Report to stakeholders

This 'Report to stakeholders' provides a transparent overview of MLA's actual activities and outcomes in 2016–17, reporting against the objectives and planned activities outlined in MLA's Annual Investment Plan 2016-17.

MLA regards the MLA Annual Investment Plan 2016–17 as the first year of the MLA Strategic Plan 2016-2020.

The MLA Strategic Plan 2016–2020 is aligned to the Meat Industry Strategic Plan 2020 and the Australian Government's Science and Research Priorities and its Rural Research, Development and Extension Priorities. The MLA Strategic Plan was released in April 2016, following the publication of the Meat Industry Strategic Plan 2020 in September 2015.



Outcome by 2020

2. Market growth and diversification



3. Supply chain efficiency and integrity



The community continues to support and trust the Australian red meat and livestock industry, with industry practices in step with community expectations.

Improved access to markets, with marketing programs and value creating innovation driving increased consumer and customer preference and premiums for Australian red meat.

Increased returns through the value chain, with participants and customers confident in product quality, pricing and integrity systems.

- · Continuous improvement of the welfare of animals in our care
- Stewardship of environmental resources
- · Role of red meat in a healthy diet
- Efficiency and value in trade and market access
- · Marketing and promoting Australian red meat and livestock
- Optimising product quality and cost
- systems integrity

O/ of domestic consumers /O limiting red meat consumption due to animal welfare

2016-17 target: 7% 2015-16 benchmark: 7%

> of domestic consumers limiting red meat consumption due to environmental concerns

2016-17 target: 7% 2015–16 benchmark: 7%

new product to reduce the cost and welfare impact of endemic and emergency disease in Australia

2016-17 target: 1

cost reduction of feral animals and weeds million

2016–17 target: -\$5m 2015-16 benchmark: \$2.5b

9% of domestic main grocery buyers limiting beef consumption for health reasons

2016-17 target: 15% 2015-16 benchmark: 15%

of domestic main grocery buyers limiting lamb consumption for health reasons

2015-16 benchmark: 19%

2016-17 target: 19%

On track By 2020, achieve \$15m in new market opportunities

On track By 2020, deliver \$150m in new export market opportunities

23.4% of global consumers who prefer Australian

2016-17 target: 22.2% 2015–16 benchmark: 22.2%

5% of global consumers who prefer Australian lamh

2016-17 target: 20.6% 2015–16 benchmark: 20.4%

1 O/ of domestic main grocery buyers willing to pay a premium for Australian beef

2016-17 target: 20% 2015–16 benchmark: 19%

of domestic main grocery buyers willing to pay a premium for Australian lamb

2016-17 target: 22% 2015-16 benchmark: 21% efficiency

· Guaranteeing product quality and

57.59 MSA beef eating quality index

2016–17 target: 58.11 2015–16 benchmark: 57.61

93.9% beef compliance through optimising efficiency across the value chain

2016-17 target: 94 25% 2015–16 benchmark: 93.9%

74% (LPA) 99% (NLIS) compliance of integrity systems

awareness and

2016–17 target: 79% 2015-16 benchmark: 75%

64 KPIs

46 achieved 12 not achieved 5 partly achieved 1 not available (See Appendix A for more detail)

21 KPIs

14 achieved 0 not achieved 4 partly achieved 1 not available (See Appendix A for more detail)

38 KPIs

22 achieved 11 not achieved 5 partly achieved (See Appendix A for more detail)

Outcome by 2020

Priorities

Performance measures*

4. Productivity and profitability



Productivity gains through the value chain from the adoption of tools and technologies.

- · Production efficiencies in farms and feedlots
- Processing productivity
- · Live export productivity

On track

By 2020, improvement in total factor productivity of: 1.75% (southern beef); 0.5% (northern beef); 0.5% (sheepmeat); 1.5% (feedlot); 0.5% (goat)

On track

By 2020, improvement in business performance by ≥ 5%

\$13m

co-investment leveraged through MLA Donor Company in the processing automation portfolio

2016-17 target: \$10m 2015–16 benchmark: \$0

Not

Cost reduction of completed delivery and Live Export Global Index complete

2016-17 target: 0%

57 KPIs

35 achieved

14 not achieved

1 not available

2 on track

5 partly achieved

(See Appendix A for more detail)

2015–16 benchmark: cost of delivery

5. Leadership and collaborative culture



Industry participants are confident in industry leadership capability.

- · Building leadership capability
- · Protecting and promoting our industry

• Engagement with producers and stakeholders

3.4/5 stakeholder endorsement of MLA programs

2016–17 target: 2.6 2015–16 benchmark: 2.5

crisis simulation conducted with peak industry councils

2016-17 target: 1 2015-16 benchmark: 0

6. Stakeholder engagement



Industry participants are confident that the levy investment is delivering value.

member satisfaction with

2016-17 target: 3.6 2015–16 benchmark: 3.5

of users who find MLA
Market Information 'extremely or highly valuable'

2016-17 target: 58% 2015-16 benchmark: 57%

benchmarks and targets set

Measures Improved stakeholder endorsement of the value of MLA products and services

2016–17 target: methodology, benchmarks and targets set 2015–16 benchmark: methodology,

27 KPIs

22 achieved 3 not achieved 2 partly achieved (See Appendix A for more detail)

14 KPIs

12 achieved 1 not achieved 0 partly achieved 1 not available (See Appendix A for more detail) Milestone scorecard**

15

Consumer and community support



This pillar invests in research into the superior nutritional properties of red meat. It also invests in research and development to enhance the industry's animal welfare, disease control and environmental practices. This includes the communication of these actions and commitments by the industry to the community.

Priorities within this pillar are:

- Continuous improvement of the welfare of animals in our care
- Stewardship of environmental resources
- Role of red meat in a healthy diet.

\$37.9m 2013–14 \$33.2m 2014–15 **\$28.3m**

\$22.4m

Government funding

Processor contributions

LiveCorp contributions

* Total includes \$6.6 million invested via MLA Donor Company

Other sources

2016-17

Investment over time

welfare of animals in our care

Stewardship of environmental

Role of red meat in a healthy diet

resources





1 not available

(see Appendix A for a full list of KPIs)

Alignment to industry and government priorities

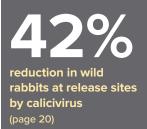
Australian Government priorities Meat Industry Strategic Plan (MISP) 2020 priorities Science and Research Rural Research, Development and Extension · Adoption of research and development · Continuous improvement of the welfare of animals in our care · Soil and water · Soil, water and managing natural resources • Stewardship of environmental resources · Environmental change · Advanced technology · Role of red meat in a healthy diet • Transport Biosecurity Resources Health



school students and 'foodie' consumers engaged about the industry's sustainability (pages 18 and 21)

Northern Australia

identified for improved regional seasonal forecasting (pages 20–21)







New learnings

about the survival of Johne's disease strains (page 18)



Five-fold increase

in nutrition symposium attendance since 2008 inception (page 22)

Up to \$500,000

cost savings and emissions reduction for processor converting waste to energy (page 21)



ready for commercialisation (page 19)



foxes becomes commercially available (page 22)





All-time high investment

in livestock welfare research (page 19)

Biocontrol

of parkinsonia and gorse exceeds release targets (page 20)



Continuous improvement of the welfare of animals in our care

The community has high expectations about the way livestock are treated and how animal welfare standards are applied in the industry. It is important that industry continues to improve the welfare of livestock by enhancing husbandry practices through adoption of new research. This priority also seeks to improve welfare by ensuring the continued freedom of herds and flocks from exotic diseases and minimising the impact of endemic diseases. Equally, it's important that industry clearly communicates these improvements to the Australian and global community to instil confidence and maintain their support for the industry.

2016-17 investment by funding source



- Producer levies
- Government funding
- LiveCorp contributions
- Other sources
- * Total includes \$4.0 million invested via MLA Donor Company

HIGHLIGHTS

Enhanced community engagement platform¹

MLA has worked to enhance its current community engagement platform — Target 100 — with a more direct and transparent platform to address specific issues within the Australian red meat industry and satisfy the community's growing appetite for knowledge of the Australian red meat supply chain.

The platform – GoodMeat – will be launched in early 2017–18 and will seek community engagement across Facebook, Twitter, YouTube, Instagram and LinkedIn. A key feature will be an improved and extended schools' education program.

Industry advocates double¹

Livestock producers are powerful advocates for the industry and, during 2016–17, MLA doubled the number of producers engaging with the community to more than 60.

Sixteen producer advocates, along with MLA resident butcher Doug Piper and corporate chef Sam Burke, directly connected with more than 4,500 consumers at three of Australia's leading food festivals – Taste in Sydney and Melbourne, the Sydney Royal Easter Show and Regional Flavours in Brisbane.

Attendees gained a deeper appreciation of the passion and commitment of Australian cattle and sheep producers. They also acquired knowledge about where different cuts of beef and lamb come from and learned innovative ways to cook a range of premium and secondary cuts for everyday meals.

Advocates are encouraged to spread positive messages online and within their communities through writing blogs, sharing opinions and engaging with the media.

Cryptosporidium infection

Internal parasites cost the Australian sheep industry about \$436 million/year. To better understand how to minimise this impact, MLA partnered with Australian Wool Innovation and Murdoch University to fund research to detect and measure the pathogen load of 10 key pathogens found in sheep faeces across four states.

These were: Salmonella, Campylobacter, Yersinia, Chlamydia, Eimeria, Cryptosporidium, Giardia, Haemonchus, Teladorsagia and Trichostrongylus. A key finding was that protozoan infections, particularly *Cryptosporidium*, *Giardia* and *Yersinia*, can have chronic impacts on productivity. Zoonotic *Cryptosporidium* parvum was associated with reductions in live weight of up to 3.5kg, carcase weight 2.6kg and dressing percentage 4.6%.

Researchers developed and validated three diagnostic tools to determine prevalence and pathogen loads. Analysis found distinct differences in pathogen prevalence across the four states. In general, pathogens were prevalent in the east while *Cryptosporidium* and *Giardia* were more prevalent in WA.

Further research is recommended to validate a uniform diagnostic tool for use across all laboratories.

Johne's Disease bacteria discovery

MLA collaborated with James Cook University and the Australian Government to fund research into the survival of Johne's Disease bacteria in Far North Queensland.

In 2012 and 2013, two Queensland beef properties discovered they had a Johne's infection that was not caused by the introduction of cattle infected with southern strains of the disease. MLA and its partners responded by testing the environmental survival parameters of this new strain to provide guidance for future control programs.

Research found that the bovine and bison strains of Johne's Disease can, under certain conditions, survive for more than 12 months in northern Australia. This finding informs industry that the strategy of de-stocking a property for one year is not a guarantee of disease eradication. The study also found that present diagnostic tests are sufficiently accurate and that presence of dead bacteria does not confound results.

Bluetongue disease spread prediction model

Australia's red meat industry has an enviable position worldwide for its disease-free status. To protect this, MLA continues to invest in biosecurity research and develop effective containment strategies.

During 2016–17, MLA, in partnership with the University of Western Australia, unveiled its new simulation technology for predicting the spread of Bluetongue disease.



An insect-borne, viral disease which affects sheep, goats, deer and cattle, Bluetongue is fatal at worst and, at best, results in significant production losses. With a recent outbreak in northern Europe, an area previously thought too cold for the vector, this new computer simulator will enable Australia to be prepared (e.g. with vaccinations and other mitigation measures) should an outbreak occur.

The model uses relevant datasets including livestock locations and weather patterns along with assumptions about unknown factors (such as the characteristics of incursive Bluetongue strains and vectors) to estimate the timing, geographical extent and livestock impact of a hypothetical Bluetongue outbreak.

Animal welfare strategic partnership launch

In one of the largest investments in livestock welfare research to date, MLA Donor Company (MDC) has joined forces with some leading research organisations to undertake new projects that will maintain Australia's position as

a world leader in the ethical treatment of animals.

The Strategic Partnership for Animal Welfare Research, Development and Adoption includes MDC, University of Melbourne, Agriculture Victoria, South Australia Research and Development Institute, University of Queensland, Charles Sturt University, University of Western Australia, University of Sydney, NSW Department of Primary Industries and University of Adelaide.

The MDC Board has endorsed the assessment and contracting of projects within the Strategic Partnership of up to \$7 million/annum for five years, while more than \$20.6 million has been committed by the partners so far for projects to be delivered in the next five years.

By the end of 2016–17, 10 research and development projects were approved and a further two were under consideration.

