Annual Investment Plan

2020–21

MEAT & LIVESTOCK AUSTRALIA

Fostering prosperity

Contents

Introduction

This Annual Investment Plan (AIP) has been developed to inform levy payers, peak industry councils, the Australian Government and the wider industry about MLA's planned work program in 2020–21.

MLA is a research, development and marketing service provider to the Australian red meat and livestock industry. Funded by levy payers, the Australian Government and value chain partners, MLA's mission is to increase prosperity, sustainability and global competitiveness within and across the industry's value chain.

AIPs are prepared each financial year to guide the practical delivery of MLA's long-term investment priorities and outcomes, which are set out in MLA's Strategic Plan and align with the Australian Government's Science and Research Priorities and its Rural Research, Development and Extension Priorities.

2020–21 is year one of MLA's *Strategic Plan 2025* that was also under development during planning for the *Annual Investment Plan 2020–21* (Figure 1). MLA has taken its strategic direction this year from the Australian Government priorities mentioned above and the six priorities (Figure 2) that the Australian red meat and livestock industry has set through its own strategic plan, *Red Meat 2030* (**redmeat2030.com.au**).

Figure 1: A shared vision for the industry

Industry 10-year vision	MLA 5-year view	MLA 1-year view
Red Meat 2030 Industry vision and six priorities *'our foundation'*	**MLA Strategic Plan 2025** Translation and connection of *Red Meat 2030* priorities into **our strategic focus** *'what we are working towards'*	**MLA Annual Investment Plans** Programs, sub-programs, annual KPIs by priority *'our starting point'*
The red meat industry 10-year strategic plan, *Red Meat 2030*, is **our foundation.** It provides us with the 10-year shared vision and direction for the industry and sets out the six priorities to guide activities for whole of industry benefit and to monitor progress.	Through the MLA *Strategic Plan 2025*, we have connected and translated the six *Red Meat 2030* priorities for our stakeholders. Examining the connections and intersections between the six priorities enabled us to identify where we could deliver the greatest impact and define **our strategic focus.** It provides our levy payers, peak industry councils, the Australian Government and the wider industry with a five-year view on the strategic direction of MLA investments and outlines the transformation **we are working towards.**	MLA's Annual Investment Plans are prepared each financial year to guide the practical delivery of MLA's long-term investment priorities and outcomes, as set out in MLA's Strategic Plan. They provide the one-year program-level view and will be instrumental in the cycle of review to inform and refresh our strategy over the five-year period. The MLA *Annual Investment Plan 2020–21* will outline **our starting point** under this new strategic plan.

This AIP outlines the programs, sub-programs, product groups, key performance indicators and budgets that will guide MLA's activities in 2020–21. Successful delivery of this plan will act as a stepping stone towards achieving MLA's *Strategic Plan 2025*.

This AIP also denotes the sub-programs and product groups carried out by MLA's subsidiaries, MLA Donor Company (MDC) and Integrity Systems Company (ISC). MDC's and ISC's activities are also summarised on pages 11 and 13 respectively.

MLA's work plan in 2020-21 has been categorised into:

6
industry priorities

16
programs

32
sub-programs

Turn over to see how MLA's programs and sub-programs align to the industry's key priorities.

Figure 2: Industry priorities as set out in *Red Meat 2030*

Our people

People see being part of the Australian red meat and livestock industry as attractive now and into the future.

Our customers, consumers and communities

People feel good about eating Australian red meat. Our customers, consumers and communities recognise the vital role our industry plays in food production and food security, and trust us to deliver high value, high quality products.

Our livestock

We set the standard for world class animal health, welfare, biosecurity and production practices.

Our environment

We demonstrate leadership in sustainability, delivering on community expectations in the areas of land, water, biodiversity, climate variability and biosecurity.

Our markets

We improve the economic resilience for our industry by increasing access to, and the performance of, existing and new markets.

Our systems

We are a trusted brand because of our integrity systems, built on trust and respect that supports strong partnerships and sharing of information, reducing unnecessary industry and government regulation.

Table 1: Alignment of MLA's sub-programs to industry priorities

Programs and sub-programs in MLA's AIP 2020–21 **Industry priorities**

Program	Sub-program	Our people	Our customers, consumers and communities	Our livestock	Our environment	Our markets	Our systems
Animal health and welfare	Animal health		■	■	■		
	Animal welfare		■	■			
Domestic market	Market knowledge (domestic)		■	■		■	
	Marketing and promotion (domestic)		■			■	
	Nutrition		■				
International markets	Market access					■	
	Market knowledge (international)		■			■	
	Marketing and promotion (international)		■			■	
	Livestock export market activities					■	■
	Livestock export (research and development)		■	■		■	
Eating quality	Eating quality		■	■		■	■
Environmental sustainability	Sustainability (off-farm)		■		■		
	Sustainability (on-farm)		■	■	■		
Feedlot	Feedlot productivity			■			
Integrity systems	Integrity systems	■	■	■	■	■	■
	Market access science		■			■	■
Objective measurement	Objective measurement			■		■	■
Producer adoption	Producer adoption	■		■	■		
Product and packaging innovation	High Value Food Frontiers		■			■	
Value chain information and efficiency	Digital value chain information	■		■			■
Productivity (off-farm)	Productivity (off-farm)			■		■	■
Productivity (on-farm)	Beef productivity	■		■	■		
	Sheep productivity	■		■	■		
	Goat productivity	■		■	■		
	Livestock genetics			■	■		
	Feedbase production			■	■		
	Digital agriculture			■	■		■
Capability building	Innovation capability building	■		■		■	■
	Industry leadership and capacity building	■					
Communication	Communication (community)		■	■	■		
	Communication (stakeholder)		■				
Corporate services	Corporate services	■	■	■	■	■	■

Budget summary

In 2020–21 MLA plans to invest $293.8 million in research, development and marketing activities across six priorities and 16 program areas.

Projected 2020–21 investment by:

Industry priority
Total: $293.8 million

		$m
	Our people	19.4
	Our customers, consumers and communities	75.4
	Our livestock	80.6
	Our environment	32.7
	Our markets	32.1
	Our systems	35.9
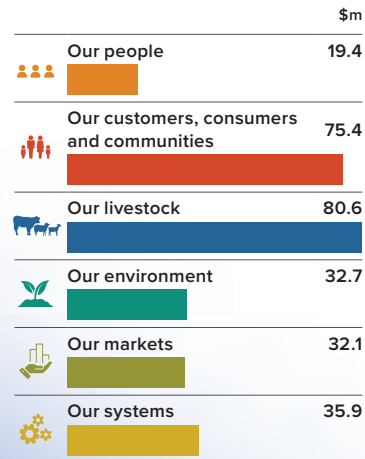
*Total may not add up due to rounding. Remaining balance is 'Corporate services'.

Funding source
Total: $293.8 million

		$m
	Sheep levies	45.5
	Grainfed cattle levies	13.9
	Grassfed cattle levies	62.6
	Goat levies	0.7
	Government	86.4
	Australian Meat Processor Corporation	19.9
	LiveCorp	1.4
	External	63.4
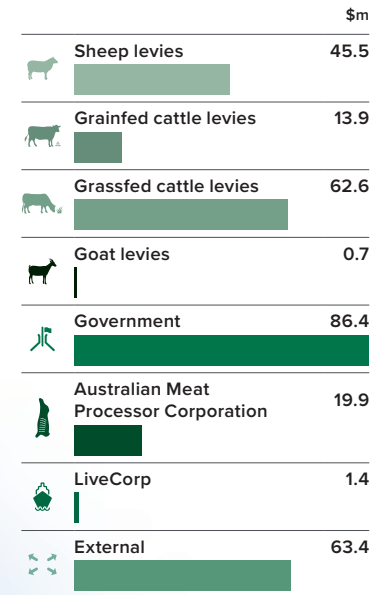
*Total may not add up due to rounding.

Program
Total: $293.8 million

		$m
	Animal health and welfare	9.2
	Domestic market	23.4
	International markets	47.7
	Eating quality	7.5
	Environmental sustainability	21.8
	Feedlot	9.2
	Integrity systems	28.2
	Objective measurement	21.8
	Producer adoption	12.7
	Product and packaging innovation	4.6
	Value chain information and efficiency	7.1
	Productivity (off-farm)	12.6
	Productivity (on-farm)	40.0
	Capability building	21.5
	Communication	8.9
	Corporate services	17.7

*Total may not add up due to rounding.

Operating environment

Most of Australia's key red meat markets are facing a significant economic slowdown or possible recession as a result of the COVID-19 outbreak.

While the impacts of COVID-19 on demand for Australian red meat may be more severe than any economic downturn in recent history, the industry will be more sheltered than most sectors (particularly markets where Australian product is sold through retail channels for consumption at home).

Foodservice, a critical channel for higher-value beef and lamb cuts, may struggle to return to pre-pandemic levels for some time. The channel and demand shift during an economic slowdown will continue to make 'using the whole carcase' a challenge.

A significant and widespread impact on disposable incomes could encourage greater consumption of lower-priced substitute proteins.

The lower Australian dollar is helping to mitigate the price impact from demand uncertainty. This shift in demand is also occurring at a time when Australia's herd and flock are at historical lows, and the forecast contraction in livestock supply over the next couple of years may shelter Australian cattle and sheep prices from global forces.

Key challenges and opportunities

The Australian red meat and livestock industry operates in a dynamic environment that presents a variety of challenges and opportunities.

MLA is working in each of these areas to foster the prosperity of Australian red meat. For a full list of MLA's programs and sub-programs, see Table 1 on page 6.

Challenges

1. **Competitors**
   - Competitor productivity gains may slow over the coming 12 months, but the long-term expectation is for productivity gains to continue to outpace growth in Australian red meat production.
   - African Swine Fever (ASF) remains a critical issue for global protein markets to grapple with. ASF continues to spread across South East Asia, highlighting the importance of biosecurity controls and our integrity systems.
   - Competitors will continue to strengthen integrity systems in support of market access gains with heightened focus on food safety, traceability and reliable supply.

2. **Customers and consumers**
   - With weak economic conditions, declining consumer confidence and increasing costs of production, the affordability of Australia's red meat will challenge the willingness of our customers and consumers to pay more.

3. **Lower income and economic uncertainty**
   - Reduced herd and flock numbers as a result of drought will result in a lower level of levy income in 2020–21. Economic uncertainty may impact the appetite and ability of the private sector to invest in research, development and innovation, which will have implications for new MLA Donor Company (MDC) projects.

4. **Scrutiny following COVID-19**
   - Over the next year, there may be extra scrutiny on the Research & Development Corporation model. This could have an impact on matched R&D investments, given the competing needs of the government in response to COVID-19 and its aftermath.

5. **Market access**
   - Barriers, particularly non-tariff measures, continue to impede trade flows, and while Australia's comparatively more favourable international access provides a market entry advantage, competitors are starting to close the gap.

6. **On-farm productivity**
   - Productivity performance remains a challenge, with the perception being Australian red meat producers are below the productivity improvements secured by major international competitors.

7. **Input costs**
   - Australian red meat processing costs are consistently higher than all of our major competitors and energy prices continue to escalate.

8. **Environment**
   - The role of red meat as part of a sustainable, environmentally-friendly food system will continued to be challenged. Policy makers, customers, consumer and community members will seek evidence of the industry's commitment to sustainable practices.

Opportunities

1. **Livestock**
   - The rebuilding of Australia's herd and flock post drought, floods and bushfires is expected to continue, with speed and scale determined by favourable seasonal conditions as well as prevailing economic conditions and business confidence.
   - The pork gap created by African Swine Fever (ASF) will continue to bolster global protein markets over the next few years.

2. **Food security**
   - Food security will rise in importance presenting market, channel, segment risks and opportunities. In Australia, this may present an opportunity to strengthen the importance of agriculture and food production to community and government.

3. **Consumer interest and preferences**
   - Long-term demand for high quality, safe and nutritious food is set to continue to grow, with the rate largely determined by income growth in developing markets.
   - Communication of Australian red meat's benefits to customers and consumers will increase in importance, supported by verified, country of origin, provenance and nutrition claims and strengthened integrity systems.

4. **Adoption of new research and development, technologies and systems**
   - Industry-wide adoption of new research and development, technology and objective carcase measurement and assurance systems will see a transition from price-averaging systems to pricing based on defined quality, yield and integrity attributes. These improvements will support an increase in productivity and will reduce the costs of production.

5. **Environmental credentials**
   - The industry continues to demonstrate its environmental credentials through the sustainability of its production systems and by capturing productivity gains while reducing emissions.

6. **Animal welfare**
   - The industry continues to demonstrate its commitment to animal welfare by ensuring policies and practices evolve with community expectations.

Our subsidiary companies

MLA owns two operating subsidiary companies.

MLA Donor Company (MDC) partners with organisations to co-invest in innovation and new technologies that bring value to the red meat industry.

The Australian Government matches voluntary partner contributions (up to 50% of project value) through MDC, where eligible projects deliver outcomes that address broader industry and/or government priorities and benefit the entire industry.

The model complements levy investment through voluntary contributions and supports some of the more commercial aspects of R&D, benefiting the whole supply chain.

Integrity Systems Company (ISC) is responsible for delivering the red meat industry's on-farm assurance and through-chain traceability programs. These are the Livestock Production Assurance Program (LPA program), the National Livestock Identification System (NLIS) and National Vendor Declarations (NVD), which together make up Australia's red meat integrity system.

MLA Donor Company

MLA Donor Company Limited (MDC) is a fully-owned subsidiary of Meat & Livestock Australia.

MDC accelerates innovation across the value chain so the Australian red meat and livestock industry can remain competitive on the world stage. It does this by attracting commercial investment from individual enterprises and others that share a mutual interest to co-invest in innovation that will benefit the industry (see figure below).

MDC supports MLA's strategic purpose of fostering the long-term prosperity of the Australian red meat and livestock industry via:

- extending MLA's strategic priorities into future-focused, transformational impact areas
- facilitating capability and adoption of innovation by industry
- acting as a catalyst to accelerate the development of innovations with new types of provider partnerships
- partnerships that facilitate 'big picture' change in the industry
- engaging leading global providers and entrepreneurs that bring new ideas and new value to the industry
- attracting new investment partners to co-develop key priority areas.

As MDC activities are directly aligned to deliver against MLA's overall strategic plan, key program deliverables have been included in the relevant sections of this Annual Investment Plan. Further detail about MDC is available at mla.com.au/mdc

Investment by...

- Australian Government
- Processors
- Value-adders
- Pastoral companies
- Breed societies
- Technology providers
- International collaborators
- State governments
- Universities
- Entrepreneurs and investors

mla MEAT & LIVESTOCK AUSTRALIA DONOR COMPANY

Innovations delivered...

- Automation
- New high value red meat products
- Animal disease test
- Technologies that foster sustainability
- Pain relief products
- New products from co-products
- Health and safety tools
- Digital solutions
- Objective measurement technologies

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – MDC ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Animal health															1,614	1,614		3,228		3,228
Animal welfare															1,825	1,825		3,650		3,650
Livestock export (R&D)															429	429		859		859
Eating quality											259				179	438		876		876
Sustainability (off-farm)											440				687	1,127		2,254		2,254
Sustainability (on-farm)															3,801	3,801		7,602		7,602
Feedlot											28				2,204	2,231		4,463		4,463
Integrity systems															1,006	1,006		2,013		2,013
Market access science											5				639	644		1,288		1,288
Objective measurement											152				4,786	4,938		9,875		9,875
Producer adoption															2,160	2,160		4,319		4,319
High Value Food Frontiers											189				1,529	1,718		3,436		3,436
Digital value chain information											269				905	1,174		2,348		2,348
Productivity (off-farm)											470				4,255	4,724		9,448		9,448
Beef productivity															2,008	2,008		4,015		4,015
Sheep productivity															639	639		1,278		1,278
Livestock genetics															4,827	4,827	791	9,654	791	10,445
Feedbase production															3,103	3,103		6,206		6,206
Digital agriculture															1,417	1,417		2,834		2,834
Innovation capability building			2		17	16					2,189				3,373	5,597		11,194		11,194
Total			**2**		**17**	**16**					**4,000**				**41,386**	**45,420**	**791**	**90,841**	**791**	**91,632**

Integrity Systems Company

Integrity Systems Company (ISC) is a fully-owned subsidiary of MLA.

ISC aims to develop and grow opportunities through innovation in integrity and information systems. This serves to strengthen our integrity systems, retain customer trust in our product, and enhance our reputation for food safety, biosecurity, sustainability and ethical production.

ISC supports MLA's strategic purpose of fostering the long-term prosperity of the Australian red meat and livestock industry via:

- providing, delivering and administering meat and livestock integrity programs
- integrating, expanding and enhancing meat and livestock integrity programs to improve the quality, efficiency and performance of the programs for the benefit of the meat and livestock industry
- developing, delivering and administering information technology platforms for the benefit of the meat and livestock industry
- maintaining a framework for consultation with peak industry councils, SAFEMEAT partners, industry committees and government stakeholders
- pursuing commercial opportunities, provided such opportunities do not detract from the provision of the core business of ISC or conflict with the company's not-for-profit status.

ISC activities are directly aligned to deliver against MLA's overall strategic plan through the *Integrity Systems 2025 and Beyond Strategy.* Key program deliverables have been included in the relevant sections of this *Annual Investment Plan.*

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – INTEGRITY SYSTEMS COMPANY ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Integrity systems	30	124	176	620	1,019	2,197	1,764	5,281	589	2,872	1,108	1,441	9	30		4,695	38	9,389	12,603	21,992
Digital value chain information	38		107		766		1,056		396							2,363		4,726		4,726
Total¹	**68**	**124**	**282**	**620**	**1,786**	**2,197**	**2,819**	**5,281**	**985**	**2,872**	**1,108**	**1,441**	**9**	**30**		**7,058**	**38**	**14,115**	**12,603**	**26,718**

¹Excludes MDC investment

Industry priorities

- **Our people**
- **Our customers, consumers and communities**
- **Our livestock**
- **Our environment**
- **Our markets**
- **Our systems**

Our people

Red Meat 2030 objective

People see being part of the Australian red meat and livestock industry as attractive now and into the future.

Investment
Total: $19.4 million

	$m
Sheep levies	3.2
Grainfed cattle levies	0.5
Grassfed cattle levies	2.8
Goat levies	0.0
Government	7.9
Australian Meat Processor Corporation	2.3
LiveCorp	0.0
External	2.7

*Total may not add up due to rounding.

