Abstract

The present study aimed at evaluating the effect of the dietary inclusion of organic trace minerals selenium and zinc on the performance and internal and external egg quality of Japanese quails submitted to heat stress. Data on egg production, feed conversion (kg feed intake/kg eggs and dozen eggs), egg weight, egg specific gravity, eggshell thickness and weight, Haugh unit, yolk index, albumen index and mortality (%) of 144 quails were evaluated for 112 days, divided in eight cycles of 14 days. Birds were distributed according to a randomized block experimental design into four treatments (control; 0.3ppm Se; 60ppm Zn and 0.3ppm Se + 60ppm Zn) with six replicates each. There were no differences (p> 0.05) in egg production (%), egg mass (g/hen/day), feed conversion per egg mass (kg/kg), feed conversion per dozen eggs (kg/dz), average egg weight (g), egg specific gravity, eggshell thickness and weight (g), Haugh unit, yolk index, albumen index and mortality (%). However, quails fed the combination of Se and Zn presented higher (p < 0.05) feed intake (28.73 g/hen/day). Those fed only organic selenium had higher average daily egg production (30.17 eggs/day), and those fed the diet only supplemented with zinc presented higher mortality (p < 0.05). The results of the present study suggest that the supplementation of organic trace minerals in Japanese quails diets submitted to heat stress does not significantly influence quail performance and internal egg quality, whereas the supplementation of the combination of organic Zn and Se increases feed intake.

Keywords
Coturnix, Japanese quails, performance, quail eggs.