

Feedback

A man in a green jacket and cap is leaning over a white sheep in a pen. The sheep has a blue tag on its ear. The background shows a farm setting with trees and a building.

Bred Well Fed Well

19// **Matthew Philipson** explains how one workshop helped his business

06// **Feed the world**

How Australia can meet growing demand

12// **Taking care**

Best practice sheep welfare

16// **Queensland producer gets the breeding edge**

24// **An app a day**

Tools to help you follow the market

A note from the MD...



The industry has welcomed Prime Minister Tony Abbott's announcement of the conclusion to the China-Australia Free Trade Agreement negotiations, following a successful meeting with Chinese President Xi Jinping.

The process to secure a bilateral trade agreement has been underway since mid-2004. Ten years and countless negotiating rounds later, an agreement has finally been reached. Our sector will stand to gain around \$11 billion with all tariffs imposed by China on our products to be removed over the next four to ten years (depending on the product). See page 3 for more details.

The importance of this historic agreement should not be underestimated and I extend my congratulations to everyone involved in ensuring this hugely successful outcome.

Elsewhere, MLA's annual general meeting (AGM) and producer forum, my first as Managing Director, was held on 13 November. Read more on page 4 about changes to the company's constitution related to the Director Selection Committee. This follows feedback from producers about the need to ensure greater transparency and representation across the Board in the process of selecting MLA Directors.

Thank you to everyone who attended the AGM and had their say - your views and opinions are greatly appreciated and respected.

On this note, over the past few months I have been on the road meeting with hundreds of levy payers, including a series of constructive meetings in Queensland. We will be holding further consultation meetings across the country in 2015 with dates to be confirmed nearer the time.

What struck me from these meetings is that the industry is genuinely working to achieve the best outcomes - whilst facing some of the toughest times our industry has known. Now is the time to work together, harnessing the skills, experience and resources we all have to drive forward productive and profitable farm businesses.

That is our challenge.

Richard Norton
MLA Managing Director

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Praise for China-Australia FTA announcement

The Australian red meat and livestock sectors will benefit by \$11 billion to 2030 from the elimination of tariffs negotiated under the China-Australia Free Trade Agreement (ChAFTA) announced by Australian Prime Minister Tony Abbott following his meeting with Chinese President Xi Jinping on 17 November.



Chairman of the Australian Red Meat ChAFTA Taskforce David Larkin said, "The ChAFTA benefits (see table 1) will add significant value to the Australian red meat and livestock industry and complement the gains derived from the other FTAs Australia has concluded to date."

"The current tariffs imposed on Australian beef, sheepmeat and co-products exported to China represent an annual tax on the supply chain of around \$826 million. The gradual removal of this cost burden will positively impact the profitability of Australian cattle and sheep producers, processors and exporters, not to mention alleviation of the inflated prices paid for Australian red meat and associated products by Chinese customers and consumers," David said.

China has retained the right to apply a discretionary safeguard on beef (not including offal) if imports exceed a set annual 'safeguard' trigger volume. The trigger starts at 170,000 tonnes - 10% above Australia's historic peak export levels to China - and grows. There is a set review process to consider removal of the safeguard.

The Australian red meat industry has been at a distinct competitive disadvantage in China given the very low tariffs that major competitor, New Zealand, has benefited from following the 2008 New Zealand-China FTA.

"As competition in China is also likely to escalate over the next few years as other suppliers potentially obtain improved access, Australia's competitiveness is under threat - a demonstrable reason why Australia urgently needed a trade liberalising agreement," David said.

"Such an advantageous outcome will help to favourably position the Australian red meat

and livestock sector for years to come. In so doing, the existing commercial relationships with China will ascend to the next level," concluded David.

The Australian Red Meat ChAFTA Taskforce is an industry formed taskforce comprising of all the peak industry councils and MLA to work with the Australian Government to ensure priority issues are addressed during negotiations.

David Larkin
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Table 1 Tariff reductions on Australian red meat products and the potential value of benefits

Product	Tariff reduction	Period of elimination	Annual benefits by 2024	Potential benefits by 2030
Australian beef	12-25%	Nine years	\$270 million	\$3.3 billion
Sheepmeat and goatmeat	15-23%	Eight years	\$150 million	\$1.8 billion
Offal	12-25%	Four-10 years	\$436 million	\$6 billion

The 10% tariffs on live cattle and live sheep will be eliminated over four years.

Producer driven change at AGM

A move to further increase MLA producer input has resulted in changes to the company's constitution related to the Director Selection Committee.

The changes include:

- Fewer MLA Directors on the Director Selection Committee, and removal of their voting rights.
- An increase in the number of cattle producer representatives on the Committee.

The changes, made during MLA's recent annual general meeting (AGM) in Sydney, follow feedback from MLA members about the need to ensure greater transparency and representation across the board in the process of selecting MLA Directors.

"We have listened to members and welcome the passing of two special resolutions relating to the Director Selection Committee," said MLA Chair, Dr Michele Allan.

"The Selection Committee reports to MLA members on the suitability of candidates for election or re-election to the office of Director of MLA. It will be better serviced through ensuring a greater input from producers."

At the AGM, a representative each for cattle producers, lot feeder producers and sheep producers was elected to the Selection Committee.

Ian McCamley, Queensland, was elected as the cattle producer representative to the Selection Committee. This will be his second term as a member of the Committee. First term members elected were **Therese Herbert**, from NSW, as the lot feeder representative and **Jane Kellock**, from South Australia, as the sheep producer representative.

Members also voted on election of Directors to the MLA Board.

Alan Beckett (pictured above right), a cattle producer from Victoria and **Chris Mirams** (pictured below right), an agricultural consultant and southern Australian sheepmeat production systems expert were newly elected to the MLA Board. **Geoff Maynard**, a Queensland cattle producer was re-elected for another term.

"The MLA Board has shown that it is open to reviewing itself, and open to change," concluded Dr Allan.

"The Board is committed to listening to levy payers in order to make sound strategic decisions that build a prosperous and sustainable future for Australia's beef, sheep and goat producers."



Read about the MLA producer forum, held prior to the AGM, on page 38.



To view webcasts from the AGM and producer forum visit www.mla.com.au/agm-2014



On demand

MLA's Feed Demand Calculator has been updated with a new look, extra features and greater reliability.

The tool allows producers to understand the pattern of feed supply and demand over a 12 month period, when 'feed gaps' are likely to occur and which modifications the livestock enterprise might make to help close the gaps.

Matching feed supply with demand was one of the options identified in the recent Southern Beef Situation Analysis for

producers to achieve productivity and profitability gains at a low cost.

The results section of the calculator produces both feed supply and demand graphs and also the monthly differences (both surpluses and deficits). Users can also explore the effects of any changes being considered to the supply or demand inputs.

The calculator can be accessed on computers, tablets and smartphones and users can also save their data for later use.



Use the calculator at www.mla.com.au/feeddemand

Read about the results of the Southern Beef Situation Analysis in the July 2014 edition of *Feedback*.

Bring on Beef Australia



The countdown is on to Australia's national beef industry exposition, Beef Australia 2015, which is now less than six months away.

Held once every three years in Rockhampton, Queensland, the next Beef Australia will run from 4–9 May 2015 and is expected to attract more than 80,000 visitors.

Beef Australia 2015 Chairman Blair Angus said the expo would bring together industry leaders and innovators from around the world with a comprehensive program of shows, sales, seminars and new trade opportunities.

"The event will act as a platform for the development of all levels of industry, by helping grow new export markets, educating producers on the latest production techniques and engaging with consumers about the great taste and nutritional benefits of beef," Blair said.

"As well as 5,000 cattle competing in the stud, commercial and carcass competitions, there will be more than 500 trade sites around the grounds and daily live entertainment.

"Beef Australia 2015 will include restaurants and cooking demonstrations featuring international celebrity chefs, who will take the story of Australian beef to new audiences around the world."



MLA is a principal partner of Beef Australia 2015, assisting with planning and Beef Australia's international and next generation engagement programs.

MLA staff will also feature in several events, including the conference and butcher demonstrations. MLA will host its own Producer Forum on Wednesday 6 May, where producers and industry can engage with MLA and discuss where producer levies are being

invested in research and marketing. There will also be a series of one hour MLA Innovation Workshops, which will provide producers with tools and information to apply at home.



www.beefaustralia.com.au

Sustainable production



How to feed nine billion people

Dr Peter Barnard

General Manager - Trade, Market
Access and Industry Strategy
Meat & Livestock Australia



Becoming self-sufficient in food production - what better way is there for countries to sustainably feed their growing populations? But, scratch the surface of this potential solution, and it doesn't really stack up.

Global meat consumption is forecast to almost double by 2050, when there will be a projected 9.1 billion people to feed (figure 1).

Populations are rising and so are incomes in developing countries. Industrialisation in India, China and in developing South-East Asian nations is mirroring the earlier paths of Japan, South Korea and Taiwan.

However, the biggest difference is that the already developed countries represent 4% of the world's population, while the currently industrialising countries represent almost 50%.

This has significant implications for the way the world's resources are used to sustainably meet the growing demand for food.

On a global level, there are signs that the supply of agricultural products is constrained.

Both developed and developing countries are running out of land to devote to agricultural production. Water for agricultural production is becoming increasingly limited (figure 2) and agricultural productivity growth rates are falling across most geographical regions and countries. The growth rate of average crop yields has been slowing since 1990.

Declining productivity growth rates, combined with increased demand, have driven global food prices higher since the turn of the century (figure 3).

Sustainably feeding nine billion people will require action at global, national, regional and local levels. It will involve shifting perceptions, separating fact from fallacy and encouraging countries with the right resources and environments to focus on what they're good at - sustainably producing food.

What's not the answer?

Government and consumer preferences towards self-sufficiency, buying local produce and using food for non-food purposes all place constraints on the ability to feed nine billion people.

Self-sufficiency policies

A common government policy response to the looming food shortage and higher prices is the pursuit of self-sufficiency; however, self-sufficiency can result in reduced food security and higher prices.

An example of this was the Indonesian Government's pursuit of a self-sufficiency policy by introducing beef quotas. While the country's beef self-sufficiency rose from 50% to 85%, beef prices skyrocketed - doubling and almost tripling for some cuts - reducing food security for a significant part of the population. Producers also began to cash in by selling cattle, ultimately leading to a fall in the national herd. Economic modelling indicates that the cattle herd in Indonesia would have almost vanished if the self-sufficiency policy had been maintained.

Buying local

In attempting to support local production, the consumer-led 'buy local' movement aligns with the self-sufficiency objectives of many governments.

The costs of agricultural production depend on natural resources such as temperature, rainfall, sunlight and soil quality. Different agricultural products demand different conditions. It makes economic and environmental sense to focus production in the most suitable areas.

That is why California, with mild winters, warm summers and fertile soils, produces all US-grown almonds and 80% of US strawberries and grapes. It is also why Australia produces surplus beef and lamb and exports it to the world. Forsaking comparative advantage in agriculture by localising means it will take more inputs to grow a given quantity of food, which is detrimental for global sustainability.

Similar to this is the 'food miles' fallacy, where the cost or emissions of buying local can actually be higher than buying from a supplier with a comparative advantage. For example, research has shown that carbon dioxide footprints are lowered by producing dairy and



meat products in New Zealand and then shipping them to the United Kingdom, rather than those products being produced and consumed in the UK.

Food for fuel

The use of food for non-food purposes through artificial policy incentives such as mandated ethanol production in the US has resulted in higher corn prices. Corn prices were around 30% higher between 2006 and 2011 than they would have been without the mandated increase in corn-based ethanol production.

And the solution...

At a policy level, governments can assist in the pursuit of sustainably producing food, but individuals also have a role to play.

Improving diets

A starting point would be to change western diets to diets more in keeping with high nutritional levels, low obesity rates and low environmental impact. The Australian diet, like most western diets, is high in non-core 'junk' food groups. These foods are nutrient poor, contribute to obesity and are resource and emissions intensive. Reducing consumption of these types of foods could lead to major savings in greenhouse gas emissions and resources.

Increased R&D investment

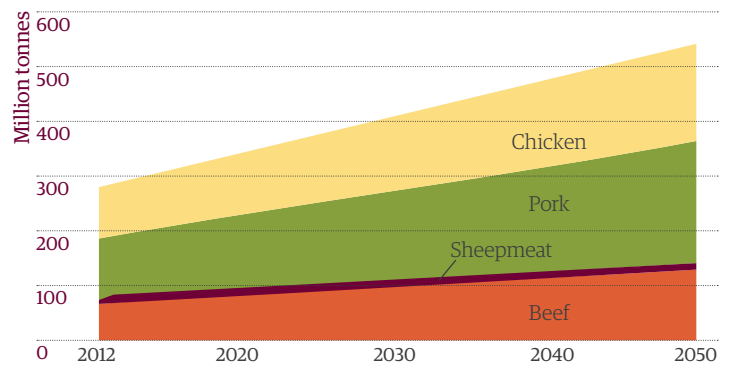
The rate of increase in global agricultural research has been slowing in developed countries. Without a renewed focus on research, increasing on-farm efficiency and productivity to meet the agricultural challenge of sustainably providing more food for the global population will be difficult.

Reducing trade barriers

A recent MLA-funded study estimated technical barriers cost the Australian industry more than \$1 billion a year.

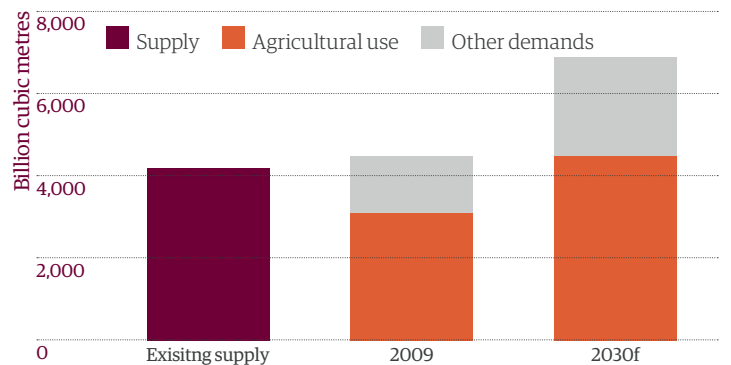
High tariffs and technical barriers to trade remain in place for many meat products - tariff rates in excess of 30% for meat products are not uncommon. Freeing up trade allows countries with the natural resources to produce agricultural products for the world's growing population to do so sustainably.

