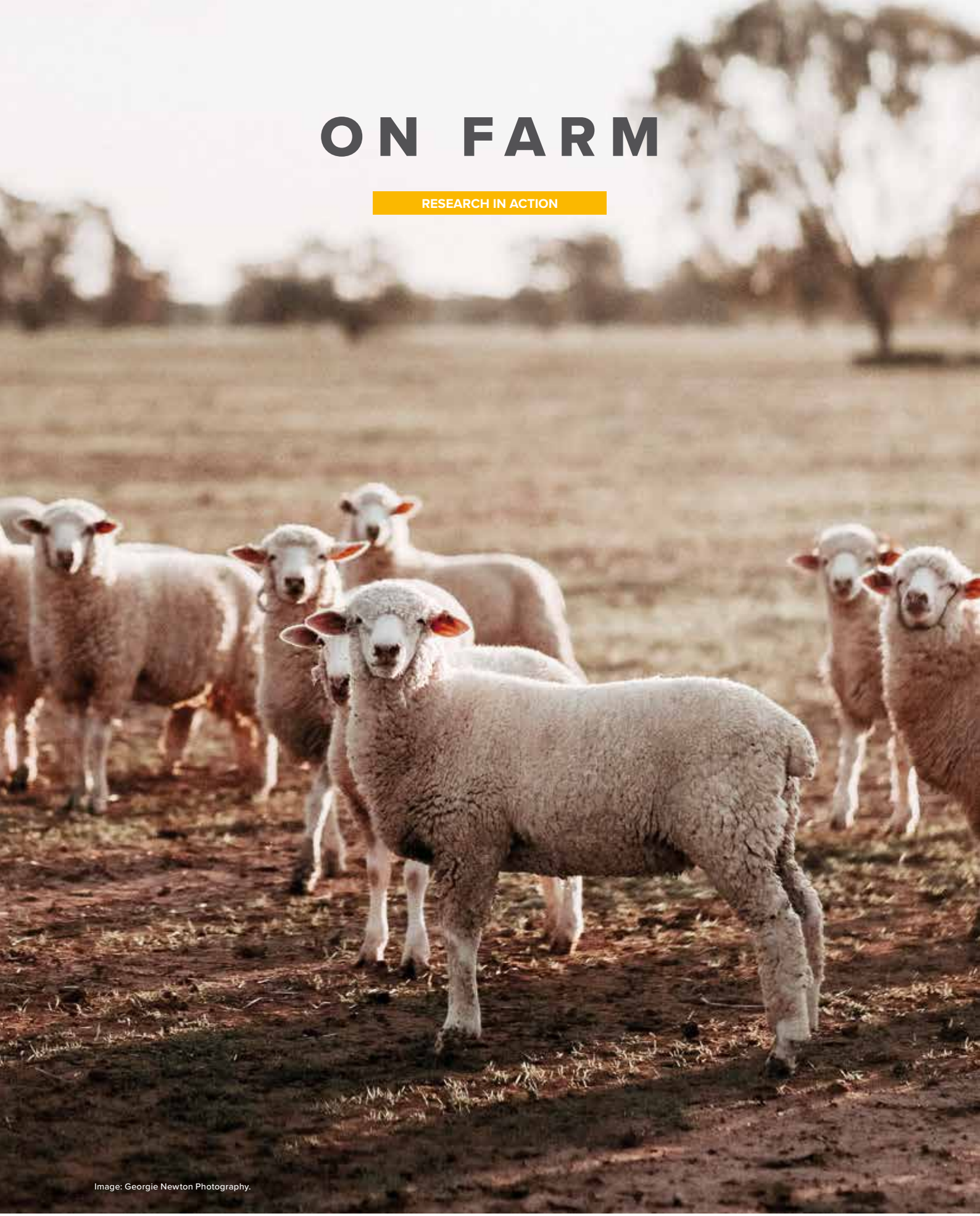
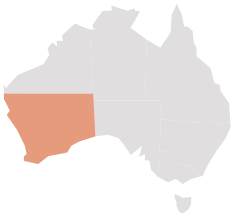


Image: Georgie Newton Photography.

SEASONAL MESSAGES

Spring into action

Be on the front foot for spring by taking steps now to prepare pastures and plan livestock activities. Here, advisors from all over the country share their tips to guide on-farm management decisions through late winter and into spring.



Ed Riggall

Director, AgPro Management, southern WA

Most producers don't utilise 60% of spring pastures. Whether spring is great, good or poor, 'use it or lose it' is the guiding principle, so look at how you can best use feed.

Plan paddock management: What grazing or chemical options will optimise feed quality and extend the growing season? Rotational grazing (basic or intensive) improves pasture utilisation, composition and growth, and can delay seed set and prolong the green feed window. Spraying out low-value capeweed, barley grass and other 'space hogs' will promote clover, which will increase growth rates of all livestock.

Take stock: Assessments to make in early spring should include:

- Ewe and lamb condition – will you wean late or early?
- Dry and cull ewes – should they be pulled out of paddocks and shorn to get weights up for sale and reduce grazing pressure?
- Weaners – do they require early-imprint feeding?
- Water – what is the capacity of farm water through summer?

Target parasites: Spring conditions promote worms and flies, so integrated parasite management is vital. Use preventive maintenance, especially in mixed enterprises when response time can be delayed by other farming activities. If spring shapes up well, be mindful of body strike in Merinos and plan to get protection for late spring or early summer shearing.

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MLA Feed Demand Calculator: **mla.com.au/feeddemandcalculator**

MLA Stocking Rate Calculator: **mla.com.au/stocking-rate**

ParaBoss: **paraboss.com.au**

Deb Scammell

Consultant, Talking Livestock, SA

Spring feed is often under-utilised but, if it's grazed effectively using appropriate stocking rates, producers can save extra feed for hay, to harvest or to finish extra stock.

Pasture springboard: Depending when you wean, spring feed can be used to get ewes and cows back into condition before re-joining. This saves the expense of trying to increase condition score on decreased paddock feed over summer. The spring flush can also be used to optimise weaner weight gains.

Health check: Worm burdens reduce performance, so monitor worm egg count, especially if rotationally grazing weaner lambs. Be mindful of common nutritional issues such as:

- nitrate poisoning, red gut or bloat on lush lucerne and medic pastures
- grass tetany or reduced growth rates on cereals due to inadequate magnesium
- pulpy kidney – if stock have had a feed change before being moved onto lush spring feed, ensure they have had a minimum 3-in-1 booster vaccination.

Balanced diet: If required, provide roughage, grain and mineral supplement to balance paddock feed, avoid nutritional issues and mortality, and improve growth rates. Talk to an animal nutritionist, as appropriate supplementation can improve animal performance, often at a small cost.

Wise weaning: Develop a weaning program for lambs and set paddocks aside to wean into. Monitor weaner growth rates through spring so you can address any issues if they're not hitting targets.

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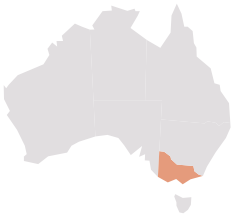
MLA Pasture Ruler: available at **mbfp.mla.com.au** (More Beef from Pastures, module 3, tool 3.1)

Lifetime Ewe Management: **lifetimewool.com.au/LTEM.aspx**

Gra$$ to Dollars: **mla.com.au/pgs**



James Whale

Farm business and livestock consultant, Meridian Agriculture, south-west Victoria

If seasonal conditions continue to be favourable, a common situation facing producers in this region will be how to best use surplus feed. Many grazing businesses produce around two-thirds of their annual grass production during the months of spring. There are many options available to use this growth and the variability between businesses in how well they capture the opportunity is enormous.

Take stock: The key decisions to be made at this time of year are:

- How should pasture quality and quantity be managed to optimise livestock performance?
- Should nitrogen fertiliser be used to increase pasture growth, animal performance or create surplus feed? If so, how much should be used and when?
- Can livestock trading or agistment be used to increase returns?
- How much conserved fodder needs to be produced this year?

Health check: Develop a spring animal health management plan which outlines management actions and critical dates to mitigate against the high productivity impact of common animal health issues such as internal parasites.

Forecast feed: Use pasture-forecasting tools to develop management strategies to meet pasture targets and optimise livestock performance.

Work on your business: Business planning helps sharpen business focus. A good business plan incorporates a financial plan which lays the blueprint for planned business expenditure, investment, off-farm needs and forecast financial performance. Revisit this plan at least once a year. Business planning is also an opportunity to check in on the needs and aspirations of individuals within the business and what the business is working towards.

James Whale
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FARMAX pasture forecasting and management software: **farmax.co.nz/products/Australia**

Lifetime Ewe Management: **lifetimewool.com.au/LTEM.aspx**

Evergraze: **evergraze.com.au**

David Harbison

Principal agronomist, DR Agriculture, NSW Central Tablelands and Slopes

A terrific autumn through central NSW followed three tough years. Many producers will have significant dry matter and not enough stock on hand to eat it, which creates the opportunity to give key paddocks an extended rest.

Pre-spring clean: If you haven't already, plan a 'winter clean' program in late July–August. Assess paddocks for desirable perennial and sub-clover content. Determine which paddocks need an extended rest into spring to gain the most from rejuvenation.

Renovator's delight: Plan now for which pasture paddocks may need full renovation in years to come. What actions are required in the next six to eight weeks to set those plans in place?

Be on the front foot: Fodder conservation is an opportunity to take advantage of surplus feed and restock hay sheds. Take action now to destock, fertilise and implement late broadleaf control to achieve the best dry matter yield and hay quality.

Weed alert: An explosion of broadleaf weeds, along with good sub-clover emergence, will create a challenge to address broadleaf weeds. Monitor other species such as annual grass weeds, vulpia and barley grass which could cause problems in two to three months and plan future management now. It's not just the usual suspects – be on the lookout for weed species introduced with purchased fodder. Monitor sacrifice paddocks (areas where hay, grain or silage was fed) and seek assistance if the weed identity is unknown.

Prioritise pastures: Keep younger stock and breeders on the best quality feed, while dry stock can be used to manage more mature feed. Be aware of the potential for bloat where there is good sub-clover emergence.

David Harbison
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MLA Grazing EDGE course: **mla.com.au/edge**

Pasture assessment courses: **mla.com.au/pgs**

Soil testing: **mbfp.mla.com.au**
(More Beef from Pastures, module 2, tool 2.10)

Pasture winter clean:
Visit **youtube.com.au/meatandlivestock** and search 'winter clean agronomy'

SEASONAL MESSAGES

Basil Doonan

Principal consultant, Macquarie Franklin, Tasmania

Autumn was kind to Tasmanian producers. Many were able to finish additional animals or turn-off stock at higher weights and are coming into spring with a strong cash position, good feed and good condition on animals.

Match maker: At this time of year, it's challenging to marry feed supply with animal performance. Things move quickly and producers need to get the balance right, so keep an eye on animal condition and feed. Early weaning is always an option, regardless of the season, to optimise the productive and welfare outcomes for stock.

Budget savvy: Continuously monitoring feed budgets and cash flow budgets will determine the onset of spring and whether you need to buy supplement or accelerate purchasing stock.

Food for thought: Grazing rotation is a powerful tool and, when based on plant morphology, can result in 50% more feed. Consider temporarily speeding up grazing rotations to avoid pasture damage at this time of year. Assess feed quality (kilograms of dry matter per hectare) using visual assessment, pasture rulers or plate meters. Each method is a formal evaluation and preferable to bumbling along in the dark.

Early intervention: Use soil testing and feed budgets to determine fertiliser decisions for the season ahead. Make an early assessment if feed is below target, while there are more options. For example, if feed gaps are identified six to eight weeks in advance, you can use cheaper strategies such as nitrogen and gibberellic acid.

Be on the front foot: This time of the year tends to be operationally busy, so get as much planning done as possible in autumn and winter so you can focus on setting up for the season, including monitoring against budgets.

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E: bdoonan@macfrank.com.au

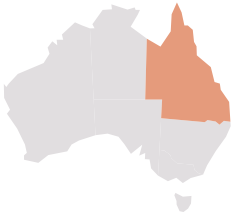
Feed budget: **mla.com.au/feedbudget**

Pasture Principles:
macquariefranklin.com.au or mla.com.au/events

Business principles:
mla.com.au/edge or **mla.com.au/back-to-business**

Condition scoring sheep:
makingmorefromsheep.com.au (module 11, tool 11.2)

Condition scoring cattle:
mbfp.mla.com.au (module 5, tool 5.2)



Col Paton

Director, EcoRich Grazing, northern Australia

Jill Alexander

Director, Applied Ag, northern Australia

Conditions will be variable across northern Australia coming into spring. Some areas had good rainfall and exceptional pasture growth last summer, but the concentrated two-month growing season meant pastures hayed off and went to seed quickly. Other areas had another failed season.

Turning point: This season will be a turning point for many pastures. Some subsoil moisture creates potential for a more typical or early start to the growing season and there's plenty of seed ready to germinate. If producers can give this new seed time to germinate and establish before applying too much grazing pressure, there's potential for land condition to improve.

Pasture recovery: It takes at least two good growing seasons to improve land condition, so plan resting strategies for paddocks hit by recent drought. In more intensive areas, consider sowing pastures in paddocks where land condition is very low and would be slow to recover. Plan forage options (such as forage sorghum) for summer to help reduce pressure on recovering paddocks. Start preparations for forage crops and sowing pastures now.

Kickstart growth: The initial growth rate of pastures will be restricted if nutrients tied up in organic matter grown last summer aren't converted into a plant-available form. Soil testing in early spring will determine if pastures will benefit from fertiliser to accelerate early growth in intensive, high-production areas.

Take stock: A mid-dry-season forage budget in July–August will assess if feed will last until the next production point. Aim to retain at least 10–15cm of pasture stubble in the paddocks going into summer to accelerate the response to season-breaking rain and ensure topsoil is retained.

Lighten the load: Aim to have stock numbers lowest in late spring and early summer. Allow stock numbers to increase naturally so extra stock are not outstripping pasture supplies during pasture recovery.

