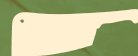


# CHILLED AUSTRALIAN LAMB SHELF LIFE



## VACUUM- PACKAGED LAMB

Extensive commercial and scientific studies indicate that chilled, vacuum-packaged Australian lamb achieves a storage life of up to 12 weeks under optimal storage conditions. Optimal storage conditions is when vacuum integrity is ensured, product is stored at  $-1 \pm 0.5^{\circ}\text{C}$  without freezing, and when this temperature is maintained through the cold chain from processing to retail<sup>1</sup>.

<sup>1</sup> MLA publication "Shelf life of Australian red meat"



## AGEING AND PACKAGING

### CONTROL THROUGH THE SUPPLY CHAIN

Shelf life is dependent upon the initial quality of the meat (pH, colour, and microbiological quality), as well as adequate vacuum packing and temperature control through the supply chain. Careful control of these factors by processors and distributors has resulted in consistent and superior quality after long storage times.

### PROVEN OVER TIME

Years of research have led to process guidelines for Australian exporters of vacuum-packaged lamb.

One study conducted by South Australian Research and Development Institute (SARDI)<sup>2</sup> on lamb shoulders destined for the export market, along with national surveys undertaken around the microbiological status of Australian lamb, found the microbiological count on the primals was very low at the time of vacuum packaging. Further, when the test packs were stored under optimal conditions during transport and storage (-0.5°C +/- 0.5°C), even at 12 weeks the product rated highly with good bloom and low confinement odour. It was concluded from this study that shelf life of the packs can extend to more than 12 weeks.



## COLOUR AND APPEARANCE

### MEETING CONSUMER DEMAND

The ageing of meat occurs as the muscle fibres are slowly broken down by naturally occurring enzymes. As a result of these weakened fibres, aged lamb tends to be more tender and achieves better eating quality. This ageing process does not affect the appearance of lamb, as the muscle fibre breakdown happens on a microscopic level with no visible change in the product<sup>3</sup>.

## TAKING CONTROL AT EVERY STAGE

### TEMPERATURE

The storage temperature used for vacuum-packaged meat should be as low as practical and, as a good guideline, about -1°C is optimal, provided freezing of the packs is avoided.

This recommendation is based on keeping the growth rates of micro-organisms on meat at a minimum. Research suggests that maintaining temperatures of between 0° to +1°C results in about half the microbiological activity compared with meat stored at +5°C. Further microbiological activity reductions are achieved as the temperature falls.

Under normal commercial long duration transport conditions, product is exported at -1.5°C to -0.5°C and should be stored on arrival at -0.5°C to +0.5°C. This temperature stability is important for ageing lamb.

## GAS ATMOSPHERE

The basis of effective packaging which prevents spoilage and prolongs the storage life of meat is the oxygen-free environment. This inhibits the growth of spoilage bacteria, while allowing the natural enzymatic tenderising process of ageing to continue.



## AUSTRALIAN FOOD SAFETY PROGRAMS

Additionally, Australian lamb is able to obtain optimum shelf life due to:

- the cleanliness of the livestock prior to slaughter
- audited HACCP procedures
- high food safety and hygiene standards during processing
- Australian Government audits.

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<sup>2</sup> [http://www.meatupdate.csiro.au/data/MEAT\\_TECHNOLOGY\\_UPDATE\\_10-3.pdf](http://www.meatupdate.csiro.au/data/MEAT_TECHNOLOGY_UPDATE_10-3.pdf)

<sup>3</sup> [http://www.meatupdate.csiro.au/data/MEAT\\_TECHNOLOGY\\_UPDATE\\_05-6.pdf](http://www.meatupdate.csiro.au/data/MEAT_TECHNOLOGY_UPDATE_05-6.pdf)