Hatch performance in different eggs color of Rhode Island Red chicken eggs as affected by incubated light intensity

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Abstract:

Six hundred eggs from Rhode Island Red were illuminated at two levels of light intensity during incubation period to investigate the hatch performance of different eggs color. All eggs were randomly distributed into two groups according to light intensity level (10-20 luxes or 50-60 luxes). Each group were divided to three subgroups according to pigmentation level (light, medium and heavy) and incubated under the recommended conditions. The obtained results showed insignificant differences among eggs color groups for late dead embryo, dead in shell, chemical composition of embryo and chick quality scores. However, highly significant differences were observed in hatchability, early dead embryo, piped egg, egg weight loss, embryo weight percentages, hatch time and chick weight or weight loss. In regard to the effect of light intensity, it affected hatchability, embryo growth and moisture content of embryo. However it is not significant differences in dead embryo, dead in shell, egg weight loss, hatch time, chick weight or weight loss, chick quality scores. Significant interactions of incubated light intensity × egg color groups were existed in most studied traits. It could be concluded that the suitable results of hatchability and hatch performance were obtained for medium light shell pigmentation of Rhode Island Red eggs with incubated light intensity 10-20 luxes.

Keywords:

Light intensity, egg color, hatch performance, Rhode Island Red

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