Most developed countries around the world have eradicated Salmonella Gallinarum and S. Pullorum from commercial flocks, and now concentrate mainly in the prevention of infections caused by the parapharyngeal group. However, a high percentage of the commercial layer's world population is still affected by S. Pullorum, therefore vaccination with a live attenuated vaccine of S. Gallinarum (SG 9 R) is a strategy frequently used in some areas. After vaccination, developing immunity is critical to get full protection against field challenge. One can assess whether the development of immunity is the presence of mycotoxins, including Aflatoxin (AFL). The objectives of this experiment were: (1) to measure the immune response in birds vaccinated with SG9R, quantifying the impact of AFL on the immune response, and determining if the mycotoxin absorbent used had an effect on the immune response.

MATERIALS AND METHODS

This experiment was conducted at Imunove Laboratory in the Federal University of Paraíba (UFPE) in Brazil. A total of 240-day-old commercial baby chicks (Hendrick®, ISA-Brown) free of Salmonella, were raised in isolation units since day one, to avoid cross contamination among treatments. All birds had unlimited access to feed and water. Pullets were divided randomly in 8 treatments of 30 birds each. Treatment T1 was the negative control (no vaccine, no AFL, no absorbent), T2 was vaccinated, intoxicated with AFL (1 ppm), T3 was vaccinated and intoxicated with AFL (1 ppm) and T4 was vaccinated, intoxicated with AFL (1 ppm) and treated with the absorbent (1 kg/ton). T5 was only vaccinated, T6 was intoxicated with AFL (1 ppm), T7 was intoxicated with AFL (1 ppm) and treated with the absorbent (2.5 kg/ton) and T8 was vaccinated, intoxicated with AFL (1 ppm) and treated with the absorbent (1 kg/ton). After 31 days, all birds were euthanized at the end of the trial. Blood samples were collected at 31 days and 42 days (3-14 days after vaccination). The inclusion of 2.5 kg/ton of the mycotoxin absorbent (1 kg/ton) was added using two inclusion rates, and treated with the absorbent (1 kg/ton). The immune response was measured with flow cytometry. Body weight and mortality were recorded during the duration of the trial.

RESULTS AND DISCUSSION

The statistical analyses were performed separating the results for each blood collection. All mean values are expressed as the mean ± standard deviation. The significance of the differences for all the results was determined using the Tukey test (p < 0.05).

**CONCLUSIONS**

SG9R vaccination and the inclusion of a mycotoxin binder in birds vaccinated and intoxicated did not have a significant negative effect on body weight. SG9R vaccination promoted a statistically significant reduction in the concentration of cytotoxic T lymphocytes (CD8+CD4-). This marker can be measured as a parameter before and after vaccination in commercial layers.

**REFERENCE**


