

LIVE BODY COMPOSITION ASSESSMENTS AS PREDICTORS OF CARCASE RETAIL BEEF YIELD

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Retail beef yield percentage (RBY%) is an important economic trait because it affects carcase value. The higher the RBY% the greater amount of saleable retail meat.

Prediction of RBY% or at least an indicator of an animal's potential for higher RBY% at an early stage in that animal's growth and finishing period could be useful in determining its eventual worth or market destination. McKiernan *et al.* (1999) showed a small but significant relationship between body measures, scans and RBY% in 4 quite diverse groups of cattle with different backgrounds, breeds and finished end points.

Here, we examined the relationships between live measurements and assessments with estimates of RBY% in steers with a wide variation in genetic potential for RBY% but from a similar background and with the same end point. Estimates for RBY% were obtained by 'VIAscan' technology (Ferguson *et al.* 1995). Body composition in the live animal was assessed by visual muscle scoring (McKiernan 1990) and by ultrasound scanning (Upton *et al.* 1999). The design of the large Beef CRC study from which the current data comes was reported by McKiernan *et al.* (2005).

Table 1 Simple correlations between live animal measures and assessments at weaning and pre feedlot with VIAscan RBY% estimate. (n = 533)

	WT1	P81	EMA1	MSC1	WT2	P82	EMA2	MSC2	YLD
WT1	1.00								
P81	0.51	1.00							
EMA1	0.71	0.27	1.00						
MSC1	0.30	-0.07	0.49	1.00					
WT2	0.61	0.16	0.40	0.28	1.00				
P82	0.11	0.39	0.00	-0.11	0.17	1.00			
EMA2	0.24	-0.03	0.43	0.35	0.43	0.29	1.00		
MSC2	0.14	-0.10	0.32	0.64	0.18	-0.02	0.42	1.00	
YLD	0.14	-0.30	0.26	0.38	0.10	0.32	0.29	0.40	1.00

WT1 – weaning weight; P81 – scanned P8 fat depth at weaning; EMA1 – scanned eye muscle area at weaning; MSC1 – muscle score at weaning. WT2 weight at pre feedlot; P82 - P8 fat depth pre feedlot; EMA2 – scanned eye muscle area pre feedlot; MSC2 – muscle score pre feedlot; YLD – VIAscan estimated RBY%.

A preliminary analysis using simple correlations (Table1) demonstrates that muscle score and fat depth well before slaughter have reasonable correlations with RBY%. This appears to be a stronger relationship than that reported by McKiernan *et al.* (1999). These results suggest live animal assessment made on animals of diverse genotypes from a homogeneous background may be more useful in indicating eventual RBY% than assessments on animals from diverse/unknown backgrounds.

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