FEEDBACK

MLA – FOSTERING PROSPERITY

SEPTEMBER/OCTOBER 2019

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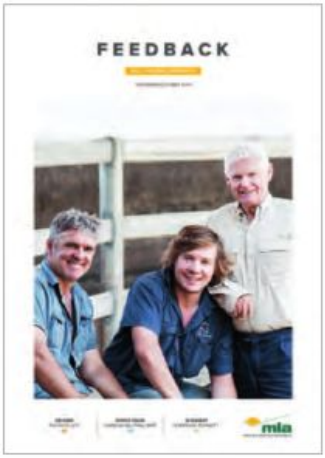
MEAT & LIVESTOCK AUSTRALIA

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 40): *The three generations take pride in their paddock-to-plate business story: principal Robert Mackenzie, his son James and Robert's father Bruce.* Image: Mackenzie family

Have your say!

We'd love to hear from you

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A NOTE FROM THE MD...

Welcome to the spring edition of *Feedback*.

Winter was another tough season for many red meat production regions across Australia, with poor conditions unlikely to ease by 2019's end. While it continues to be a difficult year for producers, I want to focus on some of the more positive outcomes for the industry over the last few months. Even in hard times, it's important to reflect on what we've achieved together through working collaboratively, fostering innovation and seizing on new opportunities.

Telling red meat's story

Firstly, I'd like to make special mention of the new We Are Australian Farmers initiative (page 5), which MLA is partnering with National Farmers' Federation to deliver. Our industry produces red meat that consistently meets community expectations, but we also have to be able to communicate the sustainability, nutrition and animal wellbeing credentials backing our products.

This initiative is just one aspect of the agriculture sector's 'team approach' to explaining the excellent story producers have to tell, to showcase the responsible approach we also share with consumers and the community.

There's also the Olympic and Paralympic partnerships with MLA and Australian beef, which are helping to inform consumers about the nutrition and versatility benefits of our product – see page 7 for more detail on this exciting initiative.

Australian livestock producers are some of the most progressive in the world and we need to ensure this message is getting out to both our domestic and international markets. Whether it's the everyday shopper in our local supermarket or our Japanese consumers in the lead-up to the 2020 Tokyo Olympic Games, MLA's marketing activities will continue to share red meat's good story and reinforce the quality and versatility of our red meat.

Insights at Red Meat 2019

In order to tell our story, we need to know who we're sharing it with – this is where MLA's market insights come in. At Red Meat 2019's 'Sharing red meat's story' breakfast on 20 November, we'll be sharing some key findings from a recent research project which looks into people's perceptions and concerns about our industry and reports back to stakeholders. You can read more about this on page 9.

As well as market insights, this year's Red Meat event program includes on-farm tours, the latest research, development and innovation news, technology demonstrations and more. For the full preview, check out the feature on pages 8–10. The December/January edition of *Feedback* will include a special feature on the event, so keep an eye out.

Accelerate your productivity with genetics

As mentioned in the previous edition, MLA recently launched its genetics hub – genetics.mla.com.au – which brings together tools and resources for producers to accelerate productivity in their livestock. I'd encourage you all to read through the *How to shop for a high-performing sire* pocket guide included in this magazine pack, as well as pages 20–22 for more information.

As always, I'd love to hear your feedback on any of MLA's research or marketing activities and look forward to catching up with many of you at Red Meat 2019.

Jason Strong
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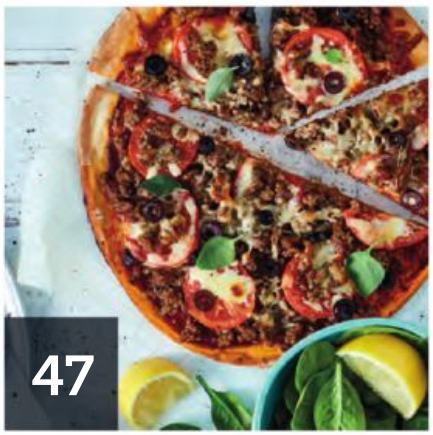

Stay weather-wise with online tools

The online weather services available through the MLA website and free myMLA dashboard have been enhanced to help producers with their on-farm management decisions.

MLA partnered with Weatherzone to improve the design and features of the weather service, enabling users to readily access more detailed, personalised information. The weather service on users' personalised myMLA dashboard also offers an improved snapshot of current conditions and local forecasts and can now track multiple properties or locations. Another new feature is the ability to access a wealth of historical weather data. ■

To register for myMLA, visit mla.com.au/mymla

Market snapshots

MLA's recently released market snapshots give producers access to in-depth insights into what's driving demand for red meat and Australia's high-quality product in global and domestic markets.

Each market snapshot provides a brief, easy-to-read and up-to-date summary of:

- key consumer insights and future trends
- growth areas across both the foodservice and retail segments
- competitive context and market access
- performance of Australian exports for the latest financial year. ■

Read the snapshots here: mla.com.au/market-snapshots

AgTech match-making

Search, sort and compare hundreds of agricultural technology products with just a few clicks of the mouse thanks to a new digital platform supported by MLA.

The AgTech Finder platform is an independent site featuring more than 230 products offered by Australian and overseas providers.

It is an initiative of the Food Agility CRC and is supported by MLA, National Farmers' Federation, IAG, AgriFutures and KPMG. ■

agtechfinder.com

Outcomes that make a difference

Want to know what research and marketing projects MLA has been focusing on? The Annual Report 2018–19 is now available for download and includes a summary of key outcomes for the year, as well as an overview of Strategic Plan 2016–2020 performance. ■

mla.com.au/annualreport

MSA achievers

The annual Meat Standards Australia (MSA) awards were held across the country in September and October. MLA hosts these state-based awards to recognise beef producers who have achieved outstanding compliance rates to MSA specifications, as well as high eating quality performance, as represented by MSA Index results for MSA-graded cattle during the 2017–18 and 2018–19 financial years. ■

Don't miss the next edition of *Feedback* where we head on-farm to meet some of the MSA award winners and find out their secrets to compliance.

Bred Well Fed Well for goats

Goat producers can now access the practical, hands-on Bred Well Fed Well courses presented by MLA.

The one-day workshops, which already exist for sheep and cattle, highlight the production benefits of superior genetics, plus feed management for improved reproductive performance and livestock productivity. MLA is trialling a series of these workshops for goat producers at a cost of $75 per person (incl. GST). ■

If you're interested in getting a group of local producers together to do the course, contact:

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Charcoal a tool to decrease emissions

Customised charcoal rations for livestock could help improve on-farm productivity and decrease greenhouse gas emissions.

Biochar – a charcoal associated with carbon sequestration, adsorption of gases and soil enrichment – is the focus of one of 13 new on-farm research, development and adoption (RD&A) projects to share in MLA investment of $6.2 million.

This investment is a result of MLA's regional consultation process, which enables producers across the country to have input into the direction of RD&A funding most relevant to them.

The biochar research will be led by Dr Rob Kinley, a Livestock Systems Scientist with CSIRO Agriculture and Food, in consultation with Professor Phil Vercoe of the University of Western Australia.

Researchers will partner with producer groups across Australia to customise biochar production processes to produce sheep and cattle feed supplements and quantify the effects on animal productivity and emissions. The biochar will be generated from woody plants and fodder.

Rob said while there are many types of biochar, this will be the first time one has been designed to be fit-for-purpose for ruminant production.

"It's about filling a knowledge gap and directing resources to a feed supplement specifically for enhanced production, with a co-benefit of decreased methane emissions," Rob said.

As well as contributing to rumen efficiency and live weight gain, there's evidence that feeding biochar to cattle and sheep can improve soil health as the charcoal is distributed in soil (with help from dung beetles).

MLA General Manager – Producer Consultation and Adoption, Michael Crowley, said the project aligns with MLA's commitment to Australia's red meat industry ambition of being carbon neutral by 2030.

"It's important that these research efforts have the dual objectives of carbon neutrality and improving profitability for red meat producers. This project is a great example of this: it has the potential to boost productivity and profitability in red meat production systems while reducing emissions." ■

For details about the 13 RD&A projects, visit mla.com.au/annualcall

Telling red meat's story

MLA has joined forces with influential Australian business people who support the red meat industry and farming leaders to better connect producers with consumers through the We Are Australian Farmers initiative.

The initiative will span multiple media channels, including print and digital, with red meat producers appearing alongside producers from all agricultural sectors to tell the story of how and why they feed and clothe the world.

Led by the National Farmers' Federation (NFF), We Are Australian Farmers taps into the idea the most powerful way to communicate is human connection; therefore producers – already strongly trusted and supported by Australians – should be at the heart of the story.

MLA will connect its extensive community engagement work to this initiative, including the Australian Good Meat program and website, which answers many common questions about the way red meat is produced and is an easily accessible resource for curious consumers.

The campaign will also link in with MLA's school and producer advocate programs to make red meat's good story known. ■

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goodmeat.com.au

From paddock to plane

Inspiring new ways of using red meat on the menus of Australia's largest airline was the focus of a recent workshop with Qantas, hosted by MLA in Sydney.

MLA team members met with Qantas culinary team executives and chefs from celebrity chef and restaurateur Neil Perry's consulting team, who create menu ideas for Qantas as part of the renowned chef's partnership with the airline.

MLA Domestic Market Manager Graeme Yardy said with Qantas serving more than 10 million meals a year, the workshop was a valuable opportunity to showcase the red meat industry's credentials, demonstrate creative ways to use red meat and ultimately drive increased use on board Qantas flights.

"We highlighted our work across many parts of the business including traceability and biosecurity, livestock management, some of our research and development and marketing work, and talked about sustainability and the role we're playing in the red meat industry's target of being carbon neutral by 2030," Graeme said.

"We also demonstrated the diversity of non-prime cuts to show that you don't have to pay for premium cuts to get a great eating experience.

"There are a lot of logistical challenges to consider for in-flight catering. Menus are locked in nine months ahead of time, there isn't a full working kitchen on-board and then there is the fact we lose sensitivity to taste at altitude.

"Despite this, demand remains strong and red meat meals are a popular choice for Qantas passengers."

Meat Standards Australia (MSA) Retail Training Facilitator Kelly Payne seamed out an MSA rump and MLA Corporate Butcher Doug Piper butchered a lamb carcase to show the full range of cuts which can be used to maintain cost-effective and consistent portion size.

MLA chefs Sam Burke and Julie Ballard then prepared lunch using lesser-known beef and lamb non-prime cuts.

Qantas and Neil Perry Consulting have created a collaborative group to work with MLA on increasing the use of red meat across all classes of travel. ■

Graeme Yardy
E: gyardy@mla.com.au

MLA Business Manager, Food Service and Corporate Chef Sam Burke and MLA Product Development Executive and Culinary Chef, Julie Ballard (pictured in aprons), prepared lunch using lesser-known, non-primal cuts for the team from Qantas and Neil Perry Consulting.

Join the action at MLA's genetics hub

MLA has created a new genetics hub to bring together tools and resources for producers to use breeding values and accelerate productivity in herds and flocks.

The hub – **genetics.mla.com.au** – includes resources for tropical cattle, temperate cattle, prime lambs and Merinos.

You can:

- hear from other producers in case studies
- watch how-to videos including understanding breeding values and setting breeding objectives
- access resources and key contacts
- test your sire-selection skills in 'pick the performer' videos.

The hub is already hitting the mark with producers, with the following 'traffic' recorded in the 12 weeks since the campaign launch:

6,935
visits to the campaign website

5,839
video views

15%
are returning visitors

63%
visited the site on a mobile device ■

See pages 20–22 for more on the benefits of breeding values.

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

Australian beef to power Paralympians


Paralympians Sam McIntosh, Alex Viney and Jason Lees celebrate the 2020 Paralympic Team's partnership with Australian beef.

Australia's 2020 Paralympic Team will be fuelled by Australian beef.

MLA has signed a new sponsorship deal with Paralympics Australia which runs through to the Tokyo 2020 Paralympic Games from 25 August to 6 September 2020.

It follows the announcement in November 2018 of MLA's sponsorship deal with the Australian Olympic Committee as an official partner of the 2020 Australian Olympic Team.

MLA Managing Director Jason Strong said it's a perfect fit for Australian beef and a natural extension of the Australian Olympic Team partnership.

"Like our partnership with the Australian Olympic Team, this sponsorship with Paralympics Australia will provide a far-reaching platform over an extended period to positively promote Australian beef's nutritional benefits through its association with elite sport and our best Para-athletes," Jason said.

"Some 4.5 million Australians have a disability – nearly one in five Australians – and our 2020 Australian Paralympic Team will be competing in one of the biggest Games to date, with more sports, medals, competitors and broadcasts.

"To give an indication of the huge popularity of the Paralympics, the Rio 2016 Paralympic Games was the second largest global sporting event in 2016, with a global television audience of four billion people across 154 countries."

The Australian 2020 Paralympic Team will be its biggest yet, with an expected 180 athletes from 18 sports (pending qualifications over the next year).

The MLA partnership will see:

- Australian beef marketed on television, social media and point-of-purchase material
- Cross-promotional opportunities in Japan to cement Australian beef's leading position in its largest beef export market
- Australian beef on the menu at all Paralympics Australia events leading up to and during the Games.

"Together, the partnerships with the Australian Paralympic Team and Australian Olympic Team will help reinforce the message of Australian beef as part of a healthy diet to communities and consumers all over the country," Jason said.

Paralympics Australia Chief Executive Lynne Anderson said Paralympics Australia was thrilled to welcome Australian beef to the Paralympic family.

"Our Paralympians know the immense value of eating healthily and the many ways this can contribute to success, which makes Australian beef a perfect partnership for us." ■

Samantha Warfield-Smith
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Lamb fit for any meal

MLA's latest lamb campaign aims to build consumer confidence in cooking.

The spring lamb campaign demonstrates the ease and versatility of lamb for mid-week meals, in response to market research which found the following:

- People have less time to prepare and cook meals; this is driving the demand for convenience and ease for meal purchases, with many consumers switching to other proteins at the point-of-purchase.
- Mid-week meals account for 85% of meal purchases *(Koji shopper research study 2019)*.

This year's campaign continues the successful messaging from 2018 when the 'Too Easy' campaign demonstrated how lamb is suitable for mid-week meals and highlighted the versatile ways that lamb can be enjoyed.

The campaign, which launched on 27 September and runs through to November, uses TV, digital video, social, radio and outdoor advertising to demonstrate how lamb's versatility makes it relevant for routine meals.

Point-of-sale material, such as posters and recipe booklets, will feature easy lamb recipes using multiple cuts, cooking methods and flavours to give consumers a meal solution for any occasion.

Tastebuds watering? Check out the spring lamb recipe on page 47. ■

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Join the action

Red Meat 2019 will feature a packed program of activities including on-farm producer tours, forums, an industry breakfast and networking opportunities.

It's known as the country music capital of Australia but, from 18–20 November, Red Meat 2019 will be the event drawing crowds to Tamworth, NSW.

Red Meat 2019 features a packed program of activities including on-farm producer tours, forums, an industry breakfast and networking opportunities.

MLA Managing Director Jason Strong encouraged red meat producers to attend this free event, based at Tamworth Regional Entertainment and Conference Centre and on nearby properties.

"The event is designed to give producers ideas on how they can build the profitability of their business and gain valuable insights into many aspects of the industry, from emerging technology and research and development, to meeting consumer demand at home and around the world," Jason said.

The event kicks off on 18 November with **on-farm producer tours** to Elders Killara Feedlot and Romani Pastoral Company (page 9).

MLA's work in the digital and ag-tech space will be featured at the **Digital Forum** on 19 November.

With more than 70% of Australia's red meat production going to more than 100 markets, MLA's International Business Managers will explore the complex global trading and marketing environment and discuss expanding market opportunities at the **Global Markets Forum** on 20 November.

Other highlights include the **industry breakfast** on 20 November, with its theme, 'Sharing red meat's story', featuring an in-depth discussion about how red meat producers can be confident to tell their story. Meet the speaker, Howard Parry-Husbands, on page 9.

MLA's 2019 Annual General Meeting will also be held on 20 November as part of the program. ■

redmeat.mla.com.au

red meat 2019
producer tours • forums • mla showcase • agm

OPEN TO ALL MEMBERS OF THE RED MEAT AND LIVESTOCK INDUSTRY

FREE

Registration closes Friday 8 November

For more information on the program and to register, visit redmeat.mla.com.au

A chance to go behind the scenes at Killara

Elders Killara Feedlot at Quirindi will host a producer tour as part of Red Meat 2019. Here, Killara Feedlot General Manager, Andrew Talbot (pictured), gives an insight into the facility.

