

Supporting information



Appendix A:

Status of MLA's 2019–20 key performance indicators

as at 30 June 2020

Status	Symbol	2019–20 KPIs in MLA's Strategic Plan 2016–2020	KPIs from MLA's Annual Investment Plan 2019–20	Total result	Percentage
Achieved	●	14	116	130	76
Partly achieved	●	1	7	8	5
Not achieved	●	6	20	26	15
Not available	●	2	4	6	4
Total		23	147	170	100

2019–20 KPI	Status	Commentary
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Program: Animal health and welfare

Sub-program: Animal health

Pillar 1: Consumer and community support

Strategic plan KPI:

Four new products including vaccines, diagnostic tests and tools to reduce the cost and welfare impact of endemic and emergency disease in Australia



While multiple products are being developed, lengthy timeframes for trials and approval have resulted in their commercial availability being delayed until after 2020.

A commercial partner is identified, and development trials underway for a single injection cattle tick vaccine



Development trials are underway as part of three different vaccine projects, with at least one project including a co-funding commercial partner.

Prevalence maps prepared for cryptic apicomplexan parasites – toxoplasma, sarcocystis and theileria



This has been achieved in the case of theileria (including uncovering a new tick vector), but not as yet for the other parasites.

Sub-program: Animal welfare

Pillar 1: Consumer and community support

Strategic plan KPI:

Restrict % consumers limiting red meat consumption due to animal welfare concerns to 10%



The 2019–20 survey indicated 12% of the 28% of consumers (or 3.36% of all consumers) reducing their red consumption do so due to welfare concerns.

100,000 lambs treated with Numnuts at lamb marking



400,000 of a planned one million Numnuts treatments were applied by June 2020.

Three dog management groups report success in baiting program and dog reduction



Dog management group projects are underway in Queensland, but not yet complete.

Program: Domestic market

Sub-program: Market knowledge (domestic)

Pillar 1: Consumer and community support

Pillar 6: Stakeholder engagement

Strategic Plan KPI:

Improve proportion of users who find MLA Market Information 'extremely or highly valuable' to 62%



67% of subscriber survey respondents found MLA market information was extremely or highly valuable.

High levels of satisfaction (above 85%) by industry stakeholders with MLA's market information services



The market information subscriber survey found 84% of respondents were satisfied with MLA's market information services.

National Livestock Reporting Service (NLRS) saleyard reports cover >70% of national sales



Saleyard reporting was expanded to ensure at least 70% of saleyard throughput is reported by species by state. This achieved 80% coverage for cattle and 93% for sheep.

High levels of satisfaction (above 85%) by industry stakeholders with MLA's market insights services



100% of survey respondents were very or extremely satisfied with MLA's market insights services.

2019–20 KPI	Status	Commentary
Sub-program: Nutrition		
Pillar 1: Consumer and community support		
Strategic Plan KPI: Restrict % of main grocery buyers limiting beef consumption for health reasons to 17%	●	The latest attitudinal survey results indicate the percentage of consumers limiting beef consumption for health reasons is 23%.
Strategic Plan KPI: Restrict % of main grocery buyers limiting lamb consumption for health reasons to 21%	●	The latest attitudinal survey results indicate the percentage of consumers limiting sheepmeat consumption for health reasons is 18%.
At least 60% of stakeholders surveyed believe MLA's nutrition information and practical resources are credible and relevant	●	Almost 65% of GPs and dietitians agree that MLA is a relevant and credible source of healthy eating material for their patients, with around 75% agreeing the information was relevant and credible.
Sub-program: Marketing and promotion (domestic)		
Pillar 2: Market growth and diversification		
Strategic Plan KPI: Increase % of domestic main grocery buyers willing to pay a premium for Australian beef to 22%	●	Consumers continue to see value in Australian beef, with 25% willing to pay a premium for it.
Strategic Plan KPI: Increase % of domestic main grocery buyers willing to pay a premium for Australian lamb to 23.5%	●	Consumers continue to see value in Australian lamb, with 23.5% willing to pay a premium for it.
Year-on-year increase in main grocery buyer endorsement of the statement "Willing to pay more for beef/lamb" to 22% (beef) and 23.5% (lamb) from 19% (beef) and 21% (lamb) in 2015–16	●	Consumer tracking indicates 26% of consumers are willing to pay more for beef, while 24% of consumers are willing to pay more for lamb.
Maintain mean number of serves per week: 1.5–1.7 for beef and 0.7–0.9 for lamb	●	Mean number of serves is stable and within the target range for beef at 1.7 and for lamb at 0.7.
Restrict the percentage of main grocery buyers limiting red meat for health reasons to 17% (beef) and 21% (lamb)	●	Consumer tracking indicates 23% of main grocery buyers are limiting beef for health reasons, compared to 18% for lamb.
75% of domestic CoMarketing participants rate their overall outcomes (based on their objectives for the year) as 'successful'	●	86% of CoMarketing participants rated the overall outcome of their planned brand marketing objectives as successful or very successful.
Produce case studies from at least five domestic CoMarketing participants, demonstrating that a branding-related price premium is paid to producers for livestock which meet domestic-branded program specifications	●	Five CoMarketing participant case studies were completed. Participants confirmed a brand-related price premium was being paid to livestock producers.

Program: International markets

Sub-program: Market access

Pillar 2: Market growth and diversification

Strategic Plan KPI: Achieve \$15m in new market opportunities by 2019–20	●	Tariffs have been reduced or eliminated via the Comprehensive and Progressive Trans-Pacific Partnership for Japan, Canada and Peru (beef) and Mexico (beef and sheepmeat). There has also been expedited tariff elimination for beef via the Peru-Australia Free Trade Agreement (FTA). Tariffs are bound at zero under the Australia-Hong Kong FTA. Tariffs also eliminated under Indonesia-Australia Comprehensive Economic Partnership Agreement.
Strategic Plan KPI: Deliver \$150m in new export market opportunities by 2019–20	●	Non-tariff barriers were alleviated in Indonesia (beef secondary cuts and offal), the United Arab Emirates and Kuwait (extension of shelf-life for chilled beef and sheepmeat) and Egypt (access for manufacturing beef).
Australia-EU free trade agreement: industry position/submissions are acknowledged and acted on by government, supporting delivery of a reformed EU import regime	●	MLA (in conjunction with a red meat industry taskforce) prepared well-received submissions/positioning papers associated with the ongoing Australia-EU free trade agreement (FTA) negotiations, as well as for the recently launched FTA negotiations with the UK. The Australian Government prioritised market access outcomes for red meat in both negotiations.
Non-tariff barriers: priority non-tariff barrier issue alleviation plans (i.e. China) are implemented	●	Improved access for chilled Australian red meat via the extension of shelf life conditions has been secured in Kuwait, Jordan and Saudi Arabia, while manufacturing beef is now permitted entry into Egypt. Non-tariff barrier alleviation efforts continue in China.

