

# FEEDBACK

MLA – FOSTERING PROSPERITY

FEBRUARY/MARCH 2018



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# FEEDBACK

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



Cover: Darren Swain from Gunnedah, NSW has been exploring the practical applications of drones on farm. (Page 24)

## Have your say!

We'd love to hear from you

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# A NOTE FROM THE MD...



## It's going to be a big year for the Australian red meat and livestock industry.

It's also a milestone year for MLA, with 2018 marking two decades since the company's inception in 1998. That's 20 years of delivering research, development and marketing services to Australia's cattle, sheep and goat producers in collaboration with the Australian Government and the red meat and livestock industry.

This year also represents the halfway mark on the five-year path to achieving the goals set out in the *Meat Industry Strategic Plan 2020*. The MLA team continues to work tirelessly to achieve our key performance indicators – set by you, the industry – and as you'll know from reading *Feedback* magazine, reporting on these outcomes is also a top priority of MLA's. I have every confidence that we'll continue to foster the prosperity of our industry as we pursue on the path paved by the strategic plan.

MLA is supporting a number of major industry events throughout 2018.

In May, Australia's cattle capital Rockhampton will host the largest beef expo in the southern hemisphere – **Beef Australia**. The triennial event will feature a packed program complete with trade sites, competitions, seminars, property tours and social events.

To hear more about why you should go along, check out Beef Australia Chair Blair Angus' Q&A on page 4.

In August, Perth, WA will celebrate the Australian sheep industry's equivalent conference, **LambEx**.

MLA is proud to be a principal partner of both these important events and we've organised a strong program of our own at each of them.

Then, on 20–21 November MLA will hold the industry's flagship event, **Red Meat 2018**, in Canberra. Just like Alice Springs last year, this will be a showcase of the latest research, development and marketing initiatives and the region.

In my three and a half years as Managing Director of MLA, I've met more than 25,000 levy payers and will continue to engage with grassroots producers face-to-face in 2018.

At a local level, MLA has also updated our Bred Well Fed Well workshops to focus on cattle enterprises as well as sheep ([mla.com.au/bredwellfedwell](http://mla.com.au/bredwellfedwell)), project funding for our Producer Demonstration Sites program is now available ([mla.com.au/pds](http://mla.com.au/pds)) and the popular BeefUp Forums are kicking off again in northern Australia ([mla.com.au/events](http://mla.com.au/events)). Producers can also participate in MLA's Profitable Grazing Systems, a program which drives improved business performance outcomes through a whole-farm approach ([mla.com.au/pgs](http://mla.com.au/pgs)).

In 2018, MLA will continue to pursue its vision to be the recognised leader in delivering world-class research, development and marketing outcomes that benefit the Australian red meat and livestock industry and ensuring that every dollar spent is invested where it matters most.

As always, I'd love to hear your thoughts on MLA and, of course *Feedback* magazine so we can make the most of the exciting year ahead.

A handwritten signature in black ink, appearing to read 'Richard Norton'.

**Richard Norton**  
MLA Managing Director

✉ E: [managingdirector@mla.com.au](mailto:managingdirector@mla.com.au)



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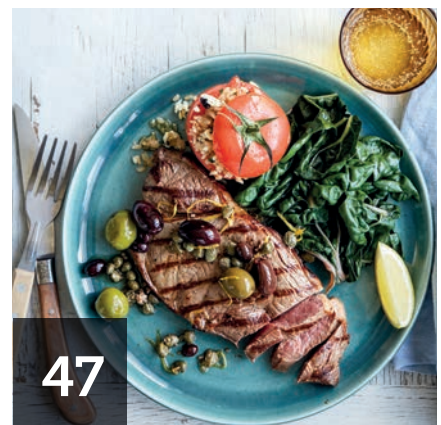
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# Blair Angus on Beef Australia 2018

Australia's national beef expo, of which MLA is a principal partner, is considered one of the world's great cattle events and is held once every three years at Rockhampton, Queensland. Here *Feedback* talks to Beef Australia's Chair, Blair Angus (pictured), about the event and why it's a must-attend for Australian beef producers.

## What makes Beef Australia 2018 so exciting?

It's the 30th anniversary of Beef Australia. The event has grown from a unique showcase of our local cattle industry to being a globally-recognised extravaganza to celebrate the entire beef supply chain.

## Who should be interested in attending the expo?

It has something for everyone and it's my firm belief that if you've ever eaten a piece of beef, you're a part of this industry. Australian producers head to the show in droves. It's an unrivalled opportunity to learn more, to benchmark and to network. Customers from Australia and around the world now see Beef Australia as a place to go to open up new market opportunities and to build business relationships.

## What's new to Beef Australia this year?

The program keeps expanding – the trick is fitting it all into one week. An exciting part for me is the focus on the future. We've grown the celebrity chef program and we're introducing the Young Chef Ambassador competition, where a lucky young chef is given the opportunity to work with some global talents. It's about sharing ideas on how to make beef the star.

Our Graeme Acton mentor program is back, and this time each of the mentor partnerships are developing a project. There's also the Pitch in the Paddock which is focusing on ag-tech and innovation.

## When do the cattle competition entries close?

You still have until 23 March to get entries in for the commercial competition, or until 30 April for junior events in the stud competition. The final slaughter date for the carcass competition is also in March, so there's still time to have your herd participate on a national stage in front of an international audience. There's also the young judge and parader competitions.

## Is it too late to plan a trip?

The popularity of Beef Australia means that you should plan now and get in touch, whether it's online, on social media or over the telephone. The team is here to help.



✉ T: 07 4922 2989

E: [beefexpo@beefaustralia.com.au](mailto:beefexpo@beefaustralia.com.au)

🖥 [beefaustralia.com.au](http://beefaustralia.com.au)

To find out more about what MLA is doing at Beef Australia, see the back cover.



## Janine hits the carcass judging trail

MLA's Janine Lau has been keeping pretty cool in the lead-up to Beef Australia 2018.

The Meat Standards Australia (MSA) Research and Development and Integrity Manager (pictured), is the judge of the Beef Australia 2018 National Carcass Competition and before 1 April will visit 21 processing facilities to grade the entries.

A MSA senior grader, Janine first took on the judging task for the event at Beef Australia 2015. The 2018 event has seen the introduction of new yield prediction analysis, meaning more accurate yield feedback.

"The last competition introduced the MSA Index to measure the eating quality component and this time we'll add yield prediction," she said, adding this would offer entrants the chance to see just how futuristic carcass feedback systems would work.

More than 500 head will be judged for the competition, with specific kill dates nominated by processors to fit with periods of grass and grainfed turn-off. Janine will carry out judging in every state.

"The competition guidelines have been created embracing the latest science, which makes it really exciting," she said.

"It's a great opportunity to benchmark your herd against the best in the country."

Winners will be announced at an awards dinner at the MLA-supported Beef Australia 2018, which will be held at Rockhampton from 6–12 May.

🖥 [beefaustralia.com.au](http://beefaustralia.com.au)





# Summer lamb campaign



**A**ustralians were encouraged to put aside their differences and embrace a summer ‘Lambnesty’ by MLA’s latest summer lamb campaign.

This year the campaign featured singing, dancing and celebrating the one thing everyone can agree on – Australian lamb.

Building on the ‘We Love Our Lamb’ brand position of unity and inclusivity, the new integrated campaign inspired people to put aside their differences, big and small, and come together over lamb this summer.

It launched with a long-form advertisement, where a lamb barbecue got a Broadway musical makeover. With the stage set, Australia’s diverse opinions go head-to-head, before ultimately showing that lamb is the one thing that brings everyone together.

MLA Chief Marketing and Communications Officer Lisa Sharp said the campaign put Australian lamb at the centre of our nation this summer.

“Lamb as a brand stands for unity and this latest campaign shines a light on what unites us rather than divides us,” Lisa said.

“In true Aussie spirit we are celebrating our nation’s ability to put aside our differences and join together over our love of lamb, the meat that brings everyone to the table.

“Our marketing is driven by data and consumer insights and we aim to reach more consumers by making lamb more relevant to a diverse, modern Australia.”

Media partners Nova Network, Channel Nine and The Beetoota Advocate supported the campaign across multiple channels.

Radio Nova Network’s Fitzy and Wippa spearheaded the mission, with listeners offered Lambnesty barbecue boxes and a seat to Australia’s first Lambnesty barbecue where people with differing opinions will unite over the ultimate lamb feast.

In-store, promotions delivered barbecue inspiration, focusing on the variety of different cuts and cuisines. Recipes developed by chef Darren Robertson at Three Blue Ducks and Rocker underpinned the campaign.

Check out the campaign on the We Love Our Lamb Facebook and YouTube pages.

## At your service

**T**wo new digital resources to support foodservice professionals to be more creative, while working in sometimes trying conditions, have been released using MLA’s Rare Medium program.

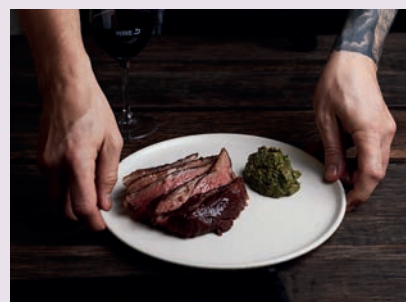
Rare Medium seeks to ensure that beef and lamb remain relevant and retain their place on domestic foodservice menus. Program Manager Mary-Jane Morse said Australian chefs are driven to outdo themselves and to make people happy, but increasing stresses can hinder the process.

“The foodservice industry faces many challenges – but perhaps most pertinently the current chef shortage and lack of adequate red meat training are impacting creativity and, in turn, limiting the opportunity for red meat instances on menu,” she said.

“We work to lay the foundations for chef creativity by elevating the use of Australian beef and lamb above other protein sources and delivering inspirational appeal across the foodservice sector.”

The new Rare Medium website provides whole carcass education, supply chain information, insights into production and dish inspirations.

The new seasonal e-magazine draws on industry innovation and culinary creativity to inspire chefs. The latest edition, which focuses on lamb, features a video of lamb production at the Gilmore family’s Tattykeel Poll Dorsets.



**50 million**  
meals served by  
foodservice weekly

**\$45 billion**  
turnover in  
foodservice annually

raremedium.com.au

# Eating for the environment

Good nutrition doesn't just benefit our health, it's also good for the environment.

**G**reenhouse gas (GHG) emissions from Australians' diets have been evaluated in a CSIRO study funded by MLA and the verdict is in: eating to the national dietary guidelines is better for the planet.

This research shows that eating according to the national dietary guidelines, which includes red meat as part of a balanced diet, is good for the planet and community.

The study calculated the emissions of more than 9,000 adult daily diets. When higher quality, lower emission diets were compared with lower quality, higher emission diets, there was a 44% (males) to 46% (females) difference in GHG emissions.

CSIRO researchers found that while red meat intake is consistent with the amount recommended by the *Australian Dietary Guidelines*, Australians are eating too many discretionary (higher carbon emitters due to processing, transportation etc), or 'treat' foods which are high in calories, sugar, fat and salt.

This type of diet doesn't just fuel obesity and poor health, it also has an environmental cost according to the report's lead author, CSIRO's Dr Brad Ridoutt.

"The food demands of a growing global population place great pressure on the environment and are estimated to account for between 19 and 29% of global greenhouse gas emissions, and around 70% of global freshwater use," Brad said.

He said the average adult daily diet had GHG emissions that were 12% higher than a nutritionally-complete diet based on the national dietary guidelines.

## Total Wellbeing Diet:

MLA funded the research required to develop CSIRO's popular Total Wellbeing Diet, which is now available as an online program here: [totalwellbeingdiet.com](http://totalwellbeingdiet.com)

## RESEARCH IN REVIEW

### PROJECT NAME

Greenhouse Gas Emissions and the Australian Diet Sustainable Consumption discussion paper

### RESEARCH ORGANISATIONS

CSIRO

### FUNDING ORGANISATIONS

MLA

### GOAL

To determine the relationship between dietary recommendations and environmental impact.

### BUDGET

\$182,432 (February–May 2016)  
\$63,090 (March–June 2017)

Emissions from foods which are high in kilojoules but lacking nutrients are considered avoidable because they are not part of the recommended balanced diet.

### The research benefit

MLA's Senior Nutrition Manager Veronique Droulez said the CSIRO research was an important investment to inform MLA's nutrition and consumer engagement programs.

"It's important for our industry, dietitians and the wider community to understand red meat's role in a healthy diet and the implications for environmental impact of its consumption," she said.

"The findings suggest we need to promote healthy, balanced meals with lean red meat in recommended portion sizes, accompanied by vegetables and wholegrain choices."

Average per capita consumption (in the last national nutrition survey) of red meat was 57g/day, mainly from beef (40g/day) and lamb (10g/day). Intakes were higher in adult men (75g/day) than adult women (50g/day) and children (42g/day). Portion sizes and the amount of accompanying vegetables and wholegrains varied depending on meal choice and meal preparer.

"MLA's programs will provide practical tips and meal ideas in response to

insights from this research which indicates that the people who prepare meals in Australian homes want to make their meals healthier," Veronique said.

CSIRO researchers also reviewed literature to consider the impact of dietary recommendations on other environmental markers, including water and land use. The authors concluded that eating according to the *Australian Dietary Guidelines*, avoiding overconsumption and wasting food is the most effective and practical way to ensure adequate nutrition and minimise environmental impacts.

### Climate-driven changes

So is the solution to simply cut out junk foods? CSIRO Professor Manny Noakes, who co-authored the research, said this is a great start.

"However, cutting out discretionary food alone isn't enough. We still need to improve the quality of our diets by eating more vegetables, dairy foods and wholegrains," Manny said.

"It's also important to remember that making dietary changes for the environment must also ensure we get the nutrition we need for better health and wellbeing."

The good news for consumers is that the 'menu' for better nutritional and environmental eating already exists, as the *Australian Dietary Guidelines* recommends the amount and type of food to consume to promote health and wellbeing and reduce the risk of chronic disease.

According to the guidelines, 130g cooked lean red meat every second day is recommended due to it being an important protein, iron and zinc source in the Australian diet. ■

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🖥️ MLA Healthy Meals:  
[mlahealthymeals.com.au](http://mlahealthymeals.com.au)



# Industry projections – what lies ahead?

**M**LA's sheep and cattle industry projections for 2018 have been released and, overall, the outlook is positive for Australian red meat.

Stable lamb production and a slight decline in mutton production is forecast as producers continue to expand flocks, according to the 2018 Sheep Industry Projections.

MLA Market Intelligence Manager Scott Tolmie said that while lamb and sheep slaughter are both expected to drop slightly in 2018 (to 22.5 million head and 7.2 million head, respectively), carcase weights will increase.

“We’re forecasting a slight increase in lamb carcase weights, which will help offset lower slaughter, resulting in a stable outlook for production at 514,000 tonnes (cwt),” Scott said.

“Mutton is slightly different, with carcase weights

expected to ease from the record highs of 2017. This, combined with declining slaughter, suggests we will see a small reduction in mutton production to 177,000 tonnes (cwt).”

Cattle supplies are likely to remain tight, with only a small increase expected in adult slaughter to 7.4 million head as the herd rebuild continues.

“An easing of carcase weights (after a record year in 2017 when they averaged 298kg) combined with a forecast increase in slaughter is expected to result in total beef production lifting by 1% this year to 2.17 million tonnes (cwt),” he said.

Here are the key industry projections:

## Sheepmeat

- strong international demand expected to continue to support lamb and mutton prices
- lamb exports anticipated to pull back slightly, while shipment volumes forecast to build to new highs in 2019 and beyond as production increases
- producers continue to rebuild the national flock, leading to a slight decline in sheep and lamb slaughter as retention increases.

