3A-106: *Determining the effect of ageing period, cut type, cooking method and internal temperature on sensory and technological quality of pork*

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Aims and Objectives

To determine the effect of ageing period, cut type, cooking method and final internal temperature on eating quality attributes of pork from entire male and immunocastrated males.

Key Findings

This study was of a similar experimental design to 3A-103 (in which ageing period, cut type, cooking method and endpoint temperature was investigated), except that immunocastrated and entire males were used. This study was conducted to fill knowledge gaps for immunocastrated males and aimed to determine the influence and size of these factors, and their interactions, on pork eating quality.

The key findings from this study include:

- Although intramuscular fat levels were higher in all muscles from immunocastrated males compared with entire males, no effect of gender on eating quality was found in this study.
- Fail rate for quality grade and re-purchase intention was lower for pork from immunocastrated males than entire males (17.8 vs. 15.7%, respectively) across all treatment combinations.
- Cooking effects had a major impact on eating quality - cooking pork steaks to 75°C reduced juiciness and overall liking scores compared to cooking to an endpoint temperature of 70°C.
- Shoulder cuts were more preferred than those from the loin and silverside. Fail rates of shoulder roast and stir fry (5.6 and 5.3%, respectively) met the target of < 10% compared with the cuts from the loin and silverside. Fail rates were higher for silverside roasts (26.9%), loin steak (25%) and silverside stir fry (21.9%) followed by loin roast (19.1%) and loin stir fry (13.4%).

Cooking education is recommended, focused on retailers and consumers to provide information on cooking practices to optimize performance of different pork cuts. The application of outcomes arising from this study will need to validated across different supply chains and further modifications made to pathway interventions implemented by these supply chains in order to deliver pork of consistently high quality to their customers. This will be the focus of further Pork CRC research in 2013/14.

Application to Industry

Outcomes of this study are being used in the development of a non-prescriptive eating quality system for pork focussed on reducing the variability in pork quality. It is anticipated that, once implemented, this system will allow industry to improve consumer perceptions of pork as a quality meat and lead to a process of continuous improvement in pork eating quality.