STARTVAC® VACCINATION AGAINST BOVINE MASTITIS ON A DAIRY HERD IN CENTRAL UKRAINE

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OBJECTIVE

The main purpose of this study was to determine mastitis vaccine STARTVAC® efficacy, repercussions on mastitis epidemiology and monthly clinical mastitis rates, as well as cost-effectiveness, in a dairy herd with good management and with no major problems at all.

MATERIAL AND METHODS

The present study took place on a farm located in central Ukraine, with 4,000 dairy cows and average milk yield production of 35 L/day. Animals were kept in a loose housing system and milked three times a day (DeLaval 2x36 points). Monthly clinical mastitis rate before vaccination period started was 6% and somatic cell count (SCC) level was 257,000 cells/ml. The main pathogens found in bacteriological culture were *S. aureus*, *E. coli* and *Streptococcus spp*. The main problem to be faced was that the animals came from many different dairy farms from several European countries, which resulted in a high prevalence of virus and infectious agents, including different mastitis causing pathogens.

A total of 1,300 milking cows were vaccinated (STARTVAC®) according to the manufacturer's indications (HIPRA): the first shot was applied 45d before calving, the second shot 10d before calving and the third shot 62d after the second shot IM. Vaccination period started on April 2010 and follow up was conducted for a year and a half.

RESULTS

After using STARTVAC®, the incidence of clinical mastitis cases decreased from 6% to 2%. The losses of animals due to severe mastitis caused by *E. coli* also registered an important decrease (one animal per month after vaccination period; before the vaccination with STARTVAC® there were three to four animals per month). The number of isolates of *S. aureus* after the vaccination period decreased; at the moment this major mastitis pathogen is no longer detected in the dairy herd. The use of intramammary and injectable antibiotics has been significantly reduced (55-60% lower).

There was a significant increase of spontaneous cure rate of the infected cows. The SCC in bulk milk tank decreased. Before vaccination there were 257,000 cells/ml and it went down to 163,000 cells/ml after vaccination. This dairy herd is still being vaccinated and will continue with the bovine mastitis STARTVAC® vaccination program.

Figure 1. Number of clinical mastitis cases (%), before and after April 2010, introduction of STARTVAC® vaccination.

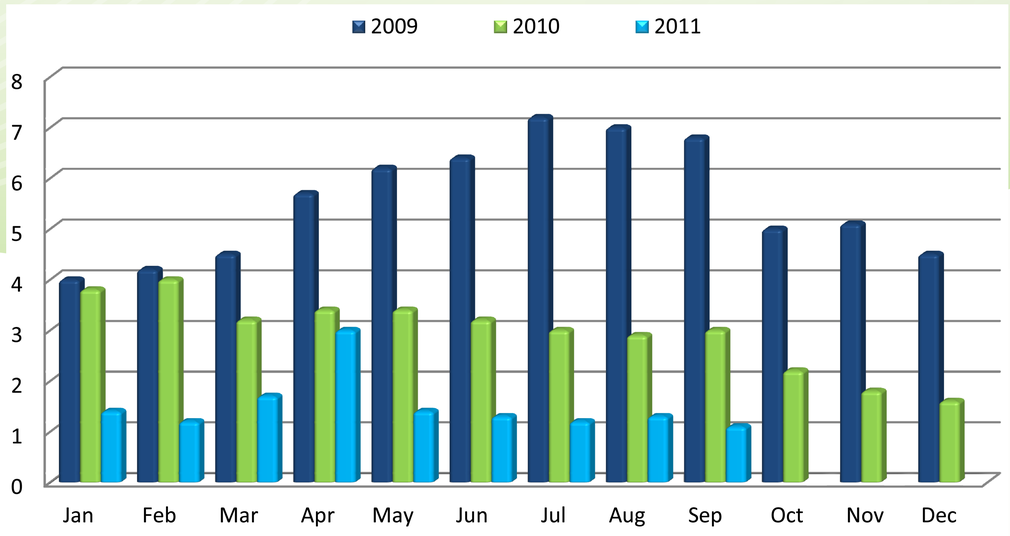


Figure 2. Bacteriological detection rate of *S. aureus* after April 2010, introduction of STARTVAC® vaccination.

