

## A REPORT REGARDING FIRST OCCURRENCE OF BLUETONGUE IN ROMANIA, 2014

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### Abstract

*This report describes the evolution of Bluetongue for the first time in Romania. Serological surveillance has been performed since 2000 and entomological surveillance since 2005 for Bluetongue. Vectors belonging to *C. obsoletus*, *C. pulicaris* and *C. nubeculosus* complexes were identified but until 2014 this country was free of Bluetongue. On September 10<sup>th</sup> 2008, a Bluetongue outbreak on the Hungarian territory Forraytania determined the Romanian authorities to establish a surveillance zone in the North-Western part of Romania. In April 2009 Romania reported the negative results of monitoring actions carried out and asked the European Commission for lifting of restriction measures. First case of Bluetongue in Romania was confirmed on 22<sup>nd</sup> of August 2014 in county of Buzau, South-Eastern Romania. The BTV 4 serotype was identified and confirmed by the Institute for Diagnosis and Animal Health (IDAH). Around 4<sup>th</sup> of September the apparent morbidity rate increased up to 43.48% in cattle and 3.84 in sheep; the apparent mortality rate was 0.00% in cattle and 0.89% in sheep. By 22<sup>nd</sup> of September the apparent morbidity rate decreased to 14.18% in cattle and 2.07 in sheep while the apparent mortality rate was maintained to 0.00% in cattle and decreased to 0.07% in sheep. By the end of October Bluetongue has extended all over Romania. On 11<sup>th</sup> of November the rates for the apparent morbidity were 8.45% in cattle and 1.06 in sheep while the apparent mortality rate was 0.00% in cattle and 0.08% in sheep. The infected cases were confirmed using real-time PCR. No vaccination or treatment of affected animals was performed during this outbreak only control of insects, movement control of animals inside the country and disinfection. By the 2<sup>nd</sup> of December 2014 there were no new outbreaks to be reported in this country. Giving the situation N.S.V.F.S.A. decided that any new outbreak will be reported in the bi-annual reports. Comprising all the data collected shows that the approximate morbidity rate was 0.05% in cattle and 0.03% in sheep and the approximate mortality rate was 0.00% in cattle and 0.02% in sheep from the total number of animals in infected counties.*

**Key words:** bluetongue, romania, outbreak, bluetongue, cattle, sheep.

### INTRODUCTION

Bluetongue disease is a non-contagious, insect-borne, viral disease of ruminants, mainly sheep, caused by the bluetongue virus (BTV), genus *Orbivirus*, family *Reoviridae*. Twenty-six serotypes are recognised for this virus by far (Maan S. et al., 2011).

Over the years Bluetongue has been observed in Australia, the USA, Africa, the Middle East, Asia and Europe.

In Romania serological surveillance has been continuously performed since 2000 and

entomological surveillance since 2005 for Bluetongue disease. Vectors belonging to *C. obsoletus*, *C. pulicaris* and *C. nubeculosus* complexes were identified but until 2014 this country was free of Bluetongue.

The "vector free" period usually starts in December and ends in March-May in Romania. Its occurrence is seasonal, subsiding when temperatures drop and hard frosts kill the adult midge vectors (Purse et al., 2005). Viral survival and vector longevity is seen during milder winters (International Society for Infectious Diseases, 2007).

This report describes the evolution of Bluetongue for the first time in Romania.

## **MATERIALS AND METHODS**

On September 10<sup>th</sup> 2008, the Central Veterinary Authorities of Hungary informed the National Sanitary Veterinary and Food Safety Authority (N.S.V.F.S.A.) of Bucharest about the appearance of a Bluetongue outbreak on the Hungarian territory Forraytania and the surveillance zone demarcated around the outbreak involved the North-Western part of Romania ([www.oie.int](http://www.oie.int)).

In April 2009 Romania reported the negative results of monitoring actions for Bluetongue carried out in the surveillance areas and asked the European Commission for lifting of restriction measures (N.S.V.F.S.A.).

On 21<sup>st</sup> of August 2014, some cattle owners from Buzau County have requested the presence of veterinarian for their sick animals. While examining animals the veterinarian found oral, mamar and podal lesions, clinical signs attributable to Bluetongue and blood samples from these animals were sent for laboratory analysis to DSVSA Buzau. Following serological tests, the samples were found positive for Bluetongue. Subsequent sampling veterinarian was called for other cattle in the area showing similar clinical signs with different intensities.

During August-October 2014 entomological surveillance activities (collection and counting of culicoides) have been performed all over the country, following a specific schedule: weekly catches by means of fixed traps in all counties, and weekly catches by means of mobile traps in restricted zones for further morphological identification of culicoides.

Also blood samples from all the counties were prelevated. All the blood samples were typed using ELISA and Real Time RT-PCR in the

National Reference Laboratory – Institute for Diagnostic and Animal Health Bucharest.

No vaccination of affected animals was performed during this outbreak, only symptomatic treatment and movement control of animals inside the country, control of insects and disinfection of infected premises/establishments.

## **RESULTS AND DISCUSSIONS**

First case of Bluetongue in Romania was confirmed on 22<sup>nd</sup> of August 2014 in county of Buzau, South-Eastern Romania. The BTV 4 serotype was identified by the Institute for Diagnosis and Animal Health (IDAH) (National laboratory) using real-time PCR; the results were then confirmed by the Pirbright Reference Laboratory on 1<sup>st</sup> of September 2014.