Livestock Global Assurance Program (LGAP)

Australian Livestock Exporters' Council members have provided in-principle

support for scoping the initial implementation of Livestock Global Assurance Program (LGAP).

LGAP is an assessment and certification assurance system to assist livestock exporters meet their regulatory requirements under the Exporter Supply Chain Assurance System (ESCAS). It was developed through a joint research project funded by LiveCorp and MLA through the Livestock Export Program.

The LGAP Implementation Steering Committee has developed an implementation plan with the Australian Government Department of Agriculture and Water Resources. The plan will be considered by the Australian Livestock Exporters' Council in early 2017–18. The Federal Budget announced on 9 May 2017 that the Government will provide \$8.3 million over four years from 2017–18 to support the Council to implement LGAP. If industry decides to proceed with implementation, MLA will continue to provide relevant services and support.

1 These activities also operate within the 'Stewardship of environmental resources' priority (see pages 20–21).

NumNuts ready for commercialisation

An MLA-funded field trial testing the efficacy of the NumNuts prototype (pictured below) has confirmed the device significantly reduces pain associated with lamb marking, supporting MLA's commitment to pursue full scale commercialisation with an external partner.

The trial involved two separate cohorts of 150 sheepmeat and cross-bred type animals and was conducted in Victoria and

Funded by MLA and Australian Wool Innovation, NumNuts was developed by Scottish engineering firm 4cDesign and incorporates a single-action, hand-held ring activator and injection mechanism to administer local anaesthetic. The Moredun Research Centre in Scotland and CSIRO also contributed to the project.





Stewardship of environmental resources

Livestock production relies on natural resources. Future increases in production will depend on efficiently and effectively managing soil health, weeds, invasive animals, water, methane emissions, biodiversity and climate variability. These themes provide the focus for MLA's research and development to assist the industry improve its productivity and sustainability. Maintaining the industry's environmental footprint in line with community expectations is also a primary goal. This is achieved by the industry engaging with consumers to demonstrate it is an ethical and responsible custodian of livestock, land and natural resources.

2016-17 investment by funding source



- Producer levies
 Government funding
 Processor contributions
 Other sources
- * Total includes \$2.6 million invested via MLA Donor Company

HIGHLIGHTS

Weed bio-control

MLA, in partnership with the Australian Government's Rural R&D for Profit program, is fast-tracking the biological control of six national priority agricultural weeds – parkinsonian, parthenium, blackberry, silverleaf nightshade, cylindropuntia and gorse – across northern and southern Australia. This is being achieved by generating and delivering eight biocontrol agents to producers via a new national research, development and extension collaboration.

The parkinsonia project, conducted in collaboration with CSIRO, is well ahead of schedule with more than 123,000 pupae and 115,000 larvae of two looper moth species already distributed at more than 60 sites across rangelands in Queensland, NT and WA. This far exceeds the initial target of releases at 18 sites by mid-2018. Despite some initial setbacks, mainly poor larvae survival caused by predators, lack of lush foliage and transport issues, the project continues to be an example of collaborative success with numerous government agencies, organisations, local resource management groups and landholders committed to the program.

Significant inroads are being made into controlling gorse in Victoria, Tasmania, NSW and SA with the mass-rearing and distribution of the soft shoot moth, *Agonopterix umbellana*. Since its commencement, the project has released the moth at 66 sites: 16 sites each in Victoria, SA and NSW; and 18 in Tasmania. Although releases in 2016–17 in SA and NSW were originally unplanned, the project was able to hasten the collection and so enabled early distribution of the moth into SA and in NSW.

Rabbit calicivirus release

Red meat producers are benefitting from a significant reduction in rabbit numbers following the successful release of the new Korean strain of Rabbit Haemorrhagic Disease Virus, known as RHDV1 K5 – the first rabbit biocontrol agent to be released in 20 years.

In March, the virus was released at 584 sites around Australia. An initial analysis indicated a 42% average reduction in wild rabbit numbers at sites where the new strain was released.

MLA was one of 10 partner organisations supporting the release through the

Invasive Animals CRC and helped support a comprehensive community engagement program. Prior to the release, more than 100 community meetings were held across NSW, Victoria, WA and Queensland to share information about the release and explain how people could get involved. From these, a coordinated expression of interest process was used to prioritise release locations which attracted more than 900 responses. This and further support materials, including an information pack which provided easy 'how-to guides' for each aspect of the release, helped ensure strong community engagement with the project.

Participants were automatically signed up to Invasive Animals CRC's RabbitScan tool which informs a database on levels of infestation but also records tissue sample results which measure the success of the K5 release.

New toxin for wild dogs and foxes

The first new predator toxin approved for the Australian market in 50 years was commercially released in 2016–17. It joins the existing suite of control measures which include 1080 ground and aerial baiting, trapping and shooting.

MLA supported the release through the Invasive Animals CRC, and its co-investors Animal Control Technologies Australia Pty Ltd, Australian Wool Innovation and the Australian Government.

The toxin, known as PAPP (para-amino propiophenone), provides a swift death with reduced risk to non-targeted species and the availability of a veterinarian-administered antidote — methylene blue — marketed as Blue-Healer, makes it unique in the marketplace. PAPP has a significant role to play controlling predators in peri-urban areas or where domestic or non-targeted animals may be at risk.

Managing climate variability – Phase V

MLA remains a partner in the Managing Climate Variability Program, now in Phase V. During 2016–17, the program focused on identifying producer-driven research priorities to inform project directions for 2017–18 and beyond.

Two CSIRO-led climate workshops were held in Darwin and Katherine and consulted red meat producers



and horticulturalists to identify climate information shortfalls in northern Australia.

The workshops identified that much of the climate and forecasting information available could be better tailored to individual users and value-added to calculate variables such as pasture growth to better inform on farm management decisions. Another finding was that northern Australia required more regional seasonal forecasting that acknowledged the influence of relevant climate drivers and focused more on the application of climate science. This includes accurately predicting a region's 'green date' or periods of no rain that might influence supplementation, mustering or transport timing decisions.

The workshop findings will inform a series of new projects to be commissioned in 2017–18.

MLA, in collaboration with 13 partners, was also successful in attracting \$6.2 million to improve seasonal forecasting of extreme weather events. This will result in a new suite of products from the Bureau of Meteorology to help producers become more proactive and informed in making weather-based decisions.

Bio usage/reducing emissions in plants

One of Australia's largest red meat processors, Teys Cargill, teamed up with MLA Donor Company (MDC) to design and implement an innovative wastewater treatment system incorporating biogas capture and reuse technology.

Covered anaerobic lagoon technology enabled biogas energy to be extracted from wastewater generated at Teys' red meat processing facilities at Beenleigh and Rockhampton. The biogas was then cleaned to remove impurities and combusted in gas boilers to generate hot water and steam for use in the processing facilities.

Carbon emission intensity was reduced by 52% and 39% at the Beenleigh and Rockhampton sites respectively. Natural gas expenditure at Beenleigh reduced by \$500,000/year and spend on coal at Rockhampton reduced approximately \$135,000/year.

This project provides further evidence that the biogas generated and captured by covered anaerobic lagoon technology at beef processing plants is energy-rich (67–70% methane) and contains relatively low concentrations of

hydrogen sulphide (< 0.2 concentration in volume/volume percent). It can also be generated reliably throughout a typical production week and can be used in boilers with little conditioning other than glycol chilling. Some alterations are required to procedures used to start up and shutdown boilers.

Virtual excursions¹

More than 2,000 Australian primary school students and the Australian International School in Indonesia learnt more about how beef and lamb is produced from MLA's Target 100 online education program.

Consisting of 24 video conference lessons led by a specialist teacher, the program could be live broadcast to up to 10 classrooms at a time and was designed for use on school electronic whiteboards and computers.

This format of delivery has proved successful, with an almost doubling in participation, (from 1,100 students in 2015–16 to more than 2,000 in 2016–17). To increase engagement further, 12 producer advocates (see photo below) helped students learn about sustainable farming practices, life cycles, and how their food is grown

and produced by discovering how producers look after their animals and the environment on their own farms.

The lessons, based on three curriculum-aligned teacher guides, have been downloaded by nearly 9,000 recipients from metropolitan schools.

The program was developed by Kimberlin Education and aims to position MLA's free educational resources as a trustworthy, credible and complete resource for information on sustainability in the Australian red meat industry. The program has proven to be a cost-effective way of introducing upper and lower primary school children to farming around Australia, the red meat industry and knowledge about where their food comes from.

1 These activities also operate within the 'Continuous improvement of the welfare of animals in our care' priority (see pages 18–19).

Virtually visiting a farm

Greg Newell, one of MLA's producer advocates, speaking to primary school students live on camera about beef and lamb production in Australia as part of MLA's 'Virtual Excursions'. Greg is accompanied by Kimberlin teacher Emily. Greg is a beef producer from the Manning Valley, Wingham, NSW.





Role of red meat in a healthy diet

Red meat faces strong price competition from protein sources like pork and chicken. Securing red meat's place in a healthy diet and giving consumers a compelling reason to purchase requires consistent messages to be delivered in the marketplace about the nutritional benefits of red meat. Defending the role of red meat in a healthy diet also requires informing domestic and global nutrition policy and key opinion leaders with evidence on the amount and frequency of red meat consumption to achieve healthy living.

2016-17 investment by funding source



Producer levies
Government funding
Processor contributions

HIGHLIGHTS

Annual nutrition symposium

MLA's annual nutrition symposium, held in Sydney, provides a forum to present evidence underpinning MLA's nutrition education material to Australian dietitians and healthcare professionals.

The theme of the 2017 symposium was 'Nutrition in action – making everyday meals, healthy meals' and attracted 800 registrations by participants attending either in person or via webinar, a five-fold increase since the symposium's inception in 2008.

The topical and diverse program, aligned with modern dietetic practice, is a drawcard for professionals as an enjoyable networking and educational event. The symposium is also an assessable self-study activity that qualifies for the Dietitians Association of Australia's professional development accreditation program, providing an additional incentive to attend.

Evaluation of this year's event indicated that key messages were well received and understood by delegates including:

- the need for at least two protein-rich meals a day for older people, as illustrated in MLA's latest nutrition education material Live Well – Tips for healthy living after 65 years
- the need to consider a population's diet and lifestyle risk profile to better understand the relationship between red meat and cancer
- the importance of providing nutrition advice as practical, everyday meals
- the benefits to health and the planet from eating according to the Australian Dietary Guidelines and reducing food waste.

More than 85% of delegates attending the symposium or live webinar reported being 'very satisfied' or 'satisfied' with the event

The recorded webinar will be promoted throughout the year and is available for viewing at mlahealthymeals.com.au. More than 750 people viewed last year's symposium with most spending more than 70 minutes viewing the presentations.

MLA Nutrition Advisory Committee to guide five-year planning

To identify future research directions relevant to the role of red meat in

a healthy diet, MLA followed up its successful annual nutrition symposium with a workshop.

Attended by presenters from the symposium and MLA's Nutrition Advisory Committee, the workshop reviewed evidence on health issues and outcomes relating to red meat and health, including research previously funded by MLA.

The key outcome was the development of a five-year nutrition research and communications plan.

Investments in research will inform the development of credible and effective communications and drive consistent messages on red meat's role in a healthy diet.

Investments in communications will build on MLA's reputation for high quality nutrition education, targeting key life stages which reinforce the nutritional benefits of consuming red meat three to four times a week as an important part of a healthy, balanced diet as per the Australian Dietary Guidelines. It will also develop a 'meals by cuts' program to promote beef and lamb as healthy meal solutions as part of a healthy, balanced diet and, ultimately, ensure the accurate representation of beef and lamb as healthy choices in dietary guidelines.

Launch of Live Well – tips for healthy living after 65 years

MLA-funded research confirms that red meat plays a key role in keeping Australia's ageing population active and healthy. This finding has informed MLA's latest nutrition education brochure aimed at healthy over-65-year-olds living independently.

Key messages in the Live Well – tips for healthy living after 65 years brochure will be communicated from August 2017 through health professionals and the media.

The MLA-funded research, conducted by Professors Robin Daly and Caryl Nowson of Deakin University, showed that a higher protein diet (80g of red meat spread over two meals, six days a week) combined with regular strengthening exercises, is beneficial to maintaining a healthy, active lifestyle into old age. The study has been published in peer-reviewed journals and presented at international conferences.

