INFLUENCE OF AN INACTIVATED BLUETONG VIRUS VACCINE ON THE QUALITY OF RAM SEMEN

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Introduction: In Bavaria several sheep farmer mentioned fertility problems after vaccination with an inactivated bluetongue vaccine. Due to natural BT infection rams are temporarily or permanently sub- or infertile (Kirschvink et al., 2008; Bürstel et al., 2009). After vaccination with attenuated vaccines (BTV 2) several semen parameter as motility and sperm density decline temporarily (Breard et al., 2007).

Objective: There was no information about the influence of inactivated BT vaccines on the semen quality of rams or bulls, e.g. Bluevac 8® (CZ-Veterinaria, BTV 8) that was used for the obligatory program in the year 2008 and 2009 in Bavaria.

Material and methods: 36 unvaccinated rams were housed under standardized conditions (32 Merino and 4 local breed). One sibling was vaccinated with Bluevac 8® (CZ-Veterinaria) and the other was left unvaccinated. They were examinated every week, later every second week, until day 49. 16 animals were vaccinated for second time on day 49 and followed until day 98. Blood samples were taken (BT virus, BT antibodies, testosterone, Q-fever and chlamydia), body temperature and scrotal circumference was measured. Macroscopic and microscopic parameters of the semen were examinated on site (volume, color, consistence, mass movement, forward and local motility) and afterwards in the laboratory of the institute (density, pathological forms).

Results and discussion: The parameters semen volume, density, primary and total abnormalities, body temperature, testosterone levels and scrotal circumference showed no significant difference (p< 0.01) between the vaccinated and unvaccinated group. The mass movement, forward and local motility presented significant differences on day 7 and the last two parameters also on day 49 after vaccination (p< 0.01). On the other days were no or no significant differences.

Parallel to the present study Pozzi et al. (2009) tested another inactivated BT vaccine on rams in France (BTV8 pur®, Merial). The vaccinated group showed only on the day of vaccination decreased semen quality, a stress reaction was assumed.

Conclusion: Compared with attenuated vaccines or natural infections the inactivated vaccines show low influence on the quality of ram semen.

Keywords: Ram, semen, bluetongue, inactivated vaccine