

AN ASSESSMENT OF THE ACCURACY AND REPEATABILITY OF VISUAL CONDITION SCORING OF BEEF CATTLE

T.J. SCHATZ and P.E.R. RIDLEY

Northern Territory Department of Business Industry and Resource Development. PO Box 3000, Darwin NT 0801.

Subjective visual condition scoring is a common method of assessing the body condition of cattle for research in northern Australia. This study examined the accuracy and repeatability of people using a visual condition scoring system (described by Holroyd 1978) where animals are assigned a score from 1 to 9.

Thirty Brahman and three Droughtmaster cows were selected from a herd at Victoria River Research Station ("Kidman Springs") N.T. as being representative of a wide range of condition scores (2 to 8). On consecutive days their fat depth was measured ultrasonically at the P8 site and their condition score was assessed individually by seven people of varying experience in condition scoring. The cattle were kept overnight in a yard without access to feed and water between the two measurements to see how the "hollow" appearance the next day would affect the repeatability of condition scores.

The correlation between the different people's scores and the fat depth (measured ultrasonically) was used to assess the accuracy of scorers. The correlations ranged from 0.80 to 0.62 (Spearman's R) with an average of 0.72 for experienced condition scorers. It was only 0.29 for a student using the system for the first time with the aid of photos of the different condition scores.

The correlation between the two scores for each animal given by scorers over the two days was used to assess the repeatability of scorers. The correlations ranged from 0.89 to 0.74 (Spearman's R) for the experienced scorers (average = 0.82), while it was only 0.49 for the first time scorer. The correlation of the ultrasound measurements from one day to the next was 0.95.

Most people scored the cows on average a third of a condition score lower (average of the difference between the day 1 and day 2 scores) on the second day, although one scorer actually scored a full condition score lower. This suggests that scorers are influenced by the hollow appearance of animals that have been off water overnight. The ultrasound measurements were on average 0.5 mm less on the second day.

The accuracy and repeatability achieved by experienced scorers in this study were reasonable and certainly higher than those found by Loxton *et al.* (1982) and Holland (1979), who found that similar methods of visual condition scoring were not accurate in predicting the carcass fat depth of cattle. Graham *et al.* (1984) found that experienced scorers could predict fat depth accurately when using scoring systems based on palpation.

Kendall's co-efficient was used to examine the repeatability between scorers. The Kendall's co-efficient (the average of all the correlations between scorers) was low (0.51 for day 1 and 0.28 for day 2) showing that there are considerable differences between scorers when scoring the same animal (ie. some people may score consistently higher or lower than others). This suggests that for research work, the same person should always condition score the same mob of cattle, or different scorers should be calibrated against each other.

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Email: Tim.Schatz@nt.gov.au