Following the research, the Active Ageing Expert Working Group was established, consisting of nutrition and exercise experts, a geriatrician



and health practitioners, to ensure the key messages were relevant to health professionals. The group identified key messages from the research which were tested by the target audience to ensure the messages were engaging and acceptable to consumers. These insights indicated that older people gain information on healthy living from a range of sources including health professionals, family, friends and the media and it highlighted the importance of ensuring consumers are exposed to consistent advice.

The project noted the general poor public awareness of the importance of protein and strengthening exercises to build and maintain muscle health, the key to active ageing. It also highlighted the importance of having at least two protein-rich meals a day.

To address this, a content marketing campaign is being developed to encourage patients to talk with their general practitioners about the healthy living tips recommended in the *Live Well* brochure. Partnerships with Starts at 60, the leading social platform for older people and medical media, will also raise awareness.

In addition, a multimedia campaign with Tonic Media will engage patients in doctors' waiting rooms with a short, educational TV program that directs them to MLA's *Live Well* brochures and a practice pack will equip general practitioners with answers to questions about the healthy living tips from their patients.

Nutrient data investment

MLA continues to invest in building and maintaining up-to-date red meat nutrient composition data to underpin and inform key public information sources such as the Australian Health Survey and Food Standards Australia New Zealand.

As part of this commitment, MLA has recently completed a secondary analysis of the Australian Health Survey, conducted by the Australian Bureau of Statistics, and found that average red meat consumption per capita is less than amounts recommended in the dietary guidelines, especially in children and women who have high iron needs (or are at greater risk of iron deficiency).

During 2017–18, MLA will be investigating how to optimise data usage to ensure red meat is accurately represented in future dietary guidelines.

Research shows gap between recommendations and reality

Professor Mike Reid, from RMIT University, presented at MLA's nutrition symposium, highlighting the divide between dietary guidelines and the meal choices consumers make.

Entitled 'Are you talking to me? You want me to do what?', the session shared MLA-funded research findings on consumer meal choices and mealtime practices and highlighted the value of this unique body of evidence to informing effective nutrition communications.

Mike particularly noted the gap between the Australian Dietary Guidelines' recommendations and the reality of most consumers. To bridge this divide, he recommended the importance of practical tips on meal planning and preparation which reflects consumers' everyday lives and which they can easily integrate into their habitual meal repertoire.



Market growth and diversification



value proposition to consumers and customers are the primary ways for the ndustry to grow demand and diversify markets.

technical barriers to reduce economic and technical barriers to trade, defend existing gains in trade and proactively identify and develop new business opportunities. It also recognises the quality and integrity systems that underpin marketing efforts to differentiate Australian red meat from other red meat competitors and proteins.

Priorities within this pillar are:

- Efficiency and value in trade and market access
- Marketing and promoting Australian red meat and livestock.

Key Performance Indicators

21 KPIs	14 achieved	4 partly achieved	0 not achieved
1 not available		2 on track to being achieved by 2020	

(see Appendix A for a full list of KPIs

Investment over time



2016–17 investment



- Marketing and promoting
 Australian red meat and
 livestock
- Efficiency and value in trade and market access

2016–17 investment by funding source



- Producer levies
- Government funding
- Processor contribution:
 - LiveCorp contributions
- Other sources
- * Total includes \$6.2 million invested via MLA Donor Company

Alignment to industry and government priorities

Meat Industry Strategic Plan (MISP) 2020	Australian Government priorities	
priorities	Science and Research	Rural Research, Development and Extension
Efficiency and value in trade and market access Marketing and promoting Australian red meat and livestock	• Food	Advanced technology Adoption of research and development

Proactive research

into Salmonella completed pending potential new requirements in the **US** (page 27)

23%

increase in domestic lamb sales during summer lamb campaign (page 29)

Japanese consumers

increase confidence to cook steak following MLA's 'Let's Barbie' campaign (page 28)



'TV ad of the Year'

won by the domestic spring lamb campaign at the Mumbrella Awards (page 29)

500% increase in Australian beef sales during E-Mart Trader's promotion in Korea

(page 28)



Trade liberalisation

in Indonesia, China and United Arab **Emirates** (pages 26-27)

printed meat showcased at **MLA**-supported Australian conference (page 29)





5.6% increase in domestic beef volumes during Dame Edna summer beef campaign (page 29)

of US chefs attending **MLA** immersion workshops trial Australian red meat (page 28)



PRIORITY

Efficiency and value in trade and market access

Australian red meat faces tariffs, quotas and technical barriers to trade across the globe, imposing billions of dollars in additional costs across the value chain. These barriers also prevent or restrict trade which limits the diversity of markets and, consequently, reduces the number of potential customers for Australian red meat. In response, MLA collaborates with industry stakeholders including the Australian Government, Australian Meat Processor Corporation (AMPC) and Australian Livestock Export Corporation (LiveCorp) to drive growth in exports. MLA does this by prioritising and taking action to reduce economic and technical barriers to trade in global markets.

2016-17 investment by funding source



- Producer levies
- Government funding
- Processor contributions
- LiveCorp contributions
- Other sources

HIGHLIGHTS

As the service provider to the jointly funded market access program (using producer levies and processor contributions), MLA continued its advocacy on a range of trade reform initiatives.

Trans-Pacific Partnership (TPP)

A key focus in 2016–17 was continuing to convey the need to harvest the gains from the yet-to-be ratified TPP, which hit a hurdle when the new United States Administration withdrew from the agreement in January. The remaining 11 TPP members are currently considering options to secure the benefits, with the TPP having the potential to deliver gains for Australian red meat in Canada, Mexico, Peru and Japan.

Regional Comprehensive Economic Partnership

MLA also strongly supported the ongoing Regional Comprehensive Economic Partnership negotiations, with the aim of gaining improved market access among several of the 16 country members, as well as potentially addressing numerous non-tariff barriers. The Regional Comprehensive Economic Partnership participating countries account for almost half of the world's population, almost 30% of global gross domestic product (GDP) and more than a quarter of world exports.

Free trade agreements (FTAs) in EU and UK

With Australian beef, sheepmeat and goatmeat facing punitive European Union (EU) quota access arrangements which hamper industry's response to ongoing EU consumer demand, MLA, in conjunction with industry stakeholders, continued to convey strong support for the early commencement of Australia-European Union FTA negotiations. These negotiations are expected to commence later in 2017, following the recent conclusion of the FTA scoping study.

MLA has also been actively advocating enhanced bilateral trade ties and non-discriminatory market access for Australian beef and sheepmeat entering the United Kingdom (UK) following Brexit, and the striking of an FTA (at the earliest opportunity) with the UK once it leaves the EU in March 2019

Other free trade negotiations

Industry also contributed to the Indonesia-Australia Comprehensive Economic Partnership negotiations, Australia-India Comprehensive Economic Co-operation Agreement and more recently, the Australia-Hong Kong Free Trade Agreement and Peru-Australia Free Trade Agreement negotiations by providing submissions outlining the potential benefits accruing to the red meat sector.

Economic impact of non-tariff barriers

While economic trade reform is highly advantageous, non-tariff barrier alleviation is equally beneficial, due to the negative impact non-tariff barriers have on the industry's competitiveness.

Research commissioned by the Australian red meat industry in 2016–17 estimates that the value of non-tariff barriers impacting the Australian red meat industry is around \$3.4 billion/year. This includes a \$2 billion estimated annual impact on beef, \$975 million on sheepmeat, \$86 million on goatmeat, and \$363 million on beef and sheepmeat offal. Markets with high priority non-tariff barriers include China, the Middle East, Indonesia and Mexico.

The Australian Meat Industry Council and MLA initiated the revised research in order to re-energise industry and government action on non-tariff barriers. An ongoing coordinated industry effort, in partnership with the Australian Government, is now underway to alleviate the impacts of these priority non-tariff barriers. Progress has been made on several non-tariff barriers over the past 12 months (see below).

Beef and offal liberalisation in Indonesia

Australia welcomed an improvement to the trade environment in late 2016 with the Indonesian Government liberalising the previously restricted trade in beef and offal products. Key changes were the inclusion of heart, tongue, feet, liver and lungs along with secondary and manufacturing cuts as being eligible imports. This reform of previous trade restrictive barriers was the result of ongoing representation and dialogue between the Australian and Indonesia Governments, supported by commercial entities in both countries. It was also aided by a World Trade Organization dispute led by the United States and New Zealand, with Australia joining



as a third party. These improvements to Indonesia's import regime are now helping to facilitate new trade flows.

Increased chilled meat and tripe access in China

While the China-Australia FTA is currently in the process of eliminating all tariff barriers, the FTA did not address a number of outstanding non-tariff barriers. However, following sustained dialogue by the Australian Government and industry, Australia and China signed a Joint Statement in March 2017 to expand the chilled meat trade, expedite the listing of additional establishments eligible to export meat to China and advance Australia's access for tripe exports. Implementation of the Joint Statement by the Chinese Government is still pending.

Improved shelf life standards in the UAE

Another recent breakthrough on non-tariff barriers occurred in May in the Middle East. Following concerted industry and government advocacy for increased shelf life (via the provision of commercial and scientific justification), the United Arab Emirates (UAE) announced new shelf life standards, with vacuum-packed chilled beef being assigned a 120-day shelf life period (previously 90 days) and sheepmeat a 90-day period (previously 70 days).

Across the Middle East, shelf life restrictions have an impact value of more than \$85 million/year, so the UAE's move should help facilitate additional trade in high valued chilled product. The task now is to seek similar shelf life amendments in more countries throughout the Middle East region.

Surveys support US trade access

MLA completed two scientific data collection surveys in 2016–17 to reinforce Australia's meat safety standards in anticipation of potential new trade requirements for beef into the United States (Australia's second largest beef export market).

With the US under pressure from consumer lobby groups to declare specific strains of *Salmonella* an adulterant in ground beef, the US Department of Agriculture Food Safety and Inspection Service has undertaken a survey of their own processors and is examining contamination levels on beef carcases.

Concerns have been raised that bovine lymph nodes are a potential source of *Salmonella* and there are suggestions they should be removed from carcases at the time of slaughter.

In response, MLA has completed a survey of Australian processing facilities and established that lymph nodes are rarely contaminated with *Salmonella*. The resulting report has been submitted for publication in a scientific journal.

MLA also completed a separate survey about Australia's processing systems, to match a similar Food Safety and Inspection Service survey on the transfer of pathogens such as *Salmonella* and *E. coli* to beef carcases, and how they are removed through processing.

MLA's surveys aim to protect Australia's access to the US market and ensure the Australian beef industry is prepared for any new regulations that could result in technical trade barriers.

MLA's survey work aligns with Meat Industry Strategic Plan 2020 objectives regarding reducing technical trade barriers and providing more opportunities for Australian red meat in export markets.

Supporting market access

MLA regularly engages with key government officials to assist industry maintain and improve market access, which is vital for the export-focused Australian red meat and livestock industry. In June, MLA's Global Trade and Market Access Manager, Andrew McCallum (pictured centre) met with overseas-based Agricultural Counsellor staff from the Australian Government Department of Agriculture and Water Resources in Canberra.





PRIORIT'

Marketing and promoting Australian red meat and livestock

With Australian red meat facing increasing competition from other red meat suppliers and protein products in global markets, the industry must aggressively promote its superior points of difference to global customers and consumers — safety, quality and traceability. MLA also segments markets based on the size of the opportunity and the risks.

MLA's focus in the domestic market is to counter the historical trend of reducing per capita red meat consumption by focusing on Australian red meat's value proposition and business development.

2016-17 investment by funding source



- Producer levies
- Government funding
- Processor contributions
- LiveCorp contributions
- Other sources
- * Total includes \$6.2 million invested via MLA Donor Company

HIGHLIGHTS

US chef immersions

In 2016–17, MLA's chef immersions were held around the US with small targeted groups of 15 to 20 chefs in New York, San Francisco, Washington and Miami. The four immersions attracted 61 chefs, representing more than 2,000 restaurant locations and commercial catering operators that collectively oversee more than 9,000 business, healthcare and college and university dining operations in the US.

The events included education about Australian beef and lamb, culinary and butchery demonstrations, and hands-on cooking using Australian beef and lamb. They allowed MLA to target specific chefs who influence their peers, command large purchase volumes and operate in segments of the market that are the best fit for Australian red

On average, around 70% of participants in MLA's immersion programs went on to trial product.

For chefs who are most concerned with how beef and lamb taste and how the livestock were raised, this is the key pathway to purchase – 65% of those who trialled the product ended up adding it to their menu and 40% made it a permanent menu addition.

