meatup FORUM

For the latest in red meat R&D

COWRA

10 August 2023

Hear about locally relevant on-farm R&D

·

Hear from and network with leading producers

·

Gain insights into tools and programs to improve your business

·

Increase your productivity and profitability

About MLA

Meat & Livestock Australia Limited (MLA) delivers research, development and marketing services to Australia's cattle, sheep and goat producers. MLA has approximately 50,000 livestock producer members who have stakeholder entitlements in the company.

Program – Cowra, 10 August 2023

Time	Session
8.00am	Registration desk opens, tea and coffee available
9.00am	**Session 1: Setting the scene (auditorium)**
	Welcome and housekeeping Natasha Searle, MeatUp Forum Project Manager, Pinion Advisory and Lisa Anderson, MeatUp NSW Working Group
	MLA welcome and market update Sarah Strachan, Group Manager - Adoption & Commercialisation, MLA
	Keeping your eyes on the prize John Francis, Agrista and Stuart Tait, Tait Pastoral
10.30am	**Session 2: Feedbase updates (auditorium)**
	Managing and monitoring your feed: Australian Feedbase Monitor Alastair Rayner, Cibo Labs
11.00am	Morning tea
	We need to talk – about the weather: tips to move your business towards becoming carbon neutral Emma Thomas, Mylandra Partnership
	New methods for effective acid soil management Dr Jason Condon, Charles Sturt University
12:30pm	Lunch
1.20pm	**Session 3: Concurrent sessions**

	Beef updates (theatrette)	Sheep updates (auditorium)
	Prevention and management of cattle bloat Professor Bruce Allworth, Charles Sturt University	**Optimising eID in commercial sheepmeat enterprises** Sally Martin, Sheep MetriX
	Improving within-breed genetic evaluation and developing multi-breed genetic evaluation with the Southern Multi Breed Project Dr Brad Walmsley, NSW DPI	**Designer genes – moving to non-mules** Henry Hickson, NeXtgen Agri

Time	Session
2.15pm	**Session 4: Livestock Updates**
	Improving your parasite management programs with Paraboss Megan Rogers, Paraboss
	Pain management in sheep and cattle Dr Jillian Kelly, Animal Health Nutrition Consulting
	Making compliance work for you with eNVD and MyFeedback Demelsa Lollback, Integrity Systems Company
	Breeding and feeding to maximise profit with BredWell FedWell Dr Sarita Guy, Project Manager for Genetics Adoption, MLA
3.35pm	Collect afternoon tea and travel to Cowra Agricultural Research and Advisory Station
3.45pm	**Session 5: Visit to NSW DPI Cowra Agricultural Research and Advisory Station**
	A tour of the pasture agronomy trial and livestock trial sites featuring current projects to develop productive and resilient livestock systems Facilitated by Cowra NSW DPI staff
4.50pm	**Session 6: Wrap up**
	Wrap up and evaluation Georgia McCarthy, MeatUp NSW Event Coordinator, Pinion Advisory
5.00pm	Networking, canapes and drinks at the JT Pridham Conference Centre
6.00pm	Close

Directions to Cowra Agricultural Research and Advisory Station and JT Pridham Conference Centre

Directions
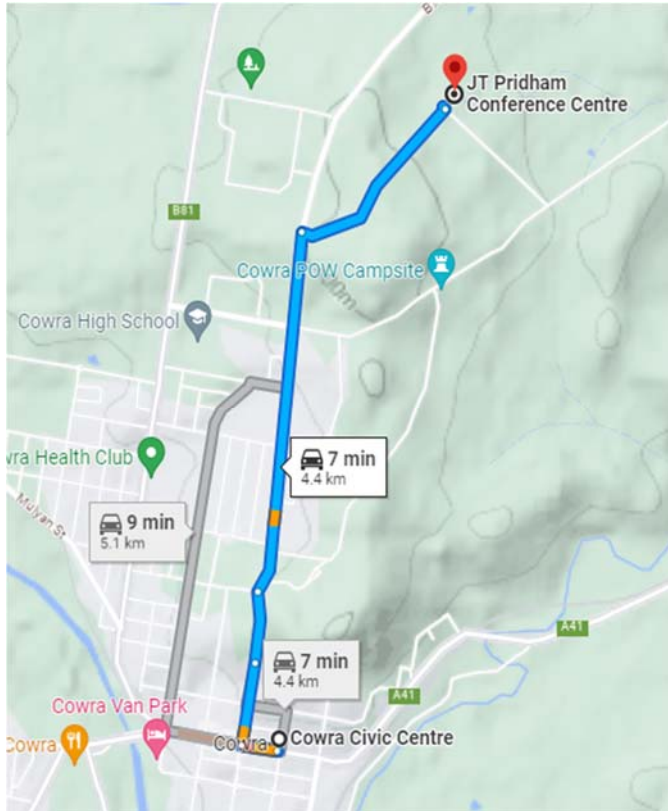
- From Cowra Civic Centre, 104 Darling St, Cowra head west on Kendal St/Mid Western Hwy/A41 towards Brisbane St

- Turn right at the first cross street onto Brisbane St, 500m

- Continue on to Scenic Drive, 400m

- Continue onto Binni Creek Rd, 2.1km

- Turn right, 296 Binni Creek Rd, Cowra (NSW DPI – Cowra Agricultural Research and Advisory Station)

Scan the QR code below for a link to Google Maps

Parking
Parking is adjacent to the JT Pridham Conference Centre. Please convene at the conference centre before heading to the trial sites.

Networking and canapes
Networking and canapes will be hosted in the JT Pridham Conference Centre following the trial visits and completing of event proceedings at 5pm.

Poll Everywhere

For audience participation, including submission of questions during MeatUp Forums, we will use Poll Everywhere.

Join via the QR code below. You may choose to download the app 'Poll Everywhere' when prompted.

PollEv.com/pinion

1. To join a presentation, type the username: **pinion** (or via a web browser, type PollEv.com/pinion)

2. Click join

3. Insert your screen name that you would like to appear alongside your question/response

4. Throughout the event, you can return to your app, the site PollEv.com/pinion or the QR code to participate.

Contents

Sessions

Welcome

MLA's MeatUp Forums are held throughout southern Australia to give you the latest in red meat R&D. They are developed by Regional Producer Working Groups that include members from the Southern Australian and Western Australia Livestock Research Councils, in collaboration with the MeatUp Coordinator, Pinion Advisory and MLA staff.

MLA's MeatUp Forums have been developed to keep you informed about:

◆ what MLA can offer your red meat business

◆ new and completed R&D that is relevant to your region and enterprise

◆ the role and responsibilities of the livestock research councils

◆ opportunities to get involved in regional R&D and priority-setting

◆ practical tools and programs available to you

◆ opportunities to enhance your productivity and profitability.

Today you will be presented with clear and practical ideas, information, and tools that you can take home and put into practice on-farm. We thank all presenters for their involvement in MeatUp and encourage you to make the most of your time with them today.

Regional producer working group

We thank MeatUp Forum regional producer working group members from New South Wales for their contribution to MeatUp. The current working group includes:

◆ Lisa Anderson, Wagga Wagga

◆ Tom Amey, Casino

◆ Kellie Penfold, Henty

◆ Christine White, Coolah

◆ David Greig, Tottenham

◆ Sarah Day, Girilambone.

In addition, we would like to thank:

◆ Andrew Morelli, Southern Beef and Sheep Adoption Project Manager, MLA

◆ Natasha Searle, MeatUp Forum Project Manager, Georgia McCarthy, MeatUp Forum Event Coordinator (NSW) and project team, Dee Heinjus and Lauren Rowlands, Pinion Advisory.

If you are interested in joining our regional producer working group, please chat to a working group member, a member of the MeatUp Forum team or contact the MeatUp Forum Project Manager.

Contact

Natasha Searle, MeatUp Forum Project Manager, Pinion Advisory
P:1300 646 746 E:meatup@pinionadvisory.com Visit: mla.com.au/meatup

meatup FORUM

mla
MEAT & LIVESTOCK AUSTRALIA

MeatUp forums were launched in 2021 and provide beef, sheep and goat producers with the opportunity to learn something new, stay up-to-date with the latest on-farm research and technologies and meet others in the red meat industry.

Held predominantly throughout southern Australia, these forums introduce producers to the outcomes of MLA R&D projects and the next steps to drive profitability and productivity on-farm.

Designed by producer working groups from local regions to ensure content delivered is regionally relevant, MeatUp forums demonstrate the value of implementing new practices or technologies on farm. They also create awareness around MLA activities, programs and projects which producers can get involved in to enable them to further build knowledge and skills.

Naracoorte MeatUp

2021–2023 at a glance

766 producers engaged

14 EVENTS

299,943 cattle impacted by MeatUp

1,995,214 sheep impacted by MeatUp

51,592 goats impacted by MeatUp

Total benefits* delivered to producers via MeatUp since 2021

$2.6M

Longreach

Charleville

Casino

Northam
Perth
Albany

Wudinna

Port Augusta

Cobar
Broken Hill

Dubbo

Gawler

Wagga Wagga

Naracoorte

"MeatUp forums give producers the tools they need to improve, but more importantly it generates the enthusiasm and the confidence to use them."

— Attendee, Katanning, WA, Perth MeatUp

10,949,236 hectares of Australian agricultural land influenced by MeatUp

88% value rating

82% of producers said their knowledge and skills increased

87% satisfaction rating

2 OUT OF 3 ATTENDEES PLANNED TO MAKE CHANGES FOLLOWING MEATUP

Setting the scene

MLA welcome and update

Sarah Strachan,

MLA Group Manager – Adoption & Commercialisation

About Sarah

Sarah oversees the delivery and development of the Meat Standards Australia, livestock genetics producer adoption, and on-farm sustainability programs within MLA. These programs are driven by the amb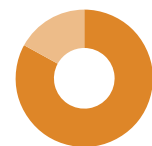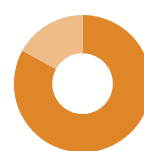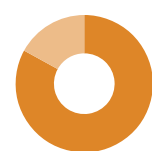itions of the *Red Meat 2030* plan to grow the investment in adoption to help double the value of sales from high quality Australian red meat.

The programs achieve this through converting research into commercial services for businesses along the entire supply chain, as well as supporting the goal of the red meat industry becoming carbon neutral by 2030. This includes providing a diverse range of options for producers to engage with and apply research outcomes into their production systems such as the well-known BredWell FedWell workshops, Producer Demonstration Sites and Profitable Grazing Systems programs.

Sarah has a Bachelor of Rural Science from the University of New England and has worked with MLA for over 20 years, spending 18 of these working in the MSA program.

Session abstract

In this presentation, Sarah Strachan will provide an update on the latest investments and activities from Meat & Livestock Australia. She will share insights from domestic and international marketing, innovation in the supply chain, and how MLA is improving the positioning of the industry through innovation, communication and marketing methods. Sarah will also talk through the industry's incredible sustainability journey, focusing on CN30, which is a goal that the industry has set to be carbon neutral by 2030.

Relevant tools and resources

◆ **Market update trends and analysis**

MLA's Market Information analysts examine and interpret developments in, and prospects for, the Australian domestic market, key export markets and major competitors, producing a wide range of publications.

◆ **MLA's 2021–22 *Producer Adoption Outcomes* Report**

The 2021–22 *Producer Adoption Outcomes* Report outlines the depth and breadth of adoption projects and programs that Meat & Livestock Australia (MLA) delivered for the 2021–22 financial year and how red meat producers benefited from their involvement in them.

◆ **MLA membership application**

MLA membership is free to levy-paying producers of grass or grain fed cattle, sheep, lambs and/or goats. Benefits of membership include:

- participation and voting rights at the MLA Annual General Meeting (AGM)

- discounts for a range of MLA products and services, ordered via the myMLA catalogue

- free access to the Australian Feedbase Monitor tool to help producers improve grazing management

- invitations to local MLA events

- free subscription to MLA's regular member magazine *Feedback*

- free subscriptions to MLA suite of e-newsletters

- free access to up-to-date publications and information tools.

◆ **Subscribe to MLA e-newsletters**

MLA newsletters to be delivered direct to your inbox at mla.com.au/enews

◆ **MLA Producer Demonstration Sites**

Producer Demonstration Sites (PDS) are on-farm projects run by producer groups who want to validate the benefits of incorporating research findings into their businesses. MLA calls for preliminary applications for PDS projects that will help to improve the profitability, productivity and sustainability of beef and sheep meat enterprises on an annual basis.

◆ **MLA Profitable Grazing Systems program**

Profitable Grazing Systems is a group-based delivery program designed to deliver training and coaching over several months and up to a year to improve producer skills and knowledge. The aim is to achieve practice change on-farm in the areas of people, business, reproduction and genetics, value chain and feedbase.

◆ **MLA BredWell FedWell**

BredWell FedWell is a practical, one-day workshop highlighting the key production benefits of superior genetics, plus feed management for improved reproductive performance and livestock productivity. New workshops are coming soon, follow the QR code to express interest.

◆ **MLA EDGE Network**

EDGE Network workshops offer practical knowledge and skills on topics such as breeding and genetics, business management, nutrition, grazing and land management. Workshops range from one to three days.

Notes

Keeping your eyes on the prize

John Francis,

Director, Agrista

john@agrista.com.au

About John

John Francis is the owner of Agrista, an agricultural consultancy business based in Wagga Wagga in southern NSW. Agrista provides consulting and benchmarking services to corporate and family farm asset owners and managers, the rural finance sector, government and industry bodies and the agricultural services sector. John's expertise generates value for clients via one-on-one consultancy, group consultancy, industry-driven project work, workshop content development and delivery and public speaking engagements and industry presentations.

