

COMPARISON OF GUMBOHATCH® AND AN HVT-IBD VACCINE ON A COMMERCIAL BROILER FARM IN PERU WITH vIBDV CIRCULATION

OBJECTIVE

The present trial was performed with the aim of comparing the efficacy of GUMBOHATCH® vs an HVT-IBD vaccine on a commercial farm in Peru where variant IBDV (vIBDV) circulation had been detected and was already causing problems in terms of productive parameters.

METHODS

A total of 185,675 chicks (cycle 1) were vaccinated subcutaneously (D.O.C.) with an HVT-IBD vaccine, following the manufacturer's instructions, and distributed between the 6 houses on a farm. In the next cycle (cycle 2), a total of 186,908 chicks were also vaccinated subcutaneously (D.O.C.) with GUMBOHATCH® and were also housed in the 6 houses on the farm. This farm was suffering problems of subclinical IBD caused by a vIBDV.

Both groups were reared under similar conditions and monitored up to the end of rearing. Productive parameters from the all the flocks vaccinated with GUMBOHATCH® were compared with the flocks vaccinated with the HVT-IBD vaccine. The feed conversion rate was corrected by average slaughter weight (2.75 kg). A linear model was used to examine the effect of the vaccine on the different productive parameters using the statistical program package R v4.0. A probability level of $p < 0.05$ was chosen as the limit for statistical significance in all tests.

RESULTS

SAFETY

No adverse reactions to either of the two vaccines were observed. The bursal index of the bursas of the flocks vaccinated with GUMBOHATCH® was within the expected range for broilers vaccinated with a live attenuated virus (Figure 1). In contrast, the bursal index of the flocks vaccinated with the HVT-IBD vaccine was lower than expected when no live IBD virus is replicating.

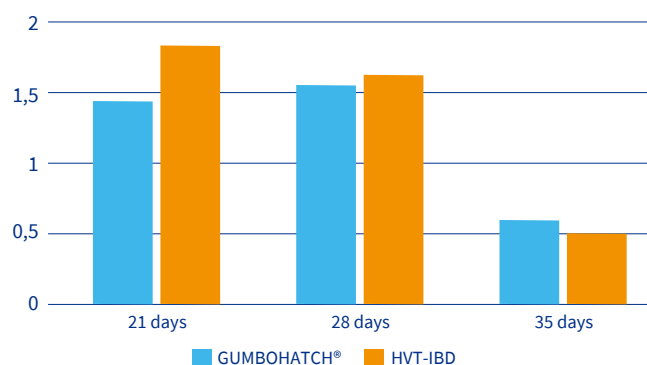


Figure 1. Comparative bursal index.

EFFICACY

Productive parameters are shown in Table 1. Significant differences were observed in average daily gain (ADG), feed conversion rate (FCR), mortality and uniformity at 35 days in the flocks vaccinated with GUMBOHATCH® compared with the HVT-IBD vaccine.

	GUMBOHATCH®	HVT-IBD vaccine	Difference vs HVT-IBD vaccine
Houses (total)	6	6	-
Broilers (sum)	186,908	185,675	
Age at slaughter (days)	39.88	44.35	- 4.47
Final weight (kg)	2.677	2.801	- 0.123
ADG (g/day/bird)*	67A	63B	+ 4
FCR*	1.545A	1.687B	- 0.142
FCR (2750)*	1.560A	1.630B	- 0.07
Mortality (%)*	2.31A	3.59B	- 1.28
Culls (%)	2.63	2.65	- 0.02
Total mortality (%)	4.94	6.23	- 1.3
EEl	413.52	351.26	+ 62.25
EEl (2750)	410.65	362.76	+ 47.89
Uniformity 1 day (%)	79.64	76.13	+ 3.51
Uniformity 35 days (%)*	82.88A	64.48B	+ 18.40

Table 1. Comparison of productive parameters between GUMBOHATCH® and the HVT-IBD vaccine.

^{A,B} Numbers with different letters indicate significant statistical differences ($p < 0.05$).

CONCLUSIONS

The results obtained in this study allow the conclusion to be drawn that vaccination with GUMBOHATCH® is safe and confers protection against the circulation of variant IBDV. The differences observed in the productive parameters between the flocks vaccinated with GUMBOHATCH® vs the flocks vaccinated with the HVT-IBD vaccine, might be due to a lack of efficacy of the HVT-IBD vaccine against variant IBD strains when the antigenic structure of the VP2 inserted in the vector has a low match with the field challenge virus.