

## EFFECT OF SPAYING, PREGNANCY AND LACTATION ON BRUISING OF CULL COWS

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In northern Australia 60-80% of cows are pregnant and/or lactating at slaughter. By preventing calving and lactation, spaying facilitates the turn off of surplus cows at heavier carcass weights at higher prices, when cull cows require more than 6 months to fatten after their last calves are weaned. Available evidence for the effect of pregnancy on bruising is equivocal (Yeh et al. 1978; Wythes et al. 1979 a), while the effect of lactation on bruising is unknown. We compared the effects of spaying, pregnancy and lactation on bruising of 242 cows from two herds slaughtered at a Brisbane abattoir.

Six months before slaughter, a proportion of the cows in each herd was spayed via the vagina. Before trucking, the pregnancy and lactation status was assessed while the cows were held in a head bail in a race. All cows were hornless: herd A were Brahman crossbreeds transported 1290 km and herd B Herefords sent 880 km to Brisbane. Bruising was assessed prior to trimming using the method of Anderson and Horder (1979), with eight bruise points approximating 1 kg bruise trim per carcass. Trimmed carcass weights were recorded. The data were analysed by analysis of variance for non orthogonal data.

Table 1 Effect of reproductive status on mean bruise score and carcass weight

Herd	No. of cows		Carcass weight (kg)		Bruise (pts)	
	A	B	A	B	A	B
Spayed	-	49	-	170	-	2.6
Non pregnant	83	53	189	170	9.8	1.9
Pregnant	35	22	197	169	12.5	2.2
se			7.70	7.2	1.81	0.66
Lactating	64	92	165 a	150 a	10.6	2.3
Non lactating	54	32	211 b	189 b	8.8	1.9
se			5.93	7.0	1.76	0.47

+ Means followed by a common letter do not differ significantly at  $P < 0.01$ .

It appears that reproductive status of cows and thus relative hormonal concentrations do not affect bruising, as there was no significant effect of spaying, pregnancy or lactation. This result confirms the finding of Yeh et al. (1978), but does not explain why cows bruise more than steers (Yeh et al. 1978; Wythes et al. 1979 a). Proper handling of cows for pregnancy testing did not increase bruising, supporting the report by Wythes et al. (1979 b) for tail tagging. The 16-22% lighter carcasses of the lactating cows indicates the substantial restoration of body tissues needed after weaning to attain saleable weights.

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