# A COMPARISON OF POSITIONS FOR FAT THICKNESS MEASUREMENTS ON BEEF CARCASSES

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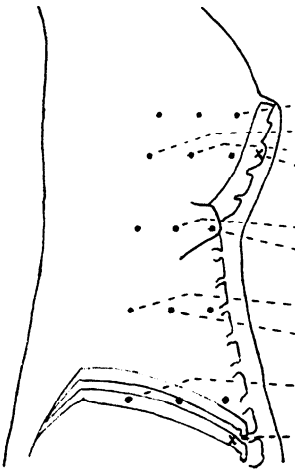
Most methods of estimating carcass fatness and saleable beef yield rely on there being a close association between subcutaneous fat thickness (FT) measurements and the amount of total carcass fat. Johnson and Vidyadaran (1981) investigated seven sites for FT measurement, and four of these sites (including the sacral crest and 12th rib sites) gave good correlations with both side fat weight and side fat percentage (SFP) ($r = 0.74$ to 0.81). There has since been considerable discussion on the commercial usefulness of alternative sites for FT measurement, particularly in relation to the susceptibility of present sites to fat stripping with mechanical hide pullers (Congram et al. *1982).* The current work was carried out to investigate the relationship between FT measurements at 17 sites and SFP.

The datawerederived from the carcasses of 15 Simmental cross Hereford steers with carcass weights from 296-391 kg. FT measurements were taken at15 anatomically determined sites plus the 12th rib and sacral crest sites (see Fig. 1) on the cold carcass 24 hours after slaughter. The range in carcass fatness is demonstrated by a variation of 2-12 mm at the 12th rib FT site. SFP was calculated following complete dissection of the left side of each carcass. Simple correlation coefficients were calculated between the FT measurements at each site and SFP. The correlation coefficients which proved highly significant are presented in Fig. 1.



| Site Identification | Correlation Coefficient | |
|---|---|---|
| P 13 | 0.737 | ** |
| P 12 | 0.719 | ** |
| P 11 | 0.677 | ** |
| SACRAL CREST | 0.851 | ** |
| P 8 | 0.674 | ** |
| P 7 | 0.806 | ** |
| P 6 | 0.688 | ** |
| P 5 | 0.761 | ** |
| P 3 | 0.900 | ** |
| 12th RIB | 0.612 | * |

Fig 1. Sites for FT measurement and correlation coefficients between FT measurements and SFP for those sites showing significance.

It is apparent that many FT measurement sites in the present study predicted SFP more accurately than the traditional 12th rib site. As the cattle used in this study were of the same breed and covered a limited weight range, the results should not be extended to the beef carcass population as a whole. However, the results provide a strong indication that a study of alternative FT measurement sites could well detect positions which provide more accurate estimates of carcass fat content.

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CONGRAM, I.D., SWAIN, A.J. and THOMPSON, D.J. *(1982).* Q.M.I.O.M.A. Research Report No. 4.

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