2019–20 KPI	Status	Commentary
Sub-program: Market knowledge (international)		
Pillar 2: Market growth and diversification		
High levels of satisfaction (above 85%) by industry stakeholders with MLA's international market insights services	●	100% of survey respondents were very or extremely satisfied with MLA's international market insights services.
Delivery of a global markets strategic plan	●	MLA's global markets portfolio strategy was completed and shared with the wider industry in December 2019.
Delivery of adoption tools, including global market snapshots and global competitor snapshots	●	All adoption tools were delivered, including an overview for each major red meat destination (country), identifying supply and demand insights.
Completion of category drivers for Southern Asia, US, China, MENA and domestic markets	●	All workshops were completed, with all insights summarised and the top five to six category drivers identified for future growth of Australian red meat in key markets.
Sub-program: Marketing and promotion (international)		
Pillar 2: Market growth and diversification		
Strategic Plan KPI: Increase percentage of global consumers who prefer Australian beef to 23.4%	●	MLA's 2020 global tracker survey showed consumer preference for Australian beef was above target at 28.5%.
Strategic Plan KPI: Increase percentage of global consumers who prefer Australian lamb to 21.4%	●	MLA's 2020 global tracker survey showed consumer preference for Australian lamb was above target at 24.3%.
Build or maintain customer awareness and preference of Australian red meat's positive attributes (safety, quality) within target range	●	MLA's global trade survey (the measurement tool for international customer awareness/preferences of Australian red meat's positive attributes) is only conducted every two years and hence results are not available for 2019–20.
Increase consumer preference for Australian red meat in key international markets to be above 23.4% for beef and 21.4% for lamb	●	MLA's 2020 global tracker survey showed consumer preference for Australian beef and Australian lamb was above target at 28.5% and 24.3% respectively.
75% of international CoMarketing participants rate their overall outcomes (based on their objectives for the year) as 'successful'	●	86% of CoMarketing participants rated the overall outcome of their planned brand marketing objectives as successful or very successful.
Produce case studies from at least five international CoMarketing participants, demonstrating that a branding-related price premium is paid to producers for livestock which meet international-branded program specifications	●	Five CoMarketing participant case studies were completed. Participants confirmed a brand-related price premium was being paid to livestock producers.
Sub-program: Livestock export market activities		
Pillar 1: Consumer and community support		
Pillar 2: Market growth and diversification		
Pillar 4: Productivity and profitability		
Positive stakeholder feedback from industry and government stakeholders with MLA's livestock export market access, productivity and adoption initiatives	●	The program continues to receive positive feedback from the government and similarly from exporters, particularly in relation to the Forum AWO interaction in Indonesia and wet market research and responses in Vietnam and Indonesia.
Minimum of 70% of participants satisfied with the co-funding program	●	100% of participants funded within program indicated overall satisfaction, but have also clearly stated there are opportunities to broaden the scope of what is eligible under the program and to smooth the application process.

2019–20 KPI	Status	Commentary
Sub-program: Livestock export research and development		
Pillar 1: Consumer and community support		
Pillar 2: Market growth and diversification		
Pillar 4: Productivity and profitability		
Complete a review of the required research and development to support implementation of the Livestock Global Assurance Program (LGAP)	●	The LGAP ITS Conformance System is in the final phases of testing prior to going live so as to support implementation of LGAP.
Complete replacement of .22 blank charges with the newly developed alternative power load and/or device	●	The commercial cost of this device is prohibitive at present and hence commercialisation is currently on hold.
Implementation of the Live Export Program (LEP) RD&E review recommendations	●	The LEP RD&E program released its <i>Blueprint 2020–25</i> document which will guide the strategic direction of the program for the next five years.
Winter trials completed for Salmonella vaccine	●	Sheep Salmonella winter trials were delayed by up to 12 months due to legislative reviews.
Research projects implemented to improve and manage heat stress, bedding and stocking densities during shipping and in respective destination markets	●	Research projects are underway, although some stocking density and bedding trials delayed by up to six months due to COVID-19.
Reporting framework adopted and refined to support the Animal Welfare Indicators pilot project and broader ongoing research data collection	●	A reporting framework for on-board animal welfare indicators has been adopted, including information as to how these indicators should be measured. These will be implemented in November 2020.

Program: Eating quality

Sub-program: Eating quality

Pillar 3: Supply chain efficiency and integrity

Strategic Plan KPI: Improve the MSA beef eating quality index to 59.61	●	The national average MSA Index has only fluctuated slightly over the last five years as the volume of all cattle types has also increased. In 2019–20 the index achieved an all-time high of 58.03, resulting in a 0.42 increase over the five-year period.
Price differentials for MSA-compliant cattle demonstrate an annual return to farm gate of more than \$130 million in 2019–20	●	MSA delivered an estimated \$172 million in additional farm gate returns to MSA cattle producers. This figure is attributable to the highest volume of cattle consigned and the highest compliance to MSA minimum requirements.
Adoption of MSA grading increases to 50% of national adult cattle slaughter	●	Adoption of MSA grading increased from 43% of the national cattle slaughter in 2018–19 to 46% in 2019–20.
More than 50% of national lamb slaughter is occurring through MSA-licensed processors	●	Approximately 56% of the national lamb slaughter occurred through MSA licenced processing plants.
100% of MSA beef processors utilising MSA Model V2.0	●	Due to implementation delays, 25% of MSA licenced processors transitioned to the MSA Beef Model V2.0 in 2019–20. It is expected that all processors will be transitioned by August 2020.
15 processing operators describe MSA beef by consumer outcome represented by Eating Quality Graded (EQG) cipher, as opposed to dentition category	●	17 MSA licenced businesses are describing beef by consumer outcome using the EQG cipher. These companies represent more than 50% of the national MSA volume.

Program: Environmental sustainability

Sub-program: Sustainability (off-farm)

Pillar 1: Consumer and community support

Development of technologies for industry to achieve a 25% reduction in waste or increase in efficiency relative to 2015 levels	●	Through the 'Wastes to Profits' Rural R&D for Profit project, MLA has identified and initiated trials of technologies with the potential to reduce waste or increase efficiency by 25% relative to 2015 levels.
One case study evidencing that one carbon neutral red meat supply chain has been established	●	A partnership has been formed with a large beef supply chain who have launched a carbon neutral brand using carbon offsets and a series of planned investments to reduce emissions and improve carbon storage within their supply chain. A case study on this supply chain was published in MLA's <i>Feedback</i> magazine in 2019–20.
Development of technologies for industry to achieve a 25% reduction in water and energy use intensity relative to 2015 levels	●	Energy reduction technologies have been developed, including an energy management website as well as a renewable energy powered microgrid. Water use intensity technologies have also been developed, including a new knife sterilisation unit with the potential to reduce process water usage by up to 50%.

