

**A SHORT COMMUNICATION REGARDING
FIRST OCCURRENCE OF BLUETONGUE IN ROMANIA**
SCURTĂ COMUNICARE PRIVIND
APARIȚIA PRIMULUI CAZ DE BLUETONGUE ÎN ROMÂNIA

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ABSTRACT | REZUMAT

Here we describe the evolution of Bluetongue disease in Romania. Serological and entomological surveillance for Bluetongue disease in this country have been performed since 2000.

Although vectors belonging to *Culicoides obsoletus*, *C. pulicaris* and *C. nubeculosus* complexes had been throughout the surveillance period, Romania was Bluetongue-free until 2014.

The first case of Bluetongue in Romania was confirmed on the 22nd of August 2014 in Buzău county, situated in South-Eastern of Romania. The BTV serotype 4 was identified and confirmed by Institute of Diagnosis and Animal Health (IDAