

EFFECT OF FEATHER COLOR ON GROWTH PERFORMANCE, INTESTINAL HISTOLOGY AND CARCASS TRAITS OF MULE DUCKS

A. Makram¹, I. El-Wardany² and A. Zein El-Dien²

1-Poultry Production Department, Faculty of Agriculture, Fayoum University, Egypt, 2-Poultry Production Department, Faculty of Agriculture, Ain Shams University, Cairo, Egypt

Corresponding author: Amer Makram. E-mail Am150@Fayoum.edu.eg*

Since recently, the Mule duck produce by crossing between White Muscovy drakes with Pekin females to produce white feather Mule ducks. Nowadays in Egypt some commercial companies produce Mule ducks with different feather color by using colored Muscovy males. The objective of this study was to investigate the effect of feather color on growth performance, intestinal histology and carcass traits of Mule ducks. A total number of 480 Mule ducks one day old, were divided into four groups according to feather color, black feather (BF), white with black feather (WBF), dark Brown feather (DBF) and light brown Feather (LBF). Their distribution ratios were 31.46, 36.04, 27.5% and 5% for BF, WBF, DBF and LBF, respectively. Body weight, body weight gain and growth rate were recorded from one day old to marketing age (7 wks). Carcass traits were taken at marketing age (10- randomly chosen ducks /each phenotype). Representative specimens were taken from ileum to detect histological changes corresponding to feather color. Results revealed that the BF ducks have significantly heavier body weight at 0, 1, 3 and 5 wks of age compared to LBF, however the WBF and DBF being intermediate, however, at marketing age the differences among phenotypes were not significant. The DBF ducks was significantly ($P \leq 0.001$) the lowest for the relative weight of dressed carcass and edible meat parts compared to other phenotypes. However, there was no significant difference among different phenotypes for giblets. The mortality and defects (%) of LBF was lower than those of other phenotypes. The corresponding values were 0, 0.77, 2.05 and 1.18% for mortality rate and 0, 2.31, 3.42 and 2.37% for defects, in LBF, DBF, BF and WBF, respectively. Histological examination of ileum sections showed considerable improvement in intestinal villi number and size accompanied by changes in the crypts of Lieberkuhn width, in response to BF and WBF feather color. It is concluded that, there was a significant effect of feather color on live body weight and carcass traits, with the best results being recorded for BF- ducks, while the lowest edible meat parts was recorded for the DBF-ducks. Further research in this respect is important to elucidate the exact relationship between feather color and productive performance of mule ducks.

Keywords: *Feather color, Body weight, Carcass parameters, Intestinal histological, Mule Duck*