AMPC

AUSTRALIAN MEAT PROCESSOR CORPORATION LTD

Annual Report 2012

CERTIFICATION

On 18 October 2012 the AMPC Board authorised this Annual Report with the following resolution:

This Annual Report for the year ending 30 June 2012 is approved in accordance with the following certification – the Board accepts responsibility for the preparation and content of this Report in accordance with Australian Accounting Standards and AMPC's Deed of Agreement with the Australian Government.

CHAIRMAN

Gary Hardwick

DEPUTY CHAIRMAN

Stephen Kelly

CHIEF EXECUTIVE OFFICER

Michelle Edge

DIRECTORS

John Berry
Brian Carey
David Foote
Brian James
Ray Johnson
Tom Maguire
Peter Noble

THIS REPORT

This Annual Report presents the Australian Meat Processor Corporation's programs, outcomes and financial performance during the financial year 2011-2012.

It comprises the following sections:

- *AMPC at a glance:* Reports from Chairman and Chief Executive Officer;
- An *About AMPC* section which provides an overview of the Company, our strategic framework and investments;
- A *Report to stakeholders* that outlines AMPC's performance across seven strategic imperatives, program highlights and progress for RD&E and Marketing activities;
- A Directors' Report and Audited Financial report.

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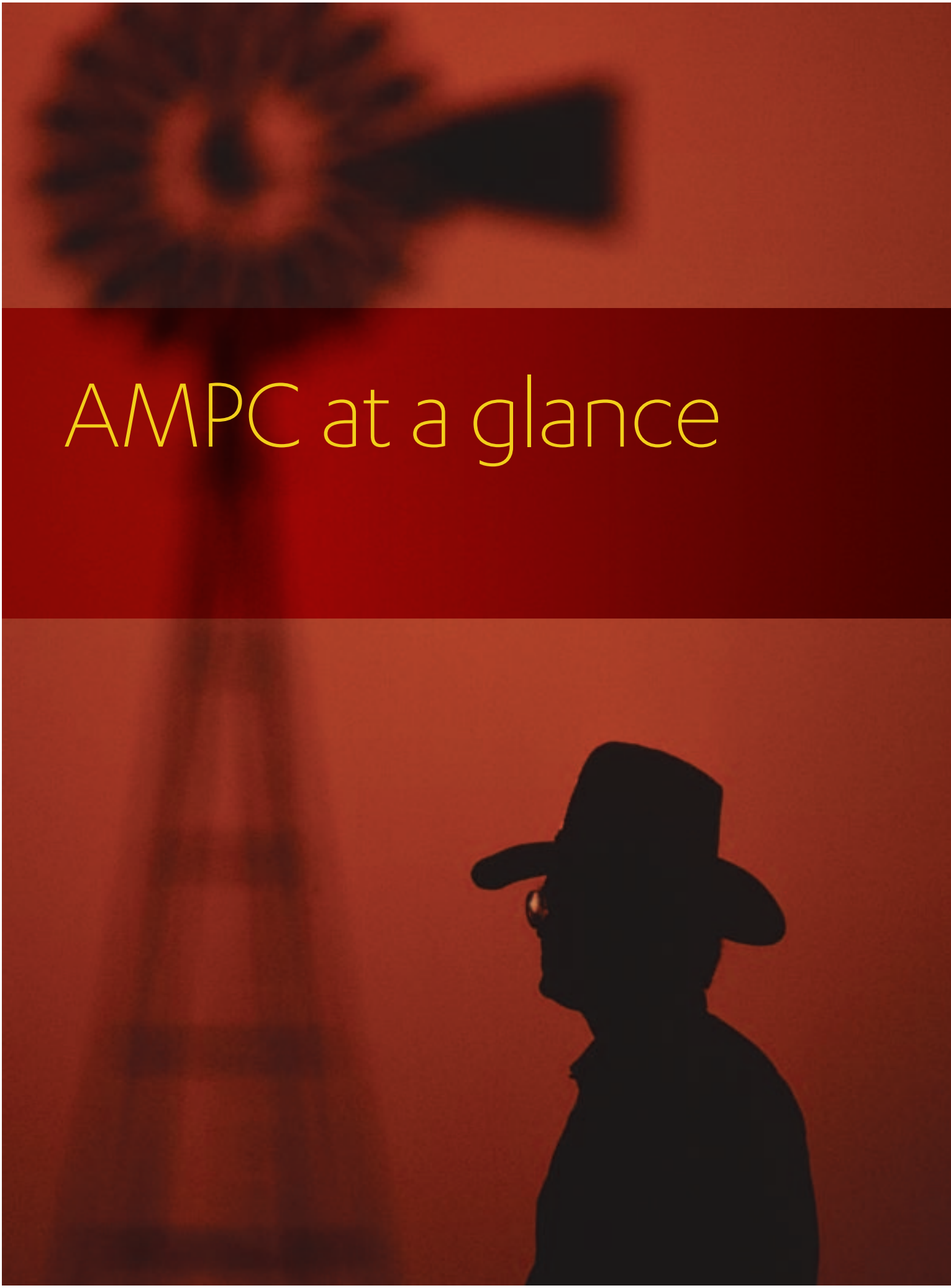
AMPC at a glance



The Australian Meat Processor Corporation (AMPC) is a national Research & Development Corporation that represents the Red Meat Processing Industry throughout Australia. AMPC's mandate is to support Research, Development and Extension (RD&E) initiatives that are directed at improving the sustainability and efficiency of the meat processing industry.

Red meat processor levies are strategically invested in (RD&E) and Marketing programs aimed at delivering improvements to the processing sector and providing significant benefit to the whole of the red meat industry and the broader Australian community.

VISION

A sustainable, profitable and competitive red meat processing industry that meets national and international customer, consumer and community expectations.

MISSION

AMPC's mission is to maximise the efficiency, viability and sustainability of the red meat processing industry sector by supporting the development of sound, scientific solutions that will:

- Improve the long term efficiency and competitiveness of the industry;
- Enhance the sustainability of the industry;
- Assist to protect, secure and maintain market access;
- Enhance capability and;
- Enhance overall productivity and performance of the meat processing sector.

To achieve the above, AMPC supports projects in a wide range of areas including meat science, automation and technology, environment and sustainability, animal health, biosecurity and animal welfare, capability, marketing, traceability and market access. AMPC focuses on:

- Promoting Australian meat in the domestic and international marketplace;
- Developing RD&E initiatives that address issues in meat safety, quality and product integrity, capability, environment, livestock management and other elements of the supply chain;
- Establishing projects and capability that assist in protecting the economic, environmental, health, safety and social well-being of the meat processing industry.

ORGANISATIONAL PARTNERSHIPS

Industry research, development and adoption activities are conducted through a system of willing partnerships designed to deliver effective RD&E outcomes. AMPC participates in joint and core RD&E initiatives through a partnership with Meat and Livestock Australia Limited (MLA). AMPC works with Government to develop and deliver RD&E activities that underpin Australia's National and Rural Research Priorities. AMPC also operates in partnership with the Australian Meat Industry Council (AMIC), to ensure that RD&E programs are directed at the areas of most strategic need for industry.

AMPC works collaboratively with other organisations representing the broader red meat supply chain to ensure that processor collected levy funds are appropriately invested to deliver tangible results for the red meat Industry, rural Australia and for the nation as a whole.

CHAIRMAN'S REPORT

GARY HARDWICK, CHAIRMAN

The red meat processing sector is a significant contributor to the Australian economy as well as making a substantial contribution to the nation's export markets. When flow-on effects are taken into account, the industry contributes $16.2 billion in gross domestic product or 1.3 per cent of total GDP. It also underpins more than 148,000 full-time equivalent (FTE) jobs across all sectors of the economy. The meat processing industry has been integral to Australia's past economic success and will continue to be in the future.

While Australians will always love a good steak or lamb chop and the industry will always have a devoted customer base at home and total domestic meat consumption per person has remained relatively stable over the past two decades, the unprecedented opportunities that will fuel the growth of meat processing into the new century may in fact come from overseas. These opportunities include a projected 77 per cent increase in global food demand by 2050, and the evolving food choices of a growing Asian middle class. In particular, strong growth outlooks for China, South-East Asia, the Russian Federation, South America and the Middle East are expected to result in increased demand for beef as consumers adopt their consumption patterns to those of middle classes the world over.

In addition to these opportunities, there remain challenges– from climate change and the need for investment into carbon emissions mitigation technology, to variations in supply of livestock and world pricing, to cost competitiveness in world markets and issues in attracting and retaining employees.

In meeting these challenges both Industry and AMPC have continued to invest in research & development, education and training. Specifically, significant effort has been directed at enhancing reporting and engagement of processor members and other Research, Development and Extension (RD&E) stakeholders, including Government, to identify priorities into the future.

Specifically, AMPC this year sought to examine the key challenges and opportunities impacting industry so we can further invest in new technologies, processes, practices and alternatives in order to remain profitable, viable and productive. AMPC commissioned an environmental scan of the key issues likely to impact industry from now to 2030. The objective was to identify the MegaTrends that would impact our businesses, and where Research, Development and Extension could be directed into the future.

The environmental scan identified the trends as:

- The Growing and shifting demand in global markets;
- The changing patterns of consumption domestically, driven by shifts in demographics and social values;
- The reduced per capita consumption of red meat, meaning marketing plays a key role;
- On the other hand, the growing demand for secondary cuts for slow cooking methods;
- The rising production costs as the industry responds to climate change, water availability and emerging policies
- Rising production costs due to similar impacts on farm that impact the supply of livestock;
- Rising labour costs due to shortages of skilled workers and employment compliance.
- The emerging shift to closed-loop supply chains
- Challenges to current global competitiveness as a result of the high dollar, labour availability, infrastructure related challenges and input costs.

The challenge for AMPC now is to establish new directions that address these key industry challenges. The Company has recently focussed on enhancing consultation, developing strategy and enhancing delivery to processor members. With these processes now firmly embedded and demonstrating results, we are better positioned to deliver more outcomes to the membership, Government and the community as a whole. A focus on strengthening partnerships has remained at the forefront, as well as delivery of plant initiated projects to members. The continued nurturing of these important partnerships are fundamental to AMPC's ability to deliver solid outcomes.

I wish to thank the Directors on the AMPC Board for their significant contribution to the Company and its activities. In particular, the support provided by Stephen Kelly, Deputy Chairman and Peter Noble, Chairman of the Audit and Risk Committee, is greatly appreciated. I would also like to thank the CEO and staff for their input to Company activities and last but not least I acknowledge the Board's appreciation of member support throughout the year.

CHIEF EXECUTIVE OFFICER'S REPORT

MICHELLE EDGE, CHIEF EXECUTIVE OFFICER

Over the last year, AMPC has focussed heavily on further enhancing its facilitation of broad consultation and engagement with the membership, key stakeholders, scientists, policy makers and Government with a view towards ensuring that these consultations both reflect and inform the breadth of its RD&E portfolio. Specific and ongoing effort was directed at reviewing and revising the overall RD&E Strategy for the company and policies underpinning its operation and which drive the delivery of effective outcomes for industry, Government and the community through research investment. AMPC focussed on furthering its collaborations with partner organisations and establishing new ways to engage and support processor members through targeted information and extension activities. Finally, AMPC continued to review and revise overall business strategy to ensure efficiency and effectiveness of its operations.

A key highlight that demonstrates an enhanced approach to RD&E development and delivery relates to the area of climate change. In 2011, industry held a strategy forum within which the red meat processing climate change strategy was developed. Following this, a suite of industry-wide RD&E projects were designed and commissioned focussing on sustainable processing practices, value adding, waste and wastewater management, energy efficiency and emissions reduction.

Underpinning these projects, key collaborations were established with leading research institutes, including the Advanced Water Management Centre of the University of Queensland, the Centre of Excellence for Recycled Water (CSIRO) and more broadly through active participation with other RDC's in enabling the Climate Change RD&E Strategy. Additionally, efforts were directed towards capability building, including the development of industry guidance on best practices and the integration of several PhD programs into RD&E projects designed to further scientific capability in this key area. Economic studies and analyses commissioned during this time assisted in informing industry and Government on the specific needs of processors in relation to emissions reduction infrastructure and practice change and the technical requirements of industry to remain viable and efficient. AMPC, in collaboration with the Department of Agriculture, Fisheries and Forestry and the Department of Climate Change and Energy Efficiency, established opportunities on behalf of the processing sector in relation to carbon mitigation programs. Alignment was sought between industry-wide projects, specific processor (plant) initiated projects, (for which there was a 25% increase in investment in 2011 when compared with 2009) and key greenhouse gas reduction and practice change goals of Government In other key business areas, AMPC sought to enhance services to members in collaboration with Meat and Livestock Australia, resulting in an increase overall in processor (plant) initiated project take up of 10% since the previous year.

AMPC has also focussed heavily on improving communications and extension of RD&E outcomes launching a new website providing members, key stakeholders and Government with greater transparency and accessibility to information on the RD&E activities and outcomes of the company. Reports of RD&E outcomes through the website and other mechanisms were provided to more than 2000 industry members and delegates throughout the year.

In May 2012 AMPC held its conference "Changing the Climate – Powering New Ideas in Red Meat Processing". AMPC's portfolio of RD&E initiatives was featured through presentations by high-profile speakers and meat processing representatives. The format for the conference included demonstrations from technology providers and a live cooking showcase of Australian red meat products by celebrity chef Adrian Richardson. This expansive program drew 120 delegates and highly positive feedback from the event attendees.

Further to these aims of achieving better dissemination and uptake of RD&E to the benefit of industry and the broader community, AMPC expanded its provider engagement with a focus on working with Universities, state jurisdictions and other commercial research organisations to develop a series of workshops across topics including climate change, wastewater management, meat science tutorials and other programs aimed at extending the outcomes of RD&E to industry and key stakeholders. These efforts have increased transparency and ensured that RD&E outcomes are effectively understood and adopted, as well as enhancing the company's ability to strategically design and develop new projects that address priorities and challenges in industry.

The 2011-2012 year has provided the opportunity to consolidate many of the objectives indicated in last year's Annual Report. I would specifically like to thank the AMPC Board and AMPC team, processor members, collaborating partners, Government and other key stakeholders for assisting us to make changes and improvements to our activities throughout the year.

I hope you enjoy reading this report and its summaries of AMPC activities and outcomes this year.

About AMPC

THE ROLE AND FUNCTION OF AMPC

The AMPC is the meat processing Rural Research and Development Corporation. AMPC partners with Meat and Livestock Australia, to jointly invest under an agreed *Memorandum of Understanding* for whole of supply chain Marketing and RD&E activities within the red meat industry.

This Annual Report to stakeholders focuses on AMPC's activities and outcomes for the 2011-12 financial year, aligned with our strategic imperatives and is structured according to our Strategic and Annual Operating Plans. Our *Annual Operating Plan* outlines all AMPC's strategic imperatives, strategies to achieve them, planned activities for the year and key performance indicators. AMPC acknowledges the matching funds provided by the Australian Government to support the research and development detailed in this report.

AMPC's priority planning process involves consultation with industry levy payers, Government and other research, technical, industry, supply chain and community organisations. There are 3 major programs in which AMPC invests to deliver RD&E and Marketing outcomes to the meat processing industry:

- **The Joint program,** is designed to deliver supply and value chain activities which support food safety, eating quality, increasing market access and growing demand for meat and meat products. In collaboration with the other red meat organisations and councils, AMPC contributes to the development of strategic objectives and directions for the whole of the red meat and livestock industry and annual operational targets and KPI's for joint activities.
- **The Core RD&E programs,** are funded through processor levies, matching Australian Government RD&E funds and significant direct private sector investment. The Core program represents industry-wide RD&E activities aimed at ensuring outcomes and benefits are available to all levy payers, as well as the broader supply chain and the Australian community.
- **The Plant Initiated Project (PIP) Program** allows Processors to identify and undertake RD&E projects at their own enterprises which are aimed at delivering benefit to the whole of the red meat supply and value chain and the broader Australian Community.

Our expenditure against these programs is detailed in our Annual Reports and Annual Operating Plans which, in accordance with the Statutory Funding Agreement, are lodged with the Commonwealth Government.

SHORT AND LONG TERM OBJECTIVES

AMPC's principal activities are to maximise the efficiency, viability and sustainability of the red meat processing industry by supporting the development of sound, scientific solutions that will:

- Improve the long term efficiency and competitiveness of the industry;
- Promote Australian meat in the domestic and international marketplace and enhance the sustainability of the industry;
- Assist to protect, secure and maintain market access;
- Enhance capability and;
- Enhance the overall productivity and performance of the meat processing sector.

AMPC engages in extensive consultation with internal and external key stakeholders to develop an understanding of the challenges, drivers and opportunities in the meat processing environment that affect companies, the broader industry and the community. This consultation enables AMPC to establish its strategic imperatives and priorities by which to direct RD&E and Marketing investments.

AMPC invests in projects in a wide range of areas, including meat science, automation and technology, environment and sustainability, animal health, welfare and biosecurity, traceability, capability, marketing, and market access. The detailed objectives of the Company are provided in further detail as part of the financial and governance sections of this report.

THE RED MEAT MEMORANDUM OF UNDERSTANDING

The Company became a party to the Red Meat Memorandum of Understanding (MOU) on 27 April 1998 and to subsequent revisions to the original document. The MOU links the Company with Meat & Livestock Australia and LiveCorp together with the Commonwealth of Australia, Peak Industry Councils and the Red Meat Advisory Council.

AMPC ensures its activities are consistent with the Meat Industry Strategic Plan (MISP) and pursues the achievement of industry goals identified in the MISP in a manner consistent with policies and strategic imperatives developed pursuant to the MOU.

AMPC PARTNERING WITH GOVERNMENT

The National and Rural Research Priorities of the Australian Government provide an over-arching framework for public investment in rural research and development. AMPC's Annual Operational Plan (AOP) 2011–12 was closely aligned with these priorities. AMPC addresses the Government's priorities by:

- Aligning the current and previous corporate plans with the Government's priorities, which are incorporated into their strategies. This includes the establishment of specific programs to address particular priorities. The current AMPC Strategic Plan specifies strategies that will contribute to these priorities;
- Ensuring that the RD&E plans for individual programs address the Government's priorities by regularly advising AMPC's providers and researchers of the Government's priorities;
- Ensuring that AMPC's annual reports and annual operational plans have sections reporting on the outcomes from AMPC investments that contribute to the priorities.

AMPC RD&E

AND MARKETING PROGRAMS

The partnership of Industry, Government and private sector investment into Research, Development and Extension (RD&E) and Marketing programs in the meat processing industry during 2011–2012 has made an important contribution to the industry and the broader Australian community.

The delivery of RD&E and Marketing programs are closely aligned to agreed Industry and Government strategic priorities. AMPC's programs are focussed on increasing industry productivity and net value through sound, scientific solutions. The main objective is that processing businesses and their supply chains continue to be innovative, productive, efficient and adaptive. Within this context, the diagram on the next page illustrates the key strategic areas.

AMPC RD&E AND MARKETING PROGRAMS

STRATEGIC OBJECTIVES	**Increasing productivity and net value.**	**Markets are efficient and attractive for investment.**	**Product integrity and quality is demonstrated to consumers and markets.**
PROPORTION OF INVESTMENT (%)	13%	24%	14%
KEY FOCUS AREAS	• Developing technologies to improve productivity and processing efficiency. • New and innovative products.	• Maximising options for processors in domestic and export markets.	• Demonstrating product integrity, safety and quality.
RESEARCH AREAS AND ACTIVITIES	• New technologies. • Automation. • Robotics. • Manual assist devices. • New systems and processes for meat production. • OH&S improvements. • Product and objective carcase measurement. • Sensing and scanning technologies. • Tools for enhancing efficiency. • Value adding to products. • Co-product and commercial ingredient development. • Bioactives (development). • Evaluation and cost benefit analysis • Adoption. • Commercialisation.	• Analysing market conditions. • Supporting market networks and negotiations. • Monitoring and responding to trade developments. • Managing and meeting customer and importing country requirements. • Coalition building in key markets. • Research on technical barriers to trade. • Standards development and implementation.	• Developing and implementing quality assurance standards and requirements. • Investigating food safety issues and developing research solutions. • Maintaining product integrity and safety. • Developing and implementing traceability systems. • Promoting product integrity. • Implementing food safety surveillance systems and national benchmarks. • Investigating microbiological impacts and process control.

Demand for meat products is sustained and enhanced.	Sustainable and responsible processing practices meet community expectations.	Influencing industry and community practice change through effective extension, education and capability building.	Continual improvement in business practice delivers outcomes.
14%	13%	10%	12%
• Promoting and enhancing the eating quality and nutritional attributes of red meat. • Growing demand for red meat products in the Australian community.	• Sustaining the natural resource base and managing climate change impacts. • Promoting industry value through improvement in livestock management and supply chain practices.	• Undertaking and delivering R&D through industry education and extension. • Building industry and stakeholder capability and advancing business innovation.	• Stakeholder consultation and engagement. • Corporate services.
• Developing eating quality interventions. • Developing technologies to optimise eating quality. • Promoting red meat's role in a balanced diet. • Establishing consistent dietary recommendations. • Marketing lamb and beef. • Developing campaigns to promote red meat to the community. • Research to establish evidence based nutrition standards. • Increasing knowledge in relation to health, nutrition and well being. • Promoting health benefits of red meat to the community.	• New technologies to improve waste management. • Research to address climate change. • Improving industry knowledge / capability for sustainable processing practice. • Improving resource use efficiency. • Informing and engaging industry stakeholders to Monitoring and managing community attitudes. • Improving animal health, welfare and livestock management. • Implementing enhanced biosecurity practices. • National benchmarking for environment and livestock management.	• Enhancing industry capability through up-skilling, training and professional development programs. • Enhancing and sustaining research capability through undergraduate and post-graduate programs. • Engaging industry through education and extension initiatives • Implementing practice change. • Supporting young professionals and early career skill development through leadership and innovation programs. • Enhancing collaborations with other RDCs and primary industry bodies.	• Creating awareness of AMPC RD&E and Marketing outcomes. • Enhancing collaboration with red meat partners and Government. • Proactively engaging stakeholders. • Improving organisational efficiency. • Risk management. • Strategic planning. • Consultation to underpin strategy development and RD&E priorities. • Compliance activities. • Investment framework. • Reporting. • Evaluation.

REPORT TO STAKEHOLDERS

Section 1

INCREASING PRODUCTIVITY AND NET VALUE

Productivity growth and the ability to respond quickly to changing economic conditions are essential to maintaining industry competitiveness. Research and development, coupled with processor innovation and capability are recognised across industry as underpinning productivity gains. In particular, developing and implementing appropriate technology solutions is critical to improving a processor's bottom line and ensuring the sustainability of the industry.

New and innovative technologies that enhance processing efficiency and improve OH&S and productivity outcomes.

Research towards new technologies, processes and management practices that enhance production efficiency and profitability are becoming increasingly important for all processing businesses. In working to address this program area, AMPC invests currently within three key focus areas:

- Developing new technologies, systems and processes to improve industry productivity and efficiency;
- New and innovative product development;
- Enhancing business innovation, productivity and adaptation.

Specific highlights and outputs of this program for each key focus area are outlined below.

KEY FOCUS AREA

Developing new technologies, systems and processes to improve industry productivity and efficiency.

BEEF HOCK LOCATION VISION SYSTEM

The purpose of this project was to develop a robust Time of Flight vision system capable of locating and tracking the rear hocks of cattle to support further development of beef automation. Operations such as autonomous horn and hock removal may be automated by utilising a Time of Flight vision system to track the both hocks and horns in real time. A robotic manipulator may then be guided into precise locations to detach these features from the carcase. Time of Flight vision technology can assist in the 'pick and packing' process of primal cuts in commercial abattoirs. A Time of Flight vision system would be beneficial over conventional camera systems because they provide 3 dimensional information of the scene, reducing the need to integrate and collate multiple sensors. The Time of Flight camera can directly relay position data to an industrial robot to guide the actuator in for picking. The need for the vision system to produce predictable and repeatable results over extended periods is paramount to ensuring reliability and commercial viability.

UPDATE

This project oversaw the successful design, development, and implementation of a bovine hock tracking system utilising state-of-the-art sensing technologies and algorithms. This project has demonstrated the capabilities of the emerging technology of Time of Flight (Tof) vision within dense, unstructured environments. Future work will investigate the potential application of ToF to a range of bovine and ovine automation challenges.

RESEARCH INTO SAW BLADE RESISTANT GLOVE

Bandsaws are a standard technology for cutting up warm & chilled meat, however they pose a significant OH&S risk. Currently, there are limited suitable personal protection devices such as gloves or gauntlets suitable for bandsaws and also, where these are available, further extension to industry is required. The potential safety equipment (such as a glove) needs to facilitate quick, convenient, productive, and safe operation with operators maintaining the "feel" and adhesion of the meat product. Two research providers were contracted to conduct research on available options with manufacturer's, complete site interviews and visits to engage with processors on their needs and consult with materials suppliers and manufacturers of Personal Protective Equipment (PPE). This review enabled qualification of the operating environment, understanding of the physical, mental and procedural limitations that any solution may be required to conform to and determining options for future engineering in the industry.

The project sought to determine a range of cost effective solutions that could be adopted industry wide. Therefore, in addition to examining options for glove-based solutions, the providers also looked at alternatives that involve minimal cost in retro-fitting machinery (such as lasers), or areas of new technology (used in other industries) that show promise and could be successfully adapted for use in meat-processing plants.

UPDATE

The two providers developed information and options on a range of solutions, including polyurethane mesh gloves, fluorescing gloves, glove/hand position sensors, monitoring solutions to manage fatigue, adaptive saw blade technologies, machine stop devices, ergonomic studies, development of a new design for a protective glove and establishing testing programs. The next steps involve determining an optimal solution(s) to pursue for further research, as well as providing some guidelines to industry on the current and emerging options to replace bandsaws.

BEEF SPINAL CORD REMOVAL

Specified Risk Materials (SRMs) are tissue that contain the prions or agent that may transmit Bovine Spongiform Encephalopathy (BSE) disease (in cattle specifically) based on scientific research and field observation. For years it has been best practice to remove all SRM and under both regulatory and customer requirements, specific processes must be adhered to during slaughter. These processes can be technical and labour intensive, therefore options to enhance technologies that aid in the efficient removal of SRM, specifically spinal cord/duramata, require examination. Development of an automated solution to perform robotic spinal cord removal for beef processing replacing current manual operations must address the key issues of being able to consistently and fully remove spinal cord material including duramata throughout the entire length of the spinal cord and to ensure that specified risk material (SRM) is disposed of correctly avoiding contamination during the slaughter process prior to inspection. Automation of this process must be able to detect spinal cord profile accurately for the extraction process to be completed using suitable tooling.

