

Accompanying scientific study of the vaccination campaign against Bluetongue in Switzerland 2008/09

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Key words

BTV-8, Vaccination campaign, Switzerland

Aim of the study

The aim of the study was to show the safety and efficacy of the inactivated BTV-8 vaccines used during the vaccination campaign in 2008 and to identify improvement points for the implementation of the vaccination campaign.

Material and methods

In a field study, the course of the antibody titres of 90 vaccinated cattle, 60 vaccinated sheep and 60 vaccinated goats was monitored over a period of 12 months. The animals were bled and serologically tested for antibodies before vaccination and 4, 8 (only cattle), 26 and 52 weeks after the first vaccination.

The potential effect of the vaccination on dairy production and reproduction parameters at the population level was assessed. Somatic cell count data of monthly bulk-milk samples from 29'105 farms were provided by two central Swiss testing laboratories (Qualitas & Suisselab). Insemination data from the Swiss Cattle Breeding Association of approximately 600'000 cattle was analyzed for the following parameters: Non-return-rate after 56 days (NRR56), i.e. all cows not re-inseminated during 12 to 56 days after the first insemination and insemination interval between 120 and 300 days (INS120-300) as indication of an abortion. Exact vaccination dates of farms and individual animals was obtained from the information system for the Swiss public veterinary service (ISVet). All statistical analyses were performed with the statistics program NCSS 2004 (Kaysville, Utah, USA).

Results and significance

No significant difference in the number of bulk-milk samples with SCC above the threshold value of 350'000 somatic cells/ml could be observed in 2008 and 2007. Below the threshold value, samples from vaccinated farms were more often in segments with higher SCC than samples from non-vaccinated farms. The NRR56 in 2008 was comparable with the NRR56 in 2007. More potential abortions (INS120-300) were observed in summer 2008 than in summer 2007. However, the number of potential abortions was also elevated in spring 2008 compared to spring 2007. Thus, this observation was not limited to the BT-vaccination period. During the BT-vaccination period in 2008, less potential abortions (INS120-300) were observed in vaccinated cattle than in non-vaccinated cattle. In conclusion, the results of the study showed that vaccination against BTV8 in 2008 had no negative effect on somatic cell count and the assessed reproductive parameters in cattle on the population-level. Data about the efficacy of the vaccines in the field (course of antibody titres) has not yet been analyzed.

Publications, posters and presentations

Doherr, M. (2009) Vaccination of Swiss cattle against BTV8: is there an influence on somatic cell count and reproductive parameters? ISVEE XII, Durban, Südafrika vom 9.-14. August 2009.

Anonymous (2009) Wissenschaftliche Begleitstudien - Studie auf Populationsebene. Abschnitt 10.2.2 in „Blauzungenkrankheit in der Schweiz - Bericht zur aktuellen Situation“, Kapitel 10: Abklärungen zu unerwünschten Wirkungen, September 2009.

Di Labio, E. (2009) Abklärung von unerwünschten Wirkungen der BTV8 Impfung 2008 anhand von Populationsdaten der Rindviehzuchtverbände und Milchqualitätslaboratorien. Vetsuisse Nutztierabend der Wiederkäuerklinik Bern vom 13. Oktober 2009.

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