Rest up: Where possible, plan to rest, or at least reduce grazing pressure in paddocks early in the growing season until at least phase 2 of growth (bulk vegetative growth just before seeding) to allow last year's seed to germinate and establish its root and shoot system. ▶

Watch the forecast: If the *La Niña* forecast comes to fruition, it's an opportunity to get paddocks ready to plant improved pasture. However, planting pastures is expensive and takes the paddock out of the grazing system for a year or two, so assess the financial implications and adjust stocking rate to the reduced grazing area.

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Feed budget: **mla.com.au/feedbudget**

CliMate App: **climateapp.net.au** or download from your app store

BOM seasonal outlook: **bom.gov.au**

Pastures in marginal cropping lands: visit **futurebeef.com.au** and search 'pastures for protection and production'

Queensland Department of Agriculture and Fisheries pasture establishment workshops: contact Gavin Peck on 0428 783 771 or Stuart Buck on 0427 929 187

MLA Grazing Land Management program: **mla.com.au/edge**

Geoff Niethe

Principal, Niethe Consultancies, northern Australia

In recognition of the different seasonal and management decisions facing producers in northern Australia, these tips are divided into:

- **south (south, south-east and central Queensland)**
- **north (NT, northern WA and north Queensland)**
- **all northern regions.**

Northern Australia – south

Take stock: Assess feed going into summer and adjust stocking rate accordingly. Take into account the impact of winter rain, quantity and quality of ground cover as the bulk of calves will fall in August–October. Welcome spring rain if it falls but don't rely on it to get through to summer.

Girl power: Develop a good heifer-management plan. Aim for a six-week calving window when replacement heifers join the main breeder herd by ensuring maiden heifers hit their critical mating weights at joining. Feed out protein meals to any heifers not on track to meet that target.

Genetic gains: Research potential sires before bull sales using BREEDPLAN to ensure purchases will maximise your genetic goals. If calving problems exist in maiden heifers, select bulls on their calving ease and low birth weight estimated breeding values to join with heifers.

Take control: If ticks are present, consider strategic treatment going into the storm season. Implement feral dog controls. Check fire breaks and conduct strategic burns.

Northern Australia – north

Condition counts: After the second-round muster (August–October) condition score breeders and early wean any in body condition score of 2 or less. Wean all calves aged four months and older. Draft off breeders with small calves and provide non-protein nitrogen supplementation to the most vulnerable breeders. Ensure replacement heifers are tracking well to meet critical mating weight and spike feed maiden heifers if pregnancy rates in first-calf cows is a problem.

Health check: Vaccinate for botulism. Spay cull heifers before it gets too hot. Cull aged cows and any with broken mouths.

Know your pastures: Diagnosis of phosphorus deficiencies should have occurred at the end of the last wet. If necessary, get phosphorus supplement orders in well ahead of the wet season as this is the most important management strategy in deficient areas. Conduct faecal near-infrared reflectance spectroscopy (FNIRS) to assess feed quality. Never graze perennial grasses down to the ground – always ensure stubble remains. Adjust stocking rates according to long-term carrying capacity.

Sire management: Remove bulls if restricted joining practices are being used. Physically examine all herd bulls and cull those that are old, lame or have abnormalities of the reproductive tract. Establish clear breeding objectives so you can purchase the right sires for your business.

Fire up: Check fire breaks and conduct strategic burns to protect property from bushfire threats later in the fire season.

All northern regions

Be proactive: An ounce of prevention is worth a ton of cure. Revise your risk assessment for all endemic diseases, parasites and toxic plants and implement the appropriate control measures, such as effective herd health programs.

While you're at it, develop a drought plan based on rational decisions. Set (and stick to) critical trigger points for pasture responses to ensure feed reserves are adequate to accommodate an extended dry period. ■

Geoff Niethe
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MLA phosphorus tips and tools: **mla.com.au/phosphorus**

BreedObject: **breedobject.com**

BREEDPLAN: **breedplan.une.edu.au**

MLA Grazing Land Management program: **mla.com.au/edge**

Feed budget: **mla.com.au/feedbudget**

SUSTAINABILITY

Why carbon neutrality

The Australian red meat and livestock industry has set the ambitious target to be carbon neutral by 2030 (CN30).

This means Australia's beef, lamb and goat industries – including production, lot feeding and meat processing are aiming for no 'net release' of greenhouse gas (GHG) emissions into the atmosphere in 10 years' time.

But what does this really mean on-farm and what can producers do to reach this goal?

Here, MLA Manager – Sustainability Innovation, Doug McNicholl, shares what producers need to know about CN30 and the part MLA is playing to reach this target.

"The industry has created an opportunity to turn today's pressures into tomorrow's opportunities," Doug said.

MLA's approach to achieving CN30 is focused on delivering multiple benefits to industry, customers, consumers and the community.

"The CN30 target sends a clear signal to government and consumers that the red meat industry is proactively addressing emissions."

Staying ahead of current and future consumer, customer and community expectations regarding environmental credentials allows red meat producers to stamp their mark in a competitive global protein market.

"Demonstrated commitment to environmental stewardship, through initiatives such as CN30, enables ongoing trust and support for our industry. It underpins our position as a responsible producer of high-value, clean, safe and natural protein," Doug said.

What's in it for producers?

The big wins for producers from CN30 activities include:

- novel animal supplements and legumes which can increase live weight gains and dramatically reduce methane emissions
- increased soil organic matter from deep-rooted pastures and legumes, which improves soil health, feedbase productivity and drought resilience (see story page 32)
- improvements in genetics and herd management which can reduce methane emissions per kilogram of live weight produced, enabling productivity improvements alongside reductions in emissions intensity.

"Whether it's reducing net emissions, boosting productivity or developing new markets, these CN30 activities deliver multiple benefits to producers and the community," Doug said.

Is CN30 actually achievable?

Doug said CN30 is achievable with industry commitment, the right policy settings and new investment in research, development and adoption.

CSIRO has presented some theoretical pathways for the Australian red meat industry to achieve CN30; however, the support of producers will be crucial to the initiative's success.

Australian red meat producers have a long and proud history of adapting to environmental and market conditions. As custodians of around half of Australia's land mass, an enormous opportunity exists to be the prime example of a productive, profitable, carbon neutral industry.

What will this mean for Australia's national herd in 2030?

According to Doug, carbon neutrality doesn't need to come at the cost of livestock numbers.

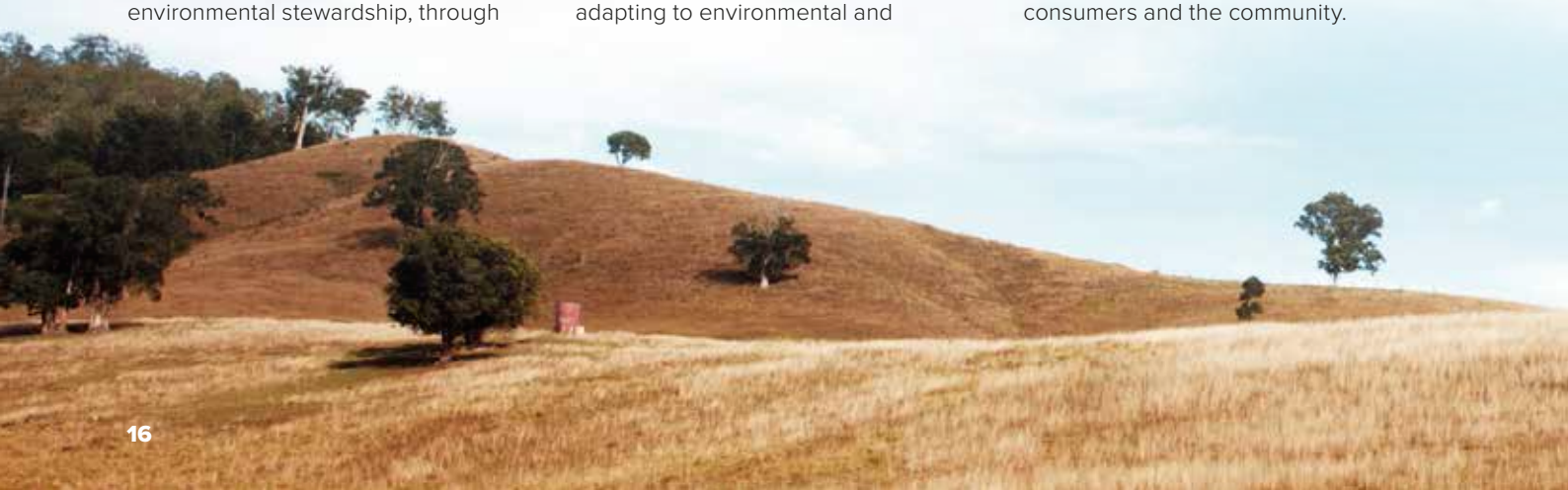
CSIRO analysis shows it's possible to achieve CN30 without reducing herd numbers below the rolling 10-year average (25 million cattle, 70 million sheep and 0.5 million goats).

By 2030, producers will be even more attuned to the influence of genetic, environmental, technological and market factors on red meat production, and will be able to:

- access the best information, enabling selection of livestock with multiple attributes to increase productivity and reduce methane emissions per kilogram produced
- select supplements, pastures, legumes and trees with multiple attributes, enabling livestock to thrive in more extreme weather and climate conditions
- access more established markets for low and zero carbon red meat and co-products.

What's in the CN30 pipeline?

MLA is working on a range of tools and technologies for producers to cost-effectively reduce emissions and boost the value of red meat sales by demonstrating environmental stewardship credentials to customers, consumers and the community.



matters

These include the following tools and technologies:

Carbon accounting tool and training packages

"An important first step is providing producers with a carbon accounting tool so they can determine their net GHG emissions position, identify strategies to reduce these emissions and improve carbon storage on-farm," Doug said.

"MLA's CN30 Manager, Margaret Jewell, has been working with producers across the country to develop a next generation farm-level accounting tool."

A carbon accounting training manual is also being developed to help producers get on the front foot and maintain or improve productivity while reducing emissions.

New supplements and feedbase options

More than three-quarters of emissions from enteric fermentation (digestion) are from beef cattle on pasture. Approximately half these emissions are from cows aged more than two years.

"This is why MLA and its research partners are investing in new feedbase options and supplements which reduce methane emissions from livestock and improve animal growth rates and reproduction," Doug said.

"Legumes such as leucaena and desmanthus can raise animal productivity, reduce methane emissions and offer additional soil health benefits by fixing nitrogen."

Doug McNicholl presenting CN30 at the 2020 ABARES Conference.

Several supplements have been identified which provide reductions in enteric methane and improvements in animal productivity, including the following:

- 3-Nitrooxypropanol (3-NOP) is likely to be available to producers within the next few years and can reduce enteric methane emissions in cattle fed grain-based diets
- marine macroalgae such as *Asparagopsis app* has been shown to substantially reduce enteric methane emissions when incorporated into feedlot rations. ■

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Margaret Jewell
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Learn more about CN30 at **mla.com.au/cn30**

Get your business CN30-ready

Here are seven ways to be on the front foot towards carbon neutrality.

Now

1. Arm yourself with the right knowledge. Identify your emission sources, know what carbon storage options are available and document these in your carbon account.

   mla.com.au/carbon-account

2. Consider herd or flock management practices to improve livestock diet, breeding efficiency or structure to reduce methane emissions per kilogram of live weight produced.

   mla.com.au/erf-fact-sheet
   mla.com.au/reduce-methane-emissions

3. Identify shade and shelter options on your property. Integrate trees and shrubs to grazing systems for improved carbon storage and animal health and biodiversity benefits. Your local Landcare group can help you choose the right tree and vegetation species for your region.

   mla.com.au/tree-grass-balance

Within three years

4. Plan for delivery and distribution of new feeds and supplements which reduce methane emissions from livestock and improve animal growth rates. This will enable more red meat to be produced for the same or reduced methane emissions.
5. Establish deep-rooted, palatable pastures and legumes to improve soil carbon levels and lift animal productivity.

Longer term

6. Consider what mix of pastures, legumes and trees is suitable to maintain livestock productivity in future weather and climate scenarios.
7. Look at collaborative supply chain arrangements to mitigate financial, environmental and market risks as well as the impact on business inputs and output.

CLIMATE VARIABILTY

Riding the highs and lows of climate forecasting

Bureau of Meteorology Senior Principal Research Scientist Dr Harry Hendon.

When a rare extreme warming event took place high over Antarctica last year, the Bureau of Meteorology (BOM) was able to warn Australian red meat producers of its on-ground impacts well ahead of time.

This was thanks in part to the Forewarned is Forearmed (FWFA) project, led by MLA, which aims to deliver more useable long-range information to Australian primary producers.

Here, *Feedback* takes a closer look at how producers can use long-range forecasts as a tool to manage climate variability.

Sudden stratospheric warming

The phenomenon experienced last year is known as 'sudden stratospheric warming'. This occurs when the middle atmosphere over the poles (15–50km above the surface) experiences intense warming over the course of a few days to a few weeks and the circumpolar westerly winds drastically weaken.

Major sudden stratospheric warmings are rare in the southern hemisphere, with only two instances recorded in the past 60 years (in 2002 and 2019). Both coincided with some of Australia's driest and warmest years on record.

Last year's sudden stratospheric warming at the end of August resulted in higher temperatures on the Australian mainland during October to December, which intensified the effects of the drought and contributed to the horrific fire season.

BOM Senior Principal Research Scientist Dr Harry Hendon and his colleagues Dr Eun-Pa Lim and Dr Guomin Wang are aiming to improve producers' ability to use long-range predictions at a local level through the FWFA project.

Dr Hendon said they were focusing on sudden stratospheric warmings at the time it occurred, which was serendipitous as it came after a couple of years of studying other aspects of the climate.

"We began looking at the role of sudden stratospheric warmings in driving extreme temperatures and rainfall in Australia and it was fortunate we were looking at this when the event occurred.

"It's so rare and we forecast it so well that it brought a lot of attention to the project of climate," Dr Hendon said.

