COMPARISON OF IMMUNE RESPONSE TO DIFFERENT COMMERCIAL VACCINES AGAINST *Mycoplasma agalactiae* IN SHEEP

Montoro, C., E. Perozo, R. March and J. Badia
HIPRA, Avenida La Selva, 135, Amer (Girona), juli.badia@hipra.com

INTRODUCTION

Contagious agalactia (CA) is one of the main contagious diseases that affect small ruminants. The main causal agent is Mycoplasma agalactiae, a contagious bacterium that leads to chronic infections. Prophylaxis is considered to be the most viable, economical and sustainable method to combat this pathogen. There are currently several inactivated vaccines against M. agalactiae in Spain. The objective of this study was to compare the short-term and long-term serological response to different commercial vaccines against M.agalactiae available in Spain.

MATERIALS AND METHODS

Fifty-seven Lacaune lambs (three months old) that were free of antibodies against M. agalactiae were used. They were randomly split into four groups:

Group	Vaccine (antigen)
A (Agalaxipra; n=17)	*M. agalactiae*
B (n=17)	*M. agalactiae*, *M. capricolum* and *M. mycoides* subspec. *Mycoides*
C (n=17)	*M. agalactiae*
Control (n=6)	PBS

The lambs were vaccinated at three months of age (D0), three weeks later (D21) and seventy-five days after the first vaccination (D75). Blood samples were taken on D-7, D0, D21, D75, D125, D165 and D210, with the first vaccination administered on D0. The serums were analysed using the ELISA CIVTEST® Ovis M. agalactiae kit.

Rectal temperature was also recorded on days D-1, D0, D0+4h, D1, D20, D21, D21+4h and D22, with the first vaccination administered on D0. The data was analysed with an ANOVA using the program SPSS.

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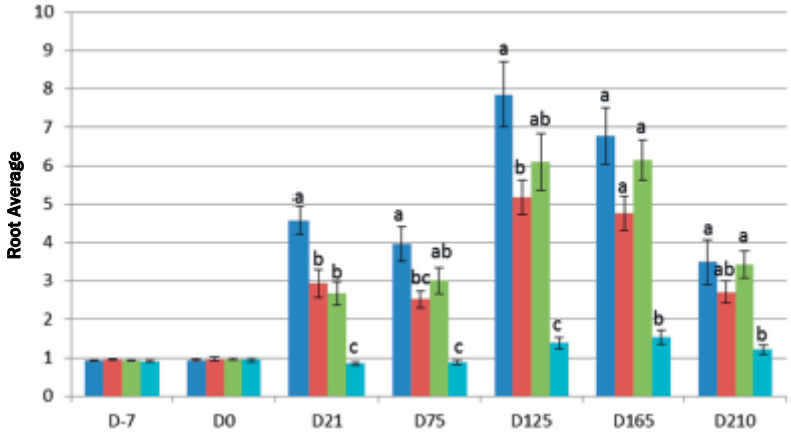
RESULTS AND DISCUSSION

Animals vaccinated with Agalaxipra showed a rapid seroconversion (D21) after the first vaccination, clearly better ($p<0.05$) than the other groups, indicating a rapid and high immunisation coverage (Figure 1). The animals in groups A and C showed significantly higher antibody titres than the control group in all extractions from day 21 onwards, whilst group B showed no significant difference from the control group on days D75 and D210.

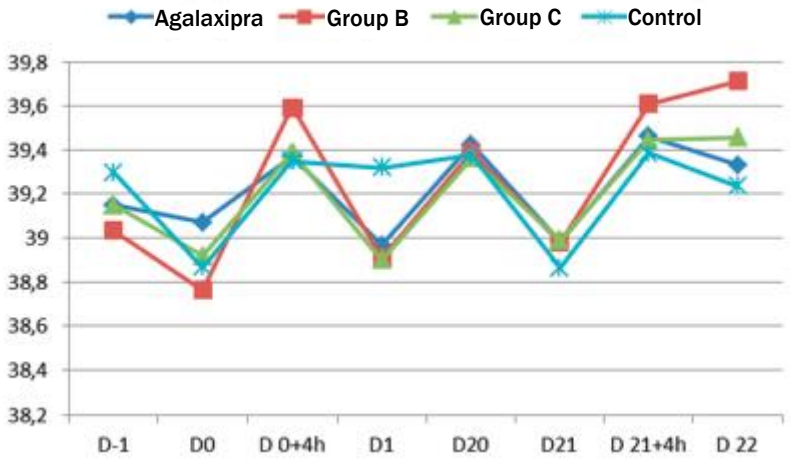
Figure 1. Levels of antibodies against Mycoplasma agalactiae.



* Different fonts indicate significant differences ($p<0.05$)

With regards to the rectal temperatures, no differences were observed between the groups and no group exceeded an average of 40 °C on any of the days observed (Figure 2).

Figure 2. Average rectal temperatures



CONCLUSIONS

Vaccination with Agalaxipra showed the best and fastest seroconversion in the first 21 days compared with other commercial aqueous vaccines. Furthermore, only Agalaxipra and vaccine C were able to induce a better serological response than the control group during all 210 days of the study.

REFERENCES

Agnone, A, *et al.* 2013. Small ruminant research,112:230-234