Let's Barbie in Japan

MLA continued its three-month 'Let's Barbie' summer campaign, tapping into Japanese consumers' growing demand for outdoor eating and trying thicker-cut steaks. Following the 2016 campaign, consumer awareness of the Australian 'barbie' concept increased from 6% in 2015 to 15% in 2016. Japanese housewives not confident to cook Australian beef decreased by nine percentage points versus 2015, while consumers who liked beef steak increased nine percentage points.

MLA also hosted its first pop-up store in Tokyo's fashionable Omopesando district in early June. The store was open for two weeks, selling steak samples and individual steaks, and providing education on how to cook a steak, Aussie barbecue style.

Retail campaigns in Korea

MLA worked with exporters, distributors and Korean retailers to grow sales of Australian beef through a series of 'True Aussie' promotional campaigns. Korean retailer, Homeplus, has 142 stores and is a loyal customer of Australian beef, with sales doubling over the past year. MLA worked closely with Homeplus to promote Australian beef, with joint 'True Aussie' beef promotions held in April and May.

MLA also facilitated a 'True Aussie' beef spring promotion event at all 11 stores of E-Mart Traders in April and May.
E-Mart Traders offered 13 cuts during the promotion period, including steaks such as sirloin, tenderloin and striploin as well as selections for grilling and braising. Sales of the 13 promotional Australian beef cuts reached \$3.7 million, up by 500% on regular sales.

MLA also activated 'True Aussie' beef promotions at other large Korean retailers including LotteMart and Lotte Vic Market.

Global Markets Forum

Almost 200 attendees at MLA's annual Global Markets Forums, held in March in Melbourne and Brisbane, heard first-hand from MLA's International Business Managers about the opportunities, emerging trends and challenges for Australian red meat over the next 12 months and beyond.

A post-event evaluation revealed that attendees rated the content highly, with 91% of Melbourne attendees and 85% of Brisbane attendees rating content as "very good" or "excellent". Further, 95% of Melbourne attendees and 91% of Brisbane attendees strongly agreed that topics were relevant to their businesses.

Consumer forecasting model

MLA has adopted the findings from a research model designed to forecast the impact changing marketing approaches could have on domestic consumer perceptions of beef and lamb, relative to other proteins.

The model has been tested on various product categories globally and has the ability to predict the impact of changing communication variables. Insights provided by the model will inform MLA's future strategies for beef and lamb. MLA is also sharing these insights with red meat industry stakeholders.

'You Never Lamb Alone' campaign

MLA continued its established 'You Never Lamb Alone' brand platform across successive domestic lamb marketing campaigns in 2016–17.

The **2016 spring lamb campaign** focused on the message of lamb being 'the



ultimate cross-cultural protein', with the video component featuring more than 150 people from different communities coming together over a lamb barbecue. The campaign resulted in lamb sales for the period finishing 5.3% higher than the same period in the previous year. The TV advertisement underpinning the program claimed 'TV Ad of the Year' at the recent Mumbrella Awards – the third year running MLA's lamb marketing has been awarded this accolade.

MLA's 2017 summer lamb promotion was spearheaded by the 'Celebrate Australia' campaign, featuring a lamb barbecue on Australia's coastline. The campaign resulted in the average volume sales of lamb increasing by 23% during the campaign – the third highest result on record. The campaign's content received more than 8.1 million views, with around 60% of these generated organically. A consumer survey conducted during the campaign indicated 50% of respondents were more likely to eat lamb after viewing the content, up from the previous benchmark of 33%.

MLA's **2017** autumn lamb campaign continued to position lamb as the meat that brings all Australians together. The centrepiece of the campaign was a week-long pop-up restaurant based in Sydney –The Currency Kitchen – which featured leading chefs serving up lamb to diners who paid for the experience with currency from anywhere in the world.

'You're Better on Beef' campaign

MLA's ongoing 'You're Better on Beef' platform underpinned its beef campaigns in 2016–17, building on research showing that after price, Australian consumers rate nutrition and versatility as the second and third most influential drivers of protein choice.

With retail prices at sustained highs, market conditions have made it challenging to maintain beef utilisation volumes. At almost four times the average retail price of chicken, beef commands a significant price premium within the category. Despite the natural drop in volume associated with high retail prices, beef enjoyed an overall value growth of 3.9% in 2016.

The six-week winter 2016 campaign aimed to inspire busy families with easy mid-week meal solutions. It resulted in the mean number of serves of beef per week increasing to 1.81, ahead of the target of 1.5–1.7 serves.

3D printed red meat

3D printed red meat was the focus at an MLA-supported conference in May 2017. 3D Food Printing Conference Asia-Pacific brought together expert speakers in the 3D printing field to discuss the future potential of the technology in food delivery. MLA's corporate chef, Sam Burke, was on hand to transform 3D printed beef into gourmet canapés and restaurant meals. The conference received widespread media interest – including on the Channel 9 news bulletin.



The iron-focused campaign from
October to December set out to educate
Australian women aged 18–54 that
the best source of dietary iron is beef,
with an education-based video series
featuring Dr Andrew Rochford. The
video delivered some of the strongest
video metrics MLA has ever achieved,
exceeding all benchmarks, with 70% of
the audience saying the content made
them more likely to eat beef, up from the
previous benchmark of 34%.

The summer beef 2017 campaign featured Dame Edna reaffirming that beef is the best natural source of iron for busy women. The eight-week campaign contributed to beef's value sales growing 3.6%, with volume sales increasing 5.6% compared with the preceding eight weeks. The campaign's content received more than 3.5 million views.

Spirit Hotel group collaboration

MLA worked closely with the Spirit Hotel group in 2016–17, conducting two annual support masterclasses in winter and summer with their frontline chef managers promoting Australian beef and lamb through their portfolio of hotels. The group has a strong food and beverage business with 89 hotels throughout Australia.

MLA worked with the group on redeveloping its steak culinary standards – the Spirit Steak Policy – to ensure steaks are cooked to their optimum and ensure customer satisfaction with Australian beef. MLA also collaborated with the group on a range of 'limited time' feature dishes showcasing beef and lamb, with more than 4.3 tonnes of beef and 1.8 tonnes of lamb consumed during the promotion phases.

3 Supply chain efficiency and integrity

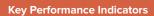


The red meat and livestock industry strives to achieve this through Meat Standards Australia, which guarantees consumers a minimum eating quality in their red meat purchases, and also through integrity systems that underpin clean, safe, natural and traceability claims.

The red meat and livestock industry has an opportunity to enhance this win-win for customers and value chain partners through new measurement technologies, information exchange and value-based pricing, where consumers pay the true value of the products they purchase and industry is able to increase the value of each carcase.

Priorities within this pillar are:

- Optimising product quality and cost efficiency
- Guaranteeing product quality and systems integrity.





(see Appendix A for a full list of KPIs)

\$29.1m \$26.8m 2015–16 \$20.8m 2013–14 \$20.0m 2014–15





- Optimising product quality and cost efficiency
- Guaranteeing product quality and systems integrity



- Producer levies
- Government funding
- Processor contributions
- Other sources
- * Total includes \$5.4 million invested via MLA Donor Company

Alignment to industry and government priorities

Meat Industry Strategic Plan (MISP) 2020	Australian Government priorities	
priorities	Science and Research	Rural Research, Development and Extension
 Optimising product quality and cost efficiency Guaranteeing product quality and systems integrity 	Food Transport	Advanced technology Adoption of research and development Biosecurity



MSA Index and cattle compliance

to MSA requirements increased (page 32)



\$120 million

in additional farm gate returns delivered by Meat Standards Australia (page 32)



71%

of lambs in the MSA pathway trade marked MSA

(page 32)

Australian Beef Language

reviewed and set for enhancement (page 33)

New myMSA

benchmarking tool released (page 32)

Meat colour

removed from MSA requirements, following rigorous research (page 32)



Sheep health

feedback included in Livestock Data Link



Paperless NVD

now available with the new eNVD launched

Enhanced capacity

and capability of NLIS database to meet future challenges (page 34)

NLIS Ltd relaunched

as Integrity Systems Company (page 34)



\$24 million

co-funded by MLA to fast-track DEXA installations (pages 32–33)





PRIORITY

Optimising product quality and cost efficiency

Since its inception in 1999, the industry's uptake of Meat Standards Australia (MSA) has helped lift the eating quality of red meat in the domestic market. The opportunity now exists to **broaden the reach** of MSA to export markets by providing marketers with a tool to sell Australian beef and lamb with eating quality claims. This priority also works with individual supply chains to reduce the eating quality variation within a production run and segregate and extract **higher premiums** for product with higher eating quality. There is also opportunity to **improve the value** of the carcase through value based pricing, underpinned by accurate and transparent objective measurements.

2016-17 investment by funding source



- Producer levies
- Government funding
- Processor contributions
- Other sources
- * Total includes \$4.3 million invested via MLA Donor Company

HIGHLIGHTS

Meat Standards Australia metrics

Independent eating quality standard, Meat Standards Australia (MSA), continues to enjoy strong uptake throughout the supply chain. During 2016–17, the MSA beef program returned an additional \$120 million in farm gate returns despite tighter supplies due to reduced slaughter numbers.

Nationally, 40% of adult cattle slaughtered was graded for MSA, a rise of two percentage points (or 5%) on the year before.

Sheepmeat followed a similar growth trend to beef, with a quarter of all carcases following the MSA pathway, an increase of two percentage points on the year before. The proportion of those lambs that were then trade marked as MSA rose significantly, from 63% during 2015–16 to 71% during 2016–17.

The Australian red meat industry continues to capitalise on MSA's reputation for consistent assurance of eating quality, demonstrated by an increase in the number of MSA licensed brands in the marketplace from 140 during 2015–16, to 155 in 2016–17. The number of MSA licensed brands communicating MSA in export markets also rose, from eight to 11 over the same period. By June 2017, 3,700 end user outlets were MSA licensed to use the trade mark.

MSA Index

The MSA Index, a score given to beef carcases on a scale from 30 to 80, underpins the beef industry's goal to provide meaningful feedback to producers on the eating quality performance of their cattle.

The national average MSA Index increased slightly in 2016–17 to 57.62 (from 57.52 in 2015–16). It slipped marginally for grassfed carcases from 58.5 (2015–16) to 58.43, but increased for grainfed carcases, from 56.66 to 56.79.

Overall, compliance to MSA requirements improved to 93.5% (up from 92.7%), with the biggest improvement coming from the grassfed sector.

The variation in eating quality of MSA cattle reduced, with the bottom end increasing by two points, reflecting an overall improvement in product consistency.

myMSA

myMSA, an online portal for MSA-accredited producers to access carcase feedback and benchmarking data, continues to be well used. More than 48,000 producers are currently registered to supply cattle and sheep to the MSA program. Of these, 10,342 supplied MSA cattle during 2016–17 with a third of them accessing the myMSA portal. Many of these producers accessed it more than once, with 3,400 producers collectively accessing the service more than 12,000 times during the year.

Uptake is expected to improve with the release of MLA's new myMSA benchmarking tool. The tool, launched in April 2017, enables producers to benchmark the MSA performance of their herd against those from similar enterprises from the same state, district, cattle type, weight range etc. The ability to individually tailor benchmarking parameters means producers gain context of their herd's performance and they can apply that knowledge to better inform their on-farm decisions. The tool also includes benchmarking of individual carcase attributes such as marbling performance.

Meat colour removed from MSA requirements

Meat colour was removed as a minimum MSA requirement during 2016–17, following rigorous consumer research.

The research, co-funded by MLA, confirmed that meat colour does not have an impact on eating quality, while pH remains an important MSA requirement.

The rigorous MLA consumer trial, involving 1,680 participants and more than 1,700 trays of meat in a simulated supermarket environment, demonstrated that consumers, while considering meat colour during their shopping, do not visually discriminate against darker meat colours when the pH is acceptable. The outcome was further supported by 1,440 consumers involved in sensory taste tests.

DEXA roll out

MLA will invest up to \$24 million to co-fund the installation of DEXA (Dual-Energy X-ray Absorptiometry) objective measurement systems in red meat processing plants following cross-industry endorsement to accelerate the adoption of the technology.

DEXA technology provides timely, accurate and objective information on the lean meat, bone and fat composition of each carcase.



An independent report funded by MLA and the Australian Meat Processor Corporation found that \$420 million/ year is the potential benefit to the red meat industry from the full adoption of objective measurement technology. The report also found that unless the roll out of the technology is fast-tracked, only \$72 million/year of benefit is likely to be realised by 2020.