Around 4<sup>th</sup> of September the apparent morbidity rate increased up to 43.48% in cattle and 3.84 in sheep; the apparent mortality rate was 0.00% in cattle and 0.89% in sheep ([www.idah.ro](http://www.idah.ro)).

By 22<sup>nd</sup> of September the apparent morbidity rate decreased to 14.18% in cattle and 2.07 in sheep while the apparent mortality rate was maintained to 0.00% in cattle and decreased to 0.07% in sheep.

At the end of October Bluetongue has extended all over Romania. On 11<sup>th</sup> of November the susceptible Bluetongue cases increased up to 6536 in sheep and 71 in cattle reported to date, in which 69 cases of sheep and 6 cases of cattle were confirmed for Bluetongue using real-time PCR; rates for the apparent morbidity were 8.45% in cattle and 1.06% in sheep while the apparent mortality rate was 0.00% in cattle and 0.08% in sheep.

The Bluetongue outbreak evolution in this country during August-December 2014 is shown in Figure 1 and Figure 2.

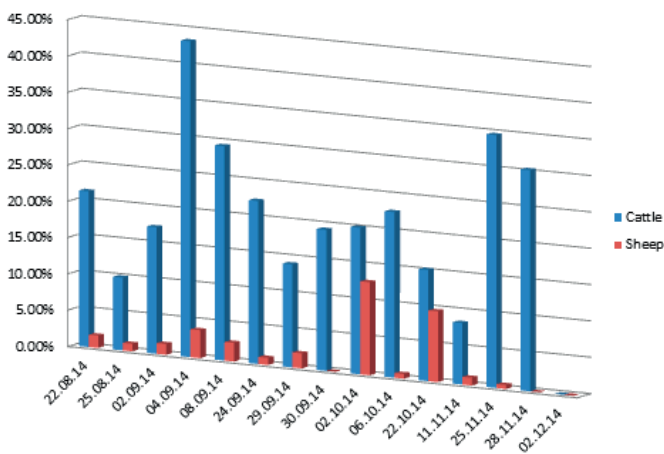


Figure 1. Morbidity rates for Bluetongue in Romania, 2014

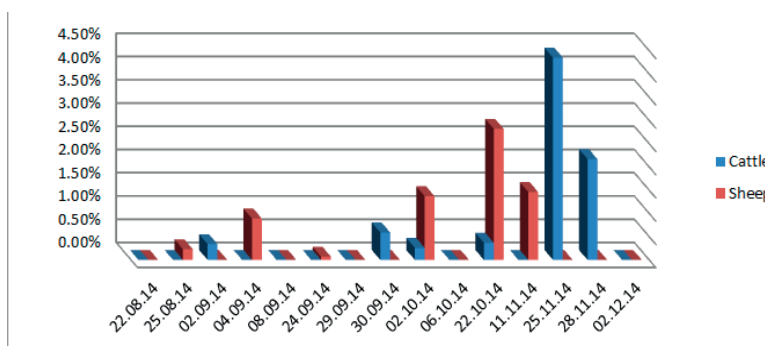


Figure 2. Mortality rates for Bluetongue in Romania, 2014

Clinical signs of this disease include: hyperthermia, hyperemia, congestion and erosions of the skin and mucosae, especially oral mucosa, salivation, epiphora, nasal discharge (Figure 3).

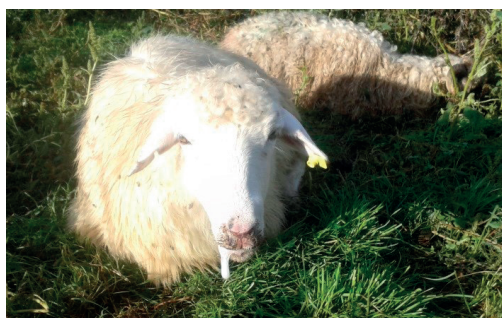


Figure 3. Nasal discharges in sheep

By the 2<sup>nd</sup> of December 2014 there were no new outbreaks to be reported in this country.

Giving the situation N.S.V.F.S.A. decided that any new outbreak will be reported in the bi-annual reports.

Comprising all the data from 22<sup>nd</sup> of August-2<sup>nd</sup> of December 2014 period the approximate morbidity rate was 0.05% in cattle and 0.03% in sheep and the approximate mortality rate was 0.00% in cattle and 0.02% in sheep from the total number of animals in infected counties ([www.oie.int](http://www.oie.int)).

## CONCLUSIONS

Upon the Romanian notifications to World Animal Health Organization (OIE) concerning the recent Bluetongue outbreaks, several countries decided to block Romanian live

bovine imports and exports as well. Cattle intended for export to EU destinations had to accomplish the following conditions: live animals showing no disease symptoms, animals to be used for immediate slaughtering at the destination, and existence of the import agreement from the veterinary services in the importing EU member state ([www.gain.fas.usda.gov](http://www.gain.fas.usda.gov)).

Therefore, Bluetongue had a severe impact on the livestock economy of this country.

Although mortality to Bluetongue was low, morbidity rates approached 50% in susceptible flocks, with economic losses. There were also other costs with providing care for sick animals and insect control. Costs associated with morbidity of sick animals included weight loss, reduced milk yield, abortion and associated veterinary costs.

Epidemiological investigations are still ongoing for this country.

## ACKNOWLEDGEMENTS

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