A project commenced in 2011 aimed at addressing these key issues by confirming spinal cord location and path for robot operations and by developing and trialling a suitable spinal cord extraction tool robotically. Successful completion of this project is intended to lead to development of a fully automated spinal cord removal system utilising 3D sensing and a spinal cord removal tool with vacuum extraction to clean and remove spinal cord material throughout the length of the exposed spinal cord robotically.

UPDATE

Site visits were made to several processing sites to analyse tool function and to determine the scanning requirements for a future automated solution. Trials were established and following positive results with high pressure water removal of spinal cord in beef sides it was acknowledged that visual absence of spinal cord/duramata would be the key to the acceptance of any new process. SRM containment and segregation from edible product of the water jet (and removed spinal cord /duramata) are key considerations to be investigated by the project to ensure that food safety and product shelf life are not compromised. Further development of the technological tool and trialling the tool in a commercial setting are now underway.

Y-CUTTER

The intelligent Y cutter is the result of many years of development with the technology currently installed at two commercial sites, CRF in Colac Australia and Alliance Group in Mataura, New Zealand. Industry experience of the Y cutter technology both in Australia and New Zealand has highlighted a need to better understand and minimise microbiological contamination issues, reduce instances of system faults and eliminate the need for parameter tuning during the operation of the system (particularly in Australia where stock variation is higher than in New Zealand). This project is examining a new leg clearing approach with reduced operator requirements, together with a new 360 degree sock ringing system adapted to this new process. Technology. The project is also trialling a new automation monitoring system that collects multiple channels of video, machine parameter and user/output data on a regular basis which will allow a much greater depth of information to be ascertained so that instances of a given fault can be rectified.

UPDATE

More production trials are planned for later this year to further improve system performance and reliability and it is expected that the Y-cutter will become commercially viable to other processors within 12 months. The automation monitoring system being trialled as part of this project will be applied to the optimisation of other red meat automation technologies in the future.

OVINE SHOULDER MACHINE – STAGE 1 & 2

The aims of this project were to develop and trial an engineered solution capable of breaking up the shoulder primal from an ovine carcase into sub primal cuts and to eliminate operator contact with bandsaw operation during this process. The specific cuts required to achieve the first aim involved the separation of the neck in one piece, removal of the shank and brisket segments and the splitting of the remaining piece into two square cut shoulder pieces. These cuts are presently performed using a bandsaw and involves a minimum of 3 bandsaw actions.

Eliminating operator contact with bandsaws by defining and building a low cost machine that performs the breakup of the shoulder was a key driver of this project. Measurements of carcase features provided the data for the specification of mechanisms and machine features including sensory functions to perform the cuts required. Further data enabled analysis in order to meet the specification of the end product, deliver the square cut shoulder, and manage issues related to variability in the shoulder primal.

Measurements were performed on carcasees between 15Kg to 40Kg in an initial trial. The measurements resulted in demonstrating the degree of variability of the shoulder primal dimensions and identifying the carcase positions important to consider for the design of the technology. The engineering of holding mechanisms and the development of sensing trials for cutting positioning with specific consideration of the features have also been achieved.

UPDATE

The initial development, testing and engineering refinements have been carried out with the required ability to cater for a variety of carcase dimensions. The second stage of this project now involves testing and refinement of the equipment as part of commercial trials.

BANDSAW BENCHMARKING PROJECT

Band-saw operations remain extensively manual and difficult to manage in the meat industry due to the OH&S risks. Combined with safety issues, the operation of a bandsaw is notoriously difficult to manage given its repetitious nature. Due to recent changes to OH&S legislation bandsaws are no longer able to run unprotected, requiring the machinery to be shut down when the operator is not within the operational vicinity boundaries. The Australian meat industry is aware of the problems and there is a need to ensure that short, medium and long term solutions are developed and implemented in the industry. This project aims to benchmark the available solutions, previous investments, commercial options and future technological development needs for industry. Benchmarking this information against the 20 or more cuts required for individual carcases is an important step towards ensuring that gaps are identified and that extension and adoption opportunities tcan be delivered to industry. This project will also benchmark the yeild impacts associated with a range of guarding, jigs and other adaptations to bandsaws that are in operation which will be critical to the communication and implementation of these solutions in a range of different processing facilities. The project will include benchmarking and acocunting for existing investments in more advanced technologies such as blade stop and other engineered solutions that need to be further researched and engineered for the longer term.

UPDATE

A focus group of meat processors is working to identify a range of short, medium and long term solutions to address the challenges presented by bandsaw use across the industry. The initial benchmarking exercise has been completed with data collected on products, process and yeild now underpinning the development and implementation of options to further develop, engineer or extend solutions to industry.

SCRIBEASSIST (HOOK ASSIST SCRIBER)

Beef scribing is one of the first processes undertaken within the beef boning room. Scribing is performed on beef primals and as such, small errors in accuracy can have a significant effect on yield. The task must be performed by highly skilled operators. Furthermore, a combination of the weight of the scribing saw, location and orientation of the scribing locations and the danger of the rotating blade can lead to operator strain, fatigue and the potential for injury. Due to the inertia of the saws used for scribing, often the task is only suited to operators of larger build and strength capable of maintaining composure for extended periods of time whilst doing this task.

This project was aimed investigating the potential to develop a manual assist device leveraging the existing HookAssist platform previously researched, to remove the components of the task that cause strain and fatigue. It is hoped that a positive impact can be made on OH&S injuries, yield degradation with fatigue (improve consistency), potential increases in productivity through improved accuracy, yield loss through manoeuvring the weight of the saw to the correct location (improve accuracy), and the ability to retain and attract labour to this role on plant.

UPDATE

Outcomes of this project have shown that the concept of applying manual assist technology to beef scribing has merit and that a commercial manual assist solution for beef scribing might be effectively implemented into a plants current production conditions and processes. A follow on project is now being considered to develop and trial the Cobotic (Hook Assist) scribing tool.

3D XRAY & CT REVIEW

There has been considerable interest in skeletal imaging technologies to drive robotic boning of carcases and to identify bone chip fragments in primals prior to packaging. Computer aided tomography scanning (CT scanning) is one technology that has the capacity to perform this task, however also provides the flexibility to determine other carcase attributes such as composition (bone, muscle, and fat) and potentially intramuscular fat percentage (IMF). It is also envisaged that CT could be used for the detection of contamination and diseases.

CT has the potential to provide an effective Objective Carcase Measurement tool to automate not only physical tasks but also facilitate improved decision making in terms of boning methods and customer specifications, as well as more effectively reward both processors and producers. These benefits may eventually translate into several dollars of net savings per head.

UPDATE

Initial scoping is underway to define a long term strategy for CT applications to objective carcase measurement and to identify technology partners able address the current challenges relating to sensing and scanning applications as well as data requirements for carcase measurement and feedback systems. There is an increaing need to quantify the broad range of industry data needs underpinning processing decision making, product selection, specification and marketing. There is also a need to quantify the ability of various sensing and scanning technologies to provide this data whilst enabling of automated solutions to effectively replace manual tasks. The next step will involve analysis of these issues followed by further research into CT applications to both data capture and technology development and implementation.

PICKING AND PACKING REVIEW

A review is underway to capture the opportunities, challenges and needs of industry in relation to materials handling ("picking and packing") of post boned & sliced product, as well as half and whole carcasees and parts (primals, sub-primals & shelf ready portioned). Materials handling activities are a significant cost to processors and solutions to these challenges will provide value add to the majority of businesses dealing with beef and small-stock processing. To build a portfolio for investment in this area, there is a need for this review to analyse and benchmark industry needs, identify technological opportunities, identify current challenges, labour applications, traceability requirements and specifications for various tasks, as well as quantify the current technological and capability gaps. The review will provide recommendations towards developing targeted solutions, proof of concept designs and future investment opportunities. The project will also consider a cost/benefit of selected solutions identified through the project.

UPDATE

The review is underway, with engagement with processors being the first step to identifying the needs, issues, priorities and challenges, as well as benchmarking existing materials handling practices, and variability of labour inputs, traceability, product specifications and site configurations. A working group of processors will be involved in determining engineering solutions to progress for the future investment in this portfolio area.

KEY FOCUS AREA

New and innovative product development.

NEW PRODUCT DEVELOPMENT

Red meat products need to be designed and tailored to meet current and emerging needs of consumers and markets, if Australian processors are to remain competitive in the domestic market and on the world scene. A key objective is to increase carcase values and overall profitability by developing new, value-added products for red meat and co-products. Research to develop new and innovative products ranges from investigating options for tailored ready to eat meals to high value ingredients such as those utilised by the pharmaceutical, nutraceutical and cosmetic industries. Specific activities relating to investment in new products, bioactives and new value adding projects are made available by Meat and Livestock Australia at the www.redmeatinnovation website. Specifically, in 2011-2012, this program focussed on:

- Maintaining and developing improved resources to facilitate the commercial evaluation of new product and technology opportunities;
- Raising industry awareness of emerging trends, opportunities in new products and value-adding technologies;
- Implementing open innovation processes to identify and develop novel value propositions.
- Developing significantly innovative red meat products via the development and application of new processes and technologies;
- Supporting enterprises and supply chains implementing value-adding strategies with research and technical advice;

Investigations into bioactives, enzyme and value adding ingredients was also a key area of focus. Activities in this area included the following:

- Improving the functionality of the top five bioactives in order to differentiate the products in the world market;
- Developing more cost effective purification technologies for Australian bioactives;
- Completing an evaluation of the feasibility of developing competitive advantage for bioactives from reduced cost of production;
- Undertaking a study into the value chains for four blood derived bioactives to increase understanding of requirements for successful entry into the bioactives market;
- Studies are still ongoing to develop solvent free processes for the production of bioactives BSA and chondroitin sulphate; the potential to enhance bioactive levels from organs and assess feasibility of production of therapeutic proteins in organs;
- Studies to examine the functionality of the proteins within bovine plasma and serum as food ingredients; the bioactivity of compounds in meat and bone meal as feed ingredients; and alternative value-adding uses of tallow and hides;
- A review was completed on the Australian blood processing capacity and current capability
- Brochures were disseminated on the business cases for the top four blood bioactives for the processing industry;
- A kinetic study of the potential of seven enzymes to tenderise red meat and their susceptibility to inhibitors was conducted;

Further work involved developing products and protocols for high connective tissue cuts, undertaking cost-benefit analyses to quantify industry benefit from increased effort and activity in value-adding and further developing the SmartShape technology for commercialisation. Demonstrations were held to promote these activities to processors, food service provider and technical experts.

UPDATE

For the reports and results relating to the above activities, please contact the Meat and Livestock Australia www.mla.com.au or go to the www.redmeatinnovation.com website.

CASE STUDY

Evaluating investment into new product development.

In partnership with MLA, AMPC invests in the development of prototype technologies to a 'market-ready' standard that may provide value-added consumer products that increase the value of the carcase. In this program, new market opportunities for value-added products have been identified, demand for low-value cuts has increased, and advanced technology platforms have been developed to add value to the carcase.

The development of technologies able to add value to red meat has aimed to address significant industry challenges including the need to further a value-adding culture in industry, the need to raise awareness of emerging value-added product opportunities, the need to transform low-value red meat into attractive products, the need to value-add in the fast-food service sector and the need to raise product merchandising standards at point-of-sale.

The practical experience gained from this program shows that industry impact is maximized through the development of technology platforms that are capable of yielding multiple products rather than from the development of individual new products. The Plant initiated project program (PIP) was effective in facilitating adoption in the processing, value adding, retail, food service and export sectors. These projects bring research prototypes and concepts through to 'market-ready' self-funded products. The total of $20.9 million invested by MLA, AMPC and partners between 1998 and 2008 has underpinned the development of new value-added products for launch before 2015, delivering benefits valued between $94.4 million and $206 million with a benefit–cost ratio of 4.5:1 up to 9.9:1.

KEY FOCUS AREA

Enhancing business innovation, productivity and adaptation.

Applying strategy towards RD&E investment and outcomes for industry.

In the past, businesses have lifted their productivity by adopting new technologies to reduce costs, introducing higher-yielding inputs, and increasing the size of their enterprises. In the future, intensifying competition for world markets and resources means that businesses will need to increase performance, adopt new technologies and be open to new practices. Specific commercialisation activities relating to new technologies, products and market ready outcomes are published by MLA at the www.redmeatinnovation website.

This focus area includes business planning and adoption related projects, where AMPC has responsibility for these areas and where they relate to existing RD&E projects. The remaining research, including evaluations, cost benefit analysis, commercialisation, adoption, and technical research to underpin policy or regulatory changes is undertaken by Meat and Livestock Australia and results can be found at www.redmeatinnovation.com.au. Specifically, in 2011-2012, this program focussed on:

- Planning, measuring, evaluating and reporting the outcomes of research and development to key stakeholders
- Cost benefit analysis studies against both program and project outputs in collaboration with MLA;
- Increase processor awareness of commercial opportunities from recent RD&E developments;
- Developing protocols, practices, tools and resources that assist the processing industry to meet best practice targets, maintain market access and implement RD&E outcomes;
- Increasing awareness of processors on RD&E outcomes through extension events, workshops, conferences and communication initiatives
- Developing information materials for dissemination of RD&E outputs to industry;
- Preparing submissions on regulatory and policy changes that require technical underpinning and that relate directly to the RD&E environment and MLA and AMPC's mandate;
- Undertaking research and analysis on priority technical and policy gaps identified by processing/red meat organisations and Government.

UPDATE

At present, there are several evaluations underway including a review of AMPC performance and the PIP program outcomes.

BARRIERS TO ADOPTION OF TECHNOLOGIES

There are many factors influencing the adoption of technologies. The barriers present in the red meat processing industry are specific to the individual needs and priorities to the processing plant. This project review hypothesised that cost is not the only barrier and that OHS, labour and efficiency are not the only benefits for plants adopting technology. Economic outlay for the technology or perceived cost can vary markedly from actual cost when all variables are considered. Other variables including training and maintenance requirements, throughput, access to capability and providers, payback period, and installation costs also play a critical role in the decision making process. Furthermore, there may be other competing priorities in the business, and acceptability and perceptions critical in gaining customer

acceptance such as cut and packaging specifications, consistency of operation, consistency of product and issues with retro-fitting and skilled labour availability.

There is a need to effectively assess barriers to adoption in order to design an effective delivery program to drive the uptake and implementation of RD&E outcomes. For the area of technology and automation, in addition to the economic and product integrity drivers for adoption, there are also practical barriers including floor space availability, footprint, numbers of personnel on floor (and costs), OHS, hygiene, training, increasing production, processing efficiency and yield improvements, changing specifications for customers, previous experience, flexibility to respond to market changes, inventory management, reduction in waste product, processor beliefs, and the ability to rapidly adapt and respond to market changes.

It is with investigating these drivers further that better decision making can be undertaken with regards to investment and delivery in this area. It is also recognised that detailed analysis of the "barriers" to uptake would lend itself to establishing targeted strategies to overcome these challenges with providers and processors and improve current adoption.

UPDATE

It is anticipated the full report will be available early 2013 and disseminated to industry. For further information contact AMPC or visit the AMPC website at ampc.com.au

MEGATRENDS

As part of its statutory reporting requirements, AMPC is required to develop a five-year strategic plan. The essence of effective strategic planning is to use research, analysis and insight to identify, filter and prioritise the factors that are likely to impact on the environment in which the strategic plan sits. An effective strategic plan will be structured to respond to these factors.

To this end, AMPC sought an independent view of issues that could potentially impact the Australian red meat industry. A common danger of many strategic planning exercises is that they become too inward looking and focus on the issues that are visible here and now, most do not look beyond the immediate horizon. The foundation for effective strategy is to anticipate what the environment over the planning period will look like, i.e. anticipate the key forces that will influence the industry's direction so that the most appropriate responses can be developed. To achieve this understanding of the environment, requires an expansive macro analysis, to identify the global forces that could impact on the Australian red meat industry and how they might do so. The 10 megatrends that will define the face of the Australian red meat industry over the next five years include both opportunities and challenges. These megatrends were reported at the AMPC Conference in May 2012 and subsequently at the AMIC conference in August 2012, where processor input was sought towards the finalisation of the environmental scan.

UPDATE

The next stage of the strategic planning process is to develop appropriate responses within AMPC's jurisdictional areas, focusing on research, development, extension and marketing. This will be carried out in consultation with industry, Government and key stakeholders and the draft strategic plan disseminated to industry in early 2013.

CLIMATE CHANGE STRATEGY AND ACTIVITIES

Climate change imposes some significant challenges on the red meat processing industry, however there are also opportunities. Improved business operating efficiency through productivity and efficiency gains will reduce greenhouse gas emissions and improve resource use efficiency and in-turn reduce operating costs at red meat processing facilities. In addition, active promotion of the red meat industry's clean and green reputation will underpin Australia's Primary Industry's role in global sustainable food production and respond to consumer sentiments in this regard.

The *Red Meat Processing Industry Climate Change Strategy* recently developed presents the industry's approach to managing and mitigating climate change and the implementation of activities that will enable red meat processing businesses to proactively participate in a low carbon economy.

The strategy is a joint initiative of the Australian Meat Processor Corporation (AMPC) and the Australian Meat Industry Council (AMIC) and establishes a coordinated industry approach to addressing climate change over the next three years.

Through this strategy, industry will develop and implement initiatives in collaboration with Government and other relevant stakeholders that are aimed at mitigating and managing the impact of climate change. The key focus areas include energy use and efficiency, water use and efficiency, biodiversity loss, solid waste and wastewater management and climate change impacts.

Several industry specific targets have been developed to track progress in relation to emission reduction activities being implemented in the industry. The *Red Meat Processing Industry Climate Change Strategy* forms the basis of the Industry's approach to tackling climate change and new regulations governing resource use and greenhouse gas emissions from red meat processing facilities such as the Carbon Pricing Mechanism (CPM).

The Federal Government introduced the CPM on 1 July 2012 and red meat processing facilities with emissions over 25 kilo-tonnes of CO2 equivalent are considered to be included in the scheme. AMPC commissioned a detailed economic study to quantify the impact of the CPM in the red meat processing industry through analysis of the direct and indirect costs and the relative costs of some greenhouse gas abatement options. The study revealed that up to 10 red meat processing sites will face direct impacts (i.e. will be permit liable) and a further 140 businesses (comprising both AMPC and AMIC members) will face indirect costs relating to their current business inputs and across their respective supply chains. The direct cost of the CPM across the permit liable plants will be anywhere between $1m - $3.1m per plant in 2012 and rising in future years. This equates to a cost per head of around $5.64 per beef animal and $0.78 per sheep. Based on 2009 slaughter levels, this equates to an increased cost to industry of at least

$63.5 million. AMPC, AMIC and industry have been working collaboratively with the Australian Government towards ensuring support through RD&E and other investments that will mitigate emissions. The Australian Government has been supportive through the Clean Technology Investment Program and other related initiatives.

UPDATE

AMPC is currently revising a series of environmental KPIs and benchmarks which will be used to underpin the industry's performance against the objectives laid out in the Red Meat Processing Industry Climate Change Strategy. Further activities, such as evaluation of current mitigation projects, development of extension material on technologies to reduce emissions, benchmarking energy use and quantifying wastewater solutions are also underway. These activities will be communicated to Government, industry, customers and the community through a red meat processing engagement strategy.

MEAT SCIENCE TUTORIALS

For nearly two decades, the red meat processing industry and other key scientific organisations have invested in, developed, delivered and published a wide range of research outcome literature including reports, information sheets, manuals and guides as a means of disseminating new research findings to industry. Specifically, AMPC, MLA and CSIRO have supported the Meat Technology Update publication series of research outcomes as a key communication mechanism to industry. However, more recently it was recognised that direct face to face dissemination of findings involving processing plant staff and scientists that carry out the research is a key area of need in order to ensure the uptake, adoption and understanding of research related findings. On this basis, a project titled "Processing Industry Meat Science Tutorials" was developed, which involved a workshop of mini-tutorials on a range of meat science related topics being delivered by a scientific panel to the industry.

Together, AMPC, CSIRO and MINTRAC, developed two forums for the extension of the latest information (meat science, food safety and food science e.g. dark cutting beef, E.Coli, colour, taste, tenderness improvement related processing methods and technologies) and address queries, questions and needs presented by processors on the day. This project also involved reviewing and selecting 14 individual previous publications and disseminating these materials to attendees ensuring resources are continuing to be provided regularly to processors.

UPDATE

The first of these tutorials (held in Perth) was considered a success with positive feedback from processors following the event. This feedback has enabled consideration of the scope, design and refinement of the tutorials and the next series of topics to be tabled by industry and the scientific panel. The next workshops will be developed and held in early 2013.

BAR CODING TRAINING PROGRAMS

Over the last 10 years the red meat industry has agreed to and adopted uniform bar-coding standards for carcase and carton product. Over 90% of export product and a majority of domestic products are compliant to the uniform bar-coding standards. This project was intended to ensure that applicable training material includes relevant uniform bar-coding standard information.

This project was conducted in two stages whereby in Stage 1 of the project, all Units of Competency in the MTM11 Australian Meat Industry Training Package were reviewed to identify those units which had an association with bar coding. Furthermore, a total of 58 units were identified as being affected. As a result, the Training and Assessment support materials for each Unit of Competency were then updated to address the requirements. The second stage of the project (Stage 2) involved the up-skilling of meat industry trainers through a Train-the-Trainer program. Six workshops up-skill trainers were held to ensure they are familiar with the requirements of the Red Meat Supply Chain Committee meat industry bar coding information documents, and to use the updated training materials. A CD containing the on-line resources and a range of useful reference materials has now been made available and is utilised by all meat industry trainers.

UPDATE

Arising from this project, the Bar Coding requirements are now embedded into the accredited training Units and Training and Assessment materials. Additionally, Train-the-Trainer workshops as well as industry Professional Development programs may need to be conducted during the second half of 2012.Following on from this project, further industry engagement may be commissioned to increase awareness of the GS1 system implementation with labelling of the carcase, carton and pallet, but also extended to encompass electronic National Vendor Declarations (eDEC) and Electronic Meat Transfer Certificates (eMTC).

MEAT INDUSTRY SERVICES

The Meat Industry Services (MIS) program has undergone a major revision earlier this year to reflect a new strategic approach and collaboration between AMPC, MLA and CSIRO. The program is now referred to as "Transforming Meat Industry Capability and Co-investment" (TMIC) and focusses on core meat science activities, capability development and specific project requirements of the processing industry. In 2011-2012, effort was directed at improving project direction in many aspects of meat industry. The areas of focus included dissemination of trends in meat science, meat value add processing technology and analytical infrastructure, enhancing awareness of food safety / contamination and troubleshooting, labelling advice. In addition, there was the development of 2 new post-doctoral positions, support for meat scientists in the "omics" research areas and processing engineering with protein chemistry and further facilitation of capability building by supporting 3 PhD candidates in areas of meat shelf life, food safety and muscle biochemistry.

This collaborative arrangement underpins the objectives of the National RD&E Framework, by enhancing co-investment and building collaboration and capability in key meat science disciplines, facilitated by defined project outcomes.

Within the new TMIC research program specifically, meat science related research projects are now directed towards establishing new pathways for assuring eating quality, adding value to secondary cuts of red meat and co-products development that are all aimed at producing new, healthy, safe, and nutritious red meat products sustainably. In addition to the fundamental meat science RD & E areas, improved information dissemination methods, strategic planning and communication to industry and capability building via post-graduate support are being integrated into the TMIC program. Specific projects that will underpin this research program but conducted in the 2011-2012 year are provided in later sections of this annual report.

UPDATE

AMPC is working with MLA and CSIRO towards enhancing the MIS partnership and delivery of this programmes RD & E outcomes. This includes identifying within our agreement, activities that will be strengthened including the joint development of RD & E projects, a shared strategy and activities that will address future capability needs in research. In the new TMIC program, these areas of RD & E will focus on specific programs designed to build capability, improve information dissemination, and conduct fundamental Meat Science RD & E aimed at producing new, healthy, safe, and nutritious red meat products sustainably.

REPORT TO STAKEHOLDERS

Section 2

MARKET ACCESS IS MAINTAINED AND ENHANCED

Ready access to a diverse range of international markets provides the foundation for continued prosperity of this key agricultural sector. In order to help shore up future profitability, the red meat industry implements a co-funded Market Access program facilitated by Meat and Livestock Australia. This program provides market access resources to the wider industry, including monitoring trade developments in overseas and domestic markets; undertaking market access research; developing industry-wide positions to support submissions to government on trade priorities; and lobbying for market acccess improvements.

Defend existing access to global markets and remove remaining barriers to imports of Australian red meat and livestock.

Market access issues also highlight the importance of food safety and animal health in maintaining Australia's advantage over its competitors in key markets. AMPC invests within MLA's market access program on behalf of processors. This market access program is underpinned by a strong working relationship between MLA and the peak industry policy councils, including AMIC, and the Commonwealth Government which values a "whole of industry" effort in collaboration. For more specific details, refer to the AMPC 2011-2012 and/or the 2012-2013 Annual Operating Plan at www.ampc.com.au.

KEY FOCUS AREA

Maximising options for processors in domestic and export markets.

This year, AMPC has worked with its industry partner MLA through the co-funded *Market Access* program to ensure continued access to the world's major markets and to position our industry favourably in new and emerging markets. Australian beef and sheepmeat exports already have a natural advantage due to their excellent food safety standards and animal health status. The *Market Access* program seeks to maintain this advantage wherever possible. The benefit of these efforts is observed through the range of world markets able to be accessed by Australian product and price premiums obtained in selected markets. In regard to defending the existing and highly favourable market access conditions in overseas markets, the Market Access Program achieved the following outcomes:

- **Monitoring developments in overseas markets, developing networks of industry and Government contacts in Australia and overseas;**
  - Import policy developments and competitor access arrangements were closely monitored and representations made on potentially adverse developments;
  - For specific market access issues that arose, MLA provided a response capability to manage these market impediments;
  - MLA provides, with utilisation of the funding, a secretariat function and representation on the Red Meat Market Access Committee.