Tell us about the enterprise.

Killara Feedlot is a licensed 20,000-head facility located on 610ha, including backgrounding paddocks for 1,500 head. The feedlot employs 35 staff and turns off more than 60,000 head/year (using 100,000 tonnes of feed) and sells by-products from 50,000 tonnes of manure a year. There is 400ha of cropping including irrigated corn for silage, triticale and barley for hay production, and barley for backgrounding.

What markets do you target?

Our feeding programs range from 70 days through to 150 days or more. We supply high-grade grainfed cattle throughout Australia and overseas. We're Woolworths' largest supplier nationally and have been supplying cattle to them since 1996.

Our heifers are all British breeds and produced to target Meat Standards Australia (MSA) specifications.

Where do you source cattle from?

Killara's cattle come from right across NSW, using the Elders branch network as the preferred supplier. All cattle are sourced from the paddock and we look for large lines of pre-conditioned cattle that are pre-vaccinated.

Why is Killara Feedlot opening its gates to producers?

To show producers where their product goes once they sell it. We're aiming to give them a better understanding of where feedlots sit in the beef supply chain, the markets we target and the issues relevant to the feedlot industry. ■

eldersrural.com.au/livestock/elders-killara-feedlot

Station manager David Lee and his wife Clare will host a farm tour at 'Windy Station' as part of Red Meat 2019.

Romani opens its gates

Red meat producers have a rare opportunity to visit Romani Pastoral Company's 'Windy Station' near Quirindi when it hosts a property tour as part of Red Meat 2019.

The 20,000ha property is one of the host locations for MLA's Digital Livestock 4.0 pilot project with Romani Pastoral Company, designed to test a range of on-farm solutions as part of MLA's ongoing work in the digital technology space.

The project expands on a project being undertaken by Carwoola Pastoral Company in cooperation with MLA, across Carwoola's four properties in NSW and the ACT.

Romani Pastoral Company General Manager, Andrew King, said as well as Windy Station, the Digital Livestock 4.0 pilot project will also involve another of the company's aggregations, 'Garangula', near Harden, NSW.

"All of our managers are very forward-thinking and we've already been using technology such as sensors on water tanks to save labour and improve efficiencies," Andrew said.

"We've been taking a close interest in the project between Carwoola and MLA, and now our own involvement in this project with MLA will allow us to dive deeper into the digital technology space.

"We're focused on objective measurement of livestock with electronic tagging of cattle and sheep and so we're very interested in seeing what performance-based measurements we can collect and utilise."

As a large-scale mixed livestock and cropping business, Romani's involvement in the pilot project will provide another challenge for digital solution providers.

Romani has developed a 'shopping list' for potential solution providers including technology to monitor water troughs, water tanks and bore water flows; soil probes; grain silo level sensors; and animal handling solutions.

During the tour, producers will be able to see a variety of ag-tech tools in action encompassing connectivity, animal monitoring and tracking, asset monitoring and tracking, human safety, analytics and user interfaces. ■

Andrw King
aking@romanipastoral.com.au

Consumer insights shape red meat's story

The number of consumers shifting to a vegetarian diet remains relatively stable at 7.6% (up from 7.3% in 2018), but more than 75% of vegetarians classify themselves as 'flexi' and are open to the possible inclusion of meat in their diet.

That's among the key findings from MLA funded research which benchmarks consumer attitudes and behaviours across metropolitan Australia.

The aim of the research was to determine people's perceptions and concerns about the red meat industry, understand purchase behaviours and consumption of meat, and subsequent barriers.

Conducted by strategic consultancy firm Pollinate on behalf of MLA, these valuable insights and their implications for the industry will be discussed at the Red Meat 2019 'Sharing red meat's story' industry breakfast on 20 November.

Pollinate CEO Howard Parry-Husbands will be guest speaker at the breakfast, where he'll discuss how consumer insights help MLA's ongoing communications strategy to build the public's trust in the red meat industry.

"This is the tenth year this benchmarking has been undertaken, and our research has gathered really robust measurements of consumer attitudes and behaviours to help inform the red meat industry's decision-making processes," Howard said.

"It gives us an evidence-based look at trajectories and trends, and enables the industry to future-proof risk by recognising society's concerns and attitudes.

"We're facing a shift in cultural and social diversity. There's a genuine need to adapt to it, and that requires people to be open to diversity of thought and to invest in long-term changes and innovation. And innovation really means doing things better."

Howard said Australia has driven a positive and proactive agenda for sustainable beef production. ■

redmeat.mla.com.au
pollinate.com.au

Red Meat 2019: what's in store?

The packed program includes on-farm tours, the latest research, innovation and marketing insights, a red meat showcase, technology demonstrations, an industry breakfast and unrivalled networking opportunities.

For the latest program information, visit redmeat.mla.com.au

Mouth-watering red meat will be on the menu when MLA chef Sam Burke and his team turn up the heat at Red Meat 2019.

	AM	PM
MON 18 NOV	**On-farm producer tours (all day)** Elders Killara Feedlot (page 8) and Romani Pastoral Company (page 9).	**MLA red meat showcase** Meet MLA researchers and leaders, and gain insight into everything from emerging technology and research and development, to meeting consumer demand at home and around the world. **Red Meat 2019 welcome function** Graze on Australian red meat and hear from MLA's Managing Director, Jason Strong.
TUES 19 NOV	**Research & Adoption Forum session 1** **Driving profit through the farm gate: investments shaping red meat's future.** Find out why meeting and exceeding consumer expectations is the key to a growing and prosperous industry. **Research & Adoption Forum session 2** **Driving profit through the farm gate: investments shaping red meat's future.** This session will focus on investments along the supply chain that are helping to meet the needs of consumers and, in doing so, support a more profitable and sustainable industry.	**Cooking demonstrations** **Digital Forum session 1** **Twelve months on from the Carwoola Digital Livestock 4.0 pilot:** What have we learned and what are the aspirations? **Digital Forum session 2** **Romani Digital Livestock pilot:** What has been deployed, who has been engaged and what are the next steps? **Red Meat Integrity Systems Forum** **2025 and beyond** This session will cover future opportunities for the red meat integrity system through technology and data systems, and how these will support industry in growing its competitive advantage, while creating real value for all participants within the value chain. **Social function** Dine on delicious beef, lamb and goat dishes from around the globe, curated by MLA Chef Sam Burke, hear from an inspirational speaker and enjoy an evening of live country music.
WED 20 NOV	**Industry breakfast – sharing red meat's story** Join MLA for a red meat-inspired breakfast and listen to an in-depth discussion about how producers should be confident to 'share their story'(page 9). **Global Markets Forum session 1** **Expanding market opportunities in Australia** The domestic market is the largest and most valuable destination for Australian red meat. This session will share the latest Australian consumer insights and what's needed to capitalise on this demand. **Global Markets Forum session 2** **Navigating the complex global trading and marketing environment** With more than 70% of Australian red meat production going to more than 100 markets, hear from one of our leading experts on the latest global trade insights, and from a producer who is successfully navigating this complex marketplace.	**Cooking demonstrations** **Sustainability Forum** **Why demonstrating sustainability is critical to all red meat businesses from paddock-to-plate** What does a sustainable red meat and livestock industry look like and what does it mean for producers and the value chain? **MLA Annual General Meeting** **Closing function – BBQ and drinks** Join MLA chef Sam Burke and the Angus Reserve Barbecue Crew to enjoy award-winning beef brisket and fire-pit lamb.

ON FARM

RESEARCH IN ACTION

IN BRIEF

Opportunity knocks for northern beef

Beef production systems across northern Australia need to evolve by adopting new tools and technology if the industry is to capitalise on growing demand for Australian beef and improving market access conditions.

This was one of the messages from MLA General Manager – Producer Consultation and Adoption, Michael Crowley, when he tackled the question of how to put more 'value' into the value chain at the Northern Beef Research Update Conference in Brisbane in August.

Michael said using genetics, industry programs such as Meat Standards Australia (MSA), objective measurement technology on and off farm, and AgTech Finder (a new platform linking innovation companies to producers – see page 4) are among the tools available to help northern production systems evolve to meet consumer expectations in a highly competitive global market.

"The benefits, like increased productivity via genetics or higher per kilogram prices for MSA-graded beef, are proven," Michael said.

"It's important we maintain our focus on engaging with these pathways to drive improvements in production systems if we are to capitalise on the enormous opportunities on offer for the industry in northern Australia."

He said the innovations which achieve the greatest impact are the ones which consider the whole farm system and the value chain.

"Tools and technology are enablers that will support producers in making decisions through turning data into decisions, improving feedback, increasing transparency and reducing costs in order to meet productivity and profitability targets."

For example, MLA's new genetics resource (genetics.mla.com.au) helps commercial cattle and sheep producers start using breeding values in their sire buying decisions, reflecting the clear link between genetics and industry profit drivers such as market compliance, eating quality and improved fertility. ■

genetics.mla.com.au
agtechfinder.com
mla.com.au/msa

Smart tracker on the move

Global positioning system (GPS) trackers aren't just revolutionising livestock monitoring and offering a solution to cattle theft – they could also deliver guaranteed best practice certifications for consumers.

The 'G Farm' tracker (pictured below left in calf's ear), made by farming technology company IDS Australasia, works hand-in-hand with livestock management tools such as weather stations and water monitors to draw on real-time information, and is now commercially available to producers.

This follows a lengthy development period and trials, including teaming up with MLA and Carwoola Pastoral Company near Bungendore, NSW, on the 'smart farm' project, which put a range of ag-tech innovations through their paces.

IDS Australasia installed 340 trackers on animals at Carwoola properties to collect valuable information on pasture utilisation and animal movement.

How does it work?

A tag in the animal's ear records real-time movements and ambient temperature to track the animal's location and gather crucial data about health and behaviour.

It works in conjunction with the National Livestock Identification System so the animal can be pinpointed via drone scanning or GPS fixes every hour.

"This means remote assessment of the animal's health and status is possible and treatments can be administered without having to shift an entire mob," IDS Australasia Managing Director Pieter van Jaarsveld said.

"It's a vital tool in improving both an animal's growth outcome and low-stress stock handling techniques."

The tracker is powered by a built-in solar panel and battery and built to last five years.

It can send an alert when animals move outside farm boundaries, aiding animal security.

Although this technology is in its infancy, it's evolving quickly with each new iteration being evaluated by MLA.

The technology can provide on-farm productivity benefits as well as demonstrating animal health and wellbeing to consumers. ■

Pieter van Jaarsveld
ids-gfarm.com

The secrets to smooth succession

Are you starting to think about your succession plan? Mike Stephens, agricultural consultant and Director of Meridian Agriculture in Victoria, outlines what's needed to successfully hand over the farm.

Mike has been advising producers on succession planning for around 40 years and is currently completing his PhD on the subject.

At a recent MLA BeefUp Forum in Mareeba, he shared a story he said is far too common.

"I was part of a family conversation about succession when the husband looked at his watch and said 'oh dear, I have to go and check that cow that's calving'," Mike said.

"The air was pretty thick so I opted to go and help him. We jumped in the ute and drove out to the top of hill where he got out calmly and just stood. I said 'where's that cow?' and he told me there'd been a lot of non-existent calving cows over the years."

Mike said this was a classic example of avoidance which, unfortunately, tends to go hand-in-hand with farm succession planning.

Mike has a recipe for smooth succession backed by years of first-hand experience and comprehensive analysis, including case studies co-funded by MLA Donor Company (MDC).

Be proactive, not reactive

Succession of a viable farm business is a financial reality for only a few – potentially only 30% of farm businesses achieve it, according to data from the Australian Bureau of Agricultural and Resource Economics and Sciences.

A Meridian survey of professionals who, between them, advised 6,500 farm businesses, showed most producers don't have a succession plan and are reluctant to develop one.

Start early

The first step is to start the conversation early and don't wait for a catastrophe to force your hand.

"It's never too early to start planning for succession by building the business," Mike said.

"If you do that, you have choices. Succession is a very long process."

In it for the long haul

Building a business for succession is a long-term project.

Mike said there are generally three aims of family farming:

- having the funds to enable retirement
- having a viable farm for the children who want to farm
- having sufficient funds for the non-farming children to be happy.

"Often a good plan is one where nobody is overjoyed but nobody is harbouring resentment."

How to get started

"A succession plan is how you move the responsibility for management, for getting the work done and eventually ownership from one person or a group to another person or group," Mike said.

The process could play out like this:

1. Give some serious management responsibility to a certain family member.
2. Next, make that person a genuine partner.
3. Let them take ownership of the business separately from the land.
4. Finally, identify how they can buy the land.

"By taking this stepped approach, you can allow them to start to buy out siblings early," Mike said.

"No two plans are the same and there's a whole range of things you can do from an early stage." ■

Road to success

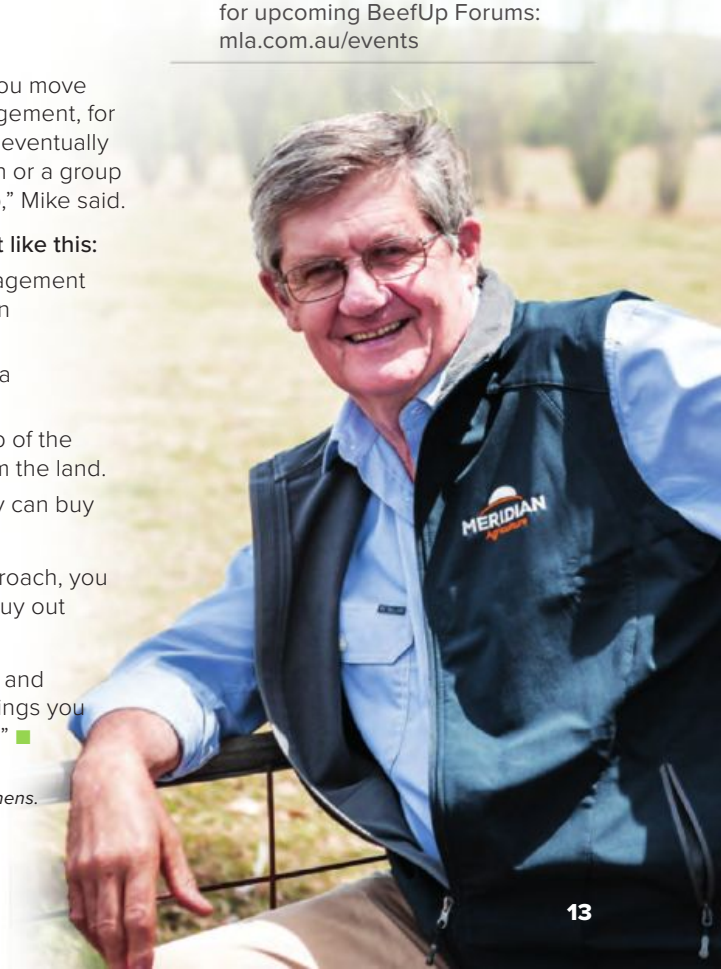
Mike said a smooth succession requires families to:

- build and maintain relationships
- have open and honest communication between all family members
- manage expectations
- build a business capable of delivering
- understand the needs, wants and aspirations of each family member in each generation
- choose the appropriate business structure.

Mike Stephens
E: mstephens@meridian-ag.com.au

MLA BeefUp Forums are held across northern Australia and provide producers the opportunity to hear about the latest on-farm research and development, gain industry insights and have a say on future research priorities in their region.

Check the MLA events calendar for upcoming BeefUp Forums: mla.com.au/events



Agricultural consultant Mike Stephens.

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 modern beef and sheep enterprises.

Meet our new producers for the 2019–20 series.

SNAPSHOT:

Andrew 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

OUR BUSINESS:

The farm, 'Chelwood', has been in our family since 1914. I'm the fourth generation. It was split 20 years ago between my father and uncle and, since then, we've bought half back. I farm with my wife Kimberley, my mum Pam and dad John, and my brother David and his wife Peggy.

Chelwood has always been a cropping and sheep property (mainly sheep), but it swung heavily to cropping during the 1980s. From 2005–2006 we built the sheep numbers back up – we were down to 1,000 sheep at one point. We now join about 3,000 Merino ewes each year, mainly to Merinos. We've played with a few crossbreds (400–500), but Merinos are our main business.

We crop 2,400ha and have 1,000ha of grazing country which ranges from native grasses through to improved pastures with clover and ryegrass. Frost is an issue here so we grow lucerne in the lower country, which gives us the option of grazing, or hay or seed production. We have hay storage leased to a third party. We also have 30ha of vineyards for wine grapes, which are sold into Clare Valley and Barossa Valley vineyards.

