

ABSTRACT

Change of fatty acid composition of the lumbar longissimus during the final stage of fattening in the Japanese Black cattle

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Consideration of the shortened fattening period seems to be worthwhile for the realization of profitable beef production. In this study, change of fatty acid composition of the lumbar longissimus during the final stage of fattening was investigated in Japanese Black cattle. Each of 110 fattening animals was sampled three times: the initial two samples were taken by biopsy (25.7 months and 27.5 months on average) and the final one was from carcasses (29.9 months on average). Preliminary analysis indicated that removing muscle tissues from the constant body position of the living animals should be essential for sampling. Average monounsaturated fatty acids (MUFA) at three sampling points were 58.1%, 58.5% and 60.5%, and the differences of the third sampling with the first and second samplings were significant. Both in steers and heifers, MUFA also increased as the fattening stage proceeded, and MUFA of the heifers at all the sampling points were significantly higher than those of the steers. The increasing rate of MUFA rose from 0.21 percentage points (pp)/month at period 1 (from the first sampling to the second sampling) to 0.84 pp/month at period 2 (from the second sampling to the slaughter).

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