- **World Trade Organization (WTO) involvement to position the Australian meat and livestock industry appropriately on the international scene;**
  - Although the WTO Doha Round made only limited progress in 2011-2012, high level engagement was maintained and industry priorities reinforced with trade officials in Canberra and Geneva;
  - Analysis was completed on WTO trade liberalisation scenarios to ascertain likelihood of commercial access outcomes;
  - Industry assisted government to secure market access into Russia upon accession to the WTO, via access to a shared pool of up to 407,000 tonnes of frozen beef and 11,000 tonnes of chilled beef per annum (with in-quota tariff rates of 15%); an exemption from the quotas for high quality beef and a reduction in the sheepmeat import tariff from 25% to 15%
- **Position industry for Free Trade Agreement negotiations;**
  - Partnered government to secure a free trade agreement with Malaysia – our tenth largest market for beef and lamb;
  - MLA on behalf of the red meat organisations including AMPC, worked closely with the Australian Government to ensure trade negotiators were aware of and incorporated industry priorities in all FTAs under negotiation – Japan, Korea, China, Gulf Cooperation Council, Trans-Pacific Partnership, Pacer Plus, India and Indonesia;
  - With the Korea-US FTA resulting in the 40% tariff on US beef being eliminated over the next 15 years, the imperative for securing an Australia–Korea FTA became more urgent in order to maintain a competitive market position for Australian beef;
  - Industry continued its focus on assisting government to secure an AKFTA that will eliminate the import tariff on Australian beef (and sheepmeat);
  - In Japan, FTA advocacy focused on working with Australian Government trade negotiators to continue to promote improved market access for beef as an essential deliverable of the AJFTA. MLA via its office in Tokyo continued to work with trade stakeholders in Japan as well as various departments and ministries within the Japanese government, in extolling the benefits of trade liberalisation.

Complete trade liberalisation will increase the value of Australian red meat exports by an estimated $5.5 billion over the next 15 years.

- **Develop strategies to remove market access barriers;**
  - MLA commissioned research on technical barriers to trade (TBT) – in order to identify potential TBT issues, undertake comparative cost analysis, rank each issue and determine priorities for action;
  - MLA collaborated with peak industry councils and Australian Government officials to maintain unimpeded red meat export trading conditions;
  - Import regulations and technical access issues were addressed or are subject to ongoing representations across South Asia, the Middle East/North Africa, Japan , the United States (US) (E. coli and product label approvals) and South Africa (review of sheepmeat tariffs in conjunction with meat importers);
  - Strategic partnerships were maintained with overseas customers (alongside peak councils) including Tri-Lamb, the Five Nations Beef Alliance, the Europe Market Access Committee and the Agriculture and Livestock Industries Corporation of Japan;
  - Data in the Global Meat Industry Model (maintained by the Centre for International Economics) has been updated in order to ascertain changes in trade flows arising from trade reform / trade barrier scenarios;
  - MLA provided expertise to the National Farmers' Federation Trade Committee on multilateral, bilateral and technical trade developments.

UPDATE

AMPC will continue investing and working with MLA to underpin trade negotiations with sound, scientific solutions and enhance our capacity to describe Australia's practices and processes to customers and trading partners. Specific activities relating to market access can be found by contacting the MLA office or going to the www.redmeatinnovation website.

REPORT TO STAKEHOLDERS

Section 3

PRODUCT INTEGRITY AND QUALITY ARE DEMONSTRATED TO CONSUMERS AND MARKETS

Australia is a world leader in the supply of safe and wholesome red meat products. The meat processing industry's ability to prove superior animal health status and food safety standards underpins our success throughout the international market. AMPC collaborates with MLA towards the red meat industry's *Food Safety* program.

The Food Safety Program is designed to assist all participants in the Australian red meat industry. This program is directed at assisting the industry build its expertise in relation to red meat food safety issues, ensure the sustainability of the industry and assist companies along the supply chain to profit from implementing new, scientifically proven technologies. As part of the program, MLA has implemented a coordinated program to:

- Improve the understanding of foodborne hazards;
- Evaluate and validate control procedures and safety practices;
- Assist industry with adoption of new technologies and processes.

The objective of the Food Safety Program is to develop programs in industry and facilitate their adoption. These programs have an emphasis on foodborne pathogens, but also deal with hygiene and quality. AMPC will continue to support initiatives in this area to foster the wider acceptance of outcome-based regulations in import and export markets.

KEY FOCUS AREA

Demonstrating product integrity, safety and quality.

The approaches taken by the program are based on sound science, risk assessment and new management strategies and focus on three key areas:

1. Consultation with stakeholders on the strategy, direction and themes for the program to ensure it meets industry requirements;
2. Scientific discovery and knowledge generation to find new ways of managing food safety hazards along the supply chain;
3. Using scientific knowledge to facilitate change and further developments within the industry by communicating and collaborating with stakeholders.

The MLA Food Safety Program focuses on communicating knowledge about food safety risks in the red meat supply chain, and their control, so that industry, regulators and the marketplace worldwide are satisfied that risks are being controlled effectively. The communications components ensure that the high level of food safety of Australian meat is acknowledged. The industry's food safety reputation has been strengthened by the publication of the many scientific papers and presentations given to food industry and food safety conferences in Australia and USA.

Key activities undertaken during 2011-2012 included:

- Scientific research on the safety of Australian red meat, particularly on pathogenic E. coli in manufacturing beef;
- New approaches to validating the control of listeria in processed meats were promoted and shelf-life research continued;
- Investigations into post-mortem systems commenced;
- The SAFEMEAT initiatives review commenced to identify program gaps and redundancies, and make recommendations on program enhancements;
- The new SAFEMEAT website was launched and communication activities to support the safety of hormone growth promotants (HGPs) were delivered;
- Regular reporting was made to processors on the hygienic quality of product, with comparisons with national results and trends refined and additional training provided;
- Numerous presentations were delivered to overseas government officials, importers, end-users and consumers about the quality and safety issues including traceability, shelf-life, E. coli, HGPs and chemical residues, generated positive media coverage and maintaining customer confidence;
- Delegations to the US to engage with the FSIS, USDA and various consumer groups were carried out in relation to the new provisions for E.Coli 0157 and related non 0157 STECs;
- MSA annual analysis of supply chain premiums was delivered to assist processors and operators to evaluate grading data for decision making;
- MSA beef and sheep producer supply chain workshops, trade events with end users and account management with all MSA processors were delivered and plant surveys undertaken to evaluate new processors compliance;
- Three brands launched lines of MSA-graded beef using the MSA logo as an endorsement of quality;
- Methodology and analysis of single day detection for E.Coli and related non 0157 STECs was commenced;
- Metagenomic analysis of microbial communities that contribute to meat and meat product contamination was commenced;
- The meat inspector currency review project was developed and commenced.

UPDATE

AMPC in partnership with MLA will continue to seek opportunities to apply science to the development of food standards, regulations and approaches that may improve public health and ensure a continued favourable trading position for the industry. The Program will increase focus on RD&E in product, process and systems and adoption activities, as well as communication with public health organisations and the community. Specific activities relating to the future strategy in this area can be obtained by contacting MLA or going to the www.redmeatinnovation website.

IMPROVING BEEF COLOUR

The aim of this project is to understand the factors that cause colour variations in beef muscle in order to develop strategies to improve meat colour at grading. The incidence of Dark colour at grading of beef carcasees is one of great economic expense. It is estimated that up to 7% of MSA graded carcases fail compliance for colour costing between $5.9 and 9.8 million per annum.

The objectives of this project are to investigate slaughter factors that contribute to variations in beef colour, Investigate the influence of beef meat colour at grading on shelf-life, eating quality and water-holding capacity, and to further enhance the development of capability in the meat science area within CSIRO.

In addition to a thorough literature review on the subject, factors including category of animal, days on grain feed (DOF), ultimate pH (pHu), temperature at pH 6 and the time from slaughter to grading have been recorded and are currently being analysed. Samples are further destined for eating quality and muscle biochemistry analyses to determine relationships between causative factors of dark colour with processing conditions and meat science measures. Following elucidation of dark colour causative factors, a report will be developed to relay the qualities associated with beef colour variation.

ULTRASONICS TO IMPROVE MEAT TEXTURE

Improvements in the colour and tenderness characteristics of both lamb and sheep meat has long been a strategic industry priority. The effects of soundwaves at sufficiently high power range or ultrasonics can alter the intrinsic properties of foods it is passed through. It is postulated that when applied to meat pre-rigor, ultrasonics can accelerate metabolism and proteolytic activity. It is envisaged that this approach could assist with the tenderness and colour characteristics of hot-boned product and reduce cold toughening. This project is a proof of concept and will investigate the ability of ultrasound to control metabolism of pre-rigor muscle and alter post-rigor muscle structure thus enabling delivery of a consistent quality product to the consumer.

Promoting nutritional value and enhancing eating quality.

Different frequency ultrasound, storage, and sample ageing was applied to post-rigor muscle to examine the effects on meat texture and colour. Under specific combinations of ultrasound application and sample storage, meat tenderness and colour attributes have been shown to be effected. Data analysis for colour changes and metabolism due to ultrasonic treatment of pre-rigor beef muscle is continuing.

EFFECT OF INITIAL MUSCLE BIOCHEMICAL COMPOSITION ON MICROBIOLOGICAL GROWTH AND EATING QUALITY OF LONG-AGED BEEF, DESTINED FOR EXPORT MARKETS

The red meat processing industry widely uses vacuum packaging to store primal cuts for both domestic and export markets. In order to accurately ascertain best before or use by dates on vacuum packaged product processors require accurate and robust information on the shelf life of their products. These data include TVC and LAB measures, and previous research has suggested that shelf life of up to 20 weeks could be potentially achieved by slowing the rate of bacterial growth. It is proposed that the intrinsic biochemical properties of meat have a direct link to the growth retardation of these microorganisms hence this project aims to investigate the muscle biochemical properties, storage conditions, time of storage and eating quality attributes of the end product.

Samples of Vacuum packaged Beef muscles were collected based on colour, stored at different temperatures in cartons, and aged for up to 20 weeks. Samples were tested at varying times post storage for colour, pH, aroma, state of vacuum, and appearance of meat, with a subset of samples undergoing MSA consumer taste panel testing.

This project is in the final stages of data analysis and reporting, with preliminary observations suggesting there are differences in colour, pH and microbiology assessment towards the 20 week aging time period.

UPDATE

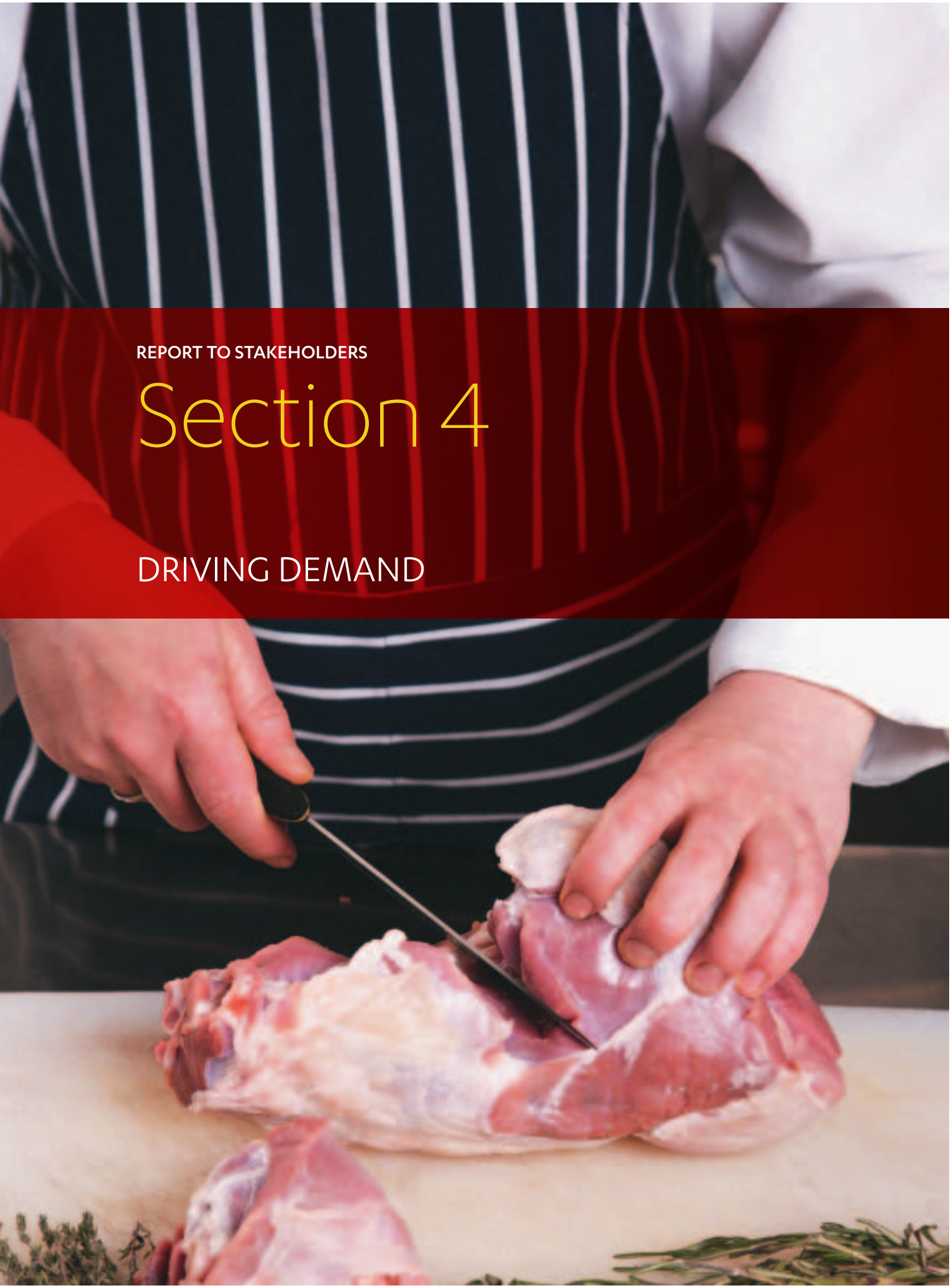
In addition to the recently completed projects, there are several projects and programs operating within the MLA food safety program, for which AMPC invests towards. This RD&E is directed at ensuring the continued supply of safe and wholesome product to domestic and international markets. For further information, contact Meat and Livestock Australia or go to the www.redmeatinnovation.com.au website.

EFFECT OF TESTING REGIMES ON E. COLI O157 ISOLATION

Current testing for E. coli O157 in the meat industry requires a stepwise approach which involves initial screening of an enrichment broth followed by a process of confirmation for isolating E. coli O157. Many abattoir-based laboratories currently carry out the screening tests for E. coli O157 and if a positive test is detected (potential positive), the sample must be sent to one of two DAFF registered laboratories for confirmation. The US approve (currently up to 4) testing methodologies and laboratories also. In Australia, the potential positive tests therefore need to be transported to the laboratories undertaking confirmation and it is not clear if the conditions under which these samples are transported are having an effect on the ability to isolate and confirm E. coli O157. It is possible that the failure to confirm an isolate may lead to contaminated meat leaving Australia for export markets and could result in a positive point of entry (POE) detection in the USA. It is therefore important to determine if the types of enrichment broths used, the time between screening and confirmation, and the temperatures that enriched broths are exposed to prior to confirmation are affecting isolation of E. coli O157 from potential positive samples.

The results of this study indicate that the isolation of *E. coli* O157 from a potential positive enrichment broth stored at 4°C or 10°C is not significantly affected by the type of enrichment broth used; the concentration of background microflora in the sample; the time for which the sample is enriched; or storage of the enrichment broth for up to seven days.

The key parameters currently utilised during testing for *E. coli* O157 by Australian beef producers therefore appear to have minimal negative effect on the likelihood of isolating *E. coli* O157 from potential positive enrichment broths. It is more probable that the failure to isolate *E. coli* O157 from potential positive enrichment broths is due to factors such as the sensitivity and specificity of test systems, competition and inhibition of microflora during the isolation phase, and/or combinations of genetic targets within enrichment broths that incorrectly suggest the presence of *E. coli* O157. Increasing our understanding of these factors will assist in identifying ways of increasing the conversion of potential positives to confirmed positives.



REPORT TO STAKEHOLDERS

Section 4

DRIVING DEMAND

The food market is an extremely competitive environment. There is now a greater demand for convenience and lifestyle solutions and the preparation of cuts for a wider range of meal solutions. There is also strong segmentation in retail market between premium, mid-range and commodity products from retail and specialist butchers. The plethora of outlets and enticements mean that industry must ensure a coordinated and strategic approach to enhancing demand for meat products.

Quantifying the nutritional benefits of red meat.

A high level of consumer confidence in product performance is necessary for food-industry category success. In terms of research, development and marketing, the aim is to continue the development, delivery and reinforcement of key messages that encourage consumer and end user support for beef, lamb and goat products. AMPC supports the research and promotion work by co-investing with Meat and Livestock Australia, who design and deliver this program. For more specific details, refer to the AMPC 2011-2012 and/or the 2012-2013 Annual Operating Report at www.ampc.com.au.

KEY FOCUS AREAS

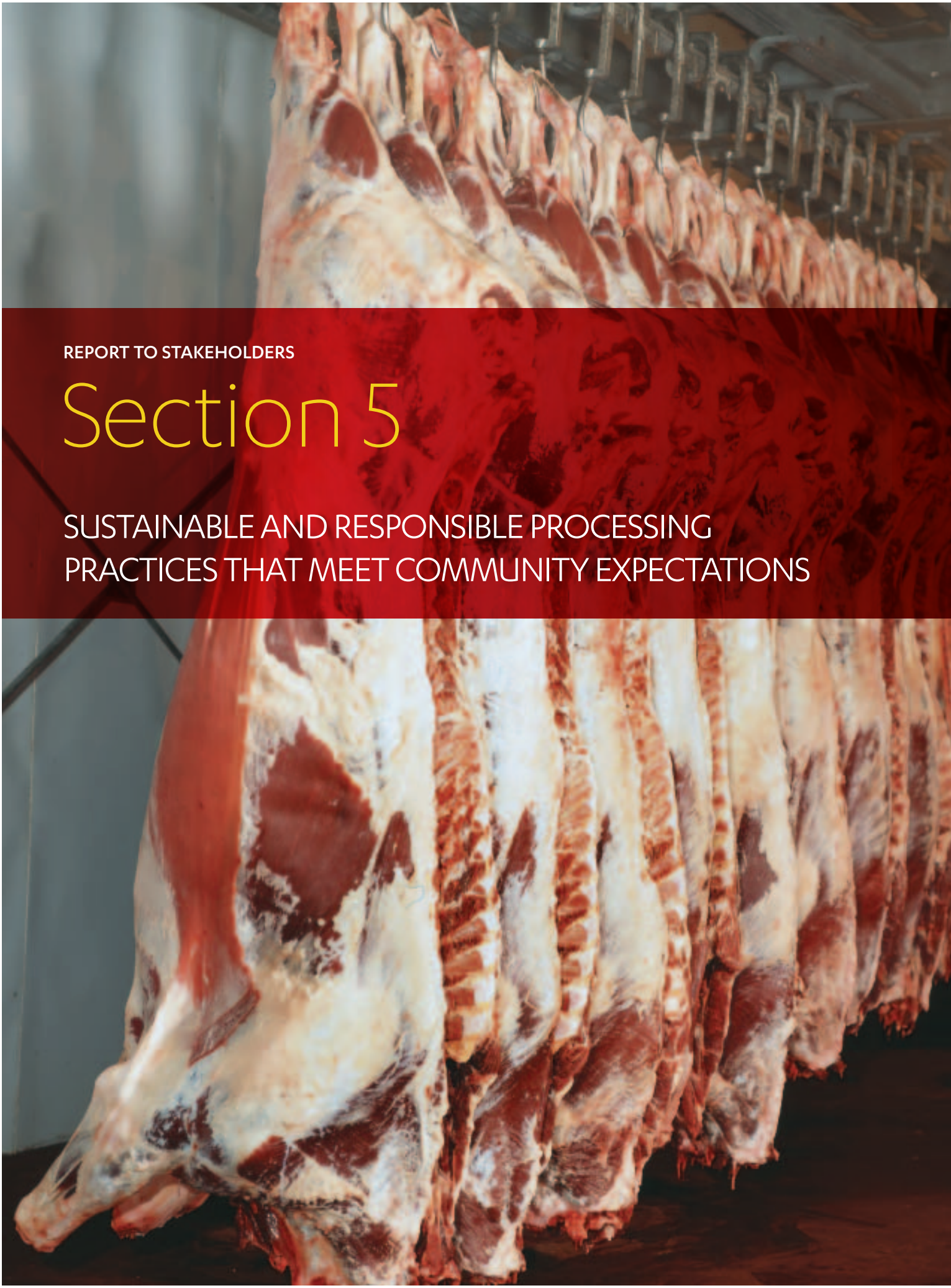
Promoting and enhancing the eating quality and nutritional attributes of red meat and growing demand for red meat products in the Australian community.

In this focus area, AMPC has worked with MLA and other red meat industry organisations involved in the MOU, to build consumer recognition about the health, nutritional and functional benefits of red meat. Targeted activities included consumer engagement and the development of key messages about taste, enjoyment, health, popularity, convenience and value for money. Key achievements in 2011-2012 include:

- Focus on the commercialisation of SmartStim, SmartStretch and New Generation stimulation technologies, and a large heat toughening study was completed;
- Application of Near Infrared and SmartStim technologies to online prediction of carcase attributes delayed due to equipment issues;

- Sheep CRC-generated research breeding values for tenderness and intramuscular fat in sheep and provided the basis for breeding values for iron, zinc and omega-3 content, with new consumer grades expected to be available by late 2012;
- MSA sensory testing has been used to commence the evaluation of varying electrical stimulation methods, gene markers for tenderness and extended aging periods;
- Eating Quality Assured (EQA) has been replaced by a single MSA trademark for use in domestic and international markets to enable flexibility within marketing programs;
- Workshops were conducted by Meat and Livestock Australia with experts in early childhood to identify opportunities for future research funding
- Meat and Livestock Australia, with funding input from AMPC, continued funding 11 studies and funded four new studies into red meat's role in the health of infants and toddlers; young women; the elderly; red meat consumption patterns; and cooking practices;
- Two DAA-hosted symposia were held on early childhood nutrition and weight loss in young women and a "paddock to plate" master class for 18 key media dieticians and influencers;
- Updated beef mince nutrient composition data was supplied to Food Standards Australia New Zealand (FSANZ) for use in forthcoming analysis;
- Information was provided to the National Health and Medical Research Council on environmental programs and evidence on the role of red meat in a sustainable and healthy diet as part of their review of the Australian dietary guidelines;
- The healthcare professional campaign delivered the 'EnergiZn LiFE' GP campaign; held trade exhibition at the dieticians and child health conferences, launched and disseminated 150,000 "How to make every bite count" brochure to child health nurses, dieticians and consumers; as well as Quarterly Vital newsletters ,to 4,000 dieticians,
- MLA, on behalf of the red meat organisations including AMPC, continued the 'Red Meat Amazing Food' campaign including successful sponsorship of Junior Masterchef and cooking advertorials in The Circle, back-to-school point of sale, and secondary advertising targeting mum's with babies;
- A quarterly report was published on emerging value-added meat products drawn from international product release monitoring;
- Spring fashion-themed campaign saw average weekly lamb servings rise 8.7% from 21.8m to 23.7m year on year according to Roy Morgan.
- The Australia Day Lamb campaign featuring Sam Kekovich broke records with a 31% increase in lamb sales on Australia day week, and 13% increase in the 4 week period in January.
- (Nielsen Homescan). The campaign also won the prestigious silver 'Effie' for best food campaign at the annual advertising industry effectiveness awards
- The 'Nothing Beats Beef' campaigns in 2011-2012 focussed on the desirability of beef meals. The summer campaign increasing the perception that beef is 'perfect for BBQs', the launch of a beef cooking iPhone application, outdoor media and a strong PR campaign. The winter campaign re-aired the Beef Curry TVC, the launch of 'foodie' Meat & Co magazine, and the Beefgiving 'Julia and Tony' online video, which attracted over 200,000 views.
- Five intrastate tours and one national tour including a retail expo were conducted, with over 400 independent meat retailers, one international tour to New Zealand with 33 butchers;
- Twenty-four Chef's Tables events focussing on beef and lamb 'Masterpieces' and sponsored various restaurant, hotel and club awards programs were held and fifteen beef 'Masterpieces' master classes with 335 attendees also held.
- In 2012 MLA has developed 3 more value adding manuals for beef and lamb wilst delivering 23 *"counter attack"* workshops with 913 participants around the country to encourage increased carcase utilisation focussing on non-loin cuts, since its inception in 2007, MLA has run 117 workshops with 3211 participants
- Account management programs in place with major supermarket and foodservice accounts further enhancing the strong presence of beef and lamb promotional programs

A refreshed MSA 'Graded' symbol was launched in October 2011 with supermarkets and 600 independent retail butchers accessing the symbol and new point of sale material, a 30 second *"What's New"* infomercial and a print media campaign were implemented across the country for 3 weeks from February 2012, consumer awareness of the MSA symbol peaked at 50% before declining slightly to 40% of consumers. MLA supported 30 MSA underpinned brands via the Industry Collaborative Agreement (ICA) program on the Australia domestic market during 2011-12.



REPORT TO STAKEHOLDERS

Section 5

SUSTAINABLE AND RESPONSIBLE PROCESSING PRACTICES THAT MEET COMMUNITY EXPECTATIONS

The Australian red meat processing industry considers that meeting customer, Government and community expectations for responsible and ethical industry practices is of paramount importance. Resources such as water, soil and energy are precious and sustaining the natural resource base is critical to industry sustainability. Companies in the processing sector are increasingly keen for social and economic reasons to minimise their environmental impact and to use all resources wisely. Equally, demonstrating responsible and ethical processing practices, including high standards of animal health, welfare and biosecurity, are critical to maintaining market access and ensuring industry remains viable and productive. The management of these issues remains an unconditional expectation of our industry, its customers and the community. AMPC directs RD&E investment to the following key focus areas:

- Sustaining the natural resource base and managing climate change impacts, and;
- Promoting industry value through improvement in livestock management and supply chain practices, which include animal health, welfare, traceability and biosecurity.

The following sections present highlights from this year's RD&E activities.

KEY FOCUS AREA

Sustaining the natural resource base and managing climate change impacts.

Effective natural resource management in the face of a changing climate is essential to business profitability and industry sustainability. Rising costs of natural resources, coupled with the introduction of environmental regulation governing energy consumption and emissions of greenhouse gases, such as the Clean Energy Legislative Package, has culminated in the development of the *Red Meat Processing Industry Climate Change Strategy*.