WHAT'S ON OUR PLATE:

We weaned the April-drop lambs in July. This was followed by crutching and shearing in August and lambing the July–August ewes. We generally shear twice a year but with the dry year we had, it has stretched to three times in two years. We'll try to get back to twice a year from October 2020. I'm also sourcing some genetics. We're heavy users of Australian Sheep Breeding Values.

MY GO-TO TOOLS AND RESOURCES:

I look at people who I think are doing the best job with sheep. I read *Feedback*, *Farming Ahead* and *Beyond the Bale*, and a lot of information comes via social media. I recently had a weather station put in as part of a large program to address spray drift going into vineyards. ■

ACTIVITIES OVER THE NEXT TWO MONTHS:

- weaning lambs in October
- harvesting hay and specialty crops for seed companies: clovers and vetches for export markets.

Andrew Mitchell
E: aandkmitchell@bigpond.com

Kacie Lord

SNAPSHOT:

Ardie and Kacie Lord, Nikko and Jade Lord, Richmond and Tambo, Queensland

Area:
240,000ha across six properties

Enterprise:
Backgrounding, breeding and fattening

Livestock:
Brahman-cross cattle

Pasture:
Spear grass, spinifex, stylos, Wynn cassia in the north, Mitchell and Flinders grass in the south

Soil:
Downs country with limestone ridges running to gidgee country and sandy bauhinia

Rainfall:
475mm/550mm

Three generations of the Lord family.

OUR BUSINESS:

When he was 19, Ardie went into partnership with his brother with their father's support. In the 1980s, he bought his brother out and acquired more properties along the way. The acquisition of 'Woodstock' at Richmond was for our son Nikko and his wife Jade. We're very conscious they're the next generation and we have to set them up so they can fly in the business.

One of our goals has been to set ourselves up financially to go into business with our kids, and these don't have to be rural businesses. We also support our two other children in their business ventures. One of our daughters is developing an app for the health care industry and our other daughter is based in London working in event management.

As far as the farm business goes, our approach is to keep maiden breeders at the home station, 'Sutherland'. Our northern country is tough on maiden heifers, so we don't send them up there until they're pregnant with their second calves. We bring our weaners back down from the northern properties and they're sorted here at Sutherland, managed for a period of time, then either grown out here or sent to the southern block at Tambo.

WHAT'S ON OUR PLATE:

We're at the dry end of the year, preparing for our first-round weaners. We calf down our heifers in the spring, which is unusual in the north.

We've started weaning in preparation for the wet season. After the wet season, we do a feed budget, then work out how many livestock units we can run until we get what is supposed to be substantial rain, usually in February. This year got tight because we had just bought Woodstock. We had another 2,500 weaners, so it meant a lot of juggling getting rid of older stock. Ardie had to keep selling cattle so we had enough feed.

We're in the process of employing an overseer and we want to make sure we get the right person because the job is quite intense. Most days we have cattle to move. It takes anyone around six months to get comfortable with what's happening. Hopefully by Christmas, we will have an overseer installed and Ardie and I can have some freedom.

MY GO-TO TOOLS AND RESOURCES:

We use KLR Marketing principles for some of our decision-making and MaiaGrazing for grazing and animal management. We now have fast connectivity around the house and sheds at Sutherland and that's been the greatest thing that ever happened. Mechanics working in the shed can now order parts, access YouTube for repair tutorials, and photograph and email their purchase orders. We use a combination of cloud-based programs and OneNote for the paddock notebook – it's all paperless for our accountant. ■

ACTIVITIES OVER THE NEXT TWO MONTHS:

- feeding weaners
- putting the bulls in with the main breeder herd at Sutherland
- re-furrowing and re-watering some of our irrigation country for the weaners.

Ardie and Kacie Lord
E: kacie@lordpastoral.com.au

SNAPSHOT:

Jane and Haydn Sale,
Kimberley, WA

Area:
Approximately 1,619,000ha 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)

Jane Sale
E: jane.sale@bigpond.com

ACTIVITIES OVER THE NEXT TWO MONTHS:

- putting the bulls back out with the breeders
- putting out supplements (dry season lick)
- continued development of water and roads.

Jane Sale

OUR BUSINESS:

We built the business from scratch with two investment partners. We started with a 355,000ha bare block at 'Yougawalla' in 2008, four hours from the nearest small town, with no buildings or infrastructure. It had one fence around two-thirds of it, three watering points and 800 cattle. In the first two years we put in 300km of fencing and 50 water points. It took longer than we imagined – we planned for five years and it went to 10 – but it allowed us to expand.

Our first sub-lease came when the live export ban was put in place. The ongoing effect of this was the inability to sell projected calf numbers, so we were running out of grass. We struck our first agreement with our Indigenous neighbours. We employ their community members – they have first right of refusal of any jobs that come up. It's a good structure. Because of our record, we've had a lot of interest in helping other stations set up similar agreements with their neighbours. In 2017, we sold the business to an overseas-based owner and we've stayed on to manage the property while continuing to expand.

Currently, we run about 50,000 cattle across seven properties, which increases to 60,000 at peak times. Most of the cattle (80–90%) are for live export. They're kept entire because this produces a leaner beef and that's what the Vietnamese and Indonesian markets want. It can be challenging to manage a breeder herd but we do it by keeping them in separate mobs on different stations. The remaining 10–20% go to the domestic abattoir market.

WHAT'S ON OUR PLATE:

We've recently finished mustering. Normally, we'd start mustering in late April and finish in September, but while it hasn't been as bad as in the east, we've had a really dry year. This year we started mustering in March and sold cattle at lighter weights. We pulled the calves off the cows early and separated the bulls to help the cows maintain condition. These calves needed more care so they went onto a pellet until they were big enough to go out onto pastures. We're trying to finish the work before it gets too hot, because everything just gets harder to manage. We're also developing more country; putting in new water points and new fences.

MY GO-TO TOOLS AND RESOURCES:

In August, I became a member of the Pastoral Lands Board. The two-monthly meetings are a great way to keep on top of what's going on at a state level. That's my main networking. We also have a great Department of Agriculture and Food in WA and we work with them a bit. Everyone is pretty connected. ■

INNOVATION

Northern beef: what's in the pipeline?

Mitigating herd methane emissions, boosting calf survival and lifting feedbase performance are just some of the research and development (R&D) projects underway for northern Australia's grassfed beef producers.

MLA R&D Project Manager for Grassfed Beef, Nigel Tomkins, gave an overview of what's in the pipeline (and why) at a recent BeefUp Forum held at Mareeba, Queensland.

He said MLA is not only investing in R&D but is developing practical strategies for improved productivity through on-farm management, new feedbase options, improvements in animal health and breeder performance.

"The real challenge is getting full advantage of this R&D on-farm to deliver productivity gains and cost efficiencies on your farm."

Some of the projects which aim to give producers tools to realise these gains include the following:

1. Expanding leucaena

The recent release of Redlands, the psyllid-resistant variety of leucaena for high rainfall zones, has expanded the area in northern Australia where leucaena can be grown to finish high-value beef.

In addition, MLA Donor Company, with the University of Queensland and WA Department of Primary Industries and Regional Development, is investigating the potential for a sterile variety of leucaena.

"This work will contribute significantly to the adoption of leucaena across the NT and WA, and will help in negotiating state legislation to allow this deep-rooted perennial legume to add value to native pastures," Nigel said.

2. New ways to graze

Work is underway to show how rangeland self-herding can be used to positively influence grazing patterns of cattle.

This project will validate preliminary data from a producer group trial that has used the practices of self-herding to manage grazing patterns and increase pregnancy rates of heifers.

3. Feeding breeders

The Sweet Spot project is investigating ways to improve breeder performance by identifying, for the first time, optimal pasture utilisation.

"There's an untapped gold mine of data on breeding herd production from sites across northern Australia," Nigel said.

Researchers are collecting data to identify pasture utilisation rates and improve the capacity of models to predict breeder performance.

"This collated breeder performance dataset will be the first of its kind and will be a lasting legacy."

4. Calf survival focus

Calf loss is a key issue for the beef sector in northern Australia, and MLA is working with several partners on new guidelines to boost calf survival.

A consortium to address calf loss is now being scoped, with R&D outcomes defined to better understand underlying causes. ■

Nigel Tomkins
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MLA investment in R&D for the north was showcased at the 2019 Northern Beef Research Update Conference, August 19–22. Visit nbruc2019.com for more information.

Tools for northern beef producers:

- Northern breeder tips and tools: mla.com.au/reproperformance
- *Leucaena: A guide to establishment and management* (search via mla.com.au/publications)
- Calf survival: mla.com.au/calf-survival

MLA's Nigel Tomkins (right) with Redlands seed supplier Peter Larsen, Leucseeds, Banana, Queensland, examining leucaena.

ANIMAL HEALTH AND WELFARE

Marking emotions for practical welfare

Ask University of Queensland Professor of Animal Welfare, Alan Tilbrook, if animal welfare can be measured and the answer is 'not directly'. However, he says, it can be assessed.

Speaking at MLA's Beef Industry Breakfast held in Brisbane, Alan said although there are many ways to assess animals' behaviour and vital signs, current methods do not yet provide a good understanding of the whole functioning of the animal.

He and other researchers funded by MLA are delving into this emerging area.

"There are technologies available that tell us when animals move and that track their weight, and so on, but none can provide the level of information we need to make an assessment of an animal's overall welfare," Alan said.

He and his team plan to develop tools that go beyond just looking at health, but that also give an indication of animals' emotions.

"Animal welfare today, from a scientific perspective, accepts that we need to be aware of the emotional – or 'affective' – states of animals, as well as their physiological states," he said.

"Developing affective state measures – biomarkers – is part of our research thrust."

The long-term aim is to assess the welfare of animals throughout the red meat supply chain in a practical, simple and low-cost way.

"There's a lot of research that needs to be done and it will take a multidisciplinary effort for it to be translated into a usable, readily adoptable tool for industry," he said.

To do this, the research will involve animal physiologists, behaviourists and endocrinologists, physicists, engineers and IT experts to develop practical technology.

Researchers will also collaborate with psychologists, anthropologists and economists to help with industry's adoption of the technology.

The true cost

Economic analysis conducted for the *Meat Industry Strategic Plan (MISP 2020)* identified the biggest economic risk facing the red meat industry was loss of consumer and community support for the industry's products and practices.

"The *MISP 2020* economic analysis is backed up by evidence from many other sources, showing the community is extremely interested and concerned about animal welfare," Alan said.

"That's the pragmatic and financial perspective on why the red meat industry should fund animal welfare research. The other reason – over-arching all that – is the social responsibility to ensure the animals have as good a life as they possibly can." ■

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Dr Jill Fernandes
E: j.ulrich@uq.edu.au

theanimalwelfarecollaborative.org

Collaborating for best practice

Alan has been working to improve animal welfare for more than 30 years and is recognised as an international leader in animal welfare research.

He recently helped establish The Animal Welfare Collaborative, to promote best practices in animal welfare through an independent and science-based approach.

Funded by the University of Queensland, the independent advisory organisation is currently working with 60 agricultural industry, government, academic, animal welfare and community groups, including MLA.

The Collaborative provides non-partisan independence, credibility and scientific rigour to lead initiatives with a clear focus on animals.

On-farm welfare tools

Together with the red meat industry, MLA has implemented a range of programs and initiatives to address community concerns about animal welfare. This includes making animal welfare and biosecurity part of the Livestock Production Assurance (LPA) program. Every LPA-accredited producer must ensure animal welfare requirements are fulfilled by following the Australian Animal Welfare Standards and Guidelines for cattle, sheep and/or goats.

There are some useful tools and checklists here: mla.com.au/animalwelfare

Measuring animal wellbeing

Investment in objective animal welfare assessment is helping to demonstrate the Australian red meat industry's commitment to improving the wellbeing of livestock in its care.

"We can only prove improvement if we can assess it objectively – subjective assessment is no longer good enough," MLA Health, Welfare and Biosecurity Program Manager Johann Schröder said.

Research is on track to identify animal-based measures such as respiratory rate, carcase characteristics and grazing behaviour, that might help assess an animal's status relating to hunger, heat stress, dystocia and pain.

The intention is that these measures, along with husbandry practices, transport history and handling facilities, will be able to be recorded and tracked through the supply chain to allow an overall assessment of the animal's lifelong wellbeing.

The table shows some of the current MLA-funded projects assessing animal welfare. ■

Johann Schröder
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Christine Purdy
E: cpurdy@mla.com.au

Table: MLA-funded projects investigating objective assessment of animal welfare

Project	Research partners	Objective assessment measures to be developed	Expected timeframe and outcomes
Automating welfare measurements and interventions for northern Australia	Central Queensland University	• Weight using walk-over-weighing technology • NLIS information using scanning technology • Remote visual imagery	End 2019: delivery of a proof-of-concept for an operational remote auto-drafting system to separate calves from the herd.
Immune fitness as a measure of animal health, welfare and productivity	University of Sydney	• Immunological biomarkers using blood and saliva, including genetic profiling • T-cell assessment	Mid-2020: prototype scorecard to categorise immune fitness relative to gene expression.
New approaches to the understanding of underlying causes for neonatal lamb mortality	CSIRO	• Detection of duration and difficulty of parturition (dystocia) using remote-monitoring technology • Metabolic energy balance using blood-based biomarkers as indicators of lamb loss risk	End 2021: algorithms for determining dystocia validated and blood parameters representing greater risk of lamb loss determined. These will make it feasible to remotely identify difficult births and use biomarker traits for the selection of animals with lower risk of lamb loss.
Objective, robust real-time animal welfare measures for the Australian red meat industry	University of Sydney	• Animal behaviours (low-resilience behaviours) specifically associated with calf–cow separation (predation and weaning), hunger and heat stress assessed using remote-monitoring technology: – ear tag-based technology – robot platform-based LIDAR (laser technology)	Mid-2022: a platform to collect and analyse data from off-animal and on-animal technology to assess welfare according to the expression of low-resilience behaviours.
Welfare benchmarking and management for beef cattle	CSIRO, NSW Department of Primary Industries	• Animal-based measures including animal affect and fear (flight zone and speed, vigilance, avoidance) • Resource-based measures accessing data from existing software systems • Management-based measures accessing data from existing sources on feeding, health (morbidity and mortality) and production (growth, reproduction, genetic selection and culling statistics)	Mid-2023: a set of validated practical measures and a producer tool or platform will be developed.

GENETICS

Getting started with breeding values

Setting breeding values can help accelerate productivity. MLA's new genetics hub provides practical tools to help unlock potential in your herd or flock in a no nonsense way.

Accelerating the performance of a herd or flock starts with setting a breeding objective, knowing what breeding values and selection indexes will help you meet that objective, and then finding bulls or rams that tick those boxes on the BREEDPLAN or Sheep Genetics websites.

MLA's new genetics hub presents a series of short 'how-to' videos for tropical cattle, temperate cattle, prime lambs and Merinos, to help you get started with breeding values.

Here's an overview of what you can find at **genetics.mla.com.au**.

MODULE 1:
Getting started with breeding values

Episode 1:
What are breeding values?

Breeding values allow you to predict the genetic characteristics each animal will pass on to their progeny. For cattle, breeding values are known as Estimated Breeding Values (EBVs); in sheep, they're known as Australian Sheep Breeding Values (ASBVs). These episodes clearly explain what breeding values are and how they relate to different types of cattle and sheep.

Tropical cattle
genetics.mla.com.au/tropical#getting-started

Temperate cattle
genetics.mla.com.au/temperate#getting-started

Prime lamb
genetics.mla.com.au/prime-lambs#getting-started

Merino
genetics.mla.com.au/merino#getting-started

Episode 2:
How do I set a breeding objective?

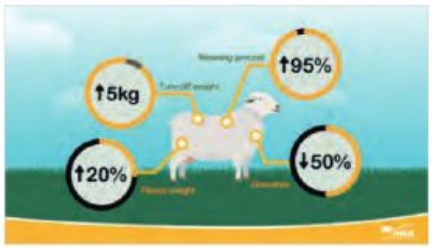
Before you start using breeding values, it's important to know what you're trying to achieve with your herd or flock. These episodes give you some important things to consider when setting breeding objectives for your business.

Tropical cattle
genetics.mla.com.au/tropical#getting-started

Temperate cattle
genetics.mla.com.au/temperate#getting-started

Prime lamb
genetics.mla.com.au/prime-lambs#getting-started

Merino
genetics.mla.com.au/merino#getting-started



Episode 3:
What are indexes?