DEXA installations will be funded via matching contributions from participating processors and MLA Donor Company. By June 2017, project submissions were received from four leading processors.

Livestock Data Link enhancements and roll out

Livestock Data Link (LDL), an online carcase feedback resource designed to inform the supply chain of the opportunity cost of missing market specifications, is becoming a more powerful and useful tool for producers.

Introduced as an MLA pilot project in 2012, LDL is now being used, at varying levels of capability, by 25 different processors across multiple sites Australia wide. JBS Southern has been using LDL since May 2015 and continues to be at the forefront of its adoption, using it to underpin its Farm Assured program.

Six of JBS' sites offer producers feedback on compliance, while JBS Brooklyn is also offering animal health feedback through LDL's link with the National Sheep Health Monitoring Project.

The release of the Project's data through LDL is a significant step forward for the adoption of LDL as it involves more than 7,000 properties and 11 processing establishments. It is anticipated that the animal health functionality may lead to improved adoption of the carcase compliance aspects of LDL.

During 2016–17, two new supply chains released carcase compliance feedback to their producers through LDL. Another lamb processor is in the final planning stages and a further two processors have requested licence agreements to start uploading the data to the LDL system.

Beef language review

The AUS-MEAT language will be enhanced following a review aimed at creating greater consistency and improved descriptions that better reflect consumer needs.

Embraced worldwide, the AUS-MEAT language is accepted by the United

Nations Economic Commission for Europe as the international language and takes into account the wide range of trade descriptions that have been adopted globally.

The Beef Language Review, announced in April 2017, was initiated by the peak industry councils: Australian Meat Industry Council, Australian Lot Feeders' Association and Cattle Council of Australia and was jointly funded by MLA and the Australian Meat Processor Corporation. It aimed to examine how developments in science and technology and changing consumer demands might reshape the language which has been in use since the 1980s.

Following a consultation and review process by independent industry experts, the Australian Beef Language White Paper was delivered to industry. A working group involving the Australian Meat Industry Council, Australian Lot Feeders' Association, Cattle Council of Australia and MLA reached a consensus on recommendations from the White Paper and implementation will be progressed during 2017–18 through the relevant industry committees,

predominantly the MSA Beef Taskforce and the Australian Meat Industry Language and Standards Committee and will also be influenced by key MLA programs such as the Digital Value Chain Strategy (see below).

Digital Value Chain Strategy

In July 2016, MLA announced plans to develop a 'Digital Value Chain Strategy' – an industry first – to empower every participant at every point in the value chain through data-driven commercial decision making. MLA has been leading the development of the strategy with industry to deliver seamless capture, integration and interpretation of the vast and increasing range of data being generated through new technology.

In developing the Strategy, MLA hosted the Australian red meat industry's Digital Strategy Forum in Brisbane in October 2016. The Forum provided an opportunity for more than 300 attendees from across the value chain to hear about new digital opportunities and participate in the development of the Strategy for the red meat and livestock industry.

Teys moves to DEXA

Export and domestic beef processor, Teys Australia, will have the first commercialised beef DEXA machine in Australia, with installation underway at its Rockhampton plant in central Queensland.

The beef side DEXA scanner is designed to measure the meat, bone and fat composition of each carcase. It is designed to integrate seamlessly with existing overhead chains, processing up to 600 sides/hour and can scan hot dressed or chilled beef sides hanging from a roller or skid. Carcase scan data is made available to the operator through a touch screen (pictured with MLA's General Manager of Research, Development and Innovation, Sean Starling) for real-time review or via a database, again in real-time.



Photo courtesy Colin Bettles, Fairfax Media



PRIORITY

Guaranteeing product quality and systems integrity

For years Australian red meat has been marketed as clean, safe and natural, underpinned by its disease-free status and advanced food safety and integrity systems. As our competitors build their own capabilities to deliver a similar product claim, it is essential for Australia to enhance our systems and technologies to keep ahead of our competitors and maintain our point of difference. Raising the bar of our integrity systems also helps Australia capture price premiums from discerning consumers and customers who are willing to pay more for higher levels of product

2016-17 investment by funding source



- Producer levies
- Government funding
- Processor contributions
- Other sources
- * Total includes \$1.1 million invested via MLA Donor Company

HIGHLIGHTS

New Integrity Systems Company

MLA continues to support the Australian red meat industry in growing its competitiveness in the global marketplace with the delivery of strengthened and more efficient product integrity systems. During 2016–17, a stand-out achievement was the launch of the new Integrity Systems Company, formerly known as NLIS Ltd.

While remaining a wholly-owned subsidiary of MLA, the Integrity Systems Company will ensure a streamlined, efficient management structure for the delivery of the Livestock Production Assurance (LPA) program, National Vendor Declarations (NVDs) and the National Livestock Identification System (NLIS).

The move follows a recommendation from the SAFEMEAT Initiatives Review in 2015, that responsibility for Australia's core on farm assurance and traceability programs should transfer to a single company to deliver a fully integrated integrity system.

The benefits will include improved efficiencies such as a streamlined policy framework, resource savings, simplified delivery and improved accessibility for producers.

Launch and progress of eNVDs

The red meat supply chain moved a step closer to becoming paperless during 2016–17 with the launch of a new electronic National Vendor Declaration (eNVD) system.

Aimed at streamlining data transfer, reducing costs and improving information accuracy, the new eNVD system is an electronic version of the present paper NVD document which is required for all movements of cattle, sheep and goats in Australia. Information provided is verified against property identification codes, LPA accreditation and NLIS status' to guarantee data integrity.

Following extensive trials, the Integrity Systems Company granted the first commercial licence to Australian provider, Aglive, which has released an eNVD app that provides access to unlimited eNVDs, at any time, from a smartphone, tablet or computer. For users with unreliable access to the internet, the app provides for data storage and automatic updates once service is available.

The Integrity Systems Company also launched its central online eNVD system through the LPA Service Centre during June 2017. With LPA NVDs now available to LPA-accredited producers and feedlots at no cost, coupled with access to MSA declarations, animal health declarations and National Feedlot Accreditation Scheme documents, the eNVD will enable producers to complete all livestock declarations efficiently.

More than 1,400 consignments were submitted through the eNVD system during 2016–17 and 17 supply chains are in the process of building their eNVD capability. While some supply chains may not yet be ready to receive declarations using the eNVD, producers can still gain the benefits of using the eNVD by entering consignments electronically and printing a copy to accompany livestock.

Integrity system metrics

NLIS cattle movements recorded by the NLIS database in 2016–17 was 26.94 million, a decline of 10% on movements in 2015–16, driven by a reduction in livestock transactions throughout the year.

Sheep and goat movements recorded by the NLIS database in 2016–17 reached 21.36 million, on par with 2015–16.

The number of LPA-accredited producers rose 2% during the year to 220,000.

NLIS refresh project

To ensure continued integrity of Australian red meat, the Integrity Systems Company upgraded the NLIS database to improve its capacity and capability to meet future data integrity, traceability and biosecurity challenges.

One of these improvements has been preparing for a sharp increase in data volume from the sheep industry, with Victoria becoming the first state to mandate sheep and goats requiring electronic NLIS identification. From 1 January 2017, all sheep and goats born in Victoria required an electronic NLIS (sheep) identification before being dispatched from their property of birth.

As part of the refresh project, the NLIS website joined the MLA single sign-on family (see page 47), enabling producers to access it, as well as a host of other market and industry resources, from one portal. A new NLIS dashboard has also been developed to provide producers with access to timely livestock movement information and reports.



LPA program enhancements

During 2016–17 the foundations were laid for a number of enhancements to the LPA program. The first was the implementation of a strengthened LPA accreditation process. Since September 2016, producers seeking LPA accreditation have been required to complete LPA's new online learning and assessment in order to become accredited. More than 7,200 new LPA producers have gained accreditation under this new model.

Other upgrades to the LPA program, that will be rolled out from 1 October 2017, include the introduction of two new LPA elements: animal welfare and biosecurity; and a new LPA reaccreditation process, which will require all 220,000 current LPA-accredited producers to complete LPA Learning and an assessment to maintain their accreditation.



Productivity and profitability



Encouraging the value chain to increase its productivity requires a new approach to adoption. Providing producers, lot feeders, live exporters and processors with compelling commercial benefits to implement research and development is another priority. Also critical is the supply of timely, accurate and relevant tools, technologies and information.

and help offset the long running cost-price

Priorities within this pillar are:

- Production efficiencies in farms and feedlots
- Processing productivity
- Live export productivity.

Key Performance Indicators

57 KPIs	35 achieved	5 partly achieved	14 not achieved
1 not avail	able	2 on track to being	achieved by 2020

(see Appendix A for a full list of KPIs)

Alignment to industry and government priorities

\$40.2m \$33.4m 2014–15 \$31.1m 2015–16 2016–17 investment by funding source \$17.9m \$2.6m \$37.6m \$0.2m \$10.2m \$10.

Meat Industry Strategic Plan (MISP) 2020	Australian Government priorities	
priorities	Science and Research	Rural Research, Development and Extension
Production efficiencies in farms and	Soil and water	Advanced technology
feedlots	• Food	Adoption of research and development
Processing productivity	Transport	Soil, water and managing natural resources
Live export productivity	Environmental change	
	Advanced manufacturing	
	• Energy	



Four LEAP V

automated bone-in forequarter systems being installed in 2017 (page 40)

Producer knowledge

and skills rise from 46% to 76% during **Profitable Grazing** Systems pilot (page 38)

More than 250

BladeStop units sold across the supply chain since 2014 (page 41)



beef sides/hour processed by robotic rib cutting (page 40)



Pasture dieback

action plan launched to find short and long-term solutions (pages 38–39)



One new commercial variety

of psyllid-resistant leucaena hybrid released (page 38)



Malaysian abattoir staff upskilled under Livestock Export **Program training** (page 42)



Genetics Consortium projects recommended for \$33 million in funding (page 38)



grassfed cattle and sheep research projects endorsed for funding, following regional consultation (page 38)

Management quidelines

for non-Merino ewes developed (page 39)

World-first

single step genetic analysis launched for Brahman breed (page 39)



Production efficiencies in farms and feedlots

For producers and lot feeders to remain competitive and sustainable in the long-term, MLA's research, development and adoption programs need to deliver outcomes that improve their bottom line. This priority is focused on providing producers and lot feeders with options to improve the efficiency of their operation through programs including genetics and genomics, feedbase, reproduction, animal nutrition, compliance to market specifications and feed efficiency. MLA will support the uptake of new practices through outcomes focused on producer education, training and coaching.

2016-17 investment by funding source



HIGHLIGHTS

Profitable Grazing Systems roll out

MLA's new on farm extension and adoption program, Profitable Grazing Systems (PGS), is being rolled out to producers following the success of the pilot program.

The pilot included 10 groups of beef, sheepmeat and goatmeat producers, with each group working in a supported learning environment under the guidance of specialist coaches. A total of 130 producers and 96 businesses participated in the pilot.

The aim of the PGS program is to encourage and support red meat producers to develop and implement management skills and lift productivity and profitability.

A mid-term review of the pilot found that producer knowledge, attitude, skills and aspirations increased from an average of 46% before the pilot started to 76%.

Regional consultation model progress

MLA's regional consultation process gives sheepmeat and grassfed beef producers direct input into how their levies should be invested in research, development and adoption. The second annual round of the process is underway, following 18 new projects announced from the first year.

Following extensive producer consultation, the Red Meat Panel recommended three priorities for sheepmeat and grassfed beef research, development and adoption in 2017–18:

- whole-farm breeder productivity systems
- future feedbase scenarios
- profitable and efficient ruminant nutrition.

An annual project call requested preliminary proposals from researchers in response to the three priorities and attracted 149 preliminary proposals. These were shortlisted by producer panels, industry groups and MLA to 24 full proposals which were appraised by the Expert Panel. The Red Meat Panel assessed 23 of those full proposals and endorsed projects for MLA funding. Following that process, final projects will be put to the MLA Board for approval in September 2017.

National Livestock Genetics Consortium

MLA successfully established a skills-based taskforce to drive the National Livestock Genetics Consortium, developed a five-year strategic plan and completed two project call rounds in 2016–17.

The aim of the Consortium is to double the annual rate of improvement in the industry's genetic value by 2022 through investment in livestock genetics projects that deliver one or more of the following: world-leading research and development; cultural change; disruptive technologies; and accessible data platforms.

