



# Final report

---

## Long shelf-life of cooked beef and lamb products stored at ambient temperatures

Project code: P.PSH.1435  
Prepared by: Alicia Waddington  
Meat & Livestock Australia  
Date published: 12/05/2023

### PUBLISHED BY

Meat & Livestock Australia Limited  
PO Box 1961  
NORTH SYDNEY NSW 2059

Meat & Livestock Australia acknowledges the matching funds provided by the Australian Government to support the research and development detailed in this publication.

This publication is published by Meat & Livestock Australia Limited ABN 39 081 678 364 (MLA). Care is taken to ensure the accuracy of the information contained in this publication. However MLA cannot accept responsibility for the accuracy or completeness of the information or opinions contained in the publication. You should make your own enquiries before making decisions concerning your interests. Reproduction in whole or in part of this publication is prohibited without prior written consent of MLA.

## **Abstract**

Long shelf-life of cooked beef and lamb products stored at ambient temperatures was a proof of concept project for sous vide beef and lamb steak stored at ambient temperatures lasting more than two years. It was planned to include three x 12 consumer testings from Australia, Dubai and Indonesia for a qualitative consumer perception research.

Currently the global canned meat market is estimated to be valued at US\$ 12.8b and predicted to hit \$24.2b by 2032. The advantage of canned meat is its ability to be kept unrefrigerated, however it has low eating quality and market perception of 'army food'.

Advanced sous-vide aseptic packaging (ASAP) was the technology proposed to be investigated. It potentially could allow for red meat (beef and lamb) to be accessible to areas with poor cold chain infrastructure, theoretically being cheaper to transport and ship globally and in a pack format that is not canned.

A decision was made to terminate the project effectively before it commenced based on financial constraints of the research partner at that time. No progression beyond milestone 1 was delivered. MLA remains interested in technology platforms that could enable provisions for new value chain designs such as ambient stored meat for targeted marketed.

## Executive summary

### Background

The project was for a trial implementation of novel technology for a technology called advanced sous-vide aseptic packaging (ASAP) that could sterilize food products at very gentle temperatures (140 to 176 °F or 60 to 80 °C). ASAP enables the manufacture of ready-to-eat (MRE) meals with taste, texture, and nutrition rivalling those of traditionally cooked meals, with a claimed ambient shelf life of up to 48 months. This could potentially allow portions of Australian red meat meals to be shipped, stored and presented to consumers at room temperature, without deterioration or spoilage.

### Aims/objectives

The objective was for the production of samples to test consumer acceptance and the claims via micro and organoleptic testing (consumer surveys) in 3 markets (Aus, Dubai and Indonesia), including 2 markets that have historically experienced challenges in maintaining chilled supply chain consistency.

### Methodology

Milestone 1

1. Procurement of Australian Beef & Lamb for samples.

Milestones 2-6 did not proceed.

Project terminated – no costs incurred.

### Results/key findings

Whilst preliminary micro/sensory results appeared promising, no work was undertaken (M1) due to financial constraints by the research partner and the project terminated.

### Recommendations

MLA remains interested in the technology platform and ‘problem to solve’ however acknowledges due diligence and shared expectations are required to be performed on start-up enterprises to ensure funding and insurance requirements and other warranties as part of scale-up R&D activities.

---

*MLA recommend the reader to refer to 2021 MLA white paper – The Future of Red Meat Distribution, which provides background information into ambient stored meat potential.*

See: <https://www.mla.com.au/globalassets/mla-corporate/research-and-development/final-reports/2021/the-future-of-red-meat-distribution---white-paper.pdf>