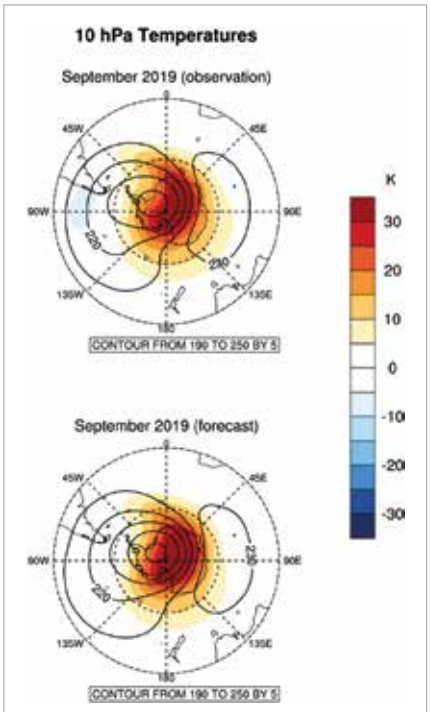
Other events and phenomena are also important for predicting extreme climatic conditions.

"Traditionally in our field of extended range predictions, we've focused on things such as *El Niño* and, more recently, the Indian Ocean Dipole.

Arming producers to manage climate variability

The FWFA project is developing forecasts to assist decision making ahead of extreme weather events. Producers can:

- plan ahead if they know the chance of having above-average rainfall this coming spring or a heatwave two weeks from now
- move livestock from low-lying areas if it's known there is a high probability of localised flooding
- move lambing ewes or calving cows to more sheltered paddocks if a very cold spell is forecast
- adjust stocking rates and carrying capacity, armed with seasonal rainfall forecasts



These two graphs depict the similarity between forecast and observed temperatures in September 2019, as a result of sudden stratospheric warming. While this data relates to the observed and predicted temperatures at 10hPa (~30km above surface over the South Pole), this resulted in higher temperatures on the Australian mainland as well. The contours are the distribution of the mean temperature, which show the usual cold vortex over the South Pole, with mean temperature as low as 200K (-73°C). The red shading shows the departure from normal during September 2019 (>30K warmer) as a result of the stratospheric warming.

"When they happen, they tend to cause more extreme climate conditions in Australia.

"However, we now recognise stratospheric warming is an additional source of long lead predictability and they are well predicted with our ACCESS-S climate forecast model."

Forewarned is Forearmed

The FWFA project will provide producers with the first-ever forecasts of climate extremes (heatwave, frosts and heavy rainfall) beyond the seven-day weather forecast and into the weeks and seasons ahead.

This will assist with decision making and decrease the effects of such events on farm productivity, by giving producers information to take action in response to forecast extreme events, such as:

- knowing the chance of having above-average rainfall this coming spring or a heatwave two weeks from now will allow producers to plan ahead
- moving livestock from low-lying areas if it's known there is a high probability of localised flooding
- moving lambing ewes or calving cows to more sheltered paddocks if a very cold spell is forecast
- making adjustments to stocking rates and carrying capacity, armed with seasonal forecasts for rainfall.

Producers are playing a role in ensuring the developed tools meet their requirements through the project's industry reference groups.

They provided feedback to BOM about the kinds of weather extremes which affect their operations and the types of decisions they could make with more localised and accurate long-range forecasts.

As the project progresses, producers provide ongoing feedback on the useability of the forecasting tools and even the 'look and feel' of the eventual products.

BOM Principal Research Scientist Debra Hudson said producer feedback has underpinned which experimental forecasts are the most useful and should be further developed.

"Forecasts are pretty complicated – it's all about probability and shifts in likelihood," she said.

"It's important for us to better identify how we can communicate so the forecasts are not misunderstood. Producers are really helping us with that.

"The sorts of climatic events we examine are often large scale, but what really matters to producers is what happens locally.

"One of the more direct and tangible benefits of this project is that we will have new tools to enable improved on-farm risk management associated with these sorts of events." ■

Forewarned is Forearmed

The five-year Forewarned is Forearmed project is managed by MLA and supported by funding from the federal Department of Agriculture, Water and the Environment. It's part of the government's Rural R&D for Profit program, in partnership with rural research and development corporations, state government departments and universities. The project is closely aligned with research from the University of Melbourne, the South Australian Research and Development Institute, the University of Southern Queensland and the Department of Agriculture and Fisheries Queensland, which are working with industry reference groups to understand on-farm decision making in extreme events.
bom.gov.au/research/projects/FWFA

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Building resilient businesses feature in *Feedback* magazine's December 2019/January 2020 edition (page 16)

mla.com.au/feedback

For more information on how the Forewarned is Forearmed project, led by MLA, is equipping producers and agricultural value chains to proactively manage the impacts of extreme climate events, visit bom.gov.au/research/projects/FWFA/

CLIMATE VARIABILTY

Meeting extremes head-on

Building a business which can adapt to climate extremes is a guiding principle for Nina House.

Nina (pictured below) runs a breeding enterprise with her parents Ashley and Margaret in Queensland's Desert Uplands bioregion.

The family has worked in the challenging environment, with its spinifex, open eucalyptus country and ancient, low-phosphorus soils, since the early 1980s.

Land management has evolved with regionally focused research and new farming practices, but the climate remains a challenge for producers.

"We've always had drought – generally, every decade there's a seriously dry year, followed by a couple of average years, then maybe one good wet year," Nina said.

The family has adapted to the conditions by developing the property, increasing watering points, improving pastures and using strategies such as early weaning and targeted supplementary feeding.

In particular, strategic grazing has paved the way for a resilient business.

The family completed a RCS Grazing for Profit course, which was a catalyst for other changes in management such as implementing rotational grazing and wet season spelling.

"In the 30-odd years we've been here, we've only had to completely destock once due to drought."

Hands-on research

Through her role as chair of the Western Queensland Regional Beef Research Committee, Nina was invited to join a producer reference group for the Bureau of Meteorology (BOM) Forewarned is Forearmed project, managed by MLA (see story page 18).

Along with other producers, she's assessing the usability of a range of BOM forecasting tools under development.

"The tools being developed could potentially have significant effects on producers' management decisions," Nina said.

"If we know up to three months in advance what temperatures could be and what rain could fall, we can plan ahead if mustering needs to be done sooner before it gets too hot, or if we sell cattle now because there is no rain coming.

"There are limited resources to undertake research, so it needs to be relevant, easy to implement and improve profitability.

"The group who knows this best is the end users: the producers."

Well-stocked toolbox

When the BOM products are released publicly, they'll form part of Nina's carefully selected business toolbox.

She uses technologies such as Google Earth for infrastructure planning and recently invested in a new Gallagher TSi2 weighing system. The family is keen to automate further, but any new system must demonstrate a business benefit.

"Because we have such a variable climate, we have to be smart in how we spend our money.

"We've identified that we need to improve animal production – in the current season this means ensuring adequate feed and water, so this is our focus for the moment." ■

LESSONS LEARNED

- Plan for difficult times, as they will come.
- Have off-farm assets and resources to spread risk and provide funds to bring back into the business if needed.
- Build good networks as a source of information and support.

SNAPSHOT:

Nina, Ashley and Margaret House,
Aramac, Queensland

Area: 38,751ha

Enterprise:
Commercial and stud cattle

Livestock:
800 Red Brahman and Brahman-cross commercial breeders, 60 Red Brahman stud females

Pasture:
Spinifex, desert Mitchell, buffel

Soil:
Red and light sand to light clay

Rainfall: 400mm

Nina House
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MLA feed budget and rotation planner
mla.com.au/feedbudget

Profitable Grazing Systems
mla.com.au/pgs

RCS – Grazing for Profit
rcsaustralia.com.au

COMPLIANCE

Five things to know about the new NVDs

Producers will benefit from changes to the National Vendor Declaration (NVD) this year, with an easier, more efficient and cost-effective system.

The NVD communicates the food safety and treatment status of every animal every time it moves along the value chain – between properties, to saleyards, or to processors.

The main changes to the NVD will streamline how supply chain stakeholders interact with Australia's red meat integrity system, and include:

- updated versions of NVD on 1 July
- the decommissioning of the eDEC system, following the release of a new Livestock Production Assurance (LPA) electronic National Vendor Declaration (eNVD) system earlier this year.

Here's what the changes mean to your business:

1. Why are updated versions of the NVD being released and what are the main changes?

The updated versions are the result of a review of NVD versions by SAFEMEAT in 2019.

The main changes to NVDs for all species include removal of Part C (Agent's Declaration), which is rarely used by industry and is not required for any legislative reason, and the inclusion of a 'destination PIC' section, which is a legislative requirement in WA and Tasmania, and will be optional for other states.

Sheep NVDs include a new section for the number of electronic devices included in the consignment to accommodate the mandatory use of electronic NLIS in Victoria and its increasing use in other states.

2. When will updated NVDs be available?

Updated versions of the NVD for all species are available now, identified by version number 0720.

As part of the MLA Accelerated Adoption Initiative announced in November 2019, there is no cost for NVD books until 30 June 2021.

LPA accredited producers, feedlots and value chain stakeholders who use the eNVD platform can automatically access the updated versions.

3. Are existing NVDs still valid?

Current versions of NVDs for all species (cattle, EU cattle, sheep and lambs, goats and bobby calves) will be accepted until 31 December 2020.

From 1 January 2021, only the updated versions of all NVDs (0720) will be accepted for all species.

4. Why use the LPA eNVD system?

The mobile-friendly, LPA eNVD is the digital alternative to paper-based NVDs. It is fast, easy and more accurate than paper forms.

The eNVD is not just an NVD – it's a system for completing all consignment paperwork digitally, including livestock assurance and health declarations.

5. When and why is the eDEC being decommissioned?

As the new LPA eNVD does everything an eDEC does, and in a more user-friendly way, the eDEC system is being decommissioned.

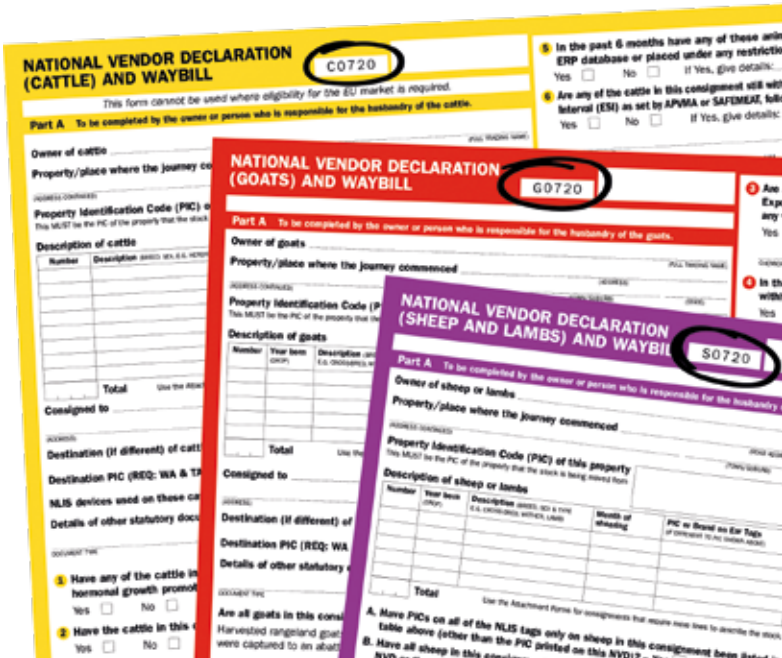
Any eDEC users who have eDEC tokens on their account can use them up until 31 December 2020, when the eDEC will be decommissioned.

After 31 December 2020, users who need or want to continue using an electronic version can use the eNVD. ■

Integrity Systems Company
E: info@integritysystems.com.au

National Vendor Declaration (NVD)
integritysystems.com.au/nvd

NVD changes
integritysystems.com.au/nvd-0720



HEALTH AND WELFARE

Control lice with surveillance and 'social distancing'

Lice are a costly problem for sheep producers but they can be controlled through regular surveillance and good farm biosecurity.

While the biggest impact of sheep lice is fleece damage in Merinos, Tasmanian livestock consultant and former ParaBoss* Technical Committee member Paul Nilon said lousy flocks face control costs and reduced marketing options, regardless of breed.

"Lice infestation can easily reduce fleece weights by up to one kilogram, but the critical thing is the fleece derangement caused by rubbing and pulling," Paul said.

"This destroys the value of your clip – it may well be halved if lice are left unchecked.

"There's also the impact on your trading options. No one wants to buy lousy sheep."

In rare cases, lice infestations can be so extreme they affect animal health and welfare.

Manage contact

Social distancing isn't just important during global pandemics – almost all new lice infestations begin from contact with infested sheep, so it's a good place to start to prevent lice.

"If you want to be lice-free, you need a good lice biosecurity plan which prevents contact with infested sheep," Paul said.

Producers who can't realistically aim to be lice-free – for example, lamb traders and producers with large bush blocks where it's hard to get a clean muster – should aim for proactive surveillance and have a plan to manage incursions.

Paul recommends only treating for lice if they've been detected (with some exceptions for high-risk situations). Treating after every shearing, even if sheep don't have any signs of infestation, is an unnecessary expense and creates a false sense of security as residual protection provided by most lice treatments is only a matter of weeks.

"Treating speculatively doesn't replace the need for strict, ongoing surveillance," he said.

"It also unnecessarily increases chemical residues in your wool, which may limit marketing options, and may contribute to pesticide resistance."

**ParaBoss is a not-for-profit organisation, funded by MLA and Australian Wool Innovation and coordinated by the University of New England with industry oversight. ParaBoss coordinates WormBoss, FlyBoss and LiceBoss.* ■

Paul Nilon
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Tasmanian livestock consultant and veterinarian Paul Nilon.

