Development of fat depots in cattle and associations with beef quality

P Greenwood, J Siddell, M McPhee, B Walmsley, G Geesink, D Pethick

Materials and methods

Steers (n=165) within three Genotypes were studied from weaning. Targeted genotypes were high IMF and high SCF (Angus, A), low IMF and high SCF (Hereford, H) and high IMF and lower SCF (Wagyu x Angus, WA).

No interactions were evident for the chiller assessment traits apart from a Genotype x nutrition interaction for ossification score due to Hereford cattle fed supplements having a lower score (127.4) than those fed pasture only (137.7). Interactions were evident for IMF percentages, and are being assessed as part of more complete analyses of the data.

Table 1: Effects (P<0.05) on carcass chiller assessment traits and intramuscular fat percentages, adjusted for LW at start of the experiment (iLW). Within columns and effects, means with different superscripts differ significantly. Numbers of animals in parentheses are for intramuscular fat percentages.

Conclusions and further research

The post-weaning supplement did not enhance marbling, and had a somewhat suppressive effect on SC fat. The genotypes had predicted marbling characteristics, although SC fat did not differ overall between A and WA. Data is currently being generated from CT-scans and depot weights obtained at slaughter to quantify amounts of total body and carcass fat and of all major fat depots. Phenotypic data presented in the Table above, and data for the weights of fat depots and consumer assessments of eating quality currently being generated, will be used to inform detailed studies of fat depot development and meat quality. The data will also be used to refine the MSA model.