2019–20 KPI	Status	Commentary
Sub-program: Sustainability (on-farm)		
Pillar 1: Consumer and community support		
Strategic Plan KPI: Restrict % consumers limiting red meat consumption due to environmental concerns to 10%	●	The latest survey indicates 4.2% of all consumers reducing their red consumption do so due to environmental concerns.
50 producer 'carbon neutral base line evaluations' completed	●	A series of national pilot carbon accounting workshops were completed with 74 producers participating, 50 of which provided information for baseline evaluations and developing a carbon account.
At least two Bureau of Meteorology extreme event forecast products are available for trialling	●	The Bureau of Meteorology has developed eight heat and cold experimental extremes forecast products on a multi-week to seasonal timescales for trialling.
Second and third new dung beetle species/strains imported	●	The Moroccan strain of <i>O. vacca</i> was successfully imported into Australia. However, importation of <i>O. andalusicus</i> has been delayed until 2021–22 due to COVID-19.

Program: Feedlot		
Sub-program: Feedlot productivity		
Pillar 1: Consumer and community support		
Pillar 4: Productivity and profitability		
Feedlots representing 50% of the industry capacity have adopted at least five MLA-funded products between 2015 and 2020, including the following: <ul style="list-style-type: none"> number of feedlots adopting use of woodchips as a wet pen management practice increases 25% from 2015 baseline levels 10 bunk scanners sold in 2019–20 commercialisation of feed truck auto-delivery prototype commenced and sale of at least one unit 	●	Three bunk scanners and three feed auto-delivery units were sold in 2019–20. Adoption of wood chips has been limited as they are not commercially viable.
Decision made by ALFA and MLA on commitment to fund Centre of Excellence for feedlot research	●	A decision on MLA and ALFA support for the initiative has been delayed until late 2020.
Refinement of bovine respiratory disease 2-in-1 vaccine finalised and field trials implemented	●	The bovine respiratory disease 2-in-1 vaccine has been refined and trials have been implemented via the commercial partner.
200 participants complete the antimicrobial stewardship e-learning modules	●	176 participants registered and 76 completed the course.
Targeted program developed to demonstrate the value of shade installation to the feedlot sector	●	MLA has developed and is launching a targeted program to demonstrate the value of shade installation to the feedlot sector.
Baseline established for number of feedlot animals that have access to shade	●	Baseline established for 385 accredited feedlots.
Development of enzyme dag solution progressing satisfactorily against milestones and regulatory dossier submitted for APVMA approval	●	APVMA has notified MLA that the product does not require registration. Further R&D is progressing.
Baseline greenhouse gas emission data utilised in submission to the National Greenhouse Gas Inventory for revision of feedlot specific emission factors	●	Delays in peer review of data delayed submission until October 2020.
2020 survey by veterinarians, nutritionists and technical services officers successfully completed, with adoption rates and impact of feedlot products quantified and data input to MLA evaluation	●	Lack of industry participation resulted in no reportable results.

2019–20 KPI	Status	Commentary
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Program: Integrity systems

Sub-program: Market access science

Pillar 2: Market growth and diversification

Pillar 3: Supply chain efficiency and integrity

Processes for cold chain analysis are implemented and common issues are identified	●	Cold chain data was collected from multiple supply chains, analysed using the shelf life tool, and corrections were made to cold chain management. Standard approaches to analysing data have been documented and made available to industry.
Risks due to antimicrobial resistance in beef are qualitatively assessed, reported and used to define further surveillance activities	●	Risks due to antimicrobial resistance in beef were qualitatively assessed and reported, concluding that antimicrobial resistance in cattle has changed little since the 2013 survey and that little change to current stewardship approaches are required.
Equivalence cases for post-mortem inspection changes are prepared for North American and European markets	●	Post-mortem inspection changes have been agreed with all jurisdictions in Australia, and the Department of Agriculture, Water and the Environment has prepared equivalence cases that will be pursued in the future with EU, US and Canadian markets.
A cost-benefit model for common integrity protection approaches is developed	●	The costs and benefits of protecting the integrity of product through to consumers are now better understood, but not in enough detail to clearly articulate the costs and benefits of supply chain traceability to key markets.

Sub-program: Integrity systems

Pillar 3: Supply chain efficiency and integrity

Strategic Plan KPI: Increase producer awareness and compliance of integrity systems to 90%	●	Producer awareness of integrity systems increased by 24% to 93%, and integrity system (NLIS) compliance increased by 23% to 96%.
National Livestock Identification System (NLIS) movement recording compliance increased to 96%	●	National Livestock Identification System (NLIS) movement recording compliance was 96.01% in 2019–20.
35% of livestock consignments accompanied by an electronic National Vendor Declaration (eNVD)	●	25% of livestock consignments were accompanied by an electronic National Vendor Declaration (eNVD) in 2019–20. This was a 5% increase compared to the previous year.
Livestock Production Assurance (LPA) awareness levels maintained at 93% or above	●	LPA awareness levels were at 93% in 2019–20. This was a 6% increase in awareness compared to the previous year.
25% reduction in state-based compliance reporting effort through the development of a compliance monitoring and traceability dashboard	●	The development of the National Livestock Identification System (NLIS) compliance monitoring and traceability dashboard has provided a 31.8% time reduction in state-based compliance reporting.
Refreshed Standards and Rules for NLIS livestock identification devices implemented	●	The Standards and Rules for NLIS identification devices were refreshed in 2019–20 to provide a more outcomes-based approach to assessing potential animal identification technologies for use within NLIS.

Program: Objective measurement

Sub-program: Objective measurement

Pillar 3: Supply chain efficiency and integrity

Strategic Plan KPI: Improve beef compliance through optimising efficiency across the value chain to 95.25%	●	Slower than expected industry adoption of objective measurements such as DEXA-based lean meat yield and related areas such as value-based pricing meant this KPI could not be measured or achieved by 2019–20.
Feedback of lean meat yield results provided to producers in five supply chains	●	Producer lean meat yield feedback is being provided by two lamb and nine beef plants via Livestock Data Link or proprietary feedback systems.
Technical evaluation and calibration completed of near-infrared probe for lamb intramuscular fat	●	Two near-infrared devices – one configured as an insertion needle probe and a second for cut-surface imaging – have been calibrated for intramuscular fat measurement in lamb.
Demonstration of cone beam robotic x-ray system in live animals completed	●	COVID-19-related delays in transferring this technology to Australia have prevented further trials and demonstrations.
Commercial trials conducted at one processor of through-plant data systems, chiller sortation and tracking system against boning room schedules and requirements	●	Trials are underway with one processor, with DEXA data successfully integrated into in-plant software and carcass optimisation tools that allocate carcasses to customer specifications being piloted.

2019–20 KPI	Status	Commentary
Six DEXA installations commenced and four completed under the industry-accelerated roll-out program	●	Four beef and lamb DEXA installations were completed, with an additional two lamb DEXA installations underway.
Beef DEXA lean meat yield algorithm calibrated by medical CT (computerised tomography) scanner	●	COVID-19-related delays in delivering the mobile CT unit have prevented calibration until 2020–21.
Successful differentiation of tissues using MEXA technology	●	MEXA capability to differentiate tissue types in lamb has been demonstrated in a proof-of-concept study in collaboration with Spanish researchers.
Develop a prototype for an animal health viscera inspection system	●	MLA's commercial partner has developed a dual-view MEXA prototype augmented with multispectral surface imaging for animal health offal inspection.
Conduct an in-plant evaluation of aviation CT system for yield, eating quality and animal health	●	While the aviation CT system has been upgraded ready for evaluation, in-plant trials have been delayed until 2020–21.

