

ABSTRACT

Distribution of intramuscular lipid throughout *M. longissimus thoracis et lumborum* in Japanese Black, Japanese Shorthorn, Holstein and Japanese Black crossbreds.

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Intramuscular lipid content of *M. longissimus thoracis et lumborum* was determined at five locations within the ribeye muscle from 267 Japanese Black, Japanese Shorthorn, Holstein and Japanese Black crossbred steers and heifers or cows in order to investigate the distribution of marbling. Breed was a highly significant ($P < 0.001$) source of variation for amount of marbling at each of the locations measured. Percentage of lipid was higher at the extremities of the muscle than in the middle part and was not affected by sex at any location except for opposite the 6th rib ($P > 0.05$). Regression equations were derived which relate the percentage of lipid at various locations within *M. longissimus thoracis et lumborum* to that opposite the 6th rib. A substantial portion of the variation in marbling observed at the other locations could be accounted for by marbling at the 6th rib ($R(2) = 0.73-0.90$). These data confirm that marbling varies within the ribeye muscle but suggest that it is rather consistent in the distribution pattern exhibited by Japanese Black cattle and their crosses.

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