Snapshot Report

MHA 3 Industry Trial

Meat Hygiene Assessment 3 – An Industry Trial

Project Code
2021-1091

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Project Description

Under the previous project AMPC 2019-1066 *Visual monitoring of carcase and carton meats – a system for the 21st century,* the SARDI research team worked with industry and the Department of Agriculture, Water and the Environment (DAWE) to design a Meat Hygiene Assessment 3 (MHA 3) guideline for product monitoring. The data set on visual monitoring checks of carcases, bulk meat, primals, and offal from AMPC 2018-1070 *Process monitoring for the Australian meat industry – a comparative industry trial* was analysed and used to develop MHA 3.

The new system gained in-principle agreement from industry and DAWE, subject to it being trialled in establishments. This leads to this current project – an industry trial of MHA 3, which trialled the implementation of the new system.

A summary of changes to carcase, carton meat and offal MHA are given in the below table.

Carcase	*No change from current system*	• Monitor frequency • ZT automatically rates the lot as unacceptable • Corrective action • Pre-boning inspection • Record ZTs and pathology
	Changes in MHA 3	• Remove reduced and intensified sampling frequency • Record Contamination defects • Calculate defect rating as number of defects/number of checks • Revised limit of acceptability is 0.25 – equivalent to current limit • No Marginal category
Carton meat	*No change from current system*	• Record ZTs and pathology • ZT automatically rates the lot as unacceptable

	Changes in MHA 3	• Each product classified as Low- or High-risk
		• Sample all product in the carton
		• Sample every 60 minutes:
		  ○ Every high-risk product
		  ○ Low-risk products on a rotational basis
		• Record Contamination defects
		• Acceptability criterion: No more than 1 defect from all sampled cartons per high-risk category or across all low-risk products in a shift
		• Corrective action: Re-inspect all available product type and, if one or more defects found (so not an isolated incident), proceed to defrost re-inspection

Offal	*No change from current system*	• Record ZTs and pathology • ZT automatically rates the lot as unacceptable
	Changes in MHA 3	• Each product classified as Low- or High-risk • Sample 12 pieces of offal • Record Contamination defects • Acceptability criterion: Defect rating of 0.084 • Corrective action: Re-inspect all available product type and, if one or more defects found (so not an isolated incident), proceed to re-inspection.

Project Content

Eleven establishments (six beef, two sheep and lamb, three pork) participated in the industry trial and regularly sent data to SARDI. Each participating establishment used a template trial protocol to develop an Approved Arrangement for their MHA 3 system. Establishments assessed the risk associated with carton meat and offal types and categorised the products into low- and high-risk according to a set of criteria, including prior monitoring results, customer complaints

and specific customer and market requirements. Subsequently, the high-risk products were monitored more frequently than the low-risk products.

The trial ran over the period April-November 2021 with each establishment reporting at least 100 days monitoring of the MHA 3 system. In total, product was monitored on 673,624 occasions. The design of the MHA 3 system allows the establishment to review the passage of defects along the continuum of slaughter floor, pre-trim, boning and offal rooms, and also to monitor the low/high-risk status of carton and offal meats.

DAWE supplied verification data from April 2020-November 2021 using the MHA 2 system which allowed a comparison of defect ratings (excluding carton meat) incurred by each establishment for 12 months prior to the trial, and during the trial itself. These data, in addition to the trial results, were analysed and regularly discussed with the participating establishments' staff and a Reference Panel, comprising representatives of the DAWE, industry and AMPC.

Project Outcome

The MHA 3 system was considered more "fit for purpose" than MHA 2 with all eleven trial establishments proposing to continue their AA. Other establishments have indicated a strong interest in adopting MHA 3.

From the DAWE verification data, on average, there were no statistically significant differences between pre- and during-trial MHA daily scores for carcases on the slaughter floor, at pre-trim and on offal and all verification results fell well below the MHA 2 marginal limit for carcases on the slaughter floor, at pre-trim and on offal.

The project's conclusions and recommendations were that:

1. MHA 3 still identified issues in visual hygiene monitoring and in most cases, the classification into high- and low-risk CMA and offal products was appropriate and supported by the trial data.
2. The trial had been successful and recommended that trial establishments continue with their AA based on MHA 3.
3. The Department provide instructions and criteria for establishments wishing to develop an AA based on MHA 3.

Benefit for Industry

At the conclusion of the trial, there was unanimous agreement by plant staff that MHA 3 was less time-consuming and produced more targeted and actionable data. Establishments were canvassed regarding any financial advantages which stem from adopting MHA 3. To date, two establishments each calculated a saving of 2 person hours/shift, while indicating, together with several other establishments, that the time "saved" was being reinvested so QC/QA staff can proactively monitor potential trends, undertake investigations to improve the system and better interact with other departments. There was no indication by any establishment of a desire to reduce the workforce.