## Beef

- ongoing herd rebuild to restrict cattle flow in 2018
- adult slaughter expected to lift 3% to 7.4 million head
- cattle on feed forecast to ease after a record year in 2017
- strong competition from US and Brazil to place pressure on global prices.

## Want to know more?

MLA provides a range of market information services including daily red meat market news updates, regional saleyard reports, live export information and price indicators.

Subscribe to regular market information at [mla.com.au/prices-markets](http://mla.com.au/prices-markets)

Read the projections in full at [mla.com.au/projections](http://mla.com.au/projections)



# Who's buying our meat?

Understanding the consumer is a valuable tool for the Australian red meat industry to gauge global market opportunities.

MLA's market snapshot series delivers producers a better understanding of consumers in key export markets, their changing preferences, competitive protein landscape and opportunity spaces for Australian red meat.

“An increasing number of companies and industries, including the Australian red meat industry, are using various degrees of data and consumer insights to better understand demand, set objectives and develop strategies,” said MLA's Market Insights Manager Miho Kondo.

“This means that demand-driven ‘consumer first’ thinking is now taking priority among these global businesses.”

Here are two examples of outputs derived from this process and delivered to the industry:

## Market classification

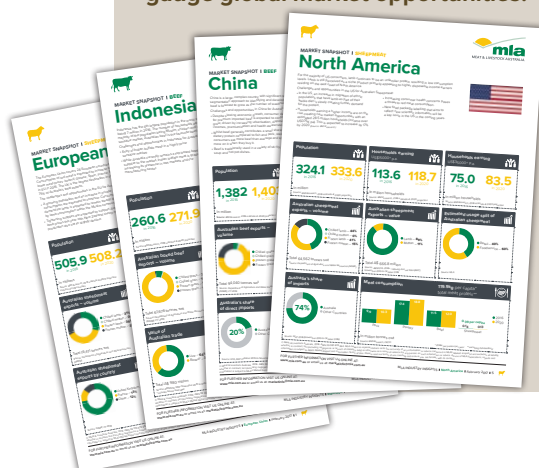
This is established based on a wide range of economic, trade and consumer data that together provide

an indication of future demand while highlighting opportunities and challenges. The outcome is used for industry consultation meetings and determining MLA investment and resource allocation.

## Market snapshots

The snapshot series is one of the range of publications about key markets to help producers become more informed. The concise reports provide updates on consumer trends, key sectors and the competitive landscape, designed to illustrate what's driving demand in the main markets.

“There's a lot of information to include, but we keep snapshot reports as a high level overview. We encourage businesses wanting more detailed insights on a particular market to contact MLA,” Miho said. ■



Find the updated snapshots at [mla.com.au/market-snapshots](http://mla.com.au/market-snapshots)

# Streamlining integrity compliance

**M**LA's Integrity Systems Company is making it easier for livestock producers to stand by what they sell, with the recent introduction of the electronic National Vendor Declaration system: the eNVD.

Integrity Systems Company CEO Dr Jane Weatherley said the eNVD system allows Livestock Production Assurance (LPA) accredited producers to complete their declarations online at no cost.

The eNVD system gives access to the following declarations:

- LPA NVD (cattle, bobby calf, sheep and lambs, and goat)
- LPA Cattle European Union Vendor Declaration (EUVD)
- Meat Standards Australia (MSA) Declaration
- National Health Declarations (cattle, sheep and goat)
- National Feedlot Accreditation Scheme (NFAS) Declaration.

"eNVD is simpler and quicker to use than paper declarations, it provides instant access to the latest versions of NVDs, and producers can complete their other declarations, such as MSA, at the same time," Jane said.

"Unlike eDECs and the paper-based system, eNVD is free to use."

While benefits such as improved accuracy of information are expected to flow from eNVDs, Jane said it was not compulsory for producers to adopt the online system.

"We are very mindful that many producers – estimated to be around 17% – are not using computers in the management of their businesses," Jane said.

"This may be due to connectivity issues or simply personal choice, so we won't be getting rid of the paper-based system."

Integrity Systems Company is also working with livestock transporters to investigate different technology that would enable them to use the system.

The eNVD was launched in August last year, however Jane said the new system is continually being improved through direct feedback being received from producers and others from across the supply chain. All feedback is welcome. Suggestions on how the eNVD system may be improved can be emailed to [lpa@mla.com.au](mailto:lpa@mla.com.au). ■

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💻 eNVD system: [mla.com.au/envd](http://mla.com.au/envd)  
Aglive: [aglive.com](http://aglive.com) AgriWebb: [agriwebb.com](http://agriwebb.com)  
Maia Technology: [maiatechnology.com.au](http://maiatechnology.com.au)

For more information on eNVDs, head to [mla.com.au/integrityvideos](http://mla.com.au/integrityvideos).



## Software providers offering eNVDs

**MLA's new eNVD system can be accessed in two ways:**

1. LPA Service Centre (directly or via your myMLA account)
2. Licensed third-party software providers.

There is currently one licensed third-party provider, with two others due to be licensed in early 2018:

- **Aglive** – licensed to provide eNVDs through its IntegriPro Web/App livestock management software
- **AgriWebb** – licence pending to provide eNVDs through its NoteBook farm record-keeping software
- **Maia Technology** – licence pending to provide eNVDs through its online grazing and livestock management software, MaiaGrazing.

*Feedback* spoke to each provider to find out what their platform offers producers.

### Aglive

Through Aglive's IntegriPro platform, all on farm compliance requirements can be met through the cloud-based system. Producers can:

- create eNVDs using both individual or mob-based details
- pre-populate eNVDs prior to transferring stock from the farm and attach digital health and accreditation statements
- lifetime traceability and proof of provenance, including individual treatments, weights and movements
- notification of movements to agents, transporters, producers and visibility of incoming stock for processors
- improve stock inventory management, ownership audit and control, as well as on farm animal management and lifetime traceability.

### AgriWebb

While the software is focused on livestock management practices, the app and cloud-based portal cover all records from livestock, pasture and cropping, task management and inventory. Producers can:

- update farm records offline – while in the paddock – using their mobile phone
- quickly complete eNVDs using farm management records to pre-populate forms
- meet all Livestock Production Assurance requirements using the platform's record-keeping ability
- combine on farm data with transactional records, giving a history of activities and traceability as their stock move off.

### Maia Technology

MaiaGrazing is an online grazing management tool.

The software's focus is decision support, analysing on farm data to enable improved feed budgeting, planning and forecasting. Producers can:

- gauge the stocking rate position for the season ahead
- create and access eNVDs from within MaiaGrazing
- leverage data already recorded using the embedded eNVD functions
- automatically enter consignment data into MaiaGrazing.





# ON FARM

RESEARCH IN ACTION

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# IN BRIEF

## Digging into dieback

Investigative works are continuing in the effort to pinpoint the cause of pasture dieback across parts of northern and central Queensland, after the completion of sampling and surveying activities on affected properties.

In 2017, MLA launched a plan to map, identify and address pasture dieback in response to increasing producer concern. The plan included the development of a cross-disciplinary team of researchers and technical experts from six commercial companies and three research organisations (Queensland Department of Agriculture and Fisheries, Charles Sturt University and NSW Department of Primary Industries).

MLA has appointed technical officers, coordinated by Greg Palmer, to consult directly with landholders and collect soil, plant and other samples on properties where dieback is occurring.

MLA General Manager, Research, Development and Innovation Sean Starling said the project currently had:

- 86 producers in the MLA 'dieback' database receiving regular updates
- 52 properties registered with access to the FarmMap4D satellite mapping service
- soil and plant samples collected and analysed from 28 properties.



At the same time, MLA-supported trials will investigate intervention strategies to manage dieback. These tactics could include burning, slashing, grazing management, application of fungicide and cultivation.

Trials of alternative grass species that may be more resistant to dieback are also planned.

MLA is encouraging affected property owners to continue to investigate ways to reduce the impact of dieback

while working with MLA. There is also the potential for collaborative funding assistance via MLA to undertake research and development activities. ■

✉ Any producer wanting to discuss collaborative opportunities with MLA or who suspect they have pasture dieback can contact:

Sean Starling  
E: [ssstarling@mla.com.au](mailto:ssstarling@mla.com.au)

## Learn more about lambs online

Six new MLA sheep productivity and profitability webinars have been developed to help producers with some common industry challenges.

Featuring industry experts, including specialist vets and marketing insiders, the webinars go for about one hour each.

The topics are:

- Shearing prime lambs for increased growth rates
- Achieving 300g/day lamb growth rates
- Lameness in the prime lamb flock

- When to wean crossbred lambs
- Finishing lambs on grain this summer: will it pay?
- The 2018 grain market outlook. ■

The webinars are available at MLA's [meatandlivestock](https://www.meatandlivestock.com.au) YouTube channel







## Goat guidance boosted

**A** new series of best practice videos for the Australian goatmeat industry has been developed by MLA to help boost productivity in the sector.

The first video in the series focuses on fencing requirements for goats and features producers who manage a mix of enterprise types.

MLA Project Manager – Goat Industry Julie Petty said the series was produced in consultation with the Goat Industry Council of Australia and would be rolled out during the next 12 months.

“The videos are designed to answer commonly asked questions from current and potential producers to help build their knowledge and skills to improve business performance, and to lift productivity,” Julie said.

MLA’s extension services to goatmeat producers have also been further boosted with the addition of updated parasite control, goat depot and nutrition modules in MLA’s Going into Goats guide.

The online Going into Goats guide has 12 modules that address different aspects of the goat production system. ■

Going into Goats guide:  
[mla.com.au/goats](http://mla.com.au/goats)

The videos are available on MLA’s meatandlivestock YouTube channel



## Feedlot forecast improves

**A**ustralian lot feeders now have access to a practical guide on selecting, installing and maintaining on-site automatic weather stations to help manage the impacts of heat load on cattle.

Commissioned by MLA, the *Review of Automatic Weather Stations for cattle feedlots* was produced by Brisbane-based consulting company Katestone Environmental.

Katestone provides the Cattle Heat Load Toolbox, an internet-based service which produces targeted forecasts of heat load for feedlot sites in Australia.

The *Review of Automatic Weather Stations for cattle feedlots* is designed as a reference document to help lot feeders meet the requirements of calculating heat load index, including information on instrument requirements, site selection, operation, maintenance and calibration.

MLA Feedlot Project Manager Dr Joe McMeniman said the current

requirement of the National Feedlot Accreditation Scheme (NFAS) for excessive heat load management is that feedlots maintain records of daily monitoring activities and actions taken where indicated, over the summer period.

“Daily monitoring activities could be as simple as recording weather forecasts or on-site weather station data, but it could also utilise the excessive heat load forecast from the Cattle Heat Load Toolbox as an early warning system. It could also include monitoring feed intake depression and panting scores,” Joe said.

Katestone Managing Director Christine Killip (pictured) said the review contained a best practice guide to ensure automatic weather stations were recording accurate and reliable data, including black globe temperature, relative humidity and wind speed. ■

To access the *Review of Automatic Weather Stations for cattle feedlots* go to:  
[chl.katestone.com.au](http://chl.katestone.com.au)

# Over the fence

In this series, *Feedback* follows a group of producers from around Australia as they manage their operations over the course of a year and respond to the challenges that arise in a modern livestock enterprise. This is the fourth instalment of 'Over the fence'.

## SNAPSHOT:

**Nick Radford,**  
Penola, South Australia



Area: 3,690ha

Enterprise:  
Breeding Angus cattle

✉ Nick Radford  
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bigpond.com

## ACTIVITIES OVER THE NEXT TWO MONTHS:

- > Bringing all the cows in and giving them a trace bolus to prevent grass tetany; this will protect them for nine months, through the peak grass tetany risk period in May and June.
- > Monitoring calving heifers.
- > Beginning to market feeder steers in March.



## SEASONAL CHALLENGES:

Locals are saying this is the best year we've ever had, so our challenge is getting the grass down. We have phalaris higher than the ute bonnet (see photo). All our weaner heifers are boxed together – we have 700 heifers on a 42ha pivot irrigation block. We need those numbers in the short-term to manage the feed. We have 560 heifers calving this summer, so we'll need that extra feed.

## PROGRESS ON LONG-TERM GOALS:

I'm implementing the methods I learnt through Pasture Principles, trying to use every blade of grass to its full potential. This means having bigger mobs and moving them more often. It has been successful, up to a point, but the abundance of rain and lack of cattle numbers has made it difficult to continue. Our biggest problem has been keeping weight off our pregnant heifers to minimise calving troubles. However, we've selected bulls with low birth weight traits to try to counteract this.

I'm continuing the fencing program, carving up the paddocks, and would like to do more road construction to improve access around the farm.

## HANDY TOOLS:

I've put new Integrated Irrigation soil probes in two of our centre pivot paddocks that have a chicory, ryegrass and clover mix. It allows us to check our soil moisture levels from the phone wherever we are. The probes work on soil moisture tension, which is a measure of how difficult it is for the plants to access water. Essentially, there's a green zone and a red zone: if it's in the green zone, it's good; if it's in the red zone, we need to irrigate. It's a really simple system. ■



After one of the best years locals can remember, Nick Radford has phalaris as high as the bonnet of his ute. His challenge is to manage the feed coming into autumn.



Heifers getting ready to calve.



A soil probe for monitoring moisture levels.



## SNAPSHOT:

**Johnny Gardner,**  
Cavendish, Victoria



**Area:** 1,850ha

### Enterprise:

Prime lamb production from a 10,000 self-replacing ewe flock and 220ha of grain and oilseed crops

✉ Johnny Gardner  
E: southmokanger@outlook.com

## ACTIVITIES OVER THE NEXT TWO MONTHS:

- > Subdivision of paddocks.
- > Planning for enhanced soil health.
- > Increasing fodder capacity and reserves.

*Below: Johnny Gardner completed a flock stocktake and scored each animal to identify ewes under condition score 3, then developed feed budgets to achieve their target score across the whole flock.*

## SEASONAL CHALLENGES:

Ewe nutrition is important. After shearing in December, we completed a flock stocktake and scored each animal to identify ewes under condition score 3. We then developed feed budgets to achieve condition score 3 across the whole flock. To aid this process, we conducted pasture tests in early and late December. We also put considerable effort into achieving target weights for our ewe lambs, by monitoring weights and rotationally grazing summer crops.

We've been blessed with a shortage of supply, resulting in fantastic prices. At weaning, we took stock of all saleable lambs and their individual weights. We weaned lambs into weight groups, estimated turn-off dates and locked in forward contracts. This has allowed us to finish 50% of our lambs on pasture and the rest on summer crop rotations and a grain mix in a feedlot. We use electronic identifier tags to monitor sheep, aiming to hit a 24kg target carcass weight. Identifying growth rates allows us to lock in forward contracts and helps us – and the processor – to plan ahead.

## PROGRESS ON LONG-TERM GOALS:

Our succession plan has continued to be a work in progress with my parents



*Over the past few months, Johnny Gardner has moved into managing the family business full time, as the family has worked through their succession plan.*

moving off farm, giving me the amazing privilege of taking over the farm business. We have sold a portion of land in the current strong market to ease the pressure of succession while keeping the business in a strong position. This has been a great learning experience.