Following an initial project call in October 2016, the Consortium taskforce recommended 12 projects to receive funding, worth \$16 million, and contracts have been executed for most of them.

In early 2017, the taskforce made a second call for projects that achieve outcomes in line with the Consortium's priorities. Thirty-one projects were submitted, with 17 recommended for funding, worth \$17 million.

Targeting leucaena

MLA completed two projects in 2016–17 as part of its research and development targeting leucaena-based grazing systems.

The development of a psyllid-resistant leucaena hybrid for northern Australia has resulted in the release of the 'Redlands' variety, with two commercial seed suppliers established in Queensland.

Leucaena DNA profiling has been undertaken by the University of Queensland to identify genetic diversity between the new psyllid-resistant variety and commercially available leucaena cultivars.

This project defined the risk of cross-breeding between varieties to ensure purity of these cultivars over time.

Further investment in 2017 will result in a partnership between the Department of Agriculture and Food, Western Australia; University of Queensland and MLA Donor Company to investigate the feasibility and define a pathway for the creation of a sterile hybrid of leucaena.

Pasture dieback action plan

Following reports by producers across central Queensland about widespread dieback of pastures including buffel



grass, as well as native bluegrass in the Wide Bay Burnett region, MLA announced an action plan in April 2017 to map and address recent pasture dieback in these regions.

The plan brings together producers, researchers and experts to better understand the extent of the pasture dieback and to find both short and long-term solutions.

Lifetime maternals management guidelines

Lamb producers will no longer have to adjust Merino condition score targets for their ewes, as a result of MLA-funded research aimed at lifting lamb survival, weaning rates and kilograms of lamb produced per hectare in maternal ewe flocks.

The 'Lifetime maternals project' developed management guidelines for non-Merino ewes, with the project's final report published in 2016–17.

Non-Merino ewes produce about 45% of the lamb supply from Australia. Since 2014, the project has tracked the performance of maternal ewes and their progeny through the reproduction cycle to see if the same condition scores apply or if productivity and profitability can be increased with alternative feeding regimes.

Guides for grazing reproducing ewes on cereals

MLA-funded research over two years resulted in the development and publication of fail-safe guides about grazing pregnant and lambing ewes on cereals

Grazing vegetative cereal crops is becoming an important strategic and tactical grazing option on mixed farms in Australia. Surveys of producers and consultants indicate 15–60% of producers with sheep and crops have adopted this practice. However, metabolic disorders have been reported and many producers avoid grazing crops with reproducing ewes.

The project was able to define the causes of metabolic risk and develop strategies to minimise ewe mortality and ill health.

Automation in feedlots

A number of MLA-funded research projects are underway examining the potential of introducing automation technologies into the feedlot sector to improve efficiencies and complement work undertaken by staff.

A feasibility study is examining automating the feedlot induction process, while other projects are studying pen cleaning automation, as well as remote monitoring of feed volumes in feed bunks.

Technology enabling the automated detection of the leading cause of sickness in Australian feedlot cattle, Bovine Respiratory Disease, is also being trialled in Australia in a new project supported by MLA. The project is evaluating an automated detection system known as the Remote Early Disease Identification System, developed in the US by veterinarian Dr Brad White. The technology is being trialled in two feedlots in southern Australia in collaboration with Dr White to demonstrate its value compared to traditional methods of Bovine Respiratory Disease diagnosis.

Goat population modelling

MLA and the Goat Industry Council of Australia have funded a population modelling project initiated by the New South Wales Department of Primary Industries to generate reliable information to improve the industry's ability to forecast supply.

The models will enable industry to estimate the number of goats managed,

unmanaged and marketed annually. It will allow for modelling of population changes and the sustainability of supply under different harvesting rates.

Sheep genetics

Sheep producers using Australian Sheep Breeding Values now have access to more accurate, reliable data on more animals in LAMBPLAN and MERINOSELECT, with these databases now including all information from genomic testing for Merino, Poll Dorset, White Suffolk and Border Leicester breeds.

Breeders can select young rams and ewes for traits such as lean meat yield, eating quality and others not recorded until later in life, with more confidence they're sourcing animals with the best genes for their production system.

Together, these provide scope for faster genetic progress in all traits contributing to value chain and industry profitability.

Sheep Genetics delivers world-class genetic evaluation services to the sheep industry. Since 2005, it has been co-funded by MLA and Australian Wool Innovation. Under a new business plan endorsed in 2016–17, Sheep Genetics is now solely managed by MLA – with Australian Wool Innovation contributing to projects on an individual project basis.

Single step to accelerate beef genetic gains

MLA helped achieve a world-first in the field of genetic evaluations for cattle with the move to 'Single step genetic analysis' for the Brahman breed in Australia.

Single step genetic analysis combines genomic and pedigree information with performance records to calculate estimated breeding values (EBVs). It enables Brahman breeders and buyers who use EBVs to have access to more accurate, reliable data and increased ability to select for a wider range of production traits when using BREEDPLAN.

Single step genetic analyses have also been tested for the Angus, Hereford and Wagyu breeds and will be implemented over coming months.





Processing productivity

With Australian red meat facing intense price competition from other red meat suppliers and proteins, every cent counts during processing. To help processors increase their efficiency and minimise production costs, this priority is focused on maximising value, addressing labour availability and workplace health and safety issues.

Automation technologies and objective measurement will be the primary avenues to achieve this.

2016-17 investment by funding source



- Processor contribution
- Other sources
- * Total includes \$4.9 million invested via MLA Donor Company

HIGHLIGHTS

Beef automation strategy

MLA has developed and is progressing a radical new technical approach to beef automation by breaking down carcases in a similar method to lamb into forequarters, middles and hindquarters, rather than just quarters and sides.

A new \$3.7 million project is underway to facilitate this shift and aims to unlock improved returns and major workplace safety benefits in the industry.

The 50:50 partnership between MLA Donor Company and Scott Automation & Robotics complements MLA's DEXA objective carcase measurement initiative (see pages 32 and 33), with the X-ray images generated by that technology used to precisely guide automated cutting modules.

The introduction of beef boning automation integrated with DEXA is expected to benefit the value chain and make Australia's high cost processing sector more profitable and sustainable in the long-term.

With the Australian Meat Processor Corporation's support, MLA is planning to establish a steering committee of leading meat processors to guide the project.

The first module in the beef boning automation program is the automated removal of the chine bone from striploins and cube rolls. The project will also investigate automated fat trim removal and striploin and cube roll marbling measurement while deboning.

Robotic beef rib cutter progress

The robotic beef rib cutting/scribing system is the first module developed in a suite of automated beef processing equipment to automate the breakdown of chilled beef from the chiller to the packaged box (see case study right).

The system, developed by Scott Automation & Robotics in collaboration with MLA, provides a wide range of benefits including maximising value of the product, workplace health and safety, labour efficiency, hygiene and productivity.

Rib cutting is the first point during the boning process at which value can be lost, necessitating that the task can only be performed by skilled operators due to the accuracy required to maximise value. The robotic beef rib cutting system replaces the actions of a manual rib cutter with an accurate, safe and

repeatable robotic solution. The system has been installed at JBS Dinmore, Queensland, and is the first system in operation.

The system uses X-ray, colour vision and laser scanning technology to accurately scribe rib specifications for each carcase side processed.

The rib scribe system can process a full range of sizes, weights and breeds, and is designed to operate with existing process chains at line speeds of up to 520 sides/hour.

A Greenleaf cost-benefit analysis report highlights that processing productivity can be increased by as much as 20% with the introduction of automation in critical areas of production.

Lamb automation update

For the past 13 years, Scott Automation & Robotics, in partnership with MLA, has been developing a vision of a fully automated lamb bone-in concept.

The primal cutting and bone-in middle processing components of this vision, known as the LEAP III and LEAP IV, were completed in 2012. The same year, the first LEAP V forequarter processing system prototype was completed. These modules operate and integrate together automatically and perform all of the typical bandsaw cuts performed in Australian processing facilities.

In 2017–18, Scott Automation & Robotics, in collaboration with MLA, is installing the first commercial LEAP V automated bone-in forequarter processing cells designed for Australian processing plants and conditions. The first of the systems is scheduled to be installed in July 2017 and a further three systems are scheduled to be installed in September 2017.

LEAP V uses laser scanning technology to process five forequarters/minute into their various bone-in components. Two cells can be integrated to operate at 10 forequarters/minute, and is as fast as any boning room currently operating in Australia. Processors without LEAP V require between two and four bandsaw operators to perform forequarter cutting, depending on cut specifications.

The system offers workplace health and safety, labour efficiency, hygiene and productivity benefits as well as maximising the value of the product.

Forequarters are able to be processed into any combination of the following



square cut components: neck tipping, neck removal, shank tipping, shank removal, breast removal, square cut and vertebrae splitting.

BladeStop update

More than 250 BladeStop bandsaw units have been sold across the value chain since the technology was released in January 2014.

BladeStop reduces the risk of serious injury by stopping the bandsaw blade within 0.009 seconds when the unit senses that a person has come in contact with the blade.

The system is enhanced with the addition of a recent development named GloveCheck which detects the operator's gloves moving at high speed in a zone directly upstream from the bandsaw blade.

Integrated carton handling and palletising solution

MLA has supported Kilcoy Pastoral Company to develop a fully integrated and automated data capture/ management and product handling system.

The system empties and fully assembles pallets through to end of line delivery into chilled and frozen storage.

The project commenced in September 2016 and is now in the final stages of successful trialling.

Robotic beef rib cutting a reality at JBS

Investments by MLA, Scott Automation & Robotics and JBS have led to the first fully automated robotic rib cutting system being installed at JBS Dinmore, Queensland, the largest beef processing plant in the southern hemisphere.

The system is now fully operational, processing up to 520 sides/hour, eliminating the need for workers to undertake the high-risk activity of manually cutting ribs with a pneumatic-driven circular saw.

Under the robotic rib cutting system, carcases pass out of the chillers and are graded before moving into the rib cutting room. The rib cutting integrated sensing system then reads the radio-frequency identification on each hook of every carcase to determine what cut specification is required for that carcase.

The system also features a number of sensors, including DEXA technology with laser surface profiling and colour machine vision, to analyse and calculate the coordinates to deliver the precise cut lines to the robot for that particular carcase. The carcases then pass out of the rib cutting room and into the boning room.

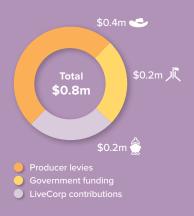




Live export productivity

One of the significant challenges for the Australian livestock export industry is to remain internationally competitive while working within existing regulatory frameworks. This priority addresses this by identifying cost savings, particularly in regulatory compliance and transport. This area also aims to improve animal health and welfare and productivity through the supply chain.

2016-17 investment by funding source



HIGHLIGHTS

In-market Livestock Export Program (LEP) training¹

MLA and LiveCorp invested in the Livestock Export Program in 2016–17 to deliver animal welfare improvements in Australia and overseas.

At the request of exporters, MLA also continued to assist commercial operators to meet Exporter Supply Chain Assurance System (ESCAS) requirements by building their compliance capacity through training, technical advice, risk assessment and gap analysis. This included supporting exporters and importers during Eid al-Adha to implement systems to mitigate risks of poor animal handling and slaughter at abattoirs to improve traceability and control.

Eid al-Adha represents a high risk period of ESCAS non-compliance and potential leakage outside approved supply chains.

LEP activities in 2016–17 included in-market training in the United Arab Emirates, Oman and the Kuwait in the Middle East/North Africa region, as well as in southern Asia

Indonesia

With the vast development of the Indonesian cattle industry and improvement in livestock welfare over the past three years, there are now more Indonesian feedlots managing Australian cattle. These new feedlots are stocking between 700 and 5,000 head of cattle. The LEP provided assistance through its 12-month nutritional advice project led by Dr Steve Sutherland. Dr Sutherland visited the feedlots every trimester and provided nutrition assistance to improve cattle efficiency and performance.

Despite assistance with nutrition and health and good results with improved production, challenging regulatory policies related to breeder imports continue to concern commercial operators in Indonesia. The LEP is working closely with Australian and Indonesian Government representatives to improve market access conditions.

Vietnam

To assist the Vietnamese cattle industry enhance the productivity in its feedlots and abattoirs, the LEP focused on providing opportunities to transfer knowledge and technology to the sectors.