An index takes a range of important traits and combines them into one number so you can rank bulls or rams quickly and easily. These episodes cover how indexes work and the different indexes you can pick and choose from.

Tropical cattle
genetics.mla.com.au/tropical#getting-started

Temperate cattle
genetics.mla.com.au/temperate#getting-started

Prime lamb
genetics.mla.com.au/prime-lambs#getting-started

Merino
genetics.mla.com.au/merino#getting-started

MODULE 2:
Using breeding values to find sires

Episode 1:
How do I find sires on the BREEDPLAN/Sheep Genetics websites?

BREEDPLAN is where cattle producers can find breed-specific databases that store and update EBVs for thousands of animals.

For sheep producers, Sheep Genetics has breed-specific databases that store and update ASBVs for thousands of animals.

These episodes show how these databases can be used to find and rank sires based on their breeding values and indexes.

Tropical cattle
genetics.mla.com.au/tropical#finding-bulls

Temperate cattle
genetics.mla.com.au/temperate#finding-bulls

Prime lamb
genetics.mla.com.au/prime-lambs#finding-rams

Merino
genetics.mla.com.au/merino#finding-rams

Episode 2:
How do I search sales catalogues?

BREEDPLAN contains sales catalogues of upcoming bull sales. These episodes are available for tropical and temperate cattle producers and outline how to search these catalogues and find bulls of the desired breed that meet the breeding objective.

Tropical cattle
genetics.mla.com.au/tropical#finding-bulls

Temperate cattle
genetics.mla.com.au/temperate#finding-bulls

MODULE 3:
Putting breeding values into practice

Episode 1:
How do I shop for a high-performing sire?

These episodes outline the steps to buying a high-performing sire, providing tips on what to do before, during and after the sale.

Tropical cattle
genetics.mla.com.au/tropical#bull-shopping

Temperate cattle
genetics.mla.com.au/temperate#bull-shopping

Prime lamb
genetics.mla.com.au/prime-lambs#ram-shopping

Merino
genetics.mla.com.au/merino#ram-shopping

GENETICS

How to shop for a high-performing sire

There's no doubt a high-performing sire must be structurally sound and reproductively fit, but what you can't see is just as important.

Looking 'under his hood' helps build a better picture of all the traits a ram or bull can pass on to his progeny; traits such as fertility, carcase weight, worm egg counts and eating quality.

When it's time to shop for your next high-performing sire, here's a handy list of what to do before, during and after the sire sale.

Before the sale

1. Identify or reassess your breeding objective.
2. Identify the relevant indexes that align with your breeding objective.
3. Identify the breeding values that align with your breeding objective.
4. Search the printed sale catalogues and online BREEDPLAN and Sheep Genetics databases to find sires that match your desired indexes and breeding values.
5. Contact the stud for more information about the sires and the stud's breeding program.
6. Develop a primary list of potential sires to purchase at the sale.
7. Develop a secondary list of potential sires to purchase at the sale.
8. Decide on your budget.

During the sale

1. Visually appraise your shortlisted sires.
2. Make a purchasing plan.
3. Bid on sires on your shortlist that meet your physical assessments and your budget.

After the sale

1. Treat incoming animals according to your own biosecurity plan, such as using quarantine paddocks to reduce the risk of spreading weeds, parasites or disease.
2. Record the sire's tag number and appropriate animal movement records.
3. Allow six to eight weeks for your new sire to de-stress before joining. Check on him frequently in these first few weeks.
4. Feed a high-protein diet before joining to ensure your sire is in condition 3.5 at joining.
5. Confirm your sire is working once joining commences by watching him service in the paddock.
6. Conduct annual animal health treatments including an annual BULLCHECK™ (a standardised examination developed by Australian Cattle Veterinarians) on all bulls before joining. ■

BREEDPLAN:
breedplan.une.edu.au

Sheep Genetics:
sheepgenetics.org.au

BULLCHECK:
mycattlevet.com.au/bull-testing

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

For subscribers to *Feedback*, check out the handy 16-page pocket guide included with this edition.

ACCELERATE
YOUR PRODUCTIVITY WITH GENETICS
better breeding values › better progeny › better performance

FEEDBASE

Spring pasture into action

While there's no 'one size fits all' approach, here are some tips and tools to help manage a few of the seasonal challenges facing livestock businesses this spring, while also ensuring longer-term pasture resilience.

Take stock

MLA's Project Manager – Feedbase, Mick Taylor, said now is a good time to assess feedbase supply and animal demand honestly and put in place key dates for interventions depending on climate outcomes.

"Developing a calendar for decision making helps keep control of the process; for example, if it hasn't rained by this date, then the oldest breeders go or supplementary feeding kicks in," Mick said.

Some useful tools to take stock of the situation are:

- **Bureau of Meteorology Climate Outlooks:** bom.gov.au/climate/ahead
- **Lifetimewool:** lifetimewool.com.au (tools for condition scoring sheep and addressing pasture quality and quantity)
- **MLA's More Beef from Pastures:** mbfp.mla.com.au (modules on setting directions, pasture growth and pasture utilisation)
- **EverGraze Feedbase Planning Tool:** evergraze.com.au/feedbase-planning-and-budgeting-tool
- **EverGraze Estimating Feed on Offer:** evergraze.com.au/tools/#estimatingfof

Plan ahead

Mick said that if pasture is grazed below 1,000kg green dry matter/ha (roughly three centimetres), it has a reduced opportunity to achieve spring growth.

"If you're starting out behind the eight ball then there is potential to end up in a corner," he said.

If forecast pasture growth doesn't meet demand, options could include:

- containment or supplementary feeding
- grazing failed crops
- opportunistic cropping (sowing summer grazing crops or sowing into existing pastures following rainfall events)
- earlier turn-off of stock
- agistment, including grazing stubbles post-harvest.

A useful tool to assess the cost-effectiveness of supplementary feed is:

- The **NSW Department of Primary Industries'** practical guide for feeding decisions: dpi.nsw.gov.au and search 'feed cost calculator'.

Be persistent

While the season can't be controlled, other aspects of pasture performance, such as soil health, weeds and over-grazing, can be.

Tools to help pastures persist include:

- **MLA's Making More From Sheep Grow More Pasture module:** makingmorefromsheep.com.au/grow-more-pasture
- **Making More From Sheep webinar with industry expert Phil Graham:** visit youtube.com and search 'prioritising pasture expenditure'.

MLA's Profitable Grazing Systems (PGS) training is available to help producers develop their management to address issues in soil, pasture weeds, plant nitrogen and grazing practice. PGS provides the opportunity to learn as part of a small group with the assistance of a coach who will guide participants in further improving their businesses.

- **Profitable Grazing Systems:** mla.com.au/pgs

Dig a little deeper

It can pay to dig a little deeper and see what else is happening in paddocks.

MLA-supported paddock assessments across NSW and WA found more than 80% of legume-based pastures had inadequate nodulation in their root systems.

Poor nodulation may limit nitrogen fixation, impacting dry matter production, soil nitrogen levels and livestock productivity.

Long-term pasture performance can also be addressed by diagnosing poor-performing species.

For example, some older cultivars of subterranean clover (the most common annual pasture legume in southern Australia) can contain oestrogenic compounds that cause infertility in grazing animals.

Cultivars such as Yarloop, Dwalganup, Geraldton and Dinninup can cause two forms of infertility in ewes – one can often be resolved by removing ewes from the oestrogenic pastures, while the other leads to permanent infertility and increases in severity with continued exposure (clover disease).

The chronic form of clover disease is associated with dystocia (difficult births), uterine prolapse and post-natal mortality of ewes and lambs.

A project by the University of Western Australia (UWA), co-funded by MLA Donor Company, is determining the extent of high-oestrogen 'bad' clovers across southern Australia. UWA is also developing an updated factsheet on oestrogenic clovers, which will be featured in an upcoming edition of *Feedback* magazine. ■

Mick Taylor
E: mtaylor@mla.com.au

mla.com.au/droughtmanagement

TECHNOLOGY

More value from lot feeding

How can the performance of individual lambs be measured in a feedlot?

Agricultural consultant Hamish Dickson and NSW sheep producer Will MacSmith wanted to look beyond pen-level feed intake and growth rate, so they designed a trial supported by the MLA Producer Innovation Fast-Track pilot program (see story opposite).

They built a system into the MacSmiths' on-farm feedlot, with feeders set up in a series of small stalls so the feed intake and growth of individual animals could be closely monitored.

Scales and sensors identified each animal as it fed and measured its weight, feed intake and how long it fed for.

"The most important measure we always wanted to get to was the cost of gain – what rate is the animal growing at, and what is it costing to feed that gain?"

For example, some lambs grew at acceptable rates but ate a lot of feed – in this case, the lambs actually cost more to produce than they returned.

The trial revealed a wide individual variation in feed intake and growth rates, which Hamish said has implications for any producer finishing lambs in feedlots.

"Most producers don't use electronic tags in a feedlot, so they generally just use pen growth rate and possibly feed conversion rates to guide management decisions – but you can't do a lot with this information in real time.

"If you have electronic tags and can measure individual growth rates, you can identify animals that aren't growing well and decide how to manage them differently, ideally as early as possible.

"There are situations where if you had detailed information on animal performance, you would make very different decisions at an earlier stage and create more value from the feedlot." ■

RESEARCH IN REVIEW

PROJECT NAME
Feeding system innovation to increase labour efficiency

RESEARCH ORGANISATIONS
Crown Agriculture

FUNDING ORGANISATIONS
MLA Donor Company and Crown Agriculture

GOAL
To demonstrate the benefits of automated feed delivery systems for any scale intensive feeding operation, and provide a low-cost system that can be adopted without a high level of technical ability.

BUDGET
$140,751

DURATION
October 2017 – November 2018

KEY FINDINGS TO DATE

- Producer involvement in innovation projects supports the human capability involved in developing practical technology for the industry.
- Technology can be used to identify the profit margin of each animal in real time.
- Producers can increase profitability in on-farm feedlots by measuring real-time performance, rather than relying solely on productivity traits such as growth rate.

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The MLA Producer Innovation Fast-Track pilot program provided participants with support and mentoring to develop and apply innovation skills to address industry problems.

Find out more at:
mla.com.au/fast-track

Identify

By understanding feed efficiency, the MacSmith family is using an on-farm feedlot to not only relieve grazing pressure but also increase profitability across their grazing business.

Will (pictured) and his father Lachie started finishing Merino wether lambs on their central NSW mixed farming enterprise to free up pastures for ewes and ewe lambs over summer.

With feed being their biggest input cost, they wanted to find out where it went, to determine if growth rate was a good indicator of profitability.

"From a profitability point of view, we had no idea of good and bad performers," Will said.

"All we had to work with was individual live weight gain through electronic identification (eID).

"The data available to me was so limited compared to the cropping side of our business."

Will teamed up with agricultural consultant and business partner Hamish Dickson to find some answers.

ing profitable performers

Will MacSmith finishes lambs in the feedlot so he can leave the pasture for Merino ewes and ewe lambs.
Image: Crown Agriculture

They designed and built a feedlot – separate to their main facility – so they could capture data for a feed-efficiency trial funded by MLA Donor Company.

They backed this up with further trials focusing on feed rations, environmental effects and genetics.

"Trial data has enabled us to see where the profitability is," Will said.

"The cross-over in terms of cost of gain seems to be 55–60kg; beyond this they just seem to be eating too much for their growth rate."

Based on this, he doesn't keep lambs in the feedlot past 60kg. Lambs are ideally at least 35kg on entry and are fed from 30 to 60 days.

Will has also adjusted how sheep are managed in the feedlot.

He believes that, with the right ration for the target performance and tight weight ranges (within 5kg), sheep don't need to be weighed too frequently.

"It seems they don't gain weight for three or four days after being weighed but their intake remains constant," Will said.

"If they're weighed every week, it's going to have a significant impact on performance.

"Combined with changing the social structure every week, that isn't a good thing."

The MacSmiths weigh lambs after 21 days in the feedlot to identify shy feeders and sheep that just don't perform in the feedlot.

"After that, we can quite confidently predict when they'll hit their target weight."

Shy feeders

In their feedlot trials, Will and Hamish found sheep had strong diurnal (i.e. more active during the day than night) patterns when it came to feeding time.

If shy feeders didn't get a chance to feed at the peak feeding time, they didn't feed at all, even though the feeding stall was empty for the other 18 hours of the day.

In response, they increased head space in the commercial feedlot to provide at least 30cm per sheep so every animal could feed at the same time.

The additional trough space, combined with a changed ration, allowed induction times in the MacSmiths' feedlot to be reduced from 18 days to 5 days.

The MacSmiths now use their commercial feedlot as part of a whole-farm approach, and have been able to run more ewes and take pressure off grass quickly, especially in the warmer months. ■

SNAPSHOT:

Will and Lachie MacSmith,
Cudal, NSW

Area:
750ha

Enterprise:
Mixed farming – cropping and sheep

Livestock:
2,200 Merino ewes

Pasture:
Phalaris, cocksfoot and clover blend

Soil:
Clay loam (red basalt loam)

Rainfall:
600mm

Will MacSmith
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LESSONS LEARNED

- Use individual animal performance to guide decision-making.
- Provide sufficient trough space so all sheep can feed at the same time.
- Identify a profitable turn-off target.

BUSINESS MANAGEMENT

Path to a paperless office

Imagine a farm office that isn't drowning in pieces of paper: no receipts and bills spilling across the desk, no folders overflowing with documents.

It might sound like a dream, but a paperless office can be a reality, with a new series of workshops to help farm businesses streamline record keeping, improve security and reduce time at the desk.

Through its producer-education platform Profitable Grazing Systems (PGS), MLA is supporting the Paperless Farm Office introductory course in WA, run by Partners in Grain WA (PinG WA).

PinG WA Executive Manager Debra Mullan said there are many reasons for going paperless, aside from the obvious environmental benefits of reducing paper use.

"A paperless farm office can minimise time by preventing double handling and making finding information so much easier," she said.

"If it's all stored and administered correctly, it's more secure than a filing cabinet in your home office."

Debra said some hard copies may still be required, so it's best to approach going paperless on your own terms.

Going paperless doesn't have to be costly, as often it's just a matter of getting more value out of existing equipment. ■

Debra Mullan, PinG WA
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The full-day (8:45am–3pm) Paperless Farm Office workshops are held in rural areas on demand, with new course dates available on the PinG WA website: pingwa.org.au/workshops

mla.com.au/pgs

Paperless checklist

- ☐ Map out current office processes or tasks.
- ☐ Identify which records need to be kept and which ones don't.
- ☐ Establish how accounting software can be used to go down the paperless path.
- ☐ Request all invoices are sent electronically.
- ☐ Scan receipts as soon as they are received.
- ☐ Seek help to devise an appropriate electronic filing system.

Building skills

After completing this introductory course on the paperless office, producers can further their skills through a longer-term, learning program with PGS.

PGS provides the opportunity to learn as part of a small group with the assistance of a coach who will guide participants in further improving their businesses.

Ploughing through paperwork

Rachael Plowman is changing how she manages the business aspect of her family's sheep and cropping enterprise by moving towards paperless record keeping.

Rachael (pictured), her husband Andrew and her father Alan Warburton farm together at Kojonup.

The office work falls to Rachael and, while she enjoys it, she wanted to find better ways of doing it.

Earlier this year, Rachael attended a paperless office workshop as she was keen to get the enormous pile of paper off her desk.

What she came home with was a solid skillset that enabled her to start making immediate changes.

"The office work is sometimes seen as a necessary evil, but it's really part of the farm business," Rachael said.

"The real beauty of going paperless is not having to file things manually."

Rachael has already made some changes to the way things are done.

"I've got Dad and Andrew to download an app on their phone so they can scan receipts as soon as they buy anything.

"This is especially important in a family business when there's only one person doing the books but lots of people spending the money – being able to immediately transfer the info to the bookkeeper is a real bonus."

Rachael is also getting more value out of her existing Microsoft Office subscription by saving all her files to OneDrive so she can access them even when she's away from the office. ■

Rachael Plowman
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COMPLIANCE

Big-picture carcase feedback

Tasmania's King Island is renowned for its quality pasture-raised beef, but its remote location poses some unique challenges for producers.

The only meat processor on King Island closed in 2012, meaning cattle now travel more than 13 hours by ship and truck to processing.