Stuart Tait

Manager and Director, Tait Pastoral

taitpastoral@gmail.com

About Stuart

Stuart is the Manager and Director of his family farming business, operating 2,000ha across three farms based at Mandurama, NSW Central Tablelands. Tait Pastoral is a mixed farming business including 650 self-replacing Angus cow herd, 400-900 trade steers annually, and an 800ha winter cropping program.

Stuart aims to run an intensive, efficient, productive and profitable farming business in the high rainfall zone. Stuart has a Farm Business Management degree from Marcus Oldham and was a 2017 Nuffield Farming Scholar (sponsored by MLA).

Session abstract

This paper and the associated presentation aim to challenge you to think critically about your business goals, strategy and success measures. The simple but important process of articulating your business goals allows for the development of a business strategy because the purpose, targets and priorities become clear. The strategy is a plan of what the business will do to achieve success. Only after you know what success looks like can you develop a means for measuring it.

Commonly, farm business managers articulate aggressive financial goals but then implement a strategy which cannot possibly deliver the success defined by the goals. It is plausible that the complexity of farming systems is to blame for the implementation of these flawed strategies.

A complex system consists of components that can be explored, examined and explained when isolated from the system. But when those components are aggregated into a system the interaction between the components means they act differently to the way they did as components.

Complex problems can't be solved with simplicity or by dividing the problem into smaller pieces because these approaches ignore the interactions that occur when the pieces are combined into the system. The interdependencies of the problem need to be understood to be managed.

In the face of complexity, many business managers default to simplicity or component analysis rather than developing a strategy that demonstrates an understanding of the complexity and the interdependencies of systems components. By focusing on components of financial performance or on individual production targets in the absence of their implications when integrated into the system these producers are not able to optimise the performance of the system.

Peter Drucker, an influential management thinker, famously said "Efficiency is doing things right; effectiveness is doing the right thing." Efficiency is the maximisation of outputs from limited resources (financial, human, physical) or the minimisation of inputs for a given output. Effectiveness refers to successfully producing the expected or desired result. While efficiency and effectiveness are both an integral part of successful management it is necessary to prioritise effectiveness over efficiency. Being effective requires time and planning the right strategy.

If the strategy relates to profitability in a commodity red meat production business in southern Australia then effectiveness will be delivered by optimising feed utilisation at a low cost of production. It is the combination of these, not the use of either in isolation that delivers effectiveness. Optimising feed utilisation at a high cost of production does not deliver high levels of profitability nor does a low cost of production with poor feed utilisation.

The challenge with using feed utilisation as a measure of effectiveness is that it is nearly impossible to assess utilisation accurately at scale. Feed utilisation is a measure of feed consumption relative to feed grown. As there is no way of accurately measuring the amount of feed grown or feed wasted during the production cycle it is impossible to accurately calculate feed utilisation. This is the reason stocking rate, which is an output of optimising feed utilisation, is typically used as a proxy.

Your livestock system is a key component of your strategy so thinking critically about why you have chosen it can assist with understanding how it helps to meet your goals. You can do this by writing three reasons for why you have chosen your timing of calving, time of lambing and time of sales of trading livestock. This exercise works best if you have no outside assistance with your responses as it is probable that outside assistance will result in bias.

If you don't know why you do what you do – that's OK but now is probably a good time to reflect on it.

1. _____

2. _____

3. _____

Now that you have listed your reasons for implementing the livestock system that you manage – think about what evidence you would require to implement a change to your existing livestock system? Peter Boghassian, Assistant Professor of Philosophy at Portland State University, encourages an approach to seek information that could undermine confidence in a particular belief.

Daniel Kahneman, in his book, 'Thinking Fast and Slow', divides the mind into two systems. System one is the quick-fire part of the brain that uses certain rules to allow us to respond quickly, intuitively and efficiently. System two is slower, more analytical and better at reasoning. Kahneman suggests that the initial attempt to believe something is an automatic operation of system one. The problem is that system one is gullible and biased to believe, while system two oversees doubting. The beauty of Boghassian's approach is that the challenge requires thought. This progresses thinking from system one to system two where doubting is more likely. Each question is an opportunity to revise beliefs and to seek evidence that disconfirms.

A livestock system is made up of a number of component inputs that influence productivity, cost efficiency, profitability and environmental sustainability.

The component inputs that typically have the most influence on a livestock system are:

- ◆ time of lambing/time of calving
- ◆ time of turn-off of trading livestock.

These components, when coupled with the feedbase, result in differences in livestock price (per kilogram and gross) and differences in livestock weight at sale.

If the aim of the design of the livestock production system is to deliver a resource efficient outcome, then the design should optimise the use of the limited resources that it depends on. A livestock system typically depends on the feedbase, human resources, capital and environmental resources. Of these, the feedbase and the matching of feed supply with feed demand is possibly the most critical element in driving production efficiency.

Feed utilisation and systems

A key driver of productivity and profitability in commodity meat production businesses is feed or pasture utilisation. Low levels of feed utilisation deliver low production resulting in resource inefficiency while excessive feed utilisation results in high levels of production but at an excessive supplementary feeding and pasture renovation cost. The sweet spot is optimum feed utilisation.

The single most under-rated means of delivering optimum feed utilisation is the design and implementation of the livestock production system. A well-designed livestock system delivers efficiency by optimising feed, labour, capital and environmental resources. Of these, the feedbase and the matching of feed supply with feed demand is possibly the most critical element in driving productivity.

MLA situation analyses have shown efficient livestock systems delivering high levels of feed utilisation result in greater levels of per hectare production which drive higher levels of profitability. A well-designed livestock system:

- Ensures the highest energy demands coincide with the period of highest pasture growth. While it is difficult to be prescriptive this usually means lambing or calving in spring (not winter) in wool and beef systems and lambing in winter in prime lamb systems.
- Sells the majority of trading livestock prior to the typical time of feed energy decline.
- Allows for combining of multiple key operational activities to minimise handling.

These systems produce more meat per hectare thereby driving higher income and delivering cost efficiencies. Consuming a large proportion of the spring feed is critical to achieving high levels of feed utilisation and this is completely dependent on the design of the livestock system.

How do you design a productive and profitable livestock system?

Step one: Start by understanding the feed supply curve. The feed supply curve for each farm is unique. It consists of the weighted average pasture growth rate for all crop and pasture types by the proportion of the area of the same. The curve is formed by linking the points representing the average daily pasture growth rate by month. The MLA Feed Demand Calculator is a great starting point for this as it has a list of pasture growth rates based on localities.

Step two: Study the shape of the curve. Establish the times of the year where the majority of the feed is produced and focus heavily on this.

Step three: Generate a table of livestock numbers by class of livestock by month.

Step four: Multiply livestock number per month by dry sheep equivalent (DSE) rating per head and sum to give enterprise total DSE by month. This provides the shape of the feed demand curve that can then be compared with the feed supply curve to establish whether it is a good fit. Replicate the process for alternative systems with different time of lambing/calving and different time of progeny turn-off.

Step five: Compare the shape of the feed supply curve with the shape of the feed demand curves and establish which one is most likely to utilise spring feed.

Step six: Establish the annual feed supply by multiplying the monthly average pasture growth rate by the number of days in the month and adding them. For example, pasture growth for January of 6.5kg dry matter (DM)/ha/day x 31 days per month = 200kg DM for the month. Do the same for all months and sum to get annual pasture growth.

Step seven: Establish the optimum stocking rate. Multiply total annual pasture growth by 50 percent (a reasonable feed utilisation rate) and divide by 292 kilograms of dry matter. This equates to the approximate annual intake per DSE per year. For example, 50 percent utilisation of 8 tonnes of DM grown equates to 4 tonnes of DM available for livestock intake. Divide this by 292 kilograms of DM (intake per DSE per year) = 13.7 DSE per hectare.

Step eight: Change the numbers of livestock in the chosen system to match the stocking rate that delivers optimum feed utilisation.

The human element

While the design of a livestock system that matches feed supply with feed demand is an important component of a profitable livestock business, it is of little value without decisive and competent implementation. The role of a skilled manager who understands the vulnerability of the system to shocks and acts quickly to prevent the cost of their impact cannot be overstated.

Like most things in agriculture high levels of profitability require compromise.

A highly productive and profitable commodity livestock system is not a glamourous business. Livestock and pastures look far from picture perfect during the coldest months and there is not a day in winter when you aren't willing spring to come sooner. A week between diagnosis of a problem and action is not a luxury afforded to the most productive as livestock thrift and resilience are already at their limits. The need to act instantly is usually etched into the mind from previously hard learned lessons.

Take home messages

◆ Take the time to develop a feed supply curve and feed demand curve and to understand optimum stocking rate. Match the curves to ensure maximum feed utilisation in spring.

◆ A well-designed livestock system that matches feed supply with feed demand is an important component of a profitable livestock business but it is of little value without a skilled manager to react quickly to unexpected changes.

Relevant tools and resources

◆ **Business EDGE workshop – Coonamble 28 August 2023**

A comprehensive two-day workshop for owners and managers of grazing enterprises. Designed to enhance financial management and improve financial literacy, business efficiency and profitability. Participants will also develop strategies to determine if their business can fund future growth, how to reduce debt and how to plan for retirement and succession.

◆ **Business EDGE workshop – Gunnedah 30 August 2023**

A comprehensive two-day workshop for owners and managers of grazing enterprises. Designed to enhance financial management and improve financial literacy, business efficiency and profitability. Participants will also develop strategies to determine if their business can fund future growth, how to reduce debt and how to plan for retirement and succession.

◆ **BredWell FedWell**

A practical, one-day workshop highlighting the key production benefits of superior genetics, plus feed management for improved reproductive performance and livestock productivity.

◆ **MLA Feed Demand Calculator**

This free tool helps you calculate how closely your herd or flock demands matches your pasture growth.

Notes

Feedbase updates

Managing and monitoring your feed: Australian Feedbase Monitor

Alastair Rayner

National Extension and Adoption Manager, Cibo Labs

arayner@cibolabs.com.au

About Alastair

Alastair operates RaynerAg, an agricultural consultancy business in NSW that services the red meat sector with a focus on beef production. Alastair established RaynerAg in 2013, following a 17 ½ year career with NSW DPI as a District Livestock Officer (Beef Products). Since commencing operations as an independent advisor, Alastair has established a strong client base in NSW, Queensland and South Australia.

RaynerAg offers a full range of on farm services including livestock management and selection, nutrition and drought management, breeding herd performance and as of 2020, clients can also use Alastair as a licensed Stock and Station Agent. Alastair is well known for his skills in training and delivery and works closely with a number of organisations to deliver practical and tailored on-farm training courses and workshops.

Alastair is highly regarded for his technical skills, writing for Beef Central as the Genetics Editor and in leading the national extension strategy for the Australian Feedbase Monitor Project. This joint project between Cibo Labs and MLA will offer every red meat producer real time satellite updates of pasture growth and feedbase changes, assisting in more informed grazing decisions.

Session abstract

Effective grazing management decisions are those that ensure livestock remain on predicted growth paths to meet production or market targets. Ideally decisions around feed availability, both quality and quantity achieve this aim and avoid, or at least minimise the likelihood of producers being forced into unplanned feeding programs or sales.

Most producers readily identify pasture assessment as an undertaking regularly conducted within their management framework. Responses to industry surveys conducted in 2022 highlighted over 80% of producers undertaking regular assessments, with half of these producers making assessments a weekly process.

Assessments are primarily conducted via visual assessment and rely on the experience and previous observations of the managers and business operators.

Despite the high level of assessment activity, responses indicate accuracy and reliability of these assessments is variable and often unreliable. Almost 30% (29.3%) of producers engaged in the survey had been placed in a position of making unplanned destocking decisions at least twice in five years. Within this group of respondents, 63% had to

make unplanned sales, with 48% reporting lost income as a result.

While pasture assessment may not prevent a situation where destocking or unplanned sales may occur, accurate pasture assessment increases the flexibility of managers and business operators to respond earlier to changing circumstances and potentially avoid income loss through loss of options as seasons and markets tighten.

The Australian Feedbase Monitor is a joint project between Cibo Labs and MLA, funded through the MLA Donor Company. The project is the first to offer red meat producers across Australia with accurate and regular updates of Ground Cover (%) and Total Standing Dry Matter (TSDM /kg) for every hectare of a property engaged in red meat production.

Producers who are members of MLA can access the Australian Feedbase Monitor (AFM) through their MyMLA accounts. To initiate their account, users will need to link their existing LPA account – which are attached to a PIC within their MyMLA account. This linking allows the AFM to be set up for a specific set of land parcels associated with a PIC.

Within the AFM dashboard, users can select their location and property parcels associated with their individual PIC. Once this has been done, the AFM can be used to generate both images of the TSDM and ground cover percentage for the current month, as well as being able to review on a sliding timescale, conditions over the previous month or months going back to 2017.

This view offers managers and business operators the value of an accurate assessment of current feed levels for all parts of a property, not just those that are the most assessed due to access or convenience. The monthly comparison shows trends in the season, and the variation across a location, offering the chance for early and flexible decision making.

In addition to the map views, producers can select a particular land parcel to view comparison graphs for the high, low and medium levels of TSDM. These monthly ranges can be valuable for producers managing to a benchmark or for other strategic decisions. A second graph shows the monthly comparison of the TSDM of the current year against the previous years back to 2017.

These graphs allow producers to see their local situation and to make decisions on their own trends, and not on the more generalised information that may be generated for a region or broader district. Local individual predictions can then be more help in making strategic on farm decisions in a timelier manner.

