Sheepmeat research brings MSA Mark II a step closer

The sheepmeat industry has taken major steps forward towards delivering a meat quality grading system that can cater for individual animal assessment, thanks to the combination of results from a series of research projects.

The current Meat Standards Australia (MSA) for sheepmeat is an internationally accepted model which underpins the prediction of eating quality based on optimising the critical control points along the supply chain. It is based on proven meat science principals that have been tuned to the Australian industry using sensory protocols for evaluating consumers.

While that method is still valid, the industry has been working towards Mark II of the MSA model to add greater precision to the eating quality predictions and to enhance on-farm practices to improve the end product delivered to consumers.

Cooperative Research Centre for Sheep Industry Innovation (Sheep CRC) meat quality program leader, Prof. Dave Pethick, said that while Lamb MSA Mark II was still some way off, the goal was now in sight.

“An enhanced MSA prediction could be constructed which builds on the existing system, as we now have new data available that allows us to capture much of the variation in eating quality,” Prof. Pethick said. “The next challenge is to assess these factors at line speed in an abattoir.”

The Cooperative Research Centre for Sheep Industry Innovation (Sheep CRC), operates as part of the Federal Department of Industry, Innovation and Science’s CRC program. It is a collaboration of more than 40 organisations from across industry, government and the commercial sector, and includes producer groups, farm advisers, universities and research organisations, meat processors and retailers.

Through its meat quality program, the Sheep CRC has researched factors including: taste preferences and the influence of cooking styles in the export markets of the United States and China; consumer perceptions of sheepmeat of different ages and acceptable price points for cuts of different quality; the impact of animal age and meat aging on eating quality; and genetic factors such as the negative affect muscling (lean meat yield) has on intramuscular fat and therefore tenderness and flavour.

“This work has led to the realisation that an individual grading system is possible – assuming we can deliver the necessary measurement technologies for the processing sector – to underpin a more refined and accurate prediction of consumer satisfaction of cooked lamb,” Prof. Pethick said.

“The end goal is to select for lean meat yield and eating quality together at line speed in the abattoir so that the industry can move towards a cuts-based grading or sorting system. This would ensure consumers are purchasing meat packages that are of a more consistent standard throughout.”

A key component in achieving this will be the need for MSA-registered producers to understand the principals of supplying lamb that meets consumer needs. An individual grading system will also enable more meaningful carcase feedback to producers.
The research activities have already resulted in Meat & Livestock Australia, through its SheepGenetics program, delivering two genetic selection indexes – Eating Quality (EQ) and Lamb 2020 Eating Quality (LEQ) – which can be used by producers when searching for new rams using the RamSelect app.


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