

“SERODIAGNOSIS OF GUMBORO DISEASE COMPARING CIVTEST® AVI IBD WITH 3 OTHER COMMERCIAL KITS”

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INTRODUCTION

The objective of this study is to compare the serological evolution of serum samples from broilers with maternal immunity from different farms in France that were subsequently vaccinated. To do this, four commercially available kits were used: CIVTEST AVI IBD (HIPRA), ELISA-I ELISA-S and ELISA-B; all of them are indirect ELISA kits.

MATERIALS AND METHODS

The study was conducted using 338 serum samples from broilers corresponding to 6 different farms in France. They were vaccinated with HIPRAGUMBORO GM97, a live attenuated vaccine (intermediate plus), between 15-20 days of age. Samples were taken from each farm when chicks were 1-day-old, on the day of vaccination and at the time of sacrifice. Each sample was analysed using CIVTEST AVI IBD, ELISA-I, ELISA-S and ELISA-B according to the manufacturer's instructions.

RESULTS

The results from each of the ELISAs for each farm are shown in Figure 1. The average values (15-20 samples/ sampling), the standard deviation and the coefficient of variation found in each group are shown for each kit.

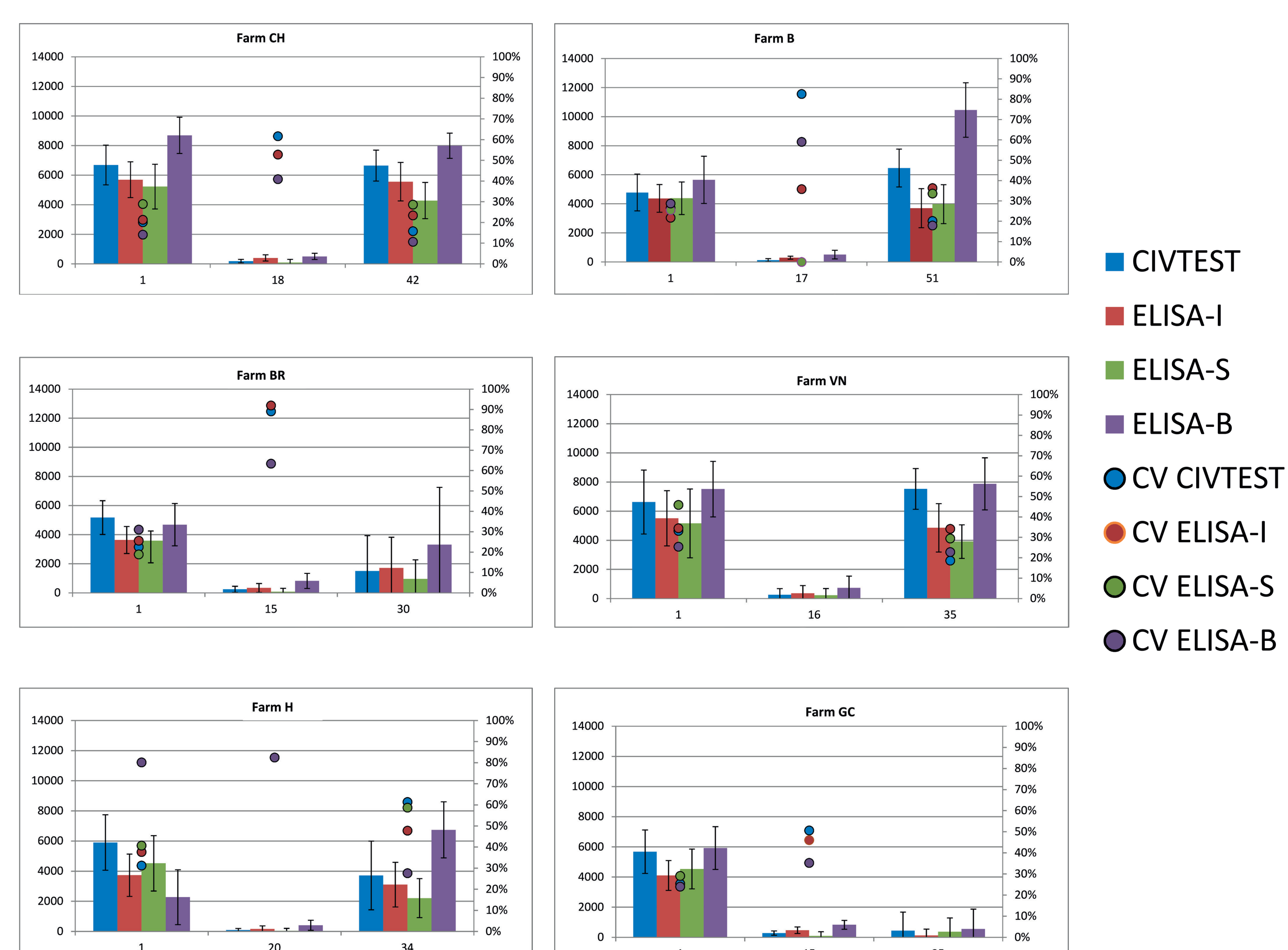


Figure 1. Each graph summarises the results from each farm. The left vertical axis (Y1) is the average value (bars) and standard deviation. The horizontal axis (X) indicates the day that the samples were collected. The right vertical axis (Y2) is the coefficient of variation (points).

All of the kits detected maternal immunity when the chicks were one day old, decreased maternal immunity on the day of vaccination and the same kinetics in post-vaccination seroconversion.

CONCLUSIONS AND DISCUSSION

When chicks were one day old, all kits detected seroconversion from maternal immunity similarly, except farm H on which the ELISA-B had a lower mean antibody titre than on the other farms. CIVTEST AVI IBD found an average titre between 4500-7000.

All the kits detected the drop in maternal immunity on the day of vaccination with some differences. Whereas CIVTEST AVI IBD, ELISA-I and ELISA-B maintained a mean of antibody titres and a similar CV in all cases, the latter ELISA showed higher titres. ELISA-S exhibited a high CV due to the presence of a large amount of 0 values.

Farms CH, B and VN correspond to those that were vaccinated and analysed on the optimal day. In the case of farms BR, H and GC all the kits detected lower titres compared with previous farms. Samples taken at the time of sacrifice were taken on days 15 and 14 p.v. respectively on farms BR and H, which did not give time to observe seroconversion. The lack of seroconversion on farm GC may have been due to interference with maternal antibodies.

In conclusion, the indirect ELISA kits provide quantitative information useful for serological monitoring of vaccination; the correct interpretation of the results is fundamental. Therefore, CIVTEST AVI IBD is an excellent tool for monitoring and obtains titres of 6000-8000 with the live attenuated vaccine, intermediate plus.

REFERENCES

- Kulíková L, et al. 2004. Effects of infectious bursal disease vaccination strains on the immune system of Leghorn chicks; Acta Vet Br 73: 205-209.
- Witt JJ. 2001. Gumboro Disease: estimation of optimal time of vaccination by the Deventer formula. 3rd Meeting of Cost Action 839. Pulawy, Poland.



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