Figure 1 World meat consumption (forecast)



Source: Centre for International Economics (2014)

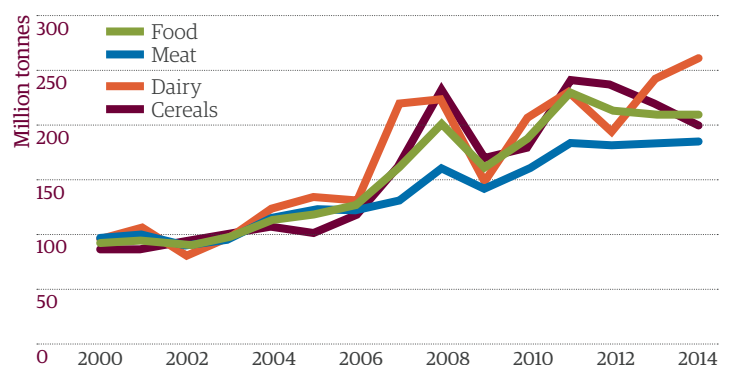
Figure 2 Water use and supply



Source: 2030 Water Resources Group

f = forecast

Figure 3 Global food prices



Source: Food and Agriculture Organisation of the United Nations

Target 100

Blog on

Blogs can link the people who produce beef and lamb with the ones who do - or don't - eat it.



Phoebe Brown and Lara Shannon sample feedlot ration offered by Brad Robinson, General Manager Feedlot Operations, Kerwee Feedlot.

Food and lifestyle blogs are growing in popularity. They can provide a forum for opinions about topics ranging from politics and restaurant reviews to information on food production and sustainability.

MLA Social Media Editor Georgie Fraser said it was important for the cattle and sheep industry to connect with bloggers, so their online audiences could make informed decisions about what food they eat.

"MLA's research shows many consumers are becoming more interested and, in some cases, concerned about beef and lamb production," Georgie said.

"As a channel to reach consumers, MLA is building relationships with bloggers so they have the opportunity to see first-hand how beef and lamb are produced in Australia, and will hopefully relay this to their readers. By doing this, we are helping show the truth of cattle and sheep production, which can sometimes be obscured by the messages detractor groups push."

In July, MLA invited two urban-based bloggers on a 'Paddock to Plate' tour, as part of Target 100, MLA's community-facing educational program.

Lara Shannon from the sustainability-focused 'Eco Chick' blog and Phoebe Brown, a contributor to the food and travel blog 'I Ate My Way Through', visited the Hart family's Kerwee Feedlot at Jondaryn and the Plant family's beef property, 'Samarai', at Oakey, both in Queensland.

"Lara and Phoebe had a 'clean slate' when it came to the beef and lamb industry, so this tour was an opportunity to help build their knowledge on what goes into producing the beef they see on restaurant menus," Georgie said.

"We opened the farm gate and introduced them to producers who are passionate about beef, and willing to answer questions to dispel any misconceptions they or their readers may have."



Georgie Fraser, MLA

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Producers can use blogs to tell their story: www.mla.com.au/industryblogs

Target 100 showcases sustainable producers: www.target100.com.au

MLA-sponsored 'Influential Women' workshops show how social media can empower rural communities: www.influentialwomen.com.au

Paddock to plate

Bloggers Lara Shannon and Phoebe Brown headed west in July for a first-hand look at beef production, from paddock to plate. They learned about cell-grazing, low-emission beef production, animal traceability, and even sampled the feedlot ration.

Blogger: Lara Shannon

www.ecochick.com/blog/beef-producers-open-up-on-animal-welfare-and-environment.html

Melbourne blogger Lara Shannon drew on her environmental campaigning background to launch www.ecochick.com in 2012, to encourage simple, sustainable lifestyles.

Her blog receives 6,000 unique visitors every month - mainly women aged 22-50 - and up to 15,000 interactions on social media. She also sends a weekly e-newsletter to 2,500 subscribers and connects with another 3,500 Facebook, Twitter and Instagram followers.

When Lara blogged about a Target 100 talk at the 2013 Taste of Melbourne festival, the post received over 24,000 hits. Inspired to find out more about the animal welfare and the environmental impacts of red meat production, Lara jumped at the chance to learn about grassfed and grainfed cattle.

"I knew that most producers do care about their animals and the environment, but I didn't know what to expect from the feedlot," Lara said.

"I imagined cattle would be crammed into small pens, so it was good to see they had room to roam around and were calm and relaxed."

Lara said when she wrote the article, she was conscious of the influence bloggers could have.

"Bloggers do have power, as our audiences look to us for a balanced viewpoint. I was upfront that I didn't have a hidden agenda, but was just providing my experience of visiting the feedlot and farm to see how beef is produced," she said.

When *Feedback* went to press, Lara's blog about the tour had received 4,336 hits. She said it was significant that there had been no negative feedback from her readers.

"If people don't agree or have concerns, they are quick to comment," she said.

Sharing stories // Here are some excerpts from Lara's and Phoebe's blogs following their Target 100 tour:

Lara Shannon:

"What stood out, from what I saw and heard, is that the Australian cattle industry is leading the way when it comes to producer best practice, innovative sustainability practices and keeping the cattle as stress-free as possible throughout the entire process."

"I had no idea how many systems were in place to identify and track every individual cow for their entire life and how much information was held about them including their travel, food, weight and medical history."

"The Plant family avoids the use of hormones and chemicals at Samarai and they work hard to monitor any activity of neighbouring farms to ensure it doesn't impact on their cattle."

"As with anything in life, the key to sustainability is balance and ensuring your product choices are supporting those companies that are doing the right thing."

Blogger: Phoebe Brown

www.iatemywaythrough.com/2014/08/target100-paddock-to-plate

The Paddock to Plate tour couldn't have been a better fit for Sydney blogger Phoebe Brown, a self-confessed carnivore who loves writing about food and sustainability for the popular 'I ate my way through' blog.

The blog has more than 60,000, mainly Gen X and Gen Y, readers every month from Australia and Asia.

"I am passionate about food and I'm careful about what I put into my body," Phoebe said.

"There are lots of misconceptions surrounding the production of meat, particularly opinions stemming on meat quality and animal welfare being determined by whether or not the cattle are grass or grainfed.

"The tour provided a great opportunity to experience how our producers work to produce meat more sustainably."

She said livestock producers should view blogs as an opportunity to ensure the community is more educated about their food decisions.



Phoebe Brown:

"Many people have a biased view towards cattle in feedlots, I myself was curious about the taste of the grain, so naturally I tried it and it reminded me of the oats I eat for breakfast, which is good enough for me."

"We need to think beyond the cut of meat; what we should be looking at is the company that produced this meat and how it is sold, although it is not quite that simple. The National Livestock Identification System ensures all beef produced for consumption in Australia can be traced from property of birth to slaughter, but once the animal is packaged for sale on the supermarket, the flow of information stops and in most cases, is not passed onto the consumer. However, we can still be smarter about our decisions at the purchase point. Do your research and become familiar with the meat's origins. Understand labelling on your packages and learn the terminology, then decide what is actually important."

Reducing emissions

Understanding the engine room

CSIRO researchers are working to better understand the complex communities of microbes that live in the rumen of cattle, so the microbes can be manipulated to reduce greenhouse gas emissions and increase liveweight gains. One outcome from the MLA-funded research could be to target the worst offenders among methane-producing microbes with inhibitors.

What is a methanogen?

A methanogen is a microorganism that produces methane as a metabolic by-product in anoxic (low oxygen) conditions. They are classified as archaea, a domain distinct from bacteria. They are common in the digestive tracts of ruminants and humans, where they are responsible for the methane content of belching in ruminants and flatulence in humans.

Methane emissions from ruminants are estimated to account for about 10% of Australia's total greenhouse gas emissions.

The methane also represents a loss of energy to ruminants - energy that could otherwise be turned into kilograms of beef and sheepmeat, helping animals reach market weights more quickly.

CSIRO is undertaking a suite of research projects aimed at reducing livestock methane emissions and increasing productivity under the banner of the MLA-managed National Livestock Methane Program (NLMP).

The projects are taking place at the cellular, animal and landscape levels and involve several national and international collaborators.

Here are some of the early findings:

High converters

CSIRO Gut Microbiology and Metagenomics team leader Dr Chris McSweeney said the work had already produced a scientific breakthrough, with researchers discovering some microorganisms in the rumen convert hydrogen into methane four times more efficiently than others, leading to increased levels of methane.

"Using DNA sequencing, plus other molecular and computational biology techniques, we found there were groups of microorganisms within the rumen ecosystem that were more efficient at making methane," Chris said.

"These methanogens, or methane-producing microorganisms, could produce greater proportions of methane in certain animals and certain diets.

"We isolated these specific methanogens and we're now developing and testing bioactive agents to target and inhibit them.

"These bioactive compounds could eventually take the form of a vaccine to knock out or reduce these high-methane-producing microorganisms."

Greener foods

The researchers are also using their advances in understanding methanogens at the molecular level to complement more 'applied' research projects in the field.

"A lot of our methane-related work centres around what's already known and currently available, such as using nitrate supplements and leucaena forages to reduce methane emissions and increase production," Chris said.

"For example, our leucaena project has shown Brahman cattle feeding on leucaena emit up to 30% less methane than those grazing tropical grasses, while also achieving higher liveweight gains. This work was done under controlled conditions, so we're now seeing if the results can be replicated in commercial-scale production systems.

"As part of this project, we're using our recent discoveries about rumen microbes to try and establish why grazing leucaena has the effect it does.

"So, we're not only studying what dietary changes work best, but why. The answer will allow us to manipulate the production system in other - more direct - ways, to achieve the same effect."

Gains from reductions

Chris said the research should have a dual benefit for producers through reducing methane emissions and increasing on-farm productivity.

"The research we're conducting is being used to inform the development of methane-reducing methodologies that can be used by producers to secure benefits through the Carbon Farming Initiative (CFI)," he said.

At this stage, the only beef cattle methodology approved under the CFI is 'Reducing Greenhouse Gas Emissions by Feeding Nitrates to Beef Cattle', but work is also underway on a 'Reducing Greenhouse Gas Emissions Through Early Finishing' methodology, using information gathered in the leucaena project. This methodology will apply to other feeding systems as well, so long as they can show reduced time to market.

Productive ruminating

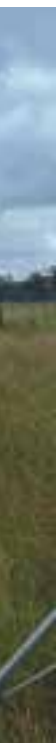
"Producers will also benefit from the knowledge we've gained about rumen microbiology," Chris said.

"While our work has been focused on reducing methane, it has also taught us a lot about what's going on in the rumen. This provides a sound basis for us to manipulate the rumen purely for productivity benefits.

"The focus of our future research will be how to save the energy that would normally be lost as methane and turn it into more of a production benefit for the animal."



Dr Chris McSweeney
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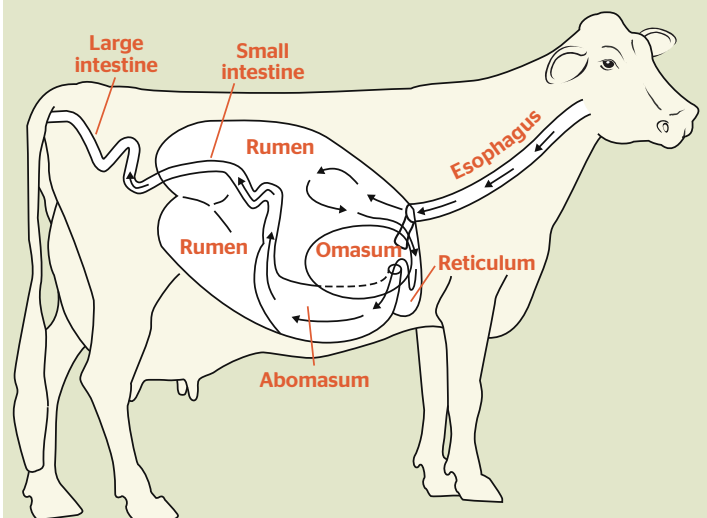




Above: CSIRO's Dr Chris McSweeney with Brahman cattle grazing leucaena at the Brian Pastures Research Station in Queensland. Below: Equipment used to measure methane emissions. Images courtesy of CSIRO.



How does the rumen work?



The rumen is known as the 'engine room' of the red meat industry and, according to CSIRO's Dr Chris McSweeney, it's a well-deserved title.

"Ruminant animals such as cattle and sheep have the unique ability to convert the cellulose in plant material into energy and protein for their growth, something that monogastrics like humans, pigs and chickens can't do," Chris said.

"When ruminants eat grass and leaves, the first place it goes is the rumen, which is full of microorganisms that have the enzymes to digest it.

"As the rumen microorganisms digest the plant material, they harvest energy for the animal to use immediately, and also synthesise protein that they use for their own growth and reproduction.

"Some of those microorganisms are then flushed out of the rumen as microbial protein and into what is the equivalent of our stomach, where the animal digests them."

It's during the process of fermentation and digestion in the rumen that the microbes also produce methane, which is released from the gut by belching.

Research at work

The latest on-farm strategies emerging from MLA's investment in research, development and extension.

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The Stewart-Moores were guard dog pioneers and share their tips on managing Maremmas.

23// Ground force

Learn how a WA farming family turned unproductive land into productive pasture.

26// Cost control

Tim and Phyllis Carlill share the benefits of knowing the costs of production of their cattle enterprise.

28// Investing in pasture breeding

Read how research funds are being directed to pre-breeding projects to deliver new varieties faster.

Taking care

MLA invests about \$4 million in animal welfare programs each year to lift welfare standards for the benefit of both animals and producers.



Animal health and welfare

MLA's Animal Welfare Strategy guides the investment of producer levies and industry and government funds and is focused on four areas:

- Developing replacements and refinements for aversive procedures.
- Reducing mortality rates on-farm.
- Increasing uptake and demonstration of welfare best practices.
- Developing ways to minimise the pain of aversive procedures.

According to MLA Sustainability R&D Program Manager Jim Rothwell, animal welfare and producer profitability tend to go hand-in-hand, but producers should focus on more than just dollars.

"Lamb mortality, for example, has a direct correlation with profitability," Jim said.

"Taking good care of your ewes and lambs by ensuring pregnant ewes are in good condition and lambs are born at the right time of year is good for your bottom line, but also ensures you fulfil your responsibility to do the best job you can for the animals.

"This responsibility is something most producers naturally embrace. Those who don't - and who don't practice good welfare - are potentially causing reputational damage to the whole industry."

Jim said community expectations of best practice animal welfare cannot be ignored.

"The community has a legitimate interest in animal welfare, as we learned during the Indonesian live export scandal," he said.

"If we recognise the community concern is legitimate and act accordingly, it's the best possible insurance policy for securing our ongoing possession of animals and ability to raise them for profit."

As well as this market 'push' factor, community animal welfare expectations also exert a market 'pull', with an increasing number of consumers demanding products branded as clean, green and welfare friendly.



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Read the May 2012 edition of *Feedback* for more on the community expectations of livestock industry practices at www.mla.com.au/feedback

Listen to the boss

The combined effects of worms, flystrike and lice infestations are estimated to cost Australia's sheep industry almost \$770 million a year in treatment costs and lost production.

According to MLA's Animal Health Project Manager Dr Johann Schröder, MLA's significant investment in research and development projects targeting these parasites is a direct reflection of their importance to producers.

"The findings from many MLA-supported projects have formed the basis of best practice parasite management strategies," Johann said.

"Through our investment in ParaBoss (which unites the WormBoss, FlyBoss and LiceBoss programs), MLA is also helping to spread the word on how to apply these best practice management strategies to individual enterprises."

ParaBoss Executive Officer Dr Lewis Kahn has summarised the key messages from each program below:



1. Plan an annual program based on drenches at critical times of the year, or worm egg counts at those times to check the need for treatment.
2. Test the flock for worms at specific times to decide whether drenching is required.
3. Use grazing management to reduce the level of worm contamination on pastures at critical times and for the most susceptible sheep.
4. Breed for worm resistance to enable the sheep's immune system to naturally decrease worm burdens.
5. Use drenches correctly and choose only effective drenches (or drench combinations) based on a drench resistance test or drench check. Use the Drench Decision Guide available at www.wormboss.com.au/tests-tools/management-tools/drench-decision-guide.php

These strategies differ in their timing or emphases depending on climate, so programs have been tailored to eight different regions.



Collecting sheep dung samples for worm egg count testing.



1. Use the FlyBoss website and strategic planning tools to plan the optimal time of shearing, crutching and (if required) chemical treatment to reduce the risk of flystrike.
2. Reduce wrinkle, dag and fleece rot in the flock: the key risk factors for breech and body strike.
3. Select rams and ewes with reduced flystrike risk, but with good productivity for the income-earning traits.
4. Dock tails to the tip of the vulva and follow WormBoss worm control strategies, which will reduce dag.
5. Use chemical applications according to the label and pay attention to the risk of developing chemical resistance in blowfly populations.



Merino rams showing variation in breech wrinkle.

Animal health and welfare



Lice remain one of the top health issues for sheep producers, despite treatments having been available for many years that can successfully eradicate lice.

Even after lice have gone from a property there is the ever-present threat of a new incursion. As such, effective lice control consists of three elements:

- preventing new infestations
- structured monitoring of sheep for lice
- strategic use of chemicals to treat infestations.

LiceBoss provides the information and tools to help implement each of the three control elements as required. The tools are interactive and simple to use, allowing producers to input their own information and select options relevant to their situation.



Checking sheep for lice.



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Sign up for the monthly ParaBoss emails for your region at www.paraboss.com.au

Making a statement on OJD

Ovine Johne's Disease (OJD) infection can cause significant economic losses on infected farms due to sheep deaths, lost production and trading restrictions.

Annual death rates of up to 25% have been seen in infected Australian sheep flocks and in a self-replacing flock, lambing percentages can fall to an unsustainable level.

According to MLA's Animal Health Project Manager Dr Johann Schröder, OJD best practice uses tools and strategies are designed to both keep OJD off a property, as well as manage infection once it's present.

"Step one in managing and controlling OJD involves assessing the animal health risk on your property and avoiding buying high-risk sheep," Johann said.

"Central to this is the insistence on asking for a Sheep Health Statement (SHS) when purchasing sheep."

The SHS is the centrepiece of the National OJD Management Plan 2013-2018, and indicates the health status of sheep being sold. Different states have different SHS requirements (see table 1).

While OJD is most likely to be introduced with infected sheep (either at the time of purchase or through agistment) in regions where the disease is well established, 'lateral spread' can also occur along waterways and through fence lines.

"Producers should ensure fence lines are well maintained and straying stock are isolated," Johann said.

"These biosecurity practices can be supported by vaccinating with Gudair and using recommended grazing management strategies to create pastures with low levels of bacterial contamination."

MLA is making significant investments in OJD research and development projects, including a 10-year study monitoring the effectiveness of an OJD vaccine, plus projects investigating environmental factors influencing the disease and the cost to sheepmeat processors.

There is also a five-year, \$6.4 million project funded by the MLA Donor Company and the peak sheepmeat, wool and cattle industry bodies which is seeking a basic understanding of how the Johne's disease bacterium behaves, how it interacts with the host animal, and what science can take advantage of in those interactions to try and develop better testing methods and vaccines.

For a detailed explanation of OJD best practice management strategies and the tools to help you implement them, go to:

www.ojd.com.au/managing-ojd



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Table 1 Sheep Health Statement requirements for moving sheep within and between states

State/ Territory	Moving sheep into the state	Sheep movements within the state
SA	Mandatory	Mandatory
Tasmania	Mandatory	Voluntary
NSW	Mandatory as it is required as an approved vendor declaration for footrot	Voluntary
WA	Voluntary; LB1 form is mandatory	Voluntary
Queensland	Voluntary; Certificate of Health and NVD/Waybill is mandatory	Voluntary
NT	Voluntary; Certificate/Waybill is mandatory	Voluntary
Victoria	Voluntary	Voluntary

Source: www.ojd.com.au

Resources:

The Making More From Sheep website offers a comprehensive set of tools to help you follow the guidelines on page 15. Go to www.makingmorefromsheep.com.au/healthy-contented-sheep/index.htm to access the tools, plus links to other services and guides.

Download *A producers' guide to sheep husbandry practices* at www.mla.com.au/sheephusbandryguide

A sheep welfare checklist

Healthy and contented sheep mean more money in producers' pockets and the assurance that community expectations for best practice animal welfare are being met.

Here are some important tips from the Making More From Sheep program's Module 11 - Healthy and contented sheep.

How to produce healthy and contented sheep

Step 1: Keep your sheep in good condition

- Know the feed requirements of different livestock classes.
- Be able to condition score and fat score all livestock classes and know critical minimum condition scores and fat scores.
- Draft sheep into priority feeding groups based on condition score when available feed is short or sheep are approaching critical limits.
- Make supplementary feeding decisions early.
- Monitor bodyweight of sheep to accurately fine-tune feeding decisions.
- Consider scanning pregnant ewes and feed accordingly.
- Assess pasture availability and quality and predict sheep performance.
- Know the feed quality of supplements when formulating rations.
- Determine the risk of trace element deficiency on your property.

Step 2: Plan an integrated health management program

- The major endemic diseases that require preventative programs include:
- Gastrointestinal parasites (worms)
 - Footrot
 - Clostridial diseases and cheesy gland
 - Liver fluke
 - Lice
 - Fly strike
 - Ovine Johne's disease
- Once the risk of disease is identified, adopt cost-effective preventative programs. For worm control, important actions include:
- Strategic treatment timed to reduce the number of drenches required to minimise disease impact.
 - Management systems to minimise the risk of disease in the highest-risk mobs.
 - Monitor worm egg counts and drench resistance.
 - Select sheep for increased resistance to worms.
 - Use an integrated parasite management approach.
 - Set trigger points for action.

Step 3: Adopt on-farm biosecurity measures

- Assess the current disease status of your flock and be able to recognise important diseases.
- Ask for a signed National Sheep Health Statement when introducing new sheep into a flock.
- Insist on a correctly completed National Vendor Declaration when buying sheep or lambs.
- Complete a risk assessment of your boundary fences and policy for new stock introductions, transport and people.
- Quarantine new sheep on arrival.
- Control and eradicate existing diseases.

Step 4: Manage sporadic outbreaks of disease

- Recognise, investigate and take early action on poor sheep health or deaths.
 - As a benchmark, investigate any mobs when there is more than one death or diseased sheep within any 2-3 day period.
 - Set trigger points for action to avoid delays in investigation and remedial treatment.
- Take action when:
- The tail in a mob increases
 - You observe abnormal behaviour (staggering, standing alone, etc)
 - Symptoms of disease (lameness, scouring, etc) appear
 - Feedback from abattoirs indicates a disease problem
 - Sheep fail to achieve expected production targets

Step 5: Meet all animal welfare requirements

- Meet nutrition targets for all sheep classes as measured by body condition score.
- Follow national/state codes of practice.
- Ensure sheep are free from important diseases.
- Follow *A producer's guide to sheep husbandry practices*, available at www.mla.com.au/sheephusbandryguide to ensure best practice techniques for husbandry procedures.
- Manage ewes to improve lamb survival.
- Ensure careful management of sheep after shearing.
- Implement a disaster management plan when sheep come under increased stress from naturally occurring events.
- Keep sheep handling to the minimum level necessary and design facilities to minimise risk of injury to sheep and take advantage of natural sheep behaviour.

Reproductive efficiency

Snapshot

Rob and Melinee Leather, 'Ellimatta', 'Sixty Mile' and 'Four Mile', 100km west of Bundaberg; 'Camelot', 35km west of Mt Perry; 'Carlyle', 35km south of Moura, Qld.

**Property:**

'Ellimatta', 'Sixty Mile' and 'Four Mile' - 9,312ha; 'Camelot' - 4,858ha; 'Carlyle' - 1,426ha

Enterprise:

Beef production, turning off Brahman Limousin-cross steers at 0-2 teeth, 300kg-330kg dressed weight and spayed heifers

Livestock:

1,200 Brahman breeders

Pasture:

'Ellimatta', 'Sixty Mile' and 'Four Mile' - native pasture, blue grass, Rhodes, stylos; 'Camelot' - native pastures, buffel, spear grasses; 'Carlyle' - buffel, leucaena, green panic, purple pigeon

Soil:

'Ellimatta', 'Sixty Mile' and 'Four Mile' - sandy loam; 'Camelot' - sandy loam; 'Carlyle' - black soil, cracking clay, western scrub country

Rainfall:

'Ellimatta', 'Sixty Mile' and 'Four Mile' - 1,000mm; 'Camelot' and 'Carlyle' - 500mm

Giving an enterprise the edge

When central Queensland producer Melinee Leather signed up for an MLA Breeding EDGE workshop, she was looking for options to improve profit.



For Melinee and husband, Rob, the Breeding EDGE workshop was about exploring options to improve profit.

Top of Melinee's list was to identify the best way to move their herd from year-round to controlled mating and to investigate the benefits of hybrid vigour.

"The workshop was an ideal forum for learning technical aspects, such as how to use Estimated Breeding Values (EBVs) better, but also for considering different options for our enterprise," Melinee said.

"It was great to have some thinking time to work out how we might benefit from some of the ideas discussed and how we could manage transition periods."

The Leather family runs 1,200 Brahman breeders across five properties near Moura, Gin Gin and Mt Perry.

One third of their females are joined to Brahmans, with the remainder to Limousins, to produce a terminal cross aimed at making MSA grade and meeting EU and Pasturefed Cattle Assurance System (PCAS) requirements.

Steers are sold direct to processors between milk and two-teeth at 300kg-330kg dressed weight. Their pure-bred Brahman heifers are retained as replacement breeders, while the Limousin-cross females are spayed for faster finishing and usually sold direct to processors between milk and two-teeth at 280-300kg.

Melinee and her family were keen to move their herd from year-round to controlled mating so that all calves were born by mid-December and weaned in June/July.

This would create more even lines of steers and heifers and significantly cut labour costs.

"About 80% of our herd calves at the same time so there is a mating routine there, we just need to tidy up those females that are late, empty or failing to raise a calf," she said.

Tightening up timing

Melinee requested more information from the workshop deliverers on the best strategies for tightening up their mating period.

"We certainly want to avoid doing it in one hit and being surrounded by empty cows," she said.

"At this stage, we'll tighten it up gradually. Firstly, we'll pregnancy-test our females and anything that falls outside the main calving period will be foetal aged. Then, we'll make a decision about the late calvers and the empties."

The Leather family was also keen to harness the benefits of hybrid vigour and to learn what three-way breed combination will deliver them the greatest profits and ease of management.

"The Limo-cross is great at meeting processor specs but, unfortunately, our country really is more suited to Brahmans," Melinee said.

"We're considering other terminal combinations such as Limo-Senapol or composites. We'll try a few bulls and see how the results go before we make any long-term decisions."

Trait training

During the workshop Melinee learnt more about EBVs and, in particular, which traits were important to their enterprise.

"Some of our seedstock suppliers don't provide EBVs, but it was really helpful to learn more about them and which traits we want to concentrate on such as birth weight, growth traits, scrotal size, days to calving, rib fat, P8 fat and temperament as well as the dam's history," she said.

For the Leathers, the workshop stimulated a flurry of activity with not only new herd management strategies, but new infrastructure including cattle yards being built on ease-of-stock movement principles with built-in electronic ID tag readers.

"Our records for EU, PCAS and LPA (Livestock Production Assurance) have always been sufficient but maintaining comprehensive on-farm herd records for generating better management decisions has always been a battle for us, mainly because we're so short on labour," Melinee said.

"Hopefully our improved infrastructure and race reader will make that process easier."



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The Breeding EDGE program aims to help producers develop a cattle breeding program or improve an existing one. Topics include examining your current situation, reproduction issues, genetics, setting breeding objectives, livestock selection and managing the herd to capture benefits.

To find out about upcoming workshops visit www.futurebeef.com.au

To read about BREEDPLAN visit <http://breedplan.une.edu.au>

To design your own selection index visit www.breedobject.com



Reproductive efficiency

What can you expect at a BFWF workshop?**BRED WELL****Australian Sheep Breeding Values**

(ASBVs), so what? Learn how ASBVs can be used to improve selection of traits to meet your Merino, maternal or terminal flock goals.

Think you can pick a good ram? Put what you have learnt from a theory session on ASBVs to the test by visually assessing a group of rams. The workshop presenters will then identify the best rams based on ASBVs. There is usually quite a difference between the rams selected by the participants, demonstrating that both ASBVs and visual assessment should be used to select rams.

Define your breeding goals: Using a decision support tool can help you identify three or four traits to form breeding objectives to suit your production system, sheep and area. Merino producers need to analyse the ratio of wool income to meat income in their business to determine major profit-driving traits.

FED WELL

Keeping score: Having well-bred ewes in the right condition score at critical reproductive times can pay off. Learn to condition score ewes before and during gestation to boost lamb survival.

Food for thought: Ewe nutrition also boosts ewe and lamb health, so participants learn how to create a simple feed budget to ensure more efficient feed allocation at critical times such as joining and lambing.

Know your flock: The workshop includes other tools such as pregnancy scanning, splitting mobs into single/twin bearing sheep to improve survival rates and decreasing the size of twinning mobs to improve lamb survival.



Why breeding and feeding counts

The MLA-funded Bred Well Fed Well program has given nearly 3,000 sheep producers a better grip on how genetics and nutrition can boost the bottom line.

Bred Well Fed Well (BFWF) is a practical, one-day workshop that shows producers how to tap into the production - and reproduction - benefits of genetics and feed management.

BFWF lays the stepping stones for producers to increase individual flock productivity - and ultimately that of the national flock - through high-performance breeding and management principles.

BFWF program coordinator Dr Serina Hancock said the workshop especially benefitted producers with a strong maternal focus who wanted to fine-tune ewe flock management.

"The program has been developed to increase producers' knowledge of the impacts of ewe nutrition on flock performance, animal welfare and farm profit," she said.

"It also provides a practical understanding of how Australian Sheep Breeding Values (ASBVs) can be used to achieve enterprise objectives."

Producers go home from the workshop equipped with:

- An understanding of how to use ASBVs in conjunction with a visual assessment to select rams.
- Breeding objectives for their enterprise.
- An understanding of how to improve ewe nutrition for reproductive performance and flock profitability.
- The ability to create a simple energy budget to allocate feed resources at critical times.

At its core, BFWF is tackling the low rate of productivity gain in the Australian sheep flock - estimated at 0.7% a year. If this can be lifted by 10% for at least 20% of sheep managed, the net present value to the industry would be about \$256 million over 25 years.

MLA's Research Extension Manager - Sheep Renelle Jeffery said BFWF was an important forum for producers to gain the knowledge and skills to help meet their enterprise objectives.

"Genetic selection and ewe nutrition are two key concepts in producing high performing lambs, so BFWF introduces producers to the fundamental principles of genetics and ewe nutrition, and reduces the perceived complexity of technologies like ASBVs," Renelle said.



To host a BFWF workshop in your area contact **Serina Hancock**, E: S.Hancock@murdoch.edu.au The workshop fee is \$50/person.



Want more? BFWF lays the foundation for the Sheep CRC Ram Select program and the Lifetime Ewe Management course, an intensive two-year program designed to help producers learn key ewe nutrition messages and best management practices. Visit www.sheepcrc.org.au for more information.



Priority treatment



Snapshot

Matthew, John and Margaret Philipson, Yeoval, NSW



Property:
1,000ha

Enterprise:
250-300ha mixed cropping, wool and prime lamb

Livestock:
1,000 Merino ewes, 1,000 cross-bred ewes, 600 Merino/Wiltipoll ewes, some agisted stock

Pasture:
Improved pastures (predominately lucerne)

Soil:
Sandy loam

Rainfall:
650mm

Yeoval sheep producer Matthew Philipson is proof that - whether you take away one tip or many - a Bred Well Fed Well (BFWF) workshop can help build your business.

Matthew and his parents John and Margaret capitalise on the reliable season and their improved pasture at 'Ballot Box', to run 2,600 Merino and cross-bred ewes on 1,000ha.

After attending a BFWF workshop in September last year, Matthew came home inspired to improve flock efficiency.

The Philipsons have separated twinning ewes in the past depending on the season, and Matthew revisited this strategy in 2014 - motivated by the BFWF focus on strategic feeding of priority stock.

"We scanned our cross-bred ewes and separated those with twins into smaller paddocks," he said.

"At lamb marking, we recorded 170% in the twin mobs and 100% with the singles, for a flock total of 130%. The Merinos marked 100%."

They marked 115% (including twins) the year before. Matthew plans on using scanning and separating as an ongoing tool to improve his knowledge of ewe performance and identify sheep needing priority treatment

Matthew finds a six-week joining period helps tighten lambing. He reduced ewe stress and lamb mortality by not moving or disturbing sheep for the first six weeks of lambing, which also helps limit mis-mothering of twins.

The BFWF workshop, hosted by Chad Taylor at Mumblebone Merino Stud, included a hands-on session on condition-scoring ewes. Matthew is now using this technique to ensure ewes are in the right condition for joining and lambing, combined with trail-feeding wheat during joining and lactation.

Matthew found the workshop also reinforced the role of genetics in flock performance. While he has always had a close working relationship with his ram breeder to source the right genetics for his business, Matthew's new goal is to only buy rams in the top 5% of ASBVs for wool and carcase attributes.

"We will also use younger rams - joining them from 21 months and only retaining them until they are five years of age - to keep fresh genetics coming into the flock," he said.

Matthew is confident he can continue to lift lamb percentage through better genetics, priority management and maintaining ewe condition. He would like to see cross-bred ewes average a combined 140% for twins and singles, and the Merinos reach 125%.

"The message for us from the BFWF workshop was to identify what suits our enterprise and our environment. For instance, we don't want ewes in our enterprise that only cut wool," Matthew said.

"We want Merino ewes that produce productive ewe lambs to stay in our business, and wethers we can sell at 45kg and 10 months old - so, getting ewes pregnant is our main aim."

Lessons learned

- You need information to fit your enterprise and your environment.
- Ram selection is important to keep your flock moving forward genetically.
- Ewe health is the priority from joining to lactation, to give ewes the best chance of getting pregnant and raising lambs.



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Guardian dogs

Managing the Maremma

Snapshot

Ninian, Ann and Jack Stewart-Moore, Hughenden, Qld.



Property:
46,500ha

Enterprise:
Telemon Droughtmaster stud and commercial cow herds

Livestock:
80 stud breeders, 2,000 commercial breeders

Pasture:
Native (Mitchell grass downs)

Soil:
Grey cracking soils

Rainfall:
475mm



Ninian said housing for Maremmas was not so important, but a good vermin and rain-proof feeding station is.

In 2000, wild dogs almost had the Stewart-Moores beat. Exclusion fencing and baiting programs had failed to reduce attacks that were claiming 60% of their lamb drop and costing almost \$30,000 a year in production losses. The future of one of Australia's most northern sheep flocks looked bleak - until the family turned to guardian dogs.

The Stewart-Moore family has plenty of experience when it comes to using Maremmas for stock protection. Ninian, Ann and son, Jack, have been using and breeding guardian dogs on 'Dunluce', near Hughenden, since 2002.

"We have learnt a lot but feel like we've only scratched the surface," Ninian said.

"There's so much we don't know about their instincts, how to train each individual to get the best out of them and why they sometimes fail."

Earlier this year, the Stewart-Moores decided to sell-off their sheep enterprise and concentrate on their Droughtmaster stud and commercial herd.

"Oddly enough, it wasn't the dogs that beat us," Ninian said.

"The Maremmas solved that problem, our sheep losses were less than 3%, almost all from natural causes."

He said the nail in the coffin was unsustainably low weaning rates, about 50%, for the past decade which was no longer profitable.

"We did workshops, we tried every strategy we could think of," Ninian said.

"We introduced Dohne Merinos to breed larger, more robust sheep, we spike fed, changed the time of year we joined, lambled and shored. I always knew the further north you took a Merino, the less productive it became and that marginality eventually took its toll."

Still on the job

With the sheep gone, the Stewart-Moores sold some of their dogs but plan to improve their success at bonding them with cattle.

"When we had sheep we had mixed success bonding the dogs with cattle," Ninian said.

"Sometimes we ran cows and calves beside sheep so the cattle got the benefit of the flock protection and we also bonded dogs with young cattle weaners.

"By introducing the dogs to the weaners I hoped they would accept the dogs as companions for life but we found by the time they had their second calf, the cows became too strong and discouraged their presence. The dogs would eventually take the easier option and return to the sheep."

Ninian hopes now, with the sheep gone, the dogs will form stronger bonds with the cattle. Here, Ninian shares some of his experience.

How much did it cost you to get started?

About \$20,000 which included 24 dogs and a mobile trailer. It worked out about \$1/ sheep at the time.

You say you more than recouped that outlay in the first year, how did you know or measure that?

Our adult sheep losses fell from 15% the year before we introduced Maremmas to 7% the year after and then 3% the year after that.

How do you introduce guardian dogs to sheep, particularly when there has been a history of wild dog attacks?

Locking the dogs in a small paddock or yard with the sheep at first and just monitoring them is a good idea. However, we found because Maremmas have an indirect disposition amongst sheep, eg tail down, ears down, eyes averted, unlike a hunting dog with ears pricked and eye contact, sheep tend to be nonplussed or even curious. It usually takes one to three days for the sheep to get their confidence and it helps to use more placid dogs during this phase.

How do you work out how many dogs you need and how much effect do terrain and paddock size have on that?

Big question and we have only our experience to go by. We believe if you only have one dog they are susceptible to a pack attack and if you have a few dogs per mob, say four or more, it becomes a play group rather than a proper security team. I feel two-three dogs per mob is a good number, whether that is for 200 sheep or 2,000. Obviously one dog will work smaller mobs well. Terrain and paddock size have a huge bearing on all this. We know our Maremmas (from GPS collaring) will travel up to 15km overnight to check out a disturbance which is fine in our 1,200ha paddocks but perhaps not so suitable if you're a Victorian producer. This is why bonding of your dogs to their mob is so crucial. I think there's plenty of room for more researching this area.

How do you start training them?

I prefer to use the term 'bonding'. They need to express their instincts. It starts with pups being born in the right environment and their imprinting begins before they open their eyes and continues until they are old enough to de-sex at about seven months old. If pups are not home-bred, the earlier they are transferred to their working environment, the better, say at weaning age, eight weeks. Young dogs need a lot of monitoring which is why pups bought ready to work can be expensive. The breeders will have put a lot of time into them if they've done it right.

Are there any guidelines as to how to match up working pairs or small groups of dogs? Does gender matter?

I don't think gender matters as long as all free-range dogs are de-sexed. It is more

important to balance personality types, for example, combining an outgoing dog likely to meet danger head on with one that herds the mob away from perceived danger. In our experience these personality types occur across both genders.

Do they need housing and how do you feed them?

They don't need housing as such, but they do need a secure area where they can access food. We always have a tub of dog biscuits in a feeding station which is designed for the dogs to jump in and access but to keep ruminants, birds and rain out. Sometimes sheep will learn to jump into them too so in those cases we put a couple of gates in front of it so the dogs can crawl under the gate and then jump into the feeding station.

What sort of basic care do they need?

They need to be wormed regularly and occasionally matted hair needs clipping away.

What was the biggest challenge for you when you first bought the Maremmas?

I think it was getting over needing to be their best friend. It's a totally different relationship to the traditional working dog most producers are used to.



Ninian, Ann and Jack Stewart-Moore

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For more information on training guardian dogs visit the free online resource *Guardian Dogs - Best Practice Manual for the use of Livestock Guardian Dogs* at www.invasiveanimals.com/wp-content/uploads/2010/09/Guardian-Dogs-web.pdf

Invasive animals

People power

Rather than individual landowners working in isolation to manage Australia's feral animals, MLA-funded research is examining the effectiveness of a community-led approach.

Invasive Animals CRC (IA CRC) Research Fellow Lyndal Thompson (pictured right) is tackling invasive animal control by looking at the part people play.

"Managing invasive animals (such as foxes, wild dogs and rabbits) is a complex and emotional issue," Lyndal said.

"Groups that have not traditionally worked together and people who may have opposing viewpoints - producers, environmentalists and peri-urban communities - are increasingly being impacted by the same invasive animal challenges."

She said understanding what makes people 'tick' was an important part of effective community engagement to ensure everyone affected could contribute to solutions.

Her research, funded by MLA, looks at how community engagement strategies and an understanding of human behaviour can drive a shared approach to shared problems, such as foxes, wild dogs, rabbits and weeds.

"Invasive animals and plants operate at a landscape - not farm - level, so individuals and organisations need to work together for collaborative solutions," she said.

Local groups like Landcare, the Country Womens Association (CWA) and Rural Bushfire brigades demonstrate the power of community engagement, even across jurisdictions, such as bushfire brigades from



different regions working on the same fire.

"This 'people power' is also important to manage invasive animals, when action needs to occur on public and private lands," Lyndal said.

The solution is not as easy as simply getting everyone in a room together. The challenge is to overcome different power dynamics, state laws, resourcing, values and motivations.

"Unlike traditional government-driven extension, our approach is to position the community as an expert on local issues, alongside technical specialists to collectively define problems, negotiate different agendas and achieve practical implementation," Lyndal said.

The right tools for the job

People involved in community engagement often haven't had extensive opportunities to develop their skills and build their experience. So, in partnership with Pennsylvania State University (PSU), IA CRC researchers are working with regional partners such as

Queensland Murray-Darling Committee and agriculture departments in NSW, Western Australia, Victoria and Tasmania to understand what motivates and blocks community engagement.

Professor Ted Alter from PSU said the project aimed to support frontline invasive animal professionals who worked with the community.

"We want to further develop their expertise in understanding the needs and expectations of different stakeholders and managing group processes and conflict, so the community can work together to address problems," he said.

Why collaborate?

Cameron Allan, MLA's Environment and Natural Resource Management Project Manager, said a 'nil-tenure' - or cross-jurisdictional - approach is vital.

"Tracking invasive animals such as wild dogs and pigs reveals these animals can travel tens if not hundreds of kilometres," he said.

"The affected communities and their interactions may be quite different and much broader than initially thought."

The range of organisations and individuals affected by invasive

animals is often underestimated. As well as producers and local governments, agencies within areas such as National Parks and State Forests, and the tourism, hunting and logging industries are involved.

So what?

Lyndal said the message for producers was to be involved, even if they did not believe they were directly affected by the invasive animal in question.

"Invasive animal management, like any biosecurity activity, should be viewed as a normal part of on-farm management and essential to a productive business," she said.

"It's an issue that affects the landscape on a large scale but can also have a significant impact on private businesses - economically, environmentally and socially."

Lyndal would like to hear from people involved in collective, multi-stakeholder approaches to invasive animal management.

"Understanding what has worked, or not, can help us develop a broad range of principles to guide other groups in the future," she said.



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Lessons learned: working with the community

- Be aware of the different groups in your community and get to know their concerns.
- Work out the best way to engage with all the likely participants.
- Be respectful of all perspectives, even if you disagree with them.
- Feedback (especially one-on-one) helps manage expectations of all parties.
- Use a facilitator who can assist effective discussion.
- Identify people who are bridges between groups and networks.
- Open discussions and messages targeted towards different groups are key.
- Use tools such as maps to paint a picture of the problem.