In the feedlot sector this was achieved

through nutrition and silage workshops and facility visits in November 2016 and the two-day Beef and Dairy Livestock Exhibition in March 2017, attended by 610 participants, which showcased 40 commercial cattle industry related companies.

The abattoir sector was supported through Vietnamese Government training workshops held in Hanoi and Ho Chi Minh City in October 2016. In April and June 2017 the LEP began supporting the development of Vietnamese Government-supported training abattoirs which will create model facilities for the Government and abattoir owners in Vietnam.

Malaysia

LEP delivered ESCAS training workshops in October 2016, in conjunction with Malaysia Department of Veterinary Services at three of its cattle abattoirs (Kuala Terengganu, Jejawi and Senawang).

The workshops, attended by around 100 Malaysian abattoir staff, provided a refresher on ESCAS and low-stress handling and slaughter. Knife sharpening and good hygienic practices were also covered.

These activities combine to increase the efficiency of operators and their capacity to continue importing Australian livestock.

Heat stress research

Through the LEP, MLA and LiveCorp are undertaking research examining the impact of heat stress on Australian livestock exports.

A key finding from the research to date is that livestock exports need to be minimised when livestock, particularly sheep, are being transported from the Australian winter to the Middle Eastern summer.

While the Middle East experiences a combination of hot and humid, and hot and dry conditions, the research has stressed that hot and humid environments present an animal welfare risk.

Research is ongoing to assist animals in hot, dry environments. This work is focusing on acclimatisation of different breed types of sheep, vitamin E and selenium deficiencies, shade infrastructure types and other cooling methods such as wetting and the addition of fans



Monitoring and reporting framework

A new project funded by the LEP aims to demonstrate the industry's commitment to animal welfare and provides a platform to report and benchmark itself, supporting the charter for continual improvement and increased transparency.

The project will pilot and record animal welfare indicators through the supply chain and develop an industry dashboard for collecting data that will contribute towards benchmarking the industry. The welfare indicators include resource, animal and management-based measures which have been identified from previous research as both important and practical.

Some novel qualitative measures of welfare will also be captured, based on observing animals' behaviour, to provide a means of determining how the animals are coping at multiple points within the export chain in addition to physical measures of health and fitness.

Global Index for livestock exports

Next year will also see the development of a Global Index for the livestock export industry, also funded by the LEP. In order to assess the productivity and global competitiveness of the Australian livestock export industry, a comparison of costs versus returns of other exporting countries will be analysed, along with the cost of delivery of the required welfare standards. The development and use of a Global Index that accounts for inputs and outputs of the world's major livestock exporters will measure and map shifts in Australia's relative competitiveness to supply livestock to its overseas markets.

Improving supply chain efficiency and market access

With changed import requirements for breeder cattle in Indonesia, the LEP funded projects to improve breeding efficiency and feedlot performance through improved nutritional management. Workshops were held with both industry and government participants. The objective of this work was to improve the efficiency of production for Indonesian operators in an increasingly competitive environment, as cheaper Indian buffalo beef starts to impact demand for locally processed Australian cattle.

Workshops add value in MENA markets

MLA piloted a series of productivity workshops for butchers in 2016–17, to help importers of Australian livestock into the Middle East and North Africa (MENA) region extract more value from carcases and improve profitability. The workshops were located in Dubai, Qatar, Jordan, Kuwait and Israel.

Master butcher, Greg Butler (pictured in the foreground, with importers and butchers in Amman, Jordan), delivered the workshops, demonstrating how to break up sheep and cattle carcases to produce a variety of value-added cuts for consumers, rather than supplying whole carcases directly into wet markets.



The LEP also provided high-level support to senior industry delegations to Jakarta which met with the Indonesian Minister for Trade. The Australian representatives presented information and advice regarding Indonesia's self-sufficiency goals and recent initiatives to reduce the price of beef for Indonesian consumers.

The LEP program also operates under the core objectives of Pillar 1: Consumer and community support

5

Leadership and collaborative culture



Australian red meat and livestock industry and delivering on the ambitions of the Meat Industry Strategic Plan 2020 requires strong industry leadership, a capable workforce and the ability to attract the best and brightest minds to the industry

For MLA, the delivery of its own Strategic Plan will rely on the strength of our team and the expertise of our people. Our progress will be continually monitored, objectively measured, and transparently communicated to all stakeholders.

Priorities within this pillar are:

- Building leadership capability
- Protecting and promoting our industry.

\$16.5m \$13.1m \$12.9m 2016–17 2013–14 2014–15 \$7.8m



Kev Performance Indicators

27 KPIs 22 achieved 2 partly achieved 3 not achieved

(see Appendix A for a full list of KPIs

Alignment to industry and government priorities

Meat Industry Strategic Plan (MISP) 2020	Australian Government priorities	
priorities	Science and Research	Rural Research, Development and Extension
Building leadership capability	• Food	Adoption of research and development
Protecting and promoting our industry	Environmental change	Biosecurity



Three annual scholarship programs

to build industry capability supported by MLA (page 46)



Personalised online dashboard

myMLA, launched with more than 7,000 registrations (page 47)

Single username

and password launched for industry's integrity systems: LPA, NLIS, MSA, LDL (page 47)

Crisis simula<u>tio</u>n training

completed to improve industry preparedness (page 48)

Feedback magazine redesigned

with enhanced layout and readability (page 46)



New Producer Innovation **Fast-Track**

Program attracts 86 applicants, exceeding expectations (page 47)



Beef Industry Sustainabilty Framework endorsed

(page 48)





PRIORITY

Building leadership capability

The red meat and livestock industry depends on leaders who are capable, skilled and experienced to deliver on its strategic plans. In this priority, MLA works with the peak industry councils and other value chain participants to build the industry's capability and invest in current and emerging industry leaders through a range of professional development, graduate training, mentoring and scholarship opportunities.

Building capability extends to communicating with all industry stakeholders about the value of collaborative investment in marketing, research and development and ways for producers and other value chain participants to develop more productive and profitable businesses.

2016-17 investment by funding source



- Producer leviesGovernment funding
- Government fundingProcessor contributionsOther sources
- * Total includes \$4.8 million invested via MLA Donor Company

HIGHLIGHTS

Collaborative innovation

MLA's Collaborative Innovation Strategies Partnership helps businesses make their technological initiatives a reality through the formation of collaborative partnerships. One of these initiatives was the rapid development and implementation of the first fully integrated carton handling and palletising solution for beef processing which is delivering greater than a \$5/ head benefit

MLA is also partnering with technology providers, such as Hitachi Consulting, to develop and implement fully integrated information capture and real-time analytics to inform business decisions across the whole value chain. For example, a producer deciding what to do with livestock could look to real-time data and analytics on biomass (from a drone survey), cattle weight (based on walk-over-weighing), weather and market prices. The recommended actions could include buying, selling, keeping or moving livestock from one paddock to another. During 2016-17, an on farm project to identify and enhance process efficiencies was piloted on 'Croydon', an Australian Cattle and Beef Holdings property in central Queensland.

Feedback redesign

Feedback is MLA's magazine produced five times a year, providing red meat producers with practical on farm findings and information about how MLA is investing producer levies in marketing and research.

Following reader input, Feedback unveiled a refreshed design with the July/August 2017 edition – the first refresh in five years.

The new-look Feedback reflects modern design trends while providing key messages in a more effective, concise manner. While the magazine contains the much-loved producer case studies and recipes, it responds to the need for producers to quickly find stories that are relevant to them. It also addresses the saturation of information many producers experience and aims to distil key messages in an easily digestible format.

Professional development update

MLA continued to invest in building skills and leadership capacity within the peak industry councils and state farming organisations through professional development, mentoring and training.

This included working with Sheepmeat Council of Australia on the 'Building leadership capability for the sheep industry project'. Through this program 14 industry participants took part in the Sheepmeat Industry Governance Scholarship, 15 participated in the Governance in Action program, one in the Sheepmeat Council of Australia graduate program and two were recipients of the Sheepmeat Industry Ambassador Award, taking part in the Tri-Lamb Young Leaders Program and travelling to New Zealand, the US and various destinations around Australia.

MLA also worked with Cattle Council of Australia on the 'Building capacity in the grassfed beef industry project'. Through this program, 14 industry participants attended corporate governance training through the Australian Institute of Company Directors.

In addition to these capability building projects, MLA facilitated professional development training to 20 producer and industry leaders. This included presentation coaching, media and social media training, and providing media support for crisis management.

Scholarships

MLA continued to invest in the development of future rural leaders and improving skills across the industry through three scholarship programs.

Nuffield scholarships provide participants with practical farming knowledge and management skills. Scholars are given the unique opportunity to study a topic of interest, travel globally and share their learnings amongst peers and the wider industry. MLA's scholar in 2017 is beef producer Stuart Tait from Mandurama, NSW. He is investigating integrated beef and cropping systems.

The Australian Rural Leadership
Program provides a series of
experiences to develop the capabilities
of leaders from across rural, regional
and remote Australia. It is held over
15 months in locations across Australia
and Indonesia. MLA's current scholars
are Queensland beef producers William
Wilson and Lynda O'Brian.

The Horizon Scholarship, an initiative of the Rural Industries Research and Development Corporation, supports undergraduate students studying agricultural courses at university and provides access to professional



development, mentoring and work placements. MLA sponsored Jonathan Reid in 2016–17 who is completing a Bachelor of Agricultural Science at the University of Queensland. MLA is also funding three other Horizon scholars who are at different stages of their degrees.

Producer Innovation Fast-Track

MLA Donor Company's (MDC's)
Producer Innovation Fast-Track pilot
program commenced with the aim
of accelerating producer innovation
and adoption of technology. It was
launched in February 2017 with a series
of roadshows to inform innovative
producers about the program and how
they can get involved. The roadshows
spanned Geraldton and Esperance
in WA to Charters Towers and Roma
in Queensland and as far south as
Horsham, Victoria.

The program invited producers and producer groups to co-invest in projects in three key areas:

- accelerated adoption of innovations to improve on farm performance including genetics, digital agriculture, pasture management, animal nutrition and animal welfare
- producer-led innovations resulting in new products, brands and value chains
- producer-led new ventures and start-ups.

The response to the program exceeded expectations, with 86 applications received. Given the level of interest in the program, MDC is developing a number of options to support the project concepts through the Producer Innovation Fast-Track Program or a similar MDC model. Applicants included a diverse mix of individuals and small private companies, all open to embracing new ideas.

myMLA and single sign-on

MLA has launched a suite of new online services for the red meat and livestock industry, including:

- one username and password for key integrity and information systems (Livestock Production Assurance, National Vendor Declarations, National Livestock Identification System, Meat Standards Australia and Livestock Data Link)
- myMLA a personalised online dashboard providing news, weather, events and research and development tools relevant to individual users
- an upgraded Prices & Markets section of the MLA website offering customised market information and deeper analysis.

Since its launch in February, myMLA has received more than 7,000 registrations and more than 4,000 producers have set up a single user name and password to access their integrity systems.

The personalised myMLA dashboard allows producers to individually tailor it to provide relevant information relating to their location, enterprise and market information needs.

MLA's online Prices & Markets section has been upgraded to help users analyse the enormous volume of market data and information being generated across the industry and deliver it through a single integrated online platform. Through this platform, users can choose the information they want and how it's displayed. Producers can also listen to individual saleyard reports, recorded on location by MLA's Livestock Market Officers.

Access to more in-depth market information and analysis, the ability to save reports in multiple formats and compare specific markets' performance year-on-year will also improve the myMLA portal's relevance and functionality.

MLA is also working on further upgrades to the MLA website including new content, easier navigation, an enhanced weather service and easier access to MLA's vast library of research and development reports.





PRIORITY

Protecting and promoting our industry

Within this priority MLA is supporting the creation of frameworks and collecting evidence to measure the progress of the industry's development. Within this priority, MLA is also supporting the industry's development and implementation of a framework for efficiently reporting on its sustainability credentials. Responding quickly to a sudden or unexpected threat or risk can minimise the impact of a crisis on the industry. This priority addresses this need by reviewing and updating the industry's detailed *Crisis Response Plan* to prepare industry and individual sectors to avoid or mitigate the impact of any

2016-17 investment by funding source



Producer leviesGovernment fundingProcessor contributions

HIGHLIGHTS

Beef Industry Sustainability Framework

The first-ever framework that sets out the guiding principles of beef sustainability in Australia was reviewed by industry and endorsed during 2016–17.