Under the auspice of the Strategy, AMPC continues to invest in information and technology that enables effective management of energy, water, and soil through its RD&E programs. AMPC's Extension programs aim to enhance industry's ability to manage and adapt to climate change through effective communication of key research findings that build awareness and education levels around issues relating to natural resource management and climate change.

Investment has been made in the following key areas:

- Mitigating the impact of climate change on red meat processing businesses – by reducing the requirement for and improving the consumption efficiency of natural resources and in-turn reducing greenhouse gas emissions;
- Adapting to a changing climate – by building resilience into meat processing businesses to protect against climate change related impacts such as decreasing natural resource availability or one-off climatic events.

Research has included investigations into technologies that improve waste management, water efficiency and re-use, energy efficiency, uptake of low and zero carbon energy generation. AMPC will continue to develop and refine tools to measure the environmental impact of the red meat processing industry and to better understand and communicate the impact of climate change on the industry. The following sections present some of the RD&E activities undertaken throughout the year.

ENVIRONMENTAL PERFORMANCE REVIEW

Recent activity across a range of projects has focussed on developing tools to measure, benchmark and report on resource management and the overall environmental performance of the meat processing sector. A study aimed at compiling this information into a national performance review has since commenced to capture data that demonstrates changes in water and energy use, waste management and overall efforts towards reducing emissions. The study will develop targets for water, energy and greenhouse gas use and it is intended that the data be combined with a similar study underway with MLA in feedlots and production, such that whole of supply chain information and measurement can be quantified.

The study will also account for energy, water, waste and greenhouse gas data relating to components of the processing establishment, as well as specific product outputs such as hides, offal and whole, part and primal cuts and carcases. A baseline will be established in order to measure change over time and comparisons will be made against previous data collected as well as performance data for other primary industry sectors. Site visits will enable direct measures to be taken as well as an industry-wide survey to validate data capture and compare with the results of previous studies and NGERS outputs.

UPDATE

The study has commenced with data capture occurring in the field within the next few months. A summary report will be produced for industry review in early 2013.

DOMESTIC PROCESSORS ENERGY EFFICIENCY PROGRAM

A significant proportion of small-to-medium sized* processors have limited capability, capacity and resources to proactively manage energy cost and consumption. In recognition of this knowledge and expertise gap, AMPC has developed the Domestic Processors Energy Efficiency Program.

Technologies and practices for carbon emissions reduction.

The program comprises two phases; phase one will involve collecting and analysing real energy consumption data from eight meat processing facilities, developing a range of energy use benchmarks based on processing lines or site specific operating parameters, and providing a series of common energy efficiency initiatives which meat processing facilities could implement along with expected estimated energy savings. Phase two of the project will involve demonstration of the most innovative and replicable energy efficiency initiatives within a small number of plants.

It is envisaged that this project will be replicated in other states, commencing with the Queensland Country Meat Processors Association members.

UPDATE

The site surveys were carried out in the first half of 2012 and results from the first phase of the program will be made available to industry by the end of 2012. Phase two of the program will commence in early 2013 or as processors select the energy efficiency initiatives to implement at their facilities.

HYGIENIC DESIGN GUIDELINES FOR AUSTRALIAN RED MEAT PROCESSING

Failure to comply with red meat processing hygiene standards results in increased operating costs due to increased frequency of hygiene monitoring, reduced meat quality due to microbial spoilage contamination, product rejection due to pathogen contamination, and delays in production schedules due to re-cleaning of equipment. The Australian Red Meat Industry has identified a need to focus on cleanability and hygienic design of equipment in order to reduce water and labour costs associated with equipment cleaning, whilst maintaining food safety standards.

AMPC and MLA are funding the development of a set of guidelines and checklist tool for processors that outlines the major equipment cleanliness parameters, targets, methods and reference guidelines available to industry. The guidelines will include a review and summary of regulatory obligations that must be met, an on-site appraisal of meat processing equipment and procedures, and current hygiene and design issues facing processors. In particular, cleaning techniques including manual cleaning, high pressure cleaning, cleaning-in-place (CIP) and foaming as well as the efficacy of cleaning agents will be reviewed and compared.

UPDATE

A literature review and a number of site visits are being undertaken to review existing guidelines for improving hygienic cleaning practices, as well as develop new guidelines where required, whilst taking into consideration the resources used for cleaning, including water, energy and labour costs. A report will be made available shortly. For further updates, contact AMPC.

BIOGAS SAFETY GUIDELINE & MANUAL

The introduction of the Carbon Pricing Mechanism coupled with rising energy costs is compelling processors to consider ways of reducing greenhouse gas emissions (GHG) from waste water treatment systems. GHG emissions from anaerobic waste water treatment accounts for around half of Scope 1 GHG emissions from large meat processing facilities. Consequently, there has been an increasing amount of research into anaerobic waste water treatment technologies especially covered anaerobic lagoon (CAL) technology with biogas capture and combustion systems, that enable capture of GHGs (contained within the biogas) as well as energy from waste applications such as biogas boilers.

Eight CALs have been installed at red meat processing facilities across Australia to date, with a similar number likely to be installed in the next three years. Many are large capacity and produce huge volumes of biogas which contains, among other gases, combustible methane and sizeable quantities of corrosive and toxic hydrogen sulphide.

AMPC and MLA are funding the development of an industry-specific guideline for the safe installation, capture, transport and use of biogas from anaerobic wastewater treatment technologies based on CALs. In addition to this, a more general biogas manual will be developed which outlines the range of anaerobic technologies appropriate for use in the meat industry and their main features, biogas properties, the range of uses for biogas and relevant considerations.

UPDATE

A review panel will be assembled to appraise the guidelines and manual and ensure they meet the requirements of the various State regulators before being released to industry in early 2013. The review panel will comprise technical experts from leading engineering consultancies with experience in the safe capture, storage, processing and combustion of biogas. A report will be made available shortly. For further updates, contact AMPC.

WASTE WATER MANUAL & WORKSHOPS

AMPC commissioned MINTRAC to undertake the development of a Waste Water Management Manual for operators at red meat processing plants. The guide incorporates the outcomes of the RD&E investment already made by AMPC in this area as well as the input from current operators and technical experts. The manual provides a resource for accredited and in-house training, provides a catalyst for up-skilling existing operators and trainers, as well as being a day-to-day operating manual for waste water treatment systems.

Over the past few years, AMPC and MLA have undertaken a considerable body of research around waste water treatment in the Australian meat industry, including nitrogen management, quantitative risk assessment of microbial emissions, review of waste treatment and energy from waste technologies. This research has been published in a number of kits including the Environmental Best Practice Guidelines for the Red Meat Processing Industry, the Eco-Efficiency Manual for Meat Processing, and the Red Meat Processing Industry Energy Efficiency Manual. This has now been synthesised into a simple 'how to' manual for personnel responsible for the day-to-day management wastewater treatment systems.

The Waste Water Management Manual was recently made available to Industry and forms the basis of a series of waste water management workshops held in October and November 2012 in Victoria, Western Australia, New South Wales and Queensland.

UPDATE

AMPC and MINTRAC have coordinated a series of one-day workshops to implement and validate the manual with current operators and to provide training to individuals who will be providing future training in this area. A launch of the waste water manual and workshop series has recently been held, with further workshops being promoted across Australia to the end of 2012.

MANAGING CONTAMINANTS IN RED MEAT INDUSTRY WASTE STREAMS

Each year, red meat processing businesses are required to estimate and report their emissions to air, land and water of substances listed under the National Pollutant Inventory (NPI). This project undertook a review of the meat processing NPI Emissions Estimation Technique Manual (EETM) to determine if any changes to industry practices or operating environment were likely to have material impact on emissions estimation.

A number of review steps were undertaken prior to the revision of the EETM. These included a review of reported NPI data from a range of meat processing sites to identify any deficiencies in what sites are currently reporting, a review (including literature review) of industry technology and practices, a review of other food industry EETMs and a review of the current requirements of the NPI National Environment Protection Measure (NEPM). The review of current industry technology and practices identified that there are many and varied initiatives that are taking place in the meat processing sector in Australia in order to improve environmental performance and many of these are more recent than 1999 (when the current manual was published).

However, there was no direct evidence found of any significant process changes that would lead to different NPI substances being emitted by the industry (although the pollutant amounts emitted would be expected to be lower). Thus, it was not seen that any major changes are required to the manual as a result of industry process changes.

UPDATE

The revised Emissions Estimation Technique Manual will help companies to achieve an ongoing good standard of reporting and help to ensure that NPI data reported is consistent and reliable.

The final project report, entitled "Review of Contaminant Emissions", is available in the reports library section of the AMPC website.

USE OF DEWATERED PAUNCH WASTE & DAF SLUDGE AS BOILER FUEL

Currently most abattoirs dispose of their paunch waste (PW) and dissolved air floatation (DAF) sludge via either composting or land disposal. The current disposal methods can incur disposal fees, particularly if landfilling is practiced. If a co-dewatered stream of PW and DAF sludge can be successfully co-combusted in boilers waste disposal costs will be further reduced and energy recovery maximised. This project has been designed to provide this much needed information for the red meat industry.

This project involved a co-dewatering trial of PW and DAF sludge on a screw press, followed by a technical, commercial and environmental assessment of PW and DAF sludge co-combustion in the existing boiler at a processing facility in Tasmania. Both the control and co-combustion trials generated very good mass and energy balance data which allowed the process and environmental impacts of paunch waste and DAF sludge co-combustion to be rigorously assessed. The cost benefit analysis was successfully completed and showed that co-combustion of dewatered paunch waste and DAF sludge is an attractive commercial proposition.

UPDATE

AMPC and MLA are funding additional research into energy recovery, nutrient recovery and reducing greenhouse gas emissions from PW and DAF sludge. This involves further trialling of dewatering equipment which maximises dewatered product solids content to improve the economics of energy from waste projects. A report is available on the AMPC website.

USING COVERED ANAEROBIC LAGOONS TO TREAT ABATTOIR WASTE WATER, REDUCE GREENHOUSE GAS EMISSIONS & GENERATE BIOENERGY – CHURCHILL STAGE 2

The Australian red meat processing industry is beginning to install covered anaerobic lagoon (CAL) technology in an effort to confront and solve its two most pressing problems with existing anaerobic lagoon technology, namely odour and methane emissions. CAL technology has had an indifferent introduction to the industry with problems including crust and solids build up under the covers and inappropriate cover materials leading to early failure of expensive covers. One advantage of CALs is the ability to capture energy-rich biogas and utilise it in technologies such as gas engines or dryers.

Churchill Abattoir, at Ipswich Queensland, has developed a novel CAL design for the treatment of abattoir waste water. Conceptually the design consists of five smaller CALs, each around 2.2 mega litres (ML) capacity, arranged in cells. The novel design of the ponds has been driven by a number of factors including, low cost construction, manageability (for desludging) and ease of removing and applying covers (with potential to reuse covers). The use of five smaller ponds instead of one larger pond has proven successful in

terms of crust and sludge removal. Key findings in assessing the effectiveness of the system revealed that the CALs are capable of efficient waste water decomposition and biogas production. The primary issue with the CALs at Churchill was the build-up of a crust that prevented the capture of biogas and effective use of the cover.

UPDATE

A key recommendation from this project was that fat removal systems such as dissolved air flotation (DAF) units are required for effective anaerobic lagoon operation, both in covered and uncovered situations. Biogas modelling also indicated that the potential production of biogas can be significantly influenced (as much as a tenfold variation in biogas volume) by the chemical oxygen demand (COD) reduction efficiency due to overloading by fats oils and greases and the configuration and operation of the CALs. These factors can dramatically influence the feasibility of biogas capture and reuse at red meat processing facilities. A report is available on the AMPC website.

ABATTOIR DISSOLVED AIR FLOATATION SLUDGE CAPTURE, BENCHMARKING & PROCESSING

Red meat processing facilities are presented with a major problem of managing high volume, wet waste streams containing large quantities of volatile and suspended solids. This project involved an analysis of the effectiveness and reliability of dissolved air flotation (DAF) technology in extracting suspended solids from abattoir waste water.

A trial DAF unit was installed at Churchill Abattoir in Ipswich Queensland as part of the covered anaerobic lagoon (CAL) trials undertaken as part of the project entitled "Using covered anaerobic lagoons to treat abattoir waste water, reduce greenhouse gas emissions & generate bioenergy – Churchill Stage 2". The project explored the implications of effective DAF operation in triggering opportunities value adding from captured sludge (comprising fats, oils, greases, water and other meat solids) and the cost of re-use options for the captured sludge.

UPDATE

The project results revealed that effective DAF operations can remove up to 98% of volatile solids at a chemical cost of $250 per mega-litre of waste water with other costs at a fraction of this cost. These results are very sensitive to the waste stream being run through the DAF, however indicate the potential effectiveness of DAF unit. The cost of a DAF unit may be offset through improved CAL performance owing to the removal of volatile suspended solids causes pre-CAL via the DAF. For further updates, contact AMPC.

ENERGY AND NUTRIENT ANALYSIS OF INDIVIDUAL WASTE STREAMS

This project is intended to identify key contributors to waste stream loads and resources, including thermal, energetic, and chemical. This is partly driven by two factors; firstly, the introduction of the Carbon Pricing Mechanism which puts a price on greenhouse gas emissions from waste water treatment systems at permit liable facilities; and secondly, a lack of knowledge in the area of energy and nutrient analysis area required to guide informed decisions into building wastewater infrastructure.

Project activities included a literature review, three site visits, and detailed chemical, biochemical and statistical analysis. Five major sources of wastewater were identified during the site visits including cattle yards, slaughter floor, paunch handling areas, boning room and rendering operations. Paunch waste water and rendering stick water were concentrated streams with high volumetric loads and were therefore the most significant sources of chemical oxygen demand (COD) and total solids.

UPDATE

This project revealed that wastewater strength has increased to around 10,000mg COD L-1 and subsequently total organic loads were estimated at 2-4 times greater than expected. Current scope 1 greenhouse gas emissions from waste water at two processing sites were also high in comparison to the default value of 0.35 t CO2 t-1 HSCW under NGERS. However, at one of the sites, where separation units are used to recover oil and grease for recycle to rendering, the estimated scope 1 greenhouse gas emissions was lower than the default NGERs value. Anaerobic biodegradability and methane potential of all wastewater samples tested was high, with very low indications of inhibition or toxicity, suggesting a very good potential for anaerobic digestion, energy recovery, and greenhouse gas emissions reduction.

HIGH RATE AEROBIC TREATMENT COMBINED WITH ANAEROBIC DIGESTION AND ANNAMOX

The outcome of this project will be the evaluation of a novel, innovative technology to maximise the chemical oxygen demand (COD) and nutrient removal performance while minimising the energy demand for the treatment of meat processing waste water. While this project will focus on the development and demonstration of the process at the laboratory scale, it will identify major design and performance parameters that will be essential for the evaluation of the possible suitability and economics of the process once implemented at full-scale.

Therefore, this project will have as a key output the design, operating and performance parameters for this innovative technology that could provide an economic alternative to current treatment options in situations where nutrient removal is important and/or space availability is limited and hence anaerobic lagoons plus sequencing batch reactors (SBRs) are not an ideal option. A high-rate aerobic process has been evaluated by varying the sludge retention time (SRT) between 2-4 days and hydraulic retention time (HRT) between 0.5-1 day in an SBR. This process is most effective under operating conditions of 0.5 day HRT and 2-3 days SRT, with >80% of carbon and phosphorus removal and >50% nitrogen removal.

Anaerobic degradability of waste activated sludge generated from the high rate process has been determined using batch tests and model analysis. Results showed the sludge can be successfully digested (>70% degradability) to release the carbon in the form of methane through either mesophilic (37°C) or thermophilic (>55°C) processes. Assessment of dewaterability of the digested sludge showed that the free water content was generally <10%, indicating solar drying could be a suitable dewatering method in practice.

UPDATE

This project forms part of the three year collaboration with the Advance Waste Water Management Centre at the University of Queensland. The focus of the next stage of the project is to link up the two separate evaluated processes (high-rate aerobic treatment and anaerobic sludge digestion) together with a newly established Anammox-type process (for N removal in the sludge dewatering liquor) as one system under continuous conditions to form a treatment train for red meat processing effluent. This project is continuing and further updates can be sought from AMPC.

INTEGRATED AGRI-INDUSTRIAL WASTEWATER TREATMENT AND NUTRIENT RECOVERY

Covered anaerobic lagoons (CALs) and uncovered anaerobic lagoons (ALs) are widely used for treatment of wastewater from Australian abattoirs. However these systems, ALs in particular, result in a greater release of methane into the atmosphere from the anaerobic degradation of organic matter in ALs, have a greater whole of life cost, and poorer nutrient and energy capture efficiency compared to engineered high-rate anaerobic systems.

High-rate anaerobic systems offer a smaller footprint and almost complete elimination of odour, providing key advantages to urban or peri-urban processors. One of the lead emerging contenders for high-rate anaerobic treatment of abattoir wastewater is anaerobic membrane bioreactors (AMBRs). These offer advantages of effluent quality, with renewable energy production, and the potential to manipulate operational conditions for optimal nutrient recovery. However, there is very little information on design or selection of processes for AMBR design or operation on abattoir wastewater, and in particular the role of fats on membrane fouling is unknown, particularly under operational conditions. There is also a very high process risk due to a lack of industrial references.

This project will address these limitations in a staged approach, with initial analysis and laboratory scale assessment (200L on mixed natural wastewater) in the first year, followed by pilot implementation (including nutrient removal/recovery) in years two and three.

UPDATE

This project forms part of the three year collaboration with the Advance Waste Water Management Centre at the University of Queensland. A combined experimental-pilot rig has been constructed and fully tested, and is returning excellent quality results, with the ability to determine critical flux, biochemical properties, membrane fouling rate, and operate for both short term experiments, and for longer periods.

In addition, to take advantage of opportunities offered by project infrastructure, and to further enhance the project and build capability for industry in this field, a project PhD has been recruited, with on reactor optimisation and characterisation of this technology in the red meat industry.

ANAEROBIC LAGOONS; REVIEW OF DESIGN & OPERATIONAL ASPECTS FOR RED MEAT INDUSTRY APPLICATIONS

Covered anaerobic lagoons (CALs) have become popular in the red meat industry overseas and are also becoming more popular in a number of Australian industries, where land is available. While uncovered anaerobic lagoons (ALs) are common, the covering provides the opportunity to collect gas, control odours, reduce greenhouse gas emissions, and optimise energy recovery. However the red meat industry remains somewhat apprehensive about covering ALs, citing issues such as; accumulation of greases under the cover and impact on treatment and maintenance if not removed prior; access to ponds and ability to desludge, and safe use or release of the generated biogas.

There is a significant technical knowledge gap in design, operation and maintenance of CALs and therefore the aim of this project is to generate useful, industry specific data on the rationale behind alternative CAL technologies and what makes them viable. Appropriate design criteria, cover types, and how to operate and maintain CAL's are to be included in the guidelines.

The project involved collection of information from a large number of journals and research projects from both Australian and international sources on application and performance of ALs and CALs. The project outputs include preparation of guidelines for application of CALs for the red meat industry, citing issues, and design/operational practices. Costs of CALs are site specific, however the average simple payback period is typically over 7 years. Although it should be noted that access to government grants, such as the Clean Technology Investment Program, or other project finance initiatives can reduce this to an acceptable level.

UPDATE

CALs are considered to be entirely practical and appropriate for the red meat industry. While design arrangements are very site specific, there are a number of generic guidelines to enhance operational maintenance aspects. These findings and more can be found in the project report which is available for download from the AMPC website in the 'Reports Library' section.

BIOGAS QUALITY REVIEW

Anaerobic lagoons (ALs) remain highly cost-effective for reduction of organic carbon from meat processing wastewater. Their primary weaknesses include odour emissions (where natural crusts do not form) and greenhouse gas (GHG) emissions predominantly in the form of methane contained within the 'biogas' released as a by-product of the biodegradation of organic matter.

UPDATE

The dominant biogas components found during the analysis were Methane, Carbon Dioxide, Nitrogen and Argon. Methane levels were greater than 67% on all visits. Of particular interest was the speed at which the methane conversion commenced inside the CAL, with significant methane production levels observed within 4-6 weeks. These findings and more will soon be published in the project report which will be made available for download from the AMPC website in the 'Reports Library' section. The results of this study are supporting further work including the investigation of options for cleaning biogas for use in energy generation equipment and also providing important baseline data on biogas production, quantity and quality from red meat anaerobic wastewater treatment systems.

Due to rising energy costs and the emergence of the Carbon Pricing Mechanism (CPM), meat processing businesses are opting to cover their ALs in order to capture and utilise the methane emitted. A thorough understanding of biogas composition and its quality is an essential element in determining the suitability of the recovered biogas as an energy source. However, there is little published information on the composition and quality of biogas captured from a typical CAL used in the Australian red meat processing industry.

This project investigated the quantity, quality and production characteristics of biogas produced from CALs at three Australian red meat processing sites. Waste water samples were collected across the inlet and outlet wastewater streams at each of the sites, as well as biogas samples from the CALs. The wastewater samples were tested for chemical oxygen demand (COD) and biological oxygen demand (BOD) loadings and degree of removal, suspended solids, and volatile suspended solids. The biogas samples were tested for several chemical species (i.e. methane, carbon dioxide, hydrogen sulphide, ammonia, nitrous oxide, carbon monoxide, water and volatile fatty acids) that are likely to affect its use in energy generation equipment.

REVIEW OF BIOGAS CLEANING

Anaerobic treatment of wastewater from Australian red meat processing plants produces significant volumes of biogas containing methane which can be capture and used for on-site energy generation. The three most common uses of recovered biogas typically include; (1) consumption as energy-rich boiler fuel; (2) co-generation using a reciprocating gas engine or micro-turbine to generate electricity and hot water; and (3) flaring in a purpose-built flare.

Biogas mainly consists of methane and carbon dioxide but also contains a number of other constituents, such as hydrogen sulphide and water, which can have adverse impacts on combustion, storage and handling equipment. The corrosive nature of hydrogen sulphide is well known. Water can promote the corrosivity of the biogas, lead to higher wear and tear in reciprocating gas engines and also accumulate at any low sections of pipe causing biogas flow restrictions, if the piping system is not designed with correct falls and condensate removal. This necessitates the removal and management of impurities such as hydrogen sulphide and water.

AMPC and MLA have funded research into the common uses of biogas, the adverse impacts of various biogas constituents, as well as various impurities management and removal options.

UPDATE

A number of hydrogen sulphide removal technologies have been identified, outlined and evaluated in terms of suitability, operability and cost. These included sodium hydroxide scrubbing, water scrubbing, biological treatment and adsorption onto iron containing media. These findings and more can found in the project report which is available for download from the AMPC website in the 'Reports Library' section.

ALTERNATIVE PROCESSING PROCEDURES TO IMPROVE WATER AND ENERGY EFFICIENCY

Increasing costs of water, coupled with tightening environmental regulation have led meat processing businesses to focus on utilities management to maintain legislative compliance, profitability, competitiveness. However, current scientific research in this area lacks detail concerning food safety management issues, in particular regarding re-use of both hot and cold water from cooling towers, defrost water, viscera tables and steriliser water for cleaning of meat processing systems involving edible and/or inedible product lines.

The project will involve a number of water efficiency research activities at a number of meat facilities, involving covering steam sterilisation of viscera trays, dry cleaning of chillers, and the re-use of cold and hot potable water from the beef viscera table and the viscera table sanitation cycle. Once the processes have been completed through trials, standard operating procedures will be developed and engagement with the relevant food safety regulator and authorities.

The first sequence of these projects are aimed at investigating alternative sterilisation and sanitation processes which enhance water and energy efficiency and accelerate the adoption of viable alternatives able to achieve current food safety targets and standards. Current projects include the application of lower water temperatures at higher emersions times, steam sterilisation of viscera tables, tripe wash water re-use and more energy and water efficient chiller cleaning. The projects seek to ensure that the development of alternative practices meet the current process enabled by the legislation to seek approval and provide for targets and standards to be met. The project is supported by an industry working group providing guidance on the options and alternatives that could be examined through RD&E trials.

UPDATE

New processes investigated and successfully demonstrated through this project for tripe wash water re-use have achieved significant water savings. At a single plant killing 600 cattle/day water savings of 1200 litres/wash cycle (at 12 – 15 tripe/cycle) equates to a daily water saving of 48,000 litres. These studies will identify water efficient technologies, systems and processes available to meat processing facilities that deliver significant water savings whilst maintaining food safety standards. Numerous meat processing companies are involved in this project and will trial various water efficiency initiatives over a period of 2-3 months, whilst monitoring food safety in accordance with relevant regulations, standards and guidelines in order to gain regulatory approval. These findings and more will soon be published in the project report which will be made available for download from the AMPC website in the 'Reports Library' section.

KEY FOCUS AREA

Promoting industry value through improvement in livestock management and supply chain practices.

Livestock related issues are of paramount importance to the processing sector, as without continued supply of quality livestock that are produced, transported and processed to community and customer expectations the productivity of industry may be at risk. AMPC in collaboration with AMIC operates to identify processor specific projects that relate to the on-plant management of animal welfare, animal health, traceability and biosecurity. Activities are conducted in a manner that enables linkage with the red meat supply chain, including feedlot, transport and production programs in these areas.

Recent activity under this focus area has involved the continual implementation of the industry's National Animal Welfare Standards, including a review of the standards, a national benchmarking exercise and examination of customer standards and communication needs that reflect industry practices. Projects relating to examining the variation in traceability of livestock across the supply chain, as well as developing new resources for livestock handling have also been undertaken. AMPC is a member of the National Animal Welfare RD&E Strategy and through this initiative, invests in projects including the development of tools to better assess animal welfare and to monitor and address community expectations.

NATIONAL ANIMAL WELFARE RD&E STRATEGY

AMPC is a founder member of the National Primary Industries Animal Welfare Research, Development and Extension (RD&E) Strategy, is a component of the National Primary Industries RD&E Framework, an initiative of the Primary Industries Ministerial Council (PIMC). The purpose of the Strategy is to develop national arrangements to deliver strong collaboration amongst existing RD&E provider groups, and effective partnerships between investors and providers. The Strategy is directed by the Animal Welfare RD&E Committee, comprising livestock industry RDC's, major RD&E providers and Government. The Strategy will deliver animal welfare research, development and extension programs in the primary industries sector which are 1) Nationally Significant, 2) High Priority and 3) Cross-sectoral in application, and which will require a high degree of collaboration in research and funding.

