_____ ABSTRACT _____

Genetic parameters for reproductive performance of breeding cows and carcass traits of fattening animals in Japanese Black (Wagyu) cattle

K. Oyama, T. Katsuta, K. Anada and F. Mukai

Food Resources Education and Research Centre, Kobe University, Kasai-shi 675-2103, Japan
Faculty of Agriculture, Kobe University, Nada-ku, Kobe-shi 657-8501, Japan
Wagyu Registry Association, Nakagyo-ku, Kyoto-shi 604-0845, Japan
Faculty of Agriculture, Kobe University, Nada-ku, Kobe-shi 657-8501, Japan

Reproductive performance is receiving increased attention from beef cattle producers. There are concerns that intensive selection for carcass traits might reduce the reproductive performance of females. Genetic parameters among six carcass traits and, age at first calving (AFC), gestation length (GL), days open (DO) and calving interval (CI) under year-round artificial insemination were estimated. Reproductive traits were extracted from 174005 calving records of Japanese Black cows and were analysed with 31364 carcass records. The restricted maximum likelihood procedure under animal models was used to estimate the parameters. Heritabilities of AFC, GL, DO and CI were estimated to be 0.20, 0.40, 0.05 and 0.05, respectively, and those of carcass traits were higher, ranging from 0.38 to 0.56. Genetic correlations of CI with AFC and GL were 0.25 and 0.16, respectively, while no relationship was observed between AFC and GL. Correlations among carcass traits were generally favourable and a slightly negative estimate was obtained between subcutaneous fat thickness and marbling score. Genetic correlations for AFC were -0.27 with carcass weight and -0.24 with marbling score. In contrast, GL, DO and CI were genetically independent of carcass traits. Genetic relationships between reproductive and carcass traits were generally low, and therefore serious antagonism was not observed. The results suggested that selection for carcass traits would not compromise genetic progress in reproductive traits.