To date the AFM has seen significant uptake among red meat producers and business operators across the country. Most users have incorporated the trends and graphs to realign major production events such as joining and turn-off time to meet localised seasonal conditions or to reflect changing conditions over the past five years. Cibo Labs has published a webinar recording for producers seeking to start with the AFM. This recording can be found on YouTube: youtube.com/watch?v=ATHLJ73oXwI.

Take home messages

Through the Australian Feedbase Monitor:

◆ Producers will be able to see their property (or properties) linked to their LPA account. They will receive an image for their farm, based on a 1ha resolution pasture biomass and ground cover.

◆ The images generated will be updated every five days (on a 30-day rolling median). Producers will be able to use this information to understand the trends across their property pasture base.

◆ Access is free to MLA members through their MyMLA account. However, it is important to ensure their MyMLA details and MLA membership details are aligned and correct.

Relevant tools and resources

◆ **Australian Feedbase Monitor tool**

The Australian Feedbase Monitor is a joint project between Cibo Labs and MLA, funded through the MLA Donor Company. The project is the first to offer red meat producers across Australia with accurate and regular updates of ground cover (%) and Total Standing Dry Matter (TSDM/kg) for every hectare of a property engaged in red meat production.

◆ **MLA feedbase planning and budgeting tool**

This tool is designed to help you with the following aspects of grazing management:

- plan your rotational grazing systems

- determine appropriate stocking rates

- calculate pasture growth rates

- determine how long your paddocks will last

- calculate the most economical ration for your stock

- keep track on the carrying capacity of each paddock by recording dry sheep equivalent grazing days/ha.

◆ **MLA membership**

MLA membership is free to levy-paying producers of grass or grainfed cattle, sheep, lambs and/or goats. Benefits of membership include:

- participation and voting rights at the MLA Annual General Meeting (AGM)

- discounts for a range of MLA products and services, ordered via the myMLA catalogue

- invitations to local MLA events

- free subscription to MLA's regular member magazine *Feedback*

- free subscriptions to MLA suite of e-newsletters

- free access to up-to-date publications and information tools.

◆ **MyMLA homepage login**

A single login portal for your myMLA account including access to MLA's range of products and services.

Notes

New methods for effective acid soil management

Dr Jason Condon

Associate Professor in Soil Science, Charles Sturt University

jcondon@csu.edu.au

About Jason

Jason is Associate Professor in Soil Science at Charles Sturt University (CSU) Wagga where he has taught soil science and soil management since 1996. He has a PhD in the effect of nitrogen cycling on acidification of pasture systems.

Jason has published research relating to soil carbon sequestration, greenhouse gas emissions, soil nitrogen and phosphorus fertility, cover cropping, and soil acidity and amelioration.

He has a real interest in helping producers to understand issues relating to their soils.

Session abstract

Background

It is well known that acidity limits plant production and the selection of suitable species that can be grown. A lot of research effort in managing acid soils occurred in the 1980s and 1990s which resulted in practices and rules of thumbs to manage acid soils. These include sampling for pH in 0–10cm intervals and liming 2.5 t/ha every 10 years or so.

Despite the uptake of these practices, recent research has found that many paddocks still have acid layers in the subsurface (5–15cm) of the soil. These acidic layers are often undetected by the practice of sampling in the surface 0-10cm layer. This represents a poor outcome for producers as they have expended funds to solve a problem, and don't know that the problem hasn't been fixed.

Historically lime has been applied at rates just high enough to remove aluminum toxicity by targeting soil pH measured in calcium chloride (pH_{Ca}) of around 5.2. We now know that such liming applications often only increase pH where the lime is applied, and with very little or no movement deeper down the soil profile.

Solutions

Identify the problem

Research has shown that sampling in 5cm depth intervals to a depth of 20cm is ideal to find the extent (where) and magnitude (how bad) the acidity is within the topsoil. Once the problem is understood, management interventions can be devised to provide the outcome desired by the producer.

Ameliorate acidic subsurface layers

Moving lime deeper in the profile can be achieved by two methods:

- incorporation of lime using cultivation that mixes lime with soil to the depth of acidity, and/or
- maintaining the soil above the most acidic layer at a pH above 5.5 (CSU research has targeted a level of pH_{Ca} 5.8).

When the soil pH_{Ca} is above 5.5, components of the lime remain soluble and can move downwards to help increase the pH in the underlying acid layers.

The current CSU research is providing evidence of the effectiveness of different acid soil management strategies. This information can be used to make better decisions about addressing soil acidity at different timescales.

Take home messages

- If interested in acidity, producers need to be sampling in 5cm depth intervals to a depth of 20cm to find the extent and magnitude of acidity.
- CSU research is testing different liming practices: liming to a target of pH_{Ca} 5.8 and setting a re-liming trigger of pH 5.5 to get lime effect to move to depth.
- Deep incorporation of lime helps get a head start in changing pH to depth with lime but if incorporating, reward cost and risk by applying enough lime to fix the problem.

Relevant tools and resources

- **Future proofing the soils of southern and central NSW from acidification and soil organic carbon decline** - project overview

- **MLA healthy soils hub**

Notes

We need to talk – about the weather: tips to move your business towards becoming carbon neutral

Emma Thomas

Manager, Mylandra Partnership

emma@thomasag.com.au

About Emma

Emma and Murray run sheep for wool and meat as well as cropping, with properties in the triangle between Gooloogong, Forbes and Grenfell, starting near the Lachlan River and heading south to the Warraderry Ranges.

Their journey to being sustainable came as a result of the millennium drought. In 2002 the massive dust storms that buried fences and blew topsoil as far as Sydney was a sobering and eye-opening time.

They took action learning and implementing holistic management and rotational grazing, reducing numbers in dry times and expanding operations when the opportunity presents. This has allowed them to improve soil health and maintain biodiversity above and below the ground.

Recently Emma completed the Carbon Smart Farming Scholarship and participated in Farming for the Future benchmarking natural capital in their farm business, they have also been collecting soil data for four years through the Cool Soils Initiative.

Emma was an inaugural member of the MLA MeatUp Forum NSW producer working group from 2020-2021

Session abstract

Emma has set out to go carbon neutral on their family farm. She won a scholarship through the Climate Smart Farming Program and learned about the challenges of carbon accounting and opportunities that could benefit their farm and business.

Emma used the AFI Carbon Opportunity Decision Support Tool to understand what is available for their business, and she investigated various carbon project developers that use the Emissions Reduction Fund Soil Carbon Methodology for Australian Carbon Credit Units.

Emma completed a carbon audit for their business, with the next step to complete an environmental assessment of their property to identify potential sinks and opportunities to inset (offset) their emissions.

Data is an essential component of future projects, collecting baseline data and maintaining good records is essential to accessing future market opportunities from carbon neutral products.

Emma will touch on the importance of the human element of moving your business toward becoming carbon neutral. How do you create change and how do you sustain that change for the long term?

Conversation starters and tips to generate opportunities for your business.

Take home messages

◆ The benefits of carbon are two-fold, first outcome is the increase in production from a healthier system, the second outcome is the possibility of being paid for ACCUs or market access for carbon neutral products.

◆ Data is essential – being able to prove what you claim will be paramount.

◆ Conversations about climate change and the drivers for going climate neutral need to be:

  ▪ open and explorative in identifying events that have affected you; and

  ▪ collaborative in finding solutions for your own businesses.

Relevant tools and resources

◆ **MLA Carbon Calculator**

Meat & Livestock Australia have digitised the Sheep and Beef Greenhouse Accounting Framework (SB-GAF) as well as the Grains Accounting Framework (G-GAF), these calculators enable the calculation of greenhouses gases produced at a property level. The calculator enables the calculation of total enterprise greenhouse gas emissions calculation as well as emissions intensity per product produced e.g., beef, sheepmeat, wool, grain.

◆ **MLA Carbon Accounting Technical Manual**

A technical manual, developed for wider industry use, based on the outcomes and feedback received from a series of pilot carbon accounting workshops run in early 2020 across Australia. The purpose of this manual is to provide background information on carbon accounting and guidance around building a carbon account using the GHG Accounting Framework calculators developed by the University of Melbourne.

◆ **MLA Carbon EDGE workshop**

A new addition to the EDGE network, Carbon EDGE is a new two-day training program for the red meat industry. Understand more about what's involved in Carbon EDGE, register your interest for a pilot workshop and to receive more information about the program.

◆ **Carbon Opportunity Decision Support Tool**

This online tool offers a practical resource for landowners and primary producers to navigate the tricky landscape of carbon options.

◆ **Carbon Neutral Agriculture Training Program**

A 1.5 day intensive course supported and facilitated by PICCC, which introduces participants to government policy, industry and carbon market drivers, and Australian agricultural emission sources and sinks. Participants will also develop a full farm carbon audit, account and footprint as part of the program.

Visit piccc.org.au/education/carbonneutraltraining for more information.

◆ **Carbon 101 – MLA eLearning module**

A training package developed for MLAs eLearning center by Pinion Advisory and reviewed by Greenham Tasmanian supply chain producers. The free online training package will provide foundational information about carbon farming and greenhouse gases relevant to agriculture. At the completion of the module users will:

- Have improved carbon literacy and better understand the language of carbon.

- Understand what is meant by carbon farming, carbon neutral and climate neutral.

- Understand what is meant by carbon farming, carbon neutral and climate neutral.

- Understand how to start to improve your carbon performance.

◆ **Carbon Neutral 2030: Get your business CN30 ready**

The Australian red meat and livestock industry has set a target to be carbon neutral by 2030 (CN30). This means that by 2030, Australian beef, lamb and goat production, including lot feeding and meat processing, aim to make no net release of greenhouse gas (GHG) emissions into the atmosphere.

With a commitment from all of industry, the right policy settings and ongoing research investment, the Australian red meat and livestock industry can be at the forefront of carbon neutrality.

MLA's investment into CN30 research, development (R&D) and adoption aims to enable and empower the red meat and livestock industry to achieve the CN30 target, with a focus on reducing emissions while maintaining productivity gains.

Learn more about the steps you can take right now, within three years, and longer term, to get your business CN30 ready on the MLA website.

◆ **Creating a carbon account for your business – MLA article**

Notes

Beef updates

Prevention and management of cattle bloat

Bruce Allworth

Professor in Livestock Systems, Charles Sturt University

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About Bruce

Bruce currently works part-time at Charles Sturt University's (CSU) Wagga Wagga Veterinary School as a Professor in Livestock Systems. He also operates a sheep and cattle family farming operation at Holbrook, and loses cattle from bloat. Bruce is a Sydney University Veterinary graduate, and he has worked at Massey (NZ), Melbourne and Charles Sturt Universities as well as completing a PhD in footrot at Sydney University. Bruce operated a sheep and beef cattle veterinary consultancy practice for over 20 years, as well as coordinating national disease control programs. More recently, Bruce was the Inaugural Chair for the Sheep Sustainability Framework, is the current Animal Production lead for teaching at CSU and launched the BloatAlert app, written by his son James, in July 2021. He has a wide range of publications on topics such as footrot, pestivirus, Johnes Disease, anthelmintic resistance, lamb survival and growth rates, and bloat.

Session abstract

Bloat in cattle is a frustrating problem for beef producers, particularly those running cattle on improved pastures. Bloat occurs suddenly, is often hard to predict when it will occur, and usually results in dead cattle. While treatment is usually simple and effective if cases are found early, most cattle are found dead. Prevention is problematic, as there is no simple prevention method that is 100% effective for beef cattle, other than removing cattle from risky pastures, which may include most/all the farm at a particular time of year.

Frothy bloat results from the formation of a stable foam in the rumen causing accumulation of gas that the animal is unable to eructate, leading to rumen distension, and frequently, sudden death in affected cattle. It occurs most commonly when cattle are grazing legume or legume-based pastures, in particular pastures containing either lucerne or subterranean clover. Years with low residual grass cover at the autumn break and sufficient moisture will favour clover dominance, and therefore increased risk of bloat.

Prevention options include provision of hay and/or bloat blocks/licks containing either alcohol ethoxylate or monensin, or moving cattle to lower risk pastures (where possible). Adding bloat oil products (alcohol ethoxylate active ingredient) to water sources, spraying pasture or applying oil to individual cattle are all options for dairy producers, but are usually not feasible for beef producers.

One of the key dilemmas with bloat is ensuring cattle grow sufficiently to meet production targets and yet not succumb to bloat. Bloat typically occurs in late winter/spring, when producers are wanting to maximise weight gains in cattle to get them ready for market. Needing to avoid highly productive sub-clover based pastures is not only

difficult at this time, but also incurs a cost of lower productivity. Longer term solutions of integrating legumes that are less likely to cause bloat is being considered but is not yet a practicality.

A free app, BloatAlert, is available to download for free on both iPhone and Android, which enable producers to report suspect cases of bloat. Users registered with the app receive instantaneous alerts that bloat is occurring in their area. Cases are related to area, not a specific farm, and those reporting a bloat case include the confidence of their diagnosis. Use of the app provides producers with an early warning system that bloat is occurring in their area, so they can assess what action they need to take in their herd, hopefully before losses occur. The app has had good uptake, although fortunately since the app was released, the bloat risk in southern Australia has been much lower, due to several grass dominant seasons, compared to the very high-risk years experienced in 2019 and 2020.

Take home messages

◆ The BloatAlert app provides an early warning system – download the app now for free.

◆ Prevention is important, but not 100% effective.

◆ Producers need to consider pasture mix and alternative pastures in the longer term to minimise bloat risk.