Six steps to a lice-free flock

Here are six practical tips to prevent and manage lice:

1. Develop a lice biosecurity plan for your property. The LiceBoss website has guidelines.
2. Use the Sheep Health Statement – if it shows there have been recent lice treatments, ask why. If the vendor is not prepared to tell you why they had to treat for lice, either discount the sheep heavily or don't buy them. If possible, inspect sheep before purchase. When introducing sheep to your property, inspect, quarantine and monitor them.
3. Monitor wool for signs of rubbing and fleece derangement. The LiceBoss website has a guide to monitoring sheep for lice.
4. If lice are detected, consider your individual situation when selecting a treatment. Use the LiceBoss Treatment Guide to help with decisions such as:
   - what portion of your flock to treat
   - whether to do a premature shearing of all or part of the flock, followed by an off-shears treatment
   - whether to do a long-wool knockdown treatment to carry through to normal shearing time
   - which chemical group is most appropriate
   - how to respond if the infested sheep are pregnant or have lambs at foot.
5. The biggest contributor to lousicide efficacy failure is poor product application so make sure you're doing it properly. The LiceBoss website has treatment guidelines for a range of applications, including back-lining, dipping and jetting.
6. Seek professional advice on treatment and control options and always inform your neighbours if you do find lice on your property. ■

ParaBoss
paraboss.com.au

LiceBoss
liceboss.com.au

Team effort to stop lice in their tracks

A recent sheep lice infestation on Simon and Penny Foster's farm in Tasmania's midlands reinforced the benefits of taking a team approach to animal health and biosecurity.

In May 2019, one of the Fosters' two full-time employees noticed signs of rubbing on two sheep in a mob of wethers. He took immediate action, yarding the sheep and alerting Simon.

After inspecting the sheep, Simon called his veterinary advisor Paul Nilon (see story opposite) to alert him to their suspected lice issue.

"I asked Paul to have a look and confirm the problem, then make treatment recommendations," Simon said.

Paul's recommendation was two-pronged:

1. Immediately treat the affected mob with a long-wool product to get them through to shearing in August.
2. Shear all sheep within a short period of time and treat them all with an off-shears product.

The Fosters usually shear ewes first followed by the wethers about a month later.

"This time we didn't have that break between shearings so we could get all the sheep shorn and treated as soon as possible," Simon said.

"We were meticulous about getting clean musters and managing sheep movements so there was minimal crossover between woolly and shorn or treated mobs."

Sheep producers Penny and Simon Foster.

Diligent application

They applied the long-wool and off-shears treatments using backline products, with a diligent approach to applying the chemicals.

"We made sure we had too much labour rather than not enough, so people weren't rushed," Simon said.

"We brought in a representative from the chemical company to demonstrate correct application."

Seeking expert advice is a common practice in their business.

"Whenever we have an animal health issue, we get Paul in to go through it with us and our staff so we all understand the disease, as well as the 'why' of the treatment," Simon said.

With no sign of further lice infestations during random flock inspections in autumn, Simon said it's now just a case of ongoing monitoring.

Biosecurity not infallible

Simon said he'll probably never know where the lice came from.

"In terms of biosecurity, we try to maintain good boundary fences and have a closed Merino flock – the only animals we bring in are prime lamb sires and they have a strict induction process – but there are a few location-related risk factors," Simon said.

This includes a shared boundary with the local town, where people run small mobs of sheep, and 9km of public road running through the property.

"We sometimes see the odd sheep on the road and we don't know how they get there – they're not our neighbours' sheep, so maybe they jump out of trailers.

"The road is fenced, but sometimes people driving along see a sheep and, thinking they're doing the right thing, put it into one of our paddocks.

"We can't do much about that, so we're better to get on, deal with the issue, eradicate it and then stay vigilant." ■

Simon Foster
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LiceBoss
liceboss.com.au

LESSONS LEARNED

- A good team – including on-farm staff and off-farm expertise – is important.
- Be diligent in checking sheep for animal health issues. Don't live in hope.
- If you suspect there's a problem, call in an expert and make evidence-based decisions.
- Make sure everyone on the farm understands the issue and how you're going to deal with it.

SNAPSHOT: **Simon and Penny Foster ,** 'Fosterville', Campbell Town, Tasmania

Area:	Enterprise:	Livestock:	Pasture:	Soil:	Rainfall:
7,800ha	Self-replacing Merino flock, Merino ram breeding, first-cross lambs, irrigated cropping (grass seed and poppies), beef cattle	24,000 sheep (10,000 Merino ewes) 800 Angus x Hereford cattle	Native pastures, improved phalaris and sub-clover pastures	Highly variable, ranging from deep sands to black cracking clays	450mm

How well do you know your paddocks?

Keep your head down when you're out in the paddock this winter.

That's the tip from The University of Western Australia (UWA) Senior Research Officer Dr Kevin Foster, who said now is a good time to really get to know your paddocks.

The colder months bring out the most distinguishing features in the leaves of subterranean clover (sub-clover), making it easier to identify cultivars – including the old oestrogenic cultivars which can negatively affect sheep health and reproduction rates.

With decent autumn rains across much of southern Australia, Dr Foster warns an early break could mean higher intake of oestrogenic clovers and an adverse impact on flock fertility.

Solving a historical problem

In the early 1970s, it was found that many of the sub-clover cultivars planted widely across southern Australia in the first half of the 20th century contained high levels of an oestrogenic compound, formononetin, in their green leaves.

The release of new, low-formononetin cultivars in the late 1970s was thought to have resolved the issue.

However, the hard-seeded nature of oestrogenic cultivars has seen a gradual resurgence of the issue in recent years.

In response, MLA Donor Company supported a project (led by Dr Foster and his UWA colleague Megan Ryan) to provide producers and advisors with information and skills to identify and manage the presence of oestrogenic sub-clover.

The researchers trekked through hundreds of paddocks across southern Australia identifying oestrogenic clovers (see story page 26).

"It's probably the best snapshot of our sub-clover pastures out there that we've had for many, many years," Dr Foster said.

In analysing hundreds of plant samples, the researchers found around 20% of pastures in southern Australia are dominated by high-oestrogen sub-clover, with some districts having a figure of higher than 65%.

The most common oestrogenic clover found in the pasture samples submitted so far has been Dinninup.

Which cultivars are high in oestrogens?

Dwalganup, Geraldton, Dinninup and Yarloop are most likely to contribute high levels of oestrogens in pastures. Tallarook is present only in districts with very high rainfall. Some locally evolved sub-clover variants are also highly oestrogenic, including Eden Valley in SA and Book Book in NSW.

Dwalganup

Leaf – crescent with white arms, leaf often has fold, brown flush in winter. Hairy runner. Early flowering.

Geraldton

Leaf – narrow, triangular, distinctly spaced leaflets, band leaf mark and often brown flush midrib. Hairy runner. Early flowering.

Dinninup

Leaf – full crescent with distinctive flush pattern and thin line surrounding leaf mark. Hairy runner. Late flowering.

Yarloop

Leaf – no crescent only white arms, brown flush midrib. Hairless runner. Late flowering. Adapted to waterlogging. Cream/amber seed.

Tallarook

Leaf – crescent with white arms which fade in spring, often brown flush below the leaf mark in winter. Hairy runner. Very late flowering.

What's the damage?

Consumption of older cultivars – Dinninup, Dwalganup, Yarloop, Geraldton and Tallarook – can lead to two forms of infertility in ewes. One is short-term, with a return of fertility after removal from the high-oestrogenic pastures, and the other is permanent infertility which increases in severity with continued exposure.

Permanent infertility can also be accompanied by ewe mortality, difficult births and post-natal lamb mortality. Even lambs dropped onto oestrogenic pastures may be infertile as maidens. It can also cause udder development problems in maiden ewes and urethral blockages in wethers.

Before this research, many producers and agronomists were not aware of high-oestrogen cultivars, so poor reproductive performance was often attributed to other husbandry problems.

"When you see the light-bulb moment that happens when producers realise they have a problem with their sub-clover, which could've been causing a whole lot of challenges they haven't been able to get to the bottom of until now, it makes you realise this has been such a great investment in research, development and extension," Dr Foster said.

"Our research suggests we need to rule out if it's what ewes are eating in the pasture that's the actual reason for dry ewes."

Think you might have a sub-clover problem?

If producers suspect they have problem sub-clover, the first step is to get confirmation.

Seek expert advice and support from your local agronomist or vet, or talk to an agricultural department staff member in your district to help identify cultivars.

After confirming the presence of high-oestrogenic sub-clovers, work with your advisors to establish a management plan.

"When prices and demand are strong, it's a good time to allocate funds to invest in improving your pastures, particularly those which aren't supporting your animal enterprise productivity as best they could," Dr Foster said. ■

Samples of sub-clover can still be submitted for testing as part of this project. Contact Dr Foster for a testing kit, but be quick, as there are limited test kits available for 2020.

Dr Kevin Foster
The University of Western Australia
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Oestrogenic sub-clover pastures fact sheet
mla.com.au/sub-clover-identification

Unleash your sub-clover's super powers
mla.com.au/sub-clover

RESEARCH IN REVIEW

PROJECT AIM
To identify the ongoing impact of old subterranean clover pastures with oestrogenic qualities on Australia's sheep production and to work with producers and advisors to identify and manage the impact.

RESEARCH ORGANISATIONS
The University of Western Australia and the Department of Primary Industries and Regional Development, WA

FUNDING ORGANISATIONS
The UWA Institute of Agriculture through the UWA Future Farm and MLA Donor Company

DURATION
June 2018 – August 2021

KEY FINDINGS TO DATE

- Oestrogenic sub-clovers were found to dominate more than 20% of sub-clover pastures sampled.
- In many cases, producers, advisors and government departments were unaware of the presence and impact of oestrogenic sub-clovers.
- Consumption of oestrogenic sub-clovers is likely a significant cause of reproductive wastage in sheep, particularly Merinos.

Two ways to manage problem clovers

If you have problem clovers in your paddocks, there are two management options.

1. Avoid grazing the paddock with young ewes or lambs and limit grazing by wethers (rams are not thought to be affected). Don't 'grass clean' pastures, as dilution is part of the solution. Oestrogenic clovers need to be less than 20% of overall pasture to avoid livestock health issues.

   Help livestock avoid the oestrogenic pastures when green by providing other feed sources or using other paddocks. Keep soil phosphorus and sulphur nutrition up to the sub-clover, as formononetin in the green leaves can increase when clover growth is limited.

2. Go for the ultimate solution and renovate pasture with a low-formononetin sub-clover cultivar suitable for your district. New cultivars also have other improved traits to enhance productivity. This is also a good opportunity to improve soil fertility and rhizobia for long-term productivity gains. ■

Tip: Hay or silage made from green, high-oestrogenic clover is likely still potent, but sub-clovers can be safely grazed when they dry naturally at the end of the season. However, ewes should not start grazing until six weeks after drying starts.

Getting to the root of the problem

Dr Kevin Foster from UWA (centre) helped identify oestrogenic sub-clovers at Mark Cooper's farm. Dr Foster is pictured inspecting renovated pastures with Aspley BestWool/BestLamb Group members Lawrie and Xavier Close – Mark Cooper (not pictured) is also a member of this group. Image: David Woodard, PIRSA

Victorian sheep producer Mark Cooper has a good reason to smile – he's identified the root of his flock infertility problem and can start working towards a solution.

While he's still working out the complexities it brings to his business, putting the spotlight on the decades-old problem of oestrogenic sub-clover has made him optimistic about how to overcome it.

"I always knew I had Yarloop sub-clover which had to be managed," Mark said.

"It's the price I paid for having progressive forebears who, in the 1950s and '60s, saw sub-clover was a great productive feedbase."

The Yarloop was planted before this variety was found to produce oestrogenic compounds which impact sheep fertility.

Although he strategically only grazed wethers or old ewes on the Yarloop, Mark saw a gradual decline in fertility. The problem was most evident in the earlier of his two preg scans on joined ewes when the pregnancy rate could be as low as 60%.

He went back to the basics, drawing on the lessons of Lifetimewool (now known as Lifetime Ewe Management).

He focused on condition score management and then his rams, using vets for full pre-joining examinations.

The light-bulb moment

The true problem only came to light when researchers working on the MLA Donor Company-funded oestrogenic clovers project came to the Coopers' farm in October 2018 (see story page 24).

Mark showed Dr Kevin Foster from The University of Western Australia and David Woodard from Primary Industries and Regions SA a sub-clover paddock which he was about to spray-top to boost clover content.

David pointed out there were two other oestrogenic sub-clovers (Dwalganup and Dinninup) present – these varieties are hard to identify especially if their flowers aren't visible.

"If I'd spray topped that paddock the situation could've been much worse because the sub-clover content would've increased, increasing the oestrogenic content," Mark said.

Solutions

Mark applauds this research for the answers it has given him.

"When you know what the problem is you can work on fixing it," he said.

His first step was to condition score paddocks – 80% of pasture paddocks contained a percentage of oestrogenic clovers.

He could then start implementing management strategies, including:

- allowing the grass content of pastures to become more dominant, diluting the oestrogenic sub-clovers
- ensuring soil phosphorus is adequate as deficiency may increase pasture oestrogen levels
- growing more grazing crops to fill winter feed gaps for ewes
- adjusting the enterprise mix to grow the terminal ewe flock at a slower rate
- renovating pastures to remove unwanted varieties.

"Replacing pastures is not a simple as it sounds," Mark said.

"The reason sub-clover has been so successful is that it survives.

"It's hard-seeded and hard to get rid of. It takes three years of knock-downs and fallow to clean it out of a paddock and that's not cheap." ■

SNAPSHOT:

Mark and Sheree Cooper, Edenhope, Victoria

Area: 800ha

Enterprise: Transitioning from a Merino ewe-based enterprise to terminal lambs, sheep and cattle trading and opportunity winter cropping.

Livestock: Merino ewes, terminal ewes and wethers

Pasture: Perennials (mainly phalaris) and annuals (sub-clover)

Soil: Heavy grey clays (50%), loams (40%) and deep sand (10%)

Rainfall: 525mm

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Lifetime Ewe Management **lifetimewool.com.au/LTEM.aspx**

LESSONS LEARNED

- Develop and act on a well thought-out plan to manage oestrogenic sub-clover.
- Identify all pasture cultivars on your farm so you know what you're dealing with.
- Seek professional advice to identify and manage oestrogenic sub-clover.

BUSINESS MANAGEMENT

Journey towards greater control

South-west Queensland producers Geoff and Kate Swanson use training and education to improve how they manage the profit drivers in their Augathella cattle backgrounding business.