Program: Producer adoption

Sub-program: Producer adoption

Pillar 4: Productivity and profitability

Strategic Plan KPI: Engage ≥ 2,000 producers in decision support programs who will improve business performance by ≥ 5% by 2020	●	>2,200 producers were directly engaged in decision support programs during 2019–20.
Strategic Plan KPI: By 2020, improvement in total factor productivity of: 1.75% (southern beef); 0.5% (northern beef); 0.5% (sheepmeat); 1.5% (feedlot); 0.5% (goat)	●	As part of the improved evaluation framework, benefits to producers are measured as: • annual and net profit value-based productivity increases • cost reductions at an enterprise and industry level.
3,300 producers involved in MLA awareness activities, and rate their satisfaction >7/10	●	4,909 producers participated in MLA awareness activities including face-to-face events and webinars. Satisfaction averaged 8.5/10. 972 advisors participated in awareness events targeted at this sector and rated their satisfaction at 8.2/10.
2,300 producers involved in 'influence and motivate' activities, and increase their knowledge and skills by 20% after participation	●	1,207 producers engaged in 'influence and motivate' activities. Many face-to-face activities were postponed or cancelled due to COVID-19, with some events adapting to online delivery where possible. For measured events, knowledge and skills increased by 35%.
15 new Producer Demonstration Site (PDS) projects contracted under the pilot phase for the 2020–25 PDS strategy; of those finishing, 75% of core producers adopt the learnt practices	●	28 PDS projects commenced in 2019–20 across 309 individual sites and with 633 core producers. Reports show on average 75% of core producers adopted learnt practices.
528 producers participate in Profitable Grazing Systems and those finishing achieve knowledge and skills improvement of 75%	●	546 producers were active in 33 groups within the PGS program. Of 12 completed groups, 70% of participants scored >75% for post-workshop knowledge and skills improvement.

Program: Product and packaging innovation

Sub-program: High Value Food Frontiers

Pillar 2: Market growth and diversification

Pillar 3: Supply chain efficiency and integrity

At least two new value adding products, packaging technologies and/or innovative supply chains commence commercial operation and deliver significant producer and/or value added premiums to the Australian red meat industry	●	Argyle retail-ready frozen thawed supply chain successfully launched eight products into 285 China Walmart stores during 2019–20.
High Value Food Frontiers market and consumer insights successfully communicated, including five local and national conferences and 13 presentations to current and potential partners	●	21 communications activities were presented to partners on key growth themes such as smart packaging, meat snacks, foods for seniors and pet foods. These activities included five conferences/events to showcase value adding opportunities.
MLA is partnered with an additional five companies in developing value added domestic and export strategies and new business models	●	MLA partnered with nine commercial companies during 2019–20 to develop new products and business strategies that include Australian red meat.
For snacking, a series of six focus groups, as well as a planned pop-up event in Singapore to test value propositions is completed	●	Eight focus groups explored 'attitudes to meat snacks' to test key assumptions for growing red meat demand in this category. The Singapore event did not proceed.

2019–20 KPI	Status	Commentary
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Program: Value chain information and efficiency

Sub-program: Digital value chain information

Pillar 3: Supply chain efficiency and integrity

Processor animal health feedback provided to producers on a trial basis for 250,000 cattle and 500,000 sheep via Livestock Data Link or other feedback mechanisms	●	Processor animal health feedback was provided to producers on a trial basis for 486,435 head of cattle and 5.5 million sheep via Livestock Data Link or other feedback mechanisms.
Single sign-on enhanced to become an industry standard identity provider for all MLA and solution provider products	●	The single sign-on service has been included in all applicable MLA products including myMLA, NLIS, LDL, LPA and MSA. It has also been enhanced ready for third party integration by solution providers.
Development of an industry-endorsed business case for future investment into Livestock Data Link	●	The Livestock Data Link business case has been completed and endorsed by the Livestock Data Link industry advisory committee.
At least five case studies delivered that evaluate and/or demonstrate the value of data and emerging supply chain and associated enabling technologies	●	Five case studies have been delivered that demonstrate the value of data. The case studies covered the use of blockchain, digital capability building, visualising NLIS animal Movements (ISC), data use in Sheep Genetics (MLA) and the ISC Compliance Dashboard used by the state jurisdictions to manage compliance and biosecurity.

Program: Productivity (off-farm)

Sub-program: Productivity (off-farm)

Pillar 4: Productivity and profitability

Strategic Plan KPI: Leverage co-investment through the MLA Donor Company (MDC) in the processing automation R&D portfolio by \$10m/year	●	Actual per annum investment was \$1.7 million for 2019–20, as planned investments have been deferred to 2020–21 due to COVID-19-related and other delays.
Productivity benefit of technologies adopted in 2019–20 and previous years deliver productivity impact of \$50 million a year	●	Technologies adopted as at June 2020 provide annual net benefits of \$65.4 million, primarily from lamb boning automation and BladeStop saw safety devices.
Successful development of one beef automation module prototype	●	A module prototype was developed for clamping the beef chuck and rack separation cross cuts, as well as chinning of the rack and/or short loin.
Finalise location and funding of the R&D and demonstration beef boning facility	●	The funding of the beef boning R&D facility was finalised, with construction at the Teys Australian Rockhampton processing plant scheduled for completion in July 2020.

Program: Productivity (on-farm)

Sub-program: Beef productivity

Pillar 1: Consumer and community support

Pillar 4: Productivity and profitability

Complete a business case analysis on the benefits of phosphorus and non-protein nitrogen use and deployment in lick blocks	●	Phosphorus (P) extension material was prepared, including new case studies and updated economics that describe the benefits of P supplementation.
Establish a calf survival partnership and support the use of economically-modelled interventions that reduce calf loss	●	The Northern Breeding Business (NB2) program was established and will concentrate on economically-modelled management decisions that drive breeder efficiency and reduce calf mortality.
Develop a matrix of reproductive technologies and identify those that maximise genetic gain	●	A technology versus genetics matrix has been developed.
Enhanced leucaena integration into productive beef grazing systems	●	Leucaena-focused extension activities are now in place across Queensland and NT.
Prove the capacity of feeding and grazing systems to help abate greenhouse gas production and benefit productivity	●	Numerous projects that deliver abatement technologies for grazing systems and benefit productivity are underway, including the use of biochar, establishment and grazing of leucaena and use of naturally occurring bioactives. Results will be available post-2019–20.

