

EVALUATION UNDER FIELD CONDITIONS OF THE SAFETY AND THE EFFICACY OF GUMBOHATCH® VACCINE ADMINISTERED IN OVO AGAINST INFECTIOUS BURSAL DISEASE IN BRAZIL

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INTRODUCTION

GUMBOHATCH® is a new immune-complex vaccine against Infectious bursal disease (IBD) developed by HIPRA (Spain).

The present multicenter, positive-controlled and blind clinical trial was performed with the aim to evaluate its safety and efficacy when administered *in ovo* under field conditions in Brazil.

MATERIALS & METHODS

A total of 112,100 chicks were vaccinated *in ovo* (18 days of incubation) in a hatchery with GUMBOHATCH® (n= 56,200) or with a commercial IBD-complex vaccine (n=55,900) as a reference vaccine, following the manufacturer instructions.

After hatching chicks were distributed to 3 commercial broiler farms located in the Paraná state. In each farm the two groups were housed in separate units under identical conditions and monitored up to the end of rearing (40 days of live). Several safety and efficacy parameters were evaluated during this period.

Blood sampling and necropsy of 15 chicks per group and farm were performed at different time points. Antibody titers to IBD virus were determined with CIVTEST® AVI IBD (HIPRA). During necropsies macroscopic bursa lesions were evaluated and bursal imprints in FTA cards were collected for PCR analysis.

Data from the three farms was analyzed altogether.

RESULTS

SAFETY

No adverse reactions to any of the two vaccines were observed.

Similar hatchability, body weight after hatching, European Production Efficiency Factor and Ratio Bursa-to-Body weight (BB ratio) was observed in both groups.

Overall incidence of bursa lesions was low and similar in both groups although the incidence of petechial lesions in GUMBOHATCH® group was significantly lower ($p=0.04$).

EFFICACY

No clinical outbreak of IBD occurred in any farm. However, PCR results from bursal imprints evidenced replication of the vaccine virus from day 21 onwards in both groups, coinciding with a progressive decrease of the BB ratio (Figure 1).

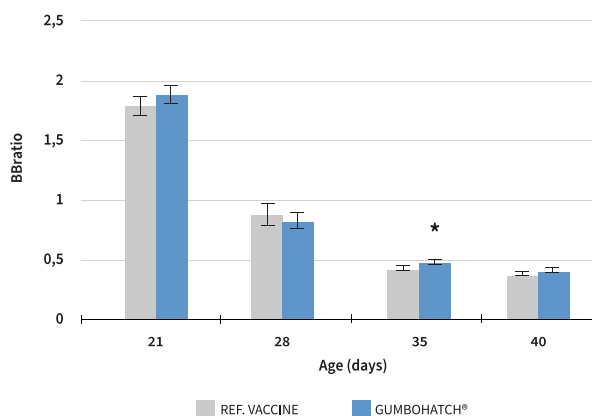


Figure 1 Evolution of Bursa-to-body weight ratio (BB ratio) (mean ± SEM)

*Statistically significant differences ($p<0.05$)

The evolution of antibody titers to IBD virus after vaccination followed a similar pattern in both groups, with a progressive decrease of maternally-derived antibodies between days 0 and 21, followed by a fast increase of vaccine-induced antibodies from day 28 onwards up to the end of rearing. Statistically significant differences ($p<0.05$) in vaccine-induced antibody titers were detected on day 35 in favor of GUMBOHATCH® group (Figure 2).

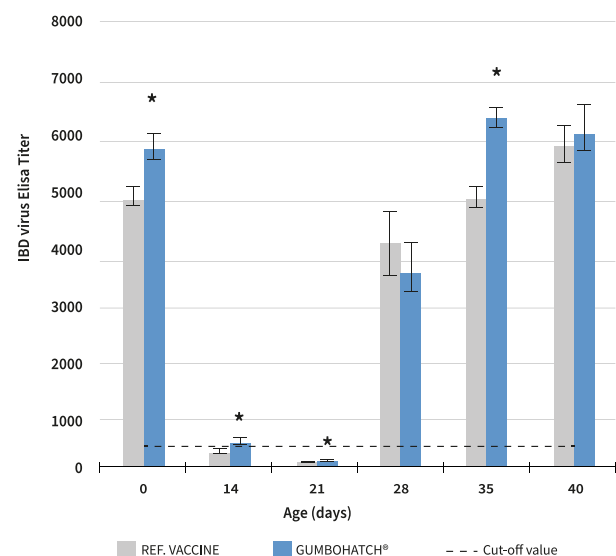


Figure 2 Evolution of serum antibody titers to IBD Virus; ELISA titer (mean ± SEM) (cut-off value =357)

*Statistically significant differences ($p<0.05$)

Similar results on performance parameters such as body weight gain and feed conversion rate were observed in both groups.

CONCLUSIONS

The results obtained in this study draw the conclusion that vaccination with GUMBOHATCH® is safe and confers protection against IBD for the whole productive cycle of broiler chicks when administered *in ovo* under field conditions in Brazil.