MLA 2020–21 programs within this priority[1] are:

	Page
Integrity systems • Integrity systems	45
Producer adoption • Producer adoption	51
Value chain information and efficiency • Digital value chain information	57
Productivity (on-farm) • Beef productivity • Sheep productivity • Goat productivity	62
Capability building • Innovation capability building • Industry leadership and capacity building	69

[1]Some of these programs extend across other priorities.

MLA's direction within this priority

Increased focus on adoption

We will invest in better understanding our producers and their barriers to adoption of R&D to develop relevant, regional and customised adoption packages that focus on addressing producer priorities, including tools and resources that build capability to improve producer profitability and productivity.

Our people are our greatest asset and we will leverage the power of producer champions and advocates to demonstrate the benefits and value of practice change.

Platforms and tools that provide access to market and consumer insights across the value chain

Having a deep understanding of market trends, consumer insights and potential opportunities would enable our industry to make informed decisions and drive practice change.

We will lead the development of platforms and tools that provide access to data and insights across the value chain. Importantly, we will also invest in capability building programs to provide our people with the confidence and skills to use data.

Attracting the future workforce

Preparing our industry for future challenges and opportunities and ensuring the successful delivery of our investments into the future will require different and diverse workforce skills and capabilities.

We will support the attraction of people and skills to drive transformational change for the industry and better link our capability building and development programs across the supply chain.

Our customers, consumers and communities

Red Meat 2030 objective

People feel good about eating Australian red meat. Our customers, consumers and communities recognise the vital role our industry plays in food production and food security, and trust us to deliver high value, high quality products.

Investment
Total: $75.4 million

	$m
Sheep levies	19.6
Grainfed cattle levies	3.8
Grassfed cattle levies	32.5
Goat levies	0.1
Government	8.8
Australian Meat Processor Corporation	2.7
LiveCorp	0.2
External	7.7

*Total may not add up due to rounding.

MLA 2020–21 programs within this priority[1] are:

	Page
Animal health and welfare • Animal health • Animal welfare	22
Domestic market • Market knowledge (domestic) • Marketing and promotion (domestic) • Nutrition	25
International markets • Market knowledge (international) • Marketing and promotion (international) • Livestock export (research and development)	29
Eating quality • Eating quality	34
Environmental sustainability • Sustainability (off-farm) • Sustainability (on-farm)	37
Integrity systems • Integrity systems • Market access science	45
Product and packaging innovation • High Value Food Frontiers	55
Communication • Communication (community) • Communication (stakeholder)	73

[1]Some of these programs extend across other priorities.

MLA's direction within this priority

Understanding and communicating features, attributes and benefits important to customers and consumers

Design and delivery of marketing initiatives that aim to create a strong value perception that Australian red meat, while holding a price premium against many competitor proteins, is worth it. Promotion of positive messages such as safe and sustainably produced and communication of purchase drivers, such as high quality, nutritious and versatile will help build preference and loyalty to Australian product.

Strengthen product quality and eating experience

This includes exploring new products, packaging and business model innovations to transform commodity red meat (and its components) into higher valued solutions, and investment in Meat Standards Australia, a world leading, consumer focused eating quality program.

Communicating the story of Australian red meat production to help ensure the community understands the contribution the industry makes and supports its operations

Domestic and international communities are increasingly interested in the provenance of their food. MLA assists industry to maintain and enhance community confidence and red meat consumption by engaging with communities to demonstrate the industry is an ethical and responsible custodian of livestock, land and natural resources.
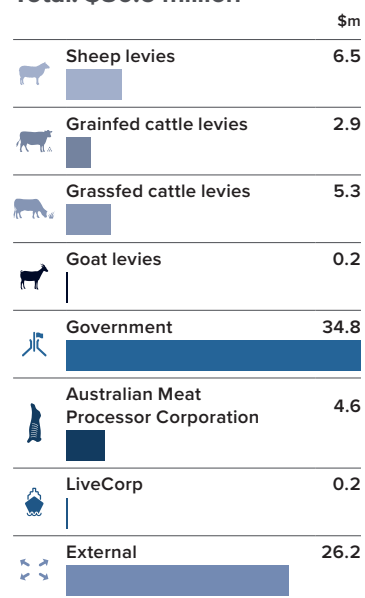
Our livestock

Red Meat 2030 objective

We set the standard for world class animal health, welfare, biosecurity and production practices.

Investment
Total: $80.6 million

		$m
	Sheep levies	6.5
	Grainfed cattle levies	2.9
	Grassfed cattle levies	5.3
	Goat levies	0.2
	Government	34.8
	Australian Meat Processor Corporation	4.6
	LiveCorp	0.2
	External	26.2

*Total may not add up due to rounding.

MLA 2020–21 programs within this priority[1] are:

	Page
Animal health and welfare • Animal health • Animal welfare	22
Domestic market • Market knowledge (domestic)	25
International markets • Livestock export (research and development)	29
Eating quality • Eating quality	34
Environmental sustainability • Sustainability (on-farm)	37
Feedlot • Feedlot productivity	41
Integrity systems • Integrity systems	45
Objective measurement • Objective measurement	49
Producer adoption • Producer adoption	51
Value chain information and efficiency • Digital value chain information	57
Productivity (off-farm) • Productivity (off-farm)	60
Productivity (on-farm) • Beef productivity • Sheep productivity • Goat productivity • Livestock genetics • Feedbase production • Digital agriculture	62
Capability building • Innovation capability building	69
Communication • Communication (community)	73

[1]Some of these programs extend across other priorities.

MLA's direction within this priority

Production focused on consumer needs

Being able to collect and translate the value of specific carcase traits and production practices across the supply chain would ensure the production sector can respond by producing livestock that are fit for purpose and meet consumer demand.

Connecting the whole farm system and the supply chain to delivering improved consumer experiences will incentivise the production of the right type of livestock to deliver better outcomes for customers and consumers while underpinning producer profitability.

Focusing on reducing costs and improving specification compliance throughout the supply chain, coupled with increased focus on adoption helping to achieve greater productivity and livestock value.

Optimising red meat production

Focusing on optimising our livestock production system resources could help our industry become more efficient, more resilient to climate variability, as well as prioritise its effort and investment on animal health and welfare to realise value and deliver trust to consumers. We will explore innovative new (closed loop) production systems linked to attracting premium value for the whole carcase and optimising the red meat supply chain to meet changing production climates and markets.

Addressing concerns about animal welfare

Livestock producers, concerned about community perceptions about traditional practices, are seeking ways to improve and demonstrate their performance and credentials. With the demand outlook for red meat strong, there is an opportunity for the Australian industry to manage the evolution of its welfare practices and secure community support through a process of continuous improvement.

Our environment

Red Meat 2030 objective

We demonstrate leadership in sustainability, delivering on community expectations in the areas of land, water, biodiversity, climate variability and biosecurity.

Investment
Total: $32.7 million

	$m
Sheep levies	2.5
Grainfed cattle levies	0.8
Grassfed cattle levies	1.9
Goat levies	0.0
Government	12.1
Australian Meat Processor Corporation	1.2
LiveCorp	0.0
External	14.2

*Total may not add up due to rounding.

MLA 2020–21 programs within this priority[1] are:

	Page
Animal health and welfare • Animal health	22
Environmental sustainability • Sustainability (off-farm) • Sustainability (on-farm)	37
Feedlot • Feedlot productivity	41
Integrity systems • Integrity systems	45
Producer adoption • Producer adoption	51
Productivity (on-farm) • Beef productivity • Sheep productivity • Goat productivity • Livestock genetics • Feedbase production • Digital agriculture	62
Communication • Communication (community)	73

[1] Some of these programs extend across other priorities.

MLA's direction within this priority

Environmental services

Given the red meat industry presides over more than 50% of Australia's land mass, we are ideally positioned to provide environmental and ecosystem services alongside red meat production – around such things as biodiversity, carbon sequestration, water, soil and waste management.

This could result in new revenue streams arising from the provision of services to measure, prevent, limit and minimise or correct environmental impact.

We will assess data systems and satellite imagery technology that can seamlessly verify environmental best practice. We will also explore new business models around how to provide, promote and sell environmental services.

New approaches to adoption/reward for environmental best practices

Greater adoption of on and off-farm practices that customers, consumers and the community perceive as beneficial to the environment, supported by trusted systems and standards, offer an opportunity to capture additional revenue via a unique value proposition for Australian red meat.

However, it requires a new approach to adoption to provide the evidence, incentive and leadership to drive practice change. We will prioritise investment to help us better understand and overcome our stakeholders' barriers to adoption.

Demonstrating positive environmental narratives

Customer, consumer and community trust that eating Australian red meat is good for the environment could become the Australian red meat industry's competitive advantage. We will work toward development of a unique environmental value proposition based around trust in the Australian provenance story and its environmental benefits.
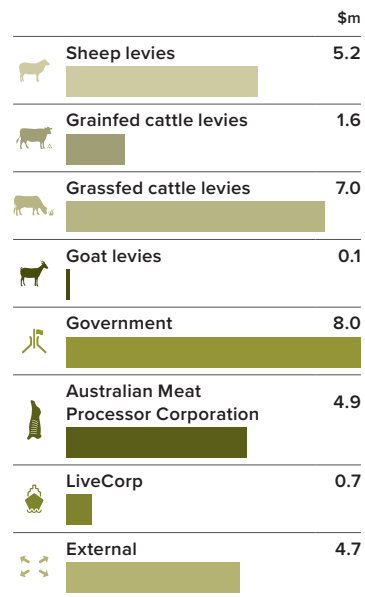
Our markets

Red Meat 2030 objective

We improve the economic resilience for our industry by increasing access to, and the performance of, existing and new markets.

Investment
Total: $32.1 million

	$m
Sheep levies	5.2
Grainfed cattle levies	1.6
Grassfed cattle levies	7.0
Goat levies	0.1
Government	8.0
Australian Meat Processor Corporation	4.9
LiveCorp	0.7
External	4.7

*Total may not add up due to rounding.

MLA 2020–21 programs within this priority[1] are:

	Page
Domestic market • Market knowledge (domestic) • Marketing and promotion (domestic)	25
International markets • Market access • Market knowledge (international) • Livestock export market activities • Livestock export (research and development)	29
Eating quality • Eating quality	34
Integrity systems • Integrity systems • Market access science	45
Objective measurement • Objective measurement	49
Product and packaging innovation • High Value Food Frontiers	55
Productivity (off-farm) • Productivity (off-farm)	60
Capability building • Innovation capability building	69

[1]Some of these programs extend across other priorities.

MLA's direction within this priority

Doubling the value through prioritisation

We need to identify which markets will enable us to achieve the industry goal of doubling the value of Australian red meat and prioritise our efforts in these markets. The industry also needs the skills and agility to target high value opportunities in any market at any time.

We will work with partners who have the ability to achieve maximum growth in markets or market segments and support others with capability building to prepare them for future growth.

Attracting inbound investment

Increasing inbound investment across the Australian red meat industry can help us unlock new markets and business models, accelerate growth and innovation, maintain access to existing markets and deliver investment, profitability and efficiencies throughout the supply chain.

An important component of Australia's capacity to trade with the world is 'soft diplomacy', where activities such as supporting trade missions and knowledge sharing can also help to create new market opportunities.

We will leverage our presence in international markets and the insights of the broader Australian agri-food sector to attract inbound investment. We will continue to provide capability building to international market supply chains to demonstrate our support and commitment to those markets.

Research aimed at reducing technical barriers to trade

We will invest in market access science and food safety research and development aimed at reducing or alleviating non-tariff (technical) barriers to trade.

Our systems

Red Meat 2030 objective

We are a trusted brand because of our integrity systems, built on trust and respect that supports strong partnerships and sharing of information, reducing unnecessary industry and government regulation.

Investment

Total: $35.9 million

	$m
Sheep levies	4.1
Grainfed cattle levies	2.9
Grassfed cattle levies	6.8
Goat levies	0.1
Government	12.1
Australian Meat Processor Corporation	4.2
LiveCorp	0.3
External	5.4

*Total may not add up due to rounding.

MLA 2020–21 programs within this priority[1] are:

	Page
International markets • Livestock export market activities	29
Eating quality • Eating quality	34
Integrity systems • Integrity systems • Market access science	45
Objective measurement • Objective measurement	49
Value chain information and efficiency • Digital value chain information	57
Productivity (off-farm) • Productivity (off-farm)	60
Productivity (on-farm) • Digital agriculture	62
Capability building • Innovation capability building	69

[1]Some of these programs extend across other priorities.

MLA's direction within this priority

Strengthening our core

The Australian red meat industry has a global reputation as a supplier of clean, safe and natural product, underpinned by its disease-free status and advanced food safety and integrity systems. Maintaining and enhancing this position remains both a necessity and an opportunity for our industry to uphold its competitive advantage.

Our integrity system is one of the industry's most important investments and is a critical underpinning of market access for Australian red meat around the globe. Through the National Livestock Identification System (NLIS), Livestock Production Assurance (LPA) program and National Vendor Declarations (NVDs), our integrity system provides food safety measures, product assurance and traceability from paddock to plate.

MLA's investment in the integrity systems program has ensured the development and continuous improvement of our systems and remains one of MLA's on-going and essential services to the industry in order to guarantee the integrity of our $18.4 billion red meat industry to our customers.

With consumers increasingly wanting to know how and where their food has been produced (provenance, safety, welfare and sustainability), we must be able to demonstrate how our livestock production systems meet these consumer expectations and constantly provide assurances that our products are produced and processed to meet consumer and regulatory requirements.

Connecting supply chain participants

Trust, collaboration and sharing of data across the Australian red meat supply chain could become our core competitive advantage, enabling us to capture additional value. It could provide future customers and consumers confidence that our product delivers assured quality, and has been produced and transported using sustainable practices.

MLA and ISC will act as the intermediary to bring together participants from across the supply chain and invest in strategic partnerships with those willing and able to collaborate and share data and insights that enable the supply of fit for purpose product into key markets.

Better decisions through connected data

A centralised platform that connects data across the supply chain would enable the industry to make better-informed decisions and respond collectively to consumer drivers.

Centralised data would reduce duplication, provide a whole of industry picture, and reveal new insights and opportunities that could inform decisions to improve productivity/profitability.

We will define, facilitate and act as the intermediary for the development of a central whole-of-supply chain data bank. We will also source data partners and catalyse commercial partners to develop solutions that help supply chain participants adopt and use data to drive decision-making.

Ensuring our systems are future (food) supply chain ready

Our traceability and quality systems could be extended into food chains to deliver trust to future consumers/customers purchasing products that have a red meat ingredient. This would help Australian red meat to secure or maintain future market access and enable us to meet future consumer needs. It would also help with the identification and mitigation of emerging risks.

Programs

Program:
Animal health and welfare

MLA's animal health and welfare program assists MLA to foster the prosperity of the Australian red meat and livestock industry by improving the management of livestock's health and welfare by minimising the impact of endemic and emergency disease and by ensuring the continued support and trust of the community.

Sub-programs
• Animal health
• Animal welfare

Priorities

Our customers, consumers and communities

Our livestock

Our environment

Operating environment

The community has high and increasing expectations about the way livestock are treated. These expectations encompass the management of animal health, the application of animal welfare standards, the maintenance of Australia's freedom from exotic diseases and minimising the impact of endemic diseases.

There are significant potential productivity gains for the industry as it continues to improve the health and welfare of livestock by enhancing husbandry practices, diagnosis testing and preventive treatment options including the reduction of livestock mortality and the impacts of parasitic disease.

MLA's investments in animal health and welfare research are aimed at improving the management of the wellbeing of Australia's livestock. Good animal health management amounts to good biosecurity; preventing the incursion of new pathogens and, in the event of a disease occurrence, intervention and containment to prevent spread across boundaries. The term 'biosecurity' has evolved from the days when it was used to signify prevention of the incursion of diseases exotic to Australia, to a recognition today that biosecurity starts at the farm enterprise level.

Animal health

MLA's animal health sub-program works to reduce the impacts of animal disease through:

• improved (fast, affordable and accessible) diagnosis
• preventative measures which rely less on chemicals and more on exploiting a host's resilience and immunity
• novel treatment options.

Further investments will contribute tools and enablers for reducing the impact of disease including disease surveys, decision support tools and epidemiological investigations.

Key performance indicators in 2020–21

1. Complete proof-of-concept for P0 tick antigen efficacy and receive approval for a further tick vaccine development program.
2. Sheep disease decision support tool for comparing interventions for abattoir-diagnosed conditions adopted by 10% of producers who receive animal health feedback.
3. Complete Stage 1 investigation of the productivity loss and health risk of apicomplexan parasites (toxoplasma, sarcocystis, and neospora).

Product group	Core activities
Animal health diagnostics and enablers	The 'animal health diagnostics and enablers' product group includes initiatives to improve the diagnosis of diseases such as sheep footrot and worm infestation, as well as exotic pathogens such as capripox and foot and mouth disease. Other initiatives include: • exploring the epidemiology of conditions such as arthritis, sheep measles, pneumonia, toxoplasmosis, sarcosporidiosis, neosporosis and bovine theileriosis • developing decision support tools and prediction models for parasite management and disease interventions • encouraging producer participation in disease surveillance.
Animal health prevention and treatment	Initiatives in the 'animal health prevention and treatment' product group include: • facilitating the integration of parasite and pest management with the husbandry calendar • avoiding plant toxicities • identifying animals which are inherently resistant or resilient against e.g. cattle tick, internal parasites and infectious diseases • developing a cattle tick vaccine • exploring possibilities of vaccines against other parasites • enabling producers to make informed decisions on cost-effective interventions for diseases diagnosed at slaughter.

Animal welfare

MLA's animal welfare sub-program covers the research, development, adoption, engagement and communication activities that achieve – and demonstrate to the community – the continuous improvement of the welfare of Australian livestock.

Key performance indicators in 2020–21

1. Complete efficacy testing of contraceptive vaccine and explore commercialisation possibilities.
2. At least 200,000 lambs treated at marking time with Numnuts.
3. Complete a large-scale field validation of Numnuts which could be referenced in adoption promotion materials.
4. Continue to measure reduction in stock losses due to predation.

