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

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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 Europe.

METHODS
A total of 183,230 chicks were vaccinated in ovo (18 days of incubation) in a hatchery with GUMBOHATCH® (n= 74,985) or with a commercial IBD-complex vaccine (n=88,245) as a reference vaccine, following the manufacturer instructions. After hatching chicks were distributed to 3 commercial broiler farms located in France. In each farm the two groups were housed in separate units under identical conditions and monitored up to the end of rearing (35 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.

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).

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. No statistically significant differences in vaccine-induced antibody titers were detected at any time point (Figure 2).

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 Europe.

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The evolution of bursal-to-body weight ratio (BB ratio) was observed in both groups, coinciding with a progressive decrease of the BB ratio (Figure 1).

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

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