



Effects of egg weight variation on growth and reproductive performance of Japanese quail (*Coturnix japonica*) raised in Côte d'Ivoire

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ABSTRACT

Objective: The purpose of this investigation was to study the effect of egg weight (W) variation on the growth and reproductive performance of Japanese quail.

Methodology and Results: The study was conducted at the Ismorel farm in the town of Adiaké. The 2002 collected eggs were divided into three classes: 520 for small eggs ($W < 10.5$ g), 932 for medium eggs ($10.5 \text{ g} \leq W \leq 11.5 \text{ g}$) and 520 for large eggs ($W > 11.5 \text{ g}$). The test was conducted over one year with three replications. The results showed a highly significant difference ($p < 0.001$) for hatching rate and non-significant ($p > 0.05$) for fertility rate and embryonic mortality. A strong correlation ($r = 0.70$; $p < 0.01$) was observed between egg weight and quail hatching weight. A significant effect ($p < 0.05$) of egg weight on quail weight during growth was demonstrated. Thus, the laying rate and mortality at growth and laying did not differ significantly ($p > 0.05$) for the egg and quail classes formed. However, the weight of eggs laid and mortality at start-up were influenced at $p < 0.05$ and $p < 0.01$ respectively by the weight of eggs formed at the start of the experiment.

Conclusion and application of results: Quail eggs weighing between 10.5 and 11.5 g produced the best reproductive performance. Quail farmers should use eggs weighing between 10.5 and 11.5 g to maximize the profitability of their farms.

Keywords: Quail, reproduction, quail chick