

SNAPSHOT

THE EFFECT OF THE FINAL CARCASS WASH LOCATION ON THE MICROBIOLOGICAL AND VISUAL CONDITION OF SMALLSTOCK CARCASSES

Project Report Reference: 2019-1049

Date: 14 January 2020

Project Description

Current visual monitoring requirements for export sheep and lamb meat are laid out in the Meat Hygiene Assessment (MHA) manual (2nd Edition) and include the visual assessment of carcasses after the final trim but prior to the final wash. Trimming of visual defects located on the carcass surface is a corrective action, as acknowledged by the MHA guidelines (Section 5.5) that can result in trimming losses. It is proposed that locating a carcass wash prior to final carcass trim would allow the reduction of trimming losses, provided that it did not affect the eligibility of the product.

Project Content

A trial was undertaken in September and December 2019 at a sheep and lamb processing establishment. The current system was as per the current slaughter chain layout while under the alternative system, trimming and Food Safety Meat Assessor (FSMA) inspection were undertaken after the wash, immediately prior to loading carcasses into the chillers. In addition, two chilling regimes were investigated; spray- and air-chilling and both lamb and mutton carcasses were monitored.

Carcasses were assessed visually for defects as per the MHA guidelines by Quality Assurance (QA) staff when they were used as trimmers. QA staff were stationed at the four standard trimming stations used by the abattoir, namely at the bung/channel, hind legs, back and belly/front legs. The number of defects were recorded at each of the four trimming stations under categories of:

- Washable, i.e. those defects that could be washed off, including zero tolerance (ZT), rail dust/specks/dirt, smears/stains, wool strands/clusters (not attached to the carcass); and
- Not washable, i.e. those defects that are attached to the carcass, including bruises/blood clots, seeds, foreign objects/extraneous tissue and pathology.

Disclaimer:

The information contained within this publication has been prepared by a third party commissioned by Australian Meat Processor Corporation Ltd (AMPC). It does not necessarily reflect the opinion or position of AMPC. Care is taken to ensure the accuracy of the information contained in this publication. However, AMPC cannot accept responsibility for the accuracy or completeness of the information or opinions contained in this publication, nor does it endorse or adopt the information contained in this report.

No part of this work may be reproduced, copied, published, communicated or adapted in any form or by any means (electronic or otherwise) without the express written permission of Australian Meat Processor Corporation Ltd. All rights are expressly reserved. Requests for further authorisation should be directed to the Chief Executive Officer, AMPC, Suite 1, Level 5, 110 Walker Street North Sydney NSW.

Trimmed tissue was collected, separately for washable and not washable defects, in containers for weighing. After each monitoring period, trim from all carcass areas was weighed for all carcasses under the current system and for all carcasses under the alternative system.

For each run, eighty swabs were collected and tested for Total Viable Counts (TVC) and generic *E. coli* from carcasses chilled overnight. Carcasses were randomly selected and 100cm² areas were swabbed below the bung, flank and shoulder.

Project Outcome

A total of 1,610 lamb carcasses and 601 mutton carcasses were used over the trial.

Key points are:

- Visual assessment of defects
 - Most of the defects were on the channel and leg areas of the carcass.
 - On four of the six trial runs, the number of ZTs and total washable defects recorded under the alternative system was considerably less than those under the current system; in some instances, the number was halved.
- Trim weights
 - In five out of the seven trial runs, less trim was removed under the alternative system, compared with the current.
 - There was variability between the trial runs in the mass of trim removed.
 - On average, the trim weight was 20 grams less per lamb carcass and 25 grams less per sheep carcass under the alternative system.
- Microbiological testing
 - Microbiological results compared between the alternative and current systems are very similar.
 - Spray-chilled carcasses had higher *E. coli* prevalence compared with air-chilled carcasses.

Benefit for Industry

In summary, this trial has demonstrated that under the alternative system:

- ZTs are less prevalent
- Carcasses have good/improved visual condition – fewer visual defects;
- The microbiological condition is very similar to the current system, and
- On average, less trim is removed, resulting in reduced trim weight.

