Recent bluetongue outbreaks in Slovenia and evaluation of subsequent control measures

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The first bluetongue outbreak in Slovenia

The first occurrence of bluetongue (BT) in Slovenia was confirmed on **18th November 2015** in two bovine animals during the national bluetongue monitoring programme (Figure 1). Antibodies against BT virus were detected with ELISA in three animals, out of which two reacted positively to qRT-PCR test. No clinical signs were observed. Results were confirmed by the European Union Reference Laboratory for BT, the Pirbright Institute, UK. The detected BT virus belonged to the virus serotype 4 (**BTV-4**).

Control measures

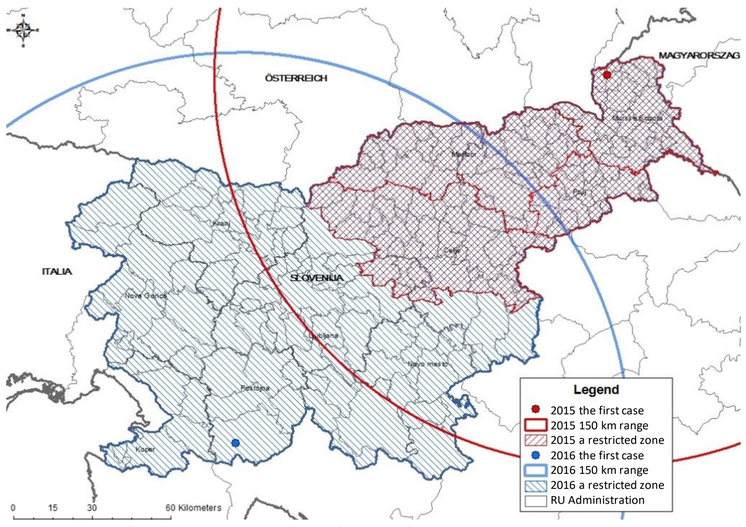
Based on the conclusions of the National Centre for Disease Control the following control measures have been carried out:

- movement control inside the country,
- screening,
- traceability,
- surveillance with containment and/or a protection zone,
- no treatment of affected animals,
- vaccination permitted.

BT outbreaks in 2015 and 2016

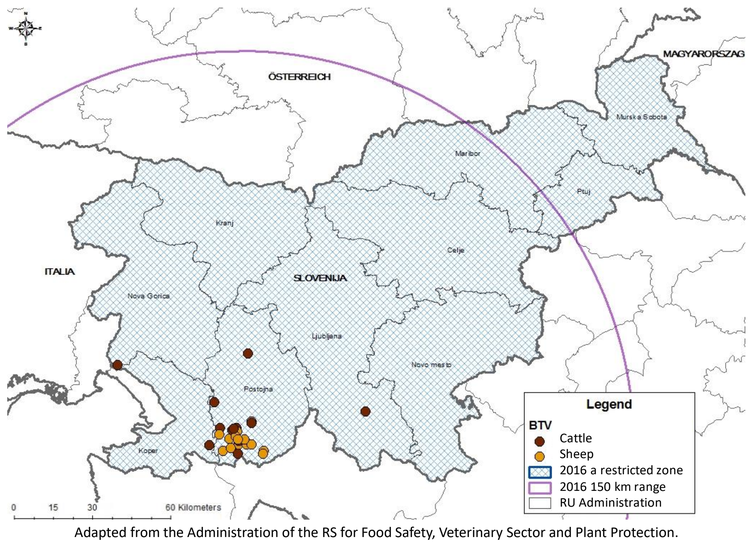
In 2015, only one outbreak was detected in the northeast region of Slovenia. In the following year, BT outbreaks started in the southwest region. The first outbreak in 2016 was detected on 25th August in sheep (Figure 1). BT was suspected based on **clinical signs**. The event was followed by many new outbreaks (Figure 2). In 2016, a total of 21 cases of BT in cattle and 32 cases of BT in sheep were confirmed (Figure 3). In all cases, BTV-4 was identified.

Figure 1: The first outbreak of BTV-4 in 2015 and 2016



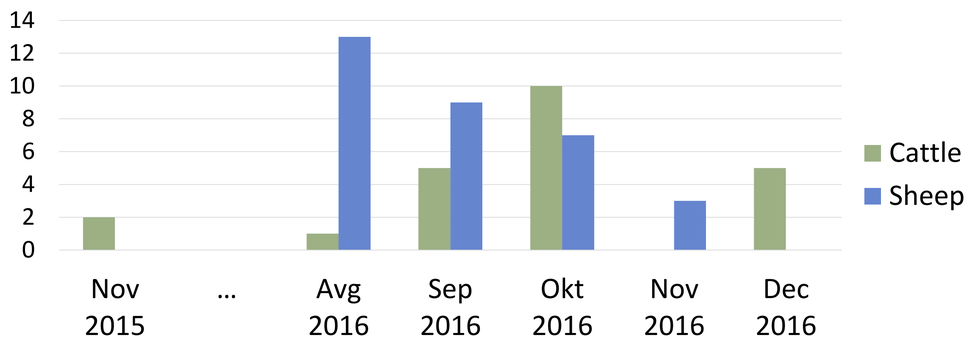
Adapted from the Administration of the RS for Food Safety, Veterinary Sector and Plant Protection.

Figure 2: The outbreaks of BTV-4 in 2016



Adapted from the Administration of the RS for Food Safety, Veterinary Sector and Plant Protection.

Figure 3: Cases of BT in 2015 and 2016



Vaccination programme in 2017

In October 2016, the Administration of the RS for Food Safety, Veterinary Sector and Plant Protection (Administration) adopted a vaccination programme against BTV-4. It includes **all cattle and small ruminants**, which are registered in accordance with legislation. The programme is funded by the Slovenian budget and should take place at least three years. The estimated cost for the first year is €5.23 million.

Vaccination programme

The **Administration** argued that:

- this is the most effective way for the eradication of the disease and
- that the cost of the programme will be three times lower than the cost of a potential outbreak.

The **National Veterinary Institute** gave the expert estimate that:

- the vaccination of all susceptible animals is not appropriate due to inability to distinguish between infected and vaccinated animals,
- rough analysis showed a low probability of occurrence of BT,
- economic justification is questionable, considering the low morbidity and mortality in 2016.

Emerging issues

Farmers report a higher abortion and mortality rate; the official statistics are not yet available.

A considerable number of animals have not been registered according to legislation, but will be reported now.

We expect that the cost of the vaccination program will be much higher than estimated by the Administration.

Future steps

1. Economic analysis of the vaccination programme in 2017
2. Comparison of the costs of the programme with costs of outbreaks simulated by a developed mathematical model

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