

Carcass Production and Single Nucleotide Polymorphism Adipocyte Fatty Acid Binding Protein (A-Fabp) Gene on Cairina moschata

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Abstract	<p>The aim of this study was to determine differences in growth, carcass production and identify polymorphisms of adipocyte fatty acid binding protein (A-FABP) gene in Muscovy ducks from the second generation selection (G2). The research material used 180-day-old Muscovy ducks consisting of male and female ducks with white feathers and male and female ducks with a combination of black and white feathers. Measurement of duck body weight was carried out every week, and ducks are slaughtered at 10 weeks to obtain carcass production data. The data obtained were analyzed by systat-13 program based on variance analysis and Duncan test. The primary design was based on a database of the genebank Cairina moschata adipocyte fatty acid binding protein (A-FABP) gene, exons 1, 2 and partial cds (FJ763338.1). The primary base sequence of the A-FABP gene was the primary forward: 5'-TCTGGGGGTGTTATCTGGAG -3' and reverse primer: 5'-ATTTGTCAGTGGCTGTGCTG -3'. The sequencing results of PCR products were analyzed using bioedit version 7.7 to determine the presence of the A-FABP gene polymorphism. The results showed that at the same age male Muscovy ducks produced carcass weight, and thickness of breast meat higher than female ducks. Body weight, carcass weight and parts of the carcass (breast, thigh, back, and wings) of a combination black-white feather male ducks higher than the male white feathers. The abdominal fat on all the ducks relatively the same. The A-FABP gene PCR product was at 176 bp. The results of bioedit analysis showed that at 151 bp, base length there was a mutation from Guanin to Adenin in the observed Cairina moschata, both male and female Muscovy ducks with white feathers and black-white combinations. All ducks observed had homozygous AA genotypes. Base changes in SNP c. 151G> A indicate a transition mutation. The study concluded that male Muscovy duck with a combination black- white feathers have highest genetic potential in body weight and carcass production with thick meat breast compared to other ducks. The weight of abdominal fat was relatively the same in male and female manila ducks. The A-FABP gene in manila ducks was monomorphic.</p>
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