2019–20 KPI	Status	Commentary
Sub-program: Sheep productivity		
Pillar 4: Productivity and profitability		
Completion of the revised maternal feeding standards	●	Revision of the feeding standards for modern maternal ewes is complete, with these now published on the MLA website.
More than 50 participatory research sites established	●	More than 70 producer participatory R&D sites have been established to support initiatives in areas including management of ewe lambs, triplet lambing, forage shrubs, quantifying ewe mortality and lamb feedlot adaptation.
At least 30,000 additional lambs weaned from 2017 to 2020 (via the oestrogenic clovers project work)	●	Adoption measurement only commenced in 2020, with this target unlikely to be met until 2021–22. Productivity and cost savings are estimated at \$33/ha of high oestrogenic sub-clover with adoption increasing annually.
Lamb survivability strategy delivered	●	Development of the lamb survivability strategy has been completed, with the full report to be released in 2020–21.
Sub-program: Goat productivity		
Pillar 4: Productivity and profitability		
Three years' worth of historical profitability/productivity data collected and analysed for 60 goat producers across Australia to infer/project industry performance and impact from levy spend	●	Seasonal conditions and goat supply limited the ability of producers and processors to participate in this project. Given ongoing supply constraints and uncertainty around COVID-19, this project has been terminated.
At least eight regional producer updates/feeder activities held	●	Three of the planned eight events were successfully completed. However, COVID-19 restrictions impacted the delivery of further in-person workshops.
Six Feeding Fundamentals and Bred Well Fed Well workshops for goats successfully trialled	●	The workshops were piloted and course content further developed. However, COVID-19 restrictions meant that further workshops could not be undertaken.
Sub-program: Livestock genetics		
Pillar 4: Productivity and profitability		
Minimum 2% increase in annual rate of gain for each of the default Sheep Genetics indexes for Terminal, Maternal and Merino analyses	●	Annual rates of genetic gain averaged above 6% for the default Sheep Genetics indexes. Specifically this was 6% for Terminals, 7.8% for Maternals and 5.9% for Merino.
Three major Sheep Genetics analyses indicate that terminal animal numbers were maintained at 2018–19 levels, maternal numbers increased by 1% and Merino numbers increased by 3%	●	Animal numbers increased by 3% in LAMBPLAN and 5% in MERINOSELECT. Terminal numbers were maintained, while Maternals increased by 1% and Merinos by 3.7%.
Sheep Genetics customers rated their satisfaction level as 4 out of 5, as described by the annual client survey	●	Overall satisfaction among Sheep Genetics clients was high with an average of 4.4 out of 5, as reported by the annual survey.
Model for the delivery of multi-breed BREEDPLAN evaluations developed and tested	●	Five breeds are now including multi-breed datasets in their evaluations, with further development work underway.
Sub-program: Feedbase production		
Pillar 1: Consumer and community support		
Pillar 4: Productivity and profitability		
Strategic Plan KPI: Reduce cost of feral animals and weeds by \$50 million	●	The 2015–20 MLA impact evaluation of three MLA investment areas (rabbits, feral pigs and weeds) showed net present value benefits of \$100.6 million to 2040.
Commercialisation plan outlined for prospective legumes (stylos) in northern Australia	●	Commercialisation planning for stylos (legumes) has progressed with the research partner.
Seed sales of commercialised forages (tedera, cocksfoot, panics, leucaena) 10% higher than 2018	●	Only tedera sales met this target. Other perennial pasture seed sales were reduced due to drought.
Guidelines developed for 'low phosphorus' pasture systems in southern medium-to-high rainfall zones	●	Industry soil phosphorus (P) decision tool 'Five Easy Steps' now includes principles and management guidelines that underpin highly-productive, P-efficient pasture systems.
Rabbit calicivirus monitoring and modelling reports industry impact via improvements to production and biodiversity outcomes from rabbit control	●	The Centre for Invasive Species Solutions impact analysis reported RHDV1-K5 to have a 'production and environment net present value benefit' of \$272.86 million over 30 years.
Ten pasture evaluation sites established along the eastern seaboard, informing future pasture production and animal productivity	●	At least 10 pasture evaluation sites in the Livestock Productivity Program successfully underway, notwithstanding drought conditions. Furthermore, Pasture Trial network has delivered 104 pasture trials sown at 31 further sites.

2019–20 KPI	Status	Commentary
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Sub-program: Digital agriculture

Pillar 4: Productivity and profitability

Demonstrate connectivity and Internet of Things (IoT) devices operating on eight properties	●	Connectivity solutions and IoT devices have been implemented at eight sites including feedlots and properties in WA, Queensland and NSW. Demonstration and evaluation of technologies on these sites is ongoing.
Digital agriculture technologies implemented on three commercial demonstration farms	●	Digital agriculture technologies are now installed at four demonstration farms. Technologies deployed include electronic individual animal tags, water point sensors, soil moisture sensors, feedbase mapping and monitoring.
MLA Annual General Meeting integrated with Digital Forum at one demonstration farm, with at least 200 producers attending	●	Demonstrations held as part of Red Meat 2019 at Tamworth included a major pastoral house which showcased on-farm digital technology. More than 200 producers attended these presentations or visited the farm.
Advancement of 'actor' unmanned aerial vehicles/unmanned ground vehicles on three properties assessed through a network of users linked to pre-sales (commercialisation)	●	Demonstration and trialling of the Aerodyne drone technology/sensor platform was undertaken at a four properties. Pre-sales commercialisation trials of the Wolf Unmanned Autonomous Vehicle (UAV) were completed at one property.

Program: Capability building

Sub-program: Innovation capability building

Pillar 4: Productivity and profitability

Pillar 5: Leadership and collaborative culture

Delivery of an industry development education program for 20 Intercollegiate Meat Judging (ICMJ) finalists	●	Out of 144 students from 16 tertiary institutions participating in the annual ICMJ program, 23 students completed the industry development education program.
50% of participants (pre- accelerator/accelerator) report Farmers2Founders program has catalysed or fast-tracked innovation progress, evidenced by qualitative interviews	●	Qualitative interviews indicated the program was perceived by 93% of participants to have fast-tracked the development of their innovation by an average of 115%.
90% of Livestock Consulting Internship employers and interns express satisfaction with the value and benefits of the program	●	90% of interns and employers surveyed indicated that although only six months into the program, they are finding the program valuable.
Co-innovation program partners achieve 80% of their documented innovation objectives	●	Co-innovation program partners achieved 93% of their documented innovation objectives.
At least 10 early career scientists employed in MLA-funded research and development	●	Eleven early career scientists were employed in MLA-funded research, including seven in the ALMTech program and four in other programs.

