

# Examination of abortions and other animal health problems related to Bluetongue Virus vaccination in Switzerland

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## Key words

Vaccination - bluetongue disease - abortion - other health problems following vaccination

## Aim of the study

Although it was proven by retrospective studies on population level in Switzerland that the vaccination against bluetongue (BT) in 2008 did not lead to significant health disorders regarding udder health and fertility, farmers continued to complain about severe problems and losses due to the vaccination. The primary aim of this study was to examine abortions with a coincidence to the vaccination 2009 for pathogens leading to abortion, which are known and detectable in Switzerland. Moreover, other health disorders (udder health, fertility, calf diseases, causes of productivity decline) were registered and evaluated by means of a questionnaire, individually followed by a farm visit and on-farm investigations.

## Material and methods

A questionnaire with inclusion criteria for further investigations was distributed wherewith animal health disorders following the BT-vaccination 2009 could be reported to a central registration office. 58 abortions in cattle and 10 in sheep met the criteria, occurred within 14 days after the vaccination and were therefore investigated. Moreover, six farms with health disorders in calves, four farms with udder health problems, five farms with fertility problems, two farms with respiratory problems in adult cattle, two farms with diarrhoea, emaciation and cases of death and two farms with decline in productivity met the inclusion criteria and were therefore exemplary investigated on herd level.

## Results and significance

The examination of the 58 abortions in cattle and the 10 in sheep which occurred following the BT-vaccination 2009 revealed a distribution of known and detectable abortion pathogens in Switzerland comparable to the results of abortion investigations prior to the BT-vaccination. Obvious was the relative high rate of *Neospora caninum* induced cattle-abortions with 40%, compared with a detection rate of about 21% prior to the BT-vaccination. Furthermore, and even more important, the rate of undiagnosed abortions decreased following BT-vaccination compared to prior vaccination. If the BT-vaccination had directly caused abortions, the rate of undiagnosed abortions should have increased significantly due to that abortions following a vaccination do not show any specific lesions nor are any pathogens detectable and are therefore classified as undiagnosed abortions. The examination of various herd problems such as weak calves, udder health problems and fertility disorders revealed in no case the BT-vaccination as the only causative agent and in several cases the vaccination could eventually be responsible for turning subclinical or inapparent problems into acute and clinical ones.

All in all, this study could show that the BT-vaccination 2009 did not directly lead to animal health disorders, at least not in such a degree as it was reported.

## Publications, posters and presentations

Presentation of the results of the study at the European Buiatrics Meeting 2009, December 2009, Marseille by Dr. Andreas Tschuor (accepted)

Tschuor, A. C.; Kaufmann, Th.; Strabel, D.; (2010) Hässig, M. Abklärung von Aborten und anderen Tiergesundheitlichen Problemen beim Rind im Zusammenhang mit der Blauzungenvirus-Impfung 2009. Band 152, Heft 11, 501 – 506.

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