Relevant tools and resources

◆ **BloatAlert app – Apple Store**

◆ **BloatAlert app – Google Play store**

◆ **Managing bloat in cattle webinar**
From the MLA productivity and profitability webinar series

◆ **Be prepared and prevent bloat this spring – MLA article**

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Improving within breed and developing multi-breed evaluation with the Southern Multibreed Project

Dr Brad Walmsley

Research Scientist, NSW DPI/Animal Genetics and Breeding Unit

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About Brad

Brad Walmsley is a research scientist at the Animal Genetics and Breeding Unit (AGBU). Brad is responsible for the R&D into breeding objectives and selection indexes for beef cattle including the continued development and industry application of the BreedObject technology (breedobject.com). Brad is also the principal investigator in the Southern Multibreed (SMB) project (dpi.nsw.gov.au/dpi/animals/beef-cattle/breeding/smb-project) that is being conducted across NSW Department of Primary Industries research stations in partnership with Meat & Livestock Australia and the University of New England. SMB is designed to deliver multi-breed reference data on traits of future economic importance to facilitate the development of multi-breed genomic evaluations. Brad originates from Glen Innes, off a beef grazing enterprise and joined NSW DPI in 2008 after completing a Rural Science degree and PhD at UNE. Brad played a central role in the phenotypic prediction and maternal productivity programs of the Beef CRC.

Session abstract

Genetic improvement, through the use of estimated breeding values and selection indexes, has helped deliver important productivity gains and improve the competitive advantage of the Australian beef cattle industry. This genetic improvement will need to be replicated and increased in the future along with a focus change to include a greater consideration of consumer expectations around their eating experience (meat quality), animal welfare, sustainability and environmental impact. There is also a need to take stock of how genetic information is delivered to assist the beef industry increase the gains delivered through genetic improvement.

The inclusion of DNA information, or genomic selection, in genetic evaluations, has the potential to increase the rate of genetic improvement in many livestock species. BREEDPLAN, the genetic evaluation system for beef cattle in Australia, has already implemented models that incorporate both genomic and traditional pedigree information (single-step genetic evaluation). To transfer the full benefits of this development to help on-ground decision making that impacts commercial profitability those traits driving current and future profit need to be measured on animals that have important influence in industry and are genotyped. These traits include those that are hard-to-measure in the seedstock industry (such as carcase yield and quality) or occur later in life (such as female reproduction) and are often expensive to measure. These phenotypes and genotypes taken on such animals are referred to as a 'genomics reference population'. If developed appropriately, genomic references allow those animals which carry favourable genes for desirable traits to be identified earlier and allow more animals to be assessed for those traits that are hard-to-measure and/or are expensive to measure. Significant investments have been made to address these challenges and help drive genetic improvement in the Australian beef industry.

The Southern Multibreed (SMB) project, being conducted across New South Wales, in association with its sister project, the Repronomics™ project, being conducted across Queensland and the Northern Territory, provide a diverse genetic resource on which traits that drive current profitability and/or are considered to be important for future profitability can be measured. These projects aim to generate between 1200–1800 progeny annually through AI and natural mating programs that are managed in commercially relevant self-replacing systems where these traits are recorded. The females are retained and grown out at each research site prior to joining the breeding herd as maidens. In the SMB project this occurs at ~15 months of age. They are naturally mated to sires of their own breed as heifers and first-lactation cows with the aim of retaining them in their respective herds for a minimum of three matings. The males are all castrated and following weaning undertake backgrounding in the SMB project until they reach feedlot entry weights. The steers are then feedlot finished for a minimum of 100 days prior to slaughter. In the Repronomics™ project the steers are either finished on pasture or in the feedlot depending on seasons and feedlot availability.

Key trait recording

All calves generated by the projects are intensively recorded from birth to the end of backgrounding (steers)/grow-out (heifers). Recording includes accurate recording of birth date, birth weight, calving ease and survival, gestation length (AI calves only), weaning weight, flight time, docility score, yearling weight, and structure. Other traits, such as worm egg count, are recorded regularly beginning at weaning and continuing until the steers enter the feedlot and the heifers wean their first calf. Horn/poll assessments are conducted on all calves at marking, with monitoring continuing while animals are involved in the project. Following weaning, the heifers have regular ovarian assessments conducted using real-time ultrasound performed by highly skilled ultrasonographers to determine follicle development, and identify the attainment of puberty. All first-lactation cows are regularly scanned after calving to determine their return to cycling. Females have live weight, hip height, body condition score, eye muscle and subcutaneous fat depth recorded prior to mating and at weaning each year, and are assessed for calving ease, teat and udder score at calving. Steers have weight and scan traits, as well as net feed intake, recorded while in the feedlot, with full abattoir, meat quality and consumer testing undertaken following slaughter. All animals are genotyped in alignment with BREEDPLAN standards to allow their data to contribute to single-step genetic evaluations.

The SMB and Repronomics™ projects are designed is such a way that data recorded on these profit driving traits has the capacity to be included in current within breed genetic evaluations. The designs also incorporate multiple breeds within management groups such that the data recorded also serves the purpose of providing foundation data for the future development of multibreed evaluations.

Locations and breeds

Focusing on the SMB project, in an effort to reflect the diversity of production environments in southern Australia across years, the breeding herds are located on five NSW DPI research properties dispersed across NSW (Trangie Agricultural Research Centre, Trangie; Grafton Primary Industries Institute, Grafton; Tocal Agricultural Centre, Tocal; Glen Innes Agricultural Research and Advisory Station, Glen Innes; Elizabeth MacArthur Agricultural Institute (EMAI); Menangle).

The growing out of the heifers and backgrounding of steers occurs on these properties and the north coast cluster of NSW DPI properties (Duck Creek Agricultural Field Station, Ballina; Wollongbar Primary Industries Institute and Pearces Creek Agricultural Field Station, Wollongbar) with feedlot finishing occurring at the University of New England research feedlot, 'Tullimba' (Kingstown). The SMB project includes the five numerically largest temperate breeds (viz. Angus, Charolais, Hereford, Shorthorn and Wagyu) in southern Australia and the Brahman breed, which is commercially important in the sub-tropical regions of NSW and creates linkage to the Repronomics™ project. A small component of cross breeding occurs at the north coast cluster and Grafton sites involving crossing between the Brahman, Angus and Hereford breeds to produce F1 calves which are commercially relevant to the local north coast area. Critically, at all locations including in Repronomics™, the breeds are being managed and recorded in mixed breed groups.

Current status

The SMB project has just finished the third year of the five-year project with the fourth group of calves currently being born. Approximately 50% of these calves are the progeny of heifers born during the first year of the project. The project has now in excess of 6,000 birth records including calving ease, 4,500 weaning records, 1,200 feedlot and carcass records and 1,200 heifer puberty and fertility records. The project will continue to generate more data in the coming years prior to inclusion in any within-breed evaluations or development of multibreed evaluations.

Commercial outcomes

Currently, the SMB project data is being processed for entry into within-breed evaluations where the relevant breed societies agree to the data being used. However, for a number of years data from the Repronomics^{TM} project has been contributing to the Brahman, Droughtmaster and Santa Gertrudis within-breed BREEDPLAN genetic evaluations across a number of the current BREEDPLAN traits. This data has added significant accuracy to published EBVs such as those for carcase and days-to-calving traits. The benefits are being seen in industry from this with a greater number of tropical breeds having EBVs published for the profit driving traits such as days-to-calving due to the genomic linkages to the Repronomics^{TM} project. This also allows better selection decisions to be made from a wider range of economically important traits. It is anticipated that similar results will start to be seen in the six southern breeds as more data from SMB enters their within breed BREEDPLAN evaluations.

Take home messages

◆ Genetic evaluation has contributed significantly to productivity and profit gains in the past but further work is required to continue this and capture the benefits of genomics.

◆ Investment is being made in the Southern Multibreed and Repronomics^{TM} projects which are designed to measure profit driving traits in animals managed in multibreed groups that have important linkages to the wider industry and are genotyped.

◆ Data from Southern Multibreed is currently being processed for entry to within-breed BREEDPLAN genetic evaluations and it is envisioned that benefits will emerge for industry similar to those seen from Repronomics^{TM} data used in current Brahman, Droughtmaster and Santa Gertrudis BREEDPLAN genetic evaluations.

Relevant tools and resources

◆ **BREEDPLAN**
BREEDPLAN enables substantial genetic improvement for commercially important traits. Using Best Linear Unbiased Prediction (BLUP) technology, BREEDPLAN produces Estimated Breeding Values (EBVs) for a range of economically important production traits.

◆ **BreedObject**

Using BREEDPLAN EBVs, the BreedObject tool draws together breeding objectives and Indexes to assist beef producers in identifying seedstock best suited for the targeted type of herd performance.

◆ **MLA Genetics Hub**

The one-stop-shop for resources to help build understanding of breeding values. The hub is a learning resource for producers who are keen to learn more about genetic tools, and how they can use them in their sire selection decisions. Go to genetics.mla.com.au and choose your enterprise to get targeted information on using genetics in your herd or flock.

◆ **ABRI Extension Services**

A joint initiative of the Agricultural Business Research Institute (ABRI) and Meat & Livestock Australia, and breed societies, the Southern Beef Technology Services (SBTS) provides extension services and technical support for southern Australian beef producers to assist them in understanding and using the different genetic technologies that are available. Visit sbts.une.edu.au/ for more information.

Notes

Sheep updates

Optimising eID in commercial sheepmeat enterprises

Sally Martin

Managing Director/Senior Consultant, Sheep MetriX

sally@sheepmetrix.com.au

About Sally

Sally is passionate about rural communities, agriculture and more specifically the Australian sheep and wool industry. Sally loves working with the diversity of people and situations in the sheep industry and bringing science and data to client's fingertips.

Sally grew up on a grazing property on the Monaro, NSW and studied Agriculture Science at University of Western Sydney Hawkesbury and Post Graduate studies at University of New England and Sydney University focusing on Animal Breeding Management.

Sally's career spans over 30 years, with 20 years spent with NSW DPI and since 2011 working for her own business. Sally set up Sally Martin Consulting (now SheepMetriX) that services a current client base ranging across NSW, VIC, WA, Tasmania, Queensland and more recently the Falkland Islands, Patagonia Argentina and Spain.

Awards include:

- 2011 Runner-up NSW RIRDC Rural Women's Award

- 2013 100 Women of Influence

- 2017 Inaugural Australian Wool Industry Award

- 2018 National Farmers Inaugural Ag Diversity Leadership Program.

Committee positions:

- Invited member of the NSW eID Sheep & Goat Traceability Reference Group

- Sheep Genetics Advisory Committee member

- Peter Westblade Scholarship Treasurer

- Past MerinoLink CEO and Director.

Session abstract

eID technology has been around for a while now and is increasingly being used by livestock producers to assist with breeding and production decisions.

The application of eID technology for both commercial and stud production systems is enabling producers to fine tune their management and breeding programs.

The use of eID (electronic identification) enables efficient identification of individual animals throughout their lifetime. The information linked to an animals eID tag is valuable when it is used to better manage and select replacements. Being able to accurately capture data, easily manage and interpret the data are core fundamental requirements to getting a return on your eID system investment.

Using eID technology allows the selection of animals based on their performance for important traits that are included in your breeding objective and or management events.

The aim of individual animal management is to identify and exploit the most productive animals whilst minimising the costs associated with poor performing animals.

Individual animal records provide significant opportunities to increase selection pressure and improve the rate of genetic gain, both at the commercial and seed stock (stud) level.

There are significant differences between strategically selecting and culling based on individual animal performance compared to traditional culling based on age or mob, for example cull for age (CFA).

Being able to recall information on sheep year on year, for example pregnancy scanning, provides some powerful information that can be used in your breeding and production systems.

Areas you will need to have an understanding of include:

- Having a clear breeding objective or production targets will help to inform what data you could be collecting.

- Having an understanding the eID technology available – tags, hardware and software options and how they interact with each other.

- Develop your eID implementation plan – you don't have to do it all at once. A staged approach will help you gain confidence before going the next phase for example you can start with a stick reader and then go to an auto drafter.

- Consider when you need the information or data to make decisions and then work through your calendar of activities on farm to work out the best time to collect the data and have it available for decision making. This may coincide with other activities on farm such as shearing or pre joining activities.

- Consider data collection protocols – if you are going to all the effort to capture the data, you should do it properly.

- Have a good system to store your data so you can access it easily in the future. Be descriptive in the naming of your session e.g '2022 drop maiden ewe pregnancy scanning_2023-03-23' rather than 'red preg'.

◆ Have a system in place that allows you to get your data back to the yards/paddock to make selection or management decisions. If you are doing this once a year or you don't like sitting in front of a computer (you prefer to be outside) then getting help or outsourcing is a good option.

◆ Develop some clear benchmarks – this will be important to know if you are making progress and a way to capture your return on your investment.

Like anything, the more you use your eID system the cheaper it will be ($ per use). Generally, if you can have a system that is set up permanently rather than having to be moved around all the time will provide greater benefit.

The most important data you collect will directly relate to your breeding objective or production goals. Some examples of data capture can include:

◆ pregnancy scanning – dry, single, multiple, early, mid or late

◆ body weights, growth rates

◆ condition scores

◆ wet and dry (at marking or weaning) – lambed and lost

◆ fleece traits (fleece weight, micron, staple length)

◆ animal health treatments

◆ animal health outcomes e.g fly strike

◆ visual scores (breech, feet structure)

◆ abattoir feedback – carcase weight, girth rib (GR) fat, intramuscular fat (IMF) content.