UPDATE

The Strategy has entered its implementation phase and has commissioned two projects which will be delivered in 2012 and 2013. The first project is "Identify and Integrate Measures of Animal Welfare that Meet the Needs of Animals and Society", which focusses on the three prominent (assessment) approaches for animal welfare in literature. This project, led by CSIRO, with collaborative input from the Animal Welfare Science Centre and Murdoch University, will review the scientific literature on welfare measures to identify those that are the best candidates to integrate into a uniform index to assess the welfare status of livestock and examine novel methods for integrating these measures into a welfare index.

DELIVERING LIVESTOCK HANDLING TRAINING TO MEAT PROCESSORS

This project sought to develop and implement cross sectoral livestock handling training for red meat processors, with the view of establishing a baseline package that could further be extended to other sectors, including feedlot, transport and production. The development of livestock handling training materials to support the delivery of the Unit AHCLSK205A *Handle livestock using basic techniques to abattoir workers* is part of a broader industry initiative to standardise the delivery of training to stock handlers throughout the red meat supply chain. During 2011-2012, the project involved forming an industry working group to review the new training and assessment materials. These materials will be able to be applied to the broader supply chain and provide the basis for e-learning and DVD support materials for pilot with engaged RTOs and enterprises.

UPDATE

The next steps will involve extending the training further across the processing sector, integrating the materials with other previously funded projects in this area and engaging with other red meat organisations to deliver a broader coordinated whole of chain livestock handling initiative.

REVISING THE NATIONAL PROCESSING INDUSTRY ANIMAL WELFARE STANDARDS

In 2005, the Australian Meat Industry Council, in collaboration with the Animal Welfare Science Centre (AWSC) and DPI Victoria, developed and launched National Animal Welfare Standards for Livestock Processing Establishments (the 'AMIC Standards'). The AMIC Standards were designed to reflect the legislative and commercial requirements for animal welfare in Australia, relevant scientific literature and current best practice. AMPC supported the development of these Standards.

As part of the livestock processing sector's continued ommitment to animal welfare, AMPC initiated a review in 2009 to ensure the Standards continue to be relevant, practical and deliver good animal welfare outcomes. The review was designed to address changing industry practices, new scientific findings, changes in national and international legislative and commercial standards and changes in community expectations. Further, the review aimed to assess the uptake of the Standards in industry and consider improvements in the extension and training delivered to the industry for animal welfare. This year, another review has commenced, to further enhance the application of the standard, investigate options for accreditation, benchmark performance, establish a national communication program and to develop minimum regulations in collaboration with Government.

UPDATE

Animal Welfare Standards Review Committee (AWSRC), with representation from industry, policy, regulation, the veterinary sector, animal welfare organisations and domestic customers was reconvened to oversee the project. Recent activities have included revision of the standards, developing communication tools and an industry survey to measure uptake and compliance.

BIOSECURITY INDUSTRY STANDARDS AND TRAINING

AMPC, with members, has established a project to develop and implement industry biosecurity standards. For the meat processing industry, it is recognised that there is a need to develop operational standards to underpin the EADRA and assist industry in preventing and responding to future biosecurity risks. A national advisory committee, including members of AMIC, AMPC, Governments (State jurisdictions, AQIS and DAFF) and scientific organisations, will develop the standards for managing biosecurity in the processing industry. This project is underway and will be further reported in the coming year.

UPDATE

A national advisory committee, including members of AMIC, AMPC, Governments (State jurisdictions, AQIS and DAFF) and scientific organisations met to commence the development of the standards and additionally, to revise the meat processing operational manual that underpins AUSVETPLAN. A training program, including a CD of endemic and exotic disease tips and tools will be produced. The training module will be combined with both the Animal Health Australia training programs for industry as well as the livestock related training packages delivered by MINTRAC. Further information is available from AMPC.

TRACEABILITY

The National Livestock Identification System (NLIS) is Australia's system for identifying and tracking livestock for food safety, biosecurity, market access and industry-related purposes. AMPC and AMIC have established a project to develop an e-learning package for the red meat processing sector for NLIS. The objectives of the project are to establish an e-learning package and associated materials and tools to deliver these tools to industry. Alignment with the existing NLIS database and agreement, the Extended Residue Program (ERP) and the NLIS device and PIC based status systems is included. The outcomes for industry and collaborating organisations will be the improved application and compliance with NLIS and traceability requirements and the improved understanding and use of the ERP, PIC and device based status that will deliver product integrity, protect businesses and ensure the potential market failure as a result of residues is minimised.

UPDATE

The outcomes for industry and collaborating organisations will be the improved application and compliance with NLIS and traceability requirements and the improved understanding and use of the ERP, PIC and device based status that will deliver product integrity, protect businesses and ensure the potential market failure as a result of residues is minimised. MINTRAC is developing the training units and will, on behalf of AMPC and AMIC, be delivering a series of workshops in collaboration with Government. Further information is available from AMPC and AMIC. This project is continuing and more information will be reported over the coming months.

REPORT TO STAKEHOLDERS

Section 6

INDUSTRY AND STAKEHOLDERS ARE ENGAGED AND CAPABLE

The value of research and development is only delivered when outcomes are taken up and successfully implemented by enterprises along the value chain. Building capability to ensure industry can continue to address challenges and address issues is a key consideration when investing in RD&E programs. More attention is now being paid to improving the capacity of private firms to apply the products of science and research, and to understand how boosting this capacity and improving their business models will better serve market and customer needs and secure productivity benefits.

At the national level, through the Primary Industries Ministerial Council (PIMC), states and territories, as well as Rural Research and Development Corporations, are implementing the National Primary Industries RD&E framework. AMPC, in partnering within this framework, is focussed on building capability in scientific organisations in key disciplinary areas, such as meat science, biotechnology, microbiology, environmental science, food safety and food science and nutrition. Equally, in industry, AMPC is focussed on ensuring industry capability can be furthered through investment in new training program, industry tutorials directed at extending RD&E outputs, undergraduate and scholarship programs and a range of other initiatives. To achieve these goals, a major part of AMPC activity this year has focussed on benchmarking capability needs of both industry and the scientific and technical community.

KEY FOCUS AREA

Developing industry capability.

BENCHMARKING AUDIT OF MEAT INDUSTRY CURRENT AND PROJECTED TRAINER CAPACITY

In January 2012, AMPC and MLA contracted MINTRAC to undertake an audit of current industry training capacity in the context of key industry strategic directions as identified in the concurrent AMPC/MLA benchmarking Project. The audit requirements included:

- estimation of trainer numbers and qualifications required to address key industry strategic directions for the next ten years
- assessment of current and projected RTO scope of registration
- audit of age, qualifications and industry experience of the current trainer workforce
- assessment of current trainer recruitment and up skilling practices
- mapping of existing capacity to future industry requirements
- gap analysis
- recommendations for strategies to address identified gaps.

The audit comprised both an on-line survey of all RTOs, and then interviews with twenty-one key RTOs operating in the meat processing sector. The results of this audit overwhelmingly indicate that the industry is well serviced by RTOs who demonstrate evidence of forward planning, awareness of industry priorities, and attention to ensuring organisational responsiveness to industry requirements. One of the unexpected outcomes of this audit was despite the belief of an ageing workforce, there was clear evidence of effective succession planning in all areas except for smallgoods, and furthermore RTOs were actively focussing on encouraging their trainers to seek higher level training qualifications. There was also evidence of up skilling of Trainers with the majority possessing both relevant industry qualifications, (in addition to training qualifications) and extensive industry experience. One of the areas where this audit has provided evidence for is the lack of ability of RTOs in general to recruit and retain good training staff an RTO, the areas most commonly cited were, issues related to compliance, availability of funding and competition from other providers.

PROVIDER & INDUSTRY CAPABILITY GAP ANALYSIS/AUDIT

A capability assessment was conducted to identify the current and future capability requirements of processing companies and research organisations in order to identify gaps where investment could be made to enhance or build capability. The capability assessment was conducted via an excel spreadsheet survey tool developed with input of an industry steering committee. The results were analysed and a final report provide, however due to some lack of data, needs to be revised prior to publication. The survey results will inform investment decisions and the development of industry capability programs including the graduate and post graduate programs and certain MINTRAC programs. The capability assessment will also assist in identifying where new programs need to be developed to build post-graduate and post-doctoral capability.

UPDATE

The report and data have been received from about 15 organisations. In general, there is broad alignment between the importance of task areas (such as process optimisation, quality assurance and value adding) and RD&E activity of relevant (key) scientific organisations. However, two important task areas (resource use and livestock management) have RD&E activities currently being undertaken by less than 50% of providers. Conversely, the medium importance tasks of training and regulatory management have more than 50% of providers currently engaged in RD&E activities in these task areas. The processing data collected was insufficient to determine outcomes in relation to capability gaps, therefore action is now being taken to re-address this project and quantify industry capability needs relevant to future company and industry priorities.

REVIEWING THE SCHOLARSHIP PROGRAM

AMPC sought to review the MINTRAC Scholarship Program (MSP) during the period 2008 -2012. The Program was introduced to enable employee up-skilling and also to encourage entry into the meat processing workforce by first-time graduates with no previous experience in the sector. The program was placed on hold in 2011 to enable a project review to occur. Previously the program also included postgraduate (mainly Masters and PhD courses) and short project scholarships. In its present form the Program comprises employee up-skilling and undergraduate scholarships and this report focuses on these two streams. There are 12 scholarships currently active, of which two are in the undergraduate stream; the other 10 are part of the employee up-skilling stream.

UPDATE

The findings highlighted the need for further information on the present and anticipated capabilities of the processing sector's workforce in order to provide some guidance on where scholarships should be awarded in the future. It would be beneficial for the scholarships program to have an indication when considering scholarship applications as to what capability gaps currently exist so that funds can be applied more efficiently for the benefit of enterprises and industry over time. This ties in with the above project (benchmarking capabilities), such that a re-design of the program can occur effectively to target the areas of industry need. AMPC will continue working in these areas to finalise this approach.

KEY FOCUS AREA

Stakeholders are engaged and capable.

The proficiency of personnel in the meat industry is an important factor contributing to ongoing market access for the Australian meat industry. To deliver on this aim, AMPC supports a range of projects under a service agreement with the Meat Industry Training and Advisory Council (MINTRAC). For the past 5 years MINTRAC, with support and funding from AMPC, has maintained a series of Networks. These include:

- The Meat Inspectors & Quality Assurance Managers (MI&QA) Network;
- The Environmental Managers Network;
- The Training Network.

These Networks operate Australia-wide with the aim of improving communications in this area of the industry and enhancing the professionalism of the QA practitioners.

THE MEAT INSPECTORS & QUALITY ASSURANCE MANAGERS (MI&QA) NETWORK:

MINTRAC facilitated fourteen Quality Assurance Managers' Network meetings during 2011-2012 attended by representatives of 121 different organisations including sixty-four different meat processing companies, seven different regulatory bodies, ten industry associations, four research agencies, 22 registered training organisations and eighteen companies directly servicing the industry.

The eighth annual Meat Inspection and Quality Assurance Conference was held in Melbourne and attracted one hundred and two participants from all the States and Territories. Speakers addressed a range of topics from animal welfare through meat science and issues with the National Livestock Identification System. Many of the workshops presented findings from current industry projects or research and then workshopped the implications for the training system.

THE ENVIRONMENTAL MANAGERS NETWORK & ENVIRONMENT CONFERENCE:

MINTRAC facilitated five Environment Managers' Network meetings during 2011-2012 attended by 70 representatives from 21 different meat processing companies, two different regulatory bodies, four industry associations, research agencies, registered training organisations and other companies servicing the industry.

On the 24th and 25th of August, over 45 meat industry environmental representatives, attended the first national Meat Industry Environmental conference in Adelaide. The focus for the conference was "Energy into the future" and this scene was set with the keynote address from Mr Michael McDermott, Clean Energy Regulator.

The enthusiasm of the speakers throughout the conference was acknowledged by the delegates as one of the highlights "all presentations were highly informative and relevant to the contemporary issues that we currently face in the meat processing and rendering industry".

THE TRAINING NETWORK:

The Training Networks play a vital role in facilitating the transfer of knowledge from research outcomes to training programs as part of the uptake of innovation in the meat processing industry. They also serve to ensure that the meat industry training system meets the business and strategic requirements of the industry, and that the training personnel of the meat industry have currency of knowledge and skills.

Twelve MINTRAC Training Network meetings were held during 2011-2012, attracting strong industry and Registered Training Organisation attendances. The project also included the MINTRAC national Training Conference and the five national meat industry training awards.

Attracting and retaining capability in the meat processing industry.

PROFESSIONAL DEVELOPMENT

The Program focussed on capability has been developed by MLA and AMPC to increase the professionalism and innovative capacity of individuals and companies in the processing sector.

Increasing innovation within a company will impact directly on the overall performance, profitability and competitiveness of the business. An industry-wide culture of innovation and increased professionalism will ensure that Australia can process an increased volume of red meat, while maintaining our reputation as a supplier of a high quality product.

The program contains a number of initiatives which have been developed to create awareness of the meat processing industry and the career opportunities available within it for young professionals and to encourage companies to support, develop and retain tertiary educated graduates within their organisations.

CONTINUAL IMPROVEMENT IN BUSINESS PRACTICES

This program supports AMPC's focus on continual business improvement, corporate management and risk management. Demonstrated improvements have been made in the following areas:

- Enhancing extension of RD&E outputs to industry;
- Creating greater awareness of opportunities created by AMPC for Government and members;
- Enhancing collaboration and co-investment with other RD&E organisations, particularly RDCs and jurisdictions where possible;
- Developing and delivering materials that communicate the partnership and co-investment arrangements, outcomes and results to key stakeholders;
- Designing and conducting targeted processor forums to identify RD&E priorities and strategies for industry and to delivery RD&E outputs for implementation;
- Developing and overseeing policies consistent with the company's strategic plan and exercising direction and governance over resources and the way in which the strategies are implemented;
- Improving and monitoring AMPC's compliance with obligations;
- Demonstrating changes to portfolio balance and refining processes to guide investment decisions, evaluation, management of intellectual property and strategy development;
- Measuring, reporting and improving on the value gained from investments.

Program Highlights

PLANT INITIATED PROJECTS 2011-2012

The PIP program continues to be a highly effective mechanism for attracting additional investment into key areas of innovation with over $30M of private sector funds leveraged directly into government and industry funded RD&E programs over the last three years.

A key strength of this program is to integrate, adopt and implement the outcomes of RD&E that has been undertaken across industry within the broader AMPC/MLA Core RD&E program, testing them 'at the coalface' in industry plants and sharing the findings with all AMPC members. AMPC allocates 15% of levies contributed by processors to the Plant Initiated RD&E program (PIPs). Therefore, each individual processor has an allocation of 15% of their total levies paid available for use in PIP projects. The PIP program, as with other RD&E programs, operates as part of a co-investment structure with other red meat industry organisations. They are traditionally funded 25% Processor, 25% Processor Levy funds from AMPC and 50% Government.

To qualify, a plant-based project must aim to:

- Identify the RD&E issue or problem limiting them from adopting RD&E outcomes;
- Identify how this issue, if overcome, could benefit broader industry and supply chain;
- Work with relevant personnel from science, Government and AMPC/MLA to identify an appropriate methodology and resources for a project;
- Describe and document the project, along with their own budget contribution;
- Submit the project application for approval, which is subject to the eligibility criteria agreed between AMPC, MLA and Government.

On completion of the PIP, results are made available to the wider industry in the form of final reports which are published on the joint AMPC/MLA website. Below provides a snapshot of some of the Plant Initiated Project RD&E outcomes throughout the year.

UPDATE ON THE PROGRAM OUTPUTS

AMPC recently conducted an analysis of how members have used the PIP program since 2009. In 2011-2012, there was a total of 32 PIP projects developed and commenced within the industry. The findings indicate that AMPC members use the PIP program to address a wide variety of industry Research Development and Extension (RD&E) priority areas across a diverse range of business needs irrespective of company size and species processed. In summary:

- There has been an increase in the uptake of PIPs from 2009 to 2012 (10% increase),
- More members are seeing the benefits of PIPs, with at least 17 members taking up PIPs that had not previously (since 2009),
- There has been more effort towards syndicated (grouped) PIP programs
- The top four areas of investment in the processing sector are changing – with more focus on environment and climate change, value adding, cost benefit and feasibility.

New areas of investment in processor PIPs are now emerging, such as value adding, yield improvements, food safety and eating quality, which reflect the shift in priorities of processors and most significantly, the different challenges facing the industry. In 2011-2012, processors sought to invest in food safety (9%), environment/sustainability (31%), capability building (6%), livestock management (3%), value adding (8%), supply chain (2%), productivity/yield (21%) and semi-automation/ mechanisation (5%) and automation (15%).

COST EFFECTIVE MEAT ELECTRONICS FOR SME'S

This project successfully proved the viability of cost effective 'do-it-yourself' sheep and beef meat stimulation electronics aimed specifically at SME's through a series of trial installations representing the various applications in the industry.

The overall objective was to test the practicality of a lower cost approach and gain experience of the varied requirements across the SME meat processing sector on a "self-managed" basis.

Given the success of this project it is envisaged that the same approach would benefit the newly developed back stiffener and its integration with industry accepted downward hide pullers. It is likely that the cost effectiveness of other systems used by SME's could also be improved.

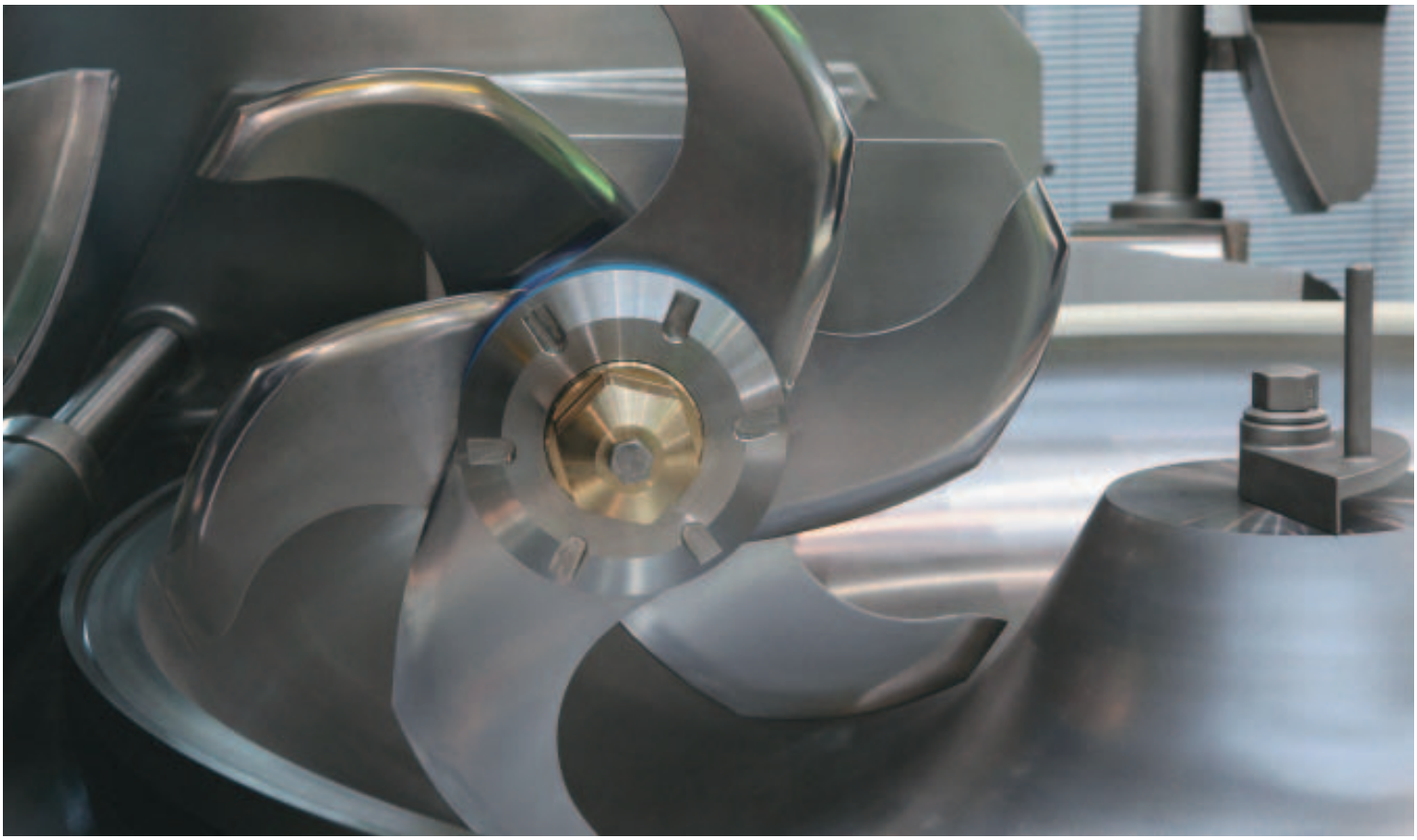
ROBOTIC DUAL VAC SAN AT GUNDAGAI MEAT PROCESSORS, GUNDAGAI, NSW

The Dual Vac San system was installed and commissioned in 2011. This is the first time that two VacSan robots were configured to operate simultaneously on the same carcase. The VacSan is fitted with a leaf spring arrangement allowing it to comply with different size and shaped carcases. The option of a raised safety platform contribute added safety to the operator. Furthermore, there are numerous benefits to be achieved by utilisation and continued development of the Robotic Dual Vac San system including improvements in OH&S by elimination of risk of operator strain injury from carcase size, weight and repetitive tasking, elimination of dangerous operational practices, and achieving consistency. The specialised robotic mounting and control of the VacSan process improves accuracy and repeatability over manual systems and in addition, improved laser sensing technology and software allows arcase variations to be identified providing a platform to implement variable robot positioning and paths. There is a considerable labour cost benefit with the system replacing up to two labour units per shift. This equipment has been developed for use in lamb, sheep and goat processing and has led to increased reliability and accuracy, along with processing speed when performing this task.

WASTEWATER AUDIT – CHURCHILL ABATTOIR

An audit was conducted on various effluent streams generated by meat processing activities at Churchill Abattoir (CA). The primary aim of this project was to determine the composition of effluent streams and enable an accurate measurement of the total generated effluent volume. In an effort to improve wastewater treatment processes a dissolved air floatation (DAF) is planned for installation hence recommendations were to be made as to next steps following the audit process. Water samples were collected on six occasions in 2011 and were analysed for parameters including pH, electrical conductivity (EC), total suspended solids (TSS), Total Kjeldahl Nitrogen (TKN), total nitrogen (TN), total phosphorus (TP), fats, oils and greases (FOGs), chemical oxygen demand (COD) and volatile acids as acetic acid (VA). The analysis of individual streams enabled the identification of target streams for load reduction on current wastewater treatment infrastructure and formed an important precursor to the commissioning of a DAF unit.

The results of such an audit provide data to make an informed decision as to the placement of a DAF unit and the effluent streams that will most effectively utilise the primary effluent treatment measure. The audit identified 'alley', 'render' and 'raw material' effluent streams should be diverted to the DAF for primary treatment to reduce both OLR and FOG content. Furthermore, the audit identified specific effluent streams that should not be diverted to the DAF for primary treatment as the OLR is relatively high, therefor the solids content may cause an increase in DAF sludge requiring additional management. The audit also identified the monitoring of effluent composition from the



specific streams for the parameters adopted in this report and pond treatment efficiency to determine the impact of the installation of the DAF and highlighted the monitoring of key parameters (i.e. OLR, COD, FOG) of the influent and effluent of the DAF to be carried out as to ensure a minimum 85% reduction is achieved.

HW GREENHAM SMARTSTRETCH™ AND SMARTSHAPE™ MEAT PRODUCT DEVELOPMENT FOR AUSTRALIAN AND EXPORT MARKETS

Two visits were made to the hot-boned beef processing plant at Tongala in northern Victoria. The first visit introduced the SmartShape™ machine to the plant, involved the training of one dedicated operator and allowed the collection of samples for sensory assessment. The second visit involved troubleshooting problems to be rectified, collection of samples for in-house assessment and demonstrating the machine with cold-boned product. The aim of this experiment was to establish whether or not there was a sensory or measured tenderness benefit gained from SmartStretching hot-boned beef primals. Sensory assessment of stretched versus unstretched topsides and rostbiffs was conducted, along with shear force measurements to test the hypothesis. The data from these trials indicated no observed difference between the stretched and unstretched samples, although the variance of shear force for stretched rostbiff samples was significantly ($P < 0.05$) reduced compared to unstretched samples. Trends identified as a result suggest that by increasing the sampling volume and with further assessment, there may be a tenderness benefit of stretching this cut.

GM SCOTT – ROBOTIC OVINE PRIMAL CUTTER SYSTEM

The Robotic Ovine Primal Cutting system replaces manual bandsaw operations for primal cutting of small stock lamb and sheep processing operations. An installed ROC system reduces OH&S risks, the risk of cross-contamination and improves the quality of the cut, reducing sawdust and providing significant yield gains and improvements in shelf life. With recent enhancements to the original ROC system and introduction of a 2nd robot, there has been throughput increases to approximately 380 per hour. This system performs a 2 cut operation with leg and shoulder separation only. It utilises vision profiling and dustless blade cutting technology to provide accurate carcase analysis and produces outstanding cutting efficiencies. Results from testing show criteria was met for the Middle cut, Leg cut and Chump cut with the Shoulder cut achieving 97.6% accuracy within ± 10mm (a 15.5% increase compared to manual task). Use of the robot eliminates up to 4 bandsaw cuts that would otherwise have to be made by a bandsaw operator. Elimination of these cuts has obvious OH&S benefits.

RD&E Collaborations

AMPC continues to seek opportunities for further RD&E collaboration and to partner with other primary industry Rural Research and Development Corporations, State Governments and Universities. A key objective is to build capability, collaboration and co-investment on behalf of industry. The below sections outline this year's key collaborative initiatives.

CSIRO TRANSFORMING MEAT INDUSTRY CAPABILITY AND CO-INVESTMENT (TMIC)

The TMIC program focusses on core meat science activities, capability development and specific project requirements of the red meat processing industry. In 2011-2012, the projects that underpinned the TMIC program were specifically designed to improve project direction and facilitation in many aspects of the meat industry. These projects were grouped around five central strategic themes as part of project (A.MIS.1001) listed below and previously reported projects A.MIS.1002 through A.MIS.1005.

