

ABSTRACT

**Effects of the fattening period on the fatty acid composition of fat deposits and free amino acid and inosinic acid contents of the longissimus muscle in carcasses of Japanese Black steers**

*Eiji IWAMOTO,<sup>1</sup> Akio OKAI and Fumiyuki IWAKI<sup>2</sup>*

Hyogo Prefectural Technology Center of Agriculture, Forestry, and Fisheries, Kasai, and <sup>2</sup> Hyogo Prefectural Hokubu Agricultural Institute, Asago, Hyogo, Japan

The effects of the fattening period on carcass characteristics, fatty acid composition of fat deposits, and muscle free amino acid (FAA) and inosinic acid (IMP) contents were evaluated in Japanese Black steers. Ten castrated, 10-month-old calves derived from the same sire were divided into five to be slaughtered at the age of 30 months after a 20-month fattening period (20-month group) and five to be slaughtered at the age of 34 months after a 24-month fattening period (24-month group). Concerning the fatty acid composition of subcutaneous fat, the percentage of palmitoleic acid was higher ( $P < 0.05$ ) in the 24- than in the 20-month group, but no difference was noted in any other fatty acids. For intermuscular fat, no difference was observed in any fatty acids. The percentages of oleic acid and total monounsaturated fatty acid of intramuscular and perinephric fat were higher ( $P < 0.05$ ) in the 24- than in the 20-month group. Of the FAAs in the longissimus thoracis muscle, the threonine and tyrosine contents were lower ( $P < 0.05$ ) in the 24- than in the 20-month group. The IMP content was higher ( $P < 0.05$ ) in the 24- than in the 20-month group, suggesting an effect of prolongation of the fattening period.

END