



# BOOK OF ABSTRACTS

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## A203 - Rosemary essential oil as a natural disinfectant in Japanese quail Eggs (*Coturnix Coturnix Japonica*): effect on the bacterial load and hatchability characteristics

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### **Abstract:**

The increasing demand for poultry products requires constant maintenance of effective hygiene systems and animal health care to prevent the risk of contamination of human food products. Bacterial and fungal contamination in hatcheries are the main concerns of the modern poultry industry. Eggs disinfection before incubation has attracted great interest worldwide in order to ensure better productivity. Recently, plant extracts have gained attention as natural disinfectant alternatives to the conventional molecules known to be toxic and to generate bacterial resistance. Thus, this study was carried out to explore the interest of essential oils as disinfectant of eggshell bacterial load and their effects on hatching parameters. A total of 200 Japanese quail eggs were used. They were divided into three groups: control (non-disinfected eggs) and two treatments with eggs disinfected with 10 µl/ml and 100µl/ml of rosemary essential oil (EOs/distilled water). The whole surface of eggshells was swabbed and agar counting method was used to measure eggshells bacterial load (cfu/ml). In addition, hatching rate, relative and absolute hatching weight and mortality rate were measured. The results showed that the groups treated with rosemary EO had the lowest bacterial load. Moreover, hatchability was significantly increased in 10µ/ml group. However, highest embryonic mortality rate was observed in 100µl/ml group. The groups treated with rosemary EO both showed heavier average chick body weight. In conclusion, these preliminary results indicate that rosemary EO at 10µl/ml can be an interesting alternative as safe and natural eggshell disinfectant with positive effect on quail chick performances.

**Keywords:** Quail (*Coturnix coturnix japonica*); Eggshell bacterial load; Natural disinfectant; Rosemary essential oil.