

Association Between Eating Quality and Intramuscular Fat in Angus, European and Wagyu Cross Steers

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This paper reports the effects on meat eating quality and intramuscular fat (IMF %) in the carcass when crossbred steers with diverse genetic potential for retail beef (RBY) yield and IMF % were subjected to different ('faster', ~ 0.7kg/day or 'slower', ~ 0.5kg/day) backgrounding growth rates prior to 100-day feedlot finish. The experiment was conducted within the Regional Combinations project of the Cooperative Research Centre for Beef Quality Beef CRC (McKiernan *et al.* 2005). Effects on other aspects of growth and carcass traits have been previously reported (Wilkins *et al.* 2009; McKiernan *et al.* 2009). Samples (from *M. longissimus dorsi*) were collected at slaughter to assess IMF % (McKiernan *et al.* 2005) and for sensory evaluation (Watson *et al.* 2008).

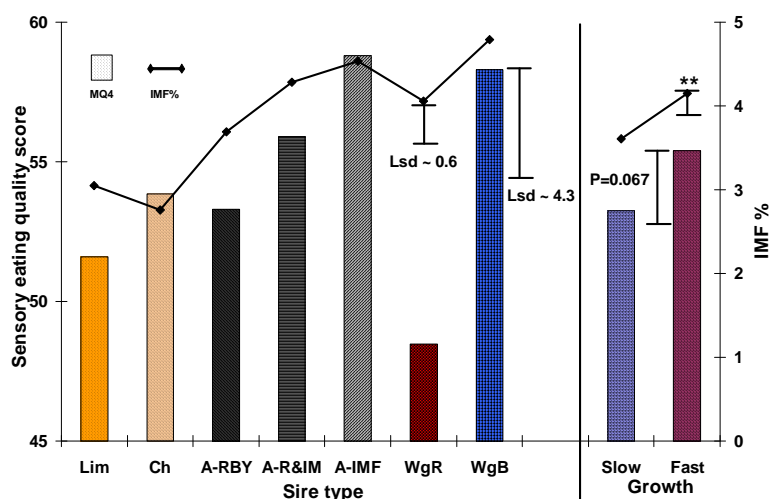


Figure 1. Predicted means for eating quality (histograms) and IMF (lines) as affected by sire type [(Lim) Limousin, (Ch) Charolais, Angus (A-RBY - high RBY, A-R&IM - high RBY&IMF, A-IMF - high IMF%), (Wg) Wagyu (Red and Black)] and growth treatments [n = 226 (slow) and n = 226 (fast) growth]

There were significant differences between sire type groups for both IMF % ($P < 0.001$) and eating quality ($P < 0.001$). The difference in IMF % due to growth treatment was significant ($P < 0.001$), and there was a strong trend in favour of the faster backgrounding treatment for better eating quality (55.4 Vs 53.2, $P = 0.067$, *sed* 1.35). There was an obvious association of IMF% with sensory tasting scores (Figure 1, $r = 0.45$), suggesting this had a substantial effect on eating experience. This result is in agreement with Egan *et al.* (2001). The Red Wagyu result is without explanation. Thus both breed type and backgrounding growth can be used to enhance beef eating quality through the effect on IMF % shown here. This has obvious advantages to the beef industry by improving consumer satisfaction.

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