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Differences in muscle and fat accretion in Japanese Black and European cattle

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A b s t r a c t

The development of different muscles and adipose tissues during growth was investigated in commercial Japanese Black (JB) cattle and compared with breeds of the largest variation to be found in Europe. Animals, reared under typical conditions for Japanese and European beef production systems, gained similar body weights but different carcass composition at 24 months of age. The carcass of JB contained more adipose tissue and the least proportion of muscle. The longissimus muscle of JB developed extraordinary amounts of 23.3% intramuscular fat (IMF) at 24 months of age, compared from 0.6% to 4.7% in European breeds. The relationships between IMF content in the longissimus muscle and different adipose tissue weights indicate that a large amount of ‘‘waste fat” is accreted with every percent of IMF. However in JB, the good ability of IMF deposition is associated with relatively least development of ‘‘waste fat”, as a result of unique breed characteristics combined with special feeding system.

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