Sub-program: Industry leadership and capacity building

Pillar 1: Consumer and community support

Pillar 5: Leadership and collaborative culture

Pillar 6: Stakeholder engagement

Grant a minimum of two scholarships a year to ensure ongoing investment in industry leadership capability	●	Three scholarships were awarded.
Engage a minimum of six past MLA-sponsored scholars in advocacy work for the industry	●	Six previous MLA-sponsored scholars have been engaged in advocacy work for the industry.
50 industry people identified and trained as industry advocates	●	64 producers and members of the red meat industry identified and trained as industry advocates.
Industry representatives complete director, policy, governance, media and/or communications training as appropriate and required	●	Representatives from key industry groups all undertook director training.
Execution of tactics measured with the objective to improve year-on-year perceptions of the Australian cattle and sheepmeat industry	●	Perceptions towards the cattle and sheep industry remained positive, with 67% of the community participants surveyed feeling good about the cattle industry, and 62% feeling good about the sheep industry.
Cattle Council of Australia governance review complete and recommendation implemented	●	A governance review of the board and committee were undertaken and recommendations were implemented.

2019–20 KPI	Status	Commentary
Program: Communication		
Sub-program: Communication (community)		
Pillar 1: Consumer and community support		
Maintain the percentage of consumers who feel good or very good about the Australian cattle industry (65%) and sheepmeat industry (60%)	●	The percentage of consumers who feel good or very good about the Australian cattle industry is 67% and the sheepmeat industry is 62%.
Year-on-year increase in community engagement via digital and social media	●	Engagement on the Australian Good Meat website platform has increased by 60% from the previous year.
Community sentiment tracked, including the percentage of consumers surveyed limiting red meat consumption due to animal welfare or environmental management concerns (KPI: 10%)	●	The latest survey indicates that 3.36% of all consumers reducing their red consumption do so due to welfare concerns, and 4.2% of all consumers do so due to environmental concerns.
At least 10,000 consumers engaged and informed about the production of red meat and livestock in Australia	●	31,581 members of the community have been engaged and informed about the production of the red meat and livestock production in Australia across nine events around the country.
Utilise at least 20 producer advocates in community events	●	30 producer advocates were engaged across community events, content creation and school education programs to tell the authentic story of Australian red meat production with a focus on animal welfare and environmental sustainability.
<p>MLA's 'Paddock to Plate 360° Beef and Lamb Experiences' presented at four Royal Agricultural Show events, with at least 80% of viewers responding that they have:</p> <ul style="list-style-type: none"> a better understanding of the industry improved perceptions of Australian beef/sheepmeat production 	●	The Australian Beef and Lamb Paddock to Plate Experience in virtual reality was taken to four community-focused events including the EKKA and shows in Darwin, Alice Springs and Perth in 2019, with 90% of viewers stating they had a better understanding of the industry and improved perceptions of Australian beef/sheepmeat production.
A minimum of 70 schools engaging with MLA education materials	●	MLA Virtual Classroom education materials reached more than 13,884 individual students in Virtual Classrooms in more than 100 schools.
Sub-program: Communication (stakeholder)		
Pillar 5: Leadership and collaborative culture		
Pillar 6: Stakeholder engagement		
Strategic Plan KPI: Improve stakeholder endorsement of MLA programs to 3.1/5	●	Stakeholder endorsement of MLA programs was not specifically measured throughout the 2016–2020 period.
Strategic Plan KPI: Improved industry crisis and issues management capability – one simulation with PICs	●	An Industry Corporate Affairs Unit was developed to improve issues management. No annual simulations were completed.
Strategic Plan KPI: Increase member satisfaction with MLA to 3.9/5	●	Overall member satisfaction with MLA increased 0.1 to 3.4/5.
Strategic Plan KPI: Improve stakeholder endorsement of the value of MLA products and services – continuous improvement	●	The value of key MLA programs has maintained or improved when compared with 2018–19.
High levels of member satisfaction (above 70%) with MLA printed and digital communications	●	Average member satisfaction with MLA's printed communications is 74% and digital communications is 72%.
High levels of stakeholder satisfaction (above 70%) with MLA's communications campaigns	●	Anecdotal feedback indicates high levels of stakeholder satisfaction with MLA's genetics campaign in 2019. Quantitative feedback on other communications campaigns is not available.
High levels of member awareness (above 70%) of MLA's role	●	93% of members describe MLA as the 'marketing organisation to grow demand for red meat' and 87% describe MLA as a 'research and development organisation'.
Increase in media volume against the 2018–19 benchmark and ongoing promotion of key messages through the media	●	The overall volume of MLA media coverage increased year-on-year by 1,083 media mentions. MLA's average media impact score was strong, increasing to 4.4 year-on-year from 3.9.
Completed registrations to myMLA (MLA members and non-members) to exceed 50,000	●	Completed registrations to myMLA was 53,164 as at July 2020.
E-newsletter subscription database growth of 5%	●	Subscriptions to key e-newsletters increased by 10% over the past year.
Year-on-year increase in producer engagement through social media	●	Overall, there has been an increase in engagement through social media – a 21.5% increase in followers across all social media channels.
Completion of mla.com.au upgrade and relaunch	●	The redesign and refresh of mla.com.au website was launched in May 2020.

2019–20 KPI	Status	Commentary
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Program: Corporate services

Sub-program: Corporate services

Pillar 5: Leadership and collaborative culture

Corporate services

Board and executive Reduce time taken for MLA approval of projects > \$1 million by at least 30% via new delegation levels	●	New delegation levels implemented and approval times reduced by >30 days and greater than 30%.
Legal and governance MLA governance is assessed in 2020 Performance Review as demonstrating a high level of compliance with the best practice principles of the ASX Corporate Governance Council and the Funding Agreement with the Commonwealth	●	The 2020 Performance Review was conducted by ACIL Allen Consulting and concluded that MLA is well-governed and managed, including a high level of compliance with the best practice principles of the ASX Corporate Governance Council and the Funding Agreement with the Commonwealth.
Crisis management Crisis portal maintained and reflects the latest Risk Management Plan	●	The crisis portal continues to be maintained and reflects the current risk management plan.
Risk management Regular identification and assessment of risks to MLA (operational) and industry, including action plans to address risks	●	Risk are regularly identified and assessed, include action plans and are reviewed and endorsed by the Audit, Finance and Risk Committee.
Finance <ul style="list-style-type: none"> Clean audit report received Internal audit program delivered to the satisfaction of the MLA Audit and Risk Committee Ensure financial reporting to internal and external stakeholders is timely, accurate and insightful. 	●	<ul style="list-style-type: none"> FY19 Statutory Accounts were successfully audited by EY and published in MLA's annual report document. The FY20 Internal Audit Plan was fully delivered and reported to the Audit, Finance and Risk Committee on a quarterly basis. Quarterly management dashboards were submitted to the MLA Board and peak industry councils to the satisfaction of stakeholders. Positive feedback was received in relation to budget presentations delivered during the consultation process.
Evaluation 2016–20 return on investment and triple bottom line impact assessment successfully delivered on time and to the satisfaction of the performance review consultants	●	MLA's 2016–20 impact assessment was delivered on time and to the satisfaction of ACIL Allen Consulting. MLA's evaluation system was subsequently rated as industry 'best practice' in MLA's performance review.
Commercialisation At least 80% of high/medium impact commercial-ready products have commercial partners or identified commercialisation pathways	●	More than 90% of high/medium impact commercial-ready technologies are contracted with 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	●	An employee engagement pulse survey in November 2019 confirmed employee engagement levels at MLA continue to be in line with Australian benchmarks. Due to COVID-19, the full employee engagement survey was deferred and replaced with a pulse survey to track employee sentiment to MLA's response and actions during the pandemic.
Information Technology Internal stakeholder satisfaction measured at 80% or more for MLA IT infrastructure	●	Internal satisfaction with IT was measured via the annual user survey. All three areas surveyed were rated above 95%.
Project governance and management Reduction of initial and variation project approval times by five days	●	Completion of stage 1 of the CRM-based approval system was delayed, but is now complete at time of print. Project approval and variation times will be measured in 2020–21.

