



Automated processing technology

What: Precision carcase cutting equipment
Who: MDC, technology partners, processors
Why: Increase processing efficiency and safety while adding value to product

Automatic value

Australia is leading the world in red meat processing automation, with new technology delivering value and efficiency for processors, with benefits flowing back to producers.

The MLA Donor Company has partnered with processors and technology providers since 2002 to develop fully automated and semi-automated equipment which meets the demands of the Australian industry to:

- Add value to lamb slaughter and dressing
- Improve meat yield
- Increase processing efficiencies
- Deliver operator safety.

The machines take the place of people for highly repetitive, physically arduous or dangerous jobs (e.g. skinning carcasses, boning and operating band saws), freeing up staff for higher-value activities which require human judgement and skills.

And while the benefits to processors are clear with more sustainable labour requirements, safer operating environments, less wastage and greater consistency, the value will also flow back to producers.

In fact, economic modelling revealed that producers capture 24% of the benefit from any increase in productivity by processors.

Automated systems rely on technologies such as X-ray and precision cutting to give processors the ability to increase product value and improve yield – productivity gains which enable abattoirs to purchase and process more stock, benefiting producers.

Fast Facts

- Automated technology adds value to lamb processing
- Improved yield flows back to producers
- Precise cutting differentiates between high/low value cuts
- Operator safety and labour efficiencies deliver business sustainability

No producer levies are used in MDC projects, instead the MDC attracts investment from commercial partners



Figure 1. LEAP III lamb processing automation



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Lamb Processing Automation

NZ-based design partner Scott Technology is delivering a world best practice solution to the industry in the form of an X-ray guided automated lamb cutting system called LEAP™.

The equipment improves carcass break-down by using an X-ray system to find specific bones in lamb carcasses and cut between them. Different cuts have different value so the precise cutting lines increase value of product by not leaving higher-value meat on a lesser-value cut.

There are two systems:

LEAP3 – lamb primal system: separates carcasses into shoulder, middle, and hindquarters. Increases the value of a lamb carcass by \$1.30-\$1.40/head.

LEAP4 – middle system: breaks the rack barrel into various sub-primal components. Increases the value of a lamb carcass by \$3.20-\$4.20/head.

The benefits of LEAP are:

- Improved throughput delivers labour productivity and boning room efficiencies
- Precise cutting lines increase product value and improve yield
- Higher value product delivers demand back to producers
- Potential to improve carcass feedback to producers.

LEAP 3 and LEAP 4 are operating in two Australian processors (JBS and Australian Lamb Company), and are commercially available for around \$4.5M (for the complete system)

Ovine brisket cutter

Another lamb processing technology funded by the MLA Donor Company with technology partner Machinery Automation Robotics, is a robotic cutter which splits the brisket post slaughter.

This system identifies the navel end of the breast bone and a circular saw cuts the breast bone down the centre of the carcass.

The ovine brisket cutter can deliver savings through:

Decreased labour requirements
Reduced workplace injury
Improved yield and food safety.

A cost benefit analysis of the ovine brisket cutter estimates a net benefit of up to 5c/head.

The technology saves one labour unit per shift so if a plant has high staff turnover this can reduce training and recruitment costs, and redirect expertise to other areas.

The ovine brisket cutter is commercially available for \$150,000/unit.

Further information

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