2017 was fantastic; we were very fortunate with season and commodity prices. We're now focusing

on capital allocation that will provide the best return on investment for the business, keeping in mind our enterprise goals. Some key focus areas for 2018 include:

- ongoing succession planning
- increasing flock performance (weaning 140% from ewes joined)
- improving paddock shelter
- ensuring best practice animal welfare
- job satisfaction and education. ■

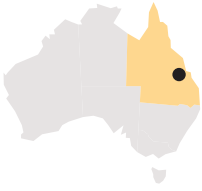




# Over the fence

## SNAPSHOT:

**Carlie and Lauchie Ward,**  
Dingo, Emerald and Bajool, Queensland



**Area:**  
8,500ha plus  
12,750ha leased

### Enterprise:

Breeding and backgrounding with a herd of crossbred cows joined to Angus and Wagyu sires

✉ Carlie and Lauchie Ward  
E: namgooyah@bigpond.com

🖨 leucaena.net  
Feed budget calculators  
mla.com.au/tools  
futurebeef.com.au

## ACTIVITIES OVER THE NEXT TWO MONTHS:

- > Blade ploughing.
- > Working on the genetics plan.
- > Rolling out a new Work Health and Safety app, Safe Ag. Systems.



## SEASONAL CHALLENGES:

With a mixed start to summer across our properties, we're concentrating on the driest property, 'Namgooyah', which has missed out on a substantial break so far. We've moved the last of our pregnant cows away from Namgooyah to conserve fodder for weaners. All remaining feeders are on M8U (a molasses-urea supplement), except those in the small areas that have a green understorey. We marketed the remainder of the feeder steers in early January, in an effort to reduce grazing pressure. We kept the weaners unsupplemented in December but started them on dry lick in January. The decision to supplement is a balancing act between cattle condition score, land condition and cost-benefit analysis, for each particular age group.

## PROGRESS ON LONG-TERM GOALS:

Leucaena preparation is complete, in the hope of some substantial establishing rain. With heavy clay soils and thick established buffel grass, row preparation is always challenging, but we try to establish some new leucaena each year. In 2018, we'll continue to work on human resource management, do more leucaena planting, some blade ploughing and work on our genetic plan as we move the whole herd towards an Angus-cross infusion.

## HANDY TOOLS:

This year we're rolling out a new work health and safety app, Safe Ag Systems. In addition to having emergency alerts and machinery logs, it keeps all our safety documentation in the one place and ensures compliance with legislation. ■



Young Wagyu-cross cattle at Dingo. The Wards are working on a genetics plan to move their whole herd towards an Angus-cross infusion.



Preparing rows for leucaena planting on the heavy clay soils.



# Cultivating aspiring farmers



Co-founders of Cultivate Farms Tim and Tegan Hicks with their children Belle, George, Thea and Rosie.

**Tim and Tegan Hicks, along with long-time friend Sam Marwood, are in the match-making business. With the support of MLA Donor Company's (MDC) Producer Innovation Fast-Track program, they are developing their concept to match aspiring farmers with the property of their dreams, and help provide agricultural career pathways for people who otherwise might not have had the chance to enter into the industry.**

## The back story:

A discussion while buying wedding suits led to Cultivate Farms. Tim Hicks grew up in south-east NSW on a family sheep and cattle farm but didn't get to inherit the property. He pursued outdoor careers before he came up with the concept of crowd funding for young farmers.

When preparing for his brother's wedding, Tim shared the idea with his old friend Sam Marwood. Sam grew up in a large dairy farming family and was told when he was eight that the farm wouldn't be his. With a career in environmental science, Sam

is also an entrepreneur and the founder of a wildlife charity called Edge Pledge.

Tim and his wife Tegan now run the grassfed beef supply business Hicks Country Beef, with 200 breeding cows and 300 sheep on leased land at Albury, NSW.

## How does it work?

Participating in Cultivate Farms is a three-step process.

1. An aspiring producer registers their interest with Cultivate Farms and explain their business plan, skills and capabilities.
2. The applicant is approved for the Cultivate Farms process and must demonstrate their commitment by filling gaps in their education and skills to meet the challenges of modern-day farming. At the same time, they are supported to develop a farm business plan and find the mentors and advisors to provide a solid foundation to their farm.

3. Cultivate Farms seeks the right farming land – often owned by farmers wishing to retire or take a break – and

finds investors to establish a viable enterprise.

"Lots of farmers want to retire but don't want to necessarily sell the land base, but they also don't want it to be mismanaged or sit dormant," Sam said.

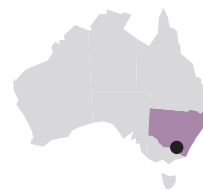
"This creates a win-win for everyone, where the older generation are still earning an income from their asset base while the younger generation are getting a foothold into what they otherwise wouldn't have."

## On the Fast-Track:

Cultivate Farms will use the support of the MDC Producer Innovation Fast-Track program to 'unpack' its business model and test if it, and the online platform, are the best means of matching aspiring farmers with landholders and investors. The partnership will also allow targeting of a wider group of investors, particularly self-managed superannuation funds.


"It's hoped that in 10 years' time it's the automatic choice for match-making between people who want to move into farming and those who want to move out," Sam said. ■

**SNAPSHOT:**  
Tim and Tegan Hicks and Sam Marwood, Albury, NSW




## Enterprise:

Cultivate Farms matches would-be farmers lacking access to a land base and land equity with landholders and investors, sometimes via crowd funding, to support them in creating a successful farming business.

 Register your interest as an aspiring farmer, investor or landholder at [cultivatefarms.com](http://cultivatefarms.com)

## Speedier delivery

Producer Innovation Fast-Track is an initiative from MLA Donor Company (MDC) to identify industry trailblazers and provide the support and expertise for them to innovate faster and further.

 E: [fasttrack@mla.com.au](mailto:fasttrack@mla.com.au)

 [mla.com.au/fasttrack](http://mla.com.au/fasttrack)

# Resource Flock advancing the industry

**When national breeding evaluation service Sheep Genetics rolled out the world-first, multi-trait, single-step analysis for sheep breeding values earlier this year, it was underpinned by the contribution of MLA's Resource Flock.**

The MLA Resource Flock has played a critical role in the genetic advances enjoyed by Australia's sheep industry in the past 10 years, helping improve the accuracy of Australian Sheep Breeding Values (ASBVs) and supporting the development of new breeding values for eating quality and meat yield.

The flock comprising 5,000 breeding ewes was initially managed by the Sheep Cooperative Research Centre before its transition to MLA. One of the flock's most important industry contributions has been the development of genomic breeding values, which allow ASBVs to be calculated for hard-to-measure traits, based on a blood test early in life.

Since April 2017, genomic breeding values have been available to producers in combination with traditional pedigree and performance-based breeding values, through a process known as single-step analysis.

Single-step analysis is available for most major production traits, with genomics contributing to ASBVs for Merinos, Poll Dorsets, White Suffolks and Border Leicesters.

"The multi-breed, multi-trait, single-step analysis developed by Sheep Genetics was a world-first," said Richard Apps, MLA's Program Manager – Sheep R&D and Objective Measurement.

"From a commercial producer's perspective, single-step analysis gives them the best breeding values available by using traditional pedigree and physical performance measures, as well as genomic information.

"The Resource Flock has played a critical role in developing genomic predictions for hard-to-measure traits, such as eating

quality and lean meat yield, and improving the accuracy of other traits."

It has also been instrumental in the calibration of Dual Energy X-Ray Absorptiometry (DEXA) technology, an objective measurement tool which measures meat, fat and bone in a carcase. Six hundred lambs from the Armidale, NSW portion of the flock were processed through the DEXA unit at Bordertown in 2016.

"All 600 had DEXA images collected before the carcasses were trucked to Murdoch University and put through a CT scanner," Richard said.

"Two of those 600 were also boned out to detailed commercial retail specifications, which gave us a larger and more detailed retail cutting specification dataset that was used to build the next generation of the processing industry's Lamb Value Calculator." ■

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## Sheep genetics – what's on the way?

**Hamish Chandler, MLA's Program Manager – Genetics, says producers can look forward to even more advances in genomic technology in the next few years.**

Here are just a few of the technological advances in the pipeline.

### 1. Ability to calculate a full set of Australian Sheep Breeding Values (ASBVs) from a DNA test at any age

"With single-step analysis, we're now making better use of DNA information, but we still need some pedigree and performance information on young animals to calculate breeding values," Hamish said.

"Within the next one to two years, we aim to calculate breeding values

based on a DNA sample alone."

Depending on the economics, there may even be potential to DNA-test embryos before doing embryo transfer programs.

### 2. Genomic predictions for reproductive traits

"We don't have a lot of reproductive data yet, as the Resource Flock is basically slaughter only," Hamish said.

"We're developing projects to collect fertility information from breeders' flocks, which we can use as a reference to get genomic predictions working for those traits."

### 3. Breeding values for commercial animals

Once industry has genomic predictions for reproductive traits, Hamish suggests there is potential application in the commercial breeding sector as well.

"We're starting to see this in the cattle industry, with commercial heifer tests hitting the market. This allows producers to take DNA samples from replacement heifers and receive information on their genes for growth, maternal and carcase traits," he said.

"Getting the technology cheap enough for use in the sheep industry will depend on throughput and whether we can achieve the required commercial scale, but it may become possible to calculate breeding values for reproductive rates of ewes we want to keep in our commercial flocks."

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🖥️ Sheep Genetics:  
sheepgenetics.org.au

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# Data-driven performance

**S**tud producer Dale Price credits the MLA Resource Flock with having a significant impact on Australian sheep performance over the past decade.

“It has provided the background data that underpins continuous improvement of Australian Sheep Breeding Values (ASBVs), particularly the development of new eating quality ASBVs,” Dale said.

“Over the past 10 years, that has had a significant impact on the performance of Australian sheep; improving growth rates, fat and muscle composition, and wool quality and yields.

“I know our sheep are performing much better. For example, a commercial client told me recently that, since they made the transition to our rams last year, they managed to get an extra 1.5kg on their first-draft lambs compared to previous years.

“I would argue that’s due to selecting for superior ASBVs. If you combine that with good management, you’ll see results which translate into dollars in producers’ pockets.”

Dale, his wife Ruth and son Adam rely heavily on ASBVs to tailor their breeding programs to the needs of commercial clients.

“In south-east South Australia, most producers turn lambs straight off their mums,” Dale said.

“It’s important to have some degree of fat cover on the lambs and they want good muscling but, equally, they want birth ease. In the colder areas, light lambs are a survival issue, and in the wet areas, worm egg count (WEC) is very important.



Adam Price, and his mother Ruth, from Majardah Poll Dorset and White Suffolk studs numbering ewes for easy identification before lambing.

“To meet these needs, we aim for balanced traits. Ideally, we want moderate birth weight ASBVs, around 0.3–0.5, and good weaning and post-weaning weight ASBVs.”

In cooler climates, Dale targets genetically fatter animals for survival and finishing ability, combined with 2.0 or

better for eye muscle depth. He said that WEC is a big focus for many of his clients.

The Prices are moving towards monitoring meat eating quality, using genomic testing in 300 lambs in 2017. ■

✉ Dale Price  
E: majardah@bigpond.com

## SNAPSHOT: Dale, Ruth and Adam Price, ‘Majardah’, Glencoe, South Australia



**Area:**  
750ha

**Enterprise:**  
Poll Dorset and White Suffolk studs and commercial lamb and cattle production

**Livestock:**  
1,000 stud ewes, 2,500 commercial ewes and 100 head of cattle

**Pasture:**  
Clovers, ryegrass and native species

**Soil:**  
Sandy loam

**Rainfall:**  
800mm

# Putting a stop to poisoning

**Producers are a step closer to reducing the impact of pimelea poisoning, with new MLA-funded research underway to develop an inoculum to protect cattle against the toxic plant.**

Three poisonous native pimelea species grow in Australia's pastoral regions. Their prevalence and seasonality, combined with high toxicity to cattle, makes plants and their animal impacts difficult to control.

With limited prevention and control strategies available, the new project has been developed to find a solution, possibly in the form of a preventative mitigating probiotic.

The research follows widespread pimelea poisoning in the 2017 winter, resulting in significant stock

losses. Some producers reported losses of more than 250 head. Losses are compounded by agistment and supplementation costs, as well as lost productivity.

The ideal growing conditions for pimelea occur when good autumn and early winter rainfall follow a dry summer.

When cattle ingest the plant, they absorb the toxin simplexin, which results in fluid accumulation in the brisket, heart failure, loss of productivity, diarrhoea and death. Sheep are not affected by the circulatory effects seen in cattle, but experience the same severe diarrhoea, which can lead to stock losses.

## Finding a solution

A significant outbreak in 2006 was estimated to have cost \$50 million in mortality and lost production.

At the time, research into simplexin provided a


better understanding of the poison's ecology – for example, the toxin's persistence in dead plant material – but found no real solution. University of Queensland Associate Professor Mary Fletcher, who is leading the project for the Queensland Alliance for Agriculture and Food Innovation, said poisoning is devastating for producers, who may have managed their animals through drought only to lose them when the season improves.


"The only real prevention strategy is to carefully monitor stock during high-risk seasons and minimise contact between stock and pimelea plants, which can be challenging in extensive pastoral enterprises," she said.

"We can't get rid of the species, so the aim is to stop simplexin being absorbed into the bloodstream by developing a microbial inoculum which breaks down the toxin in the animal's rumen."

The first stage is to collect rumen fluid from cattle, isolate microbes capable of breaking down toxins and grow them on pimelea material in laboratory trials. Later in the project, researchers will run feeding trials. ■



 Associate Professor Mary Fletcher  
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 Queensland Department of Agriculture and Fisheries guide: *Understanding pimelea poisoning of cattle* [daf.qld.gov.au](http://daf.qld.gov.au) and search 'pimelea poisoning'

## RESEARCH IN REVIEW

### PROJECT NAME

Improving beef production through management of plant toxins

### RESEARCH ORGANISATIONS

University of Queensland's Queensland Alliance for Agriculture and Food Innovation and Queensland Department of Agriculture and Fisheries

### FUNDING ORGANISATIONS

MLA

### GOAL

To develop an inoculum to mitigate pimelea poisoning.

### BUDGET

\$1.5 million (MLA contribution)

### DURATION

2017–2020

### KEY FINDINGS TO DATE

Although the first stage is yet to begin, the following steps will be taken throughout the project:

- collect rumen fluid from cattle and isolate microbes capable of breaking down toxins
- grow the toxins on pimelea material in laboratory trials
- assess if products such as biochar or bentonite could be used to absorb toxins in the rumen and reduce their absorption into the bloodstream.



# The personal toll of pimelea

**K**ylie Savidge's family grazing enterprise is still recovering from an outbreak of pimelea poisoning at the start of 2017.

She believes new research to develop an inoculum will finally give producers a tool to reduce or prevent poisoning and alleviate the emotional and financial stress associated with stock fatalities and decreased production.

Kylie runs 'Southampton', an 11,000ha property 110km south-west of St George, with her parents John and Queenie Kilpatrick, her partner TJ Moroney (pictured with Kylie) and her children Jack (17), Ben (14) and Meghan (12).

Recent dry conditions (Southampton received no beneficial rain from September 2016–October 2017) were exacerbated by the resurgence of pimelea growing across about 8,000ha of the property.

Kylie described the pimelea as "looking like we had sown it", such was the prevalence of the plants in spring 2016 after a wet, warm winter followed several dry years. However, as the green plants are not palatable, the real impact was not felt until paddocks started to dry off in January and February 2017.

"As the grass hayed off, we started seeing the effects of

pimelea poisoning – affected animals had swollen briskets and heads, rough coats, weight loss and terrible diarrhoea," she said.

Older cattle were not as badly affected, and the worst cases occurred with first-calf heifers, weaners and introduced stock, including bulls.

## Intensive care

Management strategies included removing stock from affected paddocks and on to mulga country where there was less risk, and weaning calves earlier (at four to five months instead of seven to eight months) to reduce pressure on breeders.

