



Original Article

The effect of color light and stocking density on some traits of broiler carcasses

Riyad K. Mosa¹; Rabia J. Abbas¹; *² Mudhar A. S. Abu Tabeekh

¹Department Animal Production/ College of Agriculture/ University of Basrah- Basrah- Iraq; ² Veterinary Hospital, Basrah, Iraq

Corresponding author: *Mudhar A. S. Abu Tabeekh, E-mail: mudhar_64@yahoo.com

Abstract

This study was designed to investigate the effects of color light and stocking density on some traits of broilers carcass. A total of 675 Ross 308 one-day-old broiler chicks were used in this study. The chicks were exposed to white light (WL) as a control. While, the treatment light were Red light (RL), Blue light (BL), Green light (GL), and Blue – Green mix light (BGL) (produced by light-emitting diode system, LED), were applied for 24 hours daily in separated rooms. The birds were randomly housed into 9 wooden sealed pens of 1m² in three replicates for each density 12, 15 and 18 birds/m² in the room. The results showed that the carcass weight and dressing and breast muscle percentages were significantly increased) $P < 0.05$) at 35th day in broilers exposed to BGL under 12 birds/m², while thigh muscle percentage was increased significantly) $P < 0.05$) in broilers reared in BL with no effect under different densities. No significant differences were observed in percentage weight of liver and gizzard however, positive effect of heart percentage was recorded in broilers reared under GL with no effect on stocking density. No significant difference of color light and stocking density on abdominal fat percentage of broilers at 35th day were observed in regard of inedible organs, on the other hand, a significant increase of bursa Fabricius (BF) percentage in broilers reared under WL with no effect of different densities. The small intestine length (cm) was differed ($P < 0.05$) in broilers reared under GL and 18 birds/m², while small intestine weight (gm) was higher ($P < 0.05$) under BL and 12 birds/m². In conclusion, this study revealed no significant differences ($P > 0.05$) in the diameter of the breast muscle fibers in broilers reared under different color lights and densities. In addition, no interaction has been found between light color and stocking density on carcass traits of broilers within all experimental groups.

Keywords: broilers, color light, stocking density.

To cite this article: Riyad K. Mosa; Rabia J. Abbas; Mudhar A. S. Abu Tabeekh. (2014). The effect of color light and stocking density on some traits of broiler carcasses. MRSVA. 3 (2), 24-35.

* This article is a part of the Ph.D thesis of the third author.