Pastures

Kikuyu reclaims 'lost' land

Snapshot

Morgan and Debbie Sounness, Wellstead, WA.



Property:
1,277ha

Enterprise:
Superfine wool, livestock export wethers and kikuyu seed production

Livestock:
5,000 head, including 2,400 ewes

Pasture:
Kikuyu, sub-clover and some annual pastures

Soil:
Light sand to sandy gravel, with some heavy clay

Rainfall:
400-450mm

Applying the results of EverGraze research into kikuyu as a perennial pasture base has allowed West Australian producers Morgan and Debbie Sounness (pictured) to turn land once considered 'a lost cause' into productive pasture.

Morgan and Debbie recently decided to stop cereal cropping and increase sheep numbers on 'Tamgaree', a decision underpinned by their experience with the MLA-funded EverGraze program.

"We would not have had the confidence to do this without understanding we need a systems approach to agriculture, as shown by EverGraze research," Morgan said.

Morgan has served as a regional EverGraze committee member since 2005 and has found the principle of 'right plant, right place, right purpose, right management' well suited to his varying soils.

"Our soils range from light sand to sandy gravel for three-quarters of the property," he said.

"The remainder is heavy clay along the Pallinup River, so we have had to find perennial grass species that grow well in each of

these soil extremes and support our sheep enterprises, while also preventing wind and water erosion."

Research on the south coast of Western Australia since the early 1990s has consistently found kikuyu can lift gross margins in sheep enterprises by increasing stocking rates and reducing the use of supplementary feed. →

Fast facts

- Cost to establish kikuyu pasture: about \$150/ha (includes \$90/ha for seed at 2kg/ha).
- EverGraze trials have shown stocking rates on a kikuyu/sub-clover pasture could be increased by 60% compared to stocking rates on typical annual sub-clover based pastures.



Spreading out

A tropical grass, kikuyu grows actively and provides green feed during the summer/autumn feed gap, but is dormant in winter, allowing sub-clover to grow as a companion. It is also deep-rooted and surface spreading, which allows it to dry out the soil profile and protect the soil surface.

Morgan began experimenting with kikuyu in 1993 as a perennial pasture base on sandy paddocks to prevent wind and water erosion, which were major problems.

"These soils were fragile and difficult to manage, sometimes becoming waterlogged in winter and then becoming bare, white sand, which blew away in summer," he said.

"We now have about 550ha of kikuyu-based pasture, over-sown with sub-clovers.

"The stabilisation of the sand plains and the steep gullies is remarkable. I once thought these areas were a lost cause, but they are now productive."

The kikuyu base has extended the pasture growing season to most of the year, eliminating false breaks and providing an even base of nutrition.

"This has enabled us to increase our wool yield and staple strength and compete with woolgrowers who farm under better soil and weather conditions than we do," Morgan said.

"We still supplement our sheep with oats and give hay during the cold winter months, but having kikuyu takes the pressure off for most of the year."

The kikuyu forms the first 'layer' of a multi-layered pasture, with nitrogen-fixing legumes as the second storey, and grasses as the third.

The Sounnesses are still experimenting with legume and grass varieties, but the success of kikuyu in their system and their faith in the plant has prompted them to include kikuyu seed production in their enterprise mix.



Morgan Sounness
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Market information

Screen time

Every week, 250 new users are downloading MLA's latest market information news source, the market information app.



The app is free for iPhone and Android systems and has been downloaded by more than 3,000 users to date.

MLA Senior Market Analyst Ben Thomas said the app was a valuable resource for producers, feedlot operators, stock agents and consultants wanting to keep their finger on the pulse.

"It provides the most up-to-date information available on the cattle, sheep and goat industries; in particular, national indicators, feeder cattle numbers and prices, slaughter levels, over-the-hooks and skin prices. It has market reports from all the nation's major selling centres as well," he said.

"Users can customise the app specific to a region, detailing price, supplier and quality and buyer information."

To date, the most popular content has been news, followed by various market reports and then trade indicators.

In addition to data collected by MLA's National Livestock Reporting Service (see



'Report time' article), analysts also collect information from national and international agencies to form market indicators, conduct in-depth analysis of Australia's livestock and export meat markets and report breaking news affecting the Australian meat industry.



Ben Thomas, MLA
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Download the app at Apple App Store, Google Play or search for 'MLA market information' on the web.

Reporting in

Whether it's by radio, computer or smartphone, MLA's National Livestock Reporting Service delivers daily market reports and analysis from the nation's major selling centres.

Twenty-three trained livestock market officers (LMOs) attend 74 sheep and cattle markets across Australia each week, recording at least 70% of the stock sales on offer and providing market reports within an hour of sales finishing. Market analysts also seek data from processors each week to create average over-the-hooks prices reflecting the grids on offer Australia-wide.

MLA Manager Market Information Ben Thomas said data accuracy was vital to the service's success and why so much training is invested in LMOs.

"Each LMO is regularly assessed to ensure their assessment of weight, fat and muscle score fall within an acceptable range," he said.

"To further ensure accurate reporting, our officers must cover at least 70% of stock sales at each market but most cover 90% of the sales or better."

Ben said market reports, usually available an hour following the sale, were accessible by radio through programs such as ABC Country Hour, through MLA's market information app and on the MLA website.

"Reports can also be accessed through an email subscription which you can sign up to on the MLA website," he said.

The Eastern States Daily Indicators can also be received daily by text message (SMS).

To find or subscribe to reports visit
www.mla.com.au/nlrs

A trusty tool for buying and selling

The MLA market information app has fast become one of the Roger Geldard's handiest tools.

Roger, whose family owns Roxborough Feedlot on the western Darling Downs, uses the free smartphone app daily to check saleyard and over-the-hooks prices, as well as sales volumes and slaughter numbers.

"It's a really useful tool for keeping tabs on prices and supplies of cattle across the state, particularly weaners between 200 and 280kg suitable for backgrounding," Roger (pictured) said.

"I also find the weekly analysis of the Queensland markets quite handy."

While the Geldards offer custom feeding, their efforts are focused on sourcing weaners of 200-280kg to background to 400kg-450kg, before feeding them for 100 days to supply the Japan ox market.

"We prefer Charolais-cross cattle because we've had success feeding them and we avoid pure Brahmans. We try and purchase the higher quality animals, with a higher quality end goal in mind, so it is important for us to keep tabs on what is selling where and for how much," Roger said.

"Basically, we'll go anywhere we can get a truck."

Roger also finds the MLA market information app useful when negotiating sales direct with producers.

"It helps us to gauge the value of cattle and also which areas are best to source them from," he said.

"The news section is useful. I read the daily bulletins to keep up-to-date with industry issues such as HGP use in feedlots and the export situation in Russia, and to keep abreast of anything that might affect our business."



Roger Geldard
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Snapshot

Roger Geldard,
Miles, Qld



Enterprise:
Roxborough Feedlot, EU-accredited feedlot finishing cattle for the Japan ox market

Livestock:
Capacity 3,000 standard cattle units (SCU). SCU is an animal of 600kg liveweight at the time of exit (turn-off) from a feedlot



Business management

Help to work it out

MLA's cost of production (CoP) calculator for beef cattle is a tool to help producers determine their CoP and compare their performance annually.

	1 Opening Number We	2 Ending Number We	3 B-I	4 Average Age (yr)	5 Total Age (yr x 10)
Cows				0.50	0.50
Calves				0.50	0.50
Stewards				0.50	0.50
Heifers				0.50	0.50
Steers (w)				0.50	0.50
Steers (m)				0.50	0.50
Wethers				0.50	0.50
Other				0.50	0.50
Total				0.50	0.50

Total weight of cattle sold: kg
 Total weight of all cattle purchased: kg
 Total kg of beef produced: kg

There are four components to the CoP calculation:

1. Kilograms of beef produced

This is calculated by recording any significant change that occurred in the inventory of livestock on the property at the end of the year compared to the start.

Kilograms of beef sold are recorded in liveweight terms (carcase weight sales are converted to a liveweight equivalent).

Kilograms of beef purchased is subtracted from the kilograms sold.

2. Labour costs

These include permanent and/or casual labour costs plus an allowance for a fulltime owner/operator at \$50,000 a year.

3. Herd enterprise costs

These include health, selling, purchased fodder and transport costs.

4. Overhead costs

These are the costs largely incurred regardless of what happens in the production part of the business. For example, they include repairs and maintenance, insurance, rates, pasture improvement and maintenance costs and depreciation.

Total costs are divided by the kilograms produced to give the CoP in \$/kg liveweight.

Turning it around

Enterprise changes, different breed types and off-farm work are some of the strategies used at 'Caralta' to deal with an unexpected result from their analysis of cost of production.

Snapshot

Tim and Phyllis
Carlill,
Kyogle, NSW.



Property:
748ha

Enterprise:

EU accredited beef
cattle

Livestock:

350 breeders

Pasture:

Improved tropical
pastures

Soil:

Loam and basalt

Rainfall:

1,140mm



You can download the calculator at: www.mla.com.au/tools

Work through the More Beef from Pastures' Setting Directions module, consider undertaking a More Beef from Pastures course, or contact your state coordinator:

www.mla.com.au/mbfp

Read the feature on Beef Profit Groups in the October 2012 edition of *Feedback* at: www.mla.com.au/feedback

Tim and Phyllis Carlill were surprised to find they weren't as profitable as they thought.

"We are part of a beef development group with consultant Bill Hoffman and as part of that we had to work out our cost of production," said Tim.

"When we looked at it, we realised that we weren't making a lot of money."

While they are based in an area that traditionally produced vealers, Tim has witnessed a \$200/head reduction in prices in the past 12 months, when labour costs have been adding up.

Coupled with poor seasonal conditions and a lack of summer rainfall, they needed to make some changes. These included changing their target market, cattle breed and seeking off-farm work.

Tim said that changing markets meant growing out cattle - instead of targeting the vealer market - was one option. To do this they had to change the breed of cattle.

The traditional Brahman Hereford cross Charolais cattle weren't suitable to be grown out on their land types, so the Carlills have introduced Hereford Simmental cows and *Bos indicus* bulls to produce cattle more suited to their country.

"Selling heavier cattle will also get us more benefit from our EU accreditation, which we don't achieve very often from selling vealers," Tim said.

Tim said he will still sell weaner steers whenever he can but moving to a grower steer is the focus for his business long term.

Tim and Phyllis also identified that labour wasn't being used effectively.

"We had lease and agistment country that took a lot of labour to manage, but didn't produce many kilograms/ha, and took time and labour dealing with paralysis ticks that we have in the area, so we reduced the land we are managing by 800ha and breeding numbers to 350," Tim said.

Off-farm work was also part of the plan, with Tim starting at the local meat processing plant.

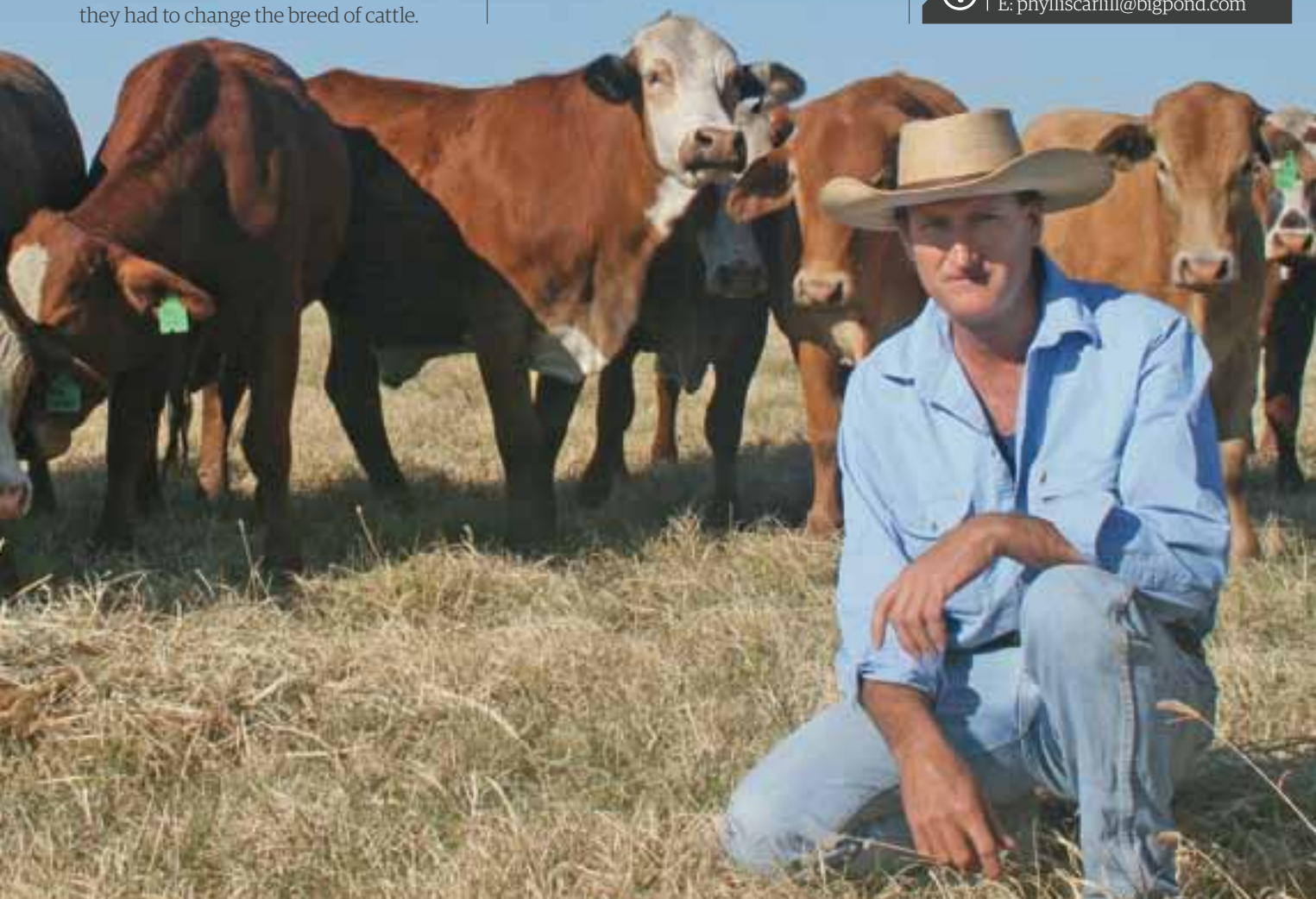
"Working in the abattoir means I can see the type of cattle coming through and it has reaffirmed our decision to change the weight of cattle we turn off," Tim said.