Product group	Core activities
Neonatal mortality and predation	Initiatives within the 'neonatal mortality and predation' product group include: • reduction of perinatal mortality rates • control of predatory animals such as wild dogs, foxes and pigs.
Improve and replace husbandry practices	Initiatives within the 'improve and replace husbandry practices' product group include: • providing analgesia in painful procedures • replacing aversive practices.
Animal welfare indicators and enablers	Initiatives within the 'animal welfare, indicators and enablers' product group include: • ensuring currency of existing guides to animal husbandry practices • finding new ways of measuring and recording the wellbeing state, and benchmarking these.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – ANIMAL HEALTH AND WELFARE ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Animal health	8		46		477		250								1,614	2,396	238	4,791	238	5,030
Animal welfare	5		27		141		110								1,825	2,109		4,217		4,217
Total	**13**		**73**		**619**		**360**								**3,439**	**4,504**	**238**	**9,009**	**238**	**9,247**

Program:
Domestic market

MLA's domestic market program assists MLA to foster the prosperity of the Australian red meat and livestock industry by demonstrating the value of red meat to consumers. This is achieved by promoting the benefits sought by consumers and also by addressing barriers that limit red meat consumption: price (relative to other popular proteins) and negative perceptions around health and production practices.

By addressing these barriers, MLA seeks to maintain and enhance the value of domestic red meat sales and slow the historic long-term decline in consumption.

Sub-programs
- Market knowledge (domestic)
- Nutrition
- Marketing and promotion (domestic)

Priorities

Our customers, consumers and communities

Our livestock

Our markets

Operating environment

The domestic market remains the single most valuable destination for Australian red meat.

Australia's economic conditions remain subdued, resulting in flat consumer confidence, with 10 years of little wage growth. Coupled with tight supply and strong global demand for red meat, Australian consumers have weathered record high retail prices for beef and lamb, their loyalty to the proteins remaining strong, despite the relatively affordable options of chicken and pork continuing to gain in popularity.

Fresh meat represents the largest category in supermarkets in Australia (excluding tobacco), and low growth and squeezed margins have seen retailers look for growth opportunities in value-added products, premium lines and alternative proteins. While many of these initiatives have provided incremental growth, core fresh meat lines such as mince, chops, sausages, roasts and steaks make up the engine room of the category.

Shoppers for fresh meat have increasingly high expectations, with trusted quality, versatility, convenience and value all major drivers of purchase. Country of origin, nutritional information and sustainability credentials also play an increasing role in the purchase, especially to a younger, more urban, and curious consumer. With increasing access to information, red meat needs to satisfy many needs at a high level to remain a key meal ingredient on Australian plates.

Foodservice operators face similar challenges to retailers as they look to service an increasingly savvy clientele. 'Exceptional eating quality that remains good value' and 'raised in ethical ways' are desirable attributes for both diners and outlets. Keeping red meat on the menu for many foodservice operators remains a challenge, as wholesale prices rise and diners' reluctance to pay more remains limited due to the ongoing economic situation.

As the impact of COVID-19 hits Australia, and the likely economic recession follows, this will pose further challenges on most people's ability to pay for red meat, especially premium loin cuts, both in retail and foodservice sectors. The entire foodservice channel will likely see a strong downturn for the short term to medium term, as operators recover from months of negative cashflow.

Red meat's nutritional credentials are a question of portion size and balance on the plate. Positioning small and large portions of red meat every other day, as a key component of a healthy diet consistent with the Australian Dietary Guidelines will provide both industry and public health benefits (since average per capita consumption of red meat is below the recommended 65g/day).

To be successful, MLA will require policy-makers and other influencers to accept industry-funded evidence on the role of red meat in a healthy and sustainable diet to ensure its continued representation in dietary guidelines and nutrition policy.

Market knowledge (domestic)

MLA's market knowledge (domestic) sub-program collects, analyses and interprets signals into insights. The insights allow the red meat industry to anticipate and respond to future opportunities and disruption.

Key performance indicators in 2020–21

1. Pre-sale inspection and automated data transfer trialled by at least four saleyards.
2. High levels of satisfaction (above 85%) by industry stakeholders with MLA's market information services.
3. Strategic growth drivers are available for the domestic market.

Product group	Core activities
National Livestock Reporting Service (NLRS) and market information	The NLRS product group produces timely, accurate and independent Australian livestock price insights. Initiatives include: • physical assessment of sheep and cattle at saleyards is reported with pricing data across major saleyards to cover throughput in line with the saleyard strategy • reporting livestock pricing insights across all selling methods • supply data is collected, collated and reported, including herd/flock sizes, co-products and industry comparisons.
Domestic market and consumer insights	The 'domestic market and consumer insights' product group collects, analyses and interprets signals into insights from the end of the supply chain, focusing on consumers and those who purchase red meat (shoppers). Initiatives include: • market insights: shopper insights • consumer insights: consumer tracking • collaboration: cross-functional collaboration of all domestic market research.

Nutrition

MLA's nutrition sub-program incorporates research, stakeholder engagement and communication activities to promote the consumption of Australian red meat as part of a healthy and sustainable diet.

Key performance indicators in 2020–21

1. At least 60% of general practitioners and dietitians believe MLA's nutrition information and practical resources are credible and relevant.

Product group	Core activities
Nutrition research	The 'nutrition research' product group generates and connects data and insights to understand and identify opportunities for communicating consistent, trusted messages that position Australian red meat as a protein of choice in a healthy, sustainable diet. Initiatives include: • publication of 'Steak of Nation' reports, which provide credible and relevant data and insights about red meat consumption within the context of the Australian diet and supply chain • MLA's One Voice nutrition guide, which develops pathways to adoption through development of co-designed resources with key stakeholders across MLA.
Nutrition communications	The 'nutrition communications' product group promotes uptake of MLA's nutrition information and resources. Initiatives include: • the MLA Healthy Meals website, which provides key stakeholders with up-to-date information and resources on the role of Australian red meat in a healthy and sustainable diet • the Health Professional campaign, which promotes adoption of MLA's nutrition resources by GPs and dietitians.

Marketing and promotion (domestic)

MLA's marketing and promotion (domestic) sub-program delivers a portfolio of marketing initiatives designed to ensure red meat consumers feel good about their choice and are inspired to eat three to four Australian red meat meals a week.

Key performance indicators in 2020–21

1. Year-on-year increase in main grocery buyer endorsement of the statement "Willing to pay more for beef/lamb" to 24% (beef) and 23% (lamb).

2. Maintain mean number of serves per week: 1.5–1.7 for beef and 0.65–0.85 for lamb.

3. Restrict the percentage of main grocery buyers limiting red meat for health reasons to 19% (beef) and 21% (lamb).

4. 50% of all branded program volumes deliver a premium over unbranded (commodity) product as evidenced from CoMarketing participant feedback.

Product group	Core activities
Domestic business development	Initiatives within the 'domestic business development' product group include: • ensuring marketing activities are supported by retailer/trade partners • developing and implementing bespoke key foodservice and retail account management plans • setting appropriate targets for promotional activities and conduct post evaluations.
Domestic brand building	Initiatives within the 'domestic brand building' product group include: • ensuring marketing activities are targeted against consumer purchase drivers • delivering consumer-focused activities along the entire 'path to purchase' to build awareness • evaluating domestic consumers' willingness to pay more for Australian red meat • setting appropriate targets for promotional activities and conduct timely post evaluations • evaluating the impacts of marketing activity, sharing the results and taking corrective action as required.
Domestic CoMarketing program	The 'domestic CoMarketing Program' product group provides financial support and capacity building programs to assist brand owners to develop their brand propositions. Initiatives include: • building awareness of key brand attributes • building preference among target customers.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – DOMESTIC MARKET PROGRAM ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Market knowledge (domestic)	8	8	49	28	286	640	495	988	165	206	350	286	3	6		1,356	408	2,712	2,570	5,282
Nutrition	3	3	19	11	113	75	195	121	65	49	122	111	1	2		519		1,037	372	1,409
Marketing and promotion (domestic)		21		53		7,521		7,232		847		959					72		16,705	16,705
Total	**12**	**32**	**69**	**92**	**399**	**8,236**	**690**	**8,341**	**230**	**1,103**	**472**	**1,356**	**4**	**8**		**1,875**	**480**	**3,750**	**19,647**	**23,397**

Program:
International markets

MLA's international markets program assists MLA to foster the prosperity of the Australian red meat and livestock industry by growing demand for Australian red meat and livestock, by maintaining and improving access to global markets, by providing timely insights about global opportunities and by promoting Australia's superior points of difference.

Sub-programs

- Market access
- Market knowledge (international)
- Marketing and promotion (international)
- Livestock export market activities
- Livestock export (research and development)

Priorities

Our customers, consumers and communities

Our livestock

Our markets

Our systems

Operating environment

Australia exports approximately 70% of beef and 65% of sheepmeat.

The current operating environment contains a number of challenges, the most significant being the highly uncertain economic environment caused by the COVID-19 pandemic, but also widespread trade protectionism and increasing competition from other red meat suppliers. At the same time, Australian supply is constrained as the herd and flock recovers from widespread drought.

However, the demand outlook is positive, underpinned by growth in population and household wealth in the developing markets of Asia, and boosted in the immediate term by African Swine Fever's impact on global pig herds. There is also cause for optimism regarding the potential for improved market access to Europe and the United Kingdom.

Australian red meat has a well-earned and hard-won reputation for safety and quality among global consumers, customers and governments. It's vital the industry protects its strong country of origin brand image in mature markets and nurtures it in developing markets. This can be achieved via:

- targeted customer and consumer promotions
- business development and trade facilitation activities
- coordination of industry input into removing trade barriers.

Doubling the value of Australian red meat sales will rely heavily on extracting full value from our existing buyers, but also developing new high value opportunities globally.

Market access

MLA's market access sub-program aims to defend existing favourable access conditions, position Australia favourably in trade negotiations and alleviate technical trade barriers.

Key performance indicators in 2020–21

1. Industry positions/submissions on priority trade reform issues (in particular the Australia-EU and Australia-UK free trade agreement negotiations) are acknowledged and acted on by government, and support delivery of import regime reform.

2. Non-tariff barrier alleviation plans (i.e. China, MENA shelf-life and global Halal positioning) are implemented.

Product group	Core activities
Economic access	Initiatives within the 'economic access' product group include: • supporting industry to defend existing favourable market access conditions • reducing economic barriers to trade through the delivery of targeted advocacy strategies.
Technical access	Initiatives within the 'technical access' product group include: • supporting industry to mitigate access risks through monitoring access conditions • prioritising initiatives to reduce non-tariff barriers to trade.

Market knowledge (international)

MLA's market knowledge (international) sub-program collects, analyses and interprets signals into insights. The insights allow the red meat industry to anticipate and respond to future opportunities and disruption.

Key performance indicators in 2020–21

1. Strategic growth drivers align with the international market team and are made available across Australia, US, Japan, Korea, Southern Asia, MENA and China markets.

Product group	Core activities
International market insights	Initiatives within the 'international market insights' product group include: • monitoring market trends • monitoring competitors • monitoring media.
International consumer insights	Initiatives within the 'international consumer insights' product group include: • translating market signals into insights that positively influence the supply chain • market research: consumer, shopper, trade, retail and foodservice (as agreed with stakeholders in key Australian red meat markets) • translating insights from across both product groups (market insights and consumer insights) and from across other MLA programs' market research into strategic growth drivers • identifying opportunities to contribute to doubling the value of Australian red meat • developing online access for levy payers to access market classification and growth opportunities tools • developing MLA's global market strategic portfolio model • developing MLA's research and development strategic portfolio model • MLA market research library: collaborating across MLA to house all market research in the one area for expanded use and value.

Marketing and promotion (international)

MLA's marketing and promotion (international) sub-program aims to position Australian red meat as a protein of choice for global customers and consumers.

Key performance indicators in 2020–21

1. Build or maintain customer awareness and preference of Australian red meat's positive attributes (safe, quality, healthy and sustainable image) within target range.

2. Increase consumer preference for Australian red meat in key international markets to be above 23.4% for beef and 21.4% for lamb.

3. 75% of CoMarketing participants rated their overall outcomes (based on their objectives for the year) as 'successful'.

4. Produce case studies from at least five international CoMarketing participants that demonstrate Australian beef or lamb is available in more product formulations, channels or outlets as a result of MLA business development activity.

Product group	Core activities
International business development	Initiatives within the 'international business development' product group include: • building and maintaining a strong network of informed key accounts, strategic stakeholders and key influencers to ensure industry is responsive to consumers' changing needs and wants • delivery of events, trade shows, seminars and other communications that educate customers and drive positive awareness, attitudes and behaviours towards Australian red meat • strategic supply/value chain projects with commercial partners to help extend the penetration and breadth of Australian red meat globally.
International brand building	Initiatives within the 'international brand building' product group include: • creative and impactful communications to targeted segments (both campaigns and 'always-on' components such as websites, public relations and social media messaging) • promotional activities conducted with key customers (e.g. point of purchase promotions).
International CoMarketing program	• The 'international CoMarketing program' product group provides support to Australian brand owners to develop and implement their own business development and brand building activities.

Livestock export market activities

MLA, together with LiveCorp, jointly invest in the Live Export Program (LEP) which funds research and development to improve animal health, welfare and productivity throughout the livestock export supply chain.

Within the LEP, MLA's livestock export market activities sub-program supports the growth, productivity improvements and sustainability of the livestock export industry through the delivery of risk mitigation strategies and extension and adoption of best practice livestock management.

Key performance indicators in 2020–21

1. Produce two case studies per country or region which relate to LEP programs, have provided insights and result in a direct impact on government/industry policy.

2. Produce two case studies per country or region which relate to LEP programs, have improved industry's ability to maintain existing market share position or increase the industry's competitiveness.

3. Two major supply chains per country or region undertake adoption of industry research and development (R&D) or direction of investment in R&D from market insights.

4. Successful adoption of Livestock Global Assurance Program (LGAP), assessed by >80% of eligible Tranche 1 facilities signing onto the program.

Product group	Core activities
Livestock export animal welfare	The 'livestock export animal welfare' product group supports industry to identify and mitigate welfare risks and implement adoption of best practice welfare systems and innovations. A key initiative includes the Exporter Co-Funding program, which supports commercial participants in developing and implementing strategic welfare and productivity improvements.
Livestock export productivity gains	The 'livestock export productivity gains' product group joins the improvement of supply chain productivity and efficiency with business development to improve operator competitiveness and trade sustainability.

Livestock export (research and development)

MLA's livestock export (research and development) sub-program provides industry with the tools, technologies, knowledge and capability to improve their productivity, profitability and sustainability at an individual business and industry level.

Key performance indicators in 2020–21

1. Deliver an IT Conformance System to support Livestock Global Assurance Program (LGAP) implementation and complete required research for control and traceability.
2. Complete implementation of the Livestock Export Program (LEP) research, development and extension review recommendations.
3. Complete winter trials for a salmonella vaccine.
4. Continue to invest in research projects that improve and manage heat stress, bedding and stocking densities during shipping and in respective destination markets.
5. Animal Welfare Surveillance framework adopted and refined according to outcomes from the Animal Welfare Indicator research and in line with the ASEL 3.0 reporting requirements.

Product group	Core activities
Livestock export animal integrity research and development	The 'livestock export animal integrity research and development' product group supports the implementation of the Livestock Global Assurance Program (LGAP) and other initiatives that enhance and secure animal welfare and sustainability of the trade.
Livestock export animal welfare research and development	Initiatives within the 'livestock export animal welfare research and development' product group include: • supporting ongoing research and standard data collection, scoping studies and adoption to improve heat load management during shipping and in-market in the Middle East • identifying economic and non-invasive animal welfare measures • implementing a standardised monitoring and reporting framework to identify problems and enable corrective actions; this will be facilitated via tools such as Live Ex Collect and the learnings from the Animal Welfare Indicators project • collecting data on and assessing the farm-level influences and pre-ship boarding factors that affect animal welfare • improving understanding of, and identify effective controls for, animal health and welfare risks that operate along the supply chain, including in overseas markets, along with timely prevention management strategies • facilitate better stunning outcomes through the uptake and use of industry-leading tools and practices • improving understanding of animal health and welfare across the supply chain and addressing public expectations • conducting research on strategic issues to reduce welfare risks • continuation of research in bedding management and stocking densities on board livestock vessels and identification of onboard environmental monitoring technologies that support animal welfare indicators.

Livestock export productivity research and development	The 'livestock export productivity research and development' product group monitors market access barriers and delivers action plans to support industry to reduce technical and economic barriers to trade and improve market access. Initiatives include: • improve information recording and facilitate automation of data collection • enable better risk assessment and risk management across regions, species and environmental factors to support a risk-based regulatory approach.
Livestock export extension and adoption	Initiatives within the 'livestock export extension and adoption' product group include: • supporting industry extension and adoption of best practice systems and procedures to achieve continuous improvements in animal welfare and mitigate risk of trade closure • drive adoption of tools and techniques for identifying and assessing animal health and welfare risks • targeted communications of the Live Ex Collect, UNE Project Partnership and Animal Welfare Indicators projects • communicating research, development and adoption outcomes and program performance to stakeholders via tools such as Live Ex Collect • consulting with industry through live export research and development advisory committee • implementing the new Livestock Export Program (LEP) research, development and extension systems and processes, including investment management training of management committee personnel • support adoption of practices to improve livestock performance through the live export supply chain.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – INTERNATIONAL MARKETS PROGRAM ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Market access	2	41	9	178	52	1,222	90	1,966	30	801	56	1,804	0	37		239		478	6,049	6,527
Market knowledge (international)		22		17		606		1,108		307									2,060	2,060
Marketing and promotion (international)		69		147		8,368		20,843		1,963		405					1,331		33,126	33,126
Livestock export market activities		14		77		455		1,742						750					3,038	3,038
Livestock export (research and development)			97		234		150						550		429	1,461		2,922		2,922
Total	**2**	**146**	**106**	**419**	**285**	**10,651**	**240**	**25,658**	**30**	**3,071**	**56**	**2,209**	**551**	**787**	**429**	**1,700**	**1,331**	**3,400**	**44,273**	**47,673**

Program:
Eating quality

MLA's eating quality program, Meat Standards Australia (MSA) assists MLA to foster the prosperity of the Australian red meat and livestock industry by:

- **creating the opportunity for price premiums to be delivered to beef and lamb supply chain participants**
- **underpinning Australian red meat brands and providing a point of difference from competitor countries and proteins**
- **encouraging repeat purchases by guaranteeing consumers a satisfying eating experience.**

Sub-programs
- Eating quality

Priorities

Our customers, consumers and communities

Our livestock

Our markets

Our systems

Operating environment

Brand owners cannot afford to dissatisfy their customers in a market of rising red meat prices and fierce competition from alternative proteins. Eating quality has become an expectation for the consumer. As such, eating quality must be protected to retain consumer confidence.

