

# FIELD STUDY: USE OF THE STARTVAC® VACCINE UNDER PRACTICAL CONDITIONS ON A DAIRY FARM IN NORTHERN GERMANY



M. Tischer<sup>1</sup>, G. Stampa<sup>2</sup>, G. Gründer<sup>2</sup>

<sup>1</sup> Vet-Consult, Berlin, Germany <sup>2</sup>, Veterinary Consultancy Practice, Brokstedt, Germany



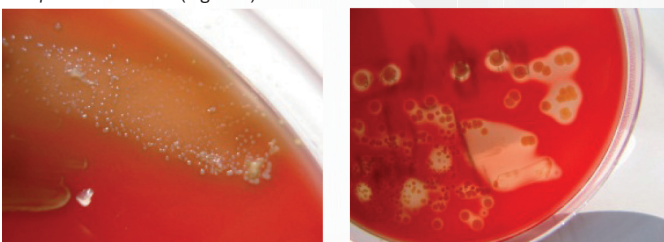
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## INTRODUCTION

STARTVAC® is an inactivated vaccine against bovine mastitis caused by *Staphylococcus aureus*, *Escherichia coli*, coliforms and coagulase-negative staphylococci (CNS). The vaccine has only been on the market in Germany since 2010 and it has been shown to be helpful in reducing the incidence of sub-clinical mastitis and the incidence and the severity of the clinical signs of clinical mastitis caused by the above-mentioned pathogens in dairy cattle herds with recurring mastitis problems in the postpartum period. The objective of this field study was to determine if the positive effects of this vaccine could be reproduced under practical conditions in Northern Germany.

## MATERIAL AND METHODS

For the vaccination, a herd with 450 Holstein Frisian dairy cows with an annual milk yield per cow of 9500kg had been chosen. In the period before the vaccination, between February 2009 and August 2010, the average individual somatic cell count (ISCC) fluctuated between 318,000 and 518,000 cells per ml milk. The results of bacterial examinations of milk samples from the past few years showed that the farm had continuous problems with CNS, *Staphylococcus aureus*, *Escherichia coli* and *Streptococcus uberis* (Figure 1).



*Strep. uberis* and *S. aureus* diagnosed in this herd and cultured on blood agar.

The vaccination program with STARTVAC® started on day 21/07/2010 with a 3-week interval between the first (n=440) and second injection (n=455) and thereafter 3 booster injections at 3-month intervals.

## RESULTS

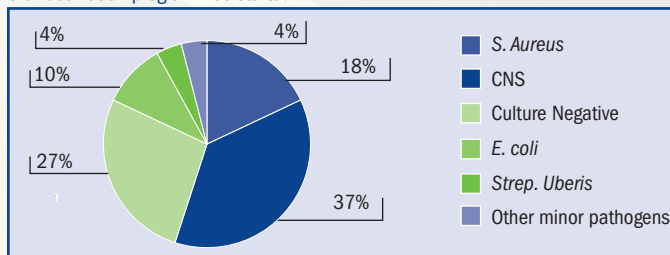
Data from the first year of the vaccination program (September 2010 to August 2011) were evaluated. After the first and second injection, the incidence of clinical mastitis decreased on this farm from an average of 6.3% to 4.3% (Figure 2).



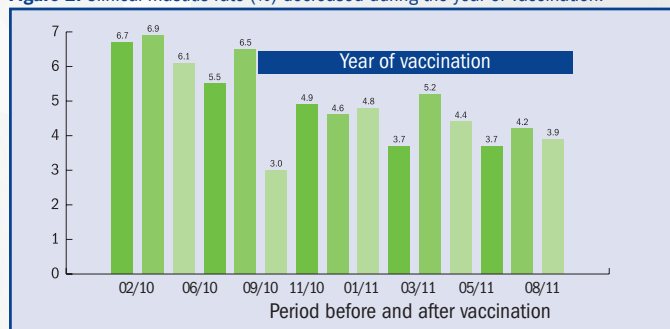
The incidence of clinical mastitis decreased on this farm by an average of 2%.

Moreover, the ISCC decreased by 113,000 from an average of 382,000 to 269,000 cells per ml milk in the vaccination year (Figure 3). The cure rate during the dry off period (SCC > 100,000 cells/ml before drying off and < 100,000 cells/ml after calving) stayed the same within the vaccination year by an average value of 60%. The rate of new infections during dry off period (SCC < 100,000 cells/ml before drying off and >100,000 cells/ml after calving) decreased during the evaluated time period. Within the vaccination year, the new infection rate decreased in heifers by an average of 8% and in cows by an average of 13% (Figure 4).

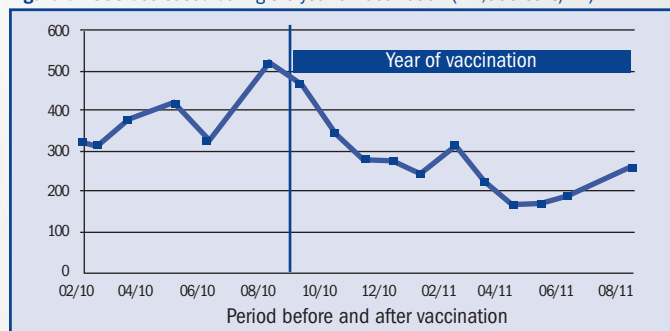
**Figure 1.** Results of bacteriological culturing of 100 quarter milk samples taken before the vaccination program was started.



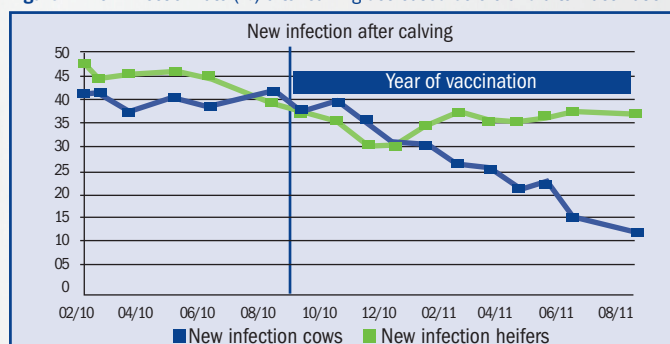
**Figure 2.** Clinical mastitis rate (%) decreased during the year of vaccination.



**Figure 3.** ISCC decreased during the year of vaccination (x 1,000 cells/ml).



**Figure 4.** New infection rate (%) after calving decreased before and after vaccination.



## CONCLUSION

The STARTVAC® vaccine proved to be successful under practical conditions in regard to the reduction of the incidence of clinical mastitis, the ISCC and the rate of new infections.