Working the late shift from 2:30-11:15pm allows Tim to start jobs in the morning that Phyllis will finish in the afternoon.

Tim said that not everything has gone to plan with 150 weaners intended to be kept for backgrounding needing to be sold due to the lack of rainfall. Although they aren't as far ahead as planned, they have made progress and believe they are on the right track.



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Pastures

MLA is investing in a suite of projects to enable plant breeders to more rapidly release cultivars to the

Delivering better pastures, faster

Two pasture pre-breeding projects aim to help pasture breeders respond faster to producer needs. They are using genomic breeding technologies to identify good and bad traits more rapidly in annual legumes and phalaris.

MLA's Southern Feedbase Project Manager Linda Hygate said researchers were working closely with seed companies to ensure the tools and technologies being developed in the projects will be rapidly adopted by the seed industry.

"These projects are using genomic and molecular genetic breeding technologies, which are already well developed in the sheep and cattle industries, to speed up the rate of genetic gain in pasture plant breeding," Linda said.

"The projects have involved considerable consultation with the seed industry, with

project leaders Dr Phil Nichols and Dr Kevin Smith updating the industry on their work at the Australian Seed Federation annual convention in Albury.

"Workshops will be held to ensure the seed companies are able to utilise any new technology and techniques developed."

By the end of the projects in 2017, all the new knowledge will have been made available to public and private sector plant breeders.

Linda said MLA was investing in new pasture breeding technology to enable plant breeders to more rapidly release cultivars to the marketplace that can better respond to new threats and existing challenges.

"These threats and challenges include adaptation to climate change, a new pest or disease threat or existing pests, such as the red-legged earth mite," Linda said.

"It's about developing tools and technologies that are going to make producers more agile in the future."

MLA is also working with the seed industry through the MLA Donor Company to evaluate and breed pasture plants important to southern Australian producers.

"The evaluation of acid-tolerant lucerne and rhizobia is a great example of how MLA partners with the commercial sector via the donor company to fund plant breeding and evaluation technologies," Linda said.

"The donor company allows MLA to match commercial company investment in R&D with Australian Government funds, with no levy funds being used."



Linda Hygate, MLA
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Phalaris: targeting seed retention and genetic gain

The MLA-funded 'Pre-breeding in phalaris' research project is taking a three-pronged approach to develop tools and technologies to deliver more productive varieties of phalaris, more efficient phalaris breeding programs and an understanding of the economic benefits of genetic gain in the popular pasture.

One goal is to see private seed companies take on the responsibility of breeding new phalaris varieties, a role dominated by CSIRO since the 1950s.

Project leader Dr Kevin Smith from the University of Melbourne said a crucial element of the research was using genomics to select for complex traits, such as yield and persistence, and identify markers for seed retention.

"Poor seed retention is a common problem in phalaris breeding," Kevin said.

"Breeders waste a lot of effort evaluating plants that will be discarded once it's determined they don't have the seed retention trait.

"CSIRO has done a lot of work to breed this trait into phalaris and most of the CSIRO varieties do have it, but they don't have a rapid tool to screen for it.

"If we want private companies to take on phalaris breeding, they'll need this tool."

Kevin said the work on genomics-assisted breeding of phalaris would also be used as a model for breeding other grass species, such as cocksfoot.

Genetic gain

So far, the research team has collected more than 100 phalaris cultivars and breeding lines from programs around the world, with the lines grown and harvested for DNA extraction.

"The DNA information means we can select not only on the measured performance of individual plants, but also on the genetic basis of those traits - their potential," Kevin said.

"In animal breeding, these technologies have greatly increased the rate of genetic gain, so we're hoping to do the same in pastures."

Phalaris is a productive and persistent introduced temperate perennial grass for sheep and cattle production in south-eastern Australia, and a species for which Australia cannot rely on overseas countries for improved cultivars. The research team is keen to quantify the economic benefits that will flow from more productive varieties.

"The profitability of a system's pasture component is driven by a combination of pasture quality, yield and the consistency with which that yield occurs, which is persistence," Kevin said.

"These traits are relatively difficult to improve, so that's one of the reasons we're using genomic technology - the more efficiently we can select for these complex traits, the better."



Dr Kevin Smith
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marketplace that can better respond to new threats and existing challenges.

Annual legumes: targeting reduced breeding time

The MLA-funded 'Pre-breeding in annual legumes' project is developing new pasture pre-breeding technologies to allow more rapid development of improved annual legume varieties.

Project leader Dr Phil Nichols, from the Department of Agriculture and Food in Western Australia, said the three-and-a-half year project had two aims.

The first was to use genetic technologies to identify genes for new traits, while the second was to develop technologies that will enable more rapid integration of those genes (and the traits) into plants that will then be made available to producers.

According to Phil, it could cut the breeding time by up to four years.

"Annual pasture legumes are highly valued in the farming systems of southern Australia and lead to greater animal production and increased crop yields when grown in rotation," Phil said.



Dr Phil Nichols measuring subterranean clover traits in a glasshouse.

"The most widely sown are subterranean (sub) clover and annual medics, while a range of other species has been developed for alternative soil types and farming systems.

"The main emphasis in this project is sub-clover, however, important traits will also be examined in the other species."

Sub-clover traits under the microscope include those associated with increased persistence and autumn-winter biomass production in regenerating pastures.

"Such traits are recognised as having the greatest economic impact on red meat production and include resistance to red-legged earth mites, optimum levels of hard seeds and other seed dormancy traits, genes for increased persistence, and increased seedling growth under cool temperatures," Phil said.

"Annual medic activities will include seeking molecular markers associated with genes for boron tolerance and seedling growth under cool temperatures."

Researchers are also working to increase the number of sub-clover generations that can be produced in one year.

"Breeders are currently limited to one generation a year, but results for 28 sub-clover varieties studied so far suggest a protocol capable of turning over three to five generations a year is achievable," Phil said.



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Lucerne: targeting an acid-tolerant variety

The South Australian Research and Development Institute (SARDI) is working closely with one of Australia's largest seed companies, Heritage Seeds, to develop an acid-tolerant variety of lucerne.

The detailed evaluation of a new lucerne variety and a new rhizobia is being fast tracked with support from the MLA Donor Company (where MLA matches commercial company investment in R&D with Australian Government funds - no levy funds are used), which has provided the impetus for significant additional investment from both SARDI and Heritage Seeds.

SARDI manages the largest and longest-running lucerne breeding program in Australia and has been working with Heritage Seeds since 1992 to ensure new varieties are adapted to Australian conditions and meet market requirements.

"Lucerne is often described as the queen of forages and is grown on more than 30 million

hectares worldwide," SARDI senior scientist Ross Ballard said.

"But poor tolerance to acidic soils is a major factor restricting further adoption. In Australia, where there are vast areas of acidic soils, a decent leap in acidity tolerance could increase the area suitable for lucerne by about a million hectares.

"This project is evaluating the combination of acid-tolerant lucerne and acid-tolerant rhizobia with a view to improving lucerne persistence and production in acid soils."

"Previous research efforts have focused on either the plant or the rhizobia, so we're hoping the multi-faceted approach will improve the chances of success."

The two-year project began in December 2013 and will establish eight field trials on challenging sites - with a pH below 4.5 and significant aluminium levels - at four locations in NSW, Victoria and South Australia.

30 million ha
of lucerne grown worldwide

A number of elite lucernes have been selected for improved root elongation in the presence of aluminium, which causes root damage at a very low pH, and also for enhanced nodulation capacity.

The rhizobia have been selected for improved nodulation at a low pH and improved persistence in very acidic soils.

"The ultimate goal is to develop a robust case to support the commercialisation of the rhizobia and cultivar of lucerne, both of which are almost ready to go," Ross said.



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Engaging with chefs

This year, for the second year running, MLA sponsored a trip for a group of chefs to travel to Australia on a sustainability-themed tour to educate them on the Australian cattle and sheep industry's supply chain practices and quality programs, from the ground up.

Hand-picked from key North American regions where potential for beef and lamb is strong, the eight chefs from the most recent tour, which also took in a South Australian sheep enterprise, have since taken their experiences and learnings back to their peers and diners to build brand awareness and loyalty. →

Sharing the sizzle

Miami and New York are a long way from the cattle yards on a Queensland farm but taking a group of influential US chefs out of their comfort zone has been one MLA strategy to educate these influencers.



→

Marriott International Vice President of Food and Beverage and global corporate chef **Brad Nelson**, who joined the tour, steers 18 brands globally in 72 countries and more than 3,000 US properties with too many restaurants under his watch to count.

"I was very impressed with the care of animals, and most impressed with the care of the land. Each station, whether corporately owned or multi-generational family run, had a perspective that resonated with a long term commitment to a sustainable means of making a livelihood," he said.

"Aussie beef is a valid and quality choice. Quite frankly I was surprised with the quality levels and flavour of the beef we enjoyed."

"Grass and pasture raised were clearly aligned themes of the generation leading the way in more resourceful dining. As for the lamb, I can't say enough about how good it is. Both products offer consistent pricing stability, making it a dependable product to forecast against."

Brad sources mostly Aussie beef for use in catering and on steakhouse menus internationally, working mostly with the big three - fillet, strip and rib, which in his eyes, "are still king".

As a user of Australian lamb on her New York-based restaurant menu, chef **Anita Lo**, owner and executive chef of Annisa Restaurant,

said seeing the livestock raised on-farm reinforced her faith in Australian product.

"I came into the trip with a positive perception, but I learned new aspects of both the Australian and American industries that confirm my overall faith in Australian lamb," she said.

If she had to describe Australian lamb to peers and customers, Anita said; "first and foremost, its taste. I like the clean, sweet taste that is distinct but not too strong. And secondly, I now have more to support my claims of its sustainability."

For chef **Conor Hanlon** (pictured on page 30), who runs The Dutch restaurant at the W Hotel, which offers American roots-inspired cuisine at South Beach Miami, Florida, he was looking to understand how Australian cattle and sheep were produced.

"The trip was great because we saw every step of the process, and I do feel much more confident in supporting Aussie beef and lamb now after seeing it," he said.

"I think the Aussie "brand" has a great story behind it.

"As far as labelling on menus goes, labelling "Aussie lamb" on a menu is beneficial. People tend to associate Aussie lamb as a superior product than domestic.

"I sell Aussie lamb saddle, and I think it is a great cut for the market I cater to because it is so lean."

Conor's signature lamb dish of the season is seared saddle, served with roasted eggplant,

zucchini and squash, over rosemary infused goat cheese polenta. He has added Australian wagyu and additional lamb cuts to his menu since returning to the US and recently co-hosted a chef immersion in Miami where he spoke directly to 15 of his peers about the trip, particularly about what he learnt as it related to their key concerns around quality and sustainability.

Adam Moore, corporate chef at Charlie Baggs, a corporate consulting company, has worked with MLA for a number of years at various trade events, promoting the benefits of Australian meat to US consumers.

He said the tour reaffirmed his understanding of the Australian beef and lamb industries that he'd already been talking up, for years.

"It was extremely beneficial to physically see and touch everything that we are promoting in the States - farming and harvesting standards, product safety and product quality," he said.

"I was most surprised with the technology that is being utilised to trace point of origin and encourage greater product safety. I was also very impressed with the fact that the meat is graded cut by carcass- these are both fantastic selling points against other programs around the world."



Catherine Golding, MLA Business Manager - Foodservice, North America
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The US tour chefs visit Darcy and Kara Knudsen's cattle property in Queensland.



Engaging with chefs

Creating global ambassadors

Raising the profile of Australian beef and lamb in global markets involves working with industry leaders to get the message out about Australian beef and lamb.

Often these industry leaders come in the form of chefs-cum-media personalities and local celebrities, who can garner large followings and have an impact on consumers' food choices.

Chefs who become ambassadors have a strong reach, not only through their passion for produce, but their media presence, product handling, cooking

reputation and the respect they command from their customers and fans.

With so many digital platforms available to promote their messages, chef ambassadors are highly persuasive in reaching local consumers and educating them in the benefits of Australian meat products.

Chefs are also seen as influencers and MLA seeks to leverage their influence over food

trends and other chefs in key export markets. In each region, MLA uses its relationships with chefs in different ways, and with different messages.

Here are some insights into how MLA creates chef ambassadors in four regions across the globe.



Asia: Beefing up banquets

The Red Majesty Chef program was launched to educate Chinese chefs in product knowledge and cutting and cooking techniques, particularly for Chinese banqueting, which is a significant revenue raiser for Asian hotels.

The Red Majesty Chef Cup culinary competition is run through the Chefs Association Malaysia in conjunction with the Food Hotel Malaysia and teams of Chinese chefs from countries like Malaysia, Singapore, China and Taiwan participate.

The MLA Banqueting Innovation Workshop is an annual workshop for sharing techniques and skills in banqueting (butchery and cooking) with executive chefs from the Asian countries including China, Taiwan and Hong Kong. Banqueting guru, Chef Richmond Lim, who is the executive chef of the Kuala Lumpur Convention Centre, hosts the workshops.

Richmond has worked with MLA sharing his banqueting cooking techniques and is an ambassador for the MLA banqueting innovation program. He is also the leader of the Red Majesty Chef program in Malaysia and Singapore.



Indonesia: Clean and green

In developing markets like Indonesia, 'brand Australia' carries significant weight with its 'clean and green' reputation.

MLA's focus is on generating awareness of the overarching brand through chef programs and nutritional experts, and increasing the usage of Australian beef.

By targeting school, family and consumer/community programs, MLA works with local celebrity chefs and a nutritionist to endorse the health benefits of Australian beef through chef demonstrations and workshops that focus on preparing and cooking practical, healthy and delicious meals with beef - particularly mince - and targeting popular media and consumer audiences.



Middle East: Chef Tarek waves the flag

MLA's corporate executive chef Tarek Ibrahim has become Australian meat's biggest ambassador.

He was the first Arab chef to be nominated and receive the coveted status of Master Chef from the World Association of Chef Societies and has hosted his own TV program '100 Lahma' (100 recipes) showcasing recipes designed with Australian beef and lamb cuts, cooked in Middle Eastern styles.

The many facets of this multi-talented chef are used by MLA through trade events, TV and social media in the Middle Eastern market to appeal to consumers using a local identity to promote the versatility and taste of Australian meat.

