IMPACT OF THE USE OF A MASTITIS MULTIVALENT VACCINE: A CASE STUDY

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OBJECTIVES

The coliform mastitis causes severe losses on dairy farms. Traditional strategies based on prophylaxis and control programs are not sufficient in some cases. New tools have emerged in order to increase the immunity of animals with emphasis on vaccines for mastitis. The aim of this study was to determine the effects on milk quality, on the infectious status of cows and the use of systemic antimicrobial therapy after the use of a mastitis multivalent vaccine (STRARVAC®, HIPRA) in a farm with serious problems of coliform mastitis.

METHOD AND MATERIAL

The farm had on average 33 milking cows with excellent milking routines and good hygiene and management practices. The results of bacteriological samples of clinical and sub-clinical mastitis, in the year preceding the first application of the vaccine showed greater proportion of *Escherichia coli* (56%), *Streptococcus spp.* (17%) and *Coagulase Negative Staphylococcus* (CNS) (10%); the therapeutic protocols used were expensive and with little effectiveness.

The vaccination program was initiated in August of 2012, with the three-week interval between the first and the second application, and repeated every three months, in lactating and dry cows and heifers.

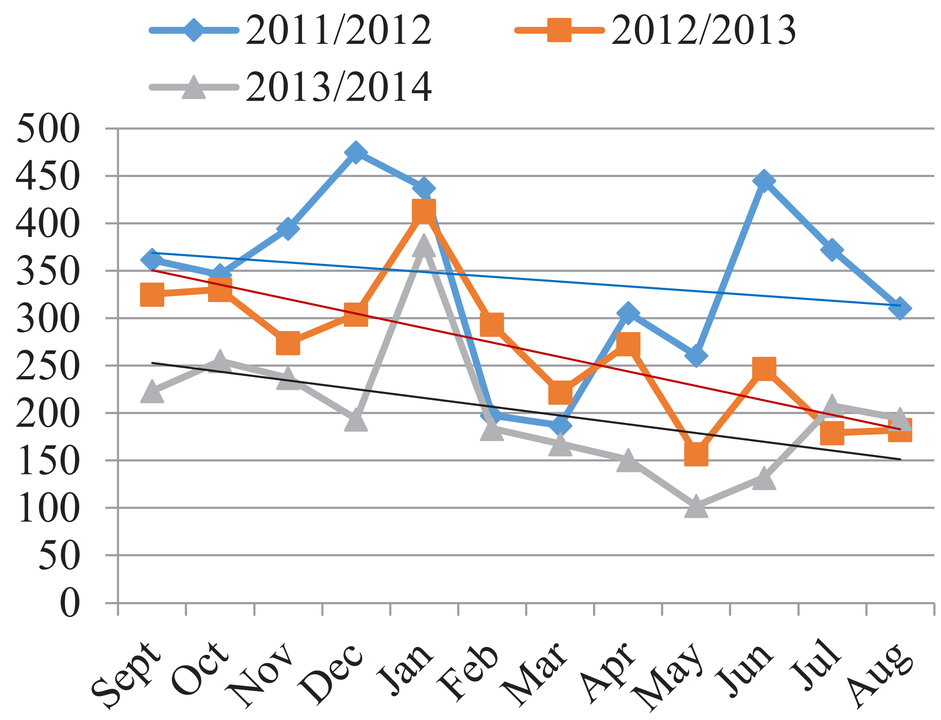

Figure 1. Bulk milk SCC results during the two years of vaccination and the year before immunization (x 1.000 cells/ml).

RESULTS

The number of treatments with systemic antibiotic therapy was 46% (6) in the previous year of vaccination and in the first year post vaccination was 11% (2); in the second year no systemic antimicrobial therapy was used in mastitis treatment.

It was observed a reduction in annual average of somatic cell count (SCC) in the bulk milk, from 341.000 cells per millilitre (céls/ml) in the period 2011/2012, to 266.700 in the first year (2012/2013) and 202.000 in second year of vaccination (2013/2014) (Figure 1).

A significant reduction in the percentage of chronic animal and new infections was observed, especially in the second year after immunization. However, the farm still had a risk period in winter, linked to climatic factors.

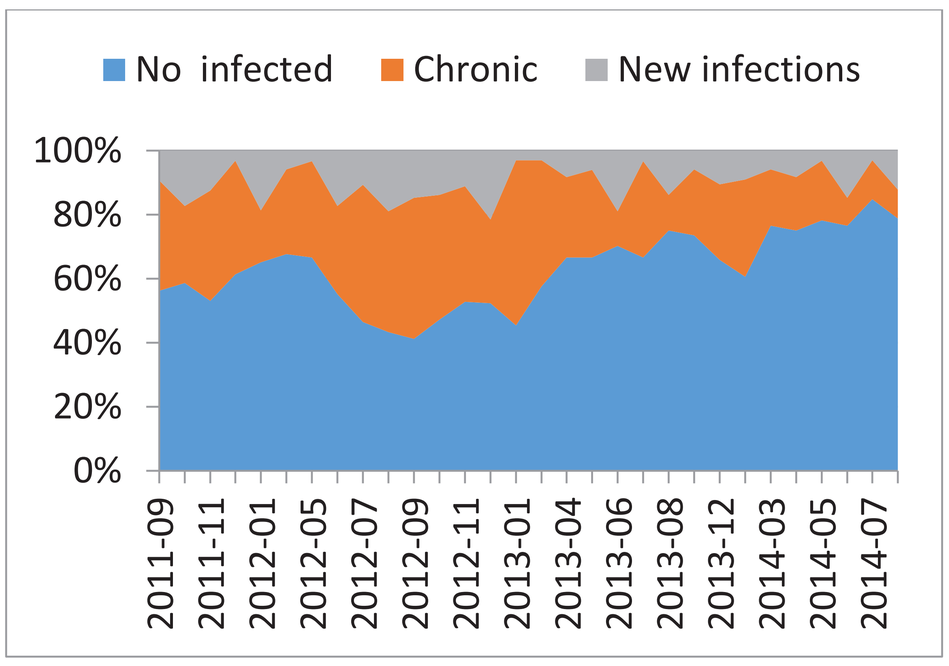

Figure 2. Monthly distribution of the percentage of not infected animals, chronic animal and new infections from comparison of SCC in consecutive months.

CONCLUSIONS

The results of the introduction of a multivalent vaccine for mastitis show a reduction of SCC in the bulk milk tank, a reduction in the number of new infections and chronic animal and a significant reduction of the antibiotic systemic therapy. The benefits obtained with the vaccination program justify their use and maintenance on the farm and must be considered on mastitis control programs.