

Comparison of barrows and gilts on the growth performance, carcass traits, muscle postmortem changes and hematological traits in finisher Duroc x KHAPS black pigs⁽¹⁾

Hsien-Jung Huang ⁽²⁾⁽⁴⁾ Huey-Jiun Ko ⁽³⁾ Han-Sheng Wang ⁽²⁾ Hsiu-Lan Lee ⁽²⁾
Chin-Bin Hsu ⁽²⁾ Yan-Der Hsuuw ⁽⁵⁾ and Cheng-Yung Lin ⁽²⁾⁽⁶⁾

Received: Aug. 22, 2013; Accepted: Dec. 31, 2013

Abstract

An experiment was carried out to compare growth performance, hematological traits and muscle postmortem changes of barrows and gilts for finisher Duroc x KHAPS (Kaohsiung Animal Propagation Station) black pigs. Twenty-four healthy crossbred black pigs, average body weight 78 kg, were used as experimental animals with similar body weight. Pigs were selected and randomly assigned to either barrows or gilts groups, which were allocated into trireplicates with 4 pigs in each pen (384 × 256 cm). All pigs were provided with the same finisher diets. Feed and water were provided ad libitum during experimental period. The results showed that average daily gain and average daily feed intake in barrows were significantly ($P < 0.05$) greater than the gilts, but the feed conversion ratio was not affected by the treatments. Compared with gilts, barrows had a significantly higher ($P < 0.05$) changes of myofibrillar fragmentation index (MFI) in psoas major muscles in day 2. However, no differences were observed with MFI of psoas major muscles in the day 0, 4, 8 and day 14 between the barrows and gilts. In addition, the average back fat thickness and fat ratio were significantly higher ($P < 0.05$) in barrows whereas the gilts had significantly higher ($P < 0.05$) lean meat percentage. Also, the red blood cell count and hematocrit were significantly higher ($P < 0.05$) in barrows, but white blood cells, neutrophils, eosinophil, basophilic ball, lymphocyte, monocyte, hemoglobin, mean corpuscle volume, mean red blood cell hemoglobin, mean red blood cell hemoglobin concentration, red cell distribution width, platelet count and mean platelet volume were not affected by genders.

Key Words: KHAPS crossbred black pigs, Sex, Growth performance, Muscle postmortem changes, Hematological traits.

(1) Contribution No. 2073 from Livestock Research Institute, Council of Agriculture, Executive Yuan.

(2) Kaohsiung Animal Propagation Station, COA-LRI, Pingtung, Taiwan, R.O.C.

(3) The Graduate Institute of Food Science, National Chiayi University, Chiayi, Taiwan, R.O.C.

(4) The Graduate Institute of Bioresources, National Pingtung University of Science and Technology, Pingtung, Taiwan, R.O.C.

(5) The Graduate Institute of Biotechnology, National Pingtung University of Science and Technology, Pingtung, Taiwan, R.O.C.

(6) Corresponding author, E-mail: jengyong@mail.tlri.gov.tw.