Appendix B

CoMarketing program participants 2019–20

Beef CoMarketing
Andrews Meat Industries
AAco
AgriGate Australia
Allied Beef Cattle
Arcadian Organic & Natural Meat Co
Argyle Prestige Meats
Australian Beef Trading Company
Australian Meat Emporium
Australian Meat Group
Australian Organic Meats
Beefcorp International
Bindaree Beef
Dardanup Butchering Company
FarmGate MSU
G&K O'Connor
Greenham Tasmania
Harvey Beef
HR Woodward Foods
Irongate Nominees
JBS Australia
John Dee Export
JR Exports
KC Natural Meats
Coral Coast Beef
Kilcoy Pastoral Company
Latitude 28 Produce
Lotte International
McMahon Brothers
Meat Tender
Mort & Co.
MPhee Bros (Export)
Mulwarra Export
Napparoy Agriculture
NH Foods
Nolan Meats
Northern Cooperative Meat Company
OBE Beef
Oz Nature
Paradigm Foods
Pardoo Beef Corporation
Penfold Grazing
Providore Global
Rangeland Quality Meats
Rangers Valley
S.Kidman & Co
South Australian Cattle Co
Stanbroke Pty Ltd
Stockyard Pty Ltd
Tabuan Pty Ltd
Tasmania Feedlot

Beef CoMarketing (continued)
Tasmanian Agricultural Company
Teys Australia
The Falls Pastoral Company
The North Australian Pastoral Company
Thomas Foods International
Top Cut Foods
Warmoll Foods
Western Meat Packers
White Stripe Foods
Yearn Nutrition

Lamb CoMarketing
Arcadian Organic & Natural Meat Co
Dardanup Butchering Co
Dorper Lamb
Flinders + Co
Gundagai Lamb
JBS Australia
KC Natural Meats
Margra Lamb
McMahon Brothers
McPhee Bros Export
Meat Tender
Mulwarra Export
Stella Foods
Tasmanian Quality Meats
Thomas Foods International
Top Cut Foods Ltd
V&V Walsh
WAMMCO
Western Meat Packers Group
White Stripe

Goat CoMarketing
BV Farm Fresh
McPhee Bros Export
Proom Pty Ltd

Appendix C

Rural R&D for profit projects

The Australian Government's Rural R&D for Profit program boosts funding to the rural Research and Development Corporations (RDCs) – of which MLA is one – for nationally coordinated, strategic research that delivers outcomes for Australian producers. Four rounds of funding have been announced to date. Below are the projects which have been awarded funding where MLA is either the lead or a partner organisation. For more information go to agriculture.gov.au and search 'R&D for profit'.

Project	Lead organisation	Round	Contributors	Total budget	Expected finish date
Developing and commercialising advanced measurement technologies and feedback systems into globally competitive Australian meat value chains	MLA	4	Australian Meat Processor Corporation; Murdoch University; Australian Pork Limited; PorkScan Pty Ltd; University of Adelaide; Woolworths; JBS Australia; Teys Australia; Fletcher International Exports; Gundagai Meat Processors; Stockyard; WAMMCO; Primary Industries and Regions South Australia; Department of Primary Industries NSW; Department of Economic Development, Jobs, Transport & Resources Victoria; Department of Primary Industries and Regional Development WA; University of New England; University of Melbourne; University of Technology Sydney; Frontmatec Group; Angus Australia; Scott Automation and Robotics; Thomas Foods International; Coles	\$19,043,427	5/4/22
Underpinning agricultural productivity and biosecurity by weed biological control	AgriFutures Australia	4	Grains Research & Development Corporation; Meat & Livestock Australia; Cotton Research & Development Corporation; CSIRO; Department of Primary Industries NSW; Queensland Department of Agriculture and Fisheries; Department of Economic Development, Jobs, Transport & Resources Victoria; AgForce; Bundaberg Regional Council; Castlereagh Macquarie County Council; Cramond Clan Environmental Consultants; Far North Queensland Regional Organisation of Councils; Gympie Regional Council; Hancock Queensland Plantations Pty Ltd; Hudson Pear Taskforce; Landcare Research; Malanda Beef Plan Group Inc; Mareeba Shire Council; Noosa & District Landcare Group Inc; NSW Environmental Trust; NSW Weed Biocontrol Taskforce; Primary Industries and Regions South Australia; South East Queensland Water; South East Local Land Services NSW; SunWater; Tablelands Regional Council; TasWeed Biocontrol; University of Queensland; University of Southern Queensland; US Department of Agriculture	\$15,842,570	31/12/22
Forewarned is forearmed: equipping farmers and agricultural value chains to proactively manage the impacts of extreme climate events	MLA	3	Grains Research & Development Corporation; AgriFutures Australia; Cotton Research & Development Corporation; Sugar Research Australia; Wine Australia; Dairy Australia; Australian Pork Limited; Australian Bureau of Meteorology; University of Melbourne; University of Southern Queensland; Queensland Department of Agriculture and Fisheries; Suncorp; Monash University; South Australian Research & Development Institute; Department of Economic Development, Jobs, Transport & Resources Victoria	\$14,662,435	28/2/22
Wastes to profits: Technologies and business models for the management of wastes in the animal industries	MLA	3	Australian Meat Processor Corporation; Dairy Australia Limited; Australian Pork Limited; Queensland University of Technology; University of Queensland; University of Southern Queensland; Murdoch University; Pacific Northwest National Laboratory; JBS Australia; Teys Australia; Australian Country Choice; Australian Lamb Company; Harvey Beef; Ridley Corporation Ltd; Aduro Biopolymers; Zeolite Australia Pty Ltd; Barwon Water; Queensland Urban Utilities	\$14,373,729	24/1/22
Soil engineers – community-based realisation and augmentation of soil ecosystem services from Dung beetles	MLA	3	CSIRO; Invetec Pty Ltd; University of Western Australia; Landcare Research New Zealand; Mingenew Irwin Group; University of New England; Charles Sturt University; WA Department of Agriculture and Food; Dung Beetles for Landcare Farming; Dung Beetle Solutions Australia; Warren Catchment Council; Leschenault Catchment Council	\$22,693,536	31/3/22
Boosting profit and reducing risk of mixed farms in low and medium rainfall areas with newly discovered legume pastures enabled by innovative management methods	Grains Research & Development Corporation	3	Australian Wool Innovation; Meat & Livestock Australia; Murdoch University; South Australian Research & Development Institute; WA Department Agriculture and Food; Charles Sturt University; CSIRO	\$16,558,866	28/4/22
Accelerating precision agriculture to decision agriculture	Cotton Research & Development Corporation	2	Meat & Livestock Australia; Dairy Australia; Grains Research & Development Corporation; Sugar Research Australia; AgriFutures Australia; Australian Wool Innovation; Horticulture Innovation Australia; Australian Pork Limited; Wine Australia; Forest and Wood Products Australia; Fisheries Research and Development Corporation; Australian Meat Processing Corporation; Australian Livestock Export Corporation Limited (LiveCorp); Australian Egg Corporation; Australian Farm Institute; Data to Decisions Cooperative Research Centre; University of New England; Griffith University; University of the Sunshine Coast; CSIRO	\$3,557,976	Completed 2018