The world-leading Meat Standards Australia (MSA) eating quality program provides beef and sheepmeat brand owners with a competitive advantage, allowing them to underpin their brand eating quality offer to customers who are faced with greater choice from lower cost products, and being further enabled by eating quality embedded in the Australian trading language. By meeting and exceeding customer expectations, price signals flow back through the supply chain incentivising continued improvement.

The success of the MSA program is evidenced by its continued growth and delivery of returns to the farm gate, with more than 3.5 million cattle and 4.1 million sheep presented for MSA grading during 2018–19. The program also delivered an estimated additional $198 million in farm gate revenue thanks to price differentials paid for MSA accredited and compliant cattle, with more than 2,600 additional cattle and sheep producers becoming MSA registered. MSA now underpins more than 195 beef and sheepmeat brands as the independent endorsement of eating quality.

In 2018–19, 43% of the Australian adult cattle slaughter and 19% of the lamb slaughter were presented for MSA grading, highlighting the opportunity to increase adoption of MSA along the supply chain. There is also potential to raise the eating quality of MSA eligible cattle – as measured by the MSA Index and compliance rates, through supply chain initiated producer engagement activities as well as on-farm predictive tools. New opportunities for supply chains will be enabled through new pathways for livestock and cuts-based grading system for sheepmeat. Key areas of future program research will focus on better prediction tools and decisions that are informed by consumer insights and a connected supply chain.

Another opportunity to enhance eating quality is through eating quality tools and technology interventions that directly improve red meat eating quality in MSA supply chains.

Eating quality

MLA's eating quality sub-program strives to deliver a world-leading, consumer-focused eating quality program, Meat Standards Australia (MSA), which drives demand for Australian beef and sheepmeat. MSA integrates research and development with commercial activities and involves participation along the entire Australian red meat value chain. It also includes an adoption program that supports both on-farm and off-farm supply chain members to embrace the program principles and receive considerable benefits.

Key performance indicators in 2020–21

1. Price differentials for MSA-compliant cattle demonstrate an annual return to farm gate of more than $140 million.
2. More than 50% of Australian lamb has been produced and processed through supply chains that manage and optimise eating quality.
3. Operators representing 50% of MSA beef volume describe MSA beef by consumer outcome represented by Eating Quality Graded cipher, as opposed to dentition category.

Product group	Core activities

MSA integrity and compliance	Initiatives within the 'MSA integrity and compliance' product group include:
	
	• sound to smart integrity solutions
	  – providing appropriate auditing and licensing structures to utilise and strengthen brand supply chain integrity
	  – continually increasing the focus on risk-based auditing within the supply chain
	  – conducting sophisticated monitoring of grader integrity using technology and data analytics
	  – supporting the adoption and use of objective technologies for quality measurements
	  – implementing emerging technology to improve integrity
	
	• protecting Australia's point of difference
	  – utilising MSA to identify eating quality segregation opportunities to reduce variability of product within brands
	  – supporting a global understanding of Australian MSA products and Eating Quality language
	
	• increased adoption to eliminate failures
	  – implementing and establishing Australia's position on global commercialisation
	  – continuing to hold world-leading standards and protocols
	  – enabling 100% of the Australian adult cattle slaughter to be eligible for MSA grading.

MSA business development	Initiatives within the 'MSA business development' product group include:
	
	• supply chain practice change driven by consumer insights
	  – creating commercial opportunities to support brands to increase use of eating quality predictions for more of the carcase
	  – providing education and resources to support adoption of full carcase utilisation by meal destination rather than cut name
	  – supporting on-farm practice change decisions that are informed by understanding customer needs
	  – creating opportunities for commercial price signals to producers that are clear and assist in identifying practice changes required on-farm
	  – utilising MSA to showcase opportunities for natural, value-added meal solutions that remove consumer failures and provide appropriate price positioning
	
	• utilising data to make informed decisions
	  – enabling seamless transfer of information to improve precision and decisions
	  – coordinating databases to extract greatest value and reduce duplication.

MSA research and development	Initiatives within the 'MSA research and development' product group include:
	
	• leading the collaboration of international eating quality research and commercially implementing research outcomes
	  – supporting the development of a cuts-based grading model for sheepmeat to revolutionise the value of eating quality to sheepmeat industry
	  – supporting the validation and implementation of camera technology for eating quality grading to be used commercially that enables value-based marketing to evolve
	  – evolving and adapting current attributes for measurement of eating quality attributes
	
	• live animal carcase predictors to improve compliance and value
	  – investing in on-farm tools to assist producers to select animals to meet the expectations of brand owners
	  – investing in on-farm tools developed to predict the relationship between the animal and carcase attributes.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – EATING QUALITY ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Eating quality			54	79	664	865	867	1,241	215	383	259				179	2,238	502	4,477	3,072	7,548

Program:
Environmental sustainability

MLA's environmental sustainability program assists MLA to foster the prosperity of the Australian red meat and livestock industry by creating opportunities for it to efficiently and effectively manage soil health, water, methane emissions, biodiversity and climate variability.

This program also addresses the industry's priority to maintain or increase community support for the industry's environmental stewardship.

Sub-programs
• Sustainability (off-farm)
• Sustainability (on-farm)

Priorities

Our customers, consumers and communities

Our livestock

Our environment

Operating environment

Livestock production relies on natural resources, with forage production dependant on soil/water supply and quality, and biological diversity. Changes in climate, regulations, market requirements and community concerns demand that livestock producers and value chain partners continually adapt to this evolving operating environment.

Given its operation on nearly half the Australian land mass and the proximity of its processing facilities to urban communities, the red meat and livestock industry is under continuous scrutiny for its impact on the environment, particularly around vegetation management, greenhouse gas emissions, water and land use and biodiversity loss.

However, the industry has made major inroads on this issue. Agriculture is contributing more to reducing greenhouse gas emissions than any other sector in the Australian economy. Red meat producers are the major contributors to this through their involvement in emissions reduction and carbon storage projects. Further opportunities exist to substantively reduce the industry's net greenhouse gas emissions and generate new revenue streams through carbon and emerging biodiversity credit markets.

Industry's long-term prosperity depends on continuing to take a proactive and preventative approach to environmental sustainability – rather than a reactive one which only deals with the symptoms of resource degradation: poor soil and water quality and lack of biodiversity.

The industry can continue to demonstrate its environmental credentials through investments that promote the environmental sustainability of its production systems and generate new value capture opportunities in the form of productivity gains and provision of environmental services.

Sustainability (off-farm)

MLA's sustainability (off-farm) sub-program supports innovation activities beyond the farm gate by offering economic value propositions for stewardship of environmental resources.

The activities undertaken within this sub-program are designed to address the 'Our environment' priority within the Red Meat Advisory Council's *Red Meat 2030* strategy. This priority reflects the desire for MLA to invest in research, development and adoption activities demonstrating leadership in the management of land, water, biodiversity, climate variability and biosecurity.

Key performance indicators in 2020–21

1. Technology developed for the Australian red meat and livestock industry achieves a 25% reduction in waste or increase in efficiency relative to 2015 levels.

2. Technology developed for the off-farm sector achieves a 10% reduction in carbon dioxide equivalent (CO2e) emissions relative to 2015 levels.

3. Technology developed for the Australian red meat and livestock industry achieves a 35% reduction in water and fossil fuel-derived energy use intensity relative to 2015 levels.

Product group	Core activities
Sustainability technology and practices (off-farm)	The 'sustainability technology and practices (off-farm)' product group involves the application of sustainability-related technologies and knowledge for practical purposes in industry beyond the farm gate. Activities include: • developing processing systems to convert wastes into valuable products – this includes the Rural R&D for Profit project 'Wastes to Profits' • driving adoption of innovation that improves management of water, energy and greenhouse gases through the development of business case studies, cost-benefit analysis and integration of these knowledge products into MLA/Australian Meat Processor Corporation (AMPC) extension and adoption activities • integration and coordination of RD&A outputs from all relevant MLA programs to inform the Australian Beef Sustainability Framework and the Australian Sheep Sustainability Framework reporting (working with MLA's secretariats) • supporting advancement of the Australian Beef Sustainability Framework and the Australian Sheep Sustainability Framework priorities and knowledge gaps through investment in relevant MLA programs • supporting adoption of the Australian Beef and Sheep Sustainability Frameworks across the value chain.
Environment (Australian Meat Processor Corporation (AMPC) managed)	The 'environment (AMPC managed)' product group includes AMPC funded and managed initiatives that align with the AMPC and MLA strategic plans.

Sustainability (on-farm)

MLA's sustainability (on-farm) sub-program supports innovation activities behind the farm gate by offering economic value propositions for stewardship of environmental resources.

The activities undertaken within this sub-program align with the 'Our environment' priority within the Red Meat Advisory Council's *Red Meat 2030* strategy. This priority reflects the desire for MLA to invest in research, development and adoption (RD&A) activities demonstrating leadership in the management of land, water, biodiversity, climate variability and biosecurity.

Key performance indicators in 2020–21

1. Demonstrated uptake/use of weather information products (Climate Kelpie, CliMate), forecasting products (Climate Outlook, Drought Monitor, Climate Watch and new extreme event forecast products as they become available) by producers.

2. At least one novel feedstock or supplement tested in vivo and/or undergoing commercial trials confirming methane avoidance and livestock productivity benefits.

3. Three dung beetle species/strains successfully released and meeting expected adoption targets.

Product group	Core activities
Sustainability knowledge and enablers (on-farm)	The 'sustainability knowledge and enablers (on-farm)' product group involves activities which generate scientific knowledge relating to: • managing water, soils and biodiversity • mitigating and adapting to climate variability and climate change • carbon farming methodologies • rapid screening of pastures and legumes to identify methane inhibiting properties and livestock productivity benefits • the industry's impact on the environment (including greenhouse gas emissions and natural resource management issues), community, and the domestic economy • information required for the Australian Beef and Sheep Sustainability Frameworks • updating industry extension and adoption products, such as learning/coaching modules within MLA's Profitable Grazing Systems product, to enable integration of product group outputs into on-farm management practices • integration and coordination of RD&A outputs from all relevant MLA programs to inform Australian Beef and Sheep Sustainability Framework reporting (working with MLA's secretariats) • supporting advancement of the Australian Beef and Sheep Sustainability Framework priorities and knowledge gaps through investment in relevant MLA programs • supporting adoption of the Australian Beef and Sheep Sustainability Frameworks across the value chain.
Sustainability technologies and practices (on-farm)	The 'sustainability technologies and practices (on-farm)' product group involves the application of outputs generated within the 'sustainability knowledge and enablers (on-farm)' product group for practical purposes behind the farm gate. Activities include development and/or demonstration of: • climate forecast products and extension services • grazing systems that incorporate pastures resilient to hotter and more variable climates • novel feeds (i.e. pasture/legume/shrub) or supplements with the potential to reduce enteric methane emissions and improve productivity • supplement delivery mechanisms for reducing enteric methane emissions in extensive grazing systems • soil carbon measurement technology • improved strains of dung beetles.
Animal health sustainability	Initiatives in this area focus on sustainable, health-related activities on-farm. They include: • reducing reliance on chemicals for e.g. parasite control • exploitation of innate and adaptive immunity (adoption of vaccines, as they become available).
Animal welfare sustainability	Initiatives in the 'animal welfare sustainability' product group relate to on-farm sustainability activities and include: • adoption of vaccines, as they become available (e.g. a contraceptive vaccine) • using the polled gene test as an alternative for dehorning.
Beef productivity sustainability	Initiatives within the 'beef productivity sustainability' product group focus on sustainability – related activities on-farm. They include: • a documented set of recommendations for producers to manage extreme events in a timely manner and action recovery that maintains profitable and sustainable beef enterprises • the WABeefLinks program, which reports on sustainability practices and targets to support grazing management for a viable north-south supply chain • reducing calf loss and improving breeder herd efficiency, resulting in the revision of stocking rates and long-term carry capacity for northern systems • projects delivering extensive livestock modelling and data interrogation activities, providing landscape scale recommendations to deliver measurable sustainability services for northern grazing systems.

Sheep productivity sustainability	Initiatives within this product group focus on on-farm related sustainability activities. They include:
	• developing and trialling management interventions to improve pasture utilisation and minimise patch overgrazing in the rangelands
	• progressing an initiative promoting the use of edible shelter to improve lamb survival outcomes, improve landscape diversity and reduce erosion.
Goat productivity sustainability	Initiatives in the 'goat productivity sustainability' product group include:
	• on-farm related sustainability activities
	• undertaking trials on rangeland goat growth rates and supplementation to develop a least cost supplementation calculator and determine the role of supplementary feeding in assuring environmental sustainability of rangeland goat enterprises
	• implementing projects, in collaboration with the Carbon Neutral by 2030 (CN30) initiative, to move the goat industry towards carbon neutrality.
Feedbase sustainability	Initiatives in this product group focus on feedbase-related sustainability activities. They include:
	• progress tool development and monitoring for Total Grazing Pressure management in southern rangelands
	• feedbase solutions that underpin Carbon Neutral by 2030 (CN30) outcomes by reducing greenhouse gases and increasing soil carbon
	• contributing to the delivery of the Wambiana grazing recommendations for moderate stocking practices that increase value of meat produced and reduce greenhouse gases while improving the feedbase
	• ensuring feedbase solutions address constraints in livestock supply chain initiatives.
Genetics sustainability	The 'genetics sustainability' product group involves the building and maintenance of reference populations through investment in sustainability animal data, so as to underpin accurate delivery of genetic tools. Initiatives include:
	• continuing linkage of sustainability traits to the Beef Information Nucleus and Resource Flock projects
	• continuing novel and hard-to-measure reproductive trait phenotypes to improve the sustainability and carbon emission efficiency of breeding enterprises.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – ENVIRONMENTAL SUSTAINABILITY ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Sustainability (off-farm)			2		30		10			1,553					687	2,282	4,276	4,564	4,276	8,839
Sustainability (on-farm)	12		16		273		230		4						3,801	4,335	4,244	8,670	4,244	12,914
Total	**12**		**18**		**303**		**240**		**4**	**1,553**					**4,488**	**6,617**	**8,520**	**13,234**	**8,520**	**21,753**

Program:
Feedlot

The feedlot program is funded from grainfed levies, with a matching contribution from the Australian Government, and addresses the specific research, development and adoption requirements of the beef feedlot sector.

The key undertaking of the program is implementation of initiatives to enable the Australian feedlot industry to be world-leaders in animal health, welfare and production practices aligned with the *Red Meat 2030* priority of 'Our livestock'.

Additionally, the program will foster research, development and adoption aligned with the *Red Meat 2030* priority of 'Our environment' to enable continued sustainability and market demand for grainfed beef.

Sub-programs
• Feedlot productivity

Priorities

Our livestock

Our environment

Operating environment

Lot feeding remains an integral part of the beef industry given the demand for a consistent supply of quality product for an expanding population. Feedlots occupy a pivotal position in the beef supply chain. As such, their ability to operate profitability, and at capacity, is strongly influenced by weather and market conditions.

The lot feeding sector played a key role in drought mitigation for producers during 2019, setting new records for cattle on feed numbers almost every quarter since mid-2018, with greater than 1.2 million head of cattle on feed at the end of December 2019. These numbers were also supported by a seemingly endless demand from China, following devastation of their pig population by African Swine Fever.

As a consequence of these recent drought conditions across the majority of eastern Australia, grain supplies have been drawn from WA, at significant cost, for the past 12–18 months. While recent rainfall promises some relief, a significant shortage of grain is still expected (particularly in the third quarter of 2020), until access to wheat and barley becomes available in the late spring/early summer period. However, this availability is also contingent on follow-up rainfall in the main cereal growing regions.

A return to average seasonal conditions following this rainfall, while no means a given at time of publication, is likely to see industry move to a herd rebuilding phase, reducing the supply of cattle and increasing competition between restockers, processors and lot feeders. As this competition intensifies, the lot feeding sector will encounter difficult trading conditions and numbers of cattle on feed are expected to decline significantly, with concomitant reductions in levy collections.

Feedlot productivity

MLA's feedlot productivity sub-program aims to increase productivity and profitability to underpin the sustainability of feedlot businesses and the sector through research, development and adoption activities to:

- reduce the impacts of animal disease
- achieve and demonstrate to the community the continuous improvement of the welfare of feedlot animals
- increase animal productivity and enterprise profitability through development and implementation of technologies that reduce feedlot operational inputs and costs and increase efficiency and productivity
- address natural resource challenges that impact feedlot production and influence community perceptions of the industry
- build the capability of producers and advisors to increase feedlot productivity and profitability from research and development.

These investments will be complemented by producer adoption activities that will create opportunities to achieve impact and practice change.

Key performance indicators in 2020–21

1. Complete cattle performance value proposition trials for automated bunk scanning and management, which is then adopted by more than 10 Australian lot feeders.
2. Determine the methane suppression potential of 3-NOP (Bovaer) and lodge the Emissions Reduction Fund methodology with the Australian government for approval.
3. Implement an animal welfare benchmarking pilot across seven Australian feedlots.

Product group	Core activities
Feedlot animal health	Initiatives in the 'feedlot animal health' product group include: • developing and evaluating vaccines and immunostimulants to prevent feedlot disease and provide alternatives to medically important antimicrobials • preventative practices during cattle backgrounding to lower disease incidence upon feedlot entry • antimicrobial resistance surveillance of bovine respiratory disease and food borne pathogens • evaluating parasite resistance and drench strategies for feedlot cattle • developing and evaluating sensor technologies for feedlot disease prediction, detection and diagnosis • quantifying the subclinical and clinical impact of feedlot disease through abattoir offal audits and veterinary pathology.
Feedlot animal welfare	Initiatives within the 'feedlot animal welfare' product group include: • commissioning feedlot bedding, shelter and pen surface ameliorant projects to mitigate the impact of wet pens on feedlot cattle comfort • commissioning projects to improve forecasts of heat load events, best practice nutrition, shade, shelter and management strategies to limit the impact of heat load on animal performance and carcase characteristics • developing and evaluating technologies to determine objective measures of feedlot animal welfare • assessing impacts of duration of lairage and feed withdrawal on animal welfare and carcase value.