The framework, developed following extensive consultation with 25 industry groups and another 36 external stakeholders including customers, animal welfare groups and financial institutions, outlines how the entire value chain monitors, measures and reports sustainability.

The framework is underpinned by four themes:

- environmental stewardship
- economic resilience
- people in the community
- animal welfare.

Driven from the grassroots by an 11-member group, the Red Meat Advisory Council's Sustainability Steering Group, the framework is intended to be a 'living' document, open to regular review and able to respond to any risks and opportunities impacting industry.

MLA has played an integral support role during the development process, providing secretariat services and, going forward, will assist the Sustainability Steering Group to lead the framework implementation, including alignment with research and adoption programs.

Crisis planning

As a principal service provider to the Australian red meat and livestock industry, MLA has a responsibility to assist the industry's ability to respond quickly to sudden or unexpected threats. This includes having effective crisis management plans and responses in place to mitigate risk or minimise damage.

In November 2016, MLA conducted a crisis simulation exercise that included members of the company's leadership, legal and risk and communication teams. MLA's *Crisis Response Plan* and crisis response portal, both of which were developed after a previous simulation exercise in 2015, were used during the simulation.

A key recommendation from the crisis simulation exercise was that the crisis response plan be updated to provide a more structured and practical guide. The crisis response portal supports the *Plan* as a 'living' resource which is routinely

updated, with recent upgrades including:

- further clarification of MLA's role and responsibilities in an industry crisis
- inclusion of references to MLA's crisis response portal
- alignment of jobs cards with the relevant MLA staff member
- a new crisis communication plan
- the housing of current templates, industry plans and key contacts during a response within the crisis portal.

During 2016–17, MLA also developed a 'key issues brief portal' which provides information on significant and topical MLA programs and current issues. This portal provides key talking points, MLA action and background information to provide a concise overview of MLA activities. These briefs are used as the basis for briefing senior staff, peak industry councils and other agencies and for developing MLA responses to media and other external information requests.

MLA regularly liaises with and assists the Red Meat Advisory Council (RMAC) and peak industry councils regarding the industry's preparedness to potential crises and met with RMAC's chief executive officers group on 18 May to present on and discuss:

- MLA's internal planning and preparation
- a demonstration of MLA's crisis portal and key issues brief portal
- RMAC members' own issues preparedness.

RMAC is coordinating the development of an issues preparedness framework and crisis management plan for industry which includes capability testing and the development of a crisis tool kit. RMAC is planning an industry simulation exercise for early 2017–18.

Risk management

MLA's *Risk Management Plan* outlines the process of identifying, assessing and managing risks, which is in line with AS/NZS ISO 31000:2009 Risk Management Standard. MLA reviews its *Risk Management Plan* and updates its risk profile annually. The *Plan* is reviewed by the MLA Board's Audit and Risk Committee (see page 65) and is then considered and endorsed by the Board. Mitigation strategies are also monitored regularly by both the Audit and Risk Committee and the Board.

The following table summarises MLA's mitigating activities in response to risks identified in MLA's *Strategic Plan* 2016–2020:



Risk Mitigating activities Levy resources · MLA Donor Company (MDC) has expanded its activities to attract co-investment from With reduced levy income from a lower herd individual enterprises and others that share a mutual interest to benefit the Australian and flock size there may be less opportunity red meat and livestock industry. These innovation projects are eligible for matched for matched Government funding. Government funding, easing reliance on levy income. · Ongoing exploration of new partnership opportunities such as through the Rural R&D for **Business type** Profit program and Cooperative Research Centre grants. The further consolidation of farm • Stringent investment decision making processes in place which link to the Meat Industry businesses means companies will become Strategic Plan, MLA Strategic Plan and MLA Annual Investment Plan. more vertically integrated which may have implications for the transaction levies that help fund MLA's work. Climate variability • The MLA-supported Managing Climate Variability program aims to develop whole-farm diagnostic and improvements in seasonal forecasts to assist mitigating business risk in Australia's variable and changing climate livestock production. poses a significant challenge to livestock · Climate-related projects through the Rural R&D for Profit program further examine a range producers. of topics such as climate model improvement, forecasting extreme weather, farming applications, forecasting tools and guidance for making informed business decisions. • Participatory learning programs have been designed to increase producers' skills and knowledge to manage climate variability impacts. · Investment in climate adaptation projects such as research, development and adoption of new grazing systems. Market competitors • International marketing and promotion led by MLA's International Business Managers, Competitor countries will continue to including collaborative business development and brand building activities with key end pressure Australia in a number of beef users and strategic partners. This includes an emphasis on Australia's safety, eating quality and traceability systems as part of promotions. markets · Market trends, value chains, competitor activities, consumer attitudes, perceptions and Global supply consumption are actively monitored. Market intelligence informs the marketing and Global meat supply is expected to promotion strategies in major markets. increase. · Investment in whole of value chain strategies to enhance efficiencies, enabling the Australian red meat industry to remain competitive. Market access • Market access is a component of MLA's international beef and lamb marketing strategy The trade environment is challenging and which is tested with major stakeholders in a taskforce process prior to execution by MLA's unpredictable due to changes in the global International Business Managers. political landscape, rising nationalism and · Continuous monitoring of trade barriers such as legislative, regulatory, tariff, non-tariff non-tariff barriers. barriers and sentiments. Insights inform market access strategies. • Impact of non-tariff barriers are quantified and used as a framework for prioritisation of issues. MLA works closely with industry and Government to alleviate non-tariff barriers. Domestic supply · Monitoring of domestic supply numbers and forecasts and reporting to industry Cattle numbers are forecast to bottom stakeholders. out in 2017, before gradually increasing again to 2020. Lamb turnoff is forecast to continue to rise slowly. **Product competitors** • Continuous monitoring of all protein consumption forecasts (including synthetic Growth in chicken and pork production is meats) and other lifestyle trends such as veganism and vegetarianism. Insights inform expected to continue to outpace growth in international and domestic marketing strategies. red meat production. • Investments in programs such as genetics and genomics, feedbase, reproduction and animal nutrition to enable the Australian red meat industry to remain competitive and sustainable in the long-term. Productivity · Investments in programs such as genetics and genomics, feedbase, reproduction and On farm productivity performance remains animal nutrition to improve the productive efficiency of red meat businesses. below the productivity improvements being • Investment in whole of value chain strategies to enhance efficiencies and feedback loops. secured by major international competitors.

extension services is likely to remain limited and is expected to decline further.

State government investment in agriculture

- MLA adoption programs are focused on developing sustainable commercial delivery models.
- MLA adoption projects enable the private sector through delivery models which offer commercial value propositions.
- Investment to build extension capabilities of interns and private sector professionals.

Inputs

Extension

Red meat processing costs are consistently higher than all of our major competitors and energy prices continue to escalate.

Where applicable, adoption projects are funded by MDC.

focus on maximising saleable meat yield and reducing reliance on labour.

- Where applicable, adoption projects are funded by MDC.
 Significant investments in automation technologies and objective measurement with a
- Co-management of processing efficiency technologies research and outcomes with the Australian Meat Processor Corporation.
- · Investment in whole of value chain efficiency strategies.

Stakeholder engagement



delivery of MLA's

Strategic Plan will require

an enhanced level of collaboration
between MLA and its many stakeholders.

This pillar focuses on extending the breadth and
depth of stakeholder engagement across MLA.

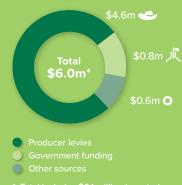
Genuine two-way consultation and collaboration will provide mutual benefit in the delivery of MLA's marketing, research and development services to industry. This pillar also includes the delivery of MLA's corporate reporting responsibilities within a culture of continuous improvement.

Priorities within this pillar are:

Engagement with producers and stakeholders

\$9.6m 2014–15 \$6.9m 2013–14 \$4.5m **\$6.0m**





* Total includes \$0.1 million invested via MLA Donor Company

Key Performance Indicators

14 KPIs	12 achieved	0 partly achieved
1 not achieved		1 not available

(see Appendix A for a full list of KPIs)

Alignment to government priorities

Australian Government priorities		
Science and Research	Rural Research, Development and Extension	
• Food	Adoption of research and development	



Enhanced market information

A significant upgrade to the Prices & Markets section of the MLA website was completed and launched in February 2017, offering the industry improved functionality and allowing deeper analysis. It includes a new interactive data tool, allowing users to customise, filter, chart and download all market report data – ranging from saleyard price and throughput data to direct sales and weekly slaughter activity. All saleyard reports are now also accompanied with audio commentary from local market reporters.

The upgrade was in response to producers' appetite for easier access to market information which can be tailored to their business. The upgrade resulted in a 27% rise in page views for the three months from February to April, well above the 5% target. It also resulted in a 41% rise in unique page views and 1.4 million page views in the three-month period post-launch.

Market Information Plus App

The MLA Market Information App was upgraded and launched in June 2017. The new app features three significant enhancements which allow users to map prices, filter parameters at specific saleyards and search different saleyards on a map.

MLA upgraded its data warehouse to the MicroStrategy platform, a move which enabled the development of the app and upgrade to the Prices & Markets section on the MLA website. This investment will significantly improve the efficiency and the delivery of information to producers and supply chain stakeholders.

Red Meat Research Reports

MLA's Market Information Services team launched a new series of *Red Meat Research Reports* to provide in-depth analysis of specific aspects of the global red meat industry and implications for Australia. The first report, *Sheepmeat's Unique Global Position*, was released in

April and the second, *The Korean beef market: Insights and prospects from an Australian perspective*, was published in June. Both received widespread media interest.

Enhanced delivery and user feedback

Ongoing enhancements to market information have equated to improvements in user feedback. The 2016 satisfaction survey results indicated 69% of respondents found MLA's market information either "highly" or "extremely" valuable, exceeding the target of 60%. Meanwhile, 99% of respondents indicated MLA's market information was "valuable", up on the target of 90%.

Views of beef and sheep projections videos also increased, with video views (including via Facebook and YouTube) for beef projections close to 11,000 and sheep projections more than 3,700. Subscribers to the *Meat & Livestock Weekly* e-newsletter increased from 2,100 to 2,690 in 2016–17.

Red Meat Industry Forum and AGM

More than 200 producers and industry representatives attended the MLA Red Meat Industry Forum and AGM at Hahndorf, South Australia, in November 2016. New initiatives introduced in 2016 included an advocacy workshop and a tour for innovative producers (hosted by MLA Donor Company) as a precursor to the launch of its Producer Innovation Fast-Track program (see page 47). The 2016 Red Meat Industry Forum comprised of two sessions, one coordinated by the Red Meat Advisory Council and the second featuring a series of coordinated presentations and Q&A session with MLA's General Managers. The Red Meat Industry Forum and the Chair's and Managing Director's reports to the AGM were streamed live online with provision for questions to be lodged ahead of and during the event via a dedicated email address.

LambEx

More than 1,000 producers and industry stakeholders from around Australia, the United States and New Zealand gathered in Albury in August 2016 for LambEx,

Australia's largest national sheep and lamb event. MLA hosted a trade stand which included the demonstration of the bandsaw innovation, BladeStop (see page 41). Perth, WA, will host the next LambEx event in August 2018, and MLA will again support the biennial event through sponsorship and working closely with industry to help deliver the event.

Event sponsorships

MLA's financial and in-kind sponsorship program supports third party events that assist red meat producers enhance their knowledge to increase on farm productivity and profitability. MLA's biannual call for sponsorships of up to \$10,000 resulted in MLA sponsoring 82 events during the year, reaching nearly 16,000 producers and industry stakeholders.

Industry issues research

MLA invests in an annual program of industry issues research projects to assist peak industry councils in policy analysis and development.

In 2016–17 MLA commissioned the inaugural State of the industry: the Australian red meat & livestock industry report to provide an annual snapshot of the industry and the significance of the trade. The report can be used across the sector to ensure consistent messaging when communicating with industry, government and the community.

MLA, on behalf of peak industry councils, also commissioned an independent report on the proposal to import beef from the US, Japan, the Netherlands, New Zealand and Vanuatu.

Corporate reporting

MLA's Annual Report 2015–16 was made available to stakeholders through the MLA website as well as in hard copy for members who requested it. It won a gold award at the Australasian Reporting Awards, a step up from the silver awarded to MLA's Annual Report 2014–15. This award recognised that MLA provided quality coverage, good disclosure and addressed current legislative and regulatory requirements. The Report was also commended for being comprehensive and engaging and explaining the complexity of the industry's stakeholder groups.