

Chilled Australian lamb achieves 8-week shelf Life



Vacuum-packaged racks after 8 weeks of aging

Extensive commercial and recent scientific studies indicate that chilled, vacuum-packed Australian lamb achieves a storage life of six to eight weeks under optimal storage conditions; however, there are reports of up to 8 weeks of storage life being achieved under the same storage conditions.

Shelf life is dependent upon the initial quality of the meat (pH, color, 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 results in consistent superior quality after storage times.

An aging and packaging process proven over time

Studies undertaken over the years have led to process guidelines for Australian exporters of vacuum-packed lamb. One such study was conducted at the South Australian Research and Development Institute (SARDI) on lamb shoulders.

This study, along with national surveys of the microbiological status of Australian lamb undertaken in 1993, 1998 and 2004, found the microbiological count at the time of vacuum packaging on primal cuts was very low.

The colour and appearance consumers demand

Aging can improve eating quality and is a process that occurs as the muscle fibers in meat are slowly broken down by naturally-occurring enzymes. This leads to the muscle fibers being weakened and, as a result, aged lamb tends to be more tender. The appearance of lamb does not change with aging, as the breaking down of the muscle fibers happens on a microscopic level.

Appearance is one of the most important attributes by which consumers judge the quality of meat, therefore, color deterioration is one of the main factors that limits storage life. Australian processors carefully check vacuum packs for evidence of leaks 24-hours after packaging, thereby successfully preventing the appearance of brown-colored lamb in vacuum packs.



Three environment factors

play a major role in controlling the growth of microorganisms on meats in vacuum packs



Temperature

Growth rates at 0° to 1°C are only about half those at 5°C and are further reduced as the temperature falls. A storage temperature, as low as is practical, is used for vacuum-packed meat. About -1°C is optimal provided that temperature control is such that freezing of the packs is avoided.

Gas atmosphere

The basis of effective vacuum packaging in preventing spoilage and prolonging the storage life of meat is the oxygen-free environment, which inhibits the growth of spoilage bacteria, while still allowing the natural tenderizing process of aging to continue.

pH

High pH meat (pH6.0 and higher—the traditional definition of a 'dark cutter') will spoil more quickly than meat below pH6, as some bacteria can survive in this environment. By excluding meat from carcasses where the pH of the loin is 6.0 or higher, Australian Lamb processors have eliminated these spoilage problems.

Additional factors

Other factors that impact Australian lamb's ability to obtain a shelf life of 8 weeks include the cleanliness of the lambs prior to slaughter, decreased processing speeds (resulting in less cross contamination and enhanced hygiene), audited HACCP procedures, and the fact that all export-accredited processors have extremely high food safety and hygiene standards, which are audited by the Australian government.

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