

ABSTRACT

Genetic parameters for growth and carcass traits of Japanese Black (Wagyu) cattle

T. Oikawa, T. Sanehira, K. Sato, Y. Mizoguchi, H. Yamamoto and M. Baba

T. Oikawa Affiliation: Faculty of Agriculture, Okayama University, Okayama 700-8530, Japan

T. Sanehira Affiliation: Faculty of Agriculture, Okayama University, Okayama 700-8530, Japan

K. Sato Affiliation: Faculty of Agriculture, Okayama University, Okayama 700-8530, Japan

Y. Mizoguchi Affiliation: Okayama Prefecture Animal Industry Center, Asahi-cho, Kume-gun, Okayama 709-3401, Japan

H. Yamamoto Affiliation: Okayama Prefecture Animal Industry Center, Asahi-cho, Kume-gun, Okayama 709-3401, Japan

M. Baba Affiliation: Okayama Prefecture Animal Industry Center, Asahi-cho, Kume-gun, Okayama 709-3401, Japan

Restricted maximum likelihood analyses fitting an animal model were conducted to estimate genetic parameters with a pooled-data set of performance tests (growth traits and food intake) on 661 bulls and progeny tests (growth traits and carcass traits) on 535 steers. Traits studied included concentrate intake (CONC), roughage intake (ROU), TDN conversion (TCNV), TDN intake (TINT) of bulls; rib eye area (REA), marbling score (MARB), dressing proportion (DRES) and subcutaneous fat depth (SCF) of steers. Body weight at start (BWS), body weight at finish (BWF) and average daily gain (ADG) of all animals were measured. Estimated heritabilities were 0.18 (CONC), 0.71 (ROU), 0.11 (TCNV) and 0.36 (TINT); 0.02 (REA), 0.49 (MARB), 0.15 (DRES), 0.15 (SCF), and from 0.20 to 0.38 for growth traits. Genetic correlations of ROU were different from those of CONC, probably due to inconsistent restrictions on concentrate intake; those of TINT with the weights, ADG and SCF were high. MARB showed positive genetic correlations with growth traits and low correlations with TINT and SCF. High potentiality for improvement of marbling score was suggested.

END