Feedlot productivity	Initiatives within the 'feedlot productivity' product group include:
• conducting feedlot cattle composition of gain research to predict days on feed to a set carcase endpoint (including lean meat yield), and potential integration with DEXA or CT composition analysis
• developing cost-effective strategies for devitalisation of grain at Australian ports
• evaluating cattle sorting systems to maximise profit for a purchased population of cattle
• developing solutions to address dag formation on feedlot cattle
• evaluating growth promoting strategies (implants and beta-agonists) on feedlot performance, residues and meat quality
• determining the effect of nutritional strategies (grain processing, water quality and feed additives) on feedlot animal, metabolism and carcase characteristics
• developing and evaluating automation technologies to improve feedlot productivity and profitability.
Feedlot sustainability	Initiatives within the 'feedlot sustainability' product group include:
• commissioning nutrition trials to reduce greenhouse gas emissions (e.g. 3-NOP, asparagopsis, novel compounds)
• conducting long-term benchmarking of greenhouse gas emissions for southern and northern Australian feedlots
• commissioning research on truck effluent management and its value proposition to renewable energy, carcase characteristics, food safety and animal welfare
• developing and evaluating technologies to mitigate greenhouse gas emissions from feedlots
• developing or evaluating strategies to improve feedlot energy and water use efficiency.
Feedlot adoption	Initiatives within the 'feedlot adoption' product group include:
• establishment of the Australian Feedlot Research Institute research feedlot, which will accelerate the delivery of high impact products to the feedlot industry so as to enhance sustainability and profitability
• enabling automation demonstration sites in commercial feedlots, to encourage adoption of commercialised outputs from the feedlot program (e.g. automated bunk scanning and management)
• facilitating education programs on economically viable pathways to carbon neutrality for Australian lot feeders
• piloting animal health and antimicrobial use reporting surveillance systems for the feedlot industry to give feedback on aggregated industry progress in these areas
• undertaking communication and workshop activities to disseminate outcomes of research and development
• funding a technical services officer position for the feedlot industry
• funding ALFA-MLA consulting veterinarians and nutritionists to help identify research, development and adoption priorities and accelerate adoption of research and development outcomes
• undertaking a survey of feedlot operators to ascertain adoption levels of all MLA feedlot relevant products.
Feedlot consultation and capability building	Initiatives within the 'feedlot consultation and capability building' product group include:
• consulting with feedlot operators and industry service providers to establish research, development and adoption funding priorities and disseminate outcomes of research activities
• building capability for the feedlot sector through investment in training for feedlot operators and staff, industry leaders, service providers and researchers, including funding of scholarships for PhDs, the Australian Rural Leadership Program and the Trail Program
• implementing the Feedlot Industry Training and Leadership Development Strategy.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – FEEDLOT ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Feedlot									2,226	250	28				2,204	4,457		8,915	250	9,165

Program:
Integrity systems

MLA's integrity systems program assists MLA to foster the prosperity of the Australian red meat and livestock industry by protecting its disease-free status and underpinning the marketing of Australian product as clean, safe and traceable. It also helps Australia capture price premiums from customers and consumers willing to pay more for higher levels of product assurance.

Sub-programs
- Integrity systems
- Market access science

Priorities

👥	**Our people**
👪	**Our customers, consumers and communities**
🐄	**Our livestock**
🌱	**Our environment**
📊	**Our markets**
⚙	**Our systems**

Operating environment

The Australian red meat and livestock industry has a global reputation as a supplier of clean, safe and natural product, underpinned by its disease-free status and advanced food safety and integrity systems. However, the industry faces relentless competition from global suppliers so it must innovate, enhance its operating efficiencies and strengthen its competitive advantages.

With consumers increasingly wanting to know about how and where their food has been produced (provenance, safety, welfare, biosecurity and sustainability), the industry needs to be able to demonstrate how our livestock production systems meet these consumer expectations and provide assurances that our products are produced and processed to meet consumer and regulatory requirements.

At the same time, digital technology and data science are rapidly advancing. Australia's red meat and livestock industry must capitalise on these innovations to strengthen its integrity and traceability systems, validate Australia's unique provenance and provide a single source of truth from the industry's data platforms.

A key response is the transformation of the industry's integrity systems – Livestock Production Assurance (LPA), National Vendor Declarations (NVD) and National Livestock Identification System (NLIS) – to ensure Australia maintains its global leadership in red meat product assurance and traceability.

The *Integrity System 2025 Strategic Plan* (IS2025 Strategy) was developed to respond to these changing market requirements and to strengthen and simplify the way in which integrity systems are delivered in the future. The IS2025 Strategy will make a transformational change to the way in which industry interacts with and views integrity, by leveraging technology, information, and closer connections through the value chain to deliver a seamless, trusted and highly valued integrity system.

The Integrity Systems Company is investing in new technologies to enhance on-farm food safety and traceability across the value chain. Communication and adoption are another focus for investment to ensure that every value chain participant understands their role and responsibilities in maintaining the industry's integrity systems and the value that the systems deliver to individual participants and the industry as a whole.

Integrity systems

MLA's integrity systems sub-program delivers the industry's on-farm assurance and through-chain traceability systems (NLIS, LPA and NVDs). These integrity systems protect the disease-free status of the Australian red meat industry and underpin the marketing of Australian product as clean, safe and natural.

Key performance indicators in 2020–21

1. Commence a field trial for at least one enhanced livestock identification method (using the current technology base).
2. Develop and implement a desktop audit model for LPA.
3. 10% of LPA participants submit records to support their accreditation.
4. Develop and implement an offline solution for eNVD data transfer.
5. Average online eNVD form completion is above 30%.
6. Producer integrity program awareness levels (NLIS, LPA and NVDs) are at 95% or above.
7. Technology approaches for identification, real-time tracking and automated verification are determined and at least two proof-of-concept studies are underway.

Product group	Core activities
Product integrity and traceability systems	Initiatives within the 'product integrity and traceability systems' product group include: • maintaining, reviewing and improving the integrity program's rules and standards (LPA, NLIS, device accreditation) • developing and maintaining the integrity system databases (NLIS, LPA, eNVD) • delivering integrity system communication and adoption • providing customer support • supporting tag-testing processes • producing and managing NVDs • adopting and supporting through-chain integrity technologies (e.g. via MLA Donor Company) • Integrity Systems Company committee maintenance and support • funding the administration of the National Feedlot Accreditation Scheme (feedlot only) • evaluating and aligning integrity systems developments with the 2025 strategic plan.
Livestock Production Assurance (LPA)	Initiatives within the 'Livestock Production Assurance' product group include: • maintaining LPA on-farm random and targeted audit program and associated compliance activities • providing customer support • delivering integrity system communication and adoption • developing reporting dashboards to increase compliance transparency with industry • managing the LPA accreditation process • maintenance and support of the Integrity Systems Taskforce.

SAFEMEAT	Initiatives within the 'SAFEMEAT' product group include:
	• supporting the SAFEMEAT Secretariat
	• supporting the Chairs of SAFEMEAT Partners and the Integrity Systems Advisory Group
	• providing strategic research support for a range of SAFEMEAT activities
	• providing support for SAFEMEAT communication activities including manage the development of the SAFEMEAT Annual Report and the SAFEMEAT website
	• providing ongoing assistance for industry responses to the SheepCatcher II and CowCatcher III exercises including the activities of the Sheep Traceability Working Group and National Biosecurity Committee led traceability reform initiative.
Integrity System 2025 Strategy	Initiatives within the 'Integrity System 2025 Strategy' product group include:
	Real-time traceability:
	• development of permanent, whole of life livestock identification methods to enable tracking from birth to processing
	• integration of permanent livestock identification methods with technologies that enable real-time tracking of livestock
	• development of national standards to enable farm-to-fork traceability.
	Automated integrity:
	• development of technologies to enable the automatic sensing of HGPs, residues and animal health issues in live animals
	• integration of automated product verification technologies into supply chain compliance and export certification programs
	• implementation of new technologies and new approaches to compliance to support real-time compliance monitoring.
	IS2025 enablers:
	• quantification of the value of the integrity system through an impact assessment aligned with the IS2025 Strategy
	• development of a Monitoring, Evaluation and Reporting framework to underpin the measurement of and overall impact of the IS2025 Strategy
	• development of a risk framework with industry and government to underpin the implementation of the IS2025 Strategy and the ongoing delivery of the system
	• development of a communication and adoption strategy, culture and leadership plan and transition plan to drive technology adoption and system uptake
	• implementation of a governance framework to oversee the implementation of the strategy.

Market access science

MLA's market access science sub-program delivers assurance of product safety, integrity and authenticity to customers, improves supply chain efficiency and reduces non-tariff (technical) barriers to trade by applying science and technology to the supply chain.

Key performance indicators in 2020–21

1. Complete a two-year frozen beef and lamb shelf life assessment, with results provided to industry and government so as to support changes in expiry date labelling practices and extension of allowable shelf life in markets that currently have restrictions.

2. Establish methods for antimicrobial stewardship surveillance data collection and associated value proposition to industry.

3. At least two product integrity-focused value chain pilots concluded and their benefits assessed.

Product group	Core activities
Market access technical research	The 'market access technical research' activities in this product group include the following activities: • maintaining awareness and making assessments of threats and opportunities in markets and technologies; communicate these to internal/external stakeholders • collecting and presenting evidence to demonstrate that supply chain risks are managed adequately by the Australian red meat industry • understanding and promoting management of identified risks in the supply chain • pursue opportunities to implement better risk management practices, systems and business models • supporting cross sub-program initiatives to improve efficiency of supply chains, collecting and utilising supply chain data related to food safety and market access criteria • providing information to, and receiving data from, customers.
Market access research and development (Australian Meat Processor Corporation (AMPC) managed)	The 'market access research and development (AMPC managed)' product group includes AMPC-funded initiatives that align with the AMPC strategic plans. There is a joint governance process in place to ensure that there is no duplication of work with MLA investments.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – INTEGRITY SYSTEMS ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Integrity systems	30	124	176	620	1,019	2,197	1,764	5,281	589	2,872	1,108	1,441	9	30	1,006	5,701	38	11,402	12,603	24,005
Market access science	6		36		208		360		120		715		2		639	2,085		4,170		4,170
Total	**36**	**124**	**211**	**620**	**1,227**	**2,197**	**2,124**	**5,281**	**709**	**2,872**	**1,823**	**1,441**	**11**	**30**	**1,645**	**7,786**	**38**	**15,572**	**12,603**	**28,175**

Program:
Objective measurement

MLA's objective measurement program assists MLA to foster the prosperity of the Australian red meat and livestock industry by facilitating the adoption of objective measurement tools across the value chain. Objective measurement of livestock and carcase attributes is an essential enabler for industry to improve productivity and profitability, improve price transparency and develop value-based pricing.

This program also addresses the industry's priority to maintain or increase community support for the industry's environmental stewardship.

Sub-programs
• Objective measurement

Priorities

Our livestock

Our markets

Our systems

Operating environment

To date, livestock and carcase attributes have largely been assessed using manual subjective measurement resulting in unrealised value potential across the red meat supply chain through lower accuracy measurement or appraisal systems. There is scope to improve the accuracy of measurements through the adoption of transparent objective measurement technologies.

Over recent years, MLA has worked with industry, research institutes and technology providers to develop on-farm, feedlot and processing plant solutions. The application of DEXA (Dual-Energy X-ray Absorptiometry) and other objective measurement grading tools are recent achievements. MLA is now facilitating the ongoing adoption of DEXA technology throughout the red meat industry to deliver an accurate objective measurement of carcase meat, fat and bone (lean meat yield) and the platform to pass this information back to producers.

Sharing data along the value chain to complement other industry systems will allow all sectors to make more informed business decisions, improve on-farm and processing efficiency, and deliver a product which is preferred by consumers. The development of value based marketing grids is needed to provide clear price signalling to drive positive change.

Work is underway in 2020 to model the additional benefits of live animal objective measurement of eating quality and lean meat yield, both in the supply chain (particularly in the feedlot sector) and for on-farm productivity. However, the delivery of some outcomes within the objective measurement program is expected to be impacted by COVID-19 due to delayed access to processing partner sites to conduct planned research, development and adoption activities.

Objective measurement

MLA's objective measurement sub-program develops and supports industry adoption of a range of technologies that measure or estimate key traits such as lean meat yield and eating quality at appropriate points in the value chain for both live animals and carcases.

A key initiative within this sub-program is to fast-track the supply chain adoption of technologies such as DEXA as an objective measure of these traits.

Key performance indicators in 2020–21

1. Complete calibration of an intra-muscular fat measurement device for lamb intramuscular fat, and (pending accuracy) develop a proposal for AUS-MEAT accreditation.

2. Evaluate at least five technologies to measure existing traits for MSA grading, and new quality grading traits, in cut or uncut carcases. Examples include cut-surface grading devices, inter-muscular probes and non-invasive technologies, including x-ray.

3. Calibrate one beef and five lamb DEXA systems to determine lean meat yield and enable producer feedback.

4. Evaluate four novel x-ray technologies for meat industry application (i.e. carcase or live-animal yield or eating quality assessment, disease and defects, and automation).

Product group	Core activities
Objective measurement technologies	The 'objective measurement technologies' product group supports the development of technologies that can be applied to live animals or carcases to measure traits describing the value of carcases.
	Outcomes from this product group are primarily delivered via the Rural Research and Development for Profit objective measurement program as well as MLA Donor Company investments. Initiatives include:
	• development, proof of concept, and demonstration of: – spectral technologies to measure or predict characteristics describing carcase value – airline security-based technologies for carcase scanning, and 3D imaging, for composition and health feedback – equine based cone beam x-ray technologies for live and carcase scanning, and 3D imaging, for composition and health feedback • implementing objective measurement adoption activities through supply chain coordinators and the Rural Research and Development for Profit objective measurement program partner processors • developing the value proposition of objective measurement across the value chain and tools developed under the Rural Research and Development for Profit objective measurement program and associated objective measurement projects.
Objective measurement (Australian Meat Processor Corporation (AMPC) managed)	The 'objective measurement (AMPC managed)' product group includes AMPC-funded initiatives that align with the AMPC strategic plans. There is a joint governance process in place to ensure there is no duplication of work with MLA investments.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – OBJECTIVE MEASUREMENT ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Objective measurement			72		259		192		51		2,868				4,786	8,227	5,374	16,455	5,374	21,829

Program:
Producer adoption

MLA's producer adoption program assists MLA to foster the prosperity of the Australian red meat and livestock industry by building the capability of producers and advisors to increase on-farm productivity and profitability from research and development.

Sub-programs
• Producer adoption

Priorities

👥 **Our people**

🐄 **Our livestock**

🌱 **Our environment**

Operating environment

MLA's producer adoption program encompasses adoption and regional consultation.

Adoption

Withdrawal of state governments from extension or adoption services in most Australian jurisdictions has dramatically changed the way research and development outcomes are delivered to producers. Today's environment demands the evolution of new commercial business models to deliver adoption services and support red meat producers' decision making. This requires developing both private and public sector capacity and capability to support the continued delivery of high quality adoption programs, and importantly a user pays model, to ensure sustainability of delivery.

The adoption program supports producers to implement research, development and technologies on-farm through training. MLA is increasing the focus on long-term supported and experiential learning programs, as these have been shown to have a much greater chance of achieving practice change than short-term solutions, resulting in positive impact across the supply chain. Similarly, all new applied on-farm research and development will have adoption embedded within the project or a robust pathway defined.

The development of new and already available platforms, technologies and programs such as Livestock Data Link, digital agriculture, livestock genetics, objective measurement and Meat Standards Australia (MSA), enables data sharing throughout the value chain and provides opportunity for new and more sophisticated business models. To assist producers to capitalise on opportunities, whole-chain adoption programs will be necessary to link market requirements to on-farm interventions.

Regional consultation

MLA developed a regional consultation framework in 2015 following an independent review of MLA's levy investment systems for on-farm research and development. Regional consultation is a transparent, representative and systematic framework to deliver research, development and adoption that meets the priorities identified by producers during the consultation process. Now in its sixth year, the framework has proven to be effective in enhancing transparency and generating genuine two-way engagement between MLA and producers when setting research and development priorities.

Producer adoption

MLA's producer adoption sub-program builds the capability of red meat producers and advisors to increase on-farm productivity, profitability and sustainability through the implementation of on-farm research and development.

Key performance indicators in 2020–21

1. 3,500 producers are involved in MLA awareness activities and rate their satisfaction >7/10.
2. 1,500 producers are involved in short-term training programs and workshops and increase their knowledge and skills by 20%.
3. 1,000 producers are active in long-term practice change programs. Of those finishing, 75% of producers adopt these practices and, as a result, increase business performance and sustainability.
4. 200 livestock advisors participate in MLA capability building programs and 5% continue to participate in MLA adoption activities.

Product group	Core activities
Adoption awareness programs	Initiatives include awareness programs that: • create awareness for adoption opportunities • inform producers and delivery partners of the latest practical research and development messages, and integrated learning opportunities through campaigns and large-scale forums • provide educational materials to support producer decision making.
Short-term training programs and workshops	Initiatives include short-term training programs and workshops that: • engage producers with training and education opportunities to influence and motivate producers for uptake of improved practices and further skill development • strategically target workshops and seminars to motivate producers into further skills development and inform decision making • strategically develop online tools and support resources to producer decision making.
Long-term practice change programs	Initiatives include long-term supported practice change programs that: • involve and partner with producers and service providers in integrated, long-term (>12 months) adoption programs that deliver transformational change to their business performance • partnering with producers and producer groups to demonstrate, develop and adopt research and development outcomes by validating the commercial value proposition and benefits. Adoption programs focused on long-term practice change include Profitable Grazing Systems (PGS) and Producer Demonstration Sites (PDS). MLA is also building customised research, development and adoption programs to address shared regional and interstate priorities, which are expected to have a much larger impact on adoption in comparison to individual producer groups working in isolation.
Adoption enablers	Initiatives include: • specialised programs which build public and private service provider capacity and capability, and encourage participation in – and leading of – MLA adoption programs • program evaluation and producer market research to establish qualitative and quantitative impacts of adoption programs and inform research, development and adoption needs • increasing the robustness of MLA's monitoring and evaluation framework to more accurately evaluate the improvement in profitability, productivity and sustainability of producers participating in MLA adoption programs • research to inform new and innovative adoption strategies.

