



**Effect of average daily gain between weaning and slaughter (105 kg) on the meat quality of fast growing Landrace/Large White pigs**

by

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## **Executive Summary**

A total of one hundred and three Landrace x Large White pigs were selected to represent a spectrum of average daily gains between weaning and slaughter. The mean average daily gain of pigs between weaning and slaughter was 756 g/day with a standard deviation (SD) of 55.6 g/day. The average daily gain of pigs covered a 300 g/day range from 616 to 943 g/day. All pigs were reared under similar management conditions however, their diet varied by way of diet density i.e. some pigs received diets with a higher energy and protein content compared with others. Diet affected the average daily gain of pigs between weaning and slaughter but not meat quality. The average slaughter weight of pigs was 107.2 kg with an SD of 7.2 kg and average age at slaughter was 158 days with an SD of 3.8 days.

There were no significant or strong relationships between the average daily gain of pigs between weaning and slaughter, 10 weeks of age and slaughter or 20 weeks of age and slaughter and any meat quality parameters. Therefore, average daily gain did not explain the variability in meat quality that was observed. A modelling exercise suggested that back fat depth at P<sub>2</sub> is a key production variable determining shear force and colour parameters (L\*, a\*, b\*, Hue angle and Chroma). Furthermore, back fat depth at P<sub>2</sub> and birth weight are key production parameters to determine ultimate pH, sarcomere length, drip loss % and cooking loss %. However, a validation exercise is required to test how much variability these models can account for and how accurate the models are. The models established to determine shear force, L\* and sarcomere length were less effective than the models to explain the other meat quality parameters measured.

Overall it is concluded that back fat depth at P<sub>2</sub> and birth weight, which appear to be interrelated, have a greater influence on meat quality than average daily gain. In this study, using fast growing Landrace x Large White pigs, the variability in average daily gain (over a 300 g/day range) did not explain the variability in meat quality that was observed which was itself high and should be of concern.