To reduce stress, severely affected stock were carefully moved to yards (cattle can die if they are exerted after exhibiting early signs of poisoning). There, they were given three doses per day of furosemide (a diuretic) and fed a high-protein diet with mineral supplements (dry urea-based loose lick is also available year-round to stock on Southampton).

At any time, there were up to 60 head in the yards in various stages of treatment and recovery – a labour-intensive and stressful process.



"Some of these cattle lived and some didn't, but we gave them all an equal chance. It was heartbreaking at the end of an intensive five days to then have to euthanase an animal we fought to save, knowing we couldn't do anything else except end their suffering," Kylie said.

"I estimate that we had about a 50:50 success rate in our attempts to treat the sick animals, with costs per animal ranging between \$250 to more than \$1,000/head."

## Far-reaching impacts

The family has lost at least 70 head to pimelea poisoning, including 12 of 18 bulls, the majority of which were only purchased in 2016 to replace older sires.

The economic cost of pimelea has been significant,

with medical and feeding costs compounded by lost productivity. There is also a chance the fertility of affected animals is compromised, so surviving bulls will be semen-tested.

"It's been exhausting – not only physically but emotionally, mentally and financially," Kylie said, with the issue taking its toll on the family, including her three children who were involved in all aspects of managing the outbreak.

"My kids won't ever forget this experience – none of us will. It might be years between pimelea outbreaks but it's something that has a lasting impact on the producers who experience it." ■

✉ Kylie Savidge  
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## SNAPSHOT: Kylie Savidge and TJ Moroney, 'Southampton', St George, Queensland



**Area:**  
11,000ha

**Enterprise:**  
700 breeding cows

**Livestock:**  
Santa Gertrudis–Hereford breeders crossed with Santa Gertrudis, Hereford, Droughtmaster and Angus

**Pasture:**  
Buffalo and native grasses and mulga

**Soil:**  
Open red box country with sand ridges and rough mulga country

**Rainfall:**  
425mm

# Ready to 'meat' the future

**M**LA and its subsidiary MLA Donor Company (MDC) are investing in research to determine how cutting-edge technologies developed for other industries can be applied to the red meat industry. Two programs currently underway which aim to boost profitability and sustainability, from paddock through to processor, are Autonomous Solutions and Objective Measurement Systems.

## Autonomous Solutions

Unmanned aerial and ground vehicles, along with satellites, are increasingly moving from military applications to commercial or even personal use.

With a relatively uncrowded airspace, large expanses of land and a mature regulatory system, Australia is a suitable region to adopt, extend, and reap the benefits of this evolving platform.

However, the technology is of limited value without adequate sensors and software. MLA will support the development of sensors and software, and demonstrate effectiveness of these when applied to air, ground, and tethered unmanned solutions.

According to Sean Starling, MLA's Research, Development and Innovation General Manager, a challenge for the red meat industry and MLA is to encourage global solution providers, developers and researchers to focus on the red meat sector, as opposed to other Australian sectors.

"MLA aims to enable solution providers to understand drone use and the market opportunity of the red meat sector," Sean said.

"Additionally, Australian producers and lot feeders need to be aware of the commercial benefits and provide a customer-pull demand."

In future, MLA's Autonomous Solutions program will be directed by an evolving industry R&D steering committee.

**The following provides a summary of three of the current eight contracted projects, with another eight under development.**

### **Project:** **Drone partnership**

**Description:** To map current use of aerial drones on pastoral properties and identify ways they can be used more effectively.

**Details:** Concluding July, this project has run with Ruralco Holdings Ltd and is being delivered via producer demonstrations and collaborative development meetings.

**One day we might see...** autonomous drones that can conduct water runs, check fences and monitor animal health without the need for a 'pilot', automated updates and warnings to smartphone dashboard.

*(Read about producer Darren Swain and his drone use on page 24).*

### **Project:** **Unmanned vehicles**

**Description:** Heavy duty, long-range autonomous vehicles with sensing and tasking capabilities.

**Details:** A 12-month project with US technology provider HDT Expeditionary Systems to construct a prototype, demonstrate technical feasibility and conduct a capability demonstration in-situ. Steering groups were set up to advise the development from a producer perspective.

**One day we might see...** autonomous diesel/ electric, long-range vehicle to manage livestock movements, soil sampling, act as recharge platform for drone imaging activities, livestock pest baiting.

### **Project:** **SwagBot**

**Description:** To develop mobile ground robots to assist farming decisions. SwagBot's current sensing capabilities include moisture sensors, weed identification, weather sensors, vegetation imaging, light radar (lidar) and animal telemetry.

**Details:** A University of Sydney project, which finishes in August, featuring on farm trials.

**One day we might see...** SwagBot robots operating on large properties, collecting animal health and pasture data that is integrated into decision support tools.



An example of an autonomous unmanned vehicle, currently being used in the military, which could have applications in livestock production.



# Next gen thinking

**M**LA Donor Company (MDC) innovation and entrepreneurship platform, I+E Connect, is helping attract the next generation of ideas and technologies to the red meat industry.

“Through I+E Connect, MDC is attracting local and global entrepreneurs, start-ups and investors who want to work with the red meat industry,” said MDC’s Business Development manager Josh Whelan.

“Some of the ways MDC is doing that include providing tailored accelerator and support services, along with co-funding to entrepreneurs and start-ups to further develop their ideas and technologies through to commercialisation.”

MDC is also working in collaboration with existing accelerators and incubators, such as agtech innovation hub SproutX, and Cicada Innovations through their new deep technology agtech program, GrowLab, which was developed in partnership with MDC last year.

Some of the new ventures participating in the GrowLab program include:

- **Nanoscent:** a deep technology company combining patented nanosensors and proprietary software, investigating value to the Australian livestock industry
- **Livestock Labs:** an implantable livestock welfare and management monitor
- **FluroSat:** remote-sensing technology and analysis tool to optimise farm management
- **FARMpay:** a secure online platform currently used for grain trading that connects all stakeholders along the value chain.
- **FarmTech:** a smart collar for determining sheep genetics

The following start-ups are being supported by MDC via SproutX:

- **IoTAg:** their first product, a smart cattle ear tag, enables producers to track cattle over large distances, monitor for key breeding-related events, and receive alerts for illnesses and births.
- **OutofBox Solutions:** aims to build smart monitoring solutions using the latest technology to improve livestock health and wellbeing. The first product will focus on smart foot inspections.
- **Thingc:** wants to help producers produce more with less by optimising resources and increasing yield. Thingc provides deep insight into current farm conditions by orchestrating a broad range of farming data. It equips producers with the tools and technologies to make informed farming decisions.
- **Hub & Spoke MSU:** a mobile, on-farm slaughtering service that incorporates the highest standards of animal welfare, state-of-the-art processing methods and environmentally sustainable practices.

A number of the technologies listed above also fall under MLA’s wider Connectivity and Internet of Things strategic program.

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## Objective Measurement Systems

MLA’s Objective Measurement Systems strategic program aims to develop advanced commercial measurement systems and supporting analytics to increase the accuracy, transparency and timeliness of key measurable attributes in the industry, across the entire supply chain.

The current program has 12 focus areas, underpinned by 80+ project initiatives, covering more than 20 measurement platforms.

Here is a summary of four projects currently underway:

### Project: Airline baggage CT application

**Description:** 3D X-ray imaging of carcase and offals.

**Details:** To demonstrate technical and commercial feasibility of applying airline baggage CT technology to carcase and offal scanning. The project is in the contracting phase.

**One day we might see...** carcasses precisely sub-surface 3D imaged for meat, fat and bone, facilitating precise robotic cutting lines to optimise yield and value. The technology also offers assisted inspection of offal with livestock health feedback to the producer.

(See story on page 37).

### Project: 3D imaging of cattle

**Description:** Precise imaging of livestock, with smart software to interpret images, using colour vision or microwaves.

**Details:** Project is currently demonstrating technical feasibility.

**One day we might see...** imaging of live animals to predict yield and fat coverage, health and condition.

### Project: Live imaging of cattle

**Description:** Imaging of livestock, with smart software to interpret images.

**Details:** A 12-month project with CompressData to demonstrate feasibility.

**One day we might see...** static cameras in paddocks or feedlots and drone-mounted imaging, for livestock recognition, counting, assessment of movement and behaviour, feeding, health and dispatch.

### Project: Virtual and augmented reality

**Description:** Utilising new headset displays with built-in camera, microphone and sound, to present location or view-dependant information, structured to assist effective decision making.

**Details:** A six-month project with Wiley to demonstrate technical feasibility.

**One day we might see...** producers wearing sunglasses featuring heads-up display of key real-time on farm information, such as status and location of livestock, water levels, animal-specific health or performance status; headset camera recording of livestock dispatch; camera-assisted grading, equipment maintenance procedure or live two-way supplier support with sound.

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# Delving into data

Information is a powerful resource in any business and northern beef production is no exception, according to Australian Cattle and Beef Holdings' Chief Executive Officer Ben Dwyer.

Overseeing an award-winning technology trial – supported by Hitachi Consulting and MLA with co-funding from MLA Donor Company – at Croydon Station, Ben believes data collection, leading to the development of pasture, animal turn-off and seasonal prediction tools, could greatly improve the company's profitability and sustainability.

Croydon is a backgrounding property for heifers, destined for domestic slaughter, and is part of a vertically integrated supply chain comprising large-scale cattle breeding, backgrounding, feedlots and a meat processing and packaging facility, all located in Queensland.

Data collection from individual animals and paddocks during the project will enable Australian Cattle and Beef Holdings to identify and address supply chain inefficiencies as well as to make more informed and timely management decisions.

"The data is uploaded to the Hitachi Process Intelligence dashboard, and sitting behind that dashboard is an analytical powerhouse that analyses animal, environment, pasture and weather data to provide accurate real-time reports on property status, as well as predictive tools to help manage livestock and pasture for efficient and profitable turn-off," Ben said.

While it is well known that any setback in animal performance has a direct correlation to meat eating quality, Ben said it has remained difficult to identify when and where these occur.

"The software being developed from this project will enable us to pinpoint and correct these setbacks along the supply chain right back to their property of birth," he said.

## Data is collected at four stages:

**1. Arrival:** Cattle enter the trial during induction on arrival at Croydon.

"We individually scan their National Livestock Identification System tags and record their weight, age (based on brand), dentition, breed content, horn status, pregnancy status, their property of origin and their destination paddock," Ben said.

"We also administer external and internal antiparasitic products along with a botulism vaccine."

Cattle are then drafted into groups based on weight (40kg variation per group) through a pneumatic crush and five-way draft and depastured into paddocks matched to cattle condition.

**2. Growing:** Cattle are weighed again when treated for ticks or are being moved to better pasture, to work out average daily weight gain.

"We can then calculate the animal performance for that period and the productivity of the paddock, linking that information with pasture growth and rainfall data," Ben said.

Backgrounding cattle entering Croydon weigh between 150 and 220kg and are sent to an Australian Country Choice (ACC) feedlot at 365–385kg.

**3. Finishing:** Individual information accompanies them and, during their 60–70-day stay, feedlot performance and management data is collected.

**4. Processing:** Once market specifications are met, the cattle are transported to the ACC processing facility in Brisbane where carcass, boning and Meat Standards Australia grading data is recorded for each animal.

## Big picture data

The project is also collecting information on soil moisture, soil temperature, rainfall and pasture growth and using four-dimensional mapping technology to deliver the most accurate picture yet of pasture quality and density.

"Soon, we'll see prediction tools for animal weight gains in specific paddocks and be able to match deep soil moisture measurements with seasonal outlooks to make early stocking decisions to preserve feed and prevent weight loss or bring cattle in to take advantage of a good season," Ben said.

"These tools will help us make informed decisions well before current practice, which is just based on visual assessment.

"We are committed to supplying fixed numbers of cattle to customers every year, and these prediction tools should make that easier by reducing risk and creating more certainty around supply."

## What's next?

In the future, Ben hopes to add the measurement of water quality, quantity and flow rates from storage facilities to troughs to ensure stock are well hydrated during all seasons.

Ben believes the application of technology to beef production is essential to keep younger producers and professional managers engaged and improving the industry.

"I don't see technology replacing management, only enhancing the manager's ability to excel," he said. ■

## LESSONS LEARNED

- > Cattle need to be on a continuous rising nutritional plane to ensure good meat eating quality.
- > Data collection of individuals from property of origin to processing will help identify weaknesses along the supply chain.
- > Combining soil and pasture observations with seasonal outlook information will reduce risk and increase opportunities.

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🖥️ [mla.com.au/hitachiaward](http://mla.com.au/hitachiaward)





Hitachi Consulting staff finish installing the rain gauge at Croydon Station as part of the MLA-Hitachi-ACBH joint venture project.

## High praise from Hitachi

MLA, in conjunction with Australian Cattle and Beef Holdings and Australian Country Choice, recently won the Hitachi Transformation Award at the NEXT 2017 conference in Las Vegas, considered the premier event for the digital revolution.

The award recognised MLA's achievements in beef production innovation, using data-mining and enabling the 'internet of things', with the support of Hitachi group solutions.

Key outcomes from the award-winning northern beef-based project include:

- the generation of real-time information on animal performance, pasture quality and soil moisture to underpin the development of cutting-edge prediction tools
- a more informed data trail for individual animals that will highlight any weaknesses in the supply chain and help produce a more consistent, globally competitive product that meets consumer demands.

Watch the project in action with a video at [mla.com.au/hitachiaward](http://mla.com.au/hitachiaward).



### SNAPSHOT: Australian Cattle and Beef Holdings, Croydon Station, Queensland



|                          |  |   |  |   |                             |
|--------------------------|--|---|--|---|-----------------------------|
| <b>Area:</b><br>56,680ha | <b>Enterprise:</b><br>Backgrounding cows and heifers | <b>Livestock:</b><br>10,500 females (Brahman, Charbray, Santa Gertrudis, Ultrablack composites) | <b>Pasture:</b><br>Brigalow, soft wood scrub, buffel, Indian couch, stylos | <b>Soil:</b><br>Heavy, volcanic black soils, Great Dividing Range red country | <b>Rainfall:</b><br>1,500mm |
|--------------------------|--|---|--|---|-----------------------------|

# Bird's eye view

**D**arren Swain's drone usage may have started as a hobby, but it didn't take him long to realise the Phantom 4 Pro had practical applications on farm.

"I regularly check troughs with it, assess water quality at watering points and fly over paddocks to assess feed quantity and quality," he said.

"Being able to view pastures from above provides a different perspective, and sometimes I find there isn't as much feed or ground cover as I thought from a ground-level inspection."

Using these observations, Darren is confident in making feed-on-offer and stocking decisions based on what he can see on-screen.

Darren's drone is a 'middle-of-the-range, off-the-shelf model' with collision avoidance, which he purchased with extra batteries (but not including the screen), for about \$2,500.

For the screen, he uses his smart phone or tablet.

"I have mustered animals from one paddock to another, but it still requires someone to open and shut gates. At this stage I think it's still easier to do it with a bike or vehicle," he said.

"My stock are quiet and I find the cattle, in particular, can stand up to the drone and resist moving until it's very close. There's always the risk they might damage it.

"Sheep, on other hand, seem a bit easier and move away from it."

Darren works full-time off farm, so is under pressure to manage time efficiently when he's at home.

"The drone is good for checking stock, particularly in difficult-to-get-to places," he said.

"I've used it to check whether a lame bull is improving. The irritation of the hovering drone next to the bull will make get him up and walk.

"I can then view him from every angle to see how he's going."

However, Darren has found the drone is less effective

for spotting pink eye or identifying animals that are not gaining weight as expected.

Another drawback is the drone's lack of range in ridge country.

"In flatter country, its range is quoted at about seven to eight kilometres but, on my undulating property, about three kilometres is the maximum," he said.

"When it gets low behind a ridge or a rise, the signal cuts out and its auto return-to-base mode is initiated and it returns home."

In order to keep line-of-sight in ridge country, Darren needs to keep the drone high while flying, which reduces the detail of his vision of the ground. However, for all the challenges, Darren believes their applications will only increase as technology improves.

"I think producers will drive demand, finding more roles for them and, hopefully, economies of scale will continue to make them more affordable," he said. ■

## SNAPSHOT:

**Darren Swain,**  
'Heatherbrae',  
Gunnedah, NSW



**Area:**  
360ha

**Enterprise:**  
Cattle breeding, trade steers and trade lambs

**Livestock:**  
70 Santa Gertrudis–Angus–Hereford cows

**Pasture:**  
Sub-tropicals, natives, oats, forage sorghum, millet, lablab

**Soil:**  
Light, shallow soils to alluvial river flats

**Rainfall:**  
650mm

## LESSONS LEARNED

- > Drones are good tools for checking watering points.
- > Drones do not operate so well in undulating-to-hilly country due to the shorter 'lines of sight'.
- > Sheep are easier to muster than cattle with a drone.

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# Win-win: gaining stock feed while reducing weeds

**N**ew MLA-funded research is looking into the value of grazing chaff piles to fill the summer feed gap, with a particular focus on improving ewe productivity in the lead-up to joining.

## The challenge

*Determining the value of grazing chaff piles created to reduce the weed seedbank at harvest over the traditional grazing of stubble.*

Farm consultant Ed Riggall of AgPro Management is coordinating the Producer Demonstration Site (PDS) and said the research would show the potential for using chaff piles to lift sheep weight and condition score by at least 10% and lambing rates by at least 12% in the summer period.

His previous research into sheep grazing of chaff piles in WA's Great Southern region found sheep weight gains of up to 3.5kg/head can be achieved in only six weeks.

## The producers

Stuart and Connie Witham have towed a chaff cart behind their header for the past three years.

"Annual ryegrass goes nuts during our wet winters. Capturing its seed at harvest, and then destroying it by grazing the chaff dumps over summer and burning any residue the following autumn is significantly reducing this weed burden," Stuart (pictured) said.

"In three years, we've noticed paddocks are getting cleaner (from weeds) and we now tow the chaff cart across our entire harvest of canola, wheat, barley and faba beans."

Stuart said the chaff cart piles – commonly known as 'dumps' – provided highly valuable and 'no-cost'

sheep feed during the summer, when pasture production slowed.

"We start grazing sheep on the chaff piles as soon as we finish harvesting each paddock, beginning with canola, because they take to that really well and there is no induction period needed," he said.

"We'll graze sheep on the piles from about mid-November through to February, when we mate the ewes and start adding extra supplementary feed until pastures get away in autumn and winter."

Stuart said since they started grazing chaff piles, ewes were maintaining higher condition scores during the summer months, leading to improved conception rates and driving higher sheep enterprise productivity.

Twin pregnancies in the Withams' older ewes have lifted by up to 20% in four years, to about 40–50% of the total flock, and conception rates in maiden ewes have risen by about 10%.

## The research

Four farms will host trial sites. As part of the research during summer, a comparison trial at the Withams' property will assess ewe performance from grazing paddocks with chaff piles versus grazing on traditional crop stubble with supplementary feed – as per common district practice.

Ed said economic analysis through the PDS project would help determine the sheep feed cost and labour-saving benefits to the whole farm from reducing supplementary feeding. ■

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🖥️ [mla.com.au/pds](http://mla.com.au/pds)



## RESEARCH IN REVIEW

### PROJECT NAME

Producer Demonstration Sites – Gillami Centre

### RESEARCH ORGANISATIONS

MLA/Gillami Centre

### FUNDING ORGANISATIONS

MLA

### GOAL

Improve sheep productivity by using grazing of chaff cart piles (or 'dumps') post-harvest to fill summer feed gap – especially for ewes in the lead-up to mating.

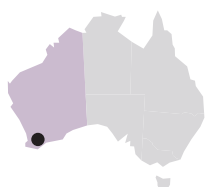
### BUDGET

\$75,000

### DURATION

July 2017–2020

## SNAPSHOT: Stuart and Connie Witham, 'Chester', Toolbrunup, WA



**Area:**  
1,600ha

**Enterprise:**  
Sheep and cropping

**Livestock:**  
4,000 Merinos including 1,700 breeding ewes

**Pasture:**  
Sub-clover, annual ryegrass and medics

**Soil:**  
Heavy loams

**Rainfall:**  
400mm

# Northern focus on fertility

**R**esearchers are taking on the ambitious task of DNA sampling 30,000 cows and heifers in their quest to boost the fertility of northern herds.

The Queensland Alliance for Agriculture and Food Innovation is leading a project, funded by MLA Donor Company (using matching investment from the Australian Government) and the University of Queensland, to develop a DNA test to predict the value of an animal's genetics for fertility.

Project leader Professor Ben Hayes said fertility was a critical trait in northern cattle.

"Fertility is the main driver of productivity and profitability of northern beef enterprises, but weaning rates – an indication of fertility – can be as low as 40% in some herds," he said.

"Lifting the reproductive performance of breeding herds is challenging for

producers who manage extensive enterprises, because annual or biannual mustering limits the opportunity to record performance and track fertility traits across generations."

The answer, he said, was the genomic equivalent of an estimated breeding value (EBV). EBVs are already widely used in the beef industry to assess an animal's performance traits compared to the breed average. A DNA test, however, would provide a highly accurate prediction tool of true genetic merit. This would enable young bulls with excellent fertility genetics to be identified and used early in life.

DNA tests for fertility have been commercially used in the dairy industry for more than five years but the physiological differences between, for example, a Holstein and a Brahman, mean they are not transferable. There is a useful genomic-based breeding value for days-to-calving, but only for the Brahman breed.

## It's in the DNA

This project is commercially focused and aims to develop DNA tests not limited to a specific breed, so researchers are DNA-sampling different breed compositions – including crossbred cattle – across Queensland, NT and WA.

Many genes affect the trait of fertility, so Ben and his team have set out to record fertility traits for a large number of animals, drawing on female stock from collaborating herds across northern Australia.

To date, they've identified 15,000 cows and heifers and have DNA sampled and scanned 3,000 to record the key fertility traits of:

- **age of puberty:** heifers that cycle early can produce more calves in their lifetime (previous work by the Beef Cooperative Research Centre found this to be a highly heritable trait)





- **postpartum anoestrus:** determines how easily a cow can become pregnant again after her first calf.

The first round of scanning will assess whether heifers have cycled or not as an indication of age of puberty, and will take a tail hair sample for DNA testing.

Later in the project, cattle will be assessed again for fertility after their second joining, and their temperament will be measured and correlated with fertility.

“At the end of the project, in five years’ time, our aim is to have a highly accurate genomic breeding value for fertility,” Ben said.

“Northern producers can use this as a tool when choosing bulls, to assess what animals will contribute genetically to their fertility goals.”

### Herd fertility lifts profits

Producers are playing a critical role in research to develop the accuracy of genomic predictions for profitable traits.

‘Wambiana Station’ at Charters Towers is one of the businesses collaborating with the Queensland Alliance for Agriculture and Food Innovation genomics project.

Michael and Michelle Lyons will provide up to 350 Brahman heifers for the Northern Genomics Project.

Michael (pictured left) believes fertility is one of the most important traits northern producers can select for in their herd.

“In our business, the cows that wean a calf in April–May and calve again in November–December each year are very profitable,” he said.

Michael has a two-pronged approach to selecting for fertility:

- **Breeders:** cows that are adapted to their environment and consistently calve each year with minimal inputs stay in the herd.

- **Bulls:** bulls with above-average EBVs are selected for days-to-calving and scrotal size, and bulls from dams which have produced a natural calf each year for at least four years are also selected.

“Some of the bulls we have produced from our in vitro fertilisation program are from dams that have had up to 14 calves in 14 years, which is an amazing feat in the north,” Michael said.

He said culling non-performing cows and selecting bulls with superior genetics was a critical strategy to improve the overall fertility of Wambiana’s herd.

“We’re a low-input business, so if we can genetically improve our fertility and get more calves on the ground without having to increase inputs to our breeders, it will lead to greater profitability,” he said.

Michael said a DNA test for fertility would provide more accuracy to the existing EBVs and greater predictability of reproductive performance.

### Want to get involved?

The Northern Genomics Project is still looking for northern beef herds to participate in this research. Herds can represent a range of breed compositions, including crossbred cattle, but producers need to:

- have a history of herd-recording using National Livestock Identification System tags
- practice controlled mating
- be able to provide lines of about 100 heifers/cows which are consistently managed.

Collaborating producers will receive information about when heifers cycle, the fertility performance of their herd compared to other herds in their region and a head start into genomics-assisted breeding. ■

## RESEARCH IN REVIEW

### PROJECT NAME

Northern Genomics

### RESEARCH ORGANISATIONS

Queensland Alliance for Agriculture and Food Innovation

### FUNDING ORGANISATIONS

MLA Donor Company (MDC) and the University of Queensland

### GOAL

To develop a DNA test to predict the value of an animal’s genetics for fertility.

### BUDGET

\$6.2 million (50% from MDC)

### DURATION

2017–2022

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## What is a genome?

A genome is an organism’s complete set of DNA, including all of its genes. Each genome contains all information needed to build and maintain that organism. The size of the cattle genome is 3Gb (3 billion base pairs). It contains approximately 22,000 genes, of which 14,000 are common to all mammals.

By understanding the key DNA differences, science can then identify the ‘hidden gems’ which lead to high performers in particular traits, such as fertility and growth.

## SNAPSHOT: Michael and Michelle Lyons, Charters Towers, Queensland



**Area:**  
23,500ha

**Enterprise:**  
Breeding and fattening

**Livestock:**  
3,000–3,500  
Brahman cattle

**Pasture:**  
Mostly native pastures augmented with introduced pastures of urochloa and buffel plus introduced legumes of stylos and desmanthus

**Soil:**  
River frontage loams, grey cracking clays and light sand ridges

**Rainfall:**  
650mm

# Meeting different markets

**A**s one of the largest lamb producers in Tasmania, Stephen Creese (pictured), who is also the Managing Director of Clovelly Tasmania, has to manage and carefully plan the marketing of 31,000 lambs a year. On top of that, he oversees the selling of more than 400 Angus steers. At the MLA-sponsored Red Meat Updates in Tasmania in 2017, Stephen shared some of his insights into making marketing easier. Here he explains his strategies to *Feedback*.

## Lambs

Stephen uses a combination of weights, specifications, timing and seasonal forecasts to direct sales to supermarkets or export processors, or for sale as store lambs at the saleyards or to private buyers.

Stephen, who also has his own prime lamb operation at Tomahawk, north-east of Launceston, believes that regardless of numbers, all producers should adhere to the same principle.

“Don’t send customers what they don’t want,” he said.

Stephen aims to produce a moderate-sized, fast-growing, well-muscled composite lamb using a Poll Dorset terminal sire over a mix of Coopworth, White Suffolk, Texel and Cashmore Oaklea genetics.

Lambing season starts in September, with all lambs sold by 30 June. However, extensive irrigation under centre pivots gives the operation flexibility.

“Ideally, we would like to sell everything we breed as prime lambs in Tasmania, but market and seasonal conditions drive when and where we sell,” Stephen said.

To best match product to customer, Stephen weighs and drafts the lambs into three categories: those that are heavier than 25kg carcass weight, those that are 22–24kg carcass weight, and those that will meet supermarket specifications late in the season or have the potential to be sold as store lambs.

“We usually forward contract about 25% to supermarkets;

they’re keen to secure lambs early in the season and, because of our volume, we need to secure kill space,” he said.

The heavier portion is usually sold to export processors such as Tasmanian Quality Meats, JBS Australia and Australian Lamb Company, while the lighter end will meet supermarket specifications later on or be sold as store lambs.

“We can sell up to 15% of the drop as stores – it depends on the season,” Stephen said.

“How much rainfall we’ve had up to 1 April is how we decide whether to keep them or sell.

“If we’ve had a dry autumn, we usually pull the sales trigger early.”

Selling stores to lamb finishers privately through an agent, on a price per head basis, is Stephen’s pressure-release valve for the business, with the priority being maintenance of breeders.

“Finishers with irrigation – and Tasmania has quite a few – are generally looking for more

lambs around April, so that works well for us,” he said.

## Cattle

Being a reliable supplier of quality, quiet cattle that meet market specifications goes a long way to ensuring long-term success in the beef market, according to Stephen.

He turns off up to 450 Angus steers annually (from 1,100 Angus breeders) to the Japanese-owned Tasmania Feedlot at Powranna and believes being able to produce quiet, fast-growing cattle is essential to forming strong, long-term relationships with customers.

“There’s no money in wild cattle,” Stephen said.

“Buyers must be able to walk through the yard and the stock move quietly around them.”

Stephen’s ideal steer is medium framed and fast growing with a good temperament.

“We use primarily Landfall genetics, but we believe how you handle them and their quality of nutrition has more of an impact on how they perform,” he said.





“We retain some heifers for replacements, but most of the weaners will go to the feedlot at 420–450kg live weight, and anything that’s above will go to Greenhams or JBS Australia.

“We’ve been supplying the feedlot for 15 years and probably sell about half the weaners on forward contract. The rest are sold ‘on spec’ (as they become ready) over a 12-week period.

“I don’t hold them any longer than that – we have to preserve pastures for our spring lambs.”

Stephen said their marketing edge is being able to supply large lines of vendor-bred Angus cattle that comply with several market assurance programs such as Greenham’s Pure Black Natural and JBS Australia’s Farm Assured (Silver).

“In Tasmania, beef producers mostly either breed and sell off their weaners or buy in stock and fatten. There aren’t many producers who do both and can offer genuine vendor-bred animals with lifetime traceability and a real story of provenance,” he said.

“We’ve also been dealing with Tasmania Feedlot for a long time. They know what they’re getting and trust the product.”

Tomahawk’s soft, coastal climate is a bonus, helping to keep production costs low.

Their spring-drop calves (born over a 10-week period) are yard-weaned in March–April for three days and then put in weaning paddocks.

“We don’t supplementary feed them unless it’s a tough winter, and we rely on our improved pastures to add the kilograms in spring,” Stephen said.

In winter, they gain about 0.75kg/head/day and in spring 3kg/head/day on fescue, ryegrass, cocksfoot and clovers.

Looking ahead, Stephen is considering the balance of his beef and prime lamb enterprises, and looking at how to improve profitability while keeping the workload in check.

“If we were to change anything, we would focus more on breeding, lifting our cow numbers and producing more weaners – this is

excellent cattle-breeding country,” he said.

“That would also free up more pastures for prime lambs, which are more profitable but more work, so we’d have to consider balance carefully.” ■

## LESSONS LEARNED

- Don’t send what the customer doesn’t want; every animal has a market somewhere.
- Consistency keeps customers happy.
- Reliably supplying quiet cattle to buyers will ensure long-term success.