Based in Dubai, Chef Tarek also trains executive chefs, butchers and foodservice professionals on meat handling and cooking methods of Australian meat cuts. Chef Tarek has a strong following in social media



→

with more than 20,000 likes of his Facebook page - which he uses to introduce new beef and lamb recipes to his followers.

Chef Terek recently visited Australian supply chains (see 'Around the globe' page 34) and shares his learnings on two new videos produced for Middle Eastern customers. View them at:

<http://bit.ly/10zDTFG> (beef video) and

<http://bit.ly/1tiszbG> (lamb video)



United States: gaining first-hand knowledge

MLA works closely with influential local chefs (including through chef tours - see case study on page 30) to develop their understanding and enhance their use of Australian product, thereby raising the profile of Australian beef and lamb on US menus.

Like many nations around the globe, the US is proud of its local product and imported beef can find it difficult to compete. But in this beef-hungry market, there are opportunities to position Australian beef - as well as lamb - as a viable alternative. Getting a local to spruik the benefits of Australian beef and lamb can add enough of a home-grown flavour to improve the odds of Australian product getting ordered.



Stephen Edwards, MLA Business Manager - International Markets
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Recipe

Looking for a fresh take on festive season dining? MLA's BeefandLamb website is loaded with recipe ideas. Here's one to get you inspired.

Serves: 6

Preparation and cooking time: 60 minutes



Standing rib roast

Ingredients

1.5kg standing beef rib roast
1 litre beef stock
1/2 cup red wine or port
1 tablespoon olive oil
300g mixed mushrooms
30g chilled butter
roast potatoes and mixed salad leaves to serve

Method

1. Preheat oven to 200°C. Brush the beef with a little oil and season well with salt and black pepper. Place the beef rib in a roasting dish.
2. Roast for 45 minutes for rare, 60 minutes for medium and 75 minutes for well done. For ease and accuracy use a meat thermometer.
3. Remove beef, cover loosely with foil and rest beef for 15 minutes before carving. While the meat is resting, place the stock and the wine in a pan. Bring to the boil and boil to reduce by two thirds or until the mixture is syrupy.
4. Heat the oil in a frypan and cook the mushrooms until just tender. Whisk the chilled butter into the syrupy sauce. To serve, slice the beef into cutlets, add some mushrooms to each serving plate, top with beef and drizzle with sauce. Serve with crispy roast potatoes and salad leaves.

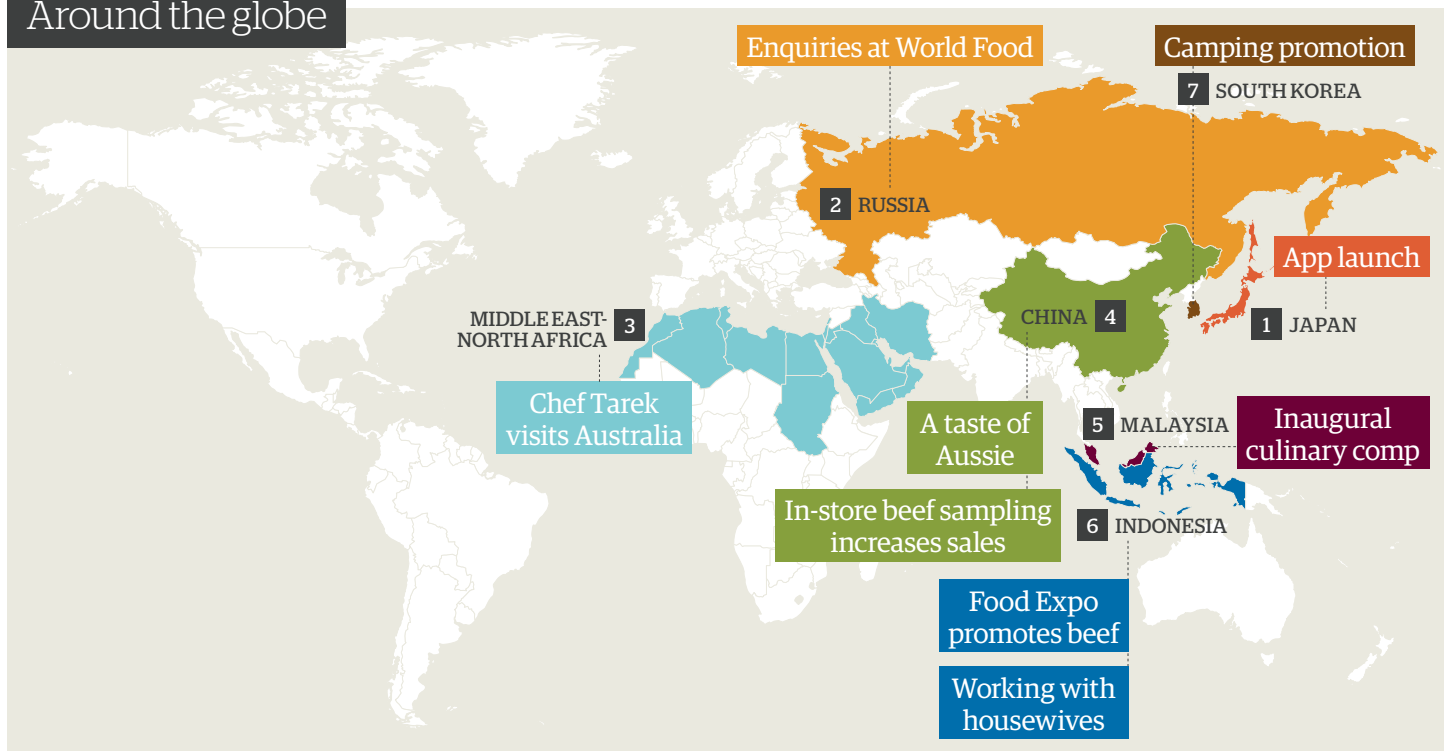
And the next day...turn the leftovers into another meal by:

- Dicing the beef and mix with refried beans for burritos or a quesadilla filling.
- Slicing the meat thinly and toss with the rice and vegetables for a great homemade fried rice.
- Dicing the beef and making into fritters with a savoury pancake mix.
- Making pot pies - combine chopped meat, leftover roast vegetables (or frozen veggies) and leftover gravy. Top pie with mash or puff pastry.
- Slicing the meat thinly and toss through stir-fried noodles and vegetables.
- Making a zesty Thai-inspired salad and serve thinly sliced beef in lettuce cups.
- Slicing the beef and wrapping with strips of cucumber and fresh mint and basil leaves in rice paper rolls.



For further inspiration go to www.beefandlamb.com.au

Around the globe

**1 JAPAN****Steakmate goes to Japan**

To promote Aussie beef's suitability to barbecues during summer, MLA released a version of the Steakmate

app for the Japan market. There have been 2,285 downloads of the Steakmate app in Japan since its launch in August and 933 people participated in a launch competition to win one of 300 prizes of 1kg of Aussie beef. The campaign and competition details were posted on the Aussie Beef Japan Facebook page and a magazine was emailed to 85,000 campaign subscribers. Barbecuing and grilling larger 'western' style meat cuts are becoming more popular in Japan,

2,285

downloads of Japan's Steakmate app

and the Steakmate app was designed to target this growing trend and educate consumers about buying and preparing larger steak cuts.

2 RUSSIA**Talking meat in Moscow**

Despite current market access issues in Russia, enquiries from other parts of the globe were received when MLA partnered with Austrade to host a red meat stand at the World Food Moscow tradeshow. Enquiries came from Russian and European trading companies who have commercial opportunities for Australian beef in China, South-East Asia, the Middle East-North Africa region



and South America. Several lamb and mutton enquiries were also received with particular interest coming from Russia's far east, as well as the major centres in the western region of Russia.

3 MIDDLE EAST-NORTH AFRICA**Chef Tarek 'down under'**

MLA's Dubai-based chef and television personality Tarek Ibrahim refreshed his knowledge of Australian supply chains during his recent visit to Australia which included a beef property in Clermont, Central Queensland. A video camera also followed Chef Tarek's movements and captured the highlights of his trip.

Chef Tarek trains executive chefs and holds meat seminars

to educate Middle Eastern foodservice professionals on meat handling, cooking methods and the benefits of Australian beef and lamb. He will use the knowledge from his recent trip and the video footage to educate foodservice members in the Middle East-North Africa region and more than 20,000 consumers through his social media channels. Watch the videos at <http://bit.ly/10zDTFG> (beef) and <http://bit.ly/1tiszbG> (lamb).

4 CHINA**A great Aussie barbecue**

More than 260 people enjoyed 'The Great Aussie BBQ' at AustCham (the Australian Chamber of Commerce) in Beijing. Beef hamburgers and roast beef were served to guests, who included Australian Ambassador Frances Adamson. The barbecue provided an opportunity to promote Australian beef and 'brand Australia' to the expat community and members of the Australian Chinese business society.

Sampling success

A Chinese wholesaler and large supermarket in southern China partnered with MLA to run in-store beef sampling and a six day promotion which saw sales of Australian oyster blade, brisket and chuck roll increase 340% across three stores. The results reinforce the effectiveness of in-store sampling as a way to increase sales of Australian beef at retail.

340%

increase in beef sales during sampling promotion

5 MALAYSIA

Scholarship draws aspiring chefs



The inaugural MLA Young Chef Scholarship Program challenged culinary students to stretch their capability to become top global chefs. 15 leading culinary schools, colleges and universities in Malaysia sent 21 student teams to compete in a reality-based challenge to qualify for the MLA Scholarship prize. Teams were judged on originality, meat cutting and cooking skills, recipe development, presentation and taste. Winners Pham Xuan Quyet and Lee Siaw Teng from Sunway University won RM5,000 (almost AUD\$2,000) cash and a cooking experience with an executive chef.

6 INDONESIA

Celebrity endorsement

The 'True Aussie' beef brand was exhibited to more than 5,000 visitors through a cooking class and show when MLA supported the JOGJA Food Expo in Jogjakarta, Central Java. The event was supported by local celebrity chef and restaurant owner Ragil Imam Wibowo to capture consumer attention and build awareness of the benefits of Australian beef.

Tour with taste



More than 100 housewives participated in an Indonesian culinary tour, hosted by MLA. The event, run in partnership with lifestyle magazine *Martha Stewart Living*, demonstrated the quality and versatility of Australian beef with a cooking class led by Chef Pasya Trijaya, Executive Chef of Palace Hotel, where he prepared and cooked four recipes made from Australian mince and steak cuts.

7 SOUTH KOREA

Camping out with steak



MLA launched a promotion to build demand for beef in Korea's rapidly growing camping sector, partnering with three 'online cafés' to promote Aussie beef as a suitable camping food.

Camping has become a major trend in Korea and camper numbers have grown from around 600,000 people/year in 2012 to three million people in 2014. These cafés are the most popular information source for Korean campers who use them to research camping activities.

Educational material and recipe ideas were provided to each online site, which have around 200,000 members and receive more than 60,000 daily page visits. Retail promotions also ran with steak cuts promoted through barbecue pack stickers.

One hundred and fifty café members also competed in a camping mission, where they purchased and used Aussie beef during a camping experience to win camping prizes.

On the ground

China



Andrew Simpson
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China is the world's largest and fastest growing food importer. This financial year our beef and sheepmeat exports to China were valued in excess of A\$1.3 billion.

China is also a significant market for co-products with a combined value of A\$1 billion in 2013-14. More than 88% of our hides and sheepskins are exported to China (read the story on co-products on pages 36-37 of this edition).

Part of MLA's ongoing investment in this market is to build business opportunities in provincial regions.

During October MLA supported exporters attending the Yinchuan Beef and Mutton Fair in the north western Ningxia province, a fertile agricultural hub with horticulture, cropping, livestock, dairy and wine.

This autonomous region (and others like it) has a high Muslim population, and is working on options to become a trade zone with preferential access. A series of local government meetings between MLA and industry have taken place and have revealed some interesting aspects in the local agricultural industries, such as:

- Ningxia sheep numbers are targeted to grow by 5%/year from the present base of six million head. Ningxia 'Tan' sheep and goat intensive feedlot production produces a unique meat flavour, which is famous across the country.
- Local cuisine includes hot-pot rolls and boiled mutton which is a traditional method to eliminate the residual fat taste.
- Both the Ningxia beef cattle herd (comprising local breed, QinChuan and Simmental) is forecast to grow from one to 1.5 million head and a vision to double dairy production from their 500,000 milking herd in the next five years. Local government and private enterprises have worked together to import thousands of Australian dairy heifers and Angus breeding cattle in the past 12 months.

It's been an eventful year in China as industry has worked to grow demand for Australian product in this emerging market.

Record returns for co-products

Although news headlines are quick to share the growth in beef, lamb and goatmeat sales - co-products deserve to be in the spotlight, too.

Australia exported a record \$2.3 billion worth of co-products (edible offal, hides, skins, tallow, meat and bone meal and bloodmeal) in 2013-14 (Australian Bureau of Statistics). The result was in response to high levels of drought-induced slaughter, along with a falling A\$.

During the financial year, almost 9.5 million cattle and calves were slaughtered, 14% above the five year average. In addition, a total of 34.1 million sheep, lamb and goats were processed, 20% above the five-year average. In 2013-14, the A\$ averaged 91.84US¢, down 11¢ year-on-year.

Figure 1 illustrates the total value of the co-products mentioned above, which has steadily risen over the past 20 years, as Australia has captured more export markets and domestic production has increased.

In 2013-14 the total value of co-products rose across all categories year-on-year, led by hides (up 38%), beef offal (20% higher) and tallow (up 12%).

However, most average export unit values have remained relatively flat over recent years (figure 2), indicating that the record export values have been predominantly driven by supply rather than demand.

Hides

Raw hides - as wholes and pieces - (including equine) accounted for the greatest portion of co-product export values during 2013-14, at \$597 million, with 13.09 million whole raw hides exported. China was the primary destination for raw hide exports, taking 11.23 million hides (worth \$506 million) for further processing, a significant increase from the modest 1.42 million hides shipped in 2001-02.

While prices have been supported by low US supplies, China has recently begun turning its attention towards cheaper Brazilian and better value European hides. However, in September, hides trended dearer month-on-month, with green hides (280-350kg hot carcass weight) in Victoria, NSW and Queensland (tick free area) averaging \$68, \$66.88 and \$56.83/hide ex-works, respectively.

Beef offal

The majority of Australian beef and veal offal production is destined for overseas. In 2013-14 a record 154,121 tonnes swt, worth \$515 million, was exported, primarily to three countries: Japan, Hong Kong and Korea (Australian Department of Agriculture). During the first quarter of 2014-15, beef and veal offal exports remained strong.