Case study – Michael Payten

◆ 1,200ha mixed farm

◆ 3,500 first cross ewes

◆ 600, nine month first cross ewes purchased + eID tag

◆ joining four times per year – eID to keep track of ewe reproduction

◆ keeping it simple – draft on weights, condition score, pregnancy scanning and wet/dry (lambed and lost)

◆ "We now run a tighter operation and when the poor seasons return, we will be using eID to identify the ewes which don't meet our target joining weight".

Take home messages

◆ you need to have a plan – why do you want the data?

◆ the eID tag is just an enabler

◆ you can start with as little as a tag and grow your data capture system as you gain confidence

◆ look for systems that provide good after sales service. Be able to phone a friend.

Relevant tools and resources

◆ **Sheep MetriX eID implementation on-farm workshop**

Co-funded by AgriFutures Australia, these workshops aim to provide producers with technical support and independent advice through the initial phase in process of an electronic tag data capture system.

◆ **Scanning for success with eID – MLA article**

◆ **Agriculture Victoria eID 101 – eLearning module**

EID101 is an introduction to the world of electronic identification. Developed by Agriculture Victoria and co-funded by the MLA Donor Company

◆ **Sheep Genetics**

Sheep Genetics is the genetic evaluation service of the Australian sheep and goat industries

◆ **RamSelect**

Designed to simplify the use of Australian Sheep Breeding Values (ASBVs) to identify the right genetics for your flock using data from Sheep Genetics – MERINOSELECT, LAMBPLAN and DOHNE. RamSelect quickly searches all rams listed for sale and selects those that align with your specific breeding objective.

Notes

Designer genes – moving to non-mules

Henry Hickson

Livestock Breeding Consultant, neXtgen Agri

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About Henry

Henry has been working as a Livestock Breeding Consultant for neXtgen Agri based out of Wagga Wagga, NSW for the last two years. He has completed a Bachelor of Agriculture and Bachelor of Business degree at the University of New England before progressing into farm consulting and benchmarking at Agripath. As part of his current role, Henry is working with both commercial and seedstock producers to assist with making better breeding decisions. A large part of Henry's role consists of data collection, management and analysis to help producers maximise genetic and profitability.

Session abstract

This presentation will cover the key traits for producers to select on when transitioning to a non-mulesed flock and an overview of the potential future direction of the wool industry including how it could be driven by the modern day consumer who is placing more value on transparency. This will lead into some of the economic premiums that have existed for non-mulesed wool and what the future for animal welfare and on farm accreditation process will look like in Australia.

The presentation will then cover the importance of setting a breeding objective for producers looking to transition towards ceasing mulesing. Each producer should have a slightly different breeding objective and will require a slightly different emphasis on breech traits depending upon their management, enterprise mix, labour availability and environment. The presentation will also highlight the power of breeding values and how farmers can utilise them to increase their genetic gain towards their desired breeding objective and away from the requirement of mulesing. The traits and breeding values that are important to consider when breeding away from mulesing include;

- ◆ Breech wrinkle – the largest cause of flystrike in Australia currently.
  - • Correlation with other traits, positive with fertility, negative with fleece weight and micron.
  - • Breeding value (EBWR) and what to aim for when selecting rams.
- ◆ Dag – the most significant factor contributing to flystrike in areas that have a challenge.
  - • How to select away from dag as part of a balanced breeding objective and the advantages.
  - • Breeding value (DAG) and what target to aim for in different environments.
- ◆ Breech cover – another trait that is correlated with flystrike but less significant.
  - • Correlated positively with fertility, but negatively with fleece weight.
  - • Breeding value (EBCOV) and what to target.

- Urine stain – more important for areas that don't get a dag challenge.

  - Not currently a breeding value but starting to be recorded.

  - One to look for in the future.

Flystrike as a breeding value. There is current AWI work to introduce flystrike as a stand-alone breeding value that will be created as a combination of the above traits and seedstock producers recording what animals got flystruck.

Other traits to look for when transitioning away from flystrike are fleece rot and fleece colour, but these will only have a small influence on the transition away from mulesing as they relate more to body strike.

Benchmarking your flock

Producers can evaluate where their flock's genetic potential currently sits through a flock profile test or by averaging the breeding values of their last five years of ram purchases.

Once producers know where they sit and where they want to get to, or where they need to get to in order to transition away from mulesing they can evaluate their current genetics to see how long it will take them to transition away.

In most flocks the transition away from mulesing can happen in as little as one to two crosses if selecting for the correct genetics. In the current market there is also a great opportunity to change between genetics.

Examples of how commercial producers have achieved this will be showcased.

Take home messages

- Develop a breeding objective and understand which traits are most important to your enterprise.

- Breeding values can be used as a tool to fast track the transition away from mulesing by selecting for less breech wrinkle, less breech cover, less dag and less urine stain.

- Benchmark your flock using a flock profile test and compare it to your revised breeding objective.

Relevant tools and resources

- **AWI Flystrike Extension Program**

AWI's Flystrike Extension Program supports woolgrowers in improving the lifetime welfare of their sheep, reducing their reliance on mulesing and crutching, optimizing chemical use and increasing whole fam profitability through the provision of practical information and tools and access to accredited advisor support.

- **AWI visual sheep scores**

Visual Sheep Scores is a pocket guide for commercial and stud breeders, providing a standardized framework for assessing and scoring visual sheep traits.

◆ **MLA Genetics Hub**

The one-stop-shop for resources to help build understanding of breeding values. The hub is a learning resource for producers who are keen to learn more about genetic tools, and how they can use them in their sire selection decisions. Go to https://genetics.mla.com.au/ and choose your enterprise to get targeted information on using genetics in your flock.

◆ **Sheep Genetics**

Sheep Genetics is the genetic evaluation service of the Australian sheep and goat industries

◆ **MLA pain relief hub**

This is a one-stop-shop of resources that outline best practice husbandry in sheep and beef cattle, as well as available products for pain relief, their costs, and when they're suitable to use.

Notes

Livestock updates

Improving your parasite management programs with ParaBoss

Megan Rogers

Lead – Extension team, ParaBoss

Email: contact@paraboss.com.au

About Megan

Megan leads the ParaBoss extension team. ParaBoss is Australia's leading independent authority for sheep, goats and cattle parasite control, through its suite of products WormBoss, LiceBoss, FlyBoss and TickBoss.

Megan is an experienced agricultural extension consultant, providing services to R&D organisations, such as MLA and AWI on livestock extension projects. Megan is an accredited deliverer of many sheep extension packages, including Lifetime Ewe Management. Megan has also worked on the development and review of extension packages such as BredWell FedWell, Winning With Weaners and RAMping Up Repro. Megan and her ParaBoss extension team are currently working on the development of a WormBoss workshop for sheep producers as well as a CattleBoss workshop for cattle producers, which will cover all cattle parasites.

Megan is based out of her farm office at Forbes, where she operates a mixed farm with her husband and two sons.

Session abstract

Parasites are a leading cost to the Australian livestock industry through production loss and the costs of control. Parasites are in the top three costs to the Australian cattle industry and similarly, among the top six costs to the Australian sheep industry. A recent study published by MLA estimates parasites costing industry into the hundreds of millions of dollars per year.

Continuously changing seasonal conditions means that effective control of parasites in livestock can be a challenge for livestock producers. No two seasons are ever the same and similarly controlling parasites is often different from year to year, or across classes of livestock.

Chemical resistance is an ongoing issue in the livestock industry, and ParaBoss information is designed to help minimise the onset of, or mitigate against existing resistance.

The ParaBoss program is a suite of tools and resources to help producers (and advisors) maintain effective parasite management in their flocks and herds. ParaBoss is the 'go to' source of up to date, independent technical content on best practice parasite management.

ParaBoss is an initiative of Meat & Livestock Australia, Australian Wool Innovation, Animal Health Australia and the University of New England.

There are four 'bosses' that make up the ParaBoss suite:

◆ WormBoss
◆ FlyBoss
◆ LiceBoss
◆ TickBoss.

Following a significant refurbishment project, the new look ParaBoss website was launched in October 2022. This included modernising the functionality of the website, along with streamlining the way content is housed, and improving the look and feel, along with ability to find what one is searching for. This was undertaken following industry consultation with producers from the sheep, cattle and goat industry.

The current phase of ParaBoss is focused strongly on producer extension. ParaBoss also has a very strong advisor audience who access content on behalf of their clients.

The ParaBoss program key components are:

◆ website suite
◆ a monthly webinar about a seasonally relevant parasite topic -recordings are housed on the website
◆ monthly e-newsletter with seasonally relevant parasite updates- sign up for this via website or other means
◆ social media conversation via Facebook
◆ attendance at events such as MeatUp and other industry events
◆ development of two one-day workshops – WormBoss for sheep and CattleBoss – which will cover all cattle parasites.

Popular website-based tools include the following:

Product search tool

This tool allows the user to search for a product to suit the particular situation or check the label and other key information that pertains to the use of the product.

Drench decision guides

Are designed to assist producers use best practice control methods for the control and management of worms. The tools are specific to different regions and are based on a range of scenarios such as worm egg count results, class of livestock, paddock contamination, previous treatment.

Flystrike risk simulator

Allows the user to gain a better understanding of the background conditions that lead to increased or decreased flystrike risk. The tool also allows the user to create scenarios where key operations such as shearing, crutching or application of preventative chemicals illustrate the relative risk compared with another scenario.

Drench efficacy calculator

A tool that calculates the overall efficacy based around known efficacy of specific active ingredients. This is particularly helpful in determining the effectiveness of combination products, when the known efficacy of the individual components is taken into consideration.

Find an advisor and worm testing laboratories

The ParaBoss website also allows you to locate (and contact) accredited advisors. Accredited advisors are those who have completed the ParaBoss training course, offered by UNE.

In addition to this, ParaBoss worm egg count (WEC) quality assurance (QA) accredited testing facilities can be located via the website. Why use a QA accredited facility? To be sure the laboratory is meeting standards in worm egg counting.

There are a few key components to any form of control of parasites in livestock. These are:

1. Know your enemy – what are you dealing with, and to what extent? This is where worm egg counts are important, as this clarifies what the worm burden in your mobs is and what species of worm are present. It can also provide greater clarification on treatment times and number of treatments warranted.
2. Right product, right dose, right time – are the key fundamentals of best practice parasite management. Are you under or overdosing? Is the equipment calibrated? Are you treating to the heaviest in the mob? Are you rotating chemical groups in lice, fly, tick control? Are you using an effective combination in your drench choice that is targeting the parasites present?
3. Always follow with follow up WEC checks where possible.
4. Seek out up to date information on your situation – this can be in conjunction with a trusted advisor, and via the use of ParaBoss.
5. Know what the product labels state – re withholding period, export slaughter intervals and application instructions.

Take home messages:

◆ Use the ParaBoss tools to plan your campaign against parasites on your own farm – constantly changing conditions means that control can sometimes be tricky.

◆ Use best practice parasite management – including right product, right dose, right time.

◆ Test – don't guess! Know your enemy! Worm egg counting is critical in keeping ahead of the worms in your livestock. Know your product is effective by conducting follow up worm egg count testing.

Relevant tools and resources

◆ **Paraboss**

ParaBoss is the national authority for sheep, goats and cattle parasite control in Australia, providing information on parasites and their control through its suite of products – WormBoss, FlyBoss, LiceBoss and TickBoss. The resources are a source of detailed information and regional programs developed to improve on-farm management of worms, flies, lice and ticks.

Notes

Pain management in sheep and cattle

Dr Jillian Kelly

Veterinarian and Ruminant Nutritionist, Animal Health and Nutrition Consulting

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About Jillian

Dr Jillian Kelly is the founder of Animal Health and Nutrition Consulting, a company she started in 2022 after almost 20 years as a production animal veterinarian in the private and government sectors. She has a veterinary degree with first class honours from the University of Sydney and is a Member of the Australian and New Zealand College of Veterinary Scientists in the Ruminant Nutrition chapter. Jill grew up at Coonamble and loves working alongside producers, elbow deep in sheep and cattle livestock health and nutrition issues throughout central and western NSW and Queensland. She is passionate about proactive livestock production initiatives to offset disease issues before they occur. She founded the Drought Smoko concept, a way to provide education and support to producers during drought and was the inaugural host of the podcast Seeds for Success. She runs a side-line cattle trading business, loves watercolour painting and campdrafting and cooks a great batch of scones!

Session abstract

This presentation will discuss the livestock industry's changing attitude and approach towards pain relief for routine animal husbandry procedures on-farm. Jillian will cover the science behind pain and how this relates to the different methods of castration, tail docking, dehorning and mulesing. The different methods used to manage pain, such as anaesthesia, analgesia and the gold standard approach of multimodal pain relief will be explained. The presentation will also outline the different products available on the market for producers and the practical application of these on-farm.

Why use pain relief?
Improved farm animal welfare is an ever-increasing expectation of consumers. We now farm in a very visible, socially connected environment and the conscience of the consumer has never been more prominent. Our broader livestock markets reflect this expectation with certain products only accepted by some markets based on how the livestock are treated, or a premium paid for using pain relief. Furthermore, some states have mandated the use of pain relief for some procedures, such as mulesing lambs in Victoria. A 2019 report by Futureye entitled 'Commodity or Sentient Being?' found that 95% of Australians consider farm animal welfare as a concern, with 91% seeking regulations ensuring transparent practices occur in livestock production.

There is a strong industry commitment to alleviate farm animal pain. The Australian beef industry supports the use of pain relief in unavoidable procedures and aspires to 100% use of pain relief for these procedures by 2030. The most recent Australian Beef Sustainability Framework Update, published in 2023, showed that 35% of beef producers are using pain relief and this is trending upwards.