STRATEGIC PLANNING AND COMMUNICATION

The primary objectives of this project were to facilitate strategic planning workshops between CSIRO, MLA, and AMPC in an effort to address the growing needs of the Red Meat Industry covering areas of agreed priority and capability focus. Another aspect is the development of a co-ordinated approach for communication effort so that industry will be able to obtain all their technical requirements and new research outcomes through one source.

With the capability constraints through gradual reduction in the number of scientists working in the meat science field, the Australian meat industry will benefit through provision of a surety of funding for meat science within CSIRO, particularly funding of PhD and post-doctoral positions in the area of flavour, colour, ageing and other meat quality and meat safety attributes.

Delivery of effective communication has be facilitated through a co-ordinated approach through one centralised location providing access to and disseminating Meat Technology Updates in areas including sheep meat flavour and E.Coli. These research outcomes have also been successfully disseminated to Industry through a pilot Meat Science workshop as described further in later sections of this annual report.

UPDATE

The strategic investment in the previous MIS and the future TMIC program has allowed a more direct and effective way of communicating current knowledge in the meat science field whilst simultaneously facilitating the building of capability in the meat science area ensuring suitably skilled and trained scientists will be operating and benefitting the Australian red meat processing industry in the future.

THE SHEEP CRC

Since 2006, AMPC has been working with the Sheep CRC investing in program 3 'Next Generation Meat Quality'. Now in its 7th year, this program is designed to increase the rate of improvement of lean meat yield (LMY) and meat quality through delivery of genetic and non-genetic tools. These improvements are delivered through specific objectives focussing on LMY, eating quality and nutritional value of lamb and sheep meat. Through the collaborative CRC partnership, Projects 3.3 (LMY and Supply chains) and 3.4 (Application of Meat Processing Technologies) which underpin program 3 are delivering on these objectives with increases in efficiency and productivity and added value to the red meat processing industry.

LEAN MEAT YIELD AND SUPPLY CHAINS

This project involves the sheep CRC providing processing plants with a business value analysis service to help quantify the economic value of implementing processing changes designed to enhance LMY and its measurement. This service has resulted in improvements in boning decisions, enhanced producer feedback delivery, and the development of value based bonus payment systems for superior lean meat yield carcases. Analysis of growth and carcase data generated form the CRC information nucleus Flock (INF) has shown high heritability of LMY traits. These data have continued to be collected during 2011-2012 through the use of carcase scanning technology at AMPC member plants.

APPLICATION OF MEAT PROCESSING TECHNOLOGIES

The objective of this program is to contribute to the development and validation of technologies allowing the measurement and improvement of meat quality. These objectives will be evaluated by the adoption of new methods to predict lean meat yield (LMY). Using a range of technologies for carcase measurement that are to be evaluated in the calculation of LMY including Probes to measure GR, C site fat, and eye muscle depth; and Scanning and vision system technologies, It is envisaged that the benefits arising from this research will help identify appropriate in-plant LMY measurement technologies leading to a potential value increase of up to $10 per carcase. This benefit will vary depending on the ease at which fabrication or retro fitting to existing processing plant layout can be facilitated.

ELECTRICAL STIMULATION AUDIT

Electrical stimulation (E-stim) enhances quality of meat by improving tenderness and meat colour parameters. The application of an electrical current through a Medium voltage system is an effective way of controlling the rate of pH decline of carcases post-slaughter. Furthermore, because the rate of pH and temperature decline of a carcase can significantly affect meat eating quality, Sheep CRC research has shown the percentage of carcases achieving pH targets of 6 under stimulation between 18–350C when compared to no stimulation increased markedly to 90% from a baseline 14% re-enforcing the added benefit the process of E-Stim can apply in the meat processing industry.

UPDATE

In addition to the LMY and Supply Chain RD & E work currently underway, AMPC with MLA are investing in a Supply Chain Officer to assist the lamb processing sector to engage in whole of supply chain improvement of LMY and eating quality. This role will assist with providing CRC meat science and carcase measurement findings to develop feedback systems and decision support tools to deliver RD & E outcomes to both producers and the processing industry. AMPC will continue investigating options for the continuation of RD&E outcomes post CRC.

AMPC AND THE ADVANCED WATER MANAGEMENT CENTRE (UNIVERSITY OF QUEENSLAND) PARTNERSHIP

The meat industry is among the largest rural industries in Australia incorporating numerous processing facilities across the nation and hence has the potential for significant environmental impacts. These processing plants are faced with ever increasing environmental pressures such as stricter waste and wastewater quality requirements, tighter environmental emission regulations and higher community expectations. AMPC is working in partnership with MLA and the Advanced Wastewater Management Centre of the University of Queensland to help the industry meet these challenges. Technologies are being developed to ensure environmental protection by reducing emissions, increasing the availability of green energy and ensuring the responsible and efficient use of resources. There are several key ongoing projects that form this collaboration that are described below.

BIOSOLIDS DEMONSTRATION PLANT – TEMPERATURE PHASED ANAEROBIC DIGESTION FOR THE RED MEAT PROCESSING INDUSTRY

AWMC researchers continue to demonstrate temperature phased anaerobic digestion (TPAD) as a low-cost, low-impact technology for the treatment of organic solid waste through the operation of a biosolids demonstration facility. The Biosolids demonstration plant is part of the Small-Medium Scale Organic Solids Stabilisation project. The demonstration facility was also supported by the previous collaboration between AMPC, MLA and the Environmental Biotechnology CRC (EBCRC), together with the Queensland Government.

Launched in 2011 at a large processing facility in South East Queensland, the facility is designed to treat approximately five wet tonnes of waste per day and we are now able to design and build larger systems as well. The overall goal of the project was to produce a technology package that has a relatively low capital loading, and achieves a product with Class A stability biosolids; low odour and good handling characteristics (de-waterability of >20% on belt press and >30% on centrifuges); net electricity generation and total biosolids disposal (NPV basis) of <$50/wet. In 2011, the demonstration plant was upgraded with the implementation of an automated solids handling system capable of feeding paunch solid waste (Stage 2). This enhanced capacity of the demonstration plant to assess high-solids feed levels and demonstrate process performance.

The implementation of a solids handling system in 2011, capable of feeding whole paunch has enhanced capacity to assess high-solids feed levels. Results from the demonstration plant indicate that full scale implementation of TPAD would allow every 10 tonnes of solid waste to be reduced to four tonnes of organic fertiliser, and at the same time generate up to 20% of the plant gas requirements directly from the waste. In 2012, the demonstration plant is being used to explore co-digestion in the red meat processing industry. The facility will also be used for new projects relating to nutrient recovery through struvite collection technology and will also form part of the next phase of integrated system trials for the ongoing work in high rate aerobic treatment systems, coupled with anaerobic nutrient removal using annamox.

INTEGRATED AGRO-INDUSTRIAL WASTEWATER TREATMENT AND NUTRIENT RECOVERY

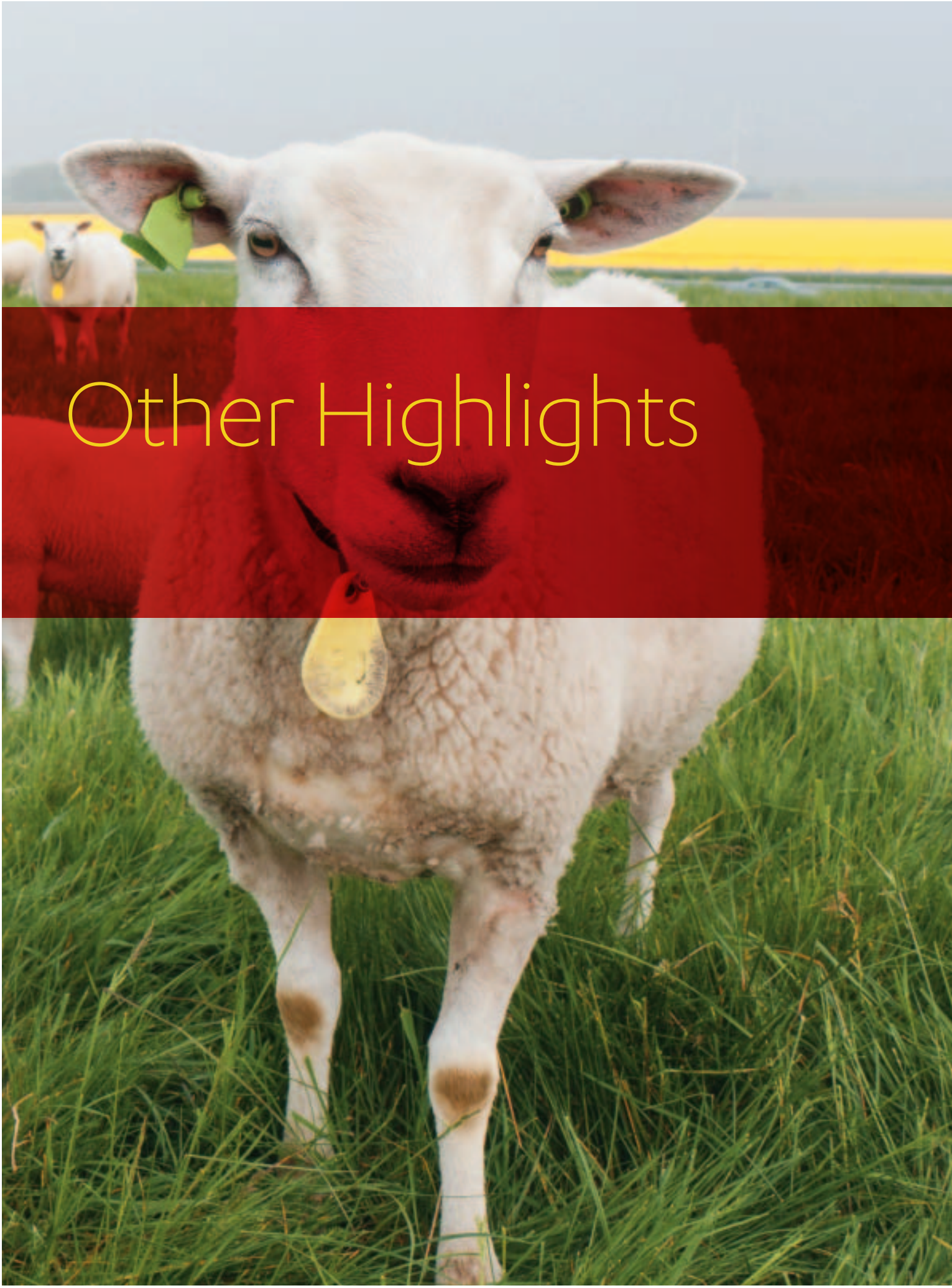
Anaerobic lagoons, the default option in agro-industries, are large and inefficient and with increasing environmental pressures will become much more difficult to implement and continue to operate. Covered and uncovered anaerobic lagoons are widely used for treatment of wastewater from Australian abattoirs. However, lagoons based configurations are reaching limitations due to a number of issues including a relatively high greenhouse gas impact and whole of life cost, as well as poor nutrient and energy capture efficiency, and extremely large footprints when compared to engineered anaerobic reactors. AWMC researchers are developing an alternative to lagoons as part of an integrated approach to wastewater treatment and nutrient recovery. Current research focuses on the application of high rate anaerobic membrane bioreactor processes (AMBR) to agro-industrial wastewater. AMBR processes are inherently tolerant to solids, a key factor that has previously limited the use of high rate anaerobic technology in meat processing applications. Using a high-rate anaerobic primary stage also allows for nutrient recovery, fitting into our emerging nutrient recovery research areas. AMBRs are an emerging High Rate Anaerobic Treatment system (HRAT) with strong potential for application to high strength industrial wastewaters. Previously there was very little information on the application of AMBR to industrial processes or the design of AMBR processes for operation on abattoir wastewater, and in particular the role of fats on membrane fouling was unknown. In this project, researchers have now conducted initial assessments of AMBR membranes, critical flux and module configurations with promising results. The project team is now constructing a pilot scale AMBR plant for commissioning at an Australian meat processing facility in late 2012.

NGERS AND WASTEWATER MANAGEMENT – MAPPING WASTE STREAMS AND QUANTIFYING THE IMPACTS

This project is intended to identify and address knowledge gaps around the wastewater streams from beef and sheep processing. Initial research has identified that there is a high degree of variability in waste collection practices, but, a large degree of the contaminant load is contained in a relatively small portion of the wastewater. Analysis of degradable carbon, and other elements in individual waste streams is being used to determine the impact on potential downstream processes. The goal of this work is to assess how to better design waste collection and blending systems. The results from the survey project are feeding into other research projects to assist technology development and take advantage of new opportunities such as water, energy, and nutrient recovery in the red meat processing industry.

CO-DIGESTION OF WASTE STREAMS IN THE MEAT PROCESSING INDUSTRY: PAUNCH AND DAF SLUDGE

Paunch waste is a large by-product stream from the red meat industry, which also represent a substantial potential source of energy, organics, and nutrients. For the past 2 years the project team has operated the Biosolids demonstration plant located at Beenleigh, to anaerobically digest paunch wastewater and paunch solids. This project has explored co-digestion in the red meat processing industry and identified the upper limit for paunch in terms of mass loading through increased feed concentration, monitoring, and viscosity testing. Outcomes of this project indicated that a key remaining challenge is managing efficient water removal and on this basis, a new sequence of trials will commence to examine dewatering technologies.



Other Highlights

THE AMPC CONFERENCE - "CHANGING THE CLIMATE – POWERING NEW IDEAS IN RED MEAT PROCESSING"

The "Changing the Climate – Powering New Ideas in Red Meat Processing" conference held 24 & 25 May 2012, Brighton-Le-Sands. This conference showcased the latest meat processing research and development projects, focussing on future opportunities to enhance industry productivity, advance new technologies and improve latest efficiency and sustainability. AMPC's entire portfolio of RD&E initiatives was featured including meat science, engineering, environment & sustainability, customer expectations, food safety and livestock management.

The event included high-profile keynote speakers from overseas meat processing companies, Government and a range of experts in marketing, product development, food safety and climate change. Processors contributed case studies on their latest RD&E projects in conjunction with research providers. There were also demonstrations and presentations from technology providers, a live cooking demonstration by celebrity chef Adrian Richardson and evening entertainment from the hugely popular 'Mick the Demotivational Speaker'.

The audience of over 120 delegates included representatives from meat processing companies, Government, Universities, Research Providers and technical experts from a range of backgrounds and disciplines. This expansive program drew highly positive feedback from the event attendees and AMPC will seek to continue this initiative towards enhancing extension of RD&E outputs to wider industry and stakeholders.

PROCESSOR OF THE MONTH – AN AMPC INITIATIVE

AMPC showcases a selected 'Processor of the Month' on our website www.ampc.com.au. This initiative provides each processing business that has undertaken a particular innovative project with exposure and enables the wider industry to be informed of the successful outcomes being achieved in industry. Processors of the Month are selected from entries that can be made at any time and the criteria include a description of the project or initiative undertaken, the outcomes for the business and industry and the achievement in relation to productivity, efficiency, sustainability or capability development. The processor of the month was launched in mid-2012, therefore for the 2011-2012 year, the following processors have had their initiatives showcased:

- **Nolan Meats** – The aim of Nolan Meats Meat Safety Reform initiative was to achieve access to international markets, with AQIS authorised Nolan employees fulfilling the meat inspection role. Having personnel take ownership and responsibility for meat inspection creates a QA culture that embraces 'total accountability'. AMPC recognised the huge success and importance of this initiative and made Nolan Meats our first ever Processor of the Month.
- **GM Scott** – the winners of the 2012 AMPC Innovation Award were GM Scott for their Robotic Ovine Cutter project, which has brought greatly increased outputs for the company. The current ROC now manages 4 cuts at 360 carcases per hour, with this 4 cut system being the first of its kind worldwide to achieve these specifications. AMPC featured GM Scott as our Processor of the Month to further highlight their achievements with this project and winning the award.

- **R Radfords** – with no mains water connection and the drought a few years ago, Radfords decided to tackle the problem head on by building their on-site water recycling plant, which takes plant effluent and treats it to potable standards. Furthermore Radfords take the used soft woodchip stockyard coverings, mix them with solid waste from the plant and produce compost on-site. This is then sold on to gardening businesses and also used to fertilise the land around the site. This sustainable approach is what led AMPC to make Radfords a Processor of the Month.
- **Wodonga Abattoir** – adopted for over 15 years at Wondonga Abattoir, their innovative CORE Program is an excellent example of what can be achieved by working with an empowered and responsive workforce. John McGuren, AMPC's Research and Development Program Manager found the CORE Program to be 'an extremely successful driver of continuous improvement, providing a great incentive for staff at Wodonga to bring new ideas and concepts forward and, in so doing, achieve important professional development for themselves and realise enormous tangible benefits for the company'.

YOUNG GUNS

The Young Guns program was established to provide personal and professional development to young people employed in the sector of the meat processing industry. Participants are identified by their Employers, Trainers and Families as the next generation of managers and owners of the small country integrated meat businesses. Many participants are from remote locations throughout Queensland. Participants are encouraged to discuss and pursue extra skills and training. The Young Guns Training and Development Workshop 2012 was held in Gympie on the 3rd and 4th February 2012. The three day workshop is designed to be active & hands on, with practical demonstrations encouraging and involving all participants. Site visits were organized to small and large abattoirs and participants are encouraged in a class room session to discuss how they can improve processes monitor costs, and environmental issues in their own workplace.

QUEENSLAND COUNTRY MEAT PROCESSORS ASSOCIATION

The Queensland Country Meat Processors Association (QCMPA) is an organisation of small meat processing and retailing operations located in rural towns throughout Queensland. AMPC, in collaboration with AMIC and MLA, supports events for the 43 members of the QCMPA for purposes of extending RD&E and Education to industry.

Each year, members from across the Queensland are able to meet and discuss solutions to problems and to enhance their technical knowledge of the meat processing and retailing industry. An integral part of the workshops are the inspection tours of meat processing facilities, research laboratories and state of the art retail premises. The tours provide members with innovative RD&E ideas to implement in their own businesses. This year, topics included environmental sustainability, application of solar power, livestock traceability and animal welfare.

AMPC 2012 RED MEAT PROCESSING INNOVATION AWARD

Each year AMPC facilitates the *Red Meat Processing Innovation Award*, to recognise those red meat processors taking the lead and raising the bar for industry through the development and adoption of industry research projects. The three finalists for 2012 were:

1. JBS Australia - Beef Loin Saw

The Australian red meat industry is continually looking at ways to improve bottom line results by increasing revenue and reducing operating costs. The use of purpose built bandsaws to achieve additional yield and consistency, whilst protecting the operator from the cutting mechanism is one such method that provides a solution to both problems. The RD&E completed to date during this PIP suggests commercialisation of this equipment will deliver a process that will add value and reduce OH&S costs to the beef industry.

2. GM Scott - Robotic Ovine Cutter

Following the installation of a Robotic Ovine Cutter (ROC) system designed for 2 cuts at Midfield Meats in Victoria, a PIP project was initiated with the aim of increasing the output from the system to 450 carcasees per hour for 2 cuts at GM Scott. As well as comfortably achieving this requirement, with further minor adjustment and fabrication, the current ROC now manages 4 cuts at 360 carcasees per hour. This 4 cut system is the first of its kind worldwide to achieve t hese specifications.

The 2012 AMPC Innovation Award was awarded to GM Scott for their Robotic Ovine Cutter and was presented at the AMPC Conference in May 2012.

3. JBS Australia – CAL Start-up Behaviour and Commissioning

JBS Australia, together with Johns Environmental, has constructed a new wastewater treatment plant at their King Island beef processing plant. A covered anaerobic lagoon (CAL) is part of this treatment upgrade. The project aimed to provide valuable information pertaining to the start-up and normal operation behaviour of a CAL.

ABARE 2012 SCIENCE AWARD

The Australian Agricultural Industries Young Innovators and Scientists Awards support young people to pursue their innovative scientific ideas that will deliver long term benefits to Australia's rural industries. The award for 2012 was presented at the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) Outlook 2012 Conference by The Honourable Joe Ludwig, Minister for Agriculture, Fisheries and Forestry to Murdoch University's Dr Fiona Anderson. Through her research Fiona will look at issues relating to increasing muscle cell numbers and fibre type, including, for example, whether it adds nutritional value, such as iron or fat content, which affects tenderness.

AUSTRALIAN RURAL LEADERSHIP PROGRAM

AMPC supports initiatives that enhance capability and build capacity in the meat processing industry and within primary industries more broadly. It knows that effective leaders are the pre-cursors to improvement, advancement and longevity for the industry. The course establishes a network of leaders with compassion and commitment, strategic thinking and negotiating skills, and the foresight to influence communities, industries, businesses and policy makers. There are now over 500 graduates of the Australian Rural Leadership Program who are committed to the resilience of rural Australia through their industry, community, and family leadership roles. Recipients who have attended the Course with AMPC sponsorship over the years are:

- Jack Barclay, Peter Milzewski, Matt Wentzel, Andrew Westlake, Justin Gathercole, Farron Fletcher, Michael Swiney, Kim McDougal, Tamara James, Bill Scott, Kimberly McDougall and currently Ross Shorrock.

Thirty rural leaders representing diversity across state, industry/sector and cultural backgrounds, successfully completed the national selection process and are now participating in Course 19.

AUSTRALIAN INTERCOLLEGIATE MEAT JUDGING ASSOCIATION

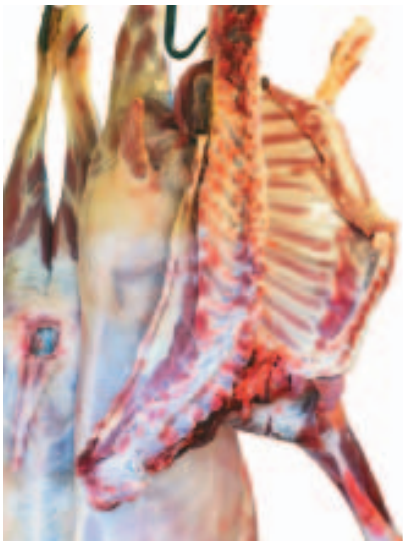
AMPC has been a major sponsor of the Intercollegiate Meat Judging (ICMJ) program since 2004. Now in its 23rd year, the ICMJ program aims at exposing and encouraging tertiary students into careers in the meat industry. These aims are facilitated by two competitions each year: a schools competition this year held in Tamworth; and a University competition and training course hosted this year by Charles Sturt University and Teys Australia in Wagga Wagga, NSW.

The ICMJ program is highly influential for students selecting the meat industry as a career option and is important in fostering future capability in the area of meat science. This is achieved through exposing students to the fundamentals of assessing and reporting meat quality attributes and providing opportunity to apply knowledge of practical aspects of meat science. In addition, a careers forum held during the event increases awareness of career opportunities that exist in the meat industry.

This year, The University of Melbourne claimed the title of 2012 Champion Team and Champion Individual (Tim Ryan), followed by Murdoch University as a close second and Charles Sturt University in third place.

UPDATE

This year's ICMJ Industry workshop and competition was held in Wagga Wagga, NSW from 3–8 July 2012. The program included industry presentations, practical meat training workshops, a careers expo and concluded with a meat judging competition. This year, over 100 students and 35 coaches from 11 Universities from Australia, Japan and the USA competed in the national contest. For the 10 finalists, there is also the Brisbane training week and for the top 5 candidates out of this group, there is a USA industry tour in 2013. For further information contact AMPC or visit the AMPC website at ampc.com.au or the ICMJ website at www.ICMJ.com.au



A DIRECTORS' REPORT AND AUDITED FINANCIAL REPORT

DIRECTORS' REPORT

The Directors present their report together with the financial report of the Australian Meat Processor Corporation Ltd for the year ended 30 June 2012 and auditor's report thereon.

The Directors of the Company in office at the date of this report (or holding office during the year) are:

G Hardwick, CPA – Chairman

Gary Hardwick is the Founder and Executive of Hardwicks Meat Works Pty Ltd located in Kyneton, Victoria. Gary is a qualified Accountant, a Member of the Australian Processors Council (APC) and Director and Board Member of Australian Meat Industry Superannuation Trust.

Gary was elected to the AMPC Board for a seventh term in November 2011 and has been Chairman since April 2010.

S J Kelly – Deputy Chairman

Stephen Kelly is currently a Director of Nippon Meat Packers Australia Pty Ltd (NMPA) and General Manager – Industry & Corporate Affairs for the group. NMPA own and operate three beef processing plants in Australia, Oakey Abattoir, Thomas Borthwick & Sons Mackay and Wingham Beef Exports, and Whyalla Feedlot in Texas, QLD. Stephen sits on the AMIC National Export Beef Council and the Australian Processor Council and is a Director of AUS-MEAT Ltd.

Stephen was elected to the AMPC Board for a third term in November 2011 and has been Deputy Chairman since April 2010.

J K Berry – Director

John is a Director and Head of Corporate and Regulatory for JBS Australia. He has been in senior corporate roles within the business for over 10 years. Prior to joining the Australian Meat Industry he had responsibility for the sale of the several processing assets owned by the Queensland Public Abattoir Corporation. John has a Bachelor of Business (Queensland University of Technology) and Master of Business Administration (University of Queensland).

John was elected to the AMPC Board for a third term in November 2011.

G F Burridge – Director

Gary Burridge was the Chief Executive Officer of the Northern Co-operative Meat Company Ltd (Casino NSW) a dedicated export beef and veal processing facility, which also operates an export wet blue tannery at Casino and a pig processing plant at Booyong. Gary is a qualified Engineer, who is now working with T&R Pastoral Pty Ltd as a senior director.

Gary was a Director of the AMPC Board from 2007 through to November 2011.

B J Carey – Director

Brian Carey is the founder of Food Processing Equipment (FPE). FPE supplies processing equipment to the abattoir industry Australia wide. FPE has a fully functional office in New Zealand with its office in Hamilton. The Carey family also has a major interest in a service abattoir in the north of South Australia who specialise in contract kill.

Brian was elected to the AMPC Board for a second term in November 2011.

D Foote – Director

David has been in leadership roles across the agribusiness, meat processing and exporting industry for the last 30 years including roles with McBride Pastoral, Laradoc Pastoral, Stanbroke Pastoral and Kilcoy Holdings across most all states (excluding Tasmania). David joined Australian Country Choice in 1999 and has been the Chief Executive Officer since 2002. Headquartered in Brisbane and employing over 1,000 staff, Australian Country Choice operates a significant vertically integrated supply chain encompassing cattle breeding, growing and feedlotting to supply its integrated processing facility in Brisbane incorporating beef slaughter, boning, value-adding and retail ready packing. David represents beef industry interests in his role as a councillor of Australian Meat Industry Council national export beef processor committee and Chairman; Meat & Livestock Australia's South Asia / Chinas marketing taskforce. In 2010 David was awarded Rural Press Pty Ltd "Beef achiever of the year".

