CASE STUDY: VACCINATION AGAINST STAPHYLOCOCCAL BIOFILM FOR THE PREVENTION OF SUBCLINICAL MASTITIS IN MANCHEGA SHEEP IN SPAIN.

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INTRODUCTION

Subclinical mastitis has an important economic impact on dairy sheep farms mainly because of milk production losses and high replacement costs.

OBJECTIVES

In this case study, the efficacy of vaccination against staphylococcal subclinical mastitis was measured in a sheep farm with an average bulk tank somatic cell count (BTSCC) of 650,000 cells per ml.

MATERIALS AND METHODS

Vaccination with VIMCO® (Inactivated vaccine against staphylococcal mastitis; HIPRA) was performed (2 doses before lambing 3 weeks apart) in a dairy farm of 1,000 Manchega sheep, starting in May 2015. Batches of 200 animals on average were lambing every 2 months. CNS was isolated in bulk tank and *S. aureus* in clinical cases of mastitis. No changes in management on the farm, apart from vaccination.

Manchega Breed

We compared the change in BTSCC from the year prior to vaccination and 19 months after first vaccination on the farm. LILCAM (Interprofessional laboratory of Castilla la Mancha) took 2 or 3 milk bulk tank samples per week. 272 bulk tank samples were analyzed from April 2014 to October 2016.

BTSCC trend and geometric mean was calculated before and after starting vaccination with VIMCO®. Ewes were vaccinated progresively and the observation continued during 19 months after the first vaccination.

RESULTS

The BTSCC trend line of 272 bulk tank samples throughout the study period was positive. This trend started at 700,000 SCC/ml and finished at 500,000 SCC/ml. (Fig. 1).

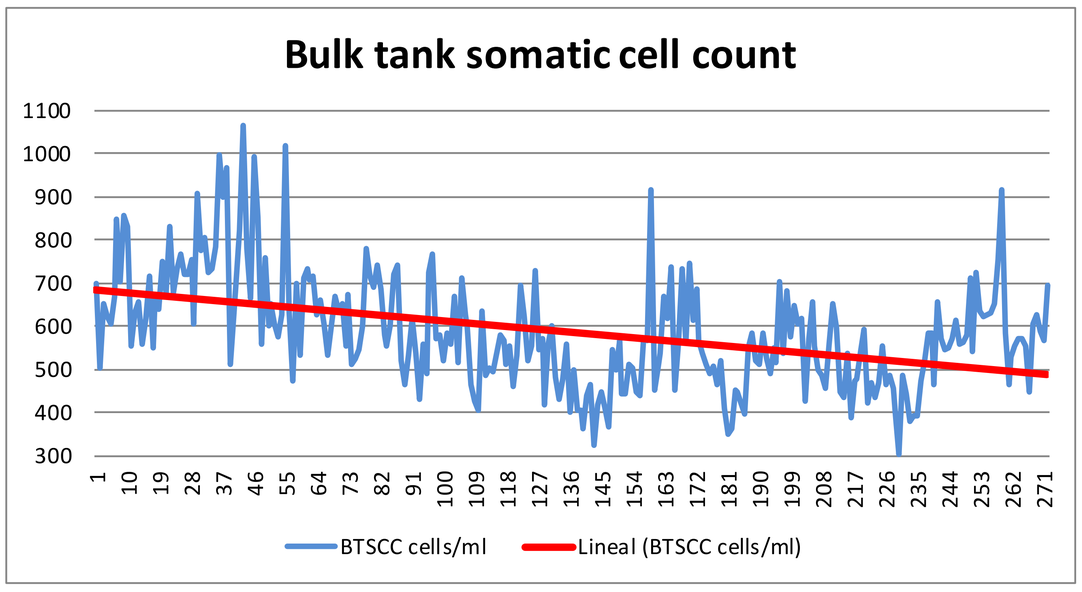

Figure 1. BTSCC (x1000)

Regarding the calculations of the Geometric Mean of BTSCC, we observed a reduction of 21.5% in the first year. For the control batch (year before vaccination), the geometric mean of 101 samples was 662,787 css/ml and at the end of the first year of vaccination the geometric mean of 108 samples was 520,045 css/ml (P <0.001). (Fig. 2).

The first 7 months of the second year, the reduction was 19.5% with respect to the control year (662,787 css/ml vs 533,991 css/ml) (P <0.001).

		BTSCC Geometric mean/ml
Previous Year		**662,787** (1,2)
Vimco	1st year	**520,045** (1)
Diff %		21.5%
Vimco	2nd year	**533,991** (2)
Diff %		19.5%

(1 and 2) Significantly different values (P<0,001)

Figure 2. BTSCC geometric mean differences

CONCLUSIONS

Since the use of VIMCO® there has been a decrease in the BTSCC (20%). VIMCO® is a tool that we can includ with other preventive measures to avoid the transmission of *staphylococci* on dairy sheep farms.

This will contribute to the control of subclinical mastitis on the farm, improving the profitability of the farm, reducing the use of antibiotics and increasing milk quality.

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