Project	Lead organisation	Round	Contributors	Total budget	Expected finish date
Globally competitive Australian meat value chains enabled by advanced measurement technologies and integrated flock feedback systems	MLA	2	Australian Pork Limited; Scott Technology Ltd; Murdoch University; University of Technology Sydney; WA Department of Agriculture and Food; VIC Department of Economic Development, Jobs, Transport and Resources; NSW Department of Primary Industries; South Australian Research and Development Institute; JBS Australia; Australian Cattle and Beef Holdings; Australian Country Choice Pty Ltd; Teys Australia Management Pty Ltd; Harvey Beed; Carometec; PorkScan Private; University of Melbourne; Australian Meat Processor Corporation	\$11,947,000	18/9/20
Phosphorus efficient pastures – delivering high nitrogen and water use efficiently and reducing of production across southern Australia	MLA	2	Dairy Australia; Australian Wool Innovation; CSIRO; Department of Primary Industries NSW; University of Western Australia; Murdoch University; Bookham Agricultural Bureau; Tablelands Farming Systems; Central Ranges Grassland Society; Monaro Farming Systems; Association for Sheep Husbandry, Excellence, Evaluation and Production (ASHEEP); Southern Dirt; Boggabri grazing group; Purlewaugh NSW Farmers	\$8,437,829	Completed 2020
Improved surveillance, preparedness and return to trade for emergency animal disease incursions using FMD as a model.	MLA	2	CSIRO; Animal Health Australia; Charles Sturt University; Bureau of Meteorology; Australian Bureau of Agricultural and Resource Economics and Sciences; Australian Government Department of Agriculture – Animal Health Policy Branch	\$11,739,936	30/7/21
Enhancing supply chain profitability through reporting and utilisation of peri-mortem information by livestock producers	Australian Pork Limited	2	Meat & Livestock Australia; Australian Meat Processor Association; South Australian Research & Development Institute; Department of Economic Development, Jobs, Transport & Resources Victoria	\$1,725,594	30/3/21
Enhancing the profitability and productivity of livestock farming through virtual herding technology	Dairy Australia	2	Meat & Livestock Australia; Australian Wool Innovation; Australian Pork Limited; CSIRO; Tasmanian Institute of Agriculture at University of Tasmania; University of Sydney; University of New England; University of Melbourne; Agersens Pty Ltd	\$3,965,000	30/11/20
Improved use of seasonal forecasting to increase farmer profitability	AgriFutures Australia	1	Cotton Research & Development Corporation; Grains Research & Development Corporation; Meat & Livestock Australia; Sugar Research Australia; Horticulture Innovation Australia; South Australian Research & Development Institute; WA Department of Agriculture and Food; Australian Bureau of Meteorology; University of Southern Queensland; Birchip Cropping Group; Department of Economic Development, Jobs, Transport & Resources Victoria; Department of Primary Industries NSW; Monash University	\$5,388,698	Completed 2018
Stimulating private sector extension in Australian agriculture to increase returns from R&D	Dairy Australia	1	Meat & Livestock Australia; University of Melbourne; Cotton Research & Development Corporation; Australian Pork Limited; Sugar Research Australia; Horticulture Innovation Australia; Department of Economic Development, Jobs, Transport & Resources; Victoria Department of Primary Industries NSW	\$3,190,000	Completed 2018
Waste to revenue: novel fertilisers and feeds	Australian Pork Limited	1	Dairy Australia; Sugar Research Australia; AgriFutures Australia; Meat & Livestock Australia; University of Queensland; University of Western Australia	\$2,084,069	Completed 2018
Fast-tracking and maximising the long-lasting benefits of weed biological control for farm productivity	MLA	1	CSIRO; Department of Primary Industries NSW; Department of Primary Industries and Regions SA; Department of Agriculture and Fisheries Queensland; Department of Economic Development, Jobs, Transport & Resources Victoria; TasWeed Biocontrol; Murdoch University; NSW Local Land Service – Murray; Victoria Gorse Taskforce and Landcare Groups; Pilbara Mesquite Management Committee; South Australian Grains Industry Trust Fund; SA Government Adelaide and Mount Lofty Ranges Natural Resources Management Board	\$2,846,877	Completed 2018
Market and consumer insights to drive food value chain innovation and growth	MLA	1	Department of Economic Development, Jobs, Transport & Resources Victoria; Horticulture Innovation Australia; CSIRO; Australian Seafood Cooperative Research Centre; Fisheries Research & Development Corporation	\$8,846,005	Completed 2018

Acronyms, glossary and index

Acronyms

AGM	Annual General Meeting
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEXA	dual-energy X-ray absorptiometry
EBV	estimated breeding value
EU	European Union
FTA	free trade agreement
KPI	key performance indicator
LDL	Livestock Data Link
LEP	Livestock Export Program
LPA	Livestock Production Assurance
MDC	MLA Donor Company
MENA	Middle East/North Africa
MLA	Meat & Livestock Australia
MSA	Meat Standards Australia
NLIS	National Livestock Identification System
NVD	National Vendor Declaration
OTH	Over-the-hooks
R&D	research and development
RMAC	Red Meat Advisory Council
TPP	Trans-Pacific Partnership
UAE	United Arab Emirates
US	United States

Glossary

Dual-energy X-ray absorptiometry (DEXA)

An objective measurement tool which measures meat, fat and bone in a carcass.

Livestock Data Link (LDL)

LDL is an online application that facilitates improved information sharing across the supply chain, enabling feedback to be received, analysed and compared in an efficient way.

Livestock Production Assurance (LPA)

The LPA program is the Australian livestock industry's on-farm assurance program covering food safety, animal welfare and biosecurity.

Meat Standards Australia (MSA)

MSA is Australia's eating quality grading system which predicts the eating quality of cuts within a carcass.

National Livestock Identification System (NLIS)

NLIS is Australia's system for the identification and traceability of cattle, sheep and goats. It ensures lifetime movements of these species can be identified and recorded within Australia.

National Vendor Declaration (NVD)

Producers use the NVD to declare information about the food safety status of their livestock being sold. It is a key tool underpinning Australia's food safety reputation for livestock.

Index

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