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Effect of Plumage Colour on The Productive and Physiological Performance of Two Lines of Turkey During Egg Production Period

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Abstract: Using 32 hens from two turkey lines; broad-breasted bronze (BBB) and bourbon red (BR), this study assessed how plumage colour affects egg production and physiological functions during (26-40) weeks of observation. A total of 32 hens, namely 16 hens from the BBB line and 16 hens from the BR line, were bred from 26 weeks up to 40 weeks of age. According to our results, BBB line significantly ($p \leq 0.05$) outperformed BR line in terms of body weight at first egg production, feed intake, and yolk diameter during the study period. A significantly ($p \leq 0.05$) higher feed conversion ratio, an increased egg mass, a higher production rate of hen-day eggs, and a higher rate of albumen was achieved by the BR line. It is, however, noteworthy that the age at first egg production, the egg weight, the egg mass, the yolk weight, the yolk percentage, the albumen weight, the shell weight percentage, the egg shell thickness, width, and length, the shape index, yolk height and yolk index were not significantly ($p \geq 0.05$) different between the two lines at 24 and 36 weeks of age. The levels of luteinizing hormone (LH) and follicle-stimulating hormone (FSH) were not significantly ($p \geq 0.05$) different between the two lines at 24 and 36 weeks of age when eggs were produced. Both turkey lines presented in the current study can potentially be raised in Iraq, as well as used as hens to produce hatching eggs and for genetic improvement.

Keywords: Egg production performance, Egg quality traits, Turkey hens.