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💻 Want to learn more about marketing? Sign up to MLA’s weekly *Prices & Markets* e-newsletter at [mla.com.au/enewsletters](http://mla.com.au/enewsletters)  
Tasmania’s 2018 Red Meat Updates is on 27 July.  
[redmeatupdates.com](http://redmeatupdates.com)

## SNAPSHOT: Stephen Creese,

Tomahawk, north-east Tasmania



**Area:**  
Total area under management – 10,140ha at Bridport, Gladstone, Perth, Longford and Tomahawk, Tasmania

**Enterprise:**  
Dairy, cropping, potatoes, beef, prime lambs

**Livestock:**  
1,100 Angus breeders and 30,000 ewes

**Pasture:**  
Irrigated ryegrass and clover with dryland fescue, ryegrass, cocksfoot and clover

**Soil:**  
Sandy

**Rainfall:**  
750mm



# Seeds sown for better pest solutions

**M**LA has committed \$2.5 million to the new Centre for Invasive Species Solutions (CISS) which will support the red meat industry by broadening the range of pest species to include weeds and a wider range of vertebrate species. There will now be increased emphasis on incursion prevention, control and improved biosecurity.

Formerly known as the Invasive Animals Cooperative Research Centre (IACRC), the CISS has attracted \$20 million of Australian government funding to continue its role of combining government, industry and research agencies to achieve important outcomes in areas such as controlling populations of wild dogs, foxes and feral pigs; biological control solutions; and now, expanding to pest plants.

CISS Chief Executive Andreas Glanznig said during the past 20 years there had been multiple iterations of invasive animal-related CRCs, all of which had delivered benefits for the Australian economy and the community.

“The past decade has been particularly fruitful, with some stand-out achievements that have had positive impacts on farm gate profits, protected our biodiversity and improved community wellbeing,” he said.

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## Keeping pests in check

**The new Centre for Invasive Species Solutions (CISS) represents an evolution for Australian pest control.**

CISS chair and NSW sheep producer Helen Cathles (pictured) said the new structure will encourage stronger industry partnerships and a stronger focus on being end-user and demand-driven.

“I feel really excited about this evolution and the business model being strongly driven by grassroots and commercial influences,” she said.

“All the digital tools developed by the former Invasive Animals Cooperative

Research Centre such as the PestSmart website and FeralScan will continue, while our levy dollars will work even harder for us, building on the cost-benefit ratio of 3:1 previously achieved.”

Helen said CISS would continue its positive relationships with overseas research bodies such as the United States Department of Agriculture to ensure continued synergies and benefits for Australian producers.



**Here are some of the outcomes now benefiting Australian producers:**

**A national wild dog facilitator**

Undertaken for the past 10 years by Greg Mifsud, this position has been instrumental in changing the national mindset.

Andreas said wild dog impacts on livestock had transformed from an individual landholder problem to being accepted as a 'landscape-scale' issue requiring community-driven action and support.

"The role has also identified gaps in state control policies, improved uptake of best-practice control methods and unified stakeholders to achieve common goals," he said.

The National Wild Dog Action Plan, launched in 2014, underpins this role and strengthens control efforts nationwide.

**Working together**

The IACRC harnessed 'people power' to create more effective pest-control outcomes, working extensively with communities to create control and prevention strategies that engage all stakeholders, from government departments and corporations to individual landholders, local residents and business people.

"This collaborative movement underpins delivery of some of our most effective pest-monitoring tools such as FeralScan," Andreas said.

**FeralScan**

This national citizen surveillance tool ([feralscan.org.au](http://feralscan.org.au)) maps pest animal sightings and damage incidents for 12 species, creating a real-time database to inform control strategies and research priorities. Scan tools are also available as apps for iPhone and Android, and include rabbits, wild dogs, feral cats, pigs and fish. The FeralScan website now contains more than 100,000 community records and, in 2017, won the Banksia Foundation's Sustainability Award for Science and Research.

**RHD Boost**

The national rabbit biocontrol project RHD Boost involved the release of a Korean strain of the calicivirus in 2017 at more than 372 community-managed release sites. Aimed at increasing mortality while improving animal welfare, the virus is more effective in higher-rainfall areas than the original Czech strain released in 1996.

If successful, the program has a calculated net present value of more than \$1.4 billion over 15 years, and will substantially reduce the impact on plant biodiversity in the 5.3 million square kilometres currently infested with rabbits, and support increases in animal production.

**PAPP**

The first new feral predator toxin approved for use in 50 years, para aminopropiophenone (PAPP) is a complementary tool to 1080 poison for wild dog and fox control.

Approved for use in Queensland, NSW, SA and Victoria, PAPP is available in manufactured baits and has low secondary-poisoning risk.

The toxin has the added benefit of an antidote, methylene blue, which can be administered by a veterinarian if PAPP is ingested by domestic dogs.

**Carp herpes virus**

The IACRC was instrumental in the development of the carp herpes virus as a biocontrol for carp infestations in Australia's river systems.

Andreas said this virus is highly species-specific, posing no danger to valuable native species and non-native species such as trout.

"Through eight years of testing at the CSIRO, the IACRC has developed a potential carp-control tool. The challenge now is for government and the community to design and manage its implementation process," he said.

**PIGOUT® and HogHopper™**

The IACRC developed PIGOUT®, a world-first, 1080-based, purpose-made feral pig bait designed for resilience (air deployment) and to minimise non-target risk.

In 2010, HogHopper™ was launched, a target-specific bait-delivery system that harnesses pigs' natural rooting behaviour to gain access to baits. Baits remain fresher for longer, reducing labour inputs and costs.

Work continues with the HOGGONE® project which represents a new era in pig baiting, using the chemical sodium nitrite. Its advantages include a shorter period from consumption to death.

**PestSmart Toolkit**

The PestSmart Toolkit, found online at [pestsmart.org.au](http://pestsmart.org.au), contains more than 200 fact sheets, case studies and best practice advice across multiple platforms for 15 pest animals.

A key feature is its glovebox guides for managing wild dogs, foxes, rabbits and feral pigs, and these valuable information resources are continually updated to support all stakeholders involved in feral animal control.

Since its creation in March 2015, the interactive website has had more than 800,000 page views.

**National Incursion Prevention and Response Facilitator**

There are more than 80 established vertebrate pest animals in Australia, and the IACRC supported a strong response to avoid new incursions.

Leading this fight was Australia's first National Incursion Prevention and Response Facilitator, who was tasked with developing new national incursion prevention and response strategies and plans, in collaboration with government biosecurity agencies and key research and industry partners. These are now being implemented across the country and Australia is better prepared than ever to stop new pest species.

**Balanced Scientist PhD program (2005–2012)**

Aimed at building capacity of careers in the invasive animals sector, this PhD program encouraged PhD students to work in projects that contributed to goals of the IACRC.

It involved some notable individuals who have been contributing significantly to the sector, including Dr Tarnya Cox, recognised for her work on the RHD Boost Program. ■



Assessing the impact of rabbits.

# Checking out the global feedbase

**S**tuart Tait is travelling the world to see what he can learn about using dual-purpose crops to fill feed gaps in cattle operations in southern Australia.

Stuart's travels are part of his MLA-supported Nuffield Scholarship, and from what he has seen so far, he suspects Australian producers are up there with the world's best in terms of producing and managing feed supply in temperate mixed farming systems.

At the end of his travels, Stuart aims to pull together the knowledge he has gained into a system he can use to better manage the feedbase.

"I want to optimise my stocking rates, set performance targets and eliminate the feed gap," Stuart said.

"There is a lot of research focused on dual-purpose crops and sheep production, but there are obvious differences between cattle and sheep and I'm keen to look at how my overseas beef producer counterparts are managing feed throughout the year."

## International pit stops

**South America:** In March 2017, Stuart and the 22 other Australian Nuffield scholars joined scholars from around the world in Brazil for the Contemporary Scholars Conference. Stuart left with conflicting views.

"On one side I thought 'uh oh, we're in trouble — these guys are starting to

get cranked up', but on the other side they have a long way to go to reach Australian beef quality," Stuart said.

Stuart then headed off on a Global Focus Program, starting in Singapore and continuing onto India, Doha, Denmark, the UK and the US.

"It's a whirlwind tour of global agriculture and it gives you a look at big picture agriculture from a whole-of-chain perspective," Stuart said.

**United States:** Stuart stayed on in the US, meeting with producers, industry representatives and researchers in Iowa, Missouri, Nebraska, Oklahoma and Texas.

"I spent time in Oklahoma, as their climate is similar to ours — those guys are grazing acres and acres of wheat and only about 25% is harvested for grain," he said.

"The mix of uses is similar in some respects to what we are doing here, but the big difference is their farming techniques — which are less advanced than what we do in Australia."

Most growers Stuart visited were doing a wheat-on-wheat rotation, with nothing else, and all with full tillage.

"The soils in Oklahoma were similar to ours, but their yields were lower — I think we're on the right track, especially with our crop rotations and more advanced soil management techniques."

Like in Australia, the grazing management practices Stuart was



exposed to in the US varied between different operators, with some using rotational grazing with electric fences.

**Canada:** According to Stuart, farming in his destinations of Saskatchewan and

## SNAPSHOT: Stuart Tait, Mandurama, NSW



**Area:**  
1,600ha

**Enterprise:**  
Grain and oilseed crops and cattle

**Livestock:**  
600 Angus breeders

**Pasture:**  
Phalaris, sub-clover, cocksfoot, tall fescue, Italian ryegrass and dual-purpose grazing crops, summer hybrid forages.

**Soil:**  
Red basalt clays and alluvial loams

**Rainfall:**  
750–800mm





Alberta was noticeably different to the US.

“The Canadians have fewer dual-purpose crops because of their farming systems and the shorter growing season,” he said.

“They plant wheat at the same time as us (May–June) and then harvest during August before everything freezes.

“A lot of the Canadians I visited can’t quite eliminate the need to supplementary feed, but a common practice used is swath grazing — oat crops are grown up to the height where we would say it was ready to cut for

silage, windrowed and then when winter hits, it’s like snap freezing the crop and the snow insulates it — they just run an electric fence across the paddock and the cattle follow the windrow.”

The Canadians were using pasture species Stuart had not encountered before, including sainfoin, a non-bloating legume similar to lucerne.

**Still to go:** Stuart will be visiting the UK to look at feedbase management, Argentina and Uruguay to see pasture breeding and New Zealand to examine dual-purpose systems and grazing management. ■

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🖨 Nuffield Australia: [nuffield.com.au](http://nuffield.com.au)  
More Beef from Pastures  
[mbfp.mla.com.au](http://mbfp.mla.com.au)

Go to [mla.com.au/tools](http://mla.com.au/tools) to find MLA calculators for feed demand, stocking rate and cost of production.

Profitable Grazing Systems:  
Upskill and learn how to improve your feedbase management:  
[mla.com.au/pgs](http://mla.com.au/pgs)

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# Making MSA-driven gains

**In 2017, the Meat Standards Australia (MSA) Excellence in Eating Quality Awards were presented to the most outstanding grass and grainfed MSA producers in Australia. An additional honour was introduced: the MSA Progress Award.**

This Award recognised the producer in that state who had the greatest improvement in their MSA results since 2014–15. Here we meet the five winners and find out how they did it.

## SA

**Winner:** Leigh Clifford, 'Gowan Brae', Millicent

**Enterprise:** A grassfed system supporting 130 head of Hereford, Friesian and other crossbred females bought at local saleyards from dairy producers, typically as two-year-olds. These have calves at foot to turn off as

milk-fed vealers direct to processors.

"I sell the calves at about 9–10 months old, straight off their mums, when they hit live weights of 420–480kg – and sometimes up to 500kg," Leigh said.

Breeders are then joined to Charolais bulls to calve in January with progeny for sale in late spring. The crossbred calves are fast maturers and in 2015 had an average carcase weight of 251kg.

## Path to progress

Leigh had been MSA-accredited for nine years, but started taking notice of MSA Index results to track performance more closely two years ago. Leigh credits pasture improvement and focusing on animal temperament for lifting his MSA compliance to 96%.

"The improvements I'm seeing in Index performance highlight to me the importance of feeding and managing animals well, making sure they're good tempered and produced in a low-stress

environment," he said.

"Eating quality is just as important as growth and weight when it comes to consumer experience of eating our product and making decisions to buy beef again.

"I'm noting that quietness in temperament is a vital contributor to achieving this in terms of meat colour, texture, cutting and taste."

To reduce stress, calves are yarded only the afternoon before trucking to processing and the same transporters are used regularly.

## TASMANIA

**Winners:** Stan and Gwenyth Elphinstone, Stowport

**Enterprise:** Sixty head/year are turned off from the Angus and Shorthorn–Gelbvieh female herd, which are joined to Charolais. A carcase weight of 280–300kg is targeted.



SA Progress Award winner Leigh Clifford.



### Path to progress

For Stan, improving MSA compliance (now 100%) comes from maintaining a good feedbase and using low-stress stock handling.

“Our pastures are a mix of cocksfoot and ryegrass and the perennial legume, white clover, and we also supplementary feed silage and hay during winter, which we produce on farm,” Stan said.

“We were dairy farmers for 46 years and I do the same for our beef cattle as I did with our dairy cows, and that is make sure they’ve got good feed in front of them.

“Every day I’m in amongst the cattle so they know me. I move them every two days, rotating them through the paddocks so they’ve got access to good feed, and to also give the pastures a break.

“I don’t use bikes or dogs, I just call out to them and they come and move into the next paddock. You’ve got to keep them quiet.”



Queensland MSA Progress Award winners John and Mary Atkins.

### QUEENSLAND

**Winners:** John and Mary Atkins, ‘Spion Kop’, Taroom

**Enterprise:** Breeding cattle on the 4,500 square kilometre ‘Marqua Station’ in the Northern Territory and finishing them on oats, silage and buffel grass pastures at ‘Spion Kop’, where some cattle breeding takes place. John and Mary also trade cattle occasionally.

### Path to progress

“With the benefits of silage and oats during the winter period, all cattle are on a rising plane of nutrition and our buffel country is destocked and spelled during the winter, giving us more grass cover and a quicker response when the season breaks,” John said.

“The longer it stays dry, the better these management tools work.”

The Atkins believe a focus on breeding and low-stress stock handling have contributed to their ongoing improvements in the MSA program.

“We predominantly buy Santa Gertrudis bulls, and the main traits we select for are temperament and fertility, then conformation,” Mary said.

“All our weaners are handled by a professional weaner-handler both in the Northern Territory and here at Spion Kop.

“So depending on the season in the Territory, any steers that are left there are handled along with all our replacement females. All weaners that get trucked here receive handling as well, which contributes to their quietness and ease of mustering and trucking.”

### VICTORIA

**Winner:** Don Bowman, Dendee Pastoral Company, Poowong

**Enterprise:** Buying in predominantly Angus or Angus–Hereford steers aged 18–22 months old to finish to 350–380kg carcass weight and turning off 300–400 head/year. Don, who is also a cattle buyer for other producers and companies, sources the cattle from saleyards including Leongatha and Ballarat.

### Path to progress

“For me, the keys to success are purchasing in the right article, providing good feed and good management,” Don said.

With the South Gippsland region enjoying an average annual rainfall in excess of 900mm, the cattle are 100% grassfed, grazing improved pastures comprising a mix of clovers and ryegrass. An annual fertiliser program is undertaken.

“The season really dictates the terms, but I generally keep them for six to 12 months to reach those weights. In spring, the cattle can be putting on more than 1kg/day when conditions are right,” he said.

“I let my eyes be the judge when I’m purchasing – I look for the right type of steer that has length, quietness and depth.”

The cattle receive minimal, low-stress handling using horses.

“Having good yards and fencing also helps with low-stress handling. It’s all common sense really. There’s no excuse for not having decent yards for your cattle,” he said. ▶



## NSW

**Winners:** Angus and Lesley Tink and son, Jeff, 'Tarawong', Mebul

**Enterprise:** Running 450 Angus–Charolais or Angus–Simmental breeders and selling their offspring (hormone growth promotant-free, antibiotic-free and grassfed) into the JBS Farm Assurance Program for processing at JBS Australia at Scone. Steers are turned off to target a 370kg carcass weight and heifers between 320 and 330kg.