Despite this, Robyn Hoare (pictured) is adamant her business Hoare Family Cattle has never been more connected to the supply chain than with MLA's Livestock Data Link (LDL) system.

Launched in 2015, LDL enables the flow of carcase information between processors and producers. It allows producers to assess individual carcase performance against known market specifications.

"For us, it's all about ensuring our beef enterprise remains viable into the future, and we rely on data from LDL to verify and evaluate these management decisions," she said.

Robyn consigns 150 head to Meat Standards Australia (MSA)-branded programs annually and consistently achieves 97% MSA compliance.

"MLA's MyMSA and LDL systems allow us to access MSA results the day after they're processed," Robyn said.

"We use these results to help ensure we're on track in terms of compliance and to assess how we're performing over the longer term."

A self-confessed data enthusiast, Robyn uses the benchmarking feature through LDL to evaluate management decisions and track how the business is going in relation to producers on the mainland.

"Our management approach is a balance between pasture improvement and genetics, while maintaining herd numbers and meat quality," she said.

"We base our bull selection on intramuscular fat, eye muscle area and calving ease."

More than processor data

Hoare Family Cattle is predominantly a breeding operation, with Robyn finishing approximately 20% of their annual turn-off on-farm, targeting MSA premiums. The remaining 80% of their turn-off, which are mostly steers, are sold to stores for finishing.

"It's really important to understand how each individual animal is performing, regardless of if they're directly consigned to MSA processors, and LDL gives us that information so we can maintain a complete picture of our herd," Robyn said.

Through the 'bred but not consigned' feature of the LDL system, breeders can access carcase information on animals they have bred but not directly consigned to the processor.

This information includes average, minimum and maximum carcase weights, P8 fat measurement and lean meat yield.

"The 'bred but not consigned' report allows us to see how their weights have been, how their fat cover has been and what their meat yield is," Robyn said.

"By using different features of the LDL system, such as this report, we're able to confirm that we're on the right track through data analysis, rather than by making assumptions on our performance." ■

SNAPSHOT:

Robyn and Boyd Hoare, 'Yambacoona', King Island, Tasmania

Area:
970ha

Enterprise:
Cattle breeding and finishing

Livestock:
Angus

Pasture:
Improved ryegrass

Soil:
Sandy loam, clay

Rainfall:
900mm

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To see Robyn's story, visit mla.com.au/KingIslandLDL

If their processor participates, producers can access the LDL system through their National Livestock Identification System user ID and password. For more information about MLA's Integrity Systems and LDL or to register, visit mla.com.au/ldl or email ldl@integritysystems.com.au

LESSONS LEARNED

- Data can both verify and evaluate management decisions.
- It's important to understand how each individual animal is performing.
- Don't make assumptions on performance.

CARBON NEUTRAL

New dung beetles rolling through

The team behind the Dung Beetle Ecosystem Engineers (DBEE) project are working away as busily as their insect partners to mass-rear their first imported species in preparation for release.

After meeting some of the toughest importation requirements in the world, CSIRO and Charles Sturt University researchers are breeding up a Moroccan strain of the dung beetle, *Onthophagus vacca*.

The goal is for the spring-active beetle to help fill seasonal and geographical gaps in current dung beetle activity in southern Australia, a climate similar to its home range.

Dr Valerie Caron, who leads CSIRO's international biocontrol team in Canberra, said importing any live animal into Australia takes time and paperwork.

"The beetles were collected in Morocco before being formally identified and cleaned at CSIRO's laboratory in France," Valerie said.

"After receiving the import permit we brought about 2,000 beetles into our quarantine facility in Canberra for rearing."

Despite the challenges of rearing in quarantine (only sterilised eggs can be released from quarantine and the sterilisation process can reduce the fitness of subsequent adults) the team was able to deliver the first batch of *O. vacca* beetles to Charles Sturt in May.

Charles Sturt will manage the mass-rearing of tens of thousands of beetles at various rearing facilities, before transferring them to on-farm nurseries for further assessment, before releasing them at strategic sites over the next four years.

CSIRO's French team are now assessing three more Moroccan species, with the aim of importing and rearing the two species which are most efficient at burying dung.

Monitoring

DBEE technical research coordinator, Charles Sturt senior research fellow Dr Russ Barrow has been busy on another component of the project: monitoring the introduced dung beetle species currently distributed in southern Australia across at least 120 sites.

Russ is one of several team members working to establish the sites and train project partners in monitoring protocols.

"Twenty-three species have established in Australia since CSIRO began releasing them in the 1960s," Russ said.

"We're looking to gather data on current dung beetle species, location and abundance, to identify any gaps we can overcome through breeding, trapping and redistribution."

Miniature livestock

DBEE program manager and agricultural consultant Paul Meibusch is looking forward to the day when livestock producers manage their dung beetles just like they do their sheep and cattle.

"Dung beetles have so many benefits for producers: they improve soil health and water infiltration, making farms more resilient and quicker to recover in times of drought; they retain nutrients on-farm, preventing run-off into waterways and reducing fertiliser requirements; they prevent the build-up of fly and worm eggs; and they reduce greenhouse gas emissions and sequester carbon in the soil," Paul said.

"I'd like producers to see dung beetles as miniature livestock and manage their systems carefully – including being aware of what they're drenching animals with and when – to ensure beetles are protected and encouraged."

A key outcome of the project will be a website containing regionally specific dung beetle management advice. ■

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The project is supported by MLA through funding from the Australian Government's Rural Research and Development for Profit program

CSIRO researchers Elissa Rice, Dr Valerie Caron and Patrick Gleeson with a shipment of dung beetles from Morocco, via CSIRO in France.
Source: CSIRO

Beetles for regenerative agriculture

Phil Davis is hosting a dung beetle monitoring site at his Tarcutta property, where the insects play a critical role in farm sustainability.

Phil and his wife Anna manage Elimatta Pastoral Company, an aggregation of three properties in NSW's Riverina producing Angus cattle, Corriedale sheep and hay.

Seven years ago they adopted regenerative agriculture principles on their beef breeding block, 'Somerset', at Wagga Wagga.

"The principles we follow for cattle are small paddocks, very high stocking rates, short grazing periods followed by very long grazing spells, 100% ground cover, and no synthetic fertilisers, drenches or herbicides," Phil said.

"We're moving this way at the sheep block, 'Elimatta', as well."

The third property, 'Tarcutta House', is an irrigation block where the cattle still need to be drenched for liver fluke.

The rotational grazing strategy at Somerset is around 50 cows and calves per hectare for two or three days.

"They eat some of the grass, but also trample some of it while dropping manure and urine all over the paddock, feeding the soil microbes."

Phil said this is where the dung beetles play their part.

"The dung beetles then do two vitally important jobs for us: they take the manure down into the soil so it doesn't spoil the grass it's sitting on, and in doing this also aerate the soil, increasing water infiltration and plant health, and lift our soil carbon levels.

"When they're really busy you can go in a paddock that was grazed a week earlier and you won't find a cow pat anywhere – just little piles of dirt."

The stocking rate is lower on the irrigation block, at around 30 dry sheep equivalent/ha, but the manure load is still quite significant.

"After we remove the stock, we let the crop mature and cut it for hay. If we didn't have dung beetles the hay would be full of cow pat contamination."

Project partner

Phil hosts a Dung Beetle Ecosystem Engineers project (see previous story) monitoring site at Tarcutta House and said researchers have already identified two introduced dung beetle species there which will contribute to improved sustainability on-farm.

He hopes the project will give him a better understanding of dung beetles and any steps he can take to make sure they stick around.

"Our current beetles are inactive from late spring to summer, so I'm also hoping the project can deliver on its aim of filling in seasonal gaps with new species," he said. ■

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Do you have dung beetles?

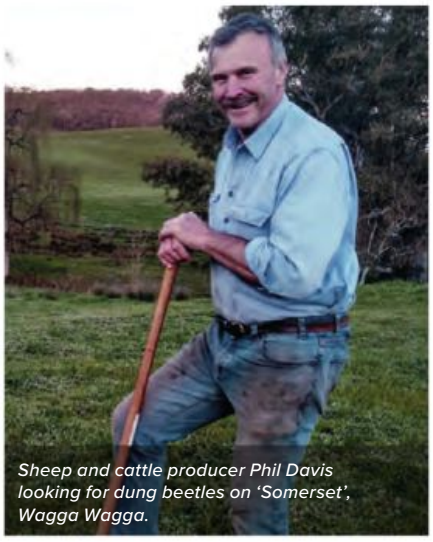
Anyone can help map dung beetle distribution using the MyDungBeetle Reporter app.

Use your phone to make a report by uploading up to four photos and the GPS location of the sighting.

Experts from the DBEE project will attempt to identify your beetles and reply back to your device.

Visit dungbeetles.com.au/report-an-observation for more information, and download the app from the App Store or Google Play.

Red soil casts created by dung beetles burying dung at 'Tarcutta House', Tarcutta.
Image: Russ Barrow



Sheep and cattle producer Phil Davis looking for dung beetles on 'Somerset', Wagga Wagga.

SNAPSHOT: **Phil Davis,** Elimatta Pastoral Company, Wagga Wagga and Tarcutta, NSW

Area: Three properties totalling 1,000ha

Enterprise: Beef cattle, dual-purpose sheep and irrigation for fodder and hay

Livestock: 200 Angus breeders, 2,000 Corriedale ewes (in a normal season – currently about one-third of these levels)

Pasture: Phalaris and sub-clover, ryegrass and native red grass

Soil: Clay loams through to decomposing granite

Rainfall: 650mm

INTEGRITY

eID pays its way

Electronic identification (eID) tags can deliver four-fold returns for sheep producers by improving breeding and selection decisions.

An MLA-funded study, run by SA livestock consultant Hamish Dickson (pictured) from AgriPartner Consulting, examined the economic impact of using eID in Merino and crossbred or composite commercial flocks.

Hamish found that over a five-year period, sheep producers could achieve an average $4 in returns for every dollar invested in capturing data with eID.

"The voluntary adoption of electronic tags by commercial sheep producers has been fairly low, despite the technology being readily available for over 10 years," Hamish said.

"One of the causes of that low adoption rate has been a lack of information surrounding the long-term effects on flock structure and profitability of using eID to make breeding and selection decisions."

Hamish used scenario modelling to track how returns could be achieved with different levels of eID implementation and supporting technologies, such as pregnancy scanning and fleece weighing to record individual animal data.

Using data captured through eID helped to increase producer gross margins by identifying superior animals to act as replacements, as well as removing under-performing animals.

Examples of management scenarios and the returns per dollar invested include:

- **Scenario 1.** Visual classing of replacement ewes; all animals pregnancy scanned and twice dry ewes culled. All other ewes culled based on age group.
  Return per $1 invested = $5.81
- **Scenario 2.** Visual classing of replacement ewes in combination with individual fleece data; all animals pregnancy scanned and twice dry ewes culled; all other ewes culled based on age group. Preferential selection applied to ewe hoggets with higher total kilograms of lamb weaned.
  Return per $1 invested = $3.47

"The relative gains varied between scenarios, but all scenarios delivered a positive outcome," Hamish said.

"The results clearly showed there are economic gains available through using eID to make more informed breeding and selection decisions."

On-farm impacts

MLA Project Manager – Sheep Research and Development, Joe Gebbels, said MLA chose to support the project because of its potential to make on-farm decision making easier and more accurate.

"eID can help collect the data producers need to make informed decisions on culling and retention strategies, driving productivity and profitability improvements," Joe said.

"As the study showed, this can lead to a long-term cumulative advantage, as well as enabling tough decisions to be made about which stock to retain and which to sell in a drought situation.

"You want to protect your star performers – eID can make sure you have the information available to identify them."

Hamish said eID is not a silver bullet for improving flock performance, but provides an easier and more accurate way to collect information to guide decision-making.

"There are many aspects of managing a sheep flock which you need to have running well before considering eID." ■

Hamish Dickson
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Some useful tools to get the most out of eID are:

agriculture.vic.gov.au/sheepEID

A webinar is currently being scheduled to discuss the project results. Details to register will be published on the MLA website or you can contact Hamish directly.

How to implement eID on-farm

Hamish said the first step to successfully implementing eID within a breeding flock is to have a clear breeding objective. Considerations include:

- your enterprise goals
- what you want to improve in the business
- the data you need to drive that improvement.

"Once you understand what data needs to be collected, you can decide whether to use eID to collect it," Hamish said.

Producers can hire or purchase equipment for collecting and managing data generated by eID, but the costs in Hamish's study were based on contract rates for data collection.

"For producers who aren't fully confident in using the technology yet, there are more and more service providers able to help with implementing eID, as well as collecting and managing the data generated," Hamish said.

Saving time and money

Peter and Rochell Walker have been using electronic identification (eID) in their stud flocks for the past four years, dramatically reducing labour costs and saving $11 for every dollar invested.

The Walkers' operation has doubled in size over the past decade, placing increasing pressure on available labour.

In 2015, they invested in eID for their stud sheep and now use the technology to:

- determine lineage (using Pedigree MatchMaker)
- record weights and muscle-scanning data (using a Gallagher eID wand and weigh head) without manual collection
- analyse the data using dedicated software (Sapien KoolCollect and KoolPerform).

They also use eID to record their ewes' pregnancy status (empty, singles or twins) and foetal age (early, mid and late-lambing), which assists with selection, feed allocation and mob-management decisions.

Making eID pay

An economic analysis of their initial $11,000 investment in eID (as part of a WA Department of Primary Industry and Regional Development project) showed the Walkers are on track to save $118,000 over 10 years, with every dollar invested returning $11 in savings.

Before using eID, it took the Walkers 380 hours per year to manually collect, enter and analyse stud sheep data. With eID, this was reduced to just 36 hours per year.

Peter Walker with a Suffolk lamb.

Lambs were visually identified to their dams to determine lineage, then weighed within one month of birth, plus another three times before hitting 60kg, and were also muscle scanned.

Because lambing coincides with seeding, this data collection placed pressure on the Walkers.

"We were at the point where we either stopped doing it altogether or we had to find a way to do it more efficiently," Peter said.

They started by moving lambing to July and August, then engaged a consultant to help them choose the right eID equipment and software system for their operation.

The benefits

Peter says eID has provided social as well as economic benefits.

"Electronic recording means there are fewer errors and less stress when we're recording data at the yards," he said.

"My father Syd really enjoys being involved in the stud but, like most 74-year-old former grain farmers, he's a bit hard of hearing.

"By using the eID wand, he's making a valuable contribution, but doesn't have to wrestle sheep to read a tag or worry about mishearing a tag number.

"It's also given me more time to spend with my family and do other farm jobs."

As Peter's business is 80% cropping, he said the economics don't yet stack up to expand eID to his commercial flock: "It's a different story for farmers concentrating on livestock production." ■

Peter Walker
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Watch the Walker family's video case study. Go to youtube.com/user/DAFWA and search 'Peter Walker'.

SNAPSHOT: **Peter and Rochell Walker,** Newdegate, WA

Area:	Enterprise:	Livestock:	Pasture:	Soil:	Rainfall:
6,500ha	Commercial self-replacing Merino flock, Suffolk and White Suffolk studs, cropping	3,500–4,000 Merino ewes, 200 Suffolk ewes, 200 White Suffolk ewes	Clovers, medics, serradella, vetch and biserrula	Gravel, sand, clay and lakebank	370mm

Sights set on pasture dieb

History repeating

New research led by Queensland University of Technology microbiologist Caroline Hauxwell has confirmed a mealybug species, *Heliococcus summervillei* – previously observed in pasture dieback in Australia and New Caledonia – has been detected in recent outbreaks of pasture dieback across Queensland and northern NSW.

Mealybugs are sucking pests that attack pastures, cereal crops and turf grass.

H. summervillei was first documented as causing pasture dieback in 1926 (in paspalum grass at Cooroy and Kin Kin on the Noosa hinterland), and again observed on the Atherton Tablelands in the 1930s and in New Caledonia in 1998, where natural predators eventually got it under control.

MLA's Supply Chain Sustainability Innovation Manager, Doug McNicholl, said this is a significant development as until now researchers had not confirmed the mealybug was the same as the bug detected previously by entomologist Sir William Summerville.

"The research team can now study these previous dieback events as well as this mealybug and incorporate this knowledge into future R&D and next steps towards management options for producers."

MLA has initiated a three-year R&D project with funding support from the Australian Government Department of Agriculture to further investigate pasture dieback. ■

Will Wilson has a theory: the more you look for pasture dieback, the more of it you see.

Pasture dieback is prevalent in central Queensland and Will (pictured) and his wife Katie have felt its impact on their Biloela property.

