ASSOCIATIONS OF GROWTH RATES AND MEAT QUALITY WITH ASSESSMENTS OF TEMPERAMENT IN A RANGE OF *BOS TAURUS* GENOTYPES

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Previous studies in *Bos indicus* cattle have shown favorable genetic correlations between measures of temperament and meat quality traits (Reverter *et al.* 2003). Relationships in *Bos taurus* cattle are uncertain. Correlations between temperament and feedlot performance have also been demonstrated, while effects on performance under grazing are unknown. Reports on phenotypic relationships between temperament and growth have been inconsistent, with some showing no significant correlation (Graham *et al.* 2001). Within an ongoing Beef CRC project (Wilkins *et al.* 2002), we measured flight times in several cohorts of steers and examined correlations with growth rates and meat quality.

The steers in this study were the progeny of 40 sires, chosen for variation in potential carcase type (retail beef yield and intramuscular fat). They were allocated to 2 treatments - either fast (~ 0.8) or slow (~ 0.6 kg/d) growth from weaning to feedlot entry at a target group mean of 400 kg. Flight times (as a measure of temperament), defined as the time taken to traverse a set distance (~1.8 m), measured electronically, were recorded as animals were released from a crush. These were taken at weaning (T1) for all steers, and just prior to feedlot entry (T2) for some groups. Liveweights were recorded to calculate growth rates and samples were taken from carcases at slaughter for assessment of meat eating quality.

Table 1. Correlations (r) for flight times at weaning (T1) or prior to feedlot entry (T2) with growth rates and with meat eating quality in steers given slow or fast growth treatments from weaning to feedlot entry.

		Slow (n)	Fast (n)
T1 with post weaning growth rate (kg/d)	Range	– 0.35 to + 0.18	0.03 to 0.34
	Average	– 0.05 (203)	0.22 (226)
T1 with eating quality (CMQ4) score		0.07 (80)	0.24 (38)
T2 with feedlot growth rate (kg/d)		– 0.16 (44)	– 0.11 (68)

Least squares means for flight times (not shown) varied significantly ($P<0.05$) between carcase type groups and times of measurement (T1 - 0.74-1.04 sec; T2 - 0.82-1.21 sec). Raw correlations between these measurements (T1 and T2) within different cohorts ranged from 0.48 to 0.72, demonstrating good to high repeatability for the trait. Correlations of flight time at weaning with growth rate post weaning varied considerably (some negative) between groups and growth treatments (Table 1). There was a trend for higher values in the faster growth groups, but overall they were generally low and non-significant. Similarly, the correlations of flight time prior to feedlot entry with growth rate on feed (common feedlot regime) were low and non-significant. The correlations of flight times at weaning with CMQ4 scores (MSA eating quality) were also low and non-significant. Although our estimates may change with further analyses, it appears that phenotypic correlations for this measure of temperament with other traits in *Bos taurus* are low or near zero as found in *Bos indicus* cattle (Reverter *et al.* 2003). Genetic correlations of production traits with measures of temperament in these *Bos taurus* genotypes may be useful for breeding strategies. Most of these steers would be considered of reasonably good temperament, which may, therefore, preclude differences in performance.

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