### Path to progress

"I'm a great listener and I've asked a lot of questions over the years," Angus said.

"I study the MSA feedback sheet and always look at individual scores and check the MSA Index per load.

"Any cattle that don't grade MSA means the price can drop 50–70c/kg, and on a 350kg carcass, that's quite a big difference, so we do whatever we can to ensure our cattle grade as MSA."

Angus said good pastures and low-stress practices have helped improve their MSA compliance.

"Our cattle run on a mix of clover, ryegrass and phalaris-based pastures, and we have 200ha of grazing oats," Angus said.

"A lot of our country is hill country and every two years we undertake an aerial application of single superphosphate fertiliser.

"We ensure cattle are kept in their mobs when they're in the yards and then transported. We keep our heifers and steers separated all the way through from weaning to the abattoir.

"I think making sure they get to the abattoir in daylight so they can settle helps reduce stress as well.

"When we're sending cattle, we make sure they're ready in the yards by 8:30am or 9am and load them at about 1pm. It's only 260km to Scone, so they're there well before the sun goes down."

## WA

**Winners:** Russell and Sonya Mead, Bengier and Coolup

**Enterprise:** Livestock transporters who undertake opportunistic cattle trading, turning off cattle with carcass weights of 250kg.

### Path to progress

Peak cattle production is in spring, when pasture growth takes off and up to 160 head are fed and finished.

The average time cattle spend on pasture is about seven months, although this varies widely according to stock type and condition. The target is to hit a minimum cattle live weight gain of 1kg/head/day.

"Our strategy is to buy in cattle of any type, age and breed when we see an opportunity to turn a profit from them," Russell said.

"We don't buy on type and we don't buy 'gold standard', but we do seek animals that show the potential to put on weight and provide us with a good return on investment, given current seasonal conditions and market prices.

"This means we take a wide variety of animals and breed types, typically sourced at saleyards, and comprising anything from older cows to young heifers and steers."



WA winner Russell Mead.

Russell said their MSA results were improving in recent years most likely because they tend to feed cattle for longer to achieve turn-off dressed weights of about 250kg/head (25kg higher than previously), which has improved MSA compliance (from 52% to 72%). ■

 Want to improve MSA compliance?

Use the MSA Index calculator at:  
[mymsa.com.au/msamobile](http://mymsa.com.au/msamobile)  
[mla.com.au/msa](http://mla.com.au/msa)

Watch videos on each of the winners of the main awards on their properties and read their case studies at:  
[mla.com.au/msaawards](http://mla.com.au/msaawards)

NSW Progress Award winner Angus Tink (right) and son Jeff.





# SUPPLY CHAIN

DELIVERING VALUE

## Getting the inside view

**Australia's beef industry loses tens of millions of dollars each year to often preventable infections which cause both offal condemnations and reduced animal productivity.**

For example, figures provided by one Queensland processor (and extrapolated across the state) reveal up to 65% of livers can be condemned for hydatids each year. That suggests a total annual loss of \$13 million in livers alone.

Research conducted in NSW revealed average carcase weight loss in hydatids-infected cattle was 16.8kg. When those figures are applied to the Queensland cattle kill, at \$3/kg live weight, that represents a further loss to the industry of \$131 million.

MLA Program Manager Value Chain Technology Christian Ruberg said improved detection and producer feedback could help reduce the industry's losses.

"Improved sensing, detection, sorting, producer feedback and producer decision support towards preventative treatment can go a long way to mitigating this loss," Christian said.

MLA, in conjunction with MLA Donor Company and the ALMTech

project (Advanced measurement technologies for globally competitive Australian meat), is seeking to develop in-plant offal sensing solutions to meet this need.

Technologies under evaluation include:

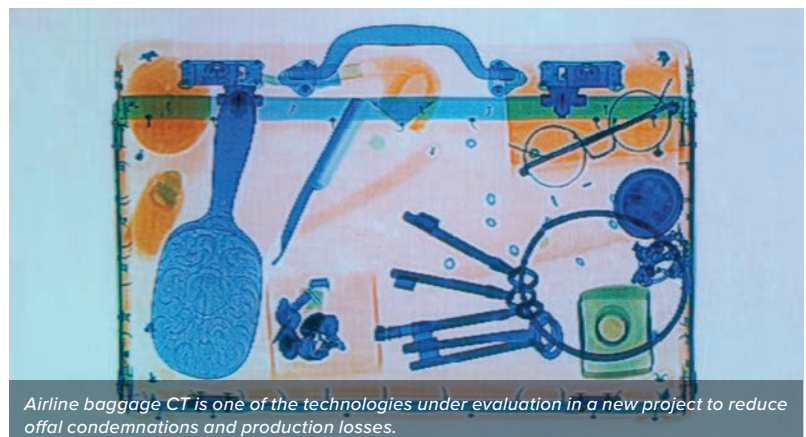
- medical computed tomography (CT)
- magnetic resonance imaging (MRI)
- airline baggage CT
- multiple energy X-ray imaging (MEXA)
- colour machine vision.

"The program will demonstrate technical feasibility, then move to develop a device prototype by 2020 to take images and sort offals into 'good' or 'needs further inspection'," Christian said.

"Medical CT and MRI are considered not suited to challenging in-plant applications, however colour imaging in conjunction with either MEXA, or airline baggage CT, has potential to contribute to machine-assisted inspection. Augmented vision glasses may also play a role.

"Current work is focused on the technical and commercial feasibility of X-ray, augmented with colour machine vision." ■

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Airline baggage CT is one of the technologies under evaluation in a new project to reduce offal condemnations and production losses.

# GETTING TO KNOW OUR LIVESTOCK MARKET OFFICERS

**T**wenty-six Livestock Market Officers (LMOs) currently work across Australia as part of MLA's National Livestock Reporting Service. Covering more than 3,000 markets/year and thousands of kilometres between them, LMOs attend and report on up to 70 of the nation's cattle, sheep and goat sales on a weekly basis.

[mla.com.au/nlrs](http://mla.com.au/nlrs)  
[marketinfo@mla.com.au](mailto:marketinfo@mla.com.au)

Here *Feedback* talks to a few of the LMOs about life on the road and what they do at the saleyards.



## Leann Dax

Leann is MLA's eyes and ears at the largest indoor cattle selling centre in the Southern Hemisphere – the Wagga Wagga Livestock Marketing Centre (she also covers other large selling centres, including the Northern Victoria Livestock Exchange at Barnawatha). Despite the fast pace of the saleyards and an exhausting number of kilometres to be travelled each week, she still finds the time to participate in campdrafts on the weekend.

### Tell us about your role as an MLA Livestock Market Officer. What do you do?

My role is to assess stock at lamb and cattle sales. LMOs are there to collect accurate market intelligence and write reports without sharing an opinion on whether the animals are cheap or dear. We're not focused on producers or processors – we're there to record exactly what's happening on the day.

### Where are you from and where are you based now?

Originally, I'm from a wool-producing farm near Ballarat, Victoria. Now, I'm on a cattle, sheep and cropping property at a little place called Howlong near Albury, NSW.

### What is the best part about your job?

I just love it all – I love the interaction with buyers and producers and collecting market information from the sales. After all these years, I'm proud of my work and enjoy the fast selling pace of the Wagga lamb sale. I also write a commentary for the *Stock and Land* newspaper and *Beef Central*. Everything about my job is fantastic.

### When you're not working, what do you like to do for fun?

I ride horses – I'm very passionate about the cutting industry and campdrafts. We load eight horses onto our truck and campdraft most weekends through summer and autumn.

### What's your favourite red meat meal?

Definitely lamb chops.







## Brendan Fletcher

Covering four markets in Victoria's large Gippsland region, it's not unusual for Brendan to travel about 1,200km a week – and when he's not driving or at the saleyards, he has his own duck egg business to keep him busy.

### Tell us about your patch. What's been happening at the markets there over the past year?

I cover basically all of the Gippsland region in Victoria.

There's a big variation in climate and soil types here – it's a land of contrast. South Gippsland's had a really good season, while east Gippsland didn't really get a spring at all. A lot of people turned off cattle early.

We've had a few store cattle moving through, but not a lot of fat ones. It's a big breeding area so people are mainly breeding calves specifically for the store market.

### What's the best part about your job?

I love everything about it. It's interesting and keeps my mind active. The cattle market never stops changing, and there're so many different influences on supply, demand, and even the condition of the cattle. I think it's fascinating.

### What are some of the challenges in your role?

Travel would probably be the main one – I have to do a lot of it. It's not so much the driving that's the challenge...it's the other drivers on the road.

It's also a bit of a challenge when people see a different view of the market to what I've written in the reports. But I find that once you sit down and have a conversation with them, and you talk through it, everyone walks away satisfied.

All in all there aren't too many challenges. I'm lucky that I have a lot of experience and can be confident in the job.

### When you're not at the saleyards, where would we find you?

You'd find me out in one my paddocks, chasing cattle – or chasing ducks. I breed Indian Runner ducks and sell the eggs from the farm gate, or through some retail outlets. I also breed purebred Sussex chickens...so I'm always busy.

### What's your favourite red meat meal?

There're so many beautiful red meat meals! I'd have to go with a lamb roast straight off the coals.



## Krystelle Ridley

From Forbes in the central-west down to Griffith in the Riverina region, Krystelle covers one of the largest sales patches in NSW...but she's no stranger to being on the road, and can often be found carting her family's stud Shorthorn cattle to shows around the countryside.

### What does the average week look like for you?

I spend Mondays and Tuesdays in Forbes, NSW working at the cattle and sheep sales. Wednesdays and Thursdays are spent at home, working on my family's cattle and cropping property. On Fridays, I'm in Griffith at the sheep sales, and weekends are usually spent getting more jobs done around the farm.

### Where did you grow up and where are you based now?

I grew up on the family farm at Condobolin, NSW. I'm still based in the central west and usually work at the farm throughout the week.

### What aspect of your role do you enjoy most?

Being able to chat to different people, buyers, agents and vendors, and getting different perspectives on what is happening not only in the markets, but also the surrounding regions.

### What do you do to pass the time when you're not at the saleyards?

I help my parents with our Shorthorn stud. We go to shows like the Sydney Royal every year, so it's good to catch up with everyone there. Other than that, I just like going to the footy and socialising – the same as everyone else.

### What's your favourite red meat meal?

It's got to be a steak! Just a plain steak. ■

## PUTTING MEAT ON ASIA'S GROWING PLATE

**It's no secret that Asia is one of the largest export markets for Australian red meat, but is industry making the most of every opportunity to grow demand?**

As part of MLA's new Supply Chain Capability strategy, eight extension and adoption programs are being implemented to ensure Australian beef, sheepmeat and goatmeat remain a key part of Asian cuisines.

According to MLA General Manager of International Markets Michael Finucan, it's about looking at the individual supply chain members such as importers, wholesalers and retailers and creating a value-adding program to suit their needs.

"It's a new, hands-on approach involving some really targeted activities for commercial clients," Michael said.

"We've started to offer a suite of solutions, depending on the participants. We deal with each group in the supply chain individually, rather than offering a generic program for the whole chain."

One example is the 'Natural fall' program, which MLA recently rolled out within a large hotel group in Asia. Employees working in different areas of the business (fine, buffet or casual dining) were trained in carcase utilisation and shown how to make the most of specific cuts.

"Many of the chefs who participate in the program for the first time aren't sure how to cook different cuts of red meat, and rely on external parties for their technical advice and insights," Michael said.

MLA's Value Chain Development Consultant David Carew (see story opposite) said the program's main focus was to build capability and encourage clients to use the whole carcase, rather than the usual five or six primary cuts available in most retail outlets.

"The only real solution is to create more interest in the secondary cuts to drive up the demand," David said.

"This means more value for the producers and processors, because it ultimately lifts the value of the animal."

Since the new Supply Chain Capability strategy roll out in 2017, David has worked closely with food industry clients in the Asian markets to provide cost-effective solutions.

"We tailor-make diagnostic charts on 'cuts utilisation' depending on the client's customer base, and demonstrate the value of a whole carcase in terms of actual menu items produced," he said.

"We design complete menus for the restaurants based on the types of cuisine they have on offer, or, if it's a retailer, the demographic they target."

The supply chain capability strategy places a strong emphasis on communicating Australian red meat's provenance and quality assurance credentials.

Another of the eight programs is 'New cuts development', which delivers innovative ways to present the cheaper, lesser-known cuts to industry.

For example, David recently pitched a 'three-way chuck steak' concept to a hospitality client in Asia, demonstrating the uses of several secondary beef cuts from a single chuck – hot pot roll, chuck eye log and chuck flap meat. ■

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# COOKING UP A STORM

**D**avid Carew is a veteran of the red meat industry. For 25 years, he has shared his love of Australian beef and lamb as a chef and industry consultant by educating domestic and international customers on how to cut, cook and enjoy it. Today, David is part of MLA's new approach to Asian markets, which involves upskilling foodservice, importers and the restaurant trade on how to make the most of Australian red meat.

### What does your work involve?

I'm currently based in Singapore, working with Asian food industries. A lot of my work revolves around enticing chefs and food processors to use Australian red meat and then educating them on how we can optimise its value. I also create new products and cuts that can easily be adopted by Asian markets.

### What do you see as the main opportunities in targeting the Asian markets?

We've been selling 13 primal cuts for 200 years and we need to break our product down a little bit more – smaller cuts with Australian branding.

We need to develop ready-to-slice products out of really good quality carcasses. We should also focus on improving packaging – stick on simple cooking icons and say 'the meat in this box is suitable for stir-fry' or whatever it may be.

### How does this work strengthen relationships between Australia and its international customers?

The people I talk to about Australian meat appreciate the fact they've picked up knowledge that's not mainstream.

A lot of chefs and processors in my workshops don't have the time to think outside the box, let alone learn how to execute new ideas. By helping them add value to their products and get more bang for their buck, we're raising the support for Australian red meat and becoming more attractive to Asian markets. ■

| EXTENSION AND ADOPTION PROGRAM | FOCUS   |
|--------------------------------|---|
| Natural fall                   | Using every cut from a carcass to avoid wastage and build the value of the animal                               |
| New cuts development           | Commercialising new cuts in line with food trends   |
| Premium shelf space            | Communicating Australia's provenance story and building consumer awareness of Australia's integrity credentials |
| Retail category management     | Delivering ready-to-cook or sliced products based on MSA guidelines using 'fit-for-purpose' secondary cuts      |
| Thin-slice technology          | Targeting thin-sliced meat opportunities, e.g. packaged ready to serve  |
| Shared plate                   | Adapting Australian red meat to the Asian dining trend, like shared plates                                      |
| Business development managers  | Providing highly skilled 'red meat specialists', who can offer key insights and technical advice                |
| Red meat value added           | Promoting secondary cuts as a viable value-adding option  |



David Carew (sixth from right) shows Asian chefs new ways to utilise Australian beef.



# Riding the organic boom

**The rise of organic beef for export has been an Australian success story, with the product now accounting for the largest proportion – 20% – of Australia’s organic export market. But getting the marketing right for a high value product with perceived unlimited demand is not easy, as Clayton and Jackie Sargood discovered.**

The Sargoods, who have been organic beef producers since 1995 and have sold their own label, Clayton’s Organic Beef since 2011, found huge challenges.

“If I could start this journey again, I would outsource marketing from the beginning,” Jackie said.

“We know cattle and we’re good at meat but there are lots of hurdles we didn’t know existed and marketing has so much influence on how successful you can be.”

The main challenges for the Sargoods have included:

- ensuring correct organic certification along the supply chain, including retailers, in export markets
- securing reliable markets

for a whole carcass and not just certain cuts

- developing good logistics to reduce input costs.