"I first became aware of dieback when a neighbour told me about it," Will said.

"I looked and found it.

"It happens like that; people say they haven't got pasture dieback, but then when they look, they see they do."

Will said while remaining grass in dieback areas can still be grazed, the grass doesn't grow back once it dies, creating a "grass drought".

"There's no obvious solution; I've heard of people ploughing, burning and fertilising, but there's no evidence any of those work."

Without an effective control toolbox for the issue, Will's approach to managing pasture dieback has been to graze these areas with cattle that are about to leave the property.

"I use it as 'exit pasture' before cattle go into feedlots or to the abattoir," he said.

In his role as president of the AgForce Cattle Board, Will has been advocating for ongoing research into pasture dieback.

He's mindful of past occurrences of pasture dieback and the need to develop information about the problem so it can be used into the future.

"I'd like to think pasture dieback is like a plague-type problem and I hope the balance restores naturally in time, but we can't sit back and wait for it to solve itself.

"We need to do the research so we have a better understanding of what causes dieback and why."

Until then, Will isn't taking chances with potentially spreading pasture dieback to other areas of his property.

He's also mindful of biosecurity, in an attempt to prevent further spread of pasture dieback.

"I haven't been bringing any hay in for a while now," he said.

"I prefer to sell cattle before I have to feed them." ■

LESSONS LEARNED

- Check your pastures regularly for signs of pasture dieback.
- Practise good farm biosecurity and have a biosecurity plan in place.
- Cattle can eat affected pasture, but be careful of where they go next to avoid spreading the mealybug.

SNAPSHOT: **Will and Katie Wilson,** Biloela, Queensland

Area:	Enterprise:	Livestock:	Pasture:	Soil:	Rainfall:
12,100ha	Breeding and backgrounding cattle	5,000 cattle	Buffel grass and creeping bluegrass	Heavier black soils; alluvial on coastal property	700mm

ack

Minimising mealybug risk

Here are some recommended practices to mitigate mealybug and minimise risk of pasture dieback:

- regularly monitor pastures and livestock
- report any suspicious symptoms to the Queensland Department of Agriculture and Fisheries
- ensure all farm inputs are pest-free
- develop and document a farm biosecurity plan
- communicate your farm biosecurity requirements to farm staff and visitors
- place biosecurity signs at the farm entry points
- make wash-down facilities available on-farm
- ensure vehicles and machinery come onto farm only when they are mud- and trash-free
- use farm vehicles (not visiting vehicles) to transport visitors around the farm. ■

For more information, check out this mealybug factsheet: **mla.com.au/mealybug**

LPA On-Farm Biosecurity Plan Template: **mla.com.au/integritytools resources**

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Dry spikes female sales

Drought-induced destocking has pushed female cattle turn-off to record levels, according to MLA's *Industry projections 2019: Australian cattle – August update*.

Cow and heifer slaughter rates reached 58% of total adult cattle slaughter for three consecutive months from March to May, as many producers continue to destock or manage significantly depleted breeding herds.

MLA Senior Market Analyst Adam Cheetham said total Australian adult cattle slaughter for 2019 is now forecast to increase 3% from 2018 to 8.1 million head.

"Elevated female slaughter and poor conditions have combined to drive average carcase weights lower so far this year to 282.5kg/head," Adam said.

"Despite national slaughter being revised higher, the lower carcase weights have underpinned unchanged production levels at an estimated 2.3 million tonnes carcase weight; 2% below the five-year average."

The lot feeding sector continues to support national beef production and has been a critical link in the supply chain during the prolonged dry period. The number of cattle on feed reached a new record in the March 2019 quarter and has remained above the 1.1 million head mark for the fourth consecutive quarter. This number is expected to remain high.

The national herd is estimated to have declined 7.3%, to 26 million head for the year ending June 2019, while estimated branding rates have also fallen, reducing the number of calves on the ground this season.

"On the upside, prices for finished cattle have improved this year and are likely to find continued support given an expected tightening of supply during the remainder of the year." ■

Dry season tools

Check out these useful online tools to guide dry season decision making.

Feedbase and nutrition

- Maintaining groundcover: **mla.com.au/maintaingroundcover**
- Tips for confinement feeding of livestock: **mla.com.au/confinementfeeding**
- Other strategies for feeding livestock during drought: **mla.com.au/droughtfeeding**
- Feed demand calculator: **mla.com.au/feeddemandcalculator**

Transport

- The updated national guide *Is the animal fit to load?* includes new content to ensure best practice animal welfare when preparing, loading and delivering cattle, sheep and goats: **mla.com.au/fittoload**

Business resilience

- MLA's EDGE*network* offers practical learning opportunities in business, grazing, breeding and animal nutrition: **mla.com.au/edge**

Biosecurity

- Considerations when moving animals or buying in feed: **mla.com.au/farmbiosecurity**

Adam Cheetham
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MLA's *Industry projections 2019: Australian cattle – August update* are available at: mla.com.au/cattle-projections

MARKET INFORMATION

Export demand underpins record sheepmeat price

Strong international demand for Australian sheepmeat continues to underpin historically high lamb and mutton prices, buoying producers with stock available as severe drought conditions continue.

In the September update of MLA's *Industry projections 2019: Australian sheep*, forecast lamb exports are revised slightly higher on previous projections to 268,000 tonnes shipped weight (swt).

National lamb slaughter has also been revised slightly higher and is now expected to reach 21.6 million head, a decline of 5% on 2018.

MLA Senior Market Analyst Adam Cheetham said domestic sheep and lamb indicators surged to new highs in 2019 as demand from overseas markets outweighed domestic availability and more than offset the price pressure usually associated with a prolonged dry period.

"There's been exceptionally strong demand from China and the United States in particular, supported by a depreciating Australian dollar," Adam said.

"Prices across all categories reached record levels during winter. The national saleyard trade lamb indicator powered through 900c/kg at the beginning of July and ultimately reached a peak of 950c/kg, 9% above the high achieved in September 2018."

Seasonal factors

Once conditions improve, Adam said strong prices for mutton and lamb are expected from increased restocking activity, which will apply competitive pressure to processors looking to fulfil export demand.

However, as producers in many regions face water shortages and are destocking or opting not to join their ewes, the forecast lamb slaughter reflects reduced ewe numbers and generally poor marking rates.

Breeding ewe turn-off, while elevated at the beginning of the year, eased during winter as producers looked to spring and post-weaning before assessing feed availability. As a result, the annual sheep slaughter forecast remains unchanged from the previous projections at 8.5 million head.

Lamb production is forecast to decline 3% year-on-year to 495,000 tonnes carcase weight (cwt).

This will be partially offset by increasing carcase weights, as producers with lambs on hand but limited feed have increasingly refined their production systems to reflect the difficult conditions, with greater focus on supplementary feeding and lot feeding lambs.

Expected lamb carcase weights for 2019 are now projected at 22.9kg, up 2% year-on-year, while sheep carcase weights are forecast to remain stable on 2018 at 23.7kg.

Adam said significant seasonal variability has presented challenges in ascertaining how national lambing rates have performed, however, the overwhelming consensus is for fewer lambs to enter the market for the remainder of 2019.

High sheep slaughter and poor joining and lambing rates has seen the national sheep flock now estimated to be 66 million head, representing a decline of 6.5% year-on-year.

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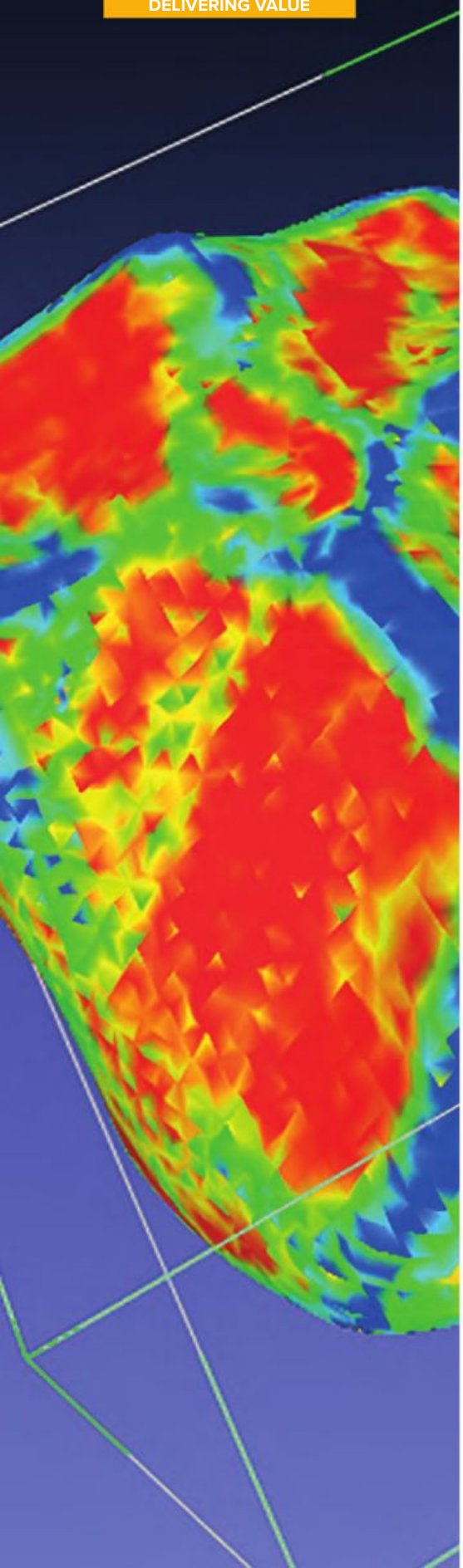
MLA's *Industry projections 2019: Australian sheep – September update* are available at: mla.com.au/sheep-projections

For the latest market news and trends, visit the Prices & Markets section of the MLA website: mla.com.au/prices-markets

SUPPLY CHAIN

DELIVERING VALUE



CUTTING EDGE TOOLS

Augmented reality, 3D imaging and hyperspectral cameras are some of the objective measurement tools being developed for the beef, sheepmeat and pork industries through a major collaborative project.

Phase one of an MLA-supported project, Advanced Livestock Measurement Technologies (ALMTech) for Globally Competitive Australian Meat, is in its final year and on track to deliver all its set outcomes, including cutting-edge technologies.

Each of the project's programs have outputs designed to drive productivity and profitability along the supply chain and keep the Australian red meat industry ahead of its global competitors.

Here, principal researcher Dr Graham Gardner of Murdoch University provides a snapshot of ALMTech's achievements so far:

Lean meat yield measurement technology

Measuring lean meat yield is progressing, with full calibration of the lamb dual-energy X-ray absorptiometry (DEXA) system completed in one supply chain.

Three other lamb plants are being supported to install DEXA in the next few months.

"We're also working to define the language and standards for a lamb DEXA auditing system," Graham said.

"This will enable industry to progress away from the rudimentary measures of fat depth that it currently trades on."

In an exciting development for live animal technologies, 3D imaging cameras are being tested on feedlot cattle.

A hand-held microwave device to measure fat depth in live sheep and cattle is also being tested.

Eating quality measurement technology

Cut-surface technologies for measuring intramuscular fat – including hyperspectral cameras, simple red–green–blue (RGB) cameras and near-infrared spectrometers – are all showing promise.

The process of securing AUS-MEAT accreditation for RGB and hyperspectral cameras has begun.

Robotic technology

The ALMTech team has been working in parallel with other MLA Donor Company (MDC) project teams to develop carcase-scanning technologies that could identify health defects in offal, measure eating-quality attributes in live animals and support automation.

Industry databases

Data generated by new measurement technologies is being integrated into producer feedback systems and genetic databases.

Livestock Data Link now has a lean meat yield value for beef and lamb.

Researchers are working to create at least three new or enhanced genetic tools to aid producer livestock selection, using data from the new devices.

Data decision systems

Adoption of these tools is starting to ramp up, with the ALMTech team working with industry to develop producer workshops on lean meat yield and eating quality, including developing new and updated producer manuals.

A Beef Value Calculator and a Lamb Optimiser module for ▶

the existing Lamb Value Calculator have been developed.

"Those are valuable tools for processors, helping them make more sophisticated – and more profitable – use of the data from new measurement devices," Graham said.

Collaboration

The collaborative nature of ALMTech has been its greatest strength, with a partnership of 19 processors, technology providers, universities, government departments and research and development companies, including MLA, from across the three industries pledging $6.7 million.

This is in addition to the $4.8 million in federal Rural Research and Development for Profit program funding.

These partnerships played a role in ensuring new technologies are practical.

"Coming up with the fancy technology is really only about 10% of the job," Graham said.

"Most of the work in developing these technologies happens when they're deployed in the real world.

"It's not until you start integrating technology into the processing environment where you've got variations in light, chilling regimens, times after death, dehydration profiles and so on, that you can see where the problems are."

Even in live animals, the variable amount of dirt in the hide can affect the performance of devices, so the seamless deployment of these technologies into the real world has been crucial. ■

Graham Gardner
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3D imaging put to the test

A 3D imaging tool combining off-the-shelf cameras with artificial intelligence has successfully estimated P8 fat and muscle score of live cattle at a NSW feedlot.

The feedlot testing marks the first real-world application of the 3D imaging tool, developed as a collaboration between the NSW Department of Primary Industries and University of Technology Sydney (UTS), supported by MLA.

This ability to automate live animal assessment will reduce subjectivity and increase confidence in performance and carcase yield predictions.

A goal of Advanced Livestock Measurement Technologies (ALMTech) is to develop lean meat yield objective measurement technologies for use on live animals and carcases.

Researcher Alen Alempijevic, from the Centre for Autonomous Systems at UTS, said the results were "very promising".

"Our goal was to deploy the 3D imaging tool at a feedlot and have it automatically report P8, hip height and muscle score," he said.

Cameras, attached to a custom-designed portable chute at the feedlot, reported P8 values within 1.5mm of scanned values.

"We didn't push the envelope too far in terms of diversity of cattle, variation of live weight, fat and muscle, so the plan now is for longer-term deployment in a feedlot."

Research will also continue to use computed tomography (CT) measurements of carcases, so the tool can be used to estimate lean meat yield of live cattle at feedlot exit.

How it works

Off-the-shelf red–green–blue (RGB)-scanning cameras (similar to an Xbox camera) take 3D images of an animal as it passes through a chute.

Using P8 fat and muscle scores obtained by ultrasound from expert assessors, the team used machine learning – a branch of artificial intelligence – to 'teach' their software to interpret 3D shapes into muscle and fat deposits, and produce scores related to these traits.

"If a shape has not been previously seen, the system can request some information for it to expand what it has learnt so far – in the same way a person builds on their experience," Alen said.

There is potential for the information produced by this technology to be fed back into the seedstock sector for Estimated Breeding Values to predict lean meat yield at slaughter and pave the way for carcase sorting or value-based marketing.

Alen Alempijevic
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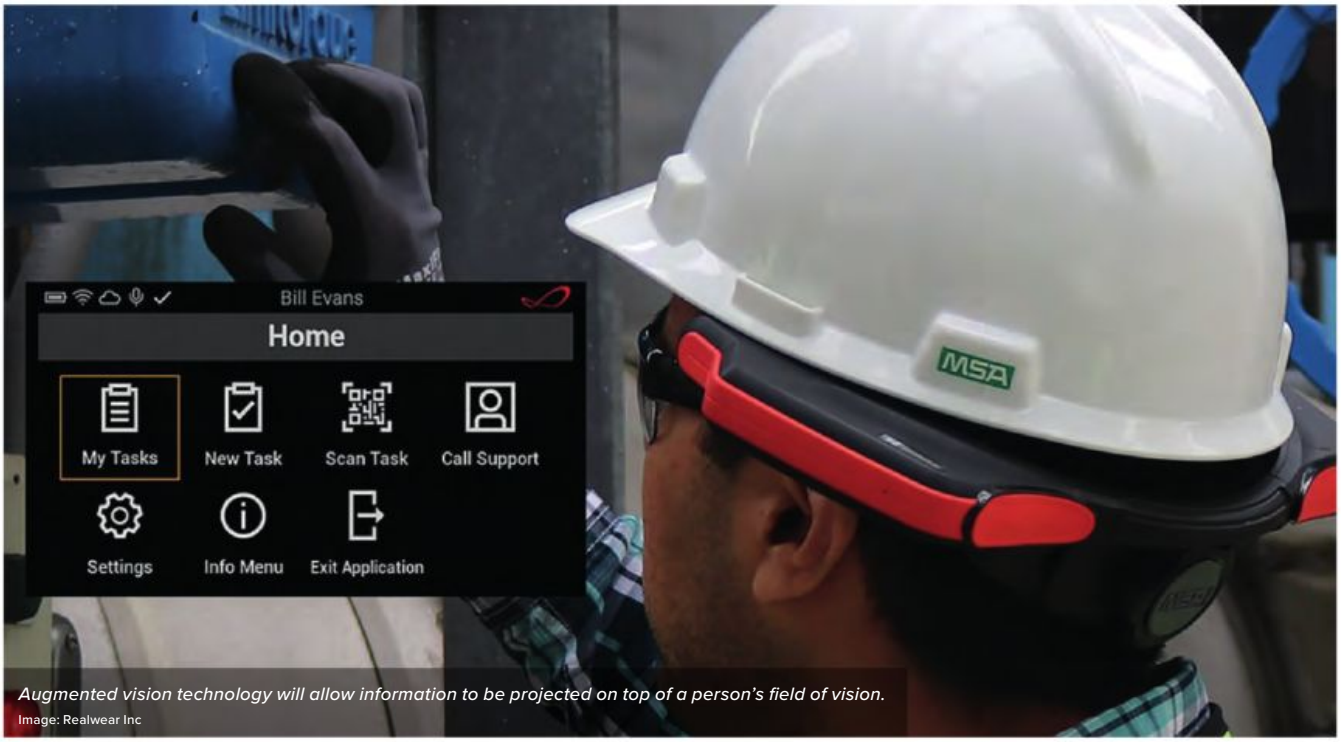
UTS researcher Alen Alempijevic trialling the 3D imaging tool on Angus cattle at a Northern Tablelands feedlot.



Augmented vision technology will allow information to be projected on top of a person's field of vision.
Image: Realwear Inc

HEADS UP FOR SMART VISION

It sounds futuristic, but smart glasses which project images in front of a user's field of view could one day be used in red meat processing.

MLA-funded research projects have proven the potential of augmented vision (AV) technology; however, shortcomings in the robustness of AR headsets means industry application could still be a couple of years off.

MLA Value Chain Technology Program Manager Christian Ruberg said AV involves projecting information – such as a computer screen or operating manual – on top of a person's field of view via a heads-up display, using smart glasses or headsets.

AV is being investigated in MLA Donor Company projects and an ALMTech project.

"AV technologies provide the opportunity to improve real-time decision making, increasing productivity and efficiency, reducing costs and increasing value in the supply chain," Christian said.

"We wanted to know if X-ray images of offal could be projected over the actual offal, to help food inspectors more effectively identify livestock health attributes."

The ability to display disease and defect features over offal would also reduce contamination risk by eliminating the need for meat inspectors to touch the product.

Consultants from technology partner Wiley evaluated different AV headsets and found this technology has the ability to enhance human performance in inspection.

However, current off-the-shelf headsets have limitations in terms of ruggedness, reliability, software bugs and convenience.

"These technologies are enjoying huge global investment and these shortcomings are expected to be overcome in the near future – possibly two to five years as the product matures," Christian said.

"Once the solutions are developed, the costs of adoption aren't high, with headsets priced at only a few hundred dollars."

In a separate project, Scott Technology demonstrated how AV can be used for automation system troubleshooting, service and technical support.

AV could also be used to:

- project precise cutting lines to help boning room butchers
- allow remote technical support to help processing plant engineers troubleshoot machinery problems
- train new staff
- support producers with on-farm tasks such as counting livestock, recording information using voice recognition and objective visual assessment.

Processor welcomes new technology

Paul Gibson, from Australian Country Choice (ACC), believes AV is an important step towards full automation in red meat processing.

Paul is ACC's Group Manager for Research & Development and Product Development, and believes full automation is still a way off.

"In the interim, we need to look at augmentation as the beginning of full automation, which means matching 'man and machine' to achieve process improvements," he said.

"It doesn't solve the problem of attracting suitable people to work in processing in regional and remote areas. But any machines that might reduce our reliance on labour in these regions are worthwhile considering." ■

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SUPPORTING TOMORROW'S RESEARCHERS

The next generation of the red meat industry's researchers are receiving a kick-start through MLA's scholarship program.

MLA invests in building industry capacity through scholarship and study awards, as well as supporting career progression by embedding postgraduate students in research projects.

On completion of their studies, more than 70% of students supported by this scheme continue to work within the red meat and livestock industry.

MLA recently signed off on eight new scholarships to support students undertaking postgraduate studies (mostly PhDs) for the three years of their candidature.

MLA Program Manager Dr Nigel Tomkins said the scholarship program is designed to ensure the next generation of R&D providers is in place.

"We want to make sure we have people in the system who are capable researchers and who can deliver good science," he said. ■

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mla.com.au/scholarships

Fingerprinting beef

One of MLA's 2019 scholarship recipients, Dr Steph Fowler, is using forensic testing to verify grassfed beef.

Steph (pictured), a researcher based with the NSW Department of Primary Industries Meat Research Team at the Cowra Agricultural Research and Advisory Station, is developing a solution to protect the integrity of beef in the face of food fraud and consumer demand for quality.

She's involved in an MLA project to verify premium grassfed Australian beef using non-invasive and non-destructive Raman spectroscopy technology (also used for forensic and pharmaceutical applications) to analyse the chemical make-up of beef in real-time during processing.

"The fat composition of grassfed beef is different from beef produced in other systems, so we can use this fat profile to determine what the animal has been fed," Steph said.

This will provide a chemical fingerprint which could help the Australian industry authenticate the quality of their product and maintain export market access.

"By giving processors an authentication tool, it becomes easier for producers to get involved in certified grassfed supply chains," she said.

Steph's interest in this work grew out of her PhD research, which was looking at a different version of the Raman technology to assess lamb quality. ■

Behind Australia's first carbon neutral brand

One of Australia's largest and oldest cattle producers has drawn on MLA consumer insights to launch the country's first carbon neutral brand.

Five Founders is a branded beef product from the North Australian Pastoral Company (NAPCo), which manages approximately 200,000 head of cattle across Queensland and the NT.

All Five Founders cattle are produced from NAPCo-born and bred cattle, allowing the company to offer a 'whole-of-life' advantage to ensure full traceability within their supply chain.

Expanding market opportunities

Five Founders will be sold in NAPCo's current markets – Australia, China and Singapore – before a staged expansion to other markets.

NAPCo engaged MLA through the CoMarketing Program to collaborate on domestic and export insights into and trends in branded beef, markets and consumption.

NAPCo General Manager of Sales James Carson said partnering with MLA's CoMarketing Program allowed the company to launch Five Founders in the domestic market while simultaneously prioritising international markets.

"This meant we could optimise the whole-of-carcase supply chain, extending distribution and brand awareness further in year one," he said.

He said MLA's regular market and consumer insights were an important part of the research phase of brand development.

"As the insights are updated on a regular basis it was very important to have access to the latest data to understand overseas consumer and market trends, buying patterns and associated risks within various markets," James said.

MLA and NAPCo also joined forces to create a 'train-the-trainer' program in China, to equip NAPCo's Chinese customers with the skills to sell Australian red meat to consumers.

MLA Market Intelligence Manager Scott Tolmie said the work with NAPCo is an example of how MLA provides insights to producers and processors to help them better understand their consumers and markets.

"MLA gathers a broad range of intelligence to provide data and insights relating to the attractiveness of various markets for the vast variety of Australian products," he said.

"MLA also conducts research around the world to better understand the consumer journey from planning to plate, and how Australia can meet consumer needs at all points along that journey."

Carbon neutral

NAPCo went through a 12-month Australian Government accreditation process to be able to provide consumers with a unique beef product, and has been officially accredited as carbon neutral.

An independent national carbon and energy management company calculates NAPCo's chain-of-production carbon footprint from paddock to plate, then NAPCo purchases carbon credits approved by the Australian Federal Government to offset this.

NAPCo Chief Executive Officer Phil Cummins said the decision to pursue carbon neutrality was to meet the desires of the modern consumer.

"People increasingly want produce that not only delivers the highest-quality eating experience but respects their affinity for environmental and animal care," he said.

The branded program has added value to activities NAPCo has been engaged in for 140 years, including owning cattle from birth to processing, taking great care and pride in raising cattle, and being responsible stewards of their land, people and communities. ■

LESSONS LEARNED

NAPCo shares five ingredients to developing a beef brand:

- **Take time to research:** invest in and make use of many sources of data and insights.
- **Set a strategy and stick to it:** take the time to get this right and don't deviate from your core proposition.
- **Identify stakeholders to align with:** industry and business alignment is critical to future success.
- **Set measurable milestones:** set clear objectives which can be achieved in a reasonable timeframe.
- **Commit to excellent execution:** do what you say you're going to do, every time.

NAPCo
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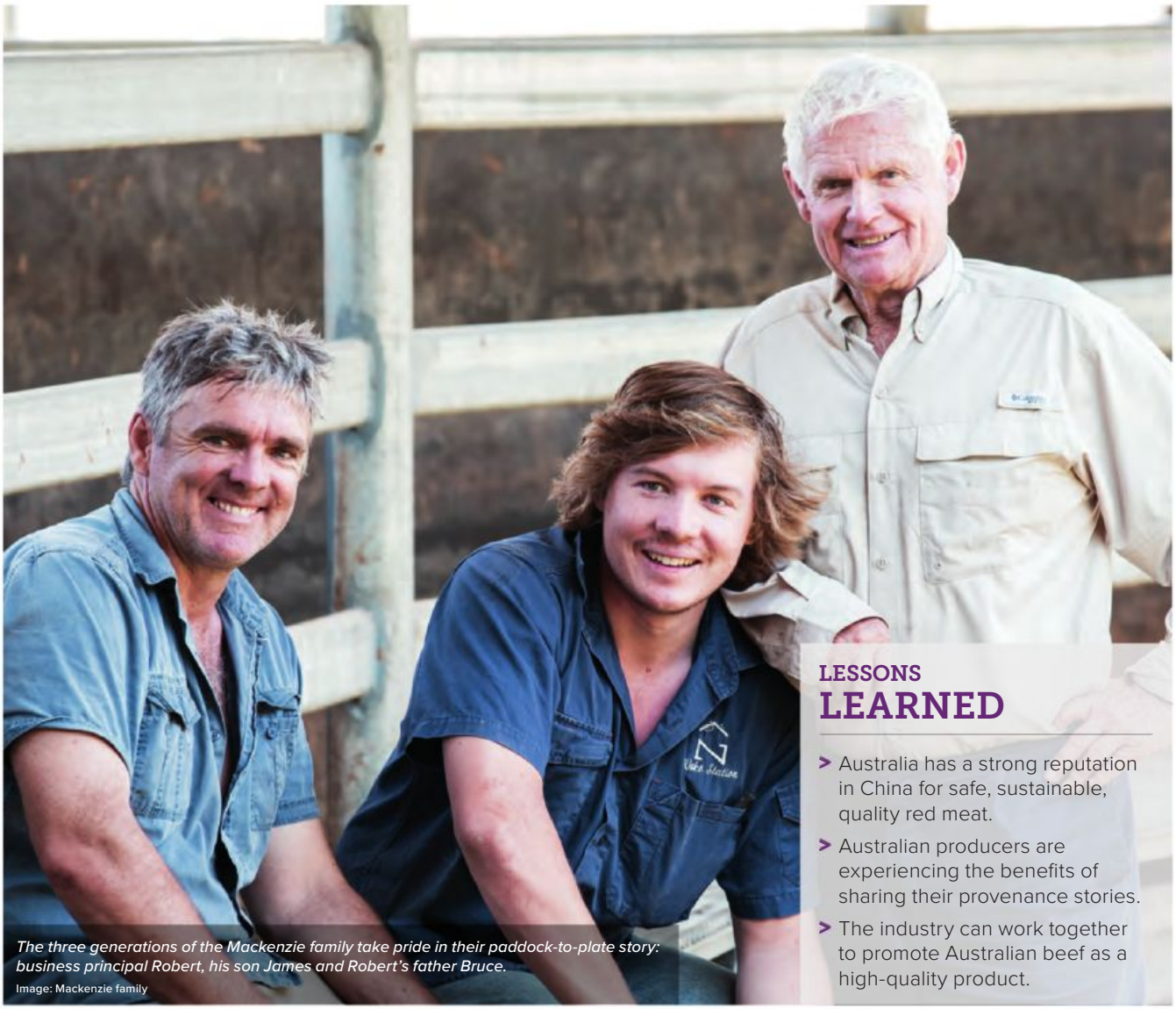
MLA CoMarketing
E: comarketing@mla.com.au

fivefounders.com.au
comarketing.mla.com.au

Aussie dumplings not so crazy

Strong customer connection with the paddock-to-plate journey adds integrity to and improves trust in the Australian product.



The three generations of the Mackenzie family take pride in their paddock-to-plate story: business principal Robert, his son James and Robert's father Bruce.
Image: Mackenzie family

LESSONS LEARNED

- Australia has a strong reputation in China for safe, sustainable, quality red meat.
- Australian producers are experiencing the benefits of sharing their provenance stories.
- The industry can work together to promote Australian beef as a high-quality product.

SNAPSHOT: Robert Mackenzie,

Nine properties around Gloucester, Williamstown and Salt Ash, NSW

Area: Combined total of more than 6,200ha

Enterprise: Beef production and export

Livestock: 2,000 Angus breeders

Pasture: Kikuyu, clovers, ryegrass, fescue, chicory, paspalum

Soil: Black basalt loam

Rainfall: 945mm–1,000mm

It might sound like selling ice to an Eskimo, but an industry partnership is putting Aussie beef and lamb dumplings on Chinese tables.

The tale of Crazy Dragon dumplings is one of provenance, powered by a collaboration between MLA Donor Company (MDC), producers and food companies.

The dumplings are manufactured in China by the Australian-owned and Melbourne-based company, My Crazy Auntie's Food, and are made with trim meat supplied by Macka's Australian Black Angus Beef, a NSW-based, vertically integrated export business.

The compelling paddock-to-plate story of Macka's gives Crazy Dragon dumplings a unique point of difference in the Chinese marketplace.

Macka's director and fourth-generation producer, Robert Mackenzie, has been to China nine times during the past three years and is enthusiastic about sharing their story, inviting consumers to see firsthand how their beef is grown and processed.

"We have a lot of Chinese visitors to the farms who want to learn more about how their food's produced and how we guarantee a quality product on their supermarket shelf," he said.

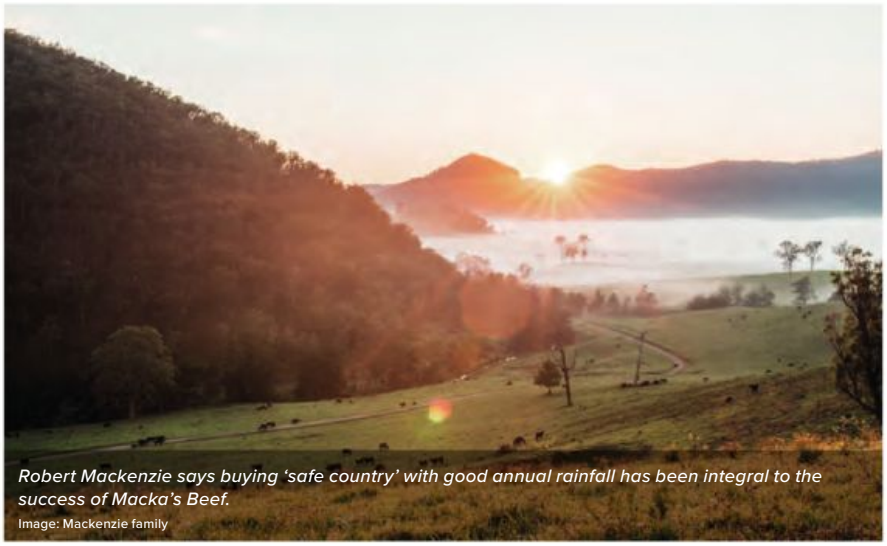
"The Chinese market is very concerned with provenance, traceability and product integrity."

Despite increased animal activist and protest activity targeting Australian farms recently, Robert remains steadfast in his 'open door' policy.

"Everyone's entitled to their view.

"We remain committed to our goals and our vision, which is running quality cattle on quality properties and adhering to industry best practice," he said.

"We have a good reputation in Australia for being clean and green, and having high animal welfare standards and an excellent traceability system.



Robert Mackenzie says buying 'safe country' with good annual rainfall has been integral to the success of Macka's Beef.
Image: Mackenzie family

"It's a great story and we need to talk it up. We need to keep pitching Australian beef and lamb as quality products and to help each other."

My Crazy Auntie's Food Director Juy Hepner said exporting Macka's trim to China for Crazy Dragon dumplings allowed him to use Australian product and sell into the Chinese marketplace while circumventing a Chinese quarantine ban on imported processed meat products. This ban prevented his dumplings from being manufactured in Australia and exported.

"I asked [Chinese] customers 'is there going to be any push-back from the fact that it's processed in China? Are you going to trust that it really is Aussie beef and lamb?'" he said.

To guarantee provenance, Juy wanted to create a signature that couldn't be copied. The solution was to shoot videos at the actual farms where he sourced the meat.

He filmed Robert, dubbed the video into Chinese and took it to a trade show where it went viral. It was so well received, the video is now attached to the quick response (QR) code on the dumpling packaging.

While Robert is mostly preoccupied with marketing to supply his chilled and frozen Angus box beef and retail-ready product to China, he hasn't lost sight of the basics – producing what consumers want.

"It's important to have the right genetics and the right breeding," he said.

Robert's breeding checklist includes:

- high marbling
- strong mothering ability
- good milk production.

Tools of the trade

Robert's advice to others interested in exploring export opportunities is to use government and industry resources.

For example, MDC, which doesn't use producer levies, provided market research insights and data to help Crazy Dragon develop its strategy.

"Austrade, the Australian Government, NSW Department of Primary Industries and MLA have all provided tremendous support, both here and out of Australia," he said.

"They care about helping people live out their dreams and ambitions.

"The first time I went to China was four years ago; I went on my own for six weeks to try and understand the market and meet some people who might be able to help us export.

"Initially it was difficult to meet people, particularly with the language barrier; however, as our contacts built, it got easier and Australia's good reputation for quality product really helped." ■

Robert Mackenzie
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Watch the Crazy Dragon video case study at:
youtu.be/-gT6L48MkgA

RED MEAT FOR YOGIS

What do yoga and red meat have in common? They both tick the boxes for Singaporeans who want premium food served up with a side of health and wellbeing.

Attractive Singapore

Singapore is one of five South-East Asian cities identified by MLA as a key focus over the next five years.

These cities have been identified as 'attractive' because they are politically stable and growing both in population and economically.

Their growing emphasis on premium products and nutrition presents a significant opportunity for the Australian red meat industry.

MLA research has found while consumers in Singapore want nutritious and sustainable options when buying red meat, many lack confidence in how to prepare it.

In response, MLA's Singapore office collaborated with World Gourmet Summit 2019 for an event called 'Cooking healthy, Eating healthy'.

The event, held at Open Farm Community – a Singapore restaurant focused on sourcing sustainably produced food – brought together 50 media, social influencers and mothers who often make the decisions for family meals.

The day began with a yoga session, followed by a cooking demonstration of healthy beef and lamb dishes developed and presented by Open Farm Community chefs Oliver Truesdale-Jutras and Seki Takuma.

Ellen Rodgers, MLA International Business Manager, Southern Asia, spoke to guests about the sustainability practices underpinning the Australian red meat industry.

MLA partnered with Singapore e-commerce business, The Meat Club, for the event and participants heard from founder Amy Bell. The Meat Club provides Singapore consumers with premium-quality, home-delivered Australian beef and lamb.

The responses to the day were overwhelmingly positive, with 90% of attendees describing it as "awesome".

In addition to physical advertisements distributed via The Meat Club deliveries and other channels, social media reach included Facebook posts to almost 10,000 followers and 43 Instagram story posts from 40 social media influencers. The total reach for the event was around 124,100 views, generating a media value of approximately $215,000. ■

Ellen Rodgers
E: erodgers@mla.com.au

Watch a video of the day here: youtube.com/watch?v=wirlr_h_gaA&feature=youtu.be

Meet the meat eaters

Meet two Singaporeans who paired wellness and red meat as part of MLA's 'Cooking healthy, Eating healthy' event.


Image: Mark Chan/Zeng Lin

Sarah Pang,
WTA tennis professional

You describe red meat as 'super important' in your diet – why is that?
In an ideal world, I would eat a steak for breakfast every morning. The protein kick it gives me is undeniable. My rate of recovery and strength gains are also much quicker when I supplement my training with consuming quality red meat.

What did you learn at the event?
I didn't know MLA had a presence in Singapore. It's encouraging to know they would set up an office here to educate consumers around the region.

Ellen Rodgers highlighted the nutritional value of red meat. As a professional athlete, I had some awareness but to have that knowledge echo out from an industry expert was fantastic. More people need to be aware of this.

What would you like to say to Australian beef and lamb producers?
Food is such a big part of our culture and for a country that doesn't have any agricultural land, we're aware of the constraints around importing food and ensuring that it remains fresh. Needless to say, we really do appreciate the lengths that Australian farmers go to, to provide this quality to us on a consistent basis.

Connect with Sarah
@tenniswithsarah
@tenniswithsarah

Katherine Goh,
video producer at Sweet

Did anything about the MLA event surprise you?
I was surprised to learn that grey-looking beef is a sign that it's vacuum-packed fresh. People usually choose beef according to how red it looks. Otherwise, it's well known that Australian meat is raised with care and is exported fresh. I was also glad to learn that red meat does have its place in a healthy diet.

What did you communicate to your networks?
We wanted to let our audience know that Australian meat is the ideal choice, especially if they're looking for fresh, hormone-free and antibiotic-free meat for their family.

What should Australian producers know about Singaporean consumers?
There's a growing number of eco-conscious consumers who are concerned about sustainability, and these people are looking at where their food comes from. Meat producers need to be more transparent and accountable for their actions if they want the support of the conscious consumer.

Also, while many people know about the benefits of Australian meat, some Singapore shoppers are unaware of the differences in quality. I see fresh Australian meat as more accessible to higher-income consumers. ■

besweet.sg

All eyes on EU

In October, MLA co-invested with 12 Australian exporters to present Australian red meat to more than 170,000 visitors from 210 countries at the world's largest food and beverage event, the Anuga Trade Show in Germany.

With free trade agreements (FTAs), political changes and the impending 'Brexit', market access in the EU serves up its share of challenges and opportunities.

The EU is the largest economy and largest trading bloc in the world, with more than 500 million people across 28 member states.

This makes the EU both an attractive and complicated trade partner.

Australia and the EU have a long-standing trade relationship, with bilateral trade worth $109 billion in 2018 – but Australian red meat exports are currently restricted by the EU's low-volume import quotas and high out-of-quota import tariffs.

When Australia fills its country-specific quotas, it is then unable to respond to additional EU customer demands.

Australia and the EU are currently negotiating an FTA which will determine future market access, but political changes within the EU will shape the direction of those trade talks.

The EU member states need to agree on policy by a significant majority and, in some cases, unanimously, which can slow decision-making.

MLA's role

MLA International Business Manager – Europe and Russia, Josh Anderson, said MLA's long-term presence in Europe reflects the value of this market.

"MLA is the only Australian agriculture organisation with a presence in Brussels and London. This is important because the decisions made in these capitals will affect our market access into the EU and UK for years to come.

"Part of MLA's role in this market is to ensure European policymakers have a full appreciation of the Australian red meat industry and its high standards," he said.

"Our objective is to support trade reform and see the liberalisation of the market, which will create better access and opportunity for Australian beef, sheepmeat and goatmeat."

- MLA is also a member of the Australia–EU Red Meat Market Access Taskforce, which collaborates with the Australian Government to position the sector for substantial improvements to the EU's existing import regime.
- MLA also works with the Australian Government and like-minded trading partners in the World Trade Organization to ensure Australia's trade interests are represented under Brexit.

Changing the guard

Three upcoming political changes within the EU are likely to shape the direction of future trade talks:

- A new European Parliament was recently elected; they must approve the final FTA deal between Australia and the EU.
- The UK, Australia's largest red meat market within the EU, is currently scheduled to exit the EU on 31 October.
- The European Commission, which negotiates trade agreements on behalf of the EU, will change its political leadership from 1 November.

"This means the politicians and officials with whom the Australian Government is currently negotiating will almost completely change, and there'll be new people and new priorities," Josh said.

"Building relationships and ensuring that Australia remains a high priority within EU trade policy will be crucial.

Pictured at the Anuga Trade Show MLA stand, which showcased True Aussie beef, lamb and goat, are MLA's Relationship Manager – Industry Marketing Programs, Raelene Fowlds, and International Business Manager – Europe and Russia, Josh Anderson.

"In the meantime, MLA will continue to work with the Australian Government and EU policymakers to ensure the best possible outcome for our red meat producers in the negotiations to come.

"MLA also collaborates with the European agriculture sector on best practice for issues such as eating quality and environmental standards. Those industry ties are very important." ■

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Want to know more? Check out mla.com.au/market-snapshots for a more in-depth look at key markets

ON THE GROUND

The EU presents unique challenges and opportunities for the Australian red meat industry. As Brexit talks continue and the Australia–EU FTA builds momentum, who better to provide an insight than these two 'industry insiders'?

ANDREW McDONALD

Export manager at NH Foods and Chair of the EU–UK Red Meat Market Access Taskforce

How have you seen the EU market change in your 18 years as a red meat exporter?
The EU has changed from virtually a sole focus on the UK trade to a continent-based market. The UK consumes similar cuts as Australia (rump, loins and roasting cuts), but changes to market access and the emergence of grainfed trade has driven export of all cuts for a variety of recipes and butchering across all EU cultures. I've also seen more product branding in recent years, which creates an opportunity for our industry, through MLA, to market the unique traits and quality of Australian red meat to a diverse group of consumers.

Why should Australian red meat producers care about what happens in the EU?
Europe is an attractive market as consumers demand high-quality imported beef and sheepmeat. Of all the markets Australia exports to, the EU returns one of the highest average prices. Australian producers have responded to this demand by developing dedicated supply chains and focusing on meeting market-specific requirements. However, Australian red meat exports are still constrained by disproportionately low-volume import quotas and high above-quota tariffs, and changing that landscape is a huge opportunity.

What is the message for Australian producers?
Keep doing what you're doing – our EU consumers love the Aussie outback, the people, the cattle, our production systems. Some see political uncertainty within the EU–UK market as a risk, but I see it as a huge opportunity. Quotas are currently managed by customers, so we need to be on the front foot to deliver what they want so they choose Australian beef over other suppliers.

JOSH ANDERSON

MLA International Business Manager – Europe and Russia

You're based in MLA's London office – what is the word on the street when it comes to Brexit?
Brexit has dominated the airwaves but it's been more heat than light in recent months. The temperature has definitely dialled up with the new Prime Minister and his team. There's a battle for supremacy between those who want out of the EU on 31 October under any circumstances and those who favour a softer landing or even the possibility of the UK staying in the EU.

What could Brexit mean for Australia?
Brexit has brought about uncertainty in terms of Australia's access to the European market. Anything which threatens disruption to market access and existing supply chains is not a good thing. However, there are opportunities for increased trade as the Australian and UK governments have both stated their ambition for an FTA after Brexit, with opportunities for Australian red meat producers.

What three things should Australian red meat producers know about Brexit?

- It's extremely messy and complicated, which means the outcome is unpredictable.
- It won't be done on 31 October. Even if the UK leaves on that date, they'll be negotiating the practical arrangements with the EU for years to come.
- There's likely to be a stronger Australia–UK trade relationship in the long-term. ■

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mla.com.au/market-access-beef

EU

EU population:

- 2019: 510m
- 2023 projection: 511m

Australian beef exports to EU (2018–19):

- volume: 14,601t shipped weight (swt)
- value: $229m
- share of EU beef imports: 7%

Australian sheepmeat: exports to EU (2018–19)

- volume: 13,469t swt
- value: $132m
- share of EU sheepmeat imports: 11%

EU consumption:

The EU is a large per-capita consumer of beef by global standards, but consumption levels vary between countries. The largest consumers are France (23kg/person/year), the UK (18kg), Germany (14kg) and Italy (16kg). Sheepmeat plays a minor role in consumer diets and consumption is primarily concentrated in western Europe, particularly the UK, France and Spain.

EU households earning more than US$50,000/year

- 2019: 76.6m
- 2023 projection: 99.2m

Want to know more? Check out mla.com.au/market-snapshots for a more in-depth look at key markets.

INDUSTRY INSIDER

Cashing in on innovation

Ahead for numbers has taken Jai Anderson from banking to 'investment attraction' – a new role at MLA designed to keep the Australian red meat and livestock industry competitive on the world stage.

Jai (pictured) stepped into the position of Investment Attraction Manager for MLA Donor Company (MDC) in February, and focuses on securing new funding partners for the sector.

"Red meat, and agriculture more broadly, is an increasingly important sector as the global population increases, so there'll be a steady supply of investment interest and opportunity.

"The key for MLA is to position ourselves in a way that will encourage strategic partners to come on the innovation journey with us."

MDC brings together co-investment between producers and individual enterprises to deliver work that benefits the industry, and has an existing portfolio of more than $330 million with an annual expenditure of around $100 million.

Jai's role is to identify and attract strategic capital that aligns with the research, development and innovation priorities of the Australian red meat industry.

"The main focus is on opportunities that help create stronger partnerships across the public and private sectors," Jai said.

"This means strengthening the support we receive from state and federal governments, as well as identifying untapped potential within the private investor segment." ■

Jai Anderson
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Here Jai talks to *Feedback* about his role with MLA.

Q:

Explain how you came to a career in the red meat industry.

I was a banker in financial markets and worked in the treasury of Rabobank, the world's largest food and agriculture bank, for more than a decade. My role involved developing strategies to effectively engage with and attract funding from institutional and retail investors.

After working at the bank, I was drawn to the 'blue ocean' of opportunity that exists in the agricultural technology and innovation space in Australia. There's great demand for our produce domestically and abroad, so I see my current role as curating investment solutions for red meat industry innovation.

Q:

What does your role involve on a day-to-day basis?

I work with value chain participants, MLA's external innovation partners, investors and internal stakeholders on the best funding solutions for industry, and then implementing these solutions.

Q:

What are the best parts of your job?

I get the biggest kick out of being involved in projects that are aligned with my values as a consumer. Playing my part in our carbon neutral strategy, CN30, and animal health and welfare is very satisfying.

Q:

What's your favourite red meat dish?

One of my favourite dishes for entertaining at home is cooking a medium-rare eye fillet coupled with a homemade chimichurri sauce, complemented by a few deep glasses of shiraz.

You wanna pizza this?

This delicious lamb, tomato and olive pizza can be made in three simple steps and will be on the table in half an hour. You can find more easy meal ideas from MLA's spring lamb campaign at australianlamb.com.au

Lamb, tomato and olive pizza

Serves: 4 • **Preparation:** 10 minutes • **Cooking:** 20 minutes

Spray olive oil
2 cloves garlic, crushed
500g lamb mince
1 tbsp dried Italian herbs
2 x 250g pre-made pizza bases with tomato sauce
200g grated mozzarella cheese
3 vine-ripened tomatoes, sliced
¼ cup pitted kalamata olives, sliced
40g baby spinach leaves
Oregano leaves, lemon wedges, to serve

1. Preheat oven to 210°C (190° fan-forced). Spray a large non-stick frying pan with olive oil and cook garlic over medium-high heat for 1 minute. Add lamb and Italian herbs and cook for 4–5 minutes or until lamb is browned. Season and set aside to cool slightly for 5 minutes.
2. Place pizza bases on two large baking or pizza trays. Top with half the cheese, tomatoes, mince, olives and remaining cheese. Bake in oven for 12–15 minutes or until cheese is melted and golden.
3. Sprinkle pizzas with oregano and serve with baby spinach and lemon wedges.

TIPS

- Sliced lamb leg or rump would also work well in this recipe.
- You can cook the pizzas on the barbecue – on a pizza stone or metal tray – with the lid closed, until the cheese is golden and base is crispy.
- If you want to get creative you can make your own pizza base with flour and water and add a tomato base on top.

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Jason Strong
MLA
Managing
Director

Monday 18 November

On-farm producer tours

Welcome function | MLA red meat showcase

Tuesday 19 November

Insightful forums – a whole farm approach, research adoption and new digital tools and technologies

MLA red meat showcase | Social function and networking – Tamworth Town Hall

Wednesday 20 November

Industry breakfast – sharing red meat's story

Insightful forums – market information, global trade and building demand

Live cooking demonstrations | MLA red meat showcase

MLA Annual General Meeting | Post-event BBQ

For more information and to register, visit

redmeat.mla.com.au