"I've always said our business is very simple," Geoff said.

"Three things have an impact on how well we do: the price we buy cattle for, how quickly they gain weight and the price we sell them for."

Their strategy is to:

- buy crossbred steers with low *Bos indicus* content at 250kg at the Roma saleyards during winter
- add 180kg/head by utilising spring and summer-growing pastures
- sell steers from January to April at an average 430kg to feedlots for finishing.

Profitable interventions

Geoff and Kate have identified two management interventions which could have the greatest impact on their bottom line: speeding up the rate of growth and setting climatic trigger points to adjust numbers.

To support how they take control, they signed up for MLA's Nutrition EDGE workshop, followed by a Profitable Grazing Systems coaching group run by Nutrition EDGE deliverer and animal nutritionist Désirée Jackson.

"Nutrition EDGE taught me the biggest limiting factor in our business was how much energy we could supply to those steers," Geoff said.

"It also showed us the faster we got the steers on to good nutrition, the faster they took off when the pastures picked up.

"We've often had cattle sitting here at the end of winter doing nothing on frosted pastures so we either have to purchase them later or start supplementing them."

The Swansons replaced urea-based supplements with a cottonseed ration which is fed out in tubs at 3kg/head, every three days.

"It's hard to get your head around the expense of it, but when you examine it carefully, as we did with Désirée, and work out exactly how much energy the cattle need to perform, it makes perfect sense," Geoff said.

The Swansons have also introduced regular diet-quality testing (functional near-infrared reflectance spectroscopy, or dung testing) to identify nutritional deficiencies and nutrient balance.

"We're not in a traditionally phosphorus-deficient area but, maybe in a very wet season, dung testing will tell us if phosphorus supplementation might be needed," Geoff said.

"Once you understand the digestive system of cattle, it helps you make decisions about what you feed them. You always go back to that knowledge rather than trying something just for the sake of it."

The training also provided techniques for pasture improvement. As buffel grass runs down, Geoff plans to lift pasture quality and quantity by adding a legume component and using cool-burn management techniques.

Geoff said he found the group learning component of Nutrition EDGE very beneficial as it held him accountable.

"It also allowed Désirée to get to know our business and our goals and now we can ring her and she helps keep us on track." ■

SNAPSHOT:

Geoff and Kate Swanson, 'Connemara', Augathella, Queensland

Area: 6,100ha

Enterprise:
Backgrounding cattle for grain finishing

Livestock:
Up to 900 head a year

Pasture:
Mitchell and woodlands grass downs, buffel grass, improved Brigalow scrub and virgin Brigalow scrub.

Soil:
Dark clay

Rainfall:
525mm (summer dominant)

Geoff and Kate Swanson
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MLA Nutrition EDGE and Business EDGE courses
mla.com.au/edge

MLA's Profitable Grazing Systems
mla.com.au/pgs

Below: Kate and Geoff Swanson with cattle at 'Connemara', Augathella. Image: Katrina Lehmann.

TELLING OUR STORY

Over the fence

In this series, *Feedback* follows a group of producers from across Australia as they manage their operations over the course of a year and respond to the challenges that arise in a modern red meat enterprise. This is the fifth and final instalment of the 2019–20 series.

SNAPSHOT:

Andrew and Kimberley Mitchell, Mintaro, SA

Area:
3,300ha over several properties, plus 300ha leased

Enterprise:
Dual-purpose Merinos, cropping and wine grapes

Livestock:
6,000 sheep, including 3,200 Merino ewes

Pasture:
Native pastures, sown cereals, ryegrass and white clover

Soil:
Heavy red-brown clay, some chocolate brown earth

Rainfall:
600mm

Andrew Mitchell
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Andrew Mitchell

SEASONAL CHALLENGES:

It's been dry but we received 40mm of rain at the start of March and another 14–28mm in early April, by which time we'd sown all our pastures. We had perfect weather for pasture establishment, with mild, sunny days.

WHAT'S ON MY PLATE:

We started seeding a week earlier this year because of the coronavirus situation. Our employee returned early from annual leave because his holidays were cancelled, so we started sowing as soon as he came back to work. The ewes lambed in April in favourable conditions and it went exceptionally well. We scanned ewes in May for late winter lambing. In June, we tailed the autumn lambs. We were feeding sheep up until recently when they went out onto the pastures.

Our crops are also up and out of the ground. We've got canola, lupins, faba beans, oats and ryegrass for hay, which were all sown in April. In July, we'll be doing some in-crop spraying.

WHAT COVID-19 HAS MEANT FOR OUR BUSINESS:

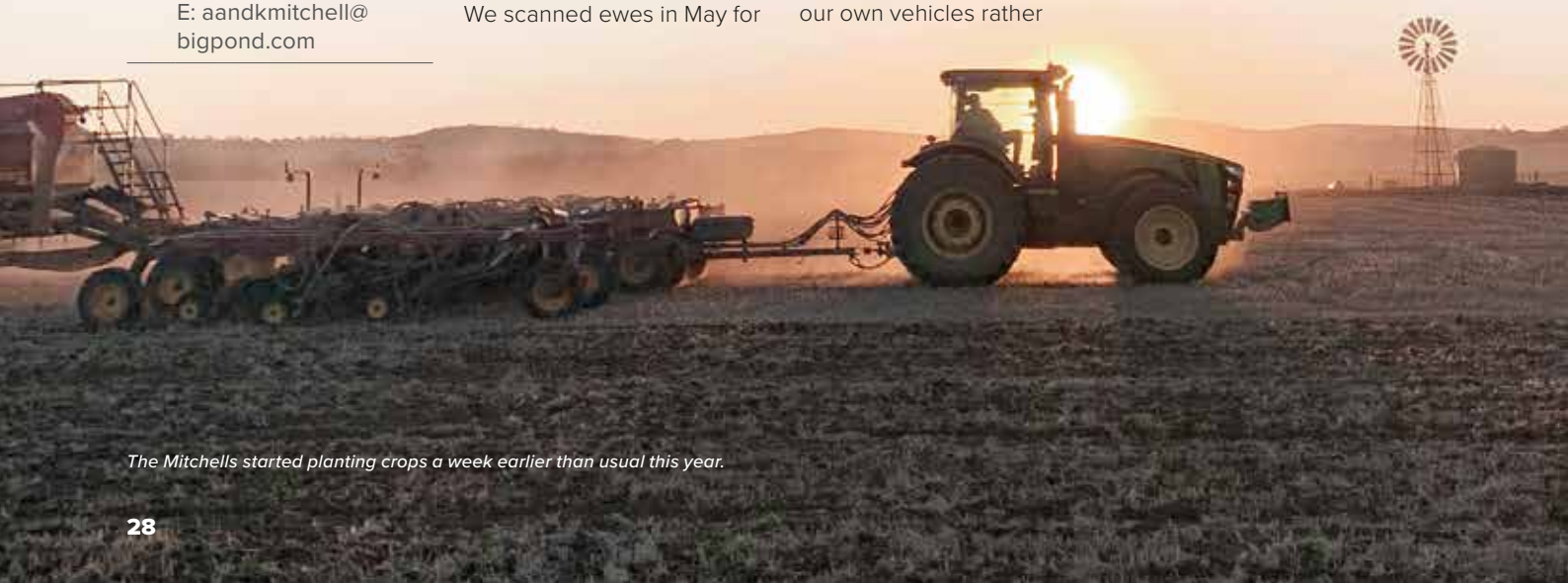
When we heard about the situation unfolding, we ordered a lot of our farm supplies in early. We had chemicals and fertiliser on-farm in March. We also heard some products, such as chemical labels, couldn't be shipped from China, so we wanted to make sure we had our inputs on hand. Our family is also heavily involved in sport, so with all that cancelled, we found we had a lot of extra time – about 18 hours per week.

On the farm, we've practised social distancing as much as practical, such as using our own vehicles rather than sharing a vehicle. We relaxed this a little as the rate of new cases began falling. Apart from that, it hasn't really affected our farming practices.

From a profitability perspective, it's knocked our wool sales around. We lost about 30% at the wool sales because of the downward pressure on prices. I've been positive about red meat previously, but at the top end – in the restaurant and foodservice sector – the market is not going to be there for us for a while, as people aren't able to eat out the way they could before. I hope people will still buy lamb to eat at home. ■

THREE ACTIVITIES OVER THE NEXT TWO MONTHS:

> Lambing in late July
> Monitoring crops
> Spraying in-crop.



The Mitchells started planting crops a week earlier than usual this year.

SNAPSHOT:

Jane and Haydn Sale,
Kimberley, WA

Area:
Approximately 1.6 million hectares across several stations and Indigenous sub-leases

Enterprise:
Breeding and backgrounding cattle

Livestock:
50,000 Brahman/ Droughtmaster

Pasture:
Spinifex and annual grasses, buffel and curly spinifex on river blocks, Mitchell, bundle bundle and blue grass

Soil:
Desert country is red sand over clay, and river country is clay loam and into white clay

Rainfall:
350mm–550mm (ranges between properties)

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South-East Asian Beef Market Report
seabeefreport.com

Jane Sale

The Sales remove bulls from their herd during the dry season muster to maintain controlled joining.

SEASONAL CHALLENGES:

We had around average rainfall for the wet season on the properties we manage. They received 400–600mm, depending on their location. The season in general was a good one, with a wet January and late February and March, which has been a welcome relief after the previous year. Temperatures through the start of the dry have been higher than average.

WHAT'S ON MY PLATE:

Our busiest season of the year started in April with mustering cattle for sale, followed by breeder musters which will continue until the end of August. This is the cool time of the year, so it's the best time to handle our cattle, with less stress for us and the animals. Controlled breeding allows targeted weaning over these months, and we wean all young cattle apart from the new calves. Light weaners are fed pellets and hay on what we call our 'TLC' program, to help overcome the weaning process. We remove weaners from their mothers to help the breeders maintain body condition and keep re-joining rates as high as possible. At muster, the bulls are also removed from the herd to continue this controlled joining process. We aim to have 80–90% of cattle work completed during these months and this requires long hours, commitment from permanent and seasonal staff, and logistical planning to achieve a good outcome.

As the business grows, we're trying to attract more permanent employees, for consistency in our business and to encourage careers in our industry.

We're also continuing our water and fencing development program through the dry season to utilise previously unstocked areas of pastoral leases and allow herd growth.

WHAT COVID-19 HAS MEANT FOR OUR BUSINESS:

From a marketing perspective, it has significantly affected the value of cattle through our main live export markets of Indonesia and Vietnam. This led to a significant drop in quoted export prices from early April onwards. This is very significant to the profitability of the business and a major concern. We're monitoring the changes in the market environment daily, as we're about to hit our peak selling period for the year. Domestic prices for locally slaughtered cattle are also dropping due to the challenges faced by processors in the current coronavirus-affected economic environment. We were able to move early this year to lock in reasonable slaughter prices, which was a great hedge against this. Our usual practice is to lock in some live export prices early in the year, but with the uncertainty of the current environment, exporters have been reluctant to do this.

From an operations perspective, state border restrictions and shire restrictions in the Kimberley created severe logistical challenges to getting our workforce onto the station. Many returning workers who live in other states had trouble crossing borders. Some did not come due to fear of virus infection and some were turned back. Our workers were arriving as the restrictions were being put in place, so we were trying to write procedures at the same time as the state government was making the rules, which was very challenging. We've now put in place company management plans and safety procedures which have been cleared through government channels so we have been approved as an essential services primary production business. This meant staff travel was approved for state border and shire crossing. Coronavirus has also meant a massive adjustment to our workplace health and safety practices. For example, we have limited entry to our properties to only essential services, to protect our employees and business. We set up quarantine quarters on one station, where staff can isolate for 14 days. ■

THREE ACTIVITIES OVER THE NEXT TWO MONTHS:

> Mustering through to August
> Researching for herd bull purchases in August
> Ongoing water and fencing work.

SUSTAINABILITY

Beef powerhouse from the

In 2012, a real estate agent told Deb and Fergus O'Connor their new purchase, a 60ha farm in Victoria's South Gippsland region, had a stocking capacity of 60 head.

Fast-forward eight years and they're now running 150 steers year-round – despite setting aside 5% of the farm to plant 16,000 trees.

They credit more than doubling carrying capacity to their streamlined rotational grazing system which underpins their whole-farm management approach.

Here, Deb and Fergus open the gate to their little beef powerhouse.

Streamlined rotation

"We work on an 8–10 day rotation and move all the cattle as one mob," Fergus said.

"When we buy new steers, they go into quarantine for a few days and then we drench them before they go out into the mob."

The O'Connors take care to select drenches which target parasites but don't harm their dung beetles (see story page 34).

Minimal inputs

While some might classify Fergus and Deb as regenerative farmers, it's a label they both shy away from.

"I don't consider myself to be a regenerative farmer, I'm a rotational farmer," Fergus said.

"Some view regenerative farming as what you do on land which has been degraded, but our land is as good as any; we're increasing soil carbon by the way we rotationally graze."

They also focus on using minimal inputs.

"The cattle are virtually the only thing we bring onto the property and they're the only thing that leaves," Deb said.

The O'Connors sell their beef through Greenham's Bass Strait brand, as part of the 'Never Ever' program.

Soil testing is an important part of this strategy and guides any input decisions.

"Our accountant comments on how low our inputs are," Fergus said.

"We look after the place and it seems to flourish. We spot spray for weed control when we need to."

Education and information

Deb and Fergus are members of industry groups such as Landcare, the West Gippsland Catchment Management Authority's sustainable farming program and Farmers for Climate Action.

They get support from these groups and participate in their education programs, but their approach also draws on Fergus' earlier career as a racehorse trainer and his formal training at the Warwickshire College of Agriculture (UK).

"I always say if you don't know what you should be doing, put yourself in the animals' shoes and do what you would want," Fergus said.

Protecting their precious water resources is a priority for the O'Connors.

LESSONS LEARNED

- Good management can increase carrying capacity.
- Rotational grazing enables pasture to recover between grazing events.
- Soil testing is a useful tool to manage costly inputs such as fertilisers.
- Shelter improves animal welfare and productivity.

ground up

"It's part of being a stockman. You recognise your stock, you recognise their needs.

