Effects of light intensity of green monochromatic light (LED) on performance of broiler

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**Abstract:** In literature, an optimum intensity of green LED was not recommended for broiler production. The purpose of this study was to determine the effect of different intensities from green LED on performance of broiler. After weighed, a total of 300 day-old Arbor Acres maternal male broilers were assigned, randomly and equally, to thirty pens and received 5 intensities, respectively, including 0.005、0.01、0.03、0.1 or 0.2 W/m2 from green LED with 567 nm wavelength for 23 h per day for 5 weeks. Feed and water were provided, *ad libitum*. Body weight (BW) and feed intake were measured and two chickens were sacrificed randomly per pen for detecting intestinal histomorphology, the antibody titer of new castle disease and infectious bronchitis, tibia strength and breast muscle weight (BMW) on day10, 21 and 35. The results showed that the BW of chickens receiving 0.03 W/m2 were significantly better than those of groups irradiated by 0.005 or 0.01 W/m2 on day 35. The body weight gain showed a similar result (p < 0.05) to that of BW during the whole period. On day 35, the groups treated with 0.03 or 0.1 W/m2 owned significantly stronger tibia strength than that of birds irradiated by 0.005 W/m2. The chickens receiving 0.005 W/m2 showed the significantly lightest BMW compared to the other groups only on day 10. There were no significant differences in the other indices between treatments. Due to better performance in some indices the 0.03 W/m2 intensity of green LED with 567 nm was recommended for broiler production.

Key words: Green monochromatic light, Broiler, Growth performance