



Scientific opinion on bluetongue: control, surveillance and safe movement of animals

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MANDATE ON BTV

Scientific advice in order to review the overall BT policy at the EU level

ToR

Adopted

1. Vaccination, eradication and surveillance
2. Options for safe trade that could be used for exemptions from the exit ban applicable to movements of live animals
3. Protection from BTV vectors and vector based provisions for exemption from the exit ban applicable to movements of live animals from a restricted zone
4. Classification and grouping of different BTV serotypes according to their potential impact on animal health
5. Listing and categorisation of BT in the framework of the Animal Health Law

Adoption by 30 June 2017

DATA & METHODOLOGY

Data

- Literature evidence
- Field data on outbreak, animal and vector surveillance (e.g. from France, Italy)

Methodologies

- Mathematical model for BTV spread in 4 scenarios (F, UK, ES, IT)
- Epidemiological analysis of animal and vector surveillance data

MAIN CONCLUSIONS (TOR 1.1)

Assess the most suitable duration of a BT vaccination campaign intended to achieve disease freedom in a country or region

- without any vaccination > BT persist for a long time, endemic condition with low P level of infection (1.5% cattle, 0.6% in sheep) and high seroP (45% in cattle, 14% in sheep);
- only after 5 years of vaccination of 95% of susceptible animals, P close to zero, but not in the Spanish scenario.

MAIN CONCLUSIONS (TOR 1.2)

Assess the probability of BT recurrence in BT affected areas that have regained BT freedom

- **Wildlife**: red deer can be involved in BT maintenance
- **Vertical transmission**: possible in the field for BTV 8, experimentally in BTV2 and 11. Its role in BT overwintering is not clear
- **Viraemia**: BTV nucleic acid till 4–5 months p.i. ; infectious virus up to 50 dpi in cattle, till 30 dpi in small ruminants

MAIN CONCLUSIONS (TOR 1.3)

To revise the surveillance of (EC) No 1266/2007 to ensure absence of virus transmission

- After vaccination campaigns, very low infection P levels are expected (< 1%). EC Reg. targets = 5%
- Field example: reoccurrence of BTV in France in 2013- 2015 might have occurred undetected
- design infection prevalence for surveillance to be defined according to (case-by-case approach):
 - Type of target P
 - Geographical unit
 - Epidemiological phase

MAIN CONCLUSIONS (TOR 2)

ToR 2.1 maternal immunity for safe movement of animals from a BTV-infected to a BTV-free area

- neutralising colostral antibodies detectable for 210 days in lambs (16-270); 84 days in calves (70 -113)

ToR 2.2. minimum age of calves, lambs after which colostral Ab do not interfere with vaccine immunisation :

- at least during 3 months after birth
 - **high risk period**: calves and lambs may be vaccinated twice (< 3 months and again at 6 months)
 - **Low risk period**: a single vaccination at about 5–6 months can be adequate.

ToR 2.3. Assess the minimum time after vaccination to be considered immune

- Considering commercially available inactivated vaccines and neutralising antibodies, most animals immune at 21 days after vaccination (range 3 to 48 days)

MAIN RESULTS AND CONCLUSIONS (TOR 3.1; 3.2)

Vector free period, overwintering mechanisms

- in some southern European, some Culicoides species, are active throughout the year: an absolute VFP does not exist.
- In northern Europe, winter temperatures inhibit Culicoides life cycle over a period of at least 3 months;
- During winter time the transmission of BTV is in general reduced/halted (field evidence)
- temperature threshold value for BT transmission 9° - 12° C (specific eco-climatic conditions should be considered)

MAIN RESULTS AND CONCLUSIONS (TOR 3.3)

Appropriateness of the use of insecticides and repellents against Culicoides and compared to protection of vector-proof establishments (VPE)

- no conclusive evidence for insecticides/repellents in reducing BTV transmission in the field. In some cases as risk mitigation measure where vaccines are unavailable.
- high level of efficacy (up to 86%) of pour-on insecticides difficult to achieve, particularly under field conditions
- Environmental treatment with insecticides unlikely to be effective due to the ubiquitous nature of Culicoides in Europe
- By only using pour-on insecticides, protection of animals is lower than VPE (at least 10% higher)