"Keep things as simple and close to nature as possible – especially with cattle."

Good water

Deb and Fergus are just as committed to caring for their natural resources as they are their cattle.

"I'm absolutely passionate about water and underground water," Fergus said.

"If we ruin the aquifers, the farm becomes useless."

They've fenced off and revegetated a creek which runs through the farm, along with two large dams.

"All the native crayfish, frogs, and lots of native plants – ferns and things that hadn't grown here for years – have come back," Fergus said.

"We've probably lost 5% of our land to trees, but the benefit of having shelter to keep your cattle warm in the cold and cool in the heat is so worthwhile."

Cattle also drink pristine spring water which flows to the farm. Stock water is pumped to a header tank and gravity-fed to troughs, to ensure the riparian zones on the farm are protected.

Fergus and Deb calculated their water consumption using waterfootprintassessmenttool.org and worked out they use less than 200L/kg of beef produced on their property.

"There's a lot of misinformation around about the sustainability of eating meat," Deb said.

Deb O'Connor on her Gippsland beef property.

"I'm interested in doing things to counter that misinformation. Our beef production doesn't use a lot of water, the animals are well treated, the environment is looked after."

It was for these reasons Deb and Fergus participated in MLA's Australian Good Meat program to tell their story, in their own words.

"I thought it was a good idea to help promote sustainably-raised beef so people actually know what they're eating," Deb said.

Happy animals

The O'Connors sell their beef through Greenham's Bass Strait brand, as part of the 'Never Ever' program.

This program guarantees beef is:

- 100% grassfed
- free of added hormones and antibiotics
- free-range (never confined to a feedlot)
- free from genetically modified organisms
- Meat Standards Australia (MSA) certified.

The farm's close proximity (about 30 minutes' drive) to the processor plays a part in reducing stress when cattle are transported.

"The cattle go away completely calm with all their mates – they don't get pushed through the saleyards," Fergus said.

Fergus O'Connor draws on principles from his past as a racehorse trainer to put himself in his steers' 'shoes'.

"We book them in, send them on the Sunday afternoon and they're all processed the next morning.

"We produce beef with colour, taste and texture. We think it's so much nicer because it has the flavour. It's also nicer for the animals.

"More and more people are interested in how their food is looked after and where it comes from. I'd actually like to be a steer here."

Size doesn't matter

The O'Connors said they do face challenges running a small-scale enterprise, such as buying young cattle at the right price.

"You can farm successfully and profitably on a small scale, but the only way the small scale can happen is by nurturing the land, the cattle and the plants," Deb said.

However, the O'Connors have developed business principles which apply to any scale of enterprise, such as land management, planting shelter and fencing creek lines. ■

SNAPSHOT:

Deb and Fergus O'Connor, Berry's Creek, South Gippsland, Victoria

Area:
60ha

Enterprise:
Beef cattle

Livestock:
150 young Angus and Hereford steers

Pasture:
All perennials, mainly ryegrass, with other species creeping in: redquin clover, white clover, plantain, cocksfoot and phalaris

Soil:
Volcanic ferrosol

Rainfall:
1,000mm spread evenly throughout the year

Deb and Fergus O'Connor
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Deb and Fergus share their story in their Australian Good Meat video: **goodmeat.com.au/producers**

Assess your water footprint: **waterfootprintassessmenttool.org**

Unlocking leucaena's potential

Producers have new information to help unlock the potential of leucaena, with the release of an updated guide to establishing the highly productive forage legume.

When it comes to leucaena, University of Queensland (UQ) Associate Professor Max Shelton certainly knows the secrets to its success. He's been studying it since 1991 and has helped develop new varieties.

Max was co-author of the original guide to establishing and managing leucaena published by MLA in 2006.

With so much new information about leucaena produced since then, he said the updated guide is an important resource for producers.

"We've accumulated a wealth of scientific and on-farm data which we've used to update the original guide," Max said.

"We want to see people get the most out of their leucaena with this new guide.

"It's such a valuable crop and we want producers to receive the value for all 30 years of its potential productive lifespan."

The new guide, *An introduction to leucaena – the productive and sustainable forage legume,* is produced by UQ and MLA with input from the Queensland Department of Agriculture and Fisheries and was released in May 2020.

It gives producers the latest information on:

- new varieties of leucaena
- sustainable grazing practices
- the economics of leucaena, including costs and return on investment
- environmental impacts
- management strategies.

Twin rows of leucaena sown 10m apart.

Meeting requirements

The new guide responds to producers' need for the latest industry information, backed by on-farm learnings.

"The beef industry's requirements are changing," Max said.

"The demand for good-quality grassfed beef is still high, but it's coupled with a requirement for producers to provide good environmental stewardship of their land.

"The updated leucaena guide addresses these challenges, detailing how to use the best land available to produce a high-quality and economically beneficial product, while maintaining environmental sustainability.

"When correctly managed, leucaena can reduce enteric methane emissions by up to 20%, sequester carbon and increase organic matter in soil, while also massively improving animal weight gains. Steers grazing leucaena will put on between 250–300kg/year."

Managing risks

The guide also examines financial and environmental risks.

For example, Max said removing land from production while leucaena is established – which can take 6–12 months before light grazing is possible – can be seen as a financial risk.

There's also a risk of leucaena spreading beyond its paddock into waterways and common land if it's not properly managed after establishment.

"The guide details these risks and how correct management effectively prevents them," Max said.

The Executive Officer of The Leucaena Network, Bron Christensen, said the new guide explains how establishment practices depend on land types and outlines the most suitable approach.

"We now know you have to understand the environment leucaena's being introduced to, which can change recommendations around establishment and management," Bron said. ■

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Producer guide: *An introduction to leucaena*
mla.com.au/leucaena

The Leucaena Network
leucaena.net

Leucaena for the long-run

Central Queensland beef producers Brett and Theresa Blennerhassett's measured approach to managing leucaena is paying dividends, paving the way to hit target weights 6–12 months sooner than if they relied on pastures alone.

They first planted leucaena in 2008, but issues with psyllids in their 240ha of the Cunningham variety sent them searching for a more tolerant variety.

In 2018, Brett and Theresa took part in the 'Redlands for Regions' initiative as part of MLA's Producer Innovation Fast-Track program.

The initiative, managed by The Leucaena Network, set out to increase adoption of the new Redlands variety of leucaena.

Planting Redlands has boosted productivity of Brett and Theresa's property, 'Goshen Station', reducing the turn-off time of live export and feeder cattle by 6–12 months.

During their many years of growing leucaena, the Blennerhassetts have learnt valuable lessons in establishing and maintaining the legume to improve their operation and gain resilience in difficult seasons.

Here are their tips to effectively grow leucaena:

1. Understand your land

Brett said understanding how different varieties of leucaena perform in different environments is critical for its success.

"Be aware of your land types and climate," he said.

"Understanding your land helps when choosing the right variety of leucaena for your operation and managing it accordingly."

2. Preparation is key

A successful and highly productive leucaena stand depends on how the paddock is assessed and prepared.

"Cultivate 6–12 months in advance if you can, to try and reduce the weed seedbed," Brett said.

Land which has lots of pre-existing legumes will present a challenge as spraying for these legumes will kill leucaena, so cultivate and clean out the paddock before planting leucaena.

During the Producer Innovation Fast-Track program, Brett and Theresa prepared their soil with offset discs, ripping 400mm deep. They sowed 32ha of Redlands in 10m twin rows with 1m spacing.

3. Prioritise management

Brett said another important step to achieve productive leucaena is to prioritise management.

For example, cultivating strips before planting can create opportunity for weeds. Weed pressure can also be a problem where erosion necessitates the need for no-till planting.

"Regularly checking your leucaena and taking immediate action on any issues is really important to get the most out of it," Brett said.

He said it's also important to prioritise the management of invasive animals such as kangaroos on newly established leucaena, as early grazing can stunt plant growth.

4. Optimise your own leucaena

Brett advises producers to be observant and take the necessary steps to get the most out of leucaena in their environment.

For example, the Blennerhassetts originally planted leucaena at a depth of 35mm but later found optimum germination on their land occurred at 10–15mm.

"When you start to establish leucaena, you learn a lot about how to optimise your own country and what works, depending on the climate and soils." ■

Below: Brett Blennerhassett at his Mount Garnet property where he is realising the benefits of well-managed leucaena.

SNAPSHOT:

Brett and Theresa Blennerhassett, 'Goshen Station', Mount Garnet, Queensland

Area: 27,500ha

Enterprise: Trade cattle

Livestock: 3,400 Santa Gertrudis x Brahman cattle

Pasture: Redlands leucaena, Callide Rhodes, Bisset, Seca stylo

Soil: Black soil, heavy clay, red earth, granite and sandy soil

Rainfall: 900mm

Brett Blennerhassett
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LESSONS LEARNED

- It's critical to research land, soil and leucaena varieties before establishment.
- Begin preparing land 6–12 months in advance to reduce weed seedbeds.
- Check leucaena frequently after planting and prioritise management as needed.

FEEDBASE

Big improvements come in small packages

Dung beetles may be tiny, but their on-farm activities can lead to big advantages for livestock producers.

Robust dung beetle activity can:

- increase pasture growth
- reduce run-off by improving soil moisture retention below ground
- enhance water permeation and nutrient cycling in soils
- break fly and nematode life cycles
- allow producers to sequester carbon and contribute towards a reduction in greenhouse gas emissions
- clear paddocks of unwanted dung.

An MLA-supported project, Dung Beetle Ecosystem Engineers (DBEE), is expanding the range of dung beetles in Australia and digging deep to better understand how they work for livestock producers.

The project, which kicked off in late 2018, aims to import and mass-rear three new species of dung beetle to help plug Australia's deficit in spring-active beetles.

More than 24,000 spring and summer-active dung beetles have now been successfully distributed to 50 farms across southern Australia and WA to be carefully reared and monitored by trained producers. ■

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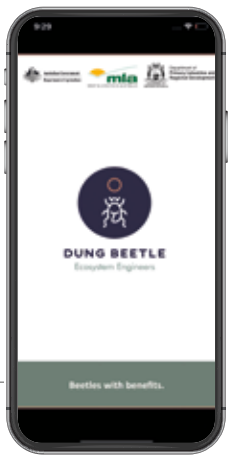
For more information on Dung Beetle Ecosystem Engineers (DBEE) and where producers can access dung beetles, visit: **dungbeetles.com.au**

Help map beetle distribution using the **MyDungBeetle Reporter** app, which can be downloaded from the App Store or Google Play.

Visit **dungbeetles.com.au/report-an-observation** for more information.



The life of a du

Dung Beetle Ecosystem Engineers (DBEE) researcher, Charles Sturt University Technical Research Coordinator Dr Russ Barrow, is monitoring the distribution, abundance and diversity of dung beetles.

It's an important part of the MLA-supported project to map the distribution of dung beetles across various climatic zones and introduce species that are well-adapted to specific regions for year-round activity.

"We do monthly monitoring of more than 100 intensive surveillance sites over one to two years to definitively establish where various beetle species have adapted regionally and become successfully established," Russ said.

"We monitor beetle activity over a two-day period. We contact producers first for approval to access their land, before heading out to set our traps and returning 24 hours later to evaluate and record the samples."

Setting the traps

The team collects information about each farm, such as soil types and stocking rates, to ensure traps are located across a variety of environmental conditions.

Four traps are used at each site, taking into account the site's topography, soil types and livestock presence, to assess whether a species of beetle is dominating a particular environment.

Above-ground pitfall traps are used – plastic containers containing a litre of a preserving agent and covered with a grate and topped with a kilogram of dung. The beetles are attracted to the dung and fall through the grate, into the agent.

Turn to page 36 to meet one of the producers who hosted traps on his farm.

ng beetle trapper

Delicious dung

Dung selection is an important consideration when trapping beetles, as species can have specific preferences for particular dung.

"We're often asked why we import new beetle species to Australia when we have more than 500 unique species currently established here," Russ said.

"The simple answer is because native species frequently have a strong preference for Australian marsupial dung, whereas the 23 species of dung beetles successfully introduced to Australia by CSIRO research teams typically have a preference for the dung of introduced herbivores such as sheep and cattle.

"This is where we'll add the greatest value in Australian grazing systems through beetle introduction."

Counting beetles

The DBEE monitoring team returns to traps as close to 24 hours after setting them as possible, to examine the contents.

"The number of beetles trapped can vary by site," Russ said.

"Last time we did our Wagga Wagga–Gundagai monitoring loop, we had an abundance of the winter-active dung beetle *Bubas bison*, with some traps attracting hundreds of them."

His team assesses the contents of the traps in-field to report on the diversity of beetle species, then takes all samples back to Charles Sturt University. Samples are later sent to the University of Western Australia for taxonomic examination.

Reporting back

Russ said the monitoring program is part of a bigger effort dedicated to providing producers with easily accessible information on dung beetle distribution, and feeds into beetle databases and maps on the DBEE website.

It all comes down to definitively evaluating species' preferences for climatic zones and seasonal activity patterns.

"We want to introduce multiple species in each region to fill seasonal gaps, ensuring producers reap dung beetle benefits year-round," Russ said.

Risk-free benefits

Russ said producers often ask him if there are risks to introducing dung beetles and if they can be harmful for the environment.

"It's perfectly reasonable for producers to be sceptical as previously introduced species of fauna, such as the cane toad, have had devastating impacts," Russ said.

In more than 50 years of gathering information on dung beetles, he hasn't turned up any negative impacts of the introduced species. ■

Below: DBEE reseracher Dr Russ Barrow (right) chats with producer Dave Ferguson, who hosts a dung beetle trapping site on his Gundagai property. Image: Matt Beaver.

Beetles with benefits

The Ferguson family has seen the soil health benefits from dung beetle activity at their property for more than four decades.

Dave Ferguson believes dung beetles are a zero-to-low maintenance part of his enterprise, working tirelessly to improve soil texture, water permeation and add valuable nutrients to his paddocks.

"Just about everywhere you go on the place, if you kick a pat over you'll see beetle activity and tunnels underneath them," Dave said.

