EFFICACY OF UBAC® VACCINE AGAINST AN EXPERIMENTAL INTRAMAMMARY HETEROLOGOUS CHALLENGE IN DAIRY HEIFERS (CLINICAL RESPONSE AND MILK PRODUCTION)

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OBJECTIVES

To evaluate the efficacy of a new *S. uberis* vaccine against bovine mastitis (UBAC®, HIPRA) after an experimental intramammary challenge with a heterologous *S. uberis* strain (SU2H) in dairy heifers.

MATERIALS AND METHODS

Twenty five gestating Holstein-Friesian heifers were randomly distributed in two groups (table 1).

GROUP	Treatment	Administration
Vaccinated (n=13)	UBAC®	60 & 21 d. before day parturition
Control (n=12)	PBS	

Table 1. Distribution and administration program.

All animals were challenged by intramammary infusion of 100 CFU of a *S. uberis* heterologous strain in two quarters per animal, 15 days after parturition.

Mastitis clinical signs (milk and udder abnormalities), **rectal temperatures** and **milk yield** were monitored three times before challenge and from challenge (D0) to the end of the study (D21).

RESULTS

Control animals had significantly ($P < 0.05$) greater mastitis clinical signs compared to vaccinated group in 7 time-points (Figure 1). Vaccinated animals had significantly ($P < 0.05$) lower clinical score of mastitis compared to control group during the 21 days after challenge.

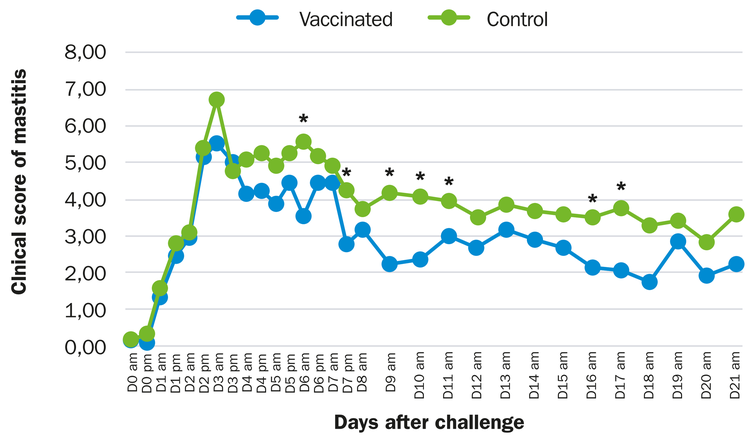

Figure 1. Average of clinical mastitis score of vaccinated and control group from challenge to 21 days after infection.
*Indicates significant differences ($P < 0.05$).

Rectal temperatures were also significantly ($P < 0.05$) higher in control group compared to vaccinated group in 3 time-points (Figure 2). Vaccinated animals tended ($P = 0.053$) to had a lower rectal temperature compared to control group the entire study.

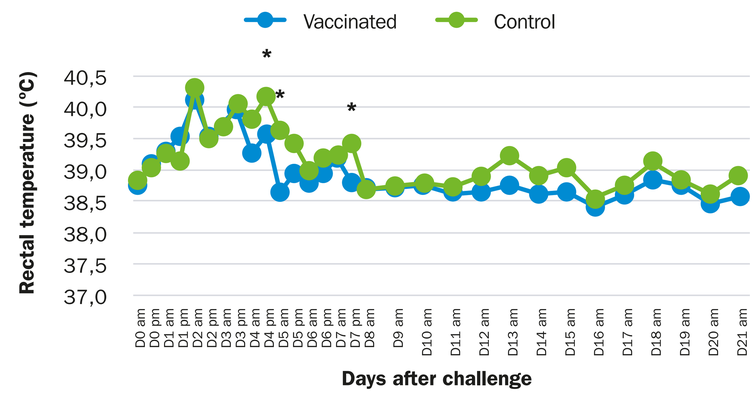

Figure 2. Average of rectal temperatures of vaccinated and control group from challenge to 21 days after infection.
*Indicates significant differences ($P < 0.05$).

Milk losses were also significantly ($P < 0.05$) greater in the control group compared to vaccinated group in 6 time-points (Figure 3). **Vaccinated animals tended ($P = 0.08$) to had a lower milk losses compared to control group**.

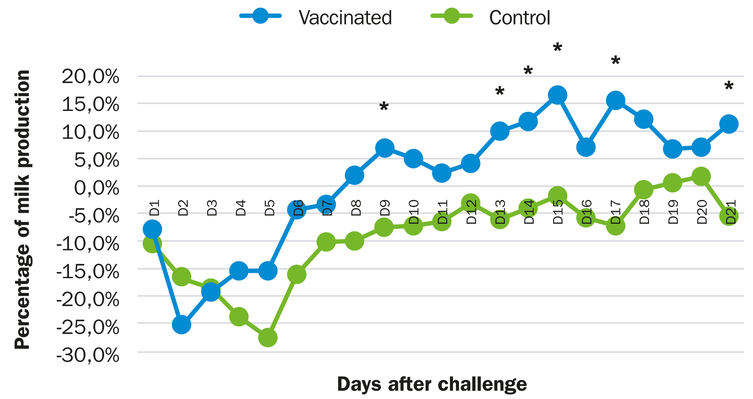

Figure 3. Average of percentage of milk production of vaccinated and control group from challenge to 21 days after infection.
*Indicates significant differences ($P < 0.05$).

CONCLUSIONS

The results demonstrate that the **intramuscular immunization of dairy heifers with UBAC® vaccine induce a significantly reduction of the severity of clinical signs** of mastitis, **temperature** and **milk production losses** after an intramammary infection with *S. uberis* heterologous strain.

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