David was newly elected to the AMPC Board in November 2011.

DIRECTORS' REPORT

M J M Jackson – Director

Mike Jackson, CEO of Harvey Beef in WA, having previously held a similar position in a Queensland beef processing and lot feeding operation for several years. Harvey Beef is the largest beef processor in the West and is the main exporter of high quality beef from the state. Since qualifying as a Chartered Accountant, he has had 30 years senior executive experience in a wide range of industries, particularly food processing and beef.

Mike was a Director of the AMPC Board from March 2010 through to November 2011.

R B James – Director

Brian James is currently a Director of and is actively involved in T&R Pastoral Pty Ltd which owns and operates fully integrated export processing establishments at Murray Bridge (SA), Lobethal (SA), Tamworth (NSW) and Wallangarra (QLD). Brian is involved in numerous Committees including Australian Meat Processor Corp (AMPC) and Australian Meat Industry Council (AMIC). Among other qualifications Brian is an Associate of the Australian Society of Accountants.

Brian was elected to the AMPC Board for a fifth term in November 2011.

R Johnson – Director

Ray Johnson has combined a research career with high-level business achievement in the agribusiness and retail sectors. He graduated in agricultural science at Sydney University and then obtained his PhD in animal nutrition and physiology at the University of New England in Armidale. He was a Senior Research Scientist at the Victorian Department of Agriculture and Rural Affairs and has worked at General Manager/Managing Director level in the Australian animal nutrition, pet food, livestock, livestock genetics and aquaculture feed industries, and as CEO of NSW Farmers Association. He is currently Managing Director of Agriplacements Australia Pty Ltd, an agribusiness executive search and consulting company. Originally from a farming background at Parkes, he is a graduate and member of the Australian Institute of Company Directors.

Ray was elected to the AMPC Board as a Special Qualifications Director in December 2011.

T Maguire – Director

Tom Maguire currently holds the position of General Manager-Corporate Affairs and Innovations with Teys Australia Pty Limited. Tom has been involved in the Australian Meat Industry since 1997 and has held senior positions in the Australian Meat Industry Council (AMIC) and National Meat Association of Australia. Tom is also a member of AMIC's National Export Beef Council and Australian Processor Council. Tom holds post graduate qualifications in Economics, Industrial Relations and Human Resource Management. Tom has also completed a Master's in Business Administration from the University of Queensland.

Tom was elected to the AMPC Board for a third term in November 2011.

P G Noble – Director

Peter Noble is a Director of family Company GM Scott Pty Ltd and he has been involved in the meat industry most of his life. He is a lawyer and has practiced with International law firms in Asia, Australia and the United States. He is presently the Head of Corporate Governance for a major Life Insurance Company. Peter has degrees in law and commerce from the University of NSW. He is also an adjunct Associate Professor in Risk Management at the University of New England.

Peter was elected to the AMPC Board for a second term as Special Qualifications Director in December 2011.

Directors have been in office since the start of the year to the date of this report unless otherwise stated.

DIRECTORS' REPORT

RESULTS

The surplus of the Company for the year was $5,328,749 (2011: $5,491,623 surplus).

SHORT AND LONG TERM OBJECTIVES

The objectives for which the Company is established are:

- to promote, protect and further the interests of the Company and its Members in any lawful manner;
- to act as an Industry Services Body as declared by the Minister for Primary Industries, including by providing services, and procuring, and providing leadership in the provision of, services, relating to Research and Development and marketing in the Meat processing industry for the benefit of its Members and Meat Processors and the community in general;
- where a Statutory Levy Regime applies, enter into a Deed of Agreement or suchlike with the Commonwealth of Australia relating to the payment to, and application of Funds, by the Company;
- to collect payments or Company Contributions from Meat Processors for the purpose of investing in and financing projects, undertakings or enterprises of any kind either severally or jointly with any Meat Industry corporation, body or entity; Research and Development corporation, body or entity; marketing corporation, body or entity; or other person body or entity; in the interests of and for the benefit of Meat Processors and/or the Meat processing industry;
- to enter into contracts with, and employ and engage, individuals, organisations, companies, bodies or entities to manage, Research and Development and Marketing projects and/or other projects on behalf of the Members and in the interests of and for the benefit of Meat Processors and/or the Meat processing industry;
- to perform such acts and do any other thing deemed necessary or desirable for the preservation, protection and promotion of the rights and interests of the Members as Meat Processors;

AMPC is responsible to promote:

- freedom of trade in the interests of the Members;
- marketing and sales of Australian Meat on the Australian market and to overseas countries;
- Meat processing industry Research and Development, including;
  - improvement of the quality of Australian Meat;
  - classification of Australian Meat;
  - the economic, environmental, health, safety and social well being of the Meat processing industry and the wider community;
- the mutual interests of Members by holding conferences, symposiums and seminars for any or all of the Members and presenting the views of the Company on behalf of the Members at any conference, symposium or other forum; and
- the interest of, and do all relevant acts and things for the advancement, protection and promotion of the interests of the Members.

To achieve these objectives, AMPC consults with its Members, the Commonwealth Government and industry stakeholders and develops, implements and maintains a 3 to 5 year Strategic Plan. AMPC regularly reviews its Strategic Plan in accordance with the requirements set out in the Statutory Funding Agreement with the Commonwealth Government.

PRINCIPAL ACTIVITIES

The principal activity of the Company involves the representation of red meat processors, in partnership with Government, and developing and delivering strategic Research and Development investments that are aimed at benefiting industry and the broader community.

AMPC's principle activities are to maximise the efficiency, viability and sustainability of the red meat processing industry by supporting the development of sound, scientific solutions that will:

- Improve the long term efficiency and competitiveness of the industry;
- Enhance the sustainability of the industry;
- Assist to protect, secure and maintain market access;
- Enhance capability and;
- Enhance the overall productivity and performance of the meat processing sector.

DIRECTORS' REPORT

AMPC engages in extensive consultation with internal and external key stakeholders to develop an understanding of the challenges, drivers and opportunities in the meat processing environment that affect companies, the broader industry and the community. This consultation enables AMPC to establish its strategic imperatives and priorities by which to direct Research and Development and Marketing investment. The Company's Annual Operating Plan (AOP) sets out Marketing and Research & Development activities, expenditure against these activities and Key Performance Indicators (KPIs) for both projects and programs administered each year.

AMPC supports and invests in projects in a wide range of areas, including meat science, automation and technology, environment and sustainability, animal health, welfare and biosecurity, traceability and market access.

Specifically, AMPC focusses on:

- Promoting the Australian meat in the domestic and international marketplace;
- Developing Research and Development initiatives that address issues in meat safety, quality and product integrity, capability, environment, livestock management and other elements of the supply chain;
- Establishing projects and capability that assist in protecting the economic, environmental, health, safety and social wellbeing of the meat processing industry.

INCORPORATION

The Company was incorporated as a national Member funded public Company on 22 April 1998 pursuant to reforms announced by the Minister for the Department of Agriculture, Forestry and Fisheries on 18 March 1997.

These reforms required red meat processors and livestock exporters to establish separate self funded companies to interact with a producer Company through willing partnership arrangements.

In 2007, AMPC through its processor Peak Industry Council requested the Commonwealth Government to re-introduce a Statutory levy and that such funds be directed to AMPC to enable it to continue to carry on its normal business activities including its contractual arrangements pursuant to the Memorandum of Understanding referred to below. On 1 September 2007, the Government introduced a Statutory levy scheme to collect funds from red meat processors in turn forwarded these funds on to AMPC, to manage and fund industry programs.

MEMORANDUM OF UNDERSTANDING

The Company became a party to the Memorandum of Understanding (MOU) on 27 April 1998 and to subsequent revisions to the original document.

The MOU links the Company with Meat and Livestock Australia Limited (MLA) (a separate producer corporation) and LiveCorp (a separate livestock exporter's corporation) together with the Commonwealth of Australia, Peak Industry Councils and the Red Meat Advisory Council.

The roles and responsibilities of the Company under the MOU are:

a) To provide management, funding and administrative arrangements for red meat processing industry activities to be undertaken by or through MLA including 'Joint Functions', 'Core Functions' and any unforeseen event which has significant impact upon the industry;

b) In consultation with the Australian Meat Industry Council (AMIC) to undertake activities and provide services on behalf of the processing sector of the industry which are not inconsistent with the provisions and principles of the MOU;

c) Where services are provided by or through MLA, to develop jointly with MLA and/or AMIC goals for achieving the vision and strategic imperatives for the industry sector it represents;

d) Each year to prepare in consultation with AMIC:

   i. A strategic plan including financial projections for the period of 3 years beginning on 1 July in that year for the performance of functions necessary to achieve the objects of the Company and consistent with the Meat Industry Strategic Plan ("MISP"); and

   ii. An operating plan including financial projections setting out the activities the Company proposes to undertake in the immediately following financial year consistent with its business plan;

e) To pursue the achievement of industry goals identified in the MISP in a manner consistent with policies and strategic imperatives developed pursuant to the MOU and to perform its functions and exercise its powers in a manner consistent therewith;

f) To negotiate and enter into contracts with MLA, and with both MLA and LiveCorp, under which MLA will perform, or arrange for other persons to perform Joint functions and services on behalf of the industry sectors they represent for achieving the goals identified in MISP.

DIRECTORS' REPORT

MEETINGS OF DIRECTORS

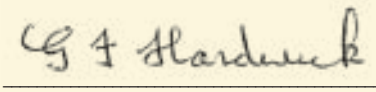
The following table sets out the number of scheduled and urgent unscheduled Directors' meetings (including meeting of Committees of Directors) held during the financial year and the number of meetings attended by each Director (while they were a Director or Committee Member). During the financial year, ten Board meetings and five Audit & Risk Committee meetings were held.

	DIRECTORS' MEETINGS		AUDIT & RISK COMMITTEE	
	Number eligible to attend	Number attended	Number eligible to attend	Number attended
Directors				
G Hardwick	10	10	–	–
S Kelly	10	9	–	–
J Berry (A&R Member to Nov'11)	10	7	2	0
G Budrridge (Director to Nov'11)	5	5	–	–
B Carey	10	9	5	5
D Foote (Director from Nov'11)	5	4	–	–
M Jackson (Director to Nov'11)	5	4	–	–
R B James	10	9	5	4
R Johnson (Director and A&R Member from Dec'11)	5	5	3	3
T Maguire	10	10	-	-
P Noble	10	7	5	5
- Alternate Director	–	–		

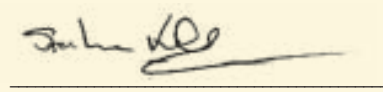
AUDITOR'S INDEPENDENCE DECLARATION

A copy of the auditor's declaration under section 307C of the Corporations Act in relation to the audit for the financial year is provided with this report.

Signed in accordance with a resolution of the Board of Directors:



Director
G Hardwick (Chairman)



Director
S Kelly (Deputy Chair man)

Dated this 18th day of October 2012

CORPORATE GOVERNANCE STATEMENT

CORPORATE GOVERNANCE STATEMENT

The Board of AMPC is responsible, with management, for the corporate governance practices of the Company and constantly updates its practices based on both its advice and its own investigations. This statement sets out the main corporate governance practices that were in operation throughout the financial year, except where otherwise indicated.

The Constitution of the Company was approved by the Members of the Company at a General Meeting held on 14th June 2007 with a high level of support. In part, this was to address the proposed implementation of Statutory levies, which commenced on 1 September 2007.

THE BOARD OF DIRECTORS

The Board carries out its responsibilities according to the following mandate:

- the Members elect the Processor Directors every two years;
- the Special Qualifications Directors are elected by the processor Members of the Board;
- the Chairman and Deputy Chairman are elected by the Board;
- the Directors should possess a broad range of skills, qualifications and experience;
- the Directors are expected to act independently of any associate activities that may cause a conflict;
- the Board should meet on a regular basis, and
- all available information in connection with items to be discussed at a meeting of the Board is provided to each Director prior to that meeting.

As at the date of this Directors' report, the Board consisted of seven Processor Directors and two Special Qualifications Directors. Details of the Directors are set out in the Directors' report.

The primary responsibilities of the Board include:

- the approval of the Annual Operating Plan and the annual financial report;
- the establishment of the long term goals of the Company and Strategic Plan to achieve those goals;
- the review and adoption of annual budgets for the financial performance of the Company and monitoring the results on a regular basis;
- ensuring that the Company has implemented adequate systems of internal controls together with appropriate monitoring of compliance activities, including compliance with the Company's obligations under the Red Meat Industry Memorandum of Understanding and Statutory Funding Agreement, and
- reporting to Government and the Members.

INDEPENDENT PROFESSIONAL ADVICE

With the prior approval of the Chairman, each Director has the right to seek independent legal and other professional advice at the Company's expense concerning any aspect of the Company's operations or undertakings in order to fulfil their duties and responsibilities as Directors.

AUDIT & RISK COMMITTEE

- Peter Noble (Chairman)
- Brian Carey
- Brian James
- Ray Johnson

The Audit & Risk Committee meet on at least three occasions in the course of each year.

The Audit and Risk Committee oversight responsibilities include:

- the preparation and integrity of AMPC's financial accounts and statements;
- the internal controls, policies and procedures that AMPC uses to identify and manage business risks;
- the qualifications, independence, engagement, fees and performance of AMPC's external auditor;
- the external auditor's annual audit of AMPC's financial statements;
- the resources, performance and scope of AMPC's internal audit function;
- AMPC's compliance with legal and regulatory requirements and compliance policies, and
- reviewing and recommending the annual budget to the Board.

CORPORATE GOVERNANCE STATEMENT

The Audit & Risk Committee invites the Chief Executive Officer and Financial & Accounting Manager and may request the external and internal auditors or the Company's legal representatives to attend meetings for the purposes of considering pertinent matters that may arise.

RISK MANAGEMENT

The Board is responsible for the Company's system of internal controls. The Board constantly monitors the operational and financial aspects of the Company's activities and, through the Audit & Risk Committee the Board considers the recommendations and advice of external and internal auditors and other external advisers on the operational and financial risks that arise or may arise.

The Board ensures that recommendations, and any concerns identified by the external and internal auditors and other external advisers are investigated and, where considered necessary, appropriate action is taken.

In addition, the Board investigates ways of enhancing existing risk management strategies, including appropriate segregation of duties, the employment and training of suitably qualified and experienced personnel, and, in conjunction with the recommendations of the Audit & Risk Committee, the scope and work program of internal auditors.

REMUNERATION REVIEWS

The Board acts as a Remuneration Committee and reviews the remuneration policies applicable to all Directors and executive officers on an annual basis with respect to remuneration and terms of employment. Executive remuneration packages, which consist of base salary, fringe benefits, superannuation, and entitlements upon retirement or termination, are reviewed with due regard to performance and other relevant factors.

In order to retain and attract executives of sufficient calibre to facilitate the efficient and effective management of the Company's operations, the Board may seek the advice of external advisers in connection with the structure of remuneration packages.

CODE OF CONDUCT

As part of the Board's commitment to the highest standard of conduct, the Company has a code of conduct to guide executives, management and employees in carrying out their duties and responsibilities. The code of conduct includes such matters as:

- integrity of staff and Directors;
- information and operational transparency;
- responsibilities to Members;
- compliance with laws and regulations;
- relations with customers and suppliers;
- ethical responsibilities;
- employment practices and
- responsibilities to the environment and the community.

All Directors are required to declare any conflict of interest, perceived or otherwise, they may have in matters before the Board, not to vote or participate in the debate on matters in which they have a conflict and, where appropriate, to absent themselves from the meeting during the discussion and vote on that issue.

AUDITOR'S INDEPENDENCE DECLARATION

FOR THE YEAR ENDED 30 JUNE 2012

nexia australia

the next solution

AUDITOR'S INDEPENDENCE DECLARATION

To the Directors of Australian Meat Processor Corporation Limited

Auditor's Independence Declaration under section 307C of the Corporations Act 2001

In accordance with section 307C of the Corporations Act 2001, I am pleased to provide the following declaration of independence to the directors of Australian Meat Processor Corporation Limited.

As audit partner for the audit of the financial statements of Australian Meat Processor Corporation Limited for the financial year ended 30 June 2012, I declare that to the best of my knowledge and belief, there have been no contraventions of:

a) the auditor independence requirements as set out in the *Corporations Act 2001* in relation to the audit; and

b) any applicable code of professional conduct in relation to the audit.

Yours sincerely

Nexia Court & Co

Nexia Court & Co
Chartered Accountants

Lester Wills
Partner

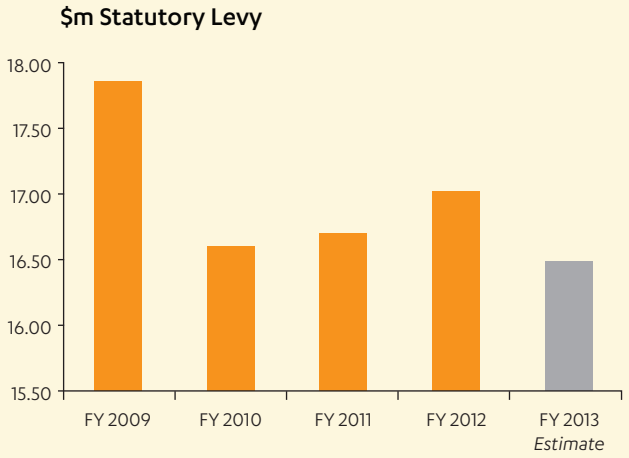
Dated: 18th October 2012

Nexia Court & Co
Level 29, 264 George Street, Sydney NSW 2000
PO Box H195, Australia Square NSW 1215
p +61 2 9251 4600, f +61 2 9251 7138
info@nexiacourt.com.au, www.nexia.com.au

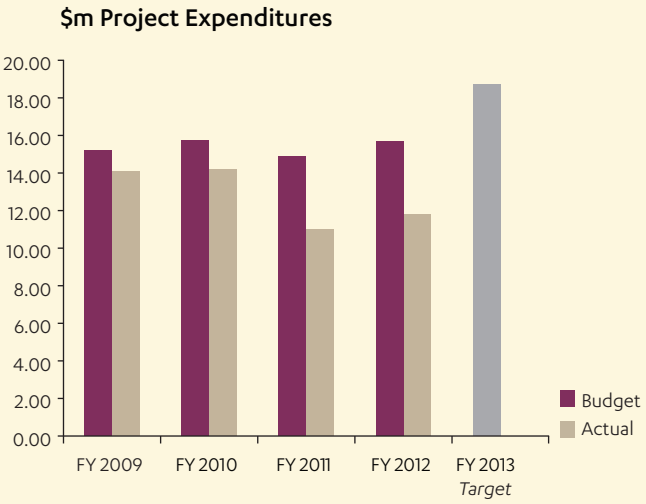
AMPC KEY FINANCIAL DATA

FOR THE YEAR ENDED 30 JUNE 2012

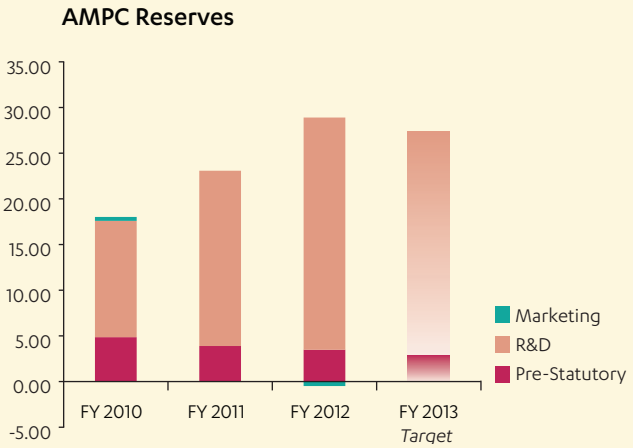
Income - Statutory Levy	$m
FY 2009	17.86
FY 2010	16.61
FY 2011	16.71
FY 2012	17.03
FY 2013 Estimate	16.50



Project expenditure	Budget $m	Actual $m
FY 2009	15.20	14.09
FY 2010	15.72	14.17
FY 2011	14.90	10.98
FY 2012	15.69	11.81
FY 2013 Target	18.72	



AMPC Reserves	Pre-Statutory $m	R&D $m	Marketing $m	Total $m
FY 2010	4.86	12.73	0.43	18.02
FY 2011	3.89	19.19	0.00	23.08
FY 2012	3.49	25.41	-0.49	28.41
FY 2013 Target	2.96	24.40	0.00	27.36

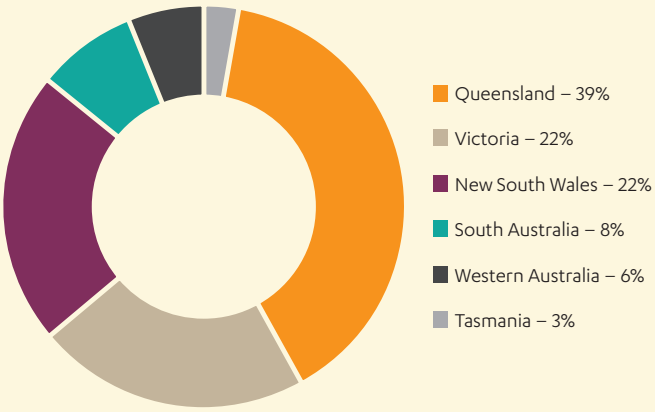


AMPC KEY FINANCIAL DATA

FOR THE YEAR ENDED 30 JUNE 2012

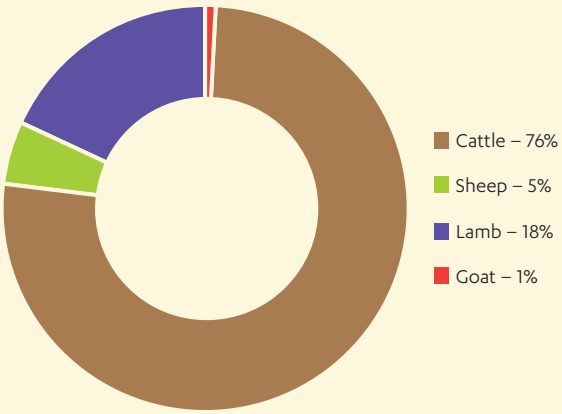
Statutory Levy by State	$m 2010	$m 2011	$m 2012	Movement
Queensland	6.02	5.79	6.62	14.3%
Victoria	3.73	4.17	3.77	-9.7%
New South Wales	3.82	3.76	3.79	0.7%
South Australia	1.29	1.27	1.37	7.3%
Western Australia	1.20	1.26	1.03	-17.8%
Tasmania	0.38	0.45	0.42	-6.0%

Statutory Levy by State



Statutory Levy by Species	$m 2010	$m 2011	$m 2012	Movement
Cattle	12.41	12.74	12.92	1.4%
Sheep	1.03	0.84	0.84	0.0%
Lamb	2.99	2.94	3.06	3.9%
Goat	0.16	0.18	0.19	1.9%

Statutory Levy by Species



STATEMENT OF COMPREHENSIVE INCOME

FOR THE YEAR ENDED 30 JUNE 2012

	NOTES	2012	2011
		$	$
Revenue	3	19,156,804	18,724,379
Employee benefits expense		(904,992)	(821,880)
Depreciation and amortisation expenses	4	(35,163)	(39,592)
Program expenditure		(11,813,486)	(10,976,544)
Industry support expenditure		(550,000)	(550,000)
Other expenses		(524,414)	(844,740)
		(13,828,055)	(13,232,756)
Surplus for the year		**5,328,749**	**5,491,623**
Other comprehensive income		–	–
Total comprehensive income for the year		**5,328,749**	**5,491,623**

The accompanying notes form part of these financial statements

STATEMENT OF FINANCIAL POSITION

FOR THE YEAR ENDED 30 JUNE 2012

	NOTES	2012	2011
		$	$
CURRENT ASSETS			
Cash and cash equivalents	6	30,504,690	25,214,646
Trade and other receivables	7	3,254,916	3,218,779
Total Current Assets		**33,759,606**	**28,433,425**
NON-CURRENT ASSETS			
Plant and equipment	8	40,042	55,535
Total Non-Current Assets		**40,042**	**55,535**
Total Assets		**33,799,648**	**28,488,960**
CURRENT LIABILITIES			
Trade and other payables	9	5,278,183	5,339,514
Provisions	10	71,197	40,511
Total Current Liabilities		**5,349,380**	**5,380,025**
NON-CURRENT LIABILITIES			
Provisions	10	40,676	28,092
Total Non-Current Liabilities		**40,676**	**28,092**
Total Liabilities		5,390,056	5,408,117
Net Assets		**28,409,592**	**23,080,843**
EQUITY			
Pre-Statutory accumulated funds	17 (a)	3,487,476	3,889,111
Statutory R&D accumulated funds	17 (b)	25,414,539	19,191,732
Statutory Marketing accumulated funds	17 (c)	(492,423)	–
Total Equity		**28,409,592**	**23,080,843**

The accompanying notes form part of these financial statements

STATEMENT OF CHANGES IN EQUITY

FOR THE YEAR ENDED 30 JUNE 2012

	NOTES	2012	2011
		$	$
Total equity at the beginning of the financial year		**23,080,843**	**17,589,220**
Total comprehensive income for the year		**5,328,749**	**5,491,623**
Total equity at the end of the financial year		**28,409,592**	**23,080,843**

STATEMENT OF CASH FLOWS

FOR THE YEAR ENDED 30 JUNE 2012

	NOTES	2012	2011
		$	$
CASH FLOW FROM OPERATING ACTIVITIES			
Receipts from Commonwealth Government funding		18,726,609	18,531,825
Payments to suppliers and employees		(15,039,981)	(16,890,513)
Interest received		1,615,118	1,096,064
Net cash provided by operating activities		**5,301,746**	**2,737,376**
CASH FLOW FROM INVESTING ACTIVITIES			
Proceeds from sale of property, plant and equipment		9,936	9,089
Payment for property, plant and equipment		(21,638)	(8,523)
Net cash provided by/(used in) investing activities		**(11,702)**	**566**
CASH FLOW FROM FINANCING ACTIVITIES			
Net cash provided by/(used in) financing activities		–	–
Net increase in cash held		5,290,044	2,737,942
Cash and cash equivalents at beginning of financial year		25,214,646	22,476,704
Cash and cash equivalents at end of financial year	6	**30,504,690**	**25,214,646**

The accompanying notes form part of these financial statements

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 1: STATEMENT OF SIGNIFICANT ACCOUNTING POLICIES

The financial report is a general purpose financial report that has been prepared in accordance with Accounting Standards - Reduced Disclosure Requirements, Accounting Interpretations and other authoritative pronouncements of the Australian Accounting Standards Board and the Corporations Act 2001.