Regional consultation for research, development and adoption	Initiatives include: • engaging grassfed beef and sheepmeat producers, as well as program partners, in two-way communication with MLA on priority research, development and adoption and impacts through regional forums and consultation processes • providing evidence-based advice to the MLA Board on priority research, development and adoption, as well as the portfolio balance for sheepmeat and grassfed beef investments.
Animal health adoption	Initiatives in this area focus on the implementation of 'market-ready' knowledge and tools on-farm. They include: • greater use of available vaccines against infectious diseases • using the newly released BCA tool to decide on the best course of action for dealing with sheep conditions diagnosed at slaughter • greater use of the web-based ParaBoss® decision support tool for integrated sheep parasite management.
Animal welfare adoption	Initiatives in the 'animal welfare adoption' product group focus on producer-related extension activities that deliver impact on-farm. They include: • field demonstration of the benefits of using NumNuts for lamb marking • field demonstration of the benefits of pain management using Buccalgesic.
Beef productivity adoption	Initiatives within the 'beef productivity adoption' product group focus on producer-related extension activities delivering adoption and impact on-farm. They include: • integrating Producer Demonstration Site activities in current and future projects • supporting and engaging with targeted industry groups; namely project steering committees, The Leucaena Network and Northern Pastoral Group • publication of project outcomes through final reports, MLA's Feedback magazine, Friday Feedback e-newsletter and Beef Central • supporting and engaging with producers through BeefUp forums, regional beef research committees, beef industry breakfast forums, conferences and industry workshops to develop priorities and share plans/ideas on research directions and extension/adoption opportunities • production of print media (e.g. Tips and Tools publications) and material for research and development updates • improving ruminant production efficiency through research and development, including refining near-infrared spectroscopy technology for determining diet quality • increasing market compliance for high value beef from on-farm interventions; supplementation that reduces dark cutting in southern systems, optimising growth paths for northern cattle, improving re-conception rates, targeting non-compliant animals early to alternative value chains • improving herd management by developing and utilising animal monitoring, control technologies and on-farm sensors to analyse location, live weight, calving behaviours, environmental conditions and virtual fencing applications • a set of practices that can be adopted to reduce calf loss and increase reproductive efficiencies, especially across northern Australia • practical artificial insemination protocols that prolong semen storage and improve uptake of technology.
Sheep productivity adoption	Initiatives within this product group focus on producer-related extension activities delivering adoption and impact on-farm. They include: • focusing on increasing the number of integrated Producer Demonstration Sites to leverage researcher/producer relationships, support and facilitate early adoption, and build producer case studies/testimonials. • developing a specific 'shrubs and novel forage systems' pillar as part of the climate adaption program (to be completed in collaboration with the feedbase and adoption sub-programs with a focus on demonstration and adoption activities).

Goat productivity adoption

Initiatives within the 'goat productivity adoption' product group include:

- conducting program evaluation and levy payer market research to establish qualitative and quantitative impact of adoption programs and inform research, development and adoption needs
- delivering educational materials to support producer decision making, including development of category B (influence and motivation) activities and delivery of category A (awareness) activities to motivate producers into further skill development and informed decision making
- development of Producer Demonstration Sites and Profitable Grazing Systems projects to demonstrate the impact of practice change implementation
- implementation of a field officer position to assist with identification and engagement of the producer base, provision of technical advice, extension and industry promotion activities.

Feedbase adoption

Initiatives in this product group focus on producer related extension activities delivering adoption and impact on-farm. They include:

- delivery to next/end users – demonstration and communication of feedbase outputs
- additional integrated Producer Demonstration Sites, increasing research and producer interactions to facilitate early adoption, with particular reference to monitoring pasture dieback in Queensland and the management of legumes in northern and southern Australia
- implementing the Invasive Grass species plan to deliver nine regional 'proof sites' supported by >40 'adaptation sites' across northern and southern Australia.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – PRODUCER ADOPTION ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Producer adoption	24		226	95	1,908	715	1,237	766							2,160	5,555		11,109	1,576	12,685

Program:
Product and packaging innovation

MLA's product and packaging innovation program assists MLA to foster the prosperity of the Australian red meat and livestock industry by informing value chains and the wider industry about new products, processes, packaging and business models, leading to increased demand and higher value red meat.

Sub-programs
• High Value Food Frontiers

Priorities

Our customers, consumers and communities

Our markets

Operating environment

Insights gathered from market and consumer research have identified several emerging global food trends that offer clear opportunities for the Australian red meat industry. Key themes include:

• personalised nutrition – health and wellness

• convenience and 'snacking'

• targeted demographic needs such as the ageing population

• sustainability – reducing food waste and upcycling waste stream ingredients via circular economies, plus reducing plastic pollution and carbon footprint from the ag-food sector.

To capitalise on these opportunities, new value-added product and service offerings need to be created through new technologies and business models.

Producing higher utilisation, more desirable red meat products with different usages and occasions can create more value than the current model, where typically 80% of value is harvested from only 20% of the carcase. A paradigm shift to position red meat and its by-products beyond commodity offerings can help create more points of difference for the industry and potentially improve market access conditions.

It's predicted that credits such as hide and skin revenue will continue to remain low in 2020–21 in response to reduced demand on leather goods, so alternate uses for functional properties such as gelatine and collagen will be explored.

Finally, the development of alternate proteins to mimic meat such as plant proteins and lab-grown meat is likely to continue and is an area which MLA will continue to monitor.

High Value Food Frontiers

MLA's High Value Food Frontiers sub-program aims to drive new high value usages/occasions (aligned to global food and market trend insights) that grow demand and deliver diversification for Australia's red meat industry.

Novel technologies and value chains that can disrupt and provide an alternate, highly valued solution to the current paradigm of commodity meat trading will unlock higher premiums for, and increase customer preference of, Australian red meat products and services across key markets.

Key performance indicators in 2020–21

1. Develop and test five new high value growth red meat products or supply chains that will deliver $15 million/year in revenue with additional profit margin compared to commodity pricing baseline for partner enterprises by 2023.
2. Investigate two new food technology platforms that demonstrate higher value for Australian red meat products.
3. Review and validate two new consumer/market signals/trends for Australian red meat opportunity spaces, including completion of at least two design sprint challenges.

Product group	Core activities
Consumer, food technology and market insights	Initiatives within the 'consumer and market trends and insights' product group include: • analysing global food trends and food technology platforms for 'what's next and what's possible' • analysing threats and opportunities (e.g. alternate meat proteins and by-products such as collagen-hides) • analysing changing lifestyles (e.g. snacking on-the-go, 'internet of things' connections) and life stages (e.g. multigenerational households, baby boomers) in emerging markets (China, ASEAN and the Middle East) and mature markets and value chain designs that will inform development of new products, processes and packaging solutions with inclusions of Australian red meat.
Develop new products, processes and business models	Initiatives within the 'develop new products, processes and business models' product group include: • engaging with food technology entrepreneurs, producer-led initiatives and brand owners of value-added products for developing or implementing innovative value-adding products or supply chains that deliver significant benefits for the red meat industry • design sprints to develop and test proof-of-concepts and value propositions for rapid financial modelling and cost-benefit analysis/business cases to define drivers of change and emerging technology platforms • engaging with industry and adjacent food sectors to act on mega trend themes • developing knowledge portal of insights that validate themes and strategic investment opportunities • providing future-focused consumer-led input across MLA activities.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – PRODUCT AND PACKAGING INNOVATION ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
High Value Food Frontiers	4		37		320		113			290					1,529	2,293		4,586		4,586

Program:
Value chain information and efficiency

MLA's value chain information and efficiency program assists MLA to foster the prosperity of the Australian red meat and livestock industry by enabling increased productivity and product value across the value chain. This will occur through capturing, integrating and interpreting the vast and increasing range of data that is being generated through existing and new technologies.

Sub-programs
• Digital value chain information

Priorities

Our people

Our livestock

Our systems

Operating environment

Advances in technology are disrupting the way value chains operate and will continue to do so.

MLA's investment in a digital value chain strategy is vital to the seamless capture, integration and interpretation of the vast and increasing range and volume of data being generated across MLA program areas. The strategy will allow the industry to capture and measure improvements in productivity and product value across the entire value chain.

A key enabler to support the more effective use of data is the continued development of a red meat value chain data platform. This will provide mechanisms for agreed industry data to be securely stored, governed, analysed and accessed for the purposes of:

• improving and validating the red meat value chain's performance

• strengthening our integrity systems as an enabler to the IS2025 strategy.

It will require industry capability building and technology adoption to support the collection of data and feedback systems from on-farm right through to consumers. New solution providers will need to be found and supported. This journey will also demand a cultural change that recognises the value of data to support decision making. Validating industry priorities, data ownership and collaboration models to support data sharing, ethics and access are other critical components in developing a collaborative industry strategy that meets the needs of commercial businesses.

Through the linking, enrichment, coordination and use of data across the value chain, this program aims to increase returns by driving efficiency, increasing market opportunities through innovative product assurance and traceability, and maintaining the customer's trust in Australian red meat.

Digital value chain information

MLA's value chain information and efficiency program assists the MLA Group to deliver on the outcomes identified in the *Red Meat 2030* strategy. This is achieved through the provision of enablers that support all program groups to probe, identify and leverage opportunities to capture, interrogate and utilise data. The program focuses on data governance, the capture/linking and enhancement of data, data culture, adoption and capability, analytic development and the provision of data infrastructure/tools.

Key performance indicators in 2020–21

1. Enhance and expanded key datasets such as the property identification code (PIC) register.
2. Tools to enable supply chain data sharing are established and in use by at least two supply chain organisations.
3. Processor animal health feedback provided to producers for 400,000 cattle and 700,000 sheep via Livestock Data Link or other feedback mechanisms.
4. A revised version of Livestock Data Link has been developed and is being actively used by the supply chain.

Product group	Core activities
Data system development, delivery, communication and adoption	Initiatives within the 'data system development, delivery, communication and adoption' product group include: • identifying, curating and managing datasets and analytics that provide measurable value to the red meat supply chain • coordinating value chain partnerships that drive data and analytic adoption resulting in measurable value • development of enabling MLA Group program data infrastructure and governance • supporting industry integrity programs through the IS2025 strategic plan • coordination of MLA Donor Company-based initiatives that capture emerging opportunities arising from the use of data and analytic insights • animal disease, defect and wellbeing data capture and collection at processors and enabling subsequent feedback to producers and lot feeders. Enablers that support the above include: • funding industry and solution provider consultation and building data capability through taskforces, networks and co-development programs • facilitating the development of interoperable industry data providers, tools, architectures, protocols and standards • the development, support and adoption of an industry data platform • communicating and extending opportunities to raise awareness and increase industry and solution provider uptake of data and analytics • building data and analytic capability across the MLA Group, the red meat supply chain and collaboration across agricultural sectors • guiding industry to adopt appropriate data governance to ensure data is well managed and of an appropriate quality • ensuring mechanisms for the adoption of available data are in place and measurements to evaluate value to industry are consistent across MLA Group programs • design thinking framework established to ensure that all program enablement opportunities are analysed, run to ground and that clear paths to adoption are identified.
Enabling supply chain feedback	The key initiative within the 'enabling supply chain feedback' product group is the continued enhancement of feedback mechanisms to producers, breeders and other relevant value chain participants, including the feedback of animal disease and defect data from processors collected at ante and post mortem. Currently delivered through Livestock Data Link (LDL), this feedback may evolve to be delivered through an MLA system enabling industry access to the data platform as well as through integration with third party systems.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – VALUE CHAIN INFORMATION AND EFFICIENCY ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Digital value chain information	38		107		766		1,056		396		269				905	3,537		7,074		7,074

Program:
Productivity (off-farm)

MLA's productivity (off-farm) program assists MLA to foster the prosperity of the Australian red meat and livestock industry by working with processors to increase their efficiency and minimise production costs and, in doing so, to help the industry lift its global competitiveness.

Sub-programs
• Productivity (off-farm)

Priorities

Our livestock

Our markets

Our systems

Operating environment

The Australian red meat and livestock industry's processing sector operates within a highly competitive international marketplace and an operating environment characterised by high and increasing input costs.

The processing sector operates on tight margins to remain competitive in the face of intense price competition from other red meat suppliers and proteins, limiting the ability of many operators to fund innovations, especially over medium and long-term horizons. Small and medium-sized plants face particular challenges in funding new systems and approaches to innovation.

As operating costs continue to rise, especially for energy, transport and labour, there is a potential threat from foreign owned processors relocating their operations offshore to take advantage of cheaper labour. Should this occur, it would limit value chain innovation and value-adding options and opportunities with the Australian industry.

Despite these challenges, accelerating the rate of innovation and adoption is an important contribution for the Australian meat processing industry to remain globally competitive. Compelling new technologies relevant to red meat processing include collaborative and conventional robotics, assistive technologies such as exo-suits and augmented vision, advanced sensing platforms, internet connectivity and data and information flows.

Productivity (off-farm)

MLA's productivity (off-farm) sub-program works to develop and adopt supply chain technologies that deliver productivity benefits to the off-farm sector. Key focus areas include maximising carcase value, optimising product mix and addressing labour availability and workplace health and safety issues. Other priorities include support for objective measurement and data exchange up and down the supply chain.

Key performance indicators in 2020–21

1. Productivity benefit of technologies adopted in 2020–21 and previous years delivers a productivity impact of $60 million/year.
2. Complete a development and validation trial of one beef automation advanced vision module prototype.
3. Construct an R&D and demonstration boning room site at one processor and/or pilot facility for beef automation modules.

Product group	Core activities
Productivity and logistics (off-farm)	Productivity-focused initiatives within the 'productivity and logistics (off-farm)' product group include: • further developing the beef and lamb boning automation program, with a focus on the development of beef boning automation modules • other high-impact activities, including supply chain logistics projects in areas such as pack-out and load-out automation. Tool and enabler initiatives supporting the development of the above include: • conducting ongoing cost-benefit analysis on key technologies and programs • in-plant traceability systems • developing and demonstrating innovative CT and other imaging technologies for cutting lines and automation • engaging with new global solution providers, as well as continuous global technology scanning • evaluating emerging new assistive technologies such as cobotics, augmented vision and exo-suits.
Processing efficiency (Australian Meat Processor Corporation (AMPC) managed)	The 'processing efficiency (AMPC managed)' product group includes AMPC-funded and managed initiatives that align with the AMPC and MLA strategic plans.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – PRODUCTIVITY (OFF-FARM) ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Productivity (off-farm)											2,064				4,255	6,319		12,637		12,637

Program:
Productivity (on-farm)

MLA's productivity (on-farm) program assists MLA to foster the prosperity of the Australian red meat and livestock industry by supporting new research which leads to increased productivity and profitability across the beef, sheepmeat and goat production sectors.

Sub-programs
• Beef productivity
• Sheep productivity
• Goat productivity
• Livestock genetics
• Feedbase production
• Digital agriculture

Priorities

Our people

Our livestock

Our environment

Our systems

Operating environment

On-farm productivity and profitability gains can be achieved through new research, development and adoption that results in production efficiencies, reduced costs and higher returns on investment. In parallel, on-farm productivity must also contribute to a sustainable red meat industry that meets with community expectations on land, water, environmental management.

Grassfed beef productivity relies on pasture-based systems which are influenced by seasonality and the feedbase. The MLA beef productivity sub-program seeks to increase beef productivity and enterprise sustainability by targeting increased reproductive efficiencies for breeder herds, reduced mortality between conception and weaning for northern herds and an optimised value chain through integration of data to support management decisions on-farm.

Sheepmeat production has remained stable despite a continuing flock decline. On-farm prices remain strong, driven by strong global demand. Production is predominantly pasture-based, exposing it to seasonal fluctuations and competition from crop farming enterprises. A key focus of the sheep productivity sub-program is to contribute to a sustainable production system that improves the amount of sheepmeat produced per hectare whilst managing the landscape and biodiversity outcomes and maximising the opportunities for mixed farming systems.

The **goat industry** remains in its infancy. Record prices are driven by tight and inconsistent supplies and strong export demand. The challenge is to grow supply by increasing producer and animal numbers. Demonstrating 'proof of profit' to entice producers to 'give goats a go' and the provision of support in adding goats as a long-term enterprise within their business are prerequisites. A whole-of-supply-chain approach and data-based decision making that considers best practice and total grazing pressure within each business is also necessary to ensure sustainability.

In the area of **livestock genetics**, there is an opportunity to significantly increase the rate of genetic progress achieved for traits that drive value chain productivity in the sheep and beef industries. Through aligning genetic investment to value chain outcomes, there can be a clear commercial value proposition to reduce the costs of genetic investment, engage the value chain and invest in research and development that will lead to the greatest rate of adoption. Improving adoption will in turn improve the profitability of the industry by better meeting the needs of consumers and participants the length of the value chain. The investment in genetics will lead to addressing key drivers of profit including, but not limited to – improving market specification compliance, reducing costs, increasing growth rates, improving fertility and improving livestock production efficiency to improve overall productivity.

Beef and sheep production depends largely on efficiently managing the **feedbase** to ensure a stable supply of forage in the face of variable seasons and competition from undesirable plants and pest animals. Feedbase production assists producers to adapt to the changing circumstances associated with both production and the natural resource management challenges driven by changes in climate, regulation, market requirements and community concerns. The feedbase sub-program addresses these challenges through research that focuses on new plants and varieties with improved genetic gain, enhanced management of grasses, legumes and shrub-tree combinations, better utilisation (grazing frequency and intensity), and biological controls for pest animal and plants.

One of the trending topics in the red meat industry at the moment is **digital agriculture**. With the introduction of new technologies on-farm comes increased efficiencies, which in turn can increase the amount of land and livestock one producer can manage. Going forward, these technologies can also provide producers with tools and resources to make better decisions and improve productivity.

Beef productivity

MLA's grassfed beef productivity sub-program seeks to increase beef productivity and enterprise profitability through improved and targeted nutrition and supplementation including manipulation of rumen function, enhanced breeder herd fertility, reduced calf loss, optimising the compliance of grass finished cattle to market specifications and enhanced decision tools to improve enterprise management.

These investments will be complementary to producer adoption activities which will create opportunities to achieve impact and practice change on-farm.

Key performance indicators in 2020–21

1. Demonstrate the value of two alternative supply chain practices which support and grow beef production best practice from northern WA rangelands.

2. Document three case studies which promote and increase the use of phosphorus supplements across northern Australia for reproduction and annual weight gain benefits.

3. Collaboration with Carbon Neutral by 2030 (CN30) initiatives demonstrate the application of two targeted supplementation practices for mitigating enteric methane intensity from grassfed beef production systems by at least 20%.

Product group	Core activities
Market compliance technologies for grassfed cattle	Initiatives within the 'market compliance technologies for grassfed cattle' product group aim to achieve a greater rate of market compliance resulting in high value beef. They include: • predicting beef carcase composition through on-farm objective measurement technologies • improving meat quality and compliance through targeted supplementation strategies and revision and application of feeding standards for ruminants.
Productivity practices and technologies for grassfed cattle	Initiatives within the 'productivity practices and technologies for grassfed cattle' product group include: • improving fertility through animal breeding research and advancements in artificial breeding (e.g. AI and IVF) • understanding the causes of, and mitigating calf loss through farm-based research • research and adoption tools in nutritional supplementation • improved dietary supplement use that drives improved growth paths, beef productivity and greenhouse gas-mitigating on-farm activities such as feeding leucaena or targeted supplements • improving ruminant production efficiency through research and development, including refining near-infrared spectroscopy technology for determining diet quality • improving herd management by developing and utilising animal monitoring, control technologies and on-farm sensors to analyse location, live weight, calving behaviours, environmental conditions and virtual fencing applications. Engagement and adoption activities include: • engaging with producers, industry groups and regional beef research committees/councils to develop priorities and share plans and ideas on research directions and extension/adoption opportunities • benchmarking enterprise groups recording input and output costs for breeder, backgrounding and finishing enterprises • advancing participatory research and development through multi-farm networks.

Sheep productivity

MLA's sheep productivity sub-program aims to increase on-farm productivity and profitability to underpin the sustainability of lamb and sheepmeat businesses.

Key performance indicators in 2020–21

1. Successfully establish the Sheep Reproduction Strategic Partnership, NEXUS climate adaptation program and lamb lot feeding program.
2. Establish 50 producer participatory research sites which demonstrate a 5% reduction in lamb mortality rates.
3. Quantify the average and range (quartiles) of ewe mortality in maternal composite flocks and identify the top five causes of mortality.
4. Oestrogenic clover removal results in 40,000 additional lambs weaned from 2017 to 2021.

Product group	Core activities
Sheep productivity practices and technologies	Initiatives within the 'sheep productivity practices and technologies' product group include: • developing new knowledge to enable improved reproductive management of flocks producing lamb and sheepmeat delivered for incorporation in adoption programs • investigating new technologies and developing new tools to support production efficiencies, supply chain integrity and welfare monitoring of sheep to inform future investment priorities • supporting the value chain through on-farm initiatives that ensure continuity and consistency of supply.

Goat productivity

MLA's goat productivity sub-program aims to increase on-farm productivity and profitability to underpin the sustainability of goat businesses through research, development and adoption activities.

Key performance indicators in 2020–21

1. Successfully engage producers in adoption activities and provide technical advice via a new goat field officer position.
2. Investigate and communicate the benefits of supplementary feeding rangeland goats via extension to industry.
3. Engage 200 goat producers in extension activities including but not limited to BredWell FedWell, Feeding Fundamentals, National Goat Roadshow, Going into Goats workshops and the Goat Industry Development day.

Product group	Core activities
Goat productivity improvement	Initiatives within the 'goat productivity improvement' product group include: • delivering projections through the population modelling project and using them to inform strategic messaging back to industry • delivering improved off-label chemical data to vets across Australia to improve services to goat producers • developing eating quality standards for processors and producers • documenting the impact of kid loss and developing mitigation plans • identify efficiencies to be adopted relating to herd management • review and upgrade of KIDPLAN.

Livestock genetics

MLA's livestock genetics sub-program targets improving the rate of genetic progress in the beef cattle and sheep industries by accelerating the development and adoption of genetic and genomic technologies and continuing partnership investments with the National Livestock Genetics Consortium (NLGC).

Key performance indicators in 2020–21

1. Minimum 2% increase in annual rate of gain for each of the default Sheep Genetics indexes for Terminal, Maternal and Merino analyses.

2. Three major Sheep Genetics analyses indicate that terminal animal numbers were maintained at 2019–20 levels, maternal numbers increased by 1% and Merino numbers increased by 3%.

3. Develop and test a model for the delivery of multi-breed BREEDPLAN evaluations.

Product group	Core activities
Reference populations: productivity and eating quality	The 'reference populations: productivity and eating quality' product group involves the building and maintenance of reference populations through investment in productivity and eating quality animal data to underpin accurate delivery of genetic tools. Initiatives include: • continuing the Beef Information Nucleus and Resource Flock projects • continuing novel and hard-to-measure phenotype collection.
Genetic improvement research and development	Initiatives within the 'genetic improvement research and development' product group include: • developing technologies that maintain Australia's position as a world leader in genetic improvement science and application which underpin genetic improvement across the value chain • genomic tools and technology development • developing a National Genetics Data Platform.
Delivery of genetic tools and technologies	The 'delivery of genetic tools and technologies' product group involves delivery of breeding value services. Initiatives include: • delivering Sheep Genetics services: LAMBPLAN, MERINOSELECT and KIDPLAN • developing analytical engines for BREEDPLAN and OVIS to help improve single-step analysis and multi-breed analysis capabilities • delivering commercial genetic improvement tools: Rampower and Flock Profile.
Adoption of genetic tools and technologies	Initiatives within the 'adoption of genetic tools and technologies' product group include: • implementing the National Livestock Genetics Consortium adoption and extension strategy to address barriers to adoption of genetic improvement technologies • providing support for genetic evaluation 'users' through Southern Beef Technology Services, Tropical Beef Technology Services and Sheep Genetics • implementing a genetics communications strategy.

Feedbase production

MLA's feedbase production sub-program aims to support efficient animal production (increased production and reduced costs) by increasing productivity of the feedbase and infrastructure.

The sub-program will support the development of better plants, better management and better utilisation of forages, while reducing the impact on the feedbase by pest animals and pest plants.

Key performance indicators in 2020–21

1. Produce case studies from four demonstration sites of the Wambiana long-term grazing trial that highlight management approaches to achieve higher value livestock production and resilience of the feedbase.

2. Twenty 'Legume Best Management Practice' producer-initiated trials in place, with >340 businesses participating in a learning package and >75% of those intending a pasture practice change.

3. Brigalow belt businesses sow >10,000ha of new legumes as a result of the Legume Best Management Practice project.

4. Commercialisation paths in place for powdery mildew resistant medics, tall fescue and prickly acacia chemical control products.

5. Model soil biocrust's contribution to total soil carbon fixation, nitrogen content, landscape and soil stability.

6. Achieve 113,000ha of novel pasture legumes in low rainfall zones.

7. Parthenium and parkinsonia biological controls applied to at least 400,000ha.

Product group	Core activities
Plant breeding and evaluation	Initiatives are focused on breeding and evaluation of 'better plants'. They include: • delivering tools and new partnerships to breed 'better plants', including support for the Australian Pasture Genebank (conserve, regenerate, distribute germplasm) • commercialising species for targeted production systems • promoting and gaining seed company use of genomic tools and markers • evaluation of legumes and grasses in the sown pasture zone of Australia.
Feedbase productivity research and development	Initiatives are focused on 'better management' and 'better utilisation' of pastures and forage, ensuring short and longer-term productivity by accommodating changing climates improving production efficiency and so reducing cost of the production. They include: • soil health indicators and plant production – nutrient and water use efficiency • researching pasture agronomy for stable and persistent pastures (establishment, nutrient, companion species, water use, adaptation zone) • adaptation and potential contribution of C4 (tropical) species to temperate pasture-livestock-crop systems to ensure animal production target specifications • 'better utilisation' – matching pasture production, grazing approach and animals needs to achieve market specifications while accommodating variable seasons • exploring whole-farm implications of pasture legumes, targeting low/medium rainfall zones of southern Australia, with Grains Research & Development Corporate, Australian Wool Innovation and farming system groups • determining a grazing and stocking approach for long-term pasture persistence and animal productivity via the Wambiana Long Term Grazing trial in Great Barrier Reef catchments, with a greater focus on driving adoption of practices that deliver higher value of meat production and feedbase improvement.

Weed controls	Initiatives within the 'weed controls' product group support minimising the competitive impact of weeds in reducing pasture availability for livestock and resource management. They include: • expanding the number of release sites of parkinsonia biological control agents across northern Australia • implementing a national Invasive Grasses initiative • assessing feasibility of a new biocontrol agent for blackberry.
Feedbase animal competitors	Initiatives within the 'feedbase animal competitors' product group support minimising the competitive and damaging impact of pest animals in reducing pasture availability for livestock and resource management. They include: • total grazing pressure business plan implementation – supporting proactive decisions in managing sheep, cattle, kangaroos and goats • implementing 'Portfolio 1 - Rabbit biocontrol; Effective behaviours in control programs' with the Centre for Invasive Species Solutions • developing materials for a release approval of a rabbit calicivirus (RHDV2).

Digital agriculture

MLA's digital agriculture sub-program aims to support feedbase and animal productivity increases as well as provide tools that can support industry 'credentials' via an increased investment focus on digital farm infrastructure, decision support, automation and data platform tools.

Key performance indicators in 2020–21

1. At least 25% of producers who attended an MLA 'digital demonstration farm forum' indicate that, as a result of the demonstration, they are likely to introduce new technology to their business.

2. Establish a value proposition based on diverse end user business models to inform return on investment.

3. Trial and demonstrate available and developing hardware and software for commercial use across the top 10 high impact opportunity spaces/technology solutions.

Product group	Core activities
Digital agriculture tools and technologies	Initiatives within the 'digital agriculture tools and technologies' product group include: • improving connectivity for optimal use of digital technologies in remote locations • developing digital information products and dashboard decision tools/guidelines to provide informed and predictive management systems • deploying autonomous ground and aerial vehicles for data collection to improve decisions on-farm • establishing an ecosystem for multi-venders and producers to share data and have third party solution providers' value add to the raw data • establishing digital farm sites to demonstrate digital agriculture technologies and their associated value proposition to stakeholders.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – PRODUCTIVITY (ON-FARM) ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Beef productivity			9		65		634								2,008	2,716		5,432		5,432
Sheep productivity			32		761										639	1,431	47	2,862	47	2,909
Goat productivity	179															179		358		358
Livestock genetics					1,949	1,000	1,340		67						4,827	8,183	951	16,367	1,951	18,318
Feedbase production	1		13		244		450								3,103	3,811	2,100	7,621	2,100	9,721
Digital agriculture			2		29		151		26						1,417	1,625		3,250		3,250
Total	**179**	**56**			**3,048**	**1,000**	**2,574**		**93**						**11,994**	**17,945**	**3,098**	**35,889**	**4,098**	**39,987**

Program:
Capability building

MLA's capability building program assists MLA to foster the prosperity of the Australian red meat and livestock industry by investing in current and emerging industry leaders, innovators and scientists to enhance professional and business skills and build a performance culture.

Sub-programs
• Innovation capability building
• Industry leadership and capacity building

Priorities

Our people

Our livestock

Our markets

Our systems

Operating environment

A skilled and capable workforce is critical to the red meat industry delivering on the ambitious targets set out in its strategic plans – and to building a more profitable and resilient industry.

Innovators and entrepreneurs are needed right across the value chain to fast-track innovation and identify and implement commercially viable solutions. The significant shortfall of early and mid-career scientists and farm advisors with the skills and experience to serve the industry also needs to be addressed. Meanwhile the demands on the peak industry councils continue to increase, in turn demanding the examination of current industry structures and their value proposition to members and non-members.

A plethora of professional development and training programs exist within the industry. However, these are often fragmented and can lack the coordination necessary to convert graduates of these programs to leadership roles within industry bodies, the peak industry councils and other organisations. Importantly capability programs also expose the career opportunities available within the red meat sector, ensuring future security of the industry by attracting, recruiting and retaining the skills required for the future workforce.

The opportunity remains to continue focussed capability building activities within the industry and develop a coordinated, holistic approach that will improve the return on our stakeholders' investment in this area.

Innovation capability building

MLA's innovation capability building sub-program engages with scientists, researchers, value chain partners, rural professionals, producers, the start-up ecosystem and innovators in a range of capability building initiatives to accelerate innovation adoption and increase the industry's investment in innovation.

Key performance indicators in 2020–21

1. Co-innovation program partners achieve 80% of their documented innovation objectives with at least a 75% attendee rate at MLA innovation network events.
2. At least 10 early career scientists employed in MLA-funded research and development.
3. 90% of Livestock Consulting Internship employers and interns express satisfaction with the value and benefits of the program.
4. The Australian Intercollegiate Meat Judging program delivers an industry education program to tertiary students and young industry professionals.

Product group	Core activities
Capability building (industry)	Initiatives within the 'capability building (industry)' product group include: • the Intercollegiate Meat Judging Competition programs and their associated education initiatives • investment in digital value or supply chain officers to assist companies to develop a whole-of-value chain digital strategy that leverages the best solutions and ensures they are well positioned for new and evolving digital enablers • developing general industry partner capability • maintaining memberships to innovation institutes to stay abreast with the latest trends and innovations and network with innovators and entrepreneurs • investigating or designing innovation and business models, feasibility studies, innovation scouting, as well as other activities such as network events for feedback/feedforward insights on MLA key research themes and outcomes that are enablers for the capability building program.
Capability building (Farmers2Founders/ Rural Professionals Program)	Initiatives within the 'capability building (Farmers2Founders and Rural Professionals Program)' product group include: • the Farmers2Founders pilot program accelerates producer innovation capability by recognising the importance of producer-led innovation and provides participants with customised support models; a case study on converting ideas to innovation activity to business opportunities will be validated by two self-selecting producer nominees each year • the Rural Professionals Program recognises that investing in the development of young people is crucial to building and retaining a skilled and capable future workforce.
Collaborative co-innovation program	The 'collaborative co-innovation program' product group supports Australian red meat value chains to fast-track their innovation and growth strategies. The program is customised to match specific business goals with MLA striving to assist partner companies experiment in unique, high value impactful opportunities.
Capability building (education)	Initiatives within the 'capability building (education)' product group include: • training and supporting PhD level and post-doctoral scientists to provide an enduring career path in red meat research, development and adoption • attracting and retaining people to our sector in emerging fields beyond genetics and meat science; this will be explored over the next five years as advancements in technology and business models require new skills, particularly in regional locations.
Capability building (Australian Meat Processor Corporation (AMPC) managed)	The 'capability building (AMPC managed)' product group includes AMPC-funded and managed initiatives that align with the AMPC and MLA strategic plans.

Industry leadership and capacity building

MLA's industry leadership and capacity building sub-program equips industry representatives with the skills, knowledge and confidence to be effective communicators, positive contributors and successful leaders.

Key performance indicators in 2020–21

1. Grant a minimum of two scholarships a year to ensure ongoing investment in industry leadership capability.

2. 70% of advocacy workshop participants tell their red meat supply chain story through social media platforms and MLA community events.

3. Successful completion of all milestones in the capacity building programs with Cattle Council of Australia, Sheep Producers Australia, Australian Lot Feeders' Association and Goat Industry Council of Australia.

4. Year-on-year improvement in the perception of the Australian red meat and livestock industry, attributable to MLA investment in industry issues research and management.

Product group	Core activities
Industry leadership scholarships	The 'industry leadership scholarships' product group consists of several annual scholarship programs to build expertise and professional capability within the red meat and livestock industry. Initiatives include: • maintaining a scholarship program tailored to the leadership of the red meat and livestock industry • ensuring the most efficient and effective promotion of scholarship opportunities throughout the industry to ensure the widest awareness and to attract the best applicants • managing a selection system that ensures scholarships are awarded to the best applicant with projects aligned to the achievement of MLA's *Strategic Plan 2025* • ensuring that MLA and industry receive maximum return on the industry's investment in scholarship recipients through their production of timely and quality reports that are shared to maximise industry learning • where appropriate, participating in the management of industry-aligned scholarship programs.
Industry development	The 'industry development' product group consists of a professional development program to equip current and emerging industry leaders and others in key industry and MLA roles. Initiatives include: • advocacy workshops to encourage industry engagement with the community • delivering media, presentation and communication training.
Peak council development	The 'peak council development' product group consists of a tailored suite of programs to build skills, leadership capacity and performance within the peak industry councils (PICs). Initiatives include: • Cattle Council of Australia (CCA): 'Building capacity in the grassfed beef industry' • Sheep Producers Australia (SPA): 'Building capacity in the sheepmeat industry' • Australian Lot Feeders' Association (ALFA): 'Building capacity in the lot fed sector' • Goat Industry Council of Australia (GICA): 'Building capacity in the goat industry' • ensuring effective communication with and consultative processes with PICs for key MLA programs and activities • development of the annual State of the Industry report and other industry issues research and analysis to assist industry and PICs in policy development • capacity building initiatives to strengthen the industry's ability to manage reputational risk and to promote industry benefits to stakeholders.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – CAPABILITY BUILDING ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Innovation capability building	4		29		160		103		25		5,223			3,373		8,916		17,833		17,833
Industry leadership and capacity building			8	30	341	1,061	295	996	18	266						662		1,324	2,353	3,676
Total	**4**		**36**	**30**	**501**	**1,061**	**399**	**996**	**43**	**266**	**5,223**			**3,373**		**9,578**		**19,156**	**2,353**	**21,509**

Program:
Communication

MLA's communication program assists MLA to foster the prosperity of the Australian red meat and livestock industry by ensuring that MLA's marketing, research and development services are known and accessible to levy payers and stakeholders. It also seeks to build confidence in the industry, ensuring the community understands the contribution the industry makes and supports its operation.

Sub-programs
- Communication (community)
- Communication (stakeholder)

Priorities

Our customers, consumers and communities

Our livestock

Our environment

Operating environment

The communication program operates in a complex and diverse environment with stakeholders who have wide-ranging research, development and marketing needs. Understanding these needs is critical for MLA to deliver impact to the industry by tailoring its services and communications to ensure stakeholders can access the information they need, when they need it, through the channels they prefer. Improved access to enhanced information empowers stakeholders to make more informed decisions and increase their uptake of business-enhancing marketing, research and development.

MLA's communications program also operates in a highly competitive environment where stakeholders face an abundance of free-flowing information from countless sources on endless topics. Seeking engagement with MLA communications becomes increasingly challenging, requiring the exploration of new delivery platforms and new formats.

Understanding our consumers, meeting their expectations and telling our story as an industry helps ensure we maintain the community's confidence – and consumer support. The community has high expectations about animal health and welfare and how the industry manages the natural resources it relies on. Domestic and international consumers are also increasingly interested in the provenance of their food. MLA assists industry to maintain and enhance community confidence and red meat consumption by engaging with consumers to demonstrate the industry is an ethical and responsible custodian of livestock, land and natural resources.