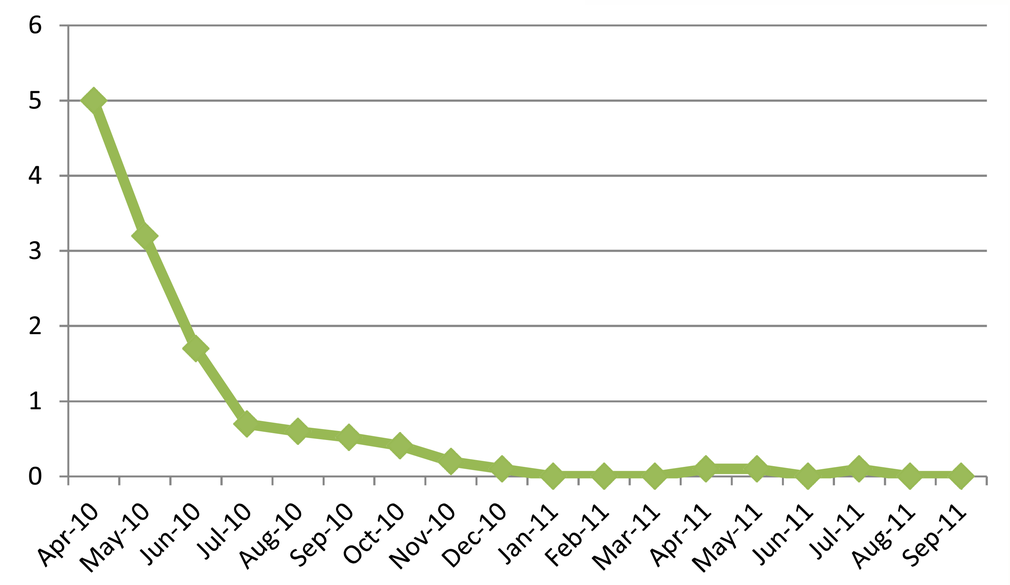
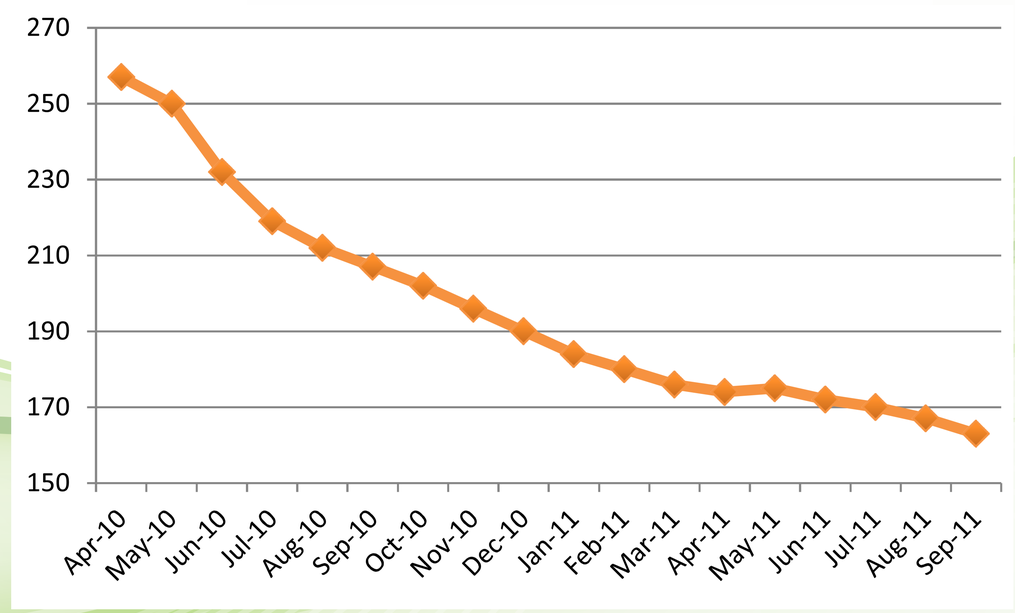


Figure 3. Evolution of SCC (x 1,000 cells/ml) after April 2010, introduction of STARTVAC® vaccination.



CONCLUSIONS

STARTVAC® was efficacious in controlling colimastitis by reducing the number of clinical mastitis cases and the severity of symptoms and by increasing the spontaneous cure rare. It was also shown that STARTVAC® can be useful in reducing the presence of *S. aureus* and consequently reduced the cost of antibiotic treatment.