In the sheep industry, on-farm adoption of the use of pain relief products has been rapid. The 2021 Australian Wool Innovation Merino Husbandry Practices Survey found that 92% of Merino producers who mules lambs use pain relief, while 60% use pain relief when tail docking. Generally, there is a higher uptake of pain relief usage for procedures using surgical methods, when compared to rings.

Routine animal husbandry procedures

The Animal Welfare Standards & Guidelines for cattle state:

- Calves less than two weeks old should be castrated by the rubber ring method in preference to the cutting method.
- Calves more than two weeks old should be castrated by the cutting method in preference to the rubber ring and tension band methods.
- Surgical procedures should be done with pain relief. Operators should seek advice on current pain minimisation strategies.

The Animal Welfare Standards & Guidelines for sheep state:

- Tail docking and castration should be accompanied by pain relief when practical and cost-effective methods become available. Operators should seek advice on current pain minimisation strategies.
- Lambs should be tail docked by the hot knife or rubber ring methods, in preference to the sharp knife method or other cutting methods, except for larger tails. The hot knife method is generally preferable for tail docking done with mulesing. Recommendations may change with future research and development.
- A person should use the most appropriate tools and least painful method to castrate sheep that is applicable to the production system.

There is a body of research which shows all routine animal husbandry procedures are painful, regardless of the method used. Procedures that involve ischaemic necrosis (rings) cause more pain initially (Lomax et al, 2010), and this pain lasts longer, with complete healing taking 4–9 weeks (Windsor, 2022).

There are numerous variables to consider when deciding which on-farm method to employ for these routine procedures. Pain is definitely one consideration, with the others being operator experience, tools available, time of year, flystrike risk and disease transmission. A review of the relevant species' Animal Welfare Standards & Guidelines and a discussion with your veterinarian is strongly recommended.

Types of pain relief

Pain is a complex protective biological mechanism, alerting the animal to the onset of potential tissue damage, and it usually initiates a behavioural change. It is both a sensory and emotional experience. Not only is unmanaged pain deleterious to animal welfare, research published by *McCracken et al, (2010)* indicates that pain perception pathways continue their development in the post-natal period, with events during that period impacting on subsequent pain sensitivity.

Specifically, the research showed that lambs castrated at one day of age appeared to perceive a greater intensity of pain when tail docked at day ten; as opposed to lambs that were only tail docked at day ten. In other words, the timing of a single noxious stimulus in young animals can affect subsequent pain perception.

Broadly speaking, pain relief options for livestock producers fall into two categories: anaesthesia and analgesia.

Anaesthesia options are topical or local anaesthetics that block nociception (or pain signals) from the wound and numb the painful area. They are usually applied at the time of the procedure and are quick to act, but also quicker to wear off, lasting several hours.

- Numnuts® is an anaesthetic option for use with rings (castration and tail docking) in sheep. It is a ring applicator, combined with an injector that dispenses NumOcaine local anaesthetic around the site of the ring when placed.
- Tri-Solfen® is an anaesthetic option for use with open wound surgical castration in both sheep and cattle, tail docking and mulesing in sheep, and dehorning in cattle. It is a spray on viscous liquid containing anaesthetic, adrenaline (to reduce haemorrhage) and cetrimide (which has antibacterial action).

Analgesia options are provided in the form of non-steroidal anti-inflammatory drugs (NSAIDs) which take effect by blocking a specific enzyme called cyclooxygenase (or COX), used by the body to make prostaglandins. By reducing production of prostaglandins, NSAIDs help relieve the discomfort of fever and reduce inflammation and the associated pain.

- Butec/Buccalgesic are both oral gel products that contain meloxicam which are given into the cheek of the lamb or calf using a special applicator. It is absorbed slowly through the gum, acts systemically (on the whole body, rather than locally) and takes around 15 minutes to take effect, lasting up to 72 hours.
- Meloxicam is an injectable product, given under the skin of the lamb or calf. It also acts systemically, takes around 15 minutes to take effect and lasts up to 72 hours.

Numnuts®, Tri-Solfen® and Butec are all available via veterinarians and rural merchandise stores, whilst Buccalgesic and Meloxicam are only available through veterinarians. It is strongly recommended that you develop a relationship with your local veterinarian and discuss the best options for use in your enterprise. With all products, the directions for use, withholding periods and export slaughter intervals must be closely adhered to and any off-label use should only occur following discussion with and recommendation by your veterinarian.

Multimodal pain relief

The gold standard of pain relief is to employ a multimodal approach which combines an anaesthetic (quick, short acting local pain relief) with an analgesic (slower acting, longer lasting pain relief), which when combined, gives the most effective and longest lasting pain relief.
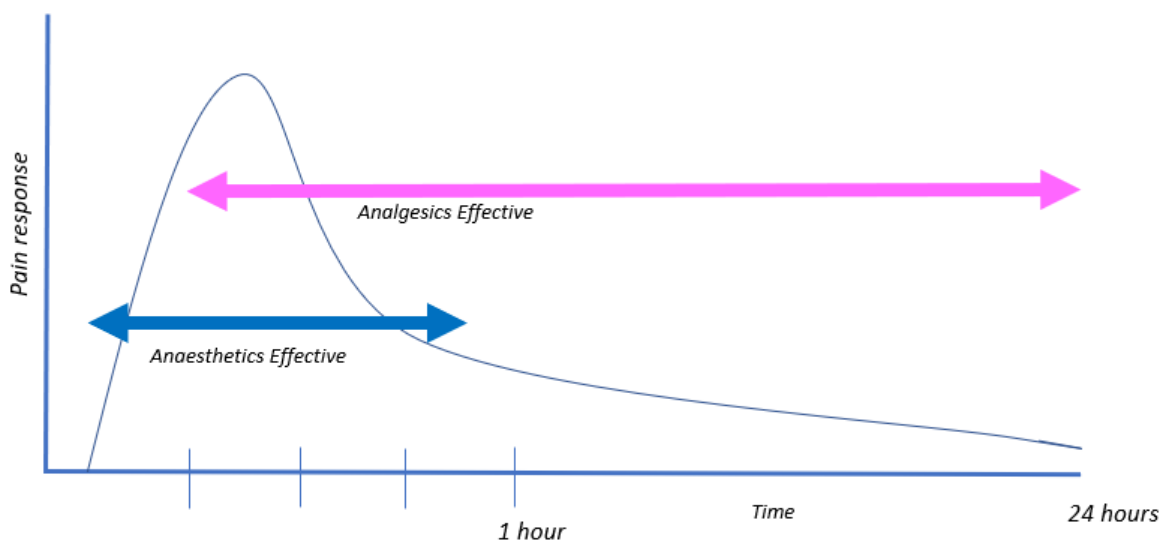
A study by *Lomax et al (2010)* compared wound pain of lambs that were surgically castrated, with either surgical or hot-iron tail docking, with and without the application of topical anaesthetic or a placebo. The effects of this procedure were compared with those of rubber ring castration and tail docking, and of the handled but unmarked controls. The study found that there was a significant reduction in pain-related behaviours in the lambs treated with the topical anaesthetic, which were not significantly different in their behaviour to the control animals (those that did not have a surgical procedure performed).

A study by *Van der Saag et al (2018)* at the University of Sydney found calves that were surgically castrated and dehorned without pain relief lost 8.3kg of bodyweight over 6 days around the time of the procedure. The control animals, that were separated from their dams and handled as per the other animals but had no surgery performed lost 3.69kg of bodyweight over the same period. The animals that were castrated and dehorned and treated with topical anaesthetic only, lost 6.59kg, those that were castrated and dehorned and treated with NSAIDs only lost 6.62kg, while those that were castrated, dehorned and treated with both topical anaesthetic and an NSAID lost 5.4kg.

A field study by *Small, et al (2018)*, which looked at female Merino lambs that were mulesed and tail docked found that the animals had significantly less pain scores and abnormal behaviours when they were treated with a topical anaesthetic and an NSAID when compared to those that were treated with only one or the other or received no pain relief.

There are numerous variables to consider within the research – including target species, which products were used, age and weight differences of the animals, dose rates, routes of administration and what combination of procedures were performed – which confound comparisons of published outcomes. Regardless, the overwhelming conclusion is that topical or local anaesthesia, preferably accompanied by the use of an NSAID analgesic, will reduce pain during and after these routine management procedures and is a robust and affordable practice.

Take home messages

◆ Both the beef and sheep industries are committed to 100% of producers using pain relief for routine animal husbandry procedures.

◆ Review your castration, dehorning, tail docking and mulesing procedures in light of research, Animal Welfare Standards & Guidelines and available pain relief products.

◆ The gold standard of pain relief is to use a product from both categories for the best effect.

Relevant tools and resources

◆ **MLA pain relief hub**

This is a one-stop-shop of resources that outline best practice husbandry in sheep and beef cattle, as well as available products for pain relief, their costs, and when they're suitable to use.

◆ **Australian Animal Welfare Standards and Guidelines**

This website provides a progress update, background, consultative process and a submissions page on all previous and current standards and guidelines development.

◆ **MLA pain relief use in sheep online training module**

This free online module outlines available products, their costs and when they are suitable to use, as well as best practice recommendations for specific husbandry practices, and considerations for alternatives to some current husbandry practices.

◆ **MLA pain relief use in southern cattle online training module**

This free online module outlines available products, their costs and when they are suitable to use, as well as best practice recommendations for specific husbandry practices, and considerations for alternatives to some current husbandry practices.

◆ **Australia Beef Sustainability Framework Annual Update 2023**

The Australian Beef Sustainability Framework (ABSF) sets out the key indicators of performance in sustainability for the beef industry. It enables success to be recognised through evidence-based metrics and empowers the industry to continually improve and demonstrate its values to customers, investors and stakeholders.

◆ **2021 AWI Merino Husbandry Practices Survey**

The 2021 AWI Merino Husbandry Practices Survey allows for tracking of change in Merino producer's animal husbandry practices over time.

◆ **Futureeye Report – Commodity or sentient being?**

A report outlining Australia's shifting mindset on farm animal welfare

◆ **Topical anaesthesia alleviates short-term pain of castration and tail docking in lambs**

Published peer reviewed research

◆ **Effect of age at castration on behavioural response to subsequent tail docking in lambs**

Published peer reviewed research

◆ **Analgesia for sheep in commercial production: Where to next?**

Published literature review

◆ **A randomized field study evaluating the effectiveness of buccal meloxicam and topical local anaesthetic formulations administered singly or in combination at improving welfare of female Merino lambs undergoing surgical mulesing and hot knife tail docking.**

Published peer reviewed research

◆ **Effect of topical anaesthetic and buccal meloxicam on average daily gain, behaviour and inflammation of unweaned beef calves following surgical castration.**

Published peer reviewed research

◆ **Role of topical anaesthesia in pain management of farm animals, a changing paradigm.**

Published literature review

Notes

Making compliance work for you with eNVD and MyFeedback

Demelsa Lollback

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About Demelsa

As ISC Project Manager – Adoption, Demi's role is to drive the adoption of key programs within the Integrity System 2025 & Beyond Strategic plan (IS2025) through working with supply chains and producers. The role focuses on delivering high impact benefits to red meat producers and the supply chain through supporting the adoption of digital and data technologies that enable the delivery of integrity program requirements, along with supporting broader profitability and productivity improvements.

Demi started in Meat Standards Australia (MSA) at MLA, 13 years ago, and has held several roles. She holds a Bachelor of Applied Science – Animal Science degree from the University of Queensland and has a passion for all things meat. This is evident through her involvement with the Australian Intercollegiate Meat Judging (ICMJ) and the Australian BBQ Alliance, where she holds executive positions on both committees.

Session abstract

Compliance to traceability programs and market requirements is key to livestock producers' success. Integrity Systems Company (ISC) has developed two new products, the eNVD System and myFeedback, to support traceability throughout the supply chain and provide producers and processors with the opportunity to use livestock data to inform their business decisions.

The eNVD System

The Livestock Production Assurance (LPA) program is the on-farm assurance program that underpins market access for Australian red meat. LPA National Vendor Declarations (NVDs) are legal documents that provide evidence of livestock history and on-farm practices when transferring livestock through the value chain. The current paper version of the NVD can challenge traceability along the supply chain as documents can be submitted incorrectly or incomplete, lost or damaged, and with LPA requiring documents to be saved for seven years after the transaction storage can be costly.

The eNVD Livestock Consignments app and eNVD web enables consignments to be submitted digitally and offers a range of benefits including:

- Documents are easy to read, understand and won't get lost
- Information is securely stored and always available to view
- Ensures the latest versions of the NVD are being used
- Pre-populates repetitive questions across quality assurance and health declaration forms
- The app enables consignments to be started and completed without internet service.

myFeedback

myFeedback is a new data program designed to provide insights to help producers improve the quality and health of their livestock and support processors to improve productivity, compliance and reduce lost opportunity costs.

Take home messages

◆ The eNVD and myFeedback products have been developed to support traceability throughout the supply chain and provide producers and processors with the opportunity to use livestock data to inform business decisions.

◆ The eNVD Livestock Consignments app and eNVD web enables consignments to be submitted digitally without the need for internet service.

◆ Both the products can be linked to and accessed via your myMLA account.

Relevant tools and resources

◆ **eNVD Livestock Consignments app – apple store**

Integrity Systems Company's (ISC) eNVD Livestock Consignments app is the fast, easy system for completing a range of Australian livestock consignment forms digitally including the LPA, NVD, MSA vendor declaration, national health declarations and NFAS forms.

