



Trade &
Investment



AMPC



final report

Project Code: P.PIP.0253 NSW
Prepared by: NSW Department of Industry and
Investment
Date published: July 2010

PUBLISHED BY
Meat and Livestock Australia Limited
Locked Bag 991
NORTH SYDNEY NSW 2059

CAR7 - SmartShape Raw and Injected Beef Product

This is an MLA Donor Company funded project.

Meat & Livestock Australia acknowledges the matching funds provided by the Australian Government and contributions from the Australian Meat Processor Corporation 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.

Project objectives

1. Assessment of Smart shape product to estimate sales volumes, forecasts and price points
2. Commercial business case development

Success in achieving milestone

Production Trials – May 2010

Production Trials were completed in May 2010 on several primals and sub-primals.

The key criteria that was used when assessing business case was as follows:

- Ability to re-shape heavy cuberolls
- Yield Benefits for store\restaurant portioning
- Binded products
- Machine capacity
- Box & Freight Utilisation
- Shelf Life
- Set weight products
- Shape Retention

Assessment Methodology

Re-Shaping of Heavy Cube rolls: Length and diameter of primal pre and post shaping

Yield Benefit: % of re-shaped primal that could be portioned vs. std portion control

Binded Products: # of binded products that could be re-shaped without muscle bind separation

Machine Capacity: cycle times record per primal and sub-primals then converted into Kgs per hour

Box & Freight utilisation: # of re-shaped primals that could be packed in carton vs. normal primal.

Shelf Life : Shelf life days in holding film and cryovac packaging

Set Weight Item: Re-shaped primals that could be portioned equally by length and result in equal weight portions

Shape Retention: Diameter measurements of re-shaped products that had been chilled for 48 hours, removed from holding film, portioned into steaks and placed in retail tray (overwrapped)

Outcomes\Results of Trial

Re-Shaping of Heavy Cube rolls : Trials could not be completed in this area as the packaging head on carousel was too small to re-shape heavy cuberolls

Yield Benefit: On the majority of primals we had very favourable results with portionable yield improvements. In some cases the improvement was as high at 20% vs. std portioning. These positive results were achieved on the assumption that customers would take split primal products in the reshaped format.

Binded Products: Half of binded products were able to achieve no separation post re-shaping. The key here was to ensure that the meat muscle binding process was undertaken correctly.

Machine Capacity: Cycle time per primal was 40 seconds\135kg per hour\1 MT per day

Box & Freight utilisation: Majority of products achieved significant improvements in numbers of primals that could be packed cartons based on uniform shape\size. These positive results were achieved on the assumption that customers would take split primal products in the reshaped format.

Shelf Life : 28 days shelf life results were achieved on products that were originally formed and chilled for 48 hrs and then placed in to cryovac bags.

Set Weight Items: Half of the primals that we re-shaped were able to be portioned based on product length and achieve an equal piece weight (5% tolerance).

Shape Retention: The majority of re-shaped primal portions maintained their face diameter and rounded shape up to 7 days after being removed from forming film

Customer Feedback

The smartshape technology\concept has been presented to key customers in both domestic retail and food service.

Food service customers see significant opportunity in this technology for ongoing raw material supply.

Retail customer sees opportunities in new product development.

1. **Recommendations\Next Steps**

2. Development and manufacture of a next generation machine that is capable
3. of re-shaping whole primal in particular heavy cuberolls
4. Increase cycle time per primal on machine to improve production capacity
Improvements in forming film loading and discharge
Packaging solution that enables forming film to be also used for vacuum packaging for finished product