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ABSTRACT

Intramuscular fat deposition in principal muscles from twenty-four to thirty months of age using identical twins of Japanese Black steers.

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The changes in i.m. fat deposition in the principal muscles [M. semitendinosus, M. semimembranosus, M. psoas major, M. latissimus dorsi, LM (7th to 8th and 10th to 11th thoracic vertebrae), and M. supraspinatus] from 24 to 30 mo of age were investigated using identical twins of Japanese Black steers. Four sets of identical twins of Japanese Black steers were used in this study. Animals were fattened from 10 to 24 or 30 mo of age for each pair of identical twins. Body weights of twin steers slaughtered at 24 and at 30 mo of age were similar at 10 mo of age and thereafter up to 24 mo of age. The changes in serum concentration of vitamin A, glucose, total cholesterol, albumin, and total protein were similar in each pair of twins during the first fattening stage (10 to 24 mo). Fat contents of LM (7th to 8th thoracic vertebrae) at 24 and 30 mo of age were 37.0 and 42.4%, respectively ($P < 0.05$). Moreover, in the principal muscles, except M. semimembranosus and M. supraspinatus, fat content at 30 mo of age was greater than at 24 mo of age ($P < 0.05$). The proportional increase in fat content from 24 to 30 mo of age was greatest in M. semitendinosus (+58.7%) and least in M. supraspinatus (+6.1%). These results demonstrate that i.m. fat continues to increase after 24 mo of age, and the rates of i.m. fat deposition and the ages when i.m. fat is deposited are different for every muscle.

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