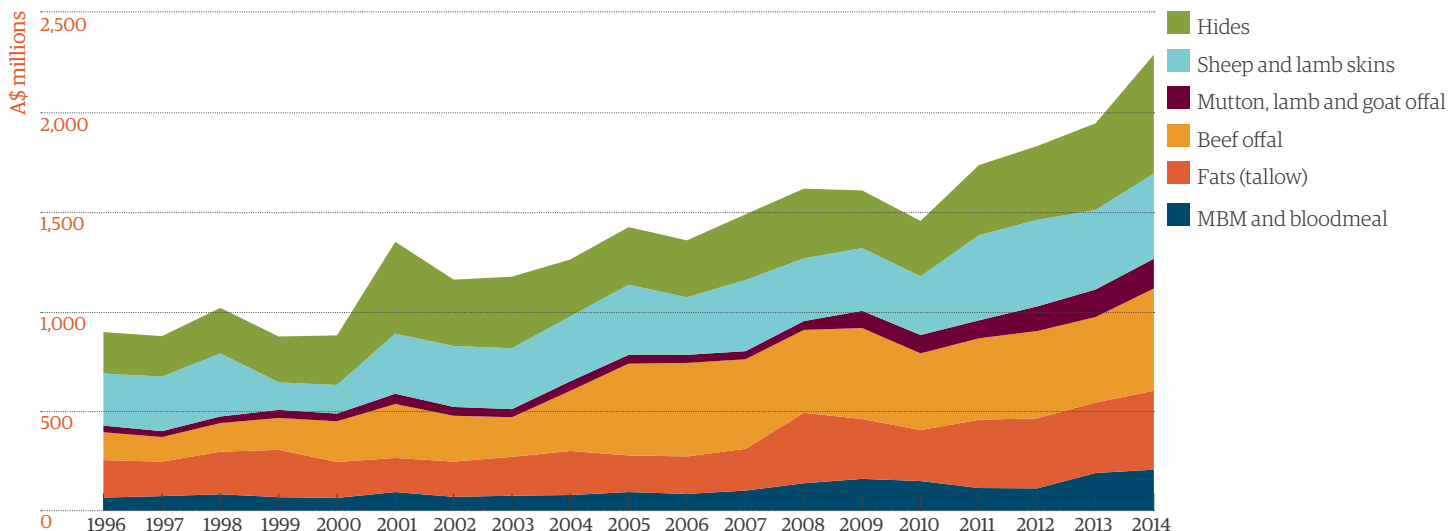
In September, tripe shipments (primarily to Hong Kong) totalled 3,448 tonnes swt (24% of beef and veal offal exports), liver shipments (principally to South Africa) totalled 2,337 tonnes swt (16%) and skirt shipments (almost entirely to Korea and Japan) totalled 1,331 tonnes swt (9%).

While tripe pieces and liver prices were down slightly year-on-year in September, at \$2.99/kg and \$1.05/kg, respectively, strong export demand for hearts and thin skirts pushed prices up 51% and 43%, respectively, to \$2/kg and \$6.24/kg (MLA co-products survey) (figure 3).

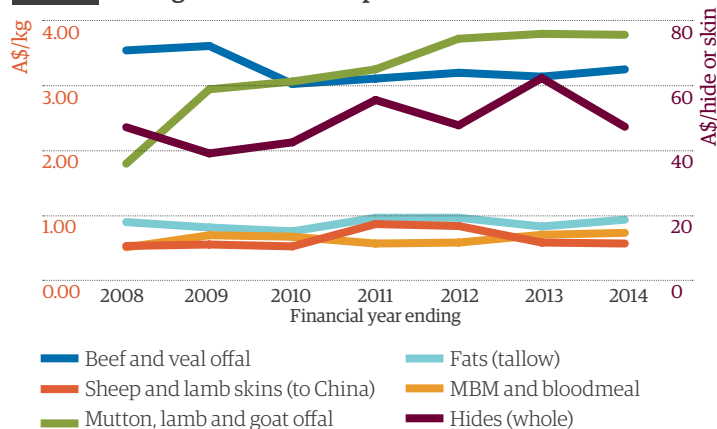
Skins

China was the primary destination for Australian raw lamb and sheep skin exports in 2013-14, taking about 90% of volumes. Entirely driven by higher supplies, the export value of skins during 2013-14 increased 7% year-on-year to \$426 million. However, unit skin export prices to China fell 2% on the previous financial year and almost \$6/skin on prices received three years ago.

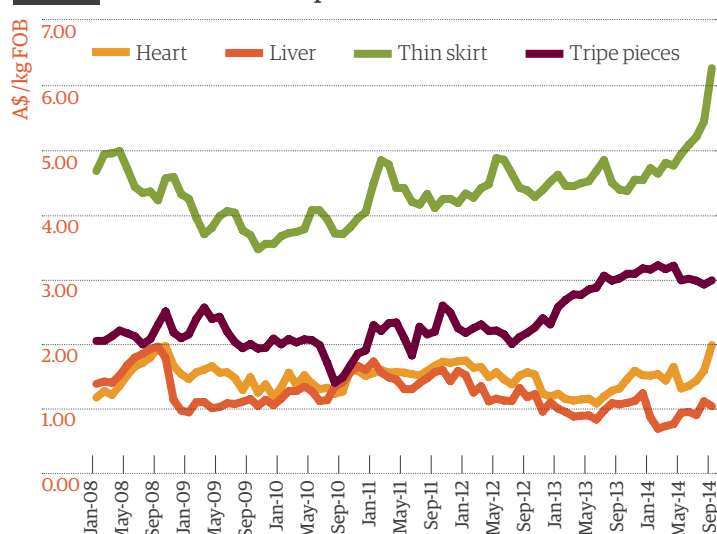
Figure 1 Total value of Australian co-product exports



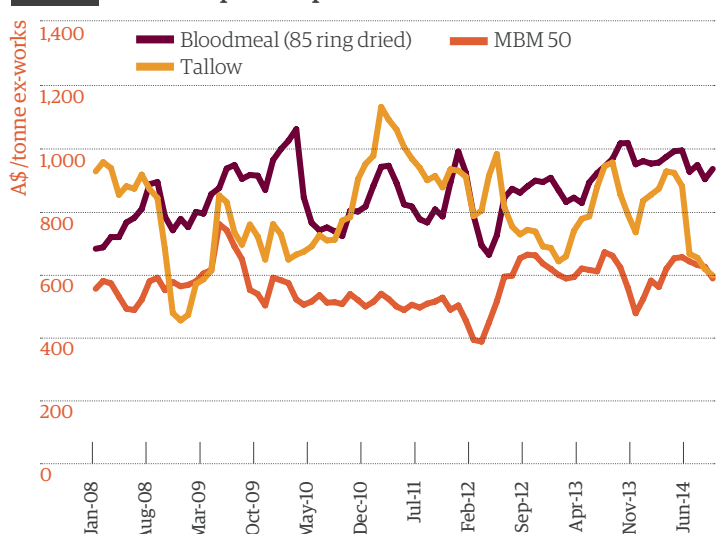
Source: Australian Bureau of Statistics

Figure 2 Average annual unit export value

Source: Australian Bureau of Statistics and Global Trade Atlas

Figure 3 Beef and veal offal prices

Source: MLA co-products survey

Figure 4 Rendered product prices

Source: MLA co-products survey

Tallow

Australia exported 417,286 tonnes swt of cattle, sheep and goat fats in 2013-14, 15% above the five-year average and a trade worth \$395 million.

Between early 2012 until July this year, Singapore was the primary destination of Australian tallow, predominantly used for producing renewable fuel. Singapore received 82% of Australian tallow exports in the first half of the year, averaging 27,924 tonnes swt per month; however, this fell to a 12% market share (4,000 tonnes swt) in August, with the withdrawal of one major renewable fuel processor from the market.

Nigeria and Japan have emerged as new markets, from receiving no shipments for more than a year to taking 11,416 tonnes swt (34% of total shipments) and 960 tonnes swt (3%) in August, respectively, while Korea (28%) and China (19%) continued to take large volumes. However, these markets have not been able to maintain premiums, with tallow prices (1% free fatty acid) averaging \$631/tonne ex-works in September - down 30% year-on-year and well below the \$1,008/tonne ex-works in August 2013 (figure 4).

Meat and bonemeal and bloodmeal

Australia exported 274,648 tonnes swt of meat and bonemeal (MBM) and bloodmeal (excluding poultry products) in 2013-14, worth \$205 million.

Half of MBM and bloodmeal exports were destined for Indonesia, to be used as poultry and pork feed additives, with shipments totalling 96,935 tonnes swt. Tight domestic supplies saw the US surpass Taiwan as the second largest destination for MBM and bloodmeal, taking 33,073 tonnes swt - the highest on record.

While MBM (50% protein) prices averaged \$634/tonne ex-works during the financial year, 8% above the five-year average, it continued to decline in September, to \$603/tonne ex-works, as a result of new season soy (another major feedstock) selling at a significant discount. Bloodmeal (85 ring dried) prices averaged \$986/tonne ex-works in September, down 8% year-on-year, but still historically high (figure 4).

Mutton, lamb and goat offal

Primarily shipped to Hong Kong and Saudi Arabia, mutton, lamb and goat offal exports totalled 33,736 tonnes swt (valued at \$148 million) during 2013-14. Hong Kong received about one-third of total

shipments, predominantly taking tripe (10,209 tonnes swt), while Saudi Arabia was the largest market for liver (6,432 tonnes swt).

In September, heart and liver prices increased 14% and 13% year-on-year, respectively, averaging \$1.50/kg and \$1.80/kg, while tripe remained flat at \$4/kg.

Outlook

Global demand for co-products is expected to continue and will be further supported by a falling A\$, recent and developing free trade agreements and the emergence of new markets. Supply will largely be dictated by the success of northern Australia's wet season. If much of the country receives substantial levels of rain, Australian slaughter rates may be significantly reduced and co-product production will follow.



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www.mla.com.au/coproducts

Sydney//MLA AGM and producer forum

MLA's producer forum and annual general meeting (AGM) were held on 13 November at Chatswood, Sydney.

The forum showcased three areas in which MLA is investing producer levies: the Chinese market, objective carcass measurement and growing demand for beef and lamb in Australia and globally.



MLA's AGM 2014 in progress.



↑ **Andrew Simpson**, MLA Regional Manager - South East Asia and Greater China, covered the opportunities, market trends and how MLA is investing producer levies in China to promote Australian beef and sheepmeat.



←

Michael Edmonds, MLA General Manager - Central Marketing and Industry Insights, spoke on how MLA is using producer levies to create demand and value in global markets through market access improvements, growth in awareness and sales in key markets and maintaining consumer loyalty through domestic marketing programs.



←

Dr Alex Ball, MLA General Manager - Livestock Productivity, covered some of the levy-funded innovations which aim to provide a platform to deliver value based marketing on lamb and beef carcasses. These include the MSA index as well as emerging technologies which objectively measure muscle, fat and bone to enhance grading accuracy.



Simon and Julie Bannister, cattle producers, Broke, NSW, attended the AGM and associated forums to know the direction the peak councils and MLA are taking its members.



View webcasts of the presentations at the producer forum and AGM at www.mla.com.au/agm-2014

More information:

Read about the outcomes from the AGM on page 4.

Tamworth, NSW//Winning against seeds workshop

Nearly 60 lamb producers, advisers and industry experts attended a 'Winning against seeds' workshop in Tamworth in August to discuss the impact of grass seeds and learn about management tools for producing seed-free sheep. The workshop was conducted under the banner of the National Grass Seed Action Plan, funded by MLA and supported by NSW Department of Primary Industries (DPI) and Tamworth Livestock Selling Agents Association.

Jack Thompson and David Rutley from processor Thomas Foods International (TFI) spoke about the impact of grass seeds on the company in terms of lost productivity and yield and threatened market access. As a result, the company applies a discount to affected carcasses, with the penalty relating to the percentage of the carcass affected and the concentration of seeds.

Geoff Casburn and Lester McCormick from NSW DPI outlined the impact of grass seeds to producers in reduced weight gain and animal welfare outcomes.

"As few as 25 grass seeds on a lamb can reduce growth rates by 50%, with research from the 1990s demonstrating a six kilogram difference in lamb liveweight between those grazed on seedy versus clean paddocks," Geoff said.

According to Geoff, the key to winning against grass seeds is on-farm.

"Producers need to identify problem species, know the time of flowering and seed set and develop a plan for livestock and pasture management," he said

"From a grazing perspective, this could include strategic grazing, a focus on genetics for faster growth and early turn off, target marketing, feedlotting and shearing prior to seed set.

"Agronomy options could include winter cleaning of pastures, spray topping/grazing, pasture improvement to provide competition, fodder crops to provide a seed free environment and fodder conservation to remove current seed potential."

Processors also offer 'ute load' trial kills for producers to gain feedback to help assess the impact of their management of grass seeds. TFI extended an invitation to producers, buyers and agents to visit their Tamworth facility and see the problems first-hand. Several locals have signed up for a tour.

More information: Geoff Casburn, Development Officer - Sheep, NSW DPI // E: geoff.casburn@dpi.nsw.gov.au

Four short tutorial videos have been produced to showcase common practices on managing grass seeds. These can be viewed at www.mla.com.au/grassseeds



Geoff Casburn addresses attendees at the workshop.

Upcoming events



Find more events and information at www.mla.com.au/events

Artificial insemination short course

The course provides participants with the necessary skills to conduct an AI program on their own livestock. Participants will be able to apply their knowledge and skills to:

- Prepare for insemination
- Time insemination to coincide with oestrus cycles
- Prepare equipment and work sites
- Correctly select and thaw semen for insemination
- Inseminate animals
- Clean up and record data after insemination is complete

This accredited unit will be delivered by Greg Fawcett under the AHC32810 Certificate III in Rural Operations.

When and where: 16-19 December, Mundubbera Qld

Bookings and for more information:

Cost \$1,168 per person. Meals and accommodation (optional extra) \$62 per person per day.

Melissa Vohland T: 07 4982 8807 // E: melissa.vohland@qatc.edu.au
www.futurebeef.com.au/events

More Beef from Pastures and Making More from Sheep events

Cattle and sheep producers are invited to contact their local coordinator to express interest in an event in their region. These events help producers deliver greater profit from their enterprise.

Bookings and for more information:

To contact your local More Beef from Pastures coordinator: www.mla.com.au/mbfp

To contact your local Making More from Sheep coordinator: www.mla.com.au/mmfs

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