Communication (community)

MLA's communication (community) sub-program works to engage and inform the community about the Australian red meat and livestock industry, with a focus on animal welfare and environmental management.

Key performance indicators in 2020–21

1. 10% increase in Australian Good Meat page views from 43,000 benchmark (monthly average).
2. Increase in community engagement via social and digital platforms from 7% to 10%.
3. 60% of those who participated in an Australian Good Meat activation feel that the Australian red meat industry plays a vital role in food security and have a heightened trust in the Australian red meat industry.
4. Reach at least 2,800 students via virtual classroom.

Product group	Core activities
Community education	The 'community education' product group provides trusted information and targeted communications to inform communities about the production of red meat and livestock in Australia via the Australian Good Meat online platform. Initiatives include: • Australian Good Meat online platform • search engine optimisation • content development online, including producer videos and infographics • social media content management • community education materials ('community event box') • preparation of information for response to negative/incorrect media/reports • annual benchmarking survey of community sentiment.

Community engagement	The 'community engagement' product group includes event sponsorships and community engagement activities under the Australian Good Meat platform to ensure people feel good about eating Australian red meat. Our community recognises the vital role the red meat industry plays in food production and food security, and trust Australian producers to deliver high value, high quality products. Initiatives include:
	
	• sponsorship of community events and community engagement activities
	  − tier 1: larger scale community events with MLA hosted activity such as royal agricultural shows and food festivals
	  − tier 2: smaller-scale community events where MLA is a sponsor
	  − tier 3: industry events where there is a community component such as LambEx
	• the Get Kids Cooking program.

School education	The 'school education' product group – via the Australian Good Meat brand – engages with schools and teachers through the development and delivery of teaching resources on red meat and livestock production that are aligned with the national curriculum. Initiatives include:
	
	• memberships with key education and industry organisations such as the Primary Industries Education Foundation
	• virtual classrooms:
	  − livestream lessons with a farmer 'from the farm'
	  − livestream cooking classes
	  − livestream Q&As with Australian Beef Olympic and Paralympic ambassadors, as well as cooking classes
	• resource creation aligned to the Australian school curriculum
	• leveraging other school program initiatives to benefit (or amplify) the Australian Good Meat core program objectives and outcomes.

Communication (stakeholder)

MLA's communication (stakeholder) sub-program engages and communicates with MLA members, levy payers and stakeholders across the value chain about MLA's work in research, development and marketing. This includes activities funded by producer levies and MLA's subsidiary companies.

Key performance indicators in 2020–21

1. 70% satisfaction with beef sustainability framework approach and reporting from key stakeholders using GRI criteria.
2. 71% member satisfaction with MLA printed and digital communications.
3. 85% of MLA's media coverage promotes pre-determined 'key messages' in line with corporate communications strategy and wider business objectives and values.
4. Increase MLA membership from 49,376 (June 2019 benchmark) to 49,500.

Product group	Core activities
Sustainability frameworks	The 'sustainability frameworks' product group ensures all relevant internal and external stakeholders are aware of and understand the industry's sustainability commitments and programs.
	The flagship programs are the Beef and Sheep Industry Sustainability Frameworks that MLA manages on behalf of the Red Meat Advisory Council (RMAC) and sheep industry representative organisations. The frameworks are directed by industry-appointed Sustainability Steering Groups and cover economic resilience, animal welfare, environmental stewardship, people and the community across the value chain. Initiatives include:
	• managing ongoing framework reporting and stakeholder engagement for the beef and sheep frameworks
	• collaborating with the various on-farm R&D and adoption sub-programs so as to coordinate their relevant sustainability activities with stakeholder communications and reporting under the key priorities of the beef and sheep frameworks
	• integration of sustainability key messages in communication and engagement with both industry and community stakeholders
	• working with global markets to ensure sustainability information can be used for market advantage.
MLA communications content	The 'MLA communications content' product group provides a targeted suite of print and digital communications to inform levy payers with clear, relevant, engaging and accessible content that empowers on-farm decision making. Initiatives include:
	• developing and implementing a strategic content strategy to coordinate and direct MLA's communications toward the achievement of MLA's mission and the needs of MLA's stakeholders
	• producing and delivering relevant regional and seasonal content through e-newsletters, mla.com.au, social media, a podcast and printed materials such as MLA's flagship *Feedback* magazine
	• fulfilling MLA's corporate reporting requirements under the *Corporations Act 2001* and the *Australian Meat and Live-stock Industry Act 1997* as per MLA's Statutory Funding Agreement with the Australian Government
	• delivering high impact communications campaigns that benefit red meat producers and the Australian red meat and livestock industry
	• improving stakeholder accessibility to MLA's R&D through the creation of easy-read summaries of completed research available via the MLA website and *R&D Round-Up* e-newsletter, and improved search accuracy
	• improving MLA employee engagement through responsive and proactive internal communications
	• maintaining and enhancing MLA's existing digital and social media platforms
	• implementing recommendations from MLA's social governance review.

Stakeholder collaboration	The 'stakeholder collaboration' product group covers MLA's activities to engage with industry stakeholders. Initiatives include:
	• membership services
	• customer relationship management (CRM) is fit for purpose and utilised effectively across the business to ensure services and communications targeted to stakeholder needs
	• MLA-hosted industry events such as the MLA Annual General Meeting and Red Meat 2020
	• an event sponsorship program for industry events that foster productivity, profitability and sustainability of the red meat industry
	• stakeholder engagement with key industry partners, including but not limited to peak industry councils, state farm organisations and key levy payers
	• establishment of an MLA Levy Payer Register
	• MLA member survey to gather the views and needs of stakeholders to inform MLA's decision making, strategy and organisational behaviour.
Media and corporate affairs	MLA's media and corporate affairs function includes strategic and operational aspects of professional corporate communications, media engagement and issues/crisis management. Initiatives include:
	• delivering a corporate public affairs strategy for MLA on behalf of stakeholders and the red meat industry aligned with MLA's Annual Investment Plan and Strategic Plan
	• managing MLA's media activities – including proactive and reactive media outreach
	• taking leadership in delivering crisis and issues management for MLA and the wider red meat supply chain as required via the Industry Corporate Affairs Unit
	• undertaking a comprehensive media monitoring function for MLA and the red meat and livestock industry
	• reporting on emerging trends and potential issues that may impact MLA's reputation
	• managing MLA's 'key issues briefing' function and developing insightful talking points to inform MLA leadership and staff
	• maintaining a close understanding of MLA's operating environment in order to develop responses to corporate issues and mitigate risk
	• ensuring a close understanding of stakeholder needs, working alongside MLA's stakeholder engagement team to effectively collaborate with Federal and State Government, Department of Agriculture, Red Meat Advisory Council and other peak industry councils
	• proactively identifying relevant issues or emerging trends in the communications environment and developing subsequent strategies to address these
	• enhancing MLA and the red meat industry's communications capacity through a robust program of continued professional development
	• working with MLA's business units and content team to help deliver high impact communications campaigns aligned to MLA's Strategic Plan
	• delivering bespoke industry thought leadership to ensure MLA has a prominent voice on strategically important issues
	• identifying and managing opportunities for the Managing Director and senior leaders to contribute to industry debate, news commentary and similar forums of influence.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – COMMUNICATION ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Communication (community)		2		17	17	744	11	911		247						27		55	1,921	1,976
Communication (stakeholder)	10	4	31	52	523	2,138	302	2,649	37	272						903		1,806	5,114	6,920
Total	**10**	**6**	**31**	**69**	**539**	**2,882**	**313**	**3,559**	**37**	**519**						**930**		**1,861**	**7,035**	**8,896**

Program:
Corporate services

MLA's corporate services program assists MLA to foster the prosperity of the Australian red meat and livestock industry by:

- **effectively managing the levy investments through accounting, contracting, project management, foreign exchange management, evaluation and reporting**
- **ensuring MLA meets its statutory and legislative requirements through a robust corporate governance framework including audit, risk and legal services**
- **attracting and retaining a diverse and talented workforce.**

Sub-programs
- Corporate services

Operating environment

Levy income receipts were elevated in recent years as a result of persistent drought-induced herd and flock liquidation. The impact of extreme weather events, including the drought, the north Queensland floods and the bushfires, have led to the lowest cattle numbers in two decades and the lowest sheep flock level in a century. Recent rain relief in key production regions (assuming a return to average weather conditions) is expected to trigger a livestock rebuilding phase which, along with underlying weak supply, will result in less levy transactions over the coming year. Levy income for 2020–21 is expected to decrease across all levy streams and by approximately 12% overall.

MLA's government-matching cap is calculated as 0.5% of the three-year rolling average of the industry's gross value of production (GVP). ABARES has projected a 7% decline in GVP in 2020–21 which, when combined with the two strong preceding years, is expected to result in a moderate increase in the matching cap for 2020–21.

COVID-19 is expected to directly impact the delivery of some milestones that were due for completion in the fourth quarter of 2019–20. Although the timing and extent of the impact is currently not known, there will be some milestones and events delayed until 2020–21 due to the pandemic.

Corporate services

MLA's corporate services program assists MLA to foster the prosperity of the Australian red meat and livestock industry by:

• effectively managing the levy investments through accounting, contracting, project management, foreign exchange management, evaluation and reporting

• ensuring MLA meets its statutory and legislative requirements through a robust corporate governance framework including audit, risk and legal services

• attracting, developing and engaging a diverse and talented workforce.

Key performance indicators in 2020–21

Legal
• Reduce contract development time within MLA by adopting a standardised research and development contract template.

Crisis management
• Maintain the crisis portal and ensure it reflects the latest Risk Management Plan.

Risk and compliance management
• Regularly identify and assess risks to MLA (operational) and industry, as well as implementation of action plans to address risk, and regularly report to the Audit, Finance & Risk Committee.
• Deliver the 2020–21 internal audit plan to the Audit, Finance & Risk Committee.
• Regularly report on the compliance management program to the Audit, Finance & Risk Committee.

Finance
• Clean audit report received.
• Internal audit program delivered to the satisfaction of the MLA Audit, Finance & Risk Committee.
• Ensure financial reporting to internal and external stakeholders is timely, accurate and insightful.

Evaluation
• Develop and implement ongoing cumulative and 2020–25 periodic reporting on the outcomes and dollar impacts of MLA's investment portfolio for the Australian red meat industry.

Commercialisation
• At least 80% of high/medium impact commercial-ready products have commercial partners or have identified commercialisation pathways.

Human resources
• Employee engagement to support talent retention and organisational performance is greater than or equal to the Australian average.

Information technology
• Internal stakeholder satisfaction measures at 80% or more for MLA IT infrastructure and services.

Business services
• Meet service level agreement performance levels as agreed within corporate services and for MLA business units in relation to contract/project processes.

Product group	Core activities
Legal	The legal product group provides legal advice and support to the business and management. Initiatives include: • promoting and defending MLA by minimising legal risk and providing legal advice to the business • ensuring MLA is compliant with its SFA and other applicable law • providing legal training to the business.
Crisis management	Initiatives within the 'crisis management' product group include: • maintaining the crisis portal • supporting industry crises, where required.
Risk and compliance management	The 'risk and compliance management' product group includes activities that ensure MLA's risk management and compliance frameworks such as: • regularly reviewing, maintaining and operationalising the Board's risk appetite • reflecting the industry's operating environment • monitoring compliance with statutory and other regulations applicable to the MLA Group of companies.

Finance	The 'finance' product group captures the stewardship role of effectively managing of levy investments and non-levy investments. Initiatives include: • management reporting to internal and external stakeholders • financial planning and analysis including the Annual Investment Plan and quarterly rolling forecasts • treasury, including the management of cash and foreign exchange • financial accounting services, including Annual Statutory accounts.
Levy management	The 'levy management' product group contains costs associated with MLA's share of levy administration (including third party verification of voting entitlements).
Evaluation	The 'evaluation' product group implements and provides oversight of the MLA Evaluation Framework, encompassing the entire suite of MLA's investments.
Commercialisation	The 'commercialisation' product group supports and provides advice on intellectual property, licensing and commercialisation of research and development outputs. In 2021, the team will focus on further streamlining licensing and adoption of technologies that require commercial partners to facilitate adoption. The team focuses on high impact research and development outputs (products) requiring the commercialisation pathway for adoption and ensures that the intellectual property developed from investments is appropriately protected.
Human resources	The 'human resources' product group supports MLA to attract, develop and engage exceptional people to deliver outcomes that make a difference. Initiatives include: • creating solutions that enable a global and agile workforce to succeed • providing a framework to ensure a safe and compliant work environment.
Information technology	The 'information technology' product group provides IT advice and support to the greater MLA group and across all facets of the technology platform including infrastructure, intranet, financials, Customer Relationship Management (CRM) tool, websites, business intelligence, financials and project/contract management. The IT team's core focus is to ensure the technology platform is at all times both robust and scalable and one which the business can leverage off to achieve their objectives.
Business services	The 'business services' group provides a central service point for project approval, contracting, milestone management and reporting.
AUS-MEAT	The 'AUS-MEAT' product group contains MLA's investment in the standards division of AUS-MEAT. The costs included by the services division (AUS-QUAL) is met from revenues and from previous industry transition capitalisation.

PROJECTED 2020–21 INVESTMENT BY FUNDING SOURCES – CORPORATE SERVICES ($ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2020–21
Corporate services	36	35	117	159	1,163	3,128	1,117	5,194	433	959						2,866	2,475	5,732	11,950	17,682

Funding sources

Expenditure by funding source

Income available by funding source

EXPENDITURE BY FUNDING SOURCE, 2020–21 ($ '000)

	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Total sheep R	Total sheep M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	Total cattle R	Total cattle M	Total levies R	Total levies M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	External M	Government R	MLA consolidated
Animal health and welfare	13		73		619		691		360				360		1,065						3,439	238	4,504	9,247
Capability building	4		36	30	501	1,061	537	1,090	399	996	43	266	442	1,263	982	2,353	5,223				3,373		9,578	21,509
Communication	10	6	31	69	539	2,882	570	2,951	313	3,559	37	519	350	4,078	930	7,035							930	8,896
Environmental sustainability	12		18		303		320		240		4		243		576		1,553				4,488	8,520	6,617	21,753
Feedlot											2,226	250	2,226	250	2,226	250	28				2,204		4,457	9,165
Integrity systems	36	124	211	620	1,227	2,197	1,439	2,817	2,124	5,281	709	2,872	2,833	8,153	4,308	11,095	1,823	1,441	11	30	1,645	38	7,786	28,175
International markets	2	146	106	419	285	10,651	392	11,070	240	25,658	30	3,071	270	28,729	663	39,946	56	2,209	551	787	429	1,331	1,700	47,673
Objective measurement			72		259		331		192		51		243		574		2,868				4,786	5,374	8,227	21,829
Producer adoption	24		226	95	1,908	715	2,134	810	1,237	766			1,237	766	3,395	1,576					2,160		5,555	12,685
Product and packaging innovation	4		37		320		357		113				113		474		290				1,529		2,293	4,586
Productivity (off-farm)																	2,064				4,255		6,319	12,637
Productivity (on-farm)	179		56		3,048	1,000	3,104	1,000	2,574		93		2,667		5,951	1,000					11,994	3,098	17,945	39,987
Eating quality			54	79	664	865	718	945	867	1,241	215	383	1,082	1,625	1,800	2,569	259				179	502	2,238	7,548
Domestic market	12	32	69	92	399	8,236	467	8,328	690	8,341	230	1,103	920	9,444	1,399	17,803	472	1,356	4	8		480	1,875	23,397
Value chain information and efficiency	38		107		766		873		1,056		396		1,452		2,363		269				905		3,537	7,074
Corporate services	36	35	117	159	1,163	3,128	1,281	3,287	1,117	5,194	433	959	1,550	6,153	2,866	9,475						2,475	2,866	17,682
Total	**370**	**343**	**1,212**	**1,563**	**12,002**	**30,735**	**13,214**	**32,298**	**11,520**	**51,038**	**4,469**	**9,423**	**15,989**	**60,461**	**29,572**	**93,102**	**14,905**	**5,006**	**565**	**825**	**41,386**	**22,055**	**86,428**	**293,845**

INCOME AVAILABLE BY FUNDING SOURCE, 2020–21 ($ '000)

	Total sheep R	Total sheep M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	Total cattle R	Total cattle M	Total levies R	Total levies M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	External M	Government R	MLA consolidated
Levies	10,395	23,934	10,008	38,928	3,494	7,175	13,502	46,103	24,265	70,268								94,532
Government																	86,428	86,428
AMPC											14,905	5,006						19,911
LiveCorp													565	825				1,390
External R															41,386			41,386
External M																22,055		22,055
Total	**10,395**	**23,934**	**10,008**	**38,928**	**3,494**	**7,175**	**13,502**	**46,103**	**24,265**	**70,268**	**14,905**	**5,006**	**565**	**825**	**41,386**	**22,055**	**86,428**	**265,702**
Difference (to/from reserves)	**-2,819**	**-8,364**	**-1,512**	**-12,110**	**-974**	**-2,248**	**-2,487**	**-14,358**	**-5,308**	**-22,835**								**-28,142**
Opening reserves	8,947	25,121	6,556	40,977	3,298	9,752	9,855	50,729	19,020	76,123								
Closing reserves 2020–21	6,128	16,757	5,044	28,867	2,324	7,504	7,368	36,370	13,713	53,288								
% of revenue	**59%**	**70%**	**50%**	**74%**	**67%**	**105%**	**55%**	**79%**	**57%**	**76%**								

Acronyms

ALFA	Australian Lot Feeders' Association
AMPC	Australian Meat Processor Corporation
ASEAN	Association of South East Asian Nations
CT	Computed tomography
DEXA	Dual Energy X-ray Absorptiometry
eNVD	Electronic National Vendor Declaration
GVP	Gross value of production
ISC	Integrity Systems Company
LEP	Live Export Program
LGAP	Livestock Global Assurance Program
LPA	Livestock Production Assurance
M	Marketing dollars
MDC	MLA Donor Company
MENA	Middle East & North Africa
MSA	Meat Standards Australia
NLIS	National Livestock Identification System
NLRS	National Livestock Reporting Service
PICs	Peak industry councils
PDS	Producer Demonstration Site
R	Research, development and adoption dollars
RD&A	Research, development and adoption
RMAC	Red Meat Advisory Council