"Every hole represents soil that's been cycled and manure that's been taken underground to improve nutrient levels, so you know it's beneficial."

Along with this cycling, the beetles also clear land of dung to stop nutrient run-off into waterways – essentially providing free land improvement.

"Since we've owned this property we haven't done anything in particular to look after the beetles and their health and activity has been fine," Dave said.

"It's just an unbelievably low-maintenance system and one that carries a lot of benefits for the land."

Dung beetle activity at the Fergusons' property, 'Kimo Estate', is being monitored by the MLA-supported Dung Beetle Ecosystem Engineers (DBEE) project to research their distribution and activity in different environmental regions across southern Australia (see story page 34).

Dave Ferguson and DBEE researcher Dr Russ Barrow.
Image: Matt Beaver.

Dave's participation in the DBEE project is part of a long family history of involvement in agricultural trials.

"Since the 1960s, Dad's been involved in agricultural trials of programs such as carrying capacity and input rates, so I'm following his lead.

"There's potential for valuable information to be extracted from this research, which can be returned to producers, so we're really happy to take part in programs like this."

In particular, Dave's interested to see what species of dung beetles are seasonally active at their property and if there's potential to increase their numbers. ■

LESSONS LEARNED

- Dung beetles are a low-maintenance system for land improvement.
- Identifying seasonally active dung beetle species will ensure year-round benefits are achieved.

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MLA's dung beetle hub: **mla.com.au/dungbeetles**

Dung Beetle Ecosystem Engineers project: **dungbeetles.com.au**

Learn about the red meat industry's target to be carbon neutral by 2030: **mla.com.au/cn30**

SNAPSHOT: **David Ferguson,** 'Kimo Estate', Gundagai, NSW

Area: 2,600ha

Enterprise: Angus cattle and Meat Plus sheep

Livestock: 5,500 sheep 300–400 cattle

Pasture: Improved and native pastures including tall fescue, clover varieties, phalaris and fodder crops

Soil: A mixture of black, red and granite soils

Rainfall: 600mm

SUPPLY CHAIN

DELIVERING VALUE

INNOVATION

RED MEAT JOINS THE WAR ON WASTE

Plastic-free meat trays and technologies which extend shelf life are just two of the ways the red meat industry is helping to reduce food wastage.

With an estimated one-third* of all food produced globally thrown away every year across the value chain, MLA has stepped up to the challenge to revolutionise red meat packaging.

Here, MLA Group Manager – Science and Innovation, Michael Lee, explains why these innovations matter to the red meat industry, from producer to consumer.

"Food wastage is a bigger problem than most of us think because when we throw out food, we're also wasting the water, fuel and resources it took to get that produce from farm to fork," Michael said.

"Fast-forward to 2050, when there'll be approximately nine billion people in the world who need to be fed, and it's clear we can't afford to waste one-third of all food produced.

"It's also important to mention the methane released by decomposing food waste is one of the most potent greenhouse gases (GHG) responsible for climate change."

MLA's projects are stemming food wastage by addressing three questions:

- Can plastic in packaging be replaced by other materials?
- If plastic has to be used, can it be minimised?
- How can red meat shelf life be extended to prevent spoiling?

Sustainable solutions

With many producers already implementing sustainable practices to reduce GHG emissions as part of the red meat industry's target to be carbon neutral by 2030 (CN30), Michael said it's an approach that needs to be adopted throughout the food value chain.

And the good news is, producers and red meat brand owners are set to be winners.

"Many of the food waste reduction solutions can actually create higher demand for red meat and increase the profitability of the value chain by tapping into our sustainability credentials.

"Sustainable red meat packaging innovations reward the practices producers are already implementing to reduce GHG emissions."

Michael said new food packaging shouldn't just increase the industry's 'waste accountability' but also needs to recognise how consumers will eat in the future and how food distributors will trade.

For example, 'plastic credits' – similar to carbon credits – could create value for the red meat industry.

"Choosing sustainable packaging could reduce your carbon footprint, but plastic credits might one day become a new revenue model for how brand owners select their packaging materials," Michael said.

Continued overleaf

Red meat joins the war on waste
continued

Consumer demands

MLA consumer insights play an important role in understanding the future requirements of red meat eaters, including how they want their food packaged.

For example, the way people are eating has changed in recent years. There are fewer people in each household, more people are eating out and more food is being delivered to homes.

Information like this is used by the food industry to adjust packaging size to customise products to consumer requirements.

"The ratio of product to packaging is vital to make packaging more sustainable as well as in a format to appeal to the target market," Michael said.

Another trend is 'snackification'. Many consumers are moving away from the traditional three meals a day and opting for a flexible approach to eating and snacking on the go, up to six times per day.

"Packaging innovations continue to be a key research area to ensure the red meat industry, which has traditionally focused on a raw, fresh product, can adapt to on-the-go meat pack designs," Michael said.

"We need to consider easy-to-open and tamper-proof features for ready-to-cook, heat and eat solutions which optimise shelf life, minimise food waste and reduce plastic use." ■

**Source: United Nations Regional Information Centre*

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Turn to page 46 to see Michael's 'Industry Insider' profile.

New red meat packaging concepts showcased at the Supermarket of the Future display at Red Meat 2019, Tamworth.

A new way

Here's how three MLA projects are developing solutions to food wastage by reinventing red meat packaging.

Plastic-free meat tray

MLA worked with American start-up company, Corumat, to develop patented technology using food and meat waste to make a plastic-free, compostable meat tray.

This project takes a 'circular economy' approach to upcycle resources (in this case, food waste) to extract value rather than discarding them.

"Upcycling waste streams could potentially re-position our True Aussie Beef and Lamb to be clean, green and plastic-free," MLA's Michael Lee said.

"This complete value-chain story of sustainability provides Australian red meat with a significant competitive advantage in the global protein market. Brand owners, producers and consumers are all set to benefit."

The Corumat meat tray is also approximately 20% cheaper than plastic meat trays.

It's still under development but shows promising signs of market adoption. MLA is currently working with Australian red meat brand owners to identify opportunities to use this technology.

Below: Corumat's new plastic-free meat tray packaging concept, developed using upcycled food waste.

# of packaging red meat

MLA's Chef Sam Burke demonstrating 'hot fridge' red meat concepts.

Beyond the supermarket shelf

Red meat can be an expensive protein for foodservice outlets to serve, so MLA Donor Company (MDC) is investing in solutions to optimise shelf life and reduce markdowns to keep red meat on menus throughout the world.

Equipment manufacturer Evereo has developed a food preserver called 'Meal Me', which adapts combination oven cooking to develop 'hot fridge' technology. This presents red meat as a true 'grab and go' product range, increasing the value of secondary cuts and positioning red meat as a convenience protein.

"Unlike the traditional cook–chill process for ready meals, the hot fridge safely preserves food for up to three days at the temperature it needs to be served at," Michael said.

"Combining the quality of slow-cooked meats with the efficiency of fast service can unlock new opportunities for red meat, reduce food waste and ultimately increase the profitability of the red meat industry."

MDC is working with food companies to develop a red meat range of products using the hot fridge.

Hot fridge stats:

Globally, **red meat sales** could

increase by

$380 million

if hot fridge technology is widely adopted

In Australia, if **25% of restaurants and aged care facilities** and **10% of fuel stations** adopted a red meat grab-and-go product, it would generate approximately

$150 million

in sales

The **electricity bills** of small retail outlets using the hot fridge technology were

reduced by approximately

$400/month

Source: MLA project V.RMH.0093 final report: Preliminary evaluation of red meat in Meal Me (hot fridge technology)

Reinventing the traditional tray

The plastic meat tray and soaker pad combination and three-layer plastic vacuum skin packs could one day disappear from supermarket shelves.

Another MLA-supported project uses zero-scrap packaging technology.

The Darfresh® 'on board' packaging uses a board made from paper pulp. The meat sits directly on the board and is vacuum-sealed with plastic to seal in freshness and extend shelf life.

"This technology uses 70% less plastic than standard trays," Michael said.

This packaging is already being trialled in-store at Coles, after Retail Ready Operations became the first Australian company to try Darfresh® on board.

Retail Ready Operations Supply Chain and Transition Manager, Patrick Youil, said the response from consumers has been positive.

"This new packaging instils consumer confidence when selecting meat, as the clear film offers a front and side view of the meat.

"Consumers can easily inspect the thickness, fat content, marbling and colour before purchase.

"New local and international export opportunities have emerged through this innovative packaging concept, in which meat not only stays fresher longer, the packaging is environmentally friendly and it offers fantastic messaging opportunities to consumers," Patrick said.

MDC continues to partner with red meat value chains, including Retail Ready Operations, through the co-innovation program, developing innovative solutions to help companies achieve their sustainability targets. ■

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Turn to page 46 to see Michael's 'Industry Insider' profile.

Corumat meat tray: **mla.com.au/corumat-meat-tray**

Hot fridge technology: **mla.com.au/hot-fridge**

Merchandised Coles Graze beef range prepared by Retail Ready Operations using Darfresh® on board packaging.

INNOVATION

PRIME TIME FOR PADDOCK-TO-PLATE BUSI

Dorper Lamb cut and product demonstrations in Singapore have been highly effective in opening up new markets.
Image: The Taste Lab Classic Fine Foods Singapore.

When WA producers Graeme and Nina Howie launched their red meat company Dorper Lamb in 2005, their vision was to create a true paddock-to-plate operation.

Inspired by Graeme's experience with Dorpers through his time as a livestock exporter, they wanted to take prime, sustainably produced WA lamb to kitchens and dining rooms around the world.

Fifteen years on, Dorper Lamb continues to embody this vision, using support from the MLA Collaborative Marketing (CoMarketing) Program to further build on its success – even in the face of a global pandemic – and pay producers a premium.

Dorper Lamb General Manager Dale Miles said MLA CoMarketing funding has been important to engage with international markets, particularly in South-East Asia.

A recent CoMarketing-supported activity was the roll-out of Dorper Lamb product demonstrations at restaurants and hotels in the company's key market, Singapore. Trained butchers and chefs showed customers how to break down cuts and cook them in different ways, such as herb-crusted Dorper lamb rack.

"It gave the Singaporean chefs an opportunity to see, touch and taste the product, which enabled them to start building their menus around our product," Dale said.

Responding to challenges

Many Australian red meat companies continue to face challenges as they, and their supply chains, navigate through market disruptions caused by COVID-19.

For Dorper Lamb, the COVID-19 pandemic has interfered with in-country export market development, but Dale firmly believes there will be growth in the sector after the pandemic.

In the interim, Dorper Lamb redirected a portion of CoMarketing funding to turn the business more towards online ordering and home delivery.

"We're still sending some shipments by air freight to Singapore, but where we're really experiencing tremendous growth is in the domestic home-delivery market," Dale said.

"We've done some product development and packaging to shift to that market, both in Australia and in export markets."

NESS

Backed by producers

Although the business also sells Wagyu and Angus beef, its primary focus is exactly as the name suggests: Dorper lamb.

Dale said the breed's traits, such as fast-maturing lambs with an even distribution of fat, ticks the boxes for producers and customers.

"We get great feedback from Asian consumers in particular, who describe the product as clean and fresh with a modest aroma, not too fatty, but with enough fat to carry the flavour."

The Dorper Lamb supply chain provides producers with total transparency about where their animals end up and how the consumers appreciate them.

"There's a sense of pride and belonging for our producer network," Dale said.

"They know they're involved in producing a good product. They know they're not dealing through any intermediaries."

Suppliers to the Dorper Lamb network have received premiums of $10–15/head (on average) depending on seasonal conditions, carcase specification, and volume and regularity of supply.

Paddock-to-plate story

Producers are an important part of the Dorper Lamb brand and story, and the company has built a network of producers who:

- have good on-farm management practices and sound animal welfare principles
- select for traditional Dorper traits of high fertility, natural shedding, good conformation and rapid growth.

"We get great satisfaction working with producers who feel a part of our supply chain and the Dorper Lamb brand," Dale said.

"We provide as much direct and indirect feedback as we can including fully detailed kill reports, weight and fat score distribution curves, grid compliance, carcase downgrades and photographic feedback on carcase traits."

Dale said they also try and work within producers' turn-off times, and coordinate with them for appropriate processing schedules and kill space at the abattoir.

Dale believes it's this involvement which makes WA Dorper producers keen to supply to the company.

"It's taken some time to develop a really good supply network and it's encouraging to have Dorper producers approaching us wanting to be part of our Dorper Lamb brand and supply chain."

Future goals

Dorper Lamb is also registered with MLA's True Aussie Lamb brand and has plans to incorporate this into new packaging and branding.

"We already use it with our export markets but we'd like to use it more effectively with branding on actual products. It gives consumers confidence and trust in the origin of the product.

"Having True Aussie authenticates the experience and origin of product." ■

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MLA CoMarketing program
comarketing.mla.com.au

Dorper Lamb
dorperlamb.com.au

True Aussie Beef and Lamb:
trueaussiebeefandlamb.com.au

Developing a successful brand

Dorper Lamb General Manager Dale Miles shares his insights into developing a successful red meat brand:

1. Consumers and producers appreciate supply chain transparency.
2. Face-to-face demonstration is a highly effective way to engage and open new markets.
3. Product differentiation enables marketing to be targeted.
4. Traceability throughout the supply chain has become increasingly important for consumers who want a trusted, safe and healthy red meat protein solution.
5. The integrity of a brand is reinforced by exemplary customer service, a consistently high quality product and strong supply chain relationships.

For more tips on developing beef and lamb brands, check out CoMarketing case studies in recent editions of *Feedback* magazine (**mla.com.au/feedback**):

- Dardanup Butchering Company: May/June 2020
- Greenham: March/April 2020
- North Australian Pastoral Company: September/October 2019

In episode 8 of MLA's 'On the ground' podcast, an expert panel assesses the importance of a strong brand strategy as we enter a global economic recession.

mla.com.au/on-the-ground

Keeping Aussie red meat on plates around the globe during COVID-19

COVID-19 is sweeping through the global economy in an unprecedented way. The volatile nature of the virus is having a rapid and far-reaching influence on global markets, including on the demand for red meat.