The financial report is for the entity Australian Meat Processor Corporation Ltd as an individual entity. Australian Meat Processor Corporation Ltd is a Company limited by guarantee, incorporated and domiciled in Australia.

The principal accounting policies adopted in the preparation of the financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

NEW, REVISED OR AMENDED ACCOUNTING STANDARDS AND INTERPRETATIONS ADOPTED

The Company has adopted all of the new, revised or amending Accounting Standards and Interpretations issued by the Australian Accounting Standards Board ('AASB') that are mandatory for the current reporting period.

The Company has early adopted AASB 1053 'Application of Tiers of Australian Accounting Standards' and AASB 2010-2 'Amendments to Australian Accounting Standards arising from Reduced Disclosure Requirements'. No other new, revised or amending Accounting Standards or Interpretations that are not yet mandatory have been early adopted.

Any significant impact on the accounting policies of the Company from the adoption of these Accounting Standards and Interpretations are disclosed in the relevant accounting policy.

The adoption of these Accounting Standards and Interpretations did not have any impact on the financial performance or position of the incorporation; however, the adoption of AASB 1053 and AASB 2010-2 allowed the entity to remove a number of disclosures.

(A) BASIS OF PREPARATION OF THE FINANCIAL REPORT

Historical Cost Convention

The financial report has been prepared under the historical cost convention, as modified by revaluations to fair value for certain classes of assets as described in the accounting policies.

(B) REVENUE

Revenue from the Government is recognised in the period that the Government raised the levy which is 28 days prior to when the payment is due and 35 days prior to forwarding on of the funds to AMPC.

Other revenue is recognised when the right to receive the revenue has been established.

All revenue is stated net of the amount of goods and services tax (GST).

(C) PLANT AND EQUIPMENT

Each class of plant and equipment is carried at cost or fair value less, where applicable, any accumulated depreciation.

Plant and Equipment

Plant and equipment is measured on the cost basis.

The carrying amount of plant and equipment is reviewed annually by Directors to ensure it is not in excess of the recoverable amount from those assets. The recoverable amount is assessed on the basis of the expected net cash flows which will be received from the assets employment and subsequent disposal. The expected net cash flows have been discounted to present values in determining recoverable amounts.

Depreciation

The depreciable amount of all fixed assets are depreciated over their estimated useful lives to the Company commencing from the time the asset is held ready for use.

The depreciation rates used for each class of assets are:

Class of fixed asset	Depreciation rates	Depreciation basis
Motor Vehicles	25%	Straight Line
Office Equipment	20-25%	Straight Line
Furniture, Fixtures and Fittings	20-25%	Straight Line
Computer Equipment	40%	Straight Line

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 1: CONTD

Leases

Leases are classified at their inception as either operating or finance leases based on the economic substance of the agreement so as to reflect the risks and benefits incidental to ownership.

Finance Leases

Leases of fixed assets, where substantially all the risks and benefits incidental to the ownership of the asset, but not the legal ownership, are transferred to the Company are classified as finance leases. Finance leases are capitalised, recording an asset and a liability equal to the present value of the minimum lease payments, including any guaranteed residual values. Leased assets are depreciated on a straight line basis over their estimated useful lives where it is likely that the Company will obtain ownership of the asset, or over the term of the lease. Lease payments are allocated between the reduction of the lease liability and the lease interest expense for the period.

Operating Leases

Lease payments for operating leases, where substantially all the risks and benefits remain with the lessor, are charged as expenses in the periods in which they are incurred.

Lease incentives received under operating leases are recognised as a liability. Lease payments received reduced the liability.

(D) INCOME TAX

The entity is exempt from income tax under the provisions of Section 50(40) of the Australian Income Tax Assessment Act 1997.

(E) EMPLOYEE BENEFITS

Liabilities arising in respect of wages and salaries, annual leave, sick leave and any other employee benefits expected to be settled within twelve months of the reporting date are measured at their nominal amounts based on remuneration rates which are expected to be paid when the liability is settled. All other employee benefit liabilities are measured at the present value of the estimated future cash outflow to be made in respect of services provided by employees up to the reporting date.

Contributions are made by the Company to an employee superannuation fund are recognised in the Statement of Financial Position as a liability, after deducting any contributions already paid and in the Statement of Comprehensive Income as an expense as they become payable. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in the future payment is available.

(F) IMPAIRMENT OF ASSETS

Assets with an indefinite useful life are not amortised but are tested annually for impairment in accordance with AASB 136. Assets subject to annual depreciation or amortisation are reviewed for impairment whenever events or circumstances arise that indicate that the carrying amount of the asset may be impaired. An impairment loss is recognised where the carrying amount of the asset exceeds its recoverable amount. The recoverable amount of an asset is defined as the higher of its fair value less costs to sell and value in use.

(G) COMPARATIVE FIGURES

Where required by Accounting Standards comparative figures have been adjusted to conform with changes in presentation for the current financial year.

(H) FINANCIAL INSTRUMENTS

Classification

The Company classifies its financial instruments in the following categories: financial assets at fair value through profit and loss, loans and receivables, held-to-maturity investments, and available-for-sale financial assets. The classification depends on the purpose for which the investments were acquired. Management determines the classification of its investments at initial recognition and re-evaluates this designation at each reporting date.

Held-to-maturity investments

Fixed term investments with an intention to be held to maturity are classified as held-to-maturity investments. They are measured at amortised cost using the effective interest rate method.

Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are measured at fair value at inception and subsequently at amortised cost using the effective interest rate method.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 1: CONTD

Non-interest bearing loans and receivables are designated as receivable 'at call' and are therefore recognised at their face value at inception.

Financial liabilities

Financial liabilities include trade payables, other creditors and loans from third parties including inter-Company balances and loans from or other amounts due to Director-related entities.

Non-derivative financial liabilities are recognised at amortised cost, comprising original debt less principal payments and amortisation.

Non-interest bearing loans and payables are payable on demand and are therefore recognised at their face value at inception.

(I) INVESTMENT IN AUS-MEAT LIMITED

AUS-MEAT Limited ("AUS-MEAT") was incorporated on 17 June 1998, and the Company is one of two Members of AUS-MEAT. As AUS-MEAT is a tax exempt public Company limited by guarantee, it cannot distribute its surpluses to its Members; however, upon the event of the wind up of AUS-MEAT, the entity would be entitled to receive 50% of the net assets of AUS-MEAT. As there is no right by the entity to participate in a share of the ongoing results of AUS-MEAT, the use of equity accounting is not appropriate. Therefore, the equity accounting requirements of AASB 128 have not been applied. Details of the investment in AUS-MEAT are included in Note 15 to the financial statements.

(J) CASH AND CASH EQUIVALENTS

Cash and cash equivalents includes cash on hand, deposits held at call with financial institutions, other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash, which are subject to an insignificant risk of change in value.

(K) TRADE AND OTHER RECEIVABLES

Trade and other receivables are recorded at amounts due less any allowance for doubtful debts.

(L) TRADE AND OTHER PAYABLES

Trade and other payables are recognised when the entity becomes obliged to make future payments resulting from the purchase of goods and services.

(M) PROVISIONS

rovisions are recognised when the entity has a present obligation, the future sacrifice of economic benefits is probable, and the amount of the provision can be measured reliably.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, the receivable is recognised as an asset if it is probable that recovery will be received and the amount of the receivable can be measured reliably.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at reporting date, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows.

(N) PLANT INITIATED PROJECTS (PIP) PROGRAM

Statutory Levies

Of the total levies received during the financial year, 15 per cent is available to support Research & Development programs initiated by Members through the plant initiated project program.

Liability

The amount recognised as a liability for plant initiated Research & Development programs is the amount of the reserved contributions that have been allocated to approved projects. The liability is treated as a payable under trade and other payables in the financial statements.

Plant initiated projects with funding allocations are considered to be active until the Member notifies AMPC of completion or termination, at which point AMPC will derecognise the project and write back any remaining funds belonging to the project.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 1: CONTD

(O) GOODS AND SERVICES TAX

Revenue, expenses and assets are recognised net of the amount of goods and services tax (GST), except where the amount of GST incurred is not recoverable from the taxation authority. In these circumstances, the GST is recognised as part of the cost of acquisition of the asset or as part of the expense.

Receivables and payables are stated with the amount of GST included. The net amount of GST recoverable from, or payable to, the ATO is included as a current asset or liability in the statement of financial position.

Cash flows are included in the statement of cash flows on a gross basis. The GST components of cash flows arising from investing and financing activities which are recoverable from, or payable to, the ATO are classified as operating cash flows.

(P) AUTHORISATION FOR ISSUE

The financial report was authorised for issue on 18 October 2012 by the Board of Directors.

NOTE 2: CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Estimates and judgements are based on past performance and management's expectation for the future.

CRITICAL ACCOUNTING ESTIMATES AND ASSUMPTIONS

The Company makes certain estimates and assumptions concerning the future, which, by definition will seldom represent actual results.

No estimates and assumptions could have a material impact on the assets and liabilities in the next financial year, other than those disclosed elsewhere in the financial report.

NOTE 3: REVENUE

	NOTES	2012	2011
		$	$
OPERATING ACTIVITIES			
- government funds		17,031,342	16,705,765
- interest		1,587,865	1,421,556
- reversal of non aligned provisions	12	433,300	183,625
- litigation recovery		62,940	413,433
- net gain on disposal of plant and equipment		9,032	–
- other income		32,325	–
Total revenue		**19,156,804**	**18,724,379**

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 4: SURPLUS FOR THE YEAR

	NOTES	2012	2011
		$	$
Surplus for the year has been determined after:			
Expenses:			
Depreciation of non-current assets			
- motor vehicles		3,620	9,084
- office equipment		4,142	4,490
- furniture, fixtures and fittings		18,958	20,953
- computer equipment		8,443	5,065
Depreciation of plant and equipment		**35,163**	**39,592**
Remuneration of the auditors for:			
- audit and review services		27,000	27,000
- other services		–	–
- other services to related practices of the auditor		–	–
		27,000	**27,000**
Net loss on disposal of non-current assets			
- Property, plant and equipment		**–**	**13,522**

NOTE 5: KEY MANAGEMENT PERSONNEL COMPENSATION

	NOTES	2012	2011
		$	$
Compensation received by key management personnel of the Company:			
Directors			
- Short-term benefits (Directors Fees)		244,340	206,667
- Post-Directorship benefits (Superannuation)		21,990	18,600
		266,330	**225,267**
Executives			
- Short-term employee benefits (Salary)		160,909	116,973
- Post-employment benefits (Superannuation)		14,482	9,285
- Other long term benefits (Long Service Leave)		–	8,526
- Termination benefits		–	56,590
		175,391	**191,374**
		441,721	**416,641**

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 5: KEY MANAGEMENT PERSONNEL COMPENSATION CONTINUED

THE NAMES OF DIRECTORS WHO HAVE HELD OFFICE DURING THE YEAR (AND INCLUDED AS KEY PERSONNEL IN ADDITION TO CEO) ARE:

G Hardwick	G Burridge	M Jackson	T Maguire
S Kelly	B Carey	R B James	P Noble
J Berry	D Foote	R Johnson	

Total aggregated out of pocket costs including travel and related expenses incurred by Directors during the year was $69,660.

NOTE 6: CASH AND CASH EQUIVALENTS

	NOTES	2012	2011
		$	$
Cash on hand		500	200
Cash at bank		5,676,956	2,055,939
Cash on term deposit		24,827,234	23,158,507
		30,504,690	**25,214,646**

NOTE 7: TRADE AND OTHER RECEIVABLES

	NOTES	2012	2011
		$	$
Current			
Trade receivables		2,592,272	2,538,351
Other receivables		662,644	680,428
		3,254,916	**3,218,779**

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 8: PLANT AND EQUIPMENT

	NOTES	2012	2011
		$	$
Motor vehicles			
At cost		–	34,754
Less accumulated depreciation		–	(31,133)
		–	3,621
Office equipment			
At cost		21,213	21,213
Less accumulated depreciation		(19,756)	(15,615)
		1,457	5,598
Furniture, fixtures and fittings			
At cost		121,034	125,604
Less accumulated depreciation		(101,570)	(87,814)
		19,464	37,790
Computer equipment			
At cost		32,386	28,714
Less accumulated depreciation		(13,265)	(20,188)
		19,121	8,526
Total plant and equipment		**40,042**	**55,535**

(A) MOVEMENTS IN CARRYING AMOUNTS

Movement in the carrying amounts for each class of plant and equipment between the beginning and the end of the current financial year.

	Motor vehicles	Office equipment	Furniture, fixtures & fittings	Computer equipment	**Total**
	$	$	$	$	$
2012					
Balance at the beginning of the year	3,621	5,597	37,790	8,526	55,535
Additions	–	–	633	19,038	19,671
Disposals	–	–	–	–	–
Depreciation expense	(3,621)	(4,142)	(18,958)	(8,443)	(35,164)
Carrying amount at end of the year	**–**	**1,457**	**19,465**	**19,121**	**40,042**

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 9: TRADE AND OTHER PAYABLES

	NOTES	2012	2011
		$	$
CURRENT			
Unsecured liabilities			
Trade payables		2,269,701	1,322,858
Plant initiated projects	12	1,024,400	1,746,424
Other program payables		1,951,855	1,918,036
Sundry payables and accruals		32,227	352,196
		5,278,183	**5,339,514**

NOTE 10: PROVISIONS

	NOTES	2012	2011
		$	$
CURRENT			
Employee benefits		**71,197**	**40,511**
NON-CURRENT			
Employee benefits		**40,676**	**28,092**

NOTE 11: COMPANY DETAILS

The registered office of the Company is:
Australian Meat Processor Corporation Ltd
Suite 205, Level 2
460 Pacific Highway
St Leonards NSW 2065

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 12: PLANT INITIATED PROJECT LIABILITY

	NOTES	2012	2011
		$	$
Opening balance included in payables		1,746,424	1,878,996
Total PIP transactions approved across the whole membership		1,124,143	1,641,174
Reductions arising from payments of approved PIPs		(1,412,867)	(1,590,121)
Reductions resulting from reversal of PIP fundings		(433,300)	(183,625)
Closing balance included in payables		**1,024,400**	**1,746,424**

NOTE 13: RELATED PARTY DISCLOSURE

TYPE OF TRANSACTION	TERMS AND CONDITIONS OF TYPE OF TRANSACTION	CLASS OF RELATED PARTY	2012	2011
			$	$
Operational and support funding	Normal Commercial terms and conditions	Associate Aus-Meat Ltd	$550,000	$550,000

During the period AMPC has approved PIP's for a number of Director-related entities under the PIP program. Under the Company's Constitution, all transactions with Director related entities are on normal commercial terms and are consistent with those provided to all Members.

The following table provides a breakdown of the movement and final balance of PIPs of Director related parties.

	TRANSACTION VALUE YEAR ENDED 30 JUNE		"BALANCE OUTSTANDING AT 30 JUNE"	
	2012	2011	2012	2011
	$	$	$	$
Plant Initiated Projects	**587,132**	**1,033,814**	**329,883**	**841,310**

NOTE 14: MEMBERS' LIABILITY

Australian Meat Processor Corporation Ltd is incorporated in New South Wales as a Company limited by guarantee. Under the Company's Constitution, the liability of the governing Members is limited and shall not exceed $100 on the winding up of the Company.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 15: ASSOCIATED ENTITIES

NAME OF ENTITY	PRINCIPAL ACTIVITY	OWNERSHIP INTEREST 2012	OWNERSHIP INTEREST 2011	CARRYING AMOUNT
Aus-Meat Limited	Services to the Food Industry	50%	50%	Nil

	NOTES	2012	2011
		$	$
Summarised financial position of associate:			
Current Assets			
Cash		2,141,737	2,140,437
Receivables		1,366,482	892,313
Investments		2,166,840	1,663,988
Other		728,486	656,950
Non Current Assets			
Investments		630,309	630,309
Plant and equipment		3,625,902	3,438,342
Current Liabilities			
Accounts payable		(3,376,639)	(3,140,724)
Non Current Liabilities			
Provisions		(168,496)	(154,307)
Net assets		7,114,621	6,127,308
Net surplus for the period		987,313	165,474
Other comprehensive income		–	438,586

NOTE 16: ECONOMIC DEPENDENCE

The Company through investment in Research and Development and Marketing, is the custodian for the collection and administration of statutory levies collected from processors by the Commonwealth Government. The expenditure of levies on behalf of industry is conducted in accordance with the Deed of Agreement between AMPC and the Commonwealth Department of Agriculture, Fisheries and Forestry (DAFF). During the first quarter of 2012 AMPC, in collaboration with DAFF, renewed its Deed of Agreement. The new agreement provides a more consistent approach across the Rural Research & Development Corporations.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 17: ACCUMULATED FUNDS

(A) PRE STATUTORY FUNDS

	NOTES	2012	2011
		$	$
The pre-Statutory funds records the Company's retained surpluses prior to the Statutory Funding Agreement which commenced 1 September 2007:			
Movements during the financial year:			
Opening balance		3,889,111	4,862,240
Allocation of current year surplus/(deficit)		(401,635)	(652,878)
Transfer to Statutory Marketing funds		–	(320,251)
		3,487,476	3,889,111

(B) STATUTORY RESEARCH & DEVELOPMENT FUNDS

The Research and Development funds records surpluses contributed by Research and Development portion of the processor levy in accordance with the Funding Agreement 2011-15:

Movements during the financial year:		
Opening balance	19,191,732	12,726,980
Allocation of current year surplus/(deficit)	6,222,807	6,464,752
	25,414,539	19,191,732

(C) STATUTORY MARKETING FUNDS

The Marketing funds records surpluses contributed by Marketing portion of the processor levy in accordance with the Funding Agreement 2011-15:

Movements during the financial year:		
Opening balance	–	–
Allocation of current year surplus/(deficit)	(492,423)	(320,252)
Transfer from Pre Statutory funds	–	320,252
	(492,423)	–

*The deficit occurred on the basis of the current misalignment in the income split and expenditure split between Research and Marketing funding allocations as detailed in the Company's articles shared with the Commonwealth Government. The split in allocation of funding between Marketing and Research is under discussion with the Commonwealth as part of normal business considerations and amendment will be sought in due course.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 18: OPERATING LEASES

	NOTES	2012	2011
		$	$
Non-cancellable operating lease rentals are payable as follows:			
Less than one year		27,819	62,501
Between one and five years		–	27,819
More than five years		–	–
		27,819	**90,320**

The Company leases the head office under an operating lease. The lease expires on 31 December 2012 with an option to renew the lease after that date. Lease payments are increased annually to reflect Consumer Price Index. During the year ended 30 June 2012 an amount of $58,008 was recognised as an expense in respect of operating leases (2011: $57,185). There were no contingent rental amounts recognised.

NOTE 19: ACCUMULATED EXPENSES REGARDING FRAUD

As previously reported, the Company had identified a misappropriation of funds amounting to $4,261,488 in previous financial years. The Company is actively seeking recoupment of the funds and has incurred legal, forensic accountant and independent expert expenses throughout the process. Below is a reconciliation of the total expenses incurred to balance date in relation to this issue.

	NOTES	2012	2011
		$	$
Opening balance		1,151,233	796,286
Incurred in current year *		319,146	354,947
Accumulated expenses incurred to balance date		**1,470,379**	**1,151,233**

* Expenses are included in Other Expenses on the face of the Statement of Comprehensive Income

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 20: CONTINGENCIES

Contingent Liabilities

The fifteen percent of received levies allocated to the PIP program remains available for three years, after which the commitment lapses. As at 30 June 2012, the total Research and Development funds held in reserves for potential plant initiated projects are $9.43M (30 June 2011: $8.84M).

the program expenditure disclosed is based on the management estimate as at 30 June 2012, which excludes a contingent liability of $410,792 relating to the finalisation invoice. No amount has been accrued in these Financial Statements on the basis that the final determination of any required payment was still underway with other parties at the time of publishing this report.

Contingent Assets

The Company is continuing its activities in pursuing its misappropriated funds. The Company will report outcomes against its activities during 2013.

NOTE 21: EVENTS AFTER THE REPORTING PERIOD

No matter or circumstance has arisen since 30 June 2012 that has significantly affected, or may significantly affect the Company's operations, the results of those operations or the Company's state of affairs in future financial years.

DIRECTORS DECLARATION

FOR THE YEAR ENDED 30 JUNE 2012

The Directors of the Company declare that:

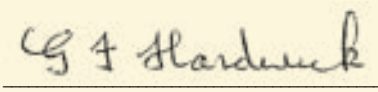
1. The financial statements and notes, as set out on pages 11 to 27, are in accordance with the Corporations Act 2001:

   (a) comply with Accounting Standards in Australia and the Corporations Regulations 2001; and

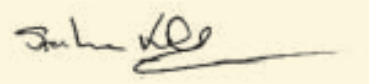
   (b) give a true and fair view of the financial position as at 30 June 2012 and performance for the year ended on that date of the Company.

2. In the Directors' opinion there are reasonable grounds to believe that the Company will be able to pay its debts as and when they become due and payable.

This declaration is made in accordance with a resolution of the Board of Directors.



Director
G Hardwick (Chairman



Director
S Kelly (Deputy Chair man)

Dated this 18th day of October 2012

INDEPENDENT AUDIT REPORT

FOR THE YEAR ENDED 30 JUNE 2012

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AUSTRALIAN MEAT PROCESSOR CORPORATION LTD
ABN 67 082 373 448

INDEPENDENT AUDIT REPORT
TO THE MEMBERS OF
AUSTRALIAN MEAT PROCESSOR CORPORATION LTD

Report on the Financial Report

We have audited the accompanying financial report of Australian Meat Processor Corporation Limited, which comprises the statement of financial position as at 30 June 2012, and the statement of comprehensive income, statement of changes in equity and statement of cash flows for the year ended on that date, a summary of significant accounting policies, other explanatory notes and the directors' declaration.

Directors' Responsibility for the Financial Report

The Directors of the Company are responsible for the preparation of the financial report that gives a true and fair view in accordance with Australian Accounting Standards and the Corporations Act 2001 and for such internal control as the Directors determine is necessary to enable the preparation of the financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the financial report based on our audit. We conducted our audit in accordance with Australian Auditing Standards. These Auditing Standards require that we comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the company's preparation and fair presentation of the financial report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the directors, as well as evaluating the overall presentation of the financial report.

Our procedures include reading the other information in the Financial Report to determine whether it contains any material inconsistencies with the Financial Report.

Our audit did not involve an analysis of the prudence of business decisions made by Directors or management.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Independence

In conducting our audit, we have complied with the independence requirements of the Corporations Act 2001.

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INDEPENDENT AUDIT REPORT

FOR THE YEAR ENDED 30 JUNE 2012

nexia australia

Auditor's Opinion

In our opinion the financial report of Australian Meat Processor Corporation Limited is in accordance with the *Corporations Act 2001*, including:

a) giving a true and fair view of the company's financial position as at 30 June 2012 and of its performance for the year ended on that date; and

b) complying with Australian Accounting Standards (including the Australian Accounting Interpretations) and the *Corporations Regulations 2001*.

Nexia Court & Co

Nexia Court & Co
Chartered Accountants

Lester Wills
Partner

Sydney
Dated: 18th October 2012

LIST OF ABBREVIATIONS

ABRES	Australian Bureau of Agricultural and Resource Economics & Sciences
ALKC	Anaerobic Lagoon Knowledge Centre
AMPC	Australian Meat Processor Corporation
AMIC	Australian Meat industry Council
AEMIS	Australian Export Meat Inspection System
AL	Anaerobic Lagoon
AOP	Annual Operating Plan
AQIS	Australian Quarantine and Inspection Service
ARLP	Australian Rural Leadership Program
AWSC	Animal Welfare Science Centre
AWSRC	Animal welfare Standards Review Committee
BFTF	Beef Funding for theFuture
BOO	Build Own Operate
BSE	Bovine Spongiform Encephalopathy
CAL	Covered Anaerobic Lagoon
CBA	Cost Benefit Analysis
CEO	Chief Executive Officer
CIE	Centre for International Economics
COD	Chemical Oxygen Demand
CRC	Cooperative Research Centre
CRRDC	Council of Rural Research & Development Corporations
CSIRO	Commonwealth Scientific & Industrial Research Organisation
DA	Dairy Australia
DAA	Dieticians Association of Australia
DAF	Dissolved Air Floatation
DAFF	Department of Agriculture, Fisheries and Forestry
DEEDI	Department of Employment, Economic Development & Innovation
DFAT	Department of Foreign Affairs and Trade
DIAL	Dairy Innovation Australia Ltd
EAD	Emergency Animal Disease
EADRA	Emergency Animal Disease Response Agreement
EPA	Environmental Protection Agency
ERP	Extended Residue Program
FRP	Full Research Proposal
FTA	Free Trade Agreement
FSANZ	Food Standards Australia and New Zealand
GHG	Greenhouse Gas
IMACA	International Meat Automation Conference Australia
ICMJ	Intercollegiate Meat Judging Association
M2M	Methane to Markets
MINTRAC	National Meat Industry Training Advisory Council
MISP	Meat industry Strategic Plan
MIS	Meat industry Services
MLA	Meat & Livestock Australia
MOU	Memorandum of understanding
MSA	Meat Standards Australia
NGERS	National greenhouse & energy Reporting System
NLIS	National Livestock Identification System
NSW	New South Wales
OH&S	Occupational Health and Safety
PIC	Property identification Codes
PIMC	Primary industries Ministerial Council
PIP	Plant Initiated Project
PRP	Preliminary Research Proposal
QA	Quality Assurance
QCMPA	Queensland Country Meat Processors Association
R&D	Research & Development
RD&E	Research, Development & extension
RDC	Research & Development Corporation
RI	Refrigeration Index
RMAC	Red Meat Advisory Council
SA	South Australia
SFA	Statutory Funding Agreement
SOP	Standard Operating Procedures
SPS	Sanitary and Phytosanitary
TPAD	Temperature Phased Anaerobic Digestion
WTO	World Trade Organisation

Notes

AMPC

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