

The effect of different rearing environment on two-way crossbred mule duck's growth performances and carcass traits ⁽¹⁾

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Received: May 24, 2014; Accepted: Sep. 5, 2017

Abstract

The aim of this experiment was to evaluate the effects of different rearing environment on two-way cross breed mule duck and to establish an indoor rearing model. Ducklings from hatched to three weeks of age were bred in the brooding house, after three weeks of age, ducks were randomly allocated into four rearing environment: indoor duck house with stainless mesh ground, indoor duck house with rice hull litter ground, non-opened duck house with cement ground and non-opened duck house with wood slatted ground as four treatments. Each treatment had three replicates with 20 ducks and a total of 240 ducks were used in the experiment. All treatments were fed isocaloric and isonitrogenous diet. Ducks individual bodyweight and feed consumption were determined for calculating ducks feed intake, body weight gain, feed conversion ratio and primary feather development condition at 3, 7, 10 and 12 weeks of age. 6 ducks were sacrificed at 12 weeks of age for carcass traits determination. The results showed: Non-opened duck house with wood slatted ground group showed significant lighter live bodyweight of 2,850 g than other three treatments ($P < 0.05$) at 10 weeks of age, however, there were no significant difference between treatments at 12 weeks of age which body weight range of all treatments were from 3,092 g to 3,165 g. The result of body weight gain of non-opened duck house with wood slatted ground group in the period from 3 to 7 weeks of age was 1,575 g, which was significant less than 1,790 g of indoor duck house with stainless net ground group and 1,745 g of non-opened duck house with cement ground group ($P < 0.05$). However, there was no significant difference between treatments during 3 to 12 weeks of age with range from 2,609 g to 2,676 g. In feed intake during 3 to 12 weeks of age, there was no significant difference between treatments with range from 151 g to 156 g. In feed conversion ratio during 3 to 12 weeks of age, there was no significant difference between treatments with range from 3.55 to 3.75. In primary feather length at 12 weeks of age, there was no significant difference between treatments with range from 22.0 cm to 23.4 cm. In dressing percentage, there was no significant difference between treatments with range from 80.0% to 81.5%. In breast weight, there was no significant difference between treatments with range from 538 g to 607 g. The results of approximate analysis of breast meat indicated that the water contain of all treatments showed no significant difference with range from 75.8% to 76.6%, in crude protein contain, there were no significant difference between treatments with range from 18.9% to 19.7%. In crude fat contain, there were no significant difference between treatments with range from 3.2% to 3.6%. From the results of this experiment, it was recommended to rear ducks in indoor duck house with rice hull ground when live body weight, feed conversion ratio, foot injury ratio and biosecurity were considered simultaneously.

Key words: Carcass traits, Growth performance, Mule duck, Rearing environment.

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