With most of the world still living under some kind of social distancing and movement restrictions, there has been both a spike in retail sales and a plunge in foodservice orders – and this is having a flow-on effect to the red meat market.

MLA is responding to these trends with a global strategy to adapt marketing campaigns and ensure red meat remains on plates around the world.

COVID-19 resources

Here are four online resources to stay up-to-date on what COVID-19 means for the red meat industry.

Market insights

MLA created the COVID-19 Market Insights Hub, which includes economic analysis and insights about consumers, the retail and foodservice sectors, our competitors and more.
mla.com.au/covid-19-insights

COVID-19 resources

A range of relevant resources for the red meat and livestock industry – including links to information about red meat markets, border control, financial assistance and health and wellbeing – can be found on MLA's COVID-19 page.
mla.com.au/covid-19

Podcast

To keep up with the latest effects of COVID-19 on Australia's red meat export markets, tune in to MLA's On the ground podcast.
mla.com.au/on-the-ground

CoMarketing

The *COVID-19: Additional MLA Support for Brand Owners via CoMarketing Program* guide is available at
comarketing.mla.com.au

mla.com.au/international-markets

MLA's *Global Markets Update* e-newsletter features the latest international marketing news and insights from Australia's key red meat and livestock export markets. Sign up at:
mla.com.au/GMU

Here, MLA's regional managers, based in Australia's major red meat markets, provide insights into how red meat consumption is changing in the face of COVID-19 disruptions.

AUSTRALIA

Domestic Market Manager, Graeme Yardy

At the start of COVID-19 restrictions, the demand for red meat in Australia dived across the foodservice sector. Most restaurants, cafes and other outlets closed or operated at a reduced capacity.

This caused high-end red meat cuts to flood the market, similar to trends in Australia's international red meat markets.

Although some high-end cuts can be shifted into retail, this is difficult due to the structure of the supply chain. For example, some cuts need further processing by the outlet or they aren't packaged appropriately for retail.

There's also a disconnect between the type of red meat consumers buy in a restaurant compared to what they cook at home.

On the other hand, the impact on retail red meat sales was a different story.

Strong demand across all cuts saw retail red meat sales reach similar levels to those experienced at a peak period like Christmas, as people bought whatever they could get their hands on.

MLA quickly adapted our domestic marketing activities. We focused on shifting the cuts traditionally seen in foodservice into retail and demonstrating to consumers how to use those cuts at home.

Marketing activities provided consumers with:

- information on how to prepare meat
- inspiration to expand their red meat meal repertoire
- tips for freezing and thawing red meat.

MLA's Corporate Chef, Sam Burke, pictured during filming his 'over the fire' cooking videos to help consumers feel confident about cooking red meat at home during COVID-19.

It was an opportunity to promote MLA's three cooking tips apps – RoastMate, SteakMate and MeatCuts – combined with activities such as cooking videos, to give consumers resources to get the best eating experience from beef and lamb.

MLA's sponsorship of the nation's favourite cooking show, MasterChef, through the Australian Beef campaign was another way to connect consumers with red meat in their own homes.

A MasterChef cooking challenge using Australian beef reinforced and demonstrated its versatility and ease across a range of dishes, perfect for home cooking.

MLA also used the winter lamb campaign, 'Share the Secret Recipe', to connect people during social isolation.

This campaign brought together isolated seniors with young Aussies seeking cooking inspiration.

More people are searching online for ways to cook and prepare lamb dishes because of COVID-19, so we're providing them with this information in a feel-good way.

We hope it'll spark emotion and inspire more Australians to reach out to their loved ones and share their own secret recipes.

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MLA's domestic marketing campaigns:
mla.com.au/domestic-marketing

For more information on the marketing activities planned for the Australian domestic market listen to Episode 2 of MLA's On the ground podcast at **mla.com.au/on-the-ground**

Turn the page to read about MLA's response to COVID-19 in international markets.

EUROPE & UNITED KINGDOM

MLA Market Access Manager – Europe, Mary Johnson

Starting in Italy in early March and sweeping across Europe and the United Kingdom, the COVID-19 pandemic caused the EU and UK foodservice sector to grind to a halt.

This is where a large portion of Australian red meat products are destined, so we saw a big shift in the retail landscape.

Shoppers purchased economical mince and diced red meat products in larger quantities than usual.

This upset the domestic carcase pricing architecture because there is less demand for high value cuts which traditionally make up carcase value.

Improving Australia's red meat market access in a market severely restricted by historic volume-based quotas is vital to MLA's in-market investment.

Despite COVID-19 challenges, Australia-EU Free Trade Agreement (A-EU FTA) negotiations have continued with negotiators meeting via video conference in early May. In June, Australia and the United Kingdom launched A-UK FTA negotiations, with talks to formally commence later in 2020 (see story page 5).

Although the impacts of COVID-19 will be felt for some time, it's crucial for us to continue our positioning work in pursuit of FTA outcomes, benefiting our industry for years to come.

This includes adapting in-market advocacy strategies and increasing our engagement via digital channels.

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JAPAN

MLA Regional Manager – Japan and Korea, Scott Walker

The pandemic hit the Japanese economy in three stages: a reduced number of Chinese tourists, a one-year delay of the Olympics and Paralympics, and then reduced business activity due to social-distancing regulations.

Hotel banquets for weddings and business functions had been a key outlet for Australian beef and sales to this sector fell significantly.

Retail red meat sales have remained strong, particularly products offering time-saving solutions. However, the demand for higher-value cuts has become subdued as consumers have gone into 'economising mode' with the possibility of an economic downturn.

MLA is working closely with retailers to provide promotional tools to drive demand for premium cuts. Educating consumers through social media on how to prepare meals with less-familiar cuts is critical to cushion the impact of reduced foodservice demand.

Nutrition, health and wellbeing are at the forefront of consumers' minds, driving them to known and trusted brands.

Australian beef has a long and trusted history of quality and safety in the Japanese market. This messaging is reinforced in our summer campaign.

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SOUTHERN ASIA

MLA Regional Business Manager – Southern Asia, Ellen Young

In Southern Asia, consumers had been concerned Australian red meat wouldn't be available, so panic buying set in and demand for all meat cuts was high.

However, supply was secured in Singapore through the International Freight Assistance Mechanism, introduced by the Australian Government. This re-established air freight to high-end protein markets and consumer red meat purchases settled down.

Mainstream media provides a stark view of the effects of COVID-19 across Southern Asia, but social media channels are thriving as people reconnect and find inspiration online.

The role of food, especially on social channels, has shifted from a narrative of guilt to a thriving activity which brings joy.

During the pandemic, red meat brands in Southern Asia stepped up to provide real solutions and create a positive impact.

Tapping into social media conversations allows MLA to add more value for consumers during this pandemic and encourage new red meat consumption behaviours for the future.

With this in mind, the True Aussie brand has shifted its messaging and social purpose to 'As the world moves indoors, True Aussie Beef and Lamb makes sure you still get the best of the great Aussie outdoors'.

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MIDDLE EAST AND NORTH AFRICA (MENA)

MLA Regional Manager – MENA, Nick Meara

Ramadan is usually a high-consumption period for red meat.

This year, with Ramadan falling in the middle of the COVID-19 pandemic, the Muslim community adapted to feasting at home rather than in restaurants and hotels. However, red meat was still on the menu as iftars (the evening meal after fasting) went ahead with families cooking at home, using larger cuts such as lamb shoulders and legs for slow cooking.

Where possible, the majority of red meat destined for foodservice was redirected into the retail channel, but not all red meat cuts are acceptable in retail.

High-end cuts such as Wagyu cube rolls with a marble score six and over, usually served in high-end restaurants, just won't sell in retail and we expect a downturn in sales.

We've adapted our marketing activities to continue driving demand for red meat in MENA.

The good news is, we've already been working hard these past few years building our online presence.

We've got strong foundations in place to continue talking to consumers about red meat via social media.

We adapted the messaging to provide more content, such as tips and tricks for storing and thawing red meat, as well as recipe ideas for cooking at home.

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NORTH AMERICA

MLA Business Development Manager – North America, Catherine Golding

The economics of the pandemic have had a massive impact on consumer confidence in North America and it's likely spending will be affected for the next year or more after the pandemic subsides.

However, there is good news for red meat as it has remained centre of plate, although with lower value cuts.

The cut mix has changed and we're seeing higher demand for mince products, which are more familiar and easy to cook.

Prime cuts like lamb rack and beef tenderloins – which are traditionally foodservice fare – are now finding a different home with suppliers pivoting their offering through retail and also direct to consumers through e-commerce.

Interestingly, more than half of North American consumers purchased meat online during the pandemic and 26% of consumers say their primary way to buy meat after COVID-19 will be online *(Midan, 2020)*.

MLA has adjusted marketing activities in North America to ensure the messaging of the 'Simply Spring' consumer campaign remains relevant.

Our retail activities are now focused online with tactics which drive awareness and direct click-to-cart purchasing through shoppable recipe ads, personalised videos and chat bots directing consumers to shop where True Aussie red meat is sold.

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CHINA

MLA Country Manager – Greater China, Joe Zhu

As China was the first to experience COVID-19, many countries have been eagerly watching to see how China's retail and foodservice channels recover.

COVID-19 battered Chinese foodservice – an industry which represents more than half of beef consumption in China. All restaurants were closed during the Chinese New Year holiday and they remained closed until late March.

As government lifted restrictions on foodservice, the recovery process has seemed slower than expected, with most venues still operating at 50–70% of their pre-COVID-19 level. Consumers have needed time to build trust.

Chinese consumers have shunned wet markets, so big retailers and e-commerce delivery platforms have experienced huge growth, ranging from 100 to 400%. Fortunately, Australian red meat is skewed more towards the bigger retailers and has therefore been less affected by COVID-19.

MLA research reported that, during the peak of the pandemic, more than 30% of affluent Chinese consumers were eating more beef and less poultry, pork and fish.

Chinese consumers were shopping more regularly, buying more product and favouring Australian red meat – the provenance value was clearly more important than ever. ■

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INDUSTRY INSIDER

Hungry for **innovation**

When it comes to the perfect match, Michael Lee (pictured) reckons you can't go past pairing innovation with food.

He's always on the lookout for opportunities for the Australian red meat industry to satisfy the appetite of consumers, retailers and producers for the next 'food frontiers'.

Michael recently stepped into the role of MLA's Group Manager – Science and Innovation.

Michael Lee
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Here, he talks to *Feedback* about how this new role is delivering value through the supply chain, right back to the farm gate.

Q: How did you end up working with MLA?

I've been firmly in the meat game for almost 25 years. It all started during my third year studying food technology, when I completed work experience in Woolworths' Quality Assurance team. I worked across their abattoir and smallgoods sites, where I got a taste for the meat processing sector.

With a food technology degree and a post-grad qualification in food packaging under my belt, I went on to work for the Woolworths Group for eight years, followed by positions as Research and Development Manager for Hans Continental Smallgoods and Commercial Manager at JBS Australia.

In 2012 I joined the MLA team as a Science and Technology Manager, looking after value-added meats. I then moved into a program manager role, leading the High Value Food Frontiers program.

Earlier this year I started an exciting new role as the Group Manager – Science and Innovation within MLA's Research, Development and Adoption team.

Q: What does your role involve?

I lead a team who live and breathe new technologies.

Essentially, we look at the entire food supply chain, from farm to fork, to identify areas where innovation can bridge gaps and respond to consumer demands through higher-value products and services. We're also on the lookout for technologies which will increase productivity and market access for red meat producers. Some of these technologies are mentioned in 'Red meat joins the war on waste' on pages 37–38.

Q: Why is your job important?

Ultimately, we need to determine whether research and development investments grow demand for red meat and productivity for our producers.

My team unearth many ideas, trends and technologies but we must first ask, 'should we do this', not 'can we do this'?

Q: What is your favourite red meat dish?

Since I love my food, I'll give you my favourite red meat dishes for different types of meals:

- lunch – pulled beef brisket and gravy on a roll with dry slaw
- dinner – classic roast lamb leg, mint sauce and baked vegetables
- snacks – crunchy meat chips or bone broth collagen beauty bites (keep your eye out for these snacks, supported by MLA Donor Company, which will be hitting the supermarket shelves soon). ■

Above: MLA has worked with companies to develop products which value-add red meat, such as pet treats, beef jerky, beauty creams and even 3D-printed beef.

Luck of the Irish

Warm up winter with this hearty lamb stew. You can find more easy, delicious meal ideas at australianlamb.com.au

Irish lamb stew

Serves: 4
Preparation: 10 minutes
Cooking: 100 minutes

600g lean diced lamb
¼ cup plain flour
¼ cup olive oil
1 brown onion, diced into 1cm pieces
2 carrots, peeled, diced into 1cm pieces
2 stalks celery, diced into 1cm pieces
400g desiree potatoes, peeled, diced into 3cm pieces
2 cups (500ml) salt-reduced beef stock
¼ cup tomato paste
2 tbsp Worcestershire sauce
2 sprigs thyme
2 bay leaves
250g silverbeet, trimmed, shredded
1 cup frozen peas
Parsley leaves, mixed leaf salad, crusty baguette, to serve

1. Place lamb and flour in a large snap-lock bag. Season, seal and shake well to coat. Heat 1 tablespoon oil in a large heavy-based saucepan over medium heat. Cook lamb, in batches, for 4-5 minutes or until browned, adding extra oil as needed. Set aside on a plate.
2. Add remaining oil to pan and cook onion, carrot and celery, stirring, for 5 minutes or until onion has softened.
3. Return lamb, any juices and potato to pan then add stock, tomato paste, Worcestershire sauce, thyme and bay leaves. Bring to the boil, reduce heat to low, cover and cook for 1 hour 15 minutes or until lamb is tender, adding a little extra stock or water, if needed. Stir through silverbeet and peas. Replace lid and set aside for 5 minutes. Season. Remove bay leaves and thyme stalks.
4. Sprinkle lamb stew with parsley and serve with salad leaves and crusty baguette.

TIPS

- Add turnips, swedes, green beans or your choice of shredded leafy greens to the stew to mix up the vegetables.

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