“One of the toughest aspects of this business is finding and keeping a market that will take the whole body and not just certain cuts,” Jackie said.

## From the beginning

The couple began their organic journey at Clayton’s family property in central Queensland, and quickly found the location – while excellent for producing organic beef – failed the other business tests of good market access, supportive infrastructure and being able to source and guarantee supply.

“We originally supplied OBE Organic Beef and Australian Country Choice sporadically before being approached in 1999 by another company to feed organic cattle,” Jackie said.

“We hoped this new relationship would provide us with some stability, but by the time we bought the feed at Chinchilla, transported it to the property and sent the cattle to Brisbane for processing,

it wasn’t economic.

“Being on a dirt road also caused problems with supply – all it took was a shower of rain and we couldn’t get cattle out.”

If Clayton and Jackie wanted their own organic label to succeed, they needed a property close to markets, with sealed access where they could grow their own feed.

In 2005 they found ‘Tulloch Brae’, an old dairy, with 121ha under irrigation, 18km from Toowoomba.

Since then, the Sargoods have used Clayton’s family property as a breeding block, producing about 2,000 weaners each year, which are then finished to Japanese Ox specs on a home-grown, organic grain ration at ‘Tulloch Brae’.

## Still evolving

Organic-certified steers (450kg and above live weight) are also bought in to help fill a current US export order of 66 head/week.

According to Jackie, securing a US export deal was a mixture of circumstance, serendipity and hard work.

“In 2010, the organic beef line we were supplying was axed and that was tough for us,” she said.

“The company agreed to kill out what we had but after that, we had nowhere to go other than to sell outside the organic system.”

However, the value of building strong relationships came to the fore with contacts within Thomas Foods International linking the Sargoods with the US east coast supermarket chain, Shoprite.

“It all happened so fast – within a fortnight we were trying to sell our organic beef story to people in New York,” Jackie said.

“It sounds simpler than it was. Shoprite wasn’t certified organic and management didn’t understand what it meant; we helped them through the process of becoming certified.





“Again, this proved to us how important marketing is, particularly in the US: it’s a big deal there.”

Moving into export required a level of licensing, certification and administration that was outside the Sargoods’ expertise and capability.

“We formed a joint venture with Stanbroke Beef in Grantham to process our cattle and, because we don’t have an export licence, they own the meat while it’s on the water.”

Clayton’s Organic Beef’s US market share has grown year-on-year until recently and remains steady, despite strong pressure from rising US domestic supply and from Uruguay.

Looking ahead, the Sargoods want to spread their business risk with more focus on the domestic market.

“Local inquiry for our product is increasing, it’s getting easier to source organic-certified stock and we have a lot of faith in Australian organic beef continuing to build market share,” Jackie said.

“Operating in multiple markets would make our business more secure.” ■

### LESSONS LEARNED

- > Nothing stays the same; be prepared to adapt and modify your business model.
- > Seek productive partnerships along the supply chain.
- > Outsource tasks which are outside your core competencies.

✉ Jackie Sargood  
E: jackie@claytonorganics.com.au

🖥️ Learn more about Australia’s red meat integrity system at [mla.com.au/integrity](http://mla.com.au/integrity)

**SNAPSHOT:**  
Jackie and Clayton Sargood, ‘Tulloch Brae’, Toowoomba, Queensland



**Area:**  
‘Tulloch Brae’ 251ha

**Enterprise:**  
Organic beef

**Livestock:**  
Santa Gertrudis–Angus breeders

**Pasture:**  
Rhodes grass, Bambatsi, ryegrass

**Soil:**  
Black loam

**Rainfall:**  
700mm

## Growing organically

**40%**  
of the world’s fully certified organic farmland is in Australia (2016)

**15.4%**  
annual growth witnessed by Australian organic production

By volume, beef is Australia’s

**largest**  
organic food industry

**One-third**  
of Australian certified organic producers produce beef

**90%**  
of Australia’s certified organic beef and 88% of Australia’s certified organic lamb exports end up in the US

**\$107 million**  
was the total value of Australia’s organic meat production in 2014.

Jake, Jackie and Clayton Sargood check out fodder crops under 121ha of irrigation at their organic beef-producing property near Toowoomba.



# Digging deeper in the UAE



MLA's Corporate Executive Chef Tarek Ibrahim shares his love of 'True Aussie' meat in the Middle East.

## Getting social

MLA will this year focus on social media campaigns to reinforce the 'True Aussie' message in MENA. Projects include:

- short format video and stills for leading supermarkets in the Middle East on purchasing, preparing and cooking 'True Aussie Beef and Lamb' launched across MLA and partner social media sites
- Ramadan media and social media campaigns with leading supermarkets
- a Halal website for a pre-Ramadan Australian Halal awareness campaign
- blogger events with Chef Tarek
- car park weekend barbecues for leading supermarkets in the UAE
- developing a 'True Aussie Beef and Lamb' app, which will have all meat cuts, recipes and the Steakmate and Roastmate apps included in the one location.

**T**he United Arab Emirates (UAE) is one of the most unique markets for Australian red meat in the Middle East North Africa (MENA) region. As a country, it's only 46 years old and less than 12% of its residents are UAE citizens.

However, the diverse population, level of affluence and the area's importance as a transport, trade and tourism hub make it an important customer for Australian lamb and, increasingly, beef.

Australian export volumes of lamb to the region grew eight-fold between 1995 (8,176 tonnes swt) and 2015 (68,355 tonnes swt). In just 10 years, the volume of UAE's chilled beef imports from Australia has more than tripled.

MENA now accounts for almost a quarter of all Australian lamb exports and is home to three of our top 10 global markets (UAE, Qatar and Jordan).

In the past 10 years, Australian sheepmeat exports to the region have evolved from being chiefly frozen

mutton to chilled lamb. The average unit price reflects this significant shift, almost doubling from A\$3.50/kg in 2006–07 to A\$6.70/kg in 2016–17.

When it comes to beef, MENA is a complex region with beef considered a secondary protein to lamb, chicken and seafood. However, changing diets and growing tourism sectors have led MLA to identify growth potential for Australian beef in the UAE.

MLA's 2017 Global Consumer Tracker survey focused on three sub-groups of the UAE population – local Emirati, expat Arabs from elsewhere in the region and western expats. While these groups make up the top socio-economic strata, their food preparation and, at times, purchasing decisions can be made by employees.

Lamb is the prime meat of choice for UAE residents and while they're used to consuming imported food products and are well aware of Australian lamb and its attributes, the Emirati take great pride in their local (*Naemi*) lamb industry.

MLA's International Business Manager MENA Nick Meara said the survey found 'True Aussie' branding was strongly recognised, particularly by consumers in the top income bracket and by western expats.

"However, we can't just hope that it will sell Australian lamb in this market. In the lower end of the market we have increasing competition from East African countries and India, while at the top end there's local and New Zealand lamb to contend with," Nick said.

MLA has also identified opportunities to grow Australian beef sales and is developing programs to elevate its status to a 'must have' and 'celebration' style purchase decision.

Dubai's hosting of World Expo in 2020 and the consequent wave of new hotel



development and tourist facilities is a potential driver for growth in foodservice, particularly for Australian beef, and MLA is working to educate this sector on Australian products.

**Product differentiation**

MLA is applying marketing strategies in the UAE which address local needs and highlight what makes Australian beef and lamb stand out against the competition.

Opportunities include:

- **Promoting freshness:** Most consumers still prefer freshly slaughtered meat, which stems from a tradition of wet markets and supporting butchers. However, western expats prefer chilled or frozen meat. MLA is communicating the freshness that comes from chilled vacuum-packed product.
- **Halal:** Educating and promoting to consumers Australia’s Halal systems is crucial to reinforce trust to deliver product that is Halal.
- **Traceability:** In high value markets, promoting the Australian food safety and traceability systems are key attributes to attracting customers.
- **New retailing:** Convenient and cool shopping options are being sought, particularly when it is 50 degrees outside. Hypermarkets are growing rapidly and MLA is working with retailers in the region to support market growth and penetration.
- **Market requirements:** There is a general preference for meat to be a little pinker and leaner than in western and Asian markets. It is also important that this information is fed back to Australian suppliers so they can better deliver what consumers want in individual markets.


“The key to success in the UAE is to understand the unique local environment, the stratified society, the retail landscape and the regional idiosyncrasies and to plan accordingly,” Nick said.

**Delving deeper**

MLA Donor Company funding via the Insights2Innovation program is being used to conduct a MENA Attractive Cities study to identify and understand which cities in the region are most attractive for premium high value Australian red meat exports. The study will profile 31 cities in 17 countries, including three in the UAE, to identify the five most attractive cities in the MENA region.

The final phase of the process will see field research in each of the five cities to:

- map the value and supply chain for red meat
- secure the views and opinions of key industry players
- assess logistics infrastructure for strengths and weaknesses
- make an assessment of particular requirements of each city, i.e. Halal and live shipments.



**UAE’s population:**  
• 9.27 million

**Population make-up:**

- Emiratis: the highest income-earning group, two-thirds of whom live in Abu Dhabi
- Expat Arabs: generally younger and more concentrated in Dubai
- Western expats: more middle aged and quite high income earners

**Consumption barriers:**  
44% of expat Arabs have never bought lamb because they had never tried it or didn’t like the taste. This is driven partly by the fact that a significant proportion of these consumers are from countries with a traditional preference for beef over sheepmeat.

**Australian exports to the UAE (2017)**

- beef – 8,611 tonnes swt
- lamb – 20,052 tonnes swt
- mutton – 8,754 tonnes swt
- offal – 2,295 tonnes swt

**Trade agreements with Australia**  
Negotiations on a free trade agreement with the Gulf Cooperation Council (GCC) – comprising the UAE, Bahrain, Kuwait, Oman, Qatar and Saudi Arabia – remain on hold while the GCC reviews its trade agreement policies.

**Import tariffs**

- beef – 0% for chilled, 5% for frozen
- bovine offal – 5%
- lamb and mutton – 0% for chilled , 5% for frozen
- goatmeat – 2.5%
- sheep/goat offal – 2.5% for chilled, 5% for frozen

**The most important attributes for premium meat, shared by all three consumer segments:**

1. High nutritional value
2. A family favourite
3. Freshness

**Beef sales**  
Quick service restaurants are the largest users of beef by value, followed by full service restaurants.

**The most important claims shoppers look for on beef packaging:**

1. 100% all natural
2. Halal certified
3. Quality graded (rated fourth for lamb packaging)
4. Animal welfare credentials (rated third for lamb packaging)
5. Safe to eat

(Source: MLA Global Consumer Tracker, 2016)

# Around the world and back again

**Dr David Beatty knows the Australian red meat industry inside and out – literally. He can perform a caesarean on a cow, oversee the implementation of an animal welfare program or promote Aussie meat to an importer in the Middle East. He doesn't mind a bit of market access negotiation either.**

All this experience will help David in his role with MLA as the Program Manager for Value Chain Research, Development and Adoption, based in Perth, WA. This is a new position which he started in January.

It's back to his home state and where he began his career in the red meat industry in 1997, when, on graduation from veterinary science at Murdoch University, he started in a mixed animal practice in Geraldton.

"I was one of those kids who always looked forward to school holidays, as it meant working on my grandparents' and cousins' farms," David said.



Here David talks to *Feedback* about his new role with MLA:

**Q:**  
**Explain your role with MLA and how you came to a career in the red meat industry?**

It's early days in the new position but I'm excited by the challenge. The opportunities for agriculture growth in WA are huge, and I'm looking forward to working with stakeholders across the supply chain to try and create opportunities, improve efficiencies and drive MLA's research, development and adoption investments in WA.

It's great to be back. I left Geraldton to work as a locum in the UK. After five years of practice I returned to university to undertake a PhD, funded by MLA and the Beef Cooperative Research

Centre, investigating the thermoregulatory response of cattle to heat stress. Then followed a stint lecturing at Murdoch University.

That PhD showed me just what MLA was trying to achieve for industry and I was hooked. From there I took the leap to work with MLA as the Manager of Live Export Research and Development.

It rolled into an MLA position as the Livestock Services Manager for the Middle East and eventually the International Business Manager for the Middle East and North Africa, based in the Middle East.

**Q:**  
**What are the best parts of your job?**

I just loved the opportunity in the Middle East and North Africa region to promote and market such a great product.

The integrity of the Australian production and processing systems and the quality of our livestock made the job. It really allowed us to push the 'True Aussie' brand and build on the trust and reputation that Australia has in that part of the world.

I also loved the trade and market access negotiations, and the ability to push the integrity of our systems to foreign governments and local authorities.

**Q:**  
**How do you like to eat your red meat?**

I'm a traditionalist and love nothing more than a thick-cut rib eye steak cooked medium-rare. Served with salad and chips and a glass of red, it is a near perfect meal.

Having said that, some of the slow-cooked Middle Eastern dishes that use a whole lamb cooked with rice and spices rate right up there. ■

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 Dr David Beatty  
MLA Program Manager  
– Value Chain Research,  
Development  
and Adoption  
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# Serving up the last of summer

As autumn draws near, enjoy the end of summer with a Mediterranean-inspired dish using Australian beef and perfect for sharing with friends. Find more inspiration at [beefandlamb.com.au](http://beefandlamb.com.au).

## Char-grilled rump steak with mixed olive sauce

SERVES: 4

4 200g rump steaks, trimmed  
 4 large vine-ripened tomatoes  
 80g cooked brown rice  
 3 garlic cloves, crushed  
 ½ large zucchini, finely diced  
 25g feta cheese, crumbled  
 1 tbsp parsley leaves, finely chopped plus extra leaves, to serve  
 1 tbsp currants  
 3 tbsp olive oil  
 1 cup pitted mixed olives  
 1 tbsp baby capers, rinsed  
 Zest and juice of one lemon plus wedges, to serve  
 Steamed silverbeet, to serve

1. Preheat oven to 180°C and line a large baking tray with non-stick baking paper.
2. Cut top from each tomato and set aside. Remove flesh from tomatoes using a teaspoon, leaving a 1cm-thick border around the edges, discarding the flesh. Place tomatoes cut side down on a plate lined with paper towel.
3. Combine rice, one clove of garlic, zucchini, feta, currants and parsley in a medium bowl. Season. Divide rice mixture among tomato shells. Place on prepared tray. Spray lightly with olive oil spray. Bake in oven for 10 minutes. Add reserved tomato tops to tray. Bake for five minutes or until tomatoes are tender but still hold their shape.
4. Meanwhile, brush steaks with one tablespoon of oil and season. Heat a char grill or barbecue over medium-high heat. Cook steaks for three to four minutes each side or until cooked to your liking. Set aside on a plate loosely covered with foil to rest for five minutes.
5. In a non-stick frying pan heat remaining oil over medium heat and gently fry olives for one to two minutes. Add remaining garlic and capers and fry for one to two minutes. Remove from heat and stir through lemon zest and juice. Season.
6. Serve steaks with olive sauce, tomatoes, silverbeet and lemon wedges.





# Join the action



## MLA's fork to farm seminar

Monday 7 May at 2pm-5pm  
James Lawrence Pavilion



## MLA's Global Markets Forum

Wednesday 9 May  
James Lawrence Pavilion



## Fostering beef's prosperity: fork to farm journey

MLA trade site, P1 adjacent to  
the Walter Pearce Pavilion



## Celebrity chefs Curtis Stone, MLA's Sam Burke and Tarek Ibrahim

The Celebrity Chef Restaurant



## Carcase value adding demos

Monday – Friday  
The Butcher's Kitchen



## The 360° Paddock to Plate immersion tour

Enquire at MLA's trade site



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