Project summary

Early adoption and integration of hot carcase marble measurement in beef processing

Executive summary

Background

This project aimed to deliver an early adoption and evaluation of the MEQ hot beef grading probe to measure hot beef carcase marble score to improve accuracy and consistency compared to current visual grading methods, including development work into the correlation of IMF% to marble score. This project further developed operating protocols to enable the adoption of a grading solution using the hot carcase marble measure for future adopters. Specifically, the project evaluated the integration of the MEQ hot beef grading solution into a beef processor's workflows and business data management systems, including feedback to producers. General learnings from this project were used to develop generic guidelines for the adoption and integration of new OM technologies. Additionally, further installations at AMG locations will help develop the MSA beef guidelines and model.

Objectives

This project's primary objective was to ensure consistent grading results to provide the most accurate supply chain feedback. This will drive producer engagement with brand specifications and improve genetic gain.

The specific objectives of the project were:

- Test and trial integration of developing equipment and integration of software into feedback systems including MSA grading outputs
- Evaluate the integration of the MEQ beef probe into AMG's workflows and business data management systems, including feedback to producers
- Evaluate device grading capabilities across multiple classes of animals
- Develop protocols on how to integrate new OM technologies including data captured into existing business systems
- Develop generic guidelines for adoption and integration of new OM technologies

The outcome is that a case study of learnings of integration of MEQ hot grading probe into business workflows and operating systems will be used to develop generic guidelines for adoption and integration of new OM technologies.

Methodology

The following method and process steps were applied: i) Project planning, design and equipment supplied; ii) Equipment commissioned and pilot site testing; iii) Device and App implementation and integration; iv) Final report and supporting early adoption materials.

Results/key findings

Data collection and data integration was initiated exceeding the trial plan targets measurements with over 35,000 carcases probed and 25,000 imaged. The outcome of the analysis of preliminary data has demonstrated a high confidence in the ability of the MEQ Probe to capture data at a commercial scale within AMG. Data integration has been completed and considered trial ready. Ongoing consultation is required with the IT provider (Cedar Creek) to finalise aspects of communication to enable streamlined data communication between the Probe and the Marel-Cedar Creek (MCC) grading terminal.

Benefits to industry

Overall, early adoption of the MEQ suite of objective measurement solutions helped to deliver hot- and cold-grading options that have been demonstrated to deliver significant value through early knowledge of likely grading results to inform allocation to boning runs, improving efficiency of final cold grading and carcase marshalling, and provide sales teams with advanced knowledge of quality by volume.

Future research and recommendations

The next phase requires to finalise hot grading and providing feedback during the final reporting phase. This involves a review device performance and usability, pre-chiller sorting simulation and software built for review and hot grading trials. A pilot producer feedback exercise with MEQ grading data (subject to trait approval & AMG's review of accessing and sharing data) will be conducted for review.

There has been an opportunity discussed to link MCC data to MEQ data directly to allow a stable integration of plant data into the MEQ Insights portal. This would be the first step before allowing or tabling producer feedback of MEQ grading data. This can also then be scaled to any other AMG plants, such as Dandenong or future businesses. Furthermore, there's an opportunity to link Marel Cedar Creek data to MEQ Data that has been discussed with an option to develop an integrated data set in MEQ Insights.

The recommendation is for AMG to assess the viability & use-case of the MEQ Insights platform as it supplies real-time grading results & comparisons to their production team. Once confidence has been developed, then further integration and data flow can be created. Adoption of the MEQ Probe at both sites would provide remote visibility of real-time grading information for single and multishift workdays for both Dandenong and Cootamundra.