

ULTRASONIC POINT READINGS ON LIVE CATTLE AND CARCASS FAT COVER

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Determining the level of fat in live animals is necessary if producers are to satisfy the increasing demand for beef carcasses with more precise specifications. Because of its high cost, real time scanning equipment will not be used widely by smaller producers. Single point ultrasonic equipment (eg. Ultramac) are cheaper and more likely to be used. AUS-MEAT has adopted and standardised carcass fat measurement at the P8 rump site (a point located at the intersection of a line drawn anterior to the Tuber ischii and another drawn ventrally from the spinus process of the third sacral vertebra) rather than the 12/13 rib site, because there is less variation at the P8 site when mechanical hide pullers are used. However, it is necessary to know the suitability of the P8 site compared with the 12/13 site for single point ultrasonic measurement on the live animal. A Balteau Sonatest UFD 4G machine was used to measure the fat thickness of 20 month old cattle by the technique of Greathead and Barker (1984). Our measurements on the live animal and on the carcass were taken at the P8 and the 12/13 sites rather than the 10/11 rib site they reported. The P8 and 12/13 measurements were taken on the same animals and carcass fat was measured on their hot carcasses once they had been hand flayed.

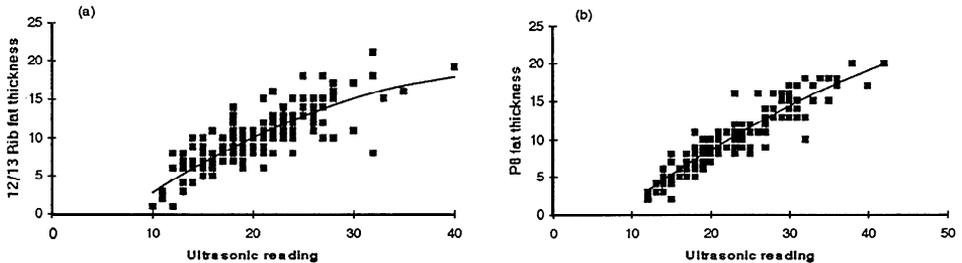


Figure 1. Ultrasonic reading and carcass fat thickness with best fit lines for (a) the 12/13 rib site and (b) the P8 site

Table 1. Regression analysis of estimation of carcass fat thickness (mm) at the P8 and 12/13 rib sites from ultrasonic point readings taken on live animals at the corresponding sites

Dependent variable	Regression equation	R ²	RSD	n
12/13 rib fat	$-6.734 + 1.068 (12/13 \text{ rib}) - 0.0114 (12/13 \text{ rib})^2$	0.6708	2.17	163
P8 rump fat	$-6.197 + 0.849 (P8 \text{ rump}) - 0.00543 (P8 \text{ rump})^2$	0.8558	1.55	147

The constants and coefficients in both regression equations were significant ($P < 0.05$). The results show that when using single point ultrasonic equipment on live animals, better estimates of carcass fat thickness can be made at the P8 site than at the 12/13 site. This is likely to be associated with the more uniform fat thickness and or flatness of underlying muscle around the P8 site than the 12/13 site.

GREATHEAD, K.D. and BARKER, D.J. (1984). *J. Agric. Sci., Camb.* 103: 65 1-7.