◆ **eNVD Livestock Consignments ap – Google Play store**

Integrity Systems Company's (ISC) eNVD Livestock Consignments app is the fast, easy system for completing a range of Australian livestock consignment forms digitally including the LPA, NVD, MSA vendor declaration, national health declarations and NFAS forms.

◆ **MyFeedback**

MyFeedback combines carcase data with disease and defect insights into one place – one system, more data, better insights.

◆ **MyMLA homepage login**

A single login portal for your myMLA account including access to MLA's range of products and services.

Notes

Breeding and feeding to maximise profit with BredWell FedWell

Sarita Guy

Project Manager Genetics Adoption, MLA

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About Sarita

Dr Sarita Guy is MLA's Project Manager for Genetics Adoption, based in Armidale NSW. She has a real interest in livestock breeding and genetics since her first experience with agriculture at the age of 12. In addition to her role at MLA, she is developing small scale poultry and sheep breeding enterprises.

Prior to joining MLA, Sarita was a quantitative geneticist at the Animal Genetics and Breeding Unit. Key areas of her work included development of the Sheep Genetics Data Quality Score, and breeding for carcase eating quality through consumer sensory testing and carcase yield through objective measurement technologies. She has been an invited speaker at Australian and international scientific forums and has also spent considerable time working with red meat processors to enhance carcase feedback to producers.

Sarita is passionate about supporting producers in the use of genetics as one of the tools to produce productive and profitable livestock. Today she'll be speaking about one of MLA's introductory workshops to breeding and feeding well, the BredWell FedWell workshop.

Session abstract

Breeding and feeding to maximise profit

There are multiple tools available to assist in ram and bull purchasing decisions. These range from visual assessment, raw data, sire evaluations and breeding values. Estimated Breeding Values (EBVs) and Australian Sheep Breeding Values (ASBVs) are the most accurate prediction of the genetics passed onto progeny as they allow you to see 'under the hood' of an animal.

Your genetic investment can be maximised by feeding effectively across the production cycle. Managing the nutritional requirements of your animals requires understanding of your feed supply and demand cycle, and how to monitor body condition score.

Success in breeding and feeding are inextricably linked. MLA's BredWell FedWell workshop will support you to develop a genetics and nutrition plan suited to your enterprise, so you can maximise your profit.

The BredWell FedWell (BWFW) workshop

BWFW is a practical, one-day introductory workshop on how productivity and profitability can be improved through good breeding *and* feeding over the livestock production cycle, with a specific focus on profit drivers.

BWFW has demonstrated real impact. Between 2011 and 2020, BWFW has delivered $17.2m[*] in total net benefits to participating producers. Participation in BWFW workshops resulted in average annual net benefit of $2.48/ewe joined for sheep producers, and $2.98/cow mated for beef producers.

After 10 years of successful delivery, BWFW has been redeveloped to reflect the evolving best practice genetics and nutrition management. The workshop available for a range of sheep production systems, as well as northern and southern beef.

What will I learn at BWFW? Workshops are hosted on-farm and aimed to improve your knowledge and skills so you can:

◆ Develop a customised breeding plan for your livestock enterprise aligned to your profit drivers.
◆ Identify sires and select animals that help you meet your objectives.
◆ Learn about feeding animals well to achieve your objective and maximise your genetic investment.

BWFW attendees apply learning outcomes specific to their own enterprise

On-farm, practical exercises help participants understand how to apply sire-selection tools, from visual assessment to breeding values

Take home messages

◆ **Breed well** by using genetic tools, which are predictions of what genetics are passed onto an animal's progeny. Combined with visual assessment of physical and structural soundness, genetic tools help with ram and bull purchasing decisions.

◆ **Feed well** by understanding your feed supply and demand, and by monitoring the condition of animals. This will help to maximise your genetic investment.

◆ **Attend MLA's refreshed BredWell FedWell workshop**. This practical, one-day introductory workshop will support you to develop a genetics and nutrition plan suited to your enterprise, so you can maximise your profit. Workshops are held based on demand, so register your interest online.

Get involved

➔ **Attend** a sheep, or southern beef workshop.

➔ **Host** a workshop on your property.

➔ **Deliver** a workshop.

mla.com.au/bredwellfedwell

Relevant tools and resources

◆ **MLA Genetics hub**

The MLA Genetics hub contains useful resources and information for better understanding breeding values for tropical and temperate cattle, prime lambs, and Merinos.

◆ **MLA Feedbase hub**
These hubs bring together the latest R&D on soil, pasture and weed management to increase pasture production, quality and persistence.

Notes

NSW DPI Cowra Agricultural Research and Advisory Station – site visit

Perennial grains and sheep reproduction research at the Cowra Agricultural Research and Advisory Station

Session abstract

The station operates on an area of 390ha, mostly suitable to mixed farming systems, situated on the northern edge of Cowra, approximately 4.4km from the Cowra Civic Centre to the station's JT Pridham Building.

When William Farrer revolutionised the Australian wheat industry, he requested his own experimental farm. As a result, 1000 acres (400 hectares) of the town common at Cowra was excised on April 1, 1903, and the first plots were sown in 1905. Farrer died before commencing work at Cowra, however wheat breeding was progressed by George Sutton and John Pridham. Their focus was to breed earlier maturing varieties that had better disease and drought resistance compared to the current European varieties. Within in a few years' varieties such as Canberra, Hard Federation and Dundee were released from Cowra. These also had reaching impacts as quality parents in other breeding programs.

The site is recognised as the Centre for Red Meat and Sheep Development. It has a long and proud research record in the improvement of the Australian sheep meat industry. Sheep breeding and genetics research undertaken at the station includes the validation of the Border Leicester Merino cross, commencing in 1909. In the 1970s and 80s the Hyfer composite maternal ewe breed was studied, which was made up of 50% Dorset, 25% Booroola Merino and 25% Trangie Fertility Merino. Underpinning the advances in lamb carcase value, the station conducted the preliminary studies on the objective measurement of sheep and lambs using ultrasound for fat and muscle depth traits, in the late 1980s and 1990s. In the 1990s the station was a host for the Maternal Sire Genotype Evaluation (MCPT) project, demonstrating the role of the terminal sire in lamb growth, carcase fat and muscle, and the role of the maternal sire on lambing rate, growth, fatness and wool production. In the late 2000s and early 2010s, the site hosted one of the Sheep CRC's Information Nucleus Flocks (INF), a project that greatly advanced Australian Sheep Breeding Values, while also creating data for genomics and hard to measure traits.

Today meat science research continues examining a range of aspects of supply chain issues, such as cold storage, packaging, while spectroscopy is being used to predict things such as grass-fed or grain-fed finishing systems for beef. The meat science laboratory also supports other research projects, providing quality-assured shear force data and other meat quality attributes.

The research station joins around 1000 Centre Plus blood ewes, 70% to Merino rams, the remainder to Poll Dorset rams. Owing to the Sheep CRC's INF, the flock has 74 different bloodlines in its recent genetic makeup but performs well producing a 6kg greasy fleece of 17-18 micron and weaning 120-140% from all ewes joined. The flock is available for research projects and some of the ewes will be in view for the site visit.

Your visit to the research station will also take you to the new glasshouse precinct where Matt Newell is leading the work on perennial grains, following in the footsteps of the early plant breeders. Crops such as perennial sorghum and perennial wheat are being evaluated. Matt also supports projects such as Clover for Bees, Serradellas for new environments, Low methane pastures and High-performance pastures for acid soils.

Following Matt's talk, a short walk takes you to a demonstration of maternal-pedigree-matching SmartShepherd collars on ewes and lambs, where you will hear from Gordon Refshauge on how the SmartShepherd tags help with ewe and lamb selection decisions. Also on hand will be RFID-enabled mineral lick feeders and Gordon will discuss the hypotheses around their potential for sheep enterprises.

Notes

My take home messages and actions

Reflect on the presentations delivered at the MeatUp Forum. For those of relevance to you, note the session title, your key messages, and actions you can take to implement ideas.

Session	Action - things I could do to implement ideas

Producer Demonstration Sites: quick start guide

Producer Demonstration Sites (PDS) are on-farm projects run by producer groups who want to validate the benefits of incorporating research findings into their businesses.

By supporting producers to use best practice management techniques and technologies that improve business performance, the PDS program aims to:

- increase the rate of R&D adoption
- encourage producers to pursue new skills and knowledge
- foster collaboration within the red meat industry.

MLA calls for preliminary applications for PDS projects that will help to improve the profitability, productivity and sustainability of beef and sheepmeat enterprises on an annual basis.

What can I demonstrate?

Your PDS producer group could get involved in demonstrating practices that support:

- increased lamb survival
- control of regionally important weeds
- improved induction to drought rations, or
- remote measurement of carrying capacity.

What do I need to do?

The practice you plan to demonstrate must be trialled on at least:

x3

3 different properties

10

with 10 core producers

with a larger producer network keeping track of the project

Other considerations

The project duration should be a minimum of two years and a maximum of six years

Ensure your project includes communication activities to extend key learnings beyond the core group

Implement monitoring, evaluation and reporting processes to demonstrate producer engagement, practice change and benefit to the Australian red meat industry
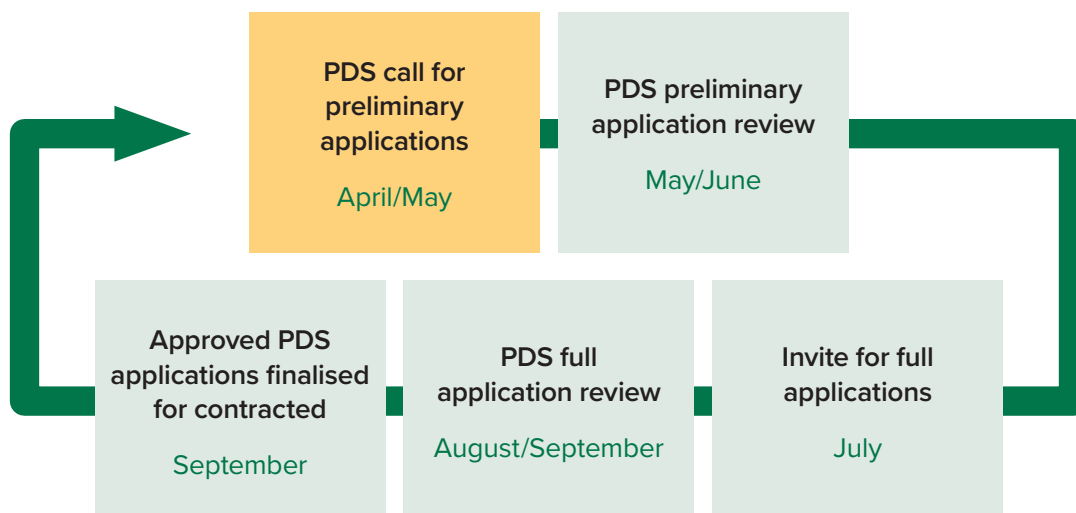
What are the funding opportunities?

There are two primary funding streams that aim to increase the rate of adoption of on-farm management practices and technologies in PDS projects: levy and co-contributor.

What's the difference?

Levy	Co-contributor
Producer-driven projects to address regional PDS priorities **set by the Regional Research Advisory Councils (RACs)**/Regional Committees	Producer-driven projects aligned with **industry** priorities/targets
Offers producer groups the opportunity to receive funding of **up to $25,000/year** for the life of the project	Offers producer groups the opportunity to receive funding of **up to $50,000/year** for the life of the project
100% funded by producer levies	Funding consists of: **50% levies, 25% producer cash contribution, 25% MDC** (matching the producer contribution), **8% access fee** (of the total project value – 25% producer, 75% MLA/MDC)

When can I apply?

Preliminary applications for the PDS program will open in April annually.
See below for a full overview of the application process.

PDS call for preliminary applications
April/May

PDS preliminary application review
May/June

Approved PDS applications finalised for contracted
September

PDS full application review
August/September

Invite for full applications
July

paraboss

SCAN ME

Integrated parasite management for
sheep, goats and cattle

ParaBoss is the industry's go-to resource for parasite management information, bringing together the latest R&D and practical resources all in one place.

This online resource offers regionalised and seasonal tactics to reduce the impact of flies, ticks, worms and lice in any sheep, goat or beef system.

Find information on the management, treatment and biology of parasites and the latest advice on preventing chemical resistance.

Tried and tested by producers, see how ParaBoss can benefit your business.

Visit **paraboss.com.au.**

flyboss　　**wormboss**　　**liceboss**　　**tickboss**

ParaBoss has been developed and funded by Meat and Livestock Australia, Australian Wool Innovation, Sheep CRC, University of New England, and Queensland Department of Agriculture and Fisheries, with technical guidance and endorsement by sheep, goat and cattle parasite technical experts.

paraboss.com.au

awi　mla MEAT & LIVESTOCK AUSTRALIA　une University of New England　Queensland Government　animalhealth AUSTRALIA

Learn about your responsibilities as an employer.

Providing a great workplace and managing your employees is a key part of running a successful business. People in Agriculture provides you with the latest, industry specific employment information through tools, tips and examples, wherever and whenever you need it.

People in Agriculture

YOUR EMPLOYMENT INFORMATION GATEWAY

www.peopleinag.com.au

BredWell FedWell

MEAT & LIVESTOCK AUSTRALIA (mla)

An introduction to

Breeding and feeding to maximise profit

On the back of a decade of success, the BredWell FedWell workshops have been redeveloped to reflect evolving best practice genetics and nutrition management.

- Develop a customised breeding plan for your livestock enterprise aligned to your profit drivers
- Identify sires and select animals that help you meet your objectives
- Learn about feeding animals well to achieve your objective and maximise your genetic investment

Informative
Presentations and discussions with deliverers and peers

Interactive
Practical and written activities hosted on-farm

Individualised
Learning outcomes you can apply in your own enterprise

So far, BWFW workshops have delivered $17.2m* in total net benefits to participating producers

1.9M
cattle influenced by the BWFW workshop

$2.98
net benefit per cow mated

639k
breeding females

19.6M
sheep influenced by the BWFW workshop

$2.48
net benefit per ewe joined

12.7M
breeding ewes

*Calculated as net present value of adoption to 2045, discounted at 5% annually.

New workshops are available for all sheep types, southern cattle and northern cattle production systems. Register your interest to participate or host a workshop.

mla.com.au/bredwellfedwell

Australian Feedbase Monitor
Information for producers

The Australian Feedbase Monitor is a world-first tool to help producers improve grazing management, forage budgeting and ground cover.

The Australian Feedbase Monitor provides:

- access to farm-level rolling monthly pasture biomass estimates for every Livestock Production Assurance (LPA) account holder, updated every five days
- regionally calibrated predictions based on more than 6,000 sites, using world-leading satellite monitoring and data analysis systems
- data showing the trends in pasture growth and ground cover dating back to 2017
- support for more objective and accurate feed budgeting, leading to sustainable grazing management decisions.

How will this tool help producers?

The Australian Feedbase Monitor will offer multiple benefits to producers and the wider red meat industry including:

- supporting more objective and timely grazing decisions allowing an increase in production and the ability to meet market specifications
- avoiding environmental or welfare issues in grazing enterprises due to increased ability to monitor and report on ground cover and pasture status and trends
- increased consumer confidence in the environmental stewardship of red meat producers.

How to sign up

Want free access to the Australian Feedbase Monitor? The free subscription to this tool can only be accessed by MLA members via myMLA, so make sure you've registered for myMLA and linked it to your current Livestock Production Assurance (LPA) account: mymla.com.au.
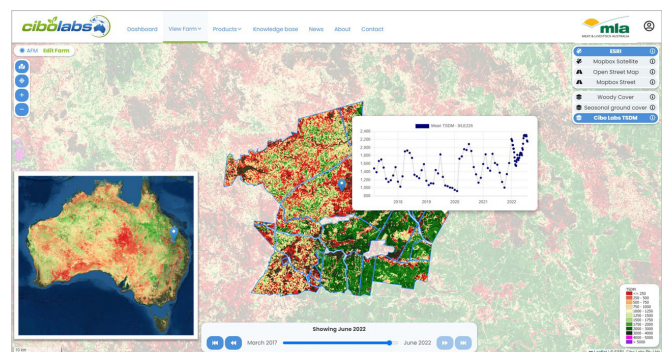
Not an MLA member?

You can still access the tool if you're not currently an MLA member:

- apply to be an MLA member (this process can take up to two weeks) at mla.com.au/membership
- sign up for a paid subscription through Cibo Labs: support@cibolabs.com.au

mla.com.au/afm

AFM news and updates: Sign up for MLA's e-newsletter, *The Weekly* (mla.com.au/enews), subscribe to *Feedback* magazine (mla.com.au/feedback) or follow MLA on social media.

Help with using the AFM: support@cibolabs.com.au

MLA membership support: membership@mla.com.au or 1800 023 100

Business EDGE

AGRISTA

mla EDGE NETWORK
MEAT & LIVESTOCK AUSTRALIA
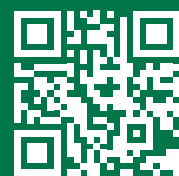
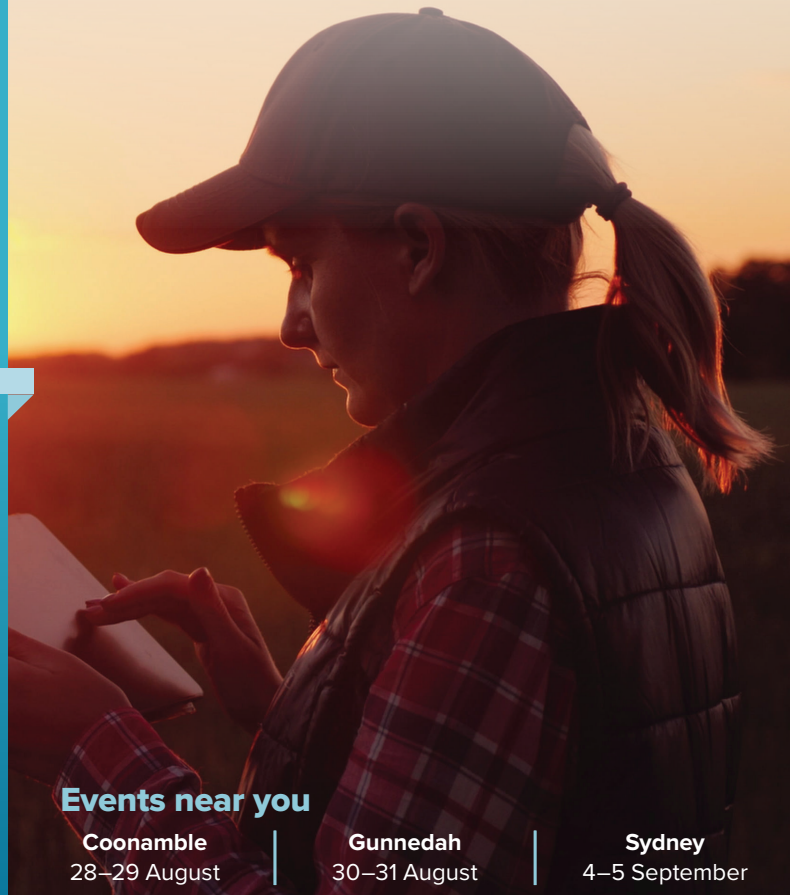## Know your business, grow your business

A two-day workshop to enhance your financial management and improve business efficiency and profitability. You will also develop strategies to determine if your business can fund future growth, how to reduce debt and how to plan for retirement and succession.

Events near you

| **Coonamble** 28–29 August | **Gunnedah** 30–31 August | **Sydney** 4–5 September |

Modules and key topics covered

1. Taking an economic sustainability approach – how it works
- A background to 'sustainability' and its appropriate use
- Eight definitional criteria for economic sustainability

2. Acquiring final literacy – talking the language of money
- The language of money
- Some accounting basics
- Compliance accounts versus management accounts
- Setting up a financial system
- The three pillars
- Understanding the income statement
- Understanding cashflow
- Understanding the balance sheet
- Tying it all together

3. Understanding and measuring whole business performance
- Key performance indicators for the whole business
- Secondary performance indicators for the whole business
- Assessing long-term business performance
- Key indicators of financial health
- Key indicators of financial stress

4. Managing business risk
- Business risk principles
- Risk management
- Agricultural business risk
- Financial risk and its elements
- Managing financial risk

5. Managing and allocating working capital
- Understanding working capital and why it is needed
- Short and long-term considerations
- The principles of rational capital allocation
- Unfunded future liabilities and provisioning
- Analysing capital expenditure options (Cost Benefit Analyses)

6. Using financial data and Key Performance Indicators to assess enterprise performance
- What is the fundamental unit of measurement?
- Herd financial performance
- Key performance indicators

7. Issues with a multi-enterprise grazing business
- Passion, knowledge and skills
- Operating scale
- Resource competition
- Diversification
- Relative profitability

8. Looking at a business through a new set of eyes
- Applying the knowledge: Group Case Study Exercise

9. Where to from here?
- Some of the tasks you should begin immediately
- Set goals and develop budgets

For more information about NSW events contact Prue Francis **M:** 0435 052 255 **E:** prue@agrista.com.au www.agrista.com.au

Carbon EDGE

A new training program for the red meat industry

Taking carbon from a concept to an action plan

Currently under development, Carbon EDGE will be a two-day training program for the red meat industry, providing participants with an understanding of the opportunities for emissions reduction and carbon storage activities in a livestock grazing business.

As a participant you will use your own information to develop an action plan for your business as you learn about the practices and technologies that could reduce your carbon footprint and improve sustainability and productivity.

Carbon EDGE will cover:

• key terminology and concepts relating to greenhouse gases (GHG) within the red meat industry
• in-depth information on the practices to reduce and sequester GHG within a livestock grazing business
• weighing up opportunities and risks associated with generating carbon credits and how they can be used to benefit livestock businesses
• understanding carbon neutrality and how it aligns to your business goals
• developing a carbon action plan that incorporates practical, achievable strategies to meet your objectives.

You will learn through group-based activities and tools, applying new information to your own context with the support of an expert deliverer. Every workshop will include case studies and examples for participants to learn from.

All participants receive a manual, a workbook/planning template and tools and resources to take home.

Who is the Carbon EDGE program for?

The program is for red meat producers who are looking to build on their understanding of carbon. The program will help participants move into a planning and action phase, identifying practices and technologies that could be incorporated into their business to benefit their bottom line and the environment. It is also suitable for advisors and other service providers looking to enhance their understanding of the current operating environment.

Pre-workshop preparation

The design of the Carbon EDGE workshops recognises that everyone will be at a different starting point when it comes to carbon. However, it is highly recommended that participants complete pre-work before attending to get the best out of the program. This includes the eLearning modules available on MLA's Toolbox and a carbon account. Your workshop deliverer will be in touch to guide you through this process.

Upcoming workshops

Workshop deliverers

The EDGEnetwork is managed by MLA and delivered by experienced service providers to provide research-based independent information for red meat producers. Through a network of accredited Carbon EDGE deliverers, workshops will be delivered across Australia.

Pilot workshops

Five pilot workshops will be delivered in 2023 across different regions of Australia. We will be seeking feedback and ideas from pilot workshop participants to make Carbon EDGE the best it can be.

You can now register an Expression of Interest to participate in these workshops (using the QR code below). Please note that availability for pilot workshops will be limited, depending on dates, locations and places. Pilot workshops will be offered at a discounted rate of $750pp.

Commencement of the program

Carbon EDGE will roll out in 2024 across Australia, delivered in partnership with industry service providers. The program will expand over time with the onboarding of new partners. Anyone who has submitted an Expression of Interest (using the QR code below) will be contacted.

Carbon EDGE snapshot

Region: National
Industries: Grassfed beef, sheep and goats
Audience: Producers, advisors and other industry service providers

Course structure:
Two-day workshop combining training and practical sessions
Course size: 12–20 people, no more than 15 people per deliverer

Pilot workshops: Five pilot workshops will be held in 2023
Program commencement: The program will open in 2024. Workshops offered based on deliverer availability and locations.

More information

Harriet Bawden, MLA | hbawden@mla.com.au | 0488 787 849

Carbon EDGE has been developed by Meat & Livestock Australia with the support of Environmental Accounting Services (EAS) and Pinion Advisory.

Better your business

MEAT & LIVESTOCK AUSTRALIA

MLA offers red meat producers a range of training opportunities, resources and publications.

TRAINING OPPORTUNITIES

Profitable Grazing Systems is a group-based delivery program designed to deliver training and coaching over several months and up to a year to improve producer skills and knowledge. The aim is to achieve practice change on-farm in the areas of people, business, reproduction and genetics, value chain and feedbase.

Profitable
Grazing Systems
mla.com.au/pgs

Producer Demonstration Sites are on-farm projects run by producer groups who want to demonstrate findings from known research into their local farming system. MLA calls for Producer Demonstration Site applications that will help to improve the profitability, productivity and sustainability of red meat enterprises every April.

Producer
Demonstration Site
mla.com.au/pds

EDGE*network*® workshops offer practical knowledge and skills on topics such as breeding and genetics, business management, nutrition, grazing and land management. Workshops range from one to three days.

mla EDGE NETWORK
MEAT & LIVESTOCK AUSTRALIA
mla.com.au/edgenetwork

BredWell FedWell are practical one-day workshops designed to teach producers the key benefits of superior genetics and feed management for improved flock and herd performance.

BredWell FedWell
mla.com.au/bredwellfedwell

RESOURCES

The toolbox, MLA's free eLearning platform, builds knowledge in the areas of animal welfare, husbandry, feedbase and genetics. Packages take between 15 to 20 minutes to complete online, allowing users to learn at their own pace.

The toolbox
elearning.mla.com.au

myMLA is a customised online dashboard that provides news, weather, events and R&D tools relevant to you, as well as a single sign-on feature for integrity systems.

my **mla**
MEAT & LIVESTOCK AUSTRALIA
mla.com.au/aboutmymla

Seasonal hubs provide resources, tips and tools organised by season to make it easy to find relevant information to support your business decisions.

mla.com.au/seasonal-hubs

Feedbase hubs provide tips and tools on soils, pastures, legumes and weed management alongside the latest R&D to increase pasture production, quality and persistence.

mla.com.au/feedbase-hub

PUBLICATIONS

MLA's *Feedback* **magazine** signposts producers to practical on-farm information and showcases how MLA is investing levies in research, development and marketing activities.

mla.com.au/feedback

Keep informed about the latest red meat and livestock industry news, market information, events, research and marketing with MLA's suite of e-newsletters. Mastheads include: *The Weekly • Integrity Matters • Goats on the Move The Quarterly Feed • Global Markets Update • The Advisor*

mla.com.au/enews

Become an MLA member today

MLA membership is **free** to levy-paying producers of grass or grainfed cattle, sheep, lambs or goats.
To become an MLA member call **1800 023 100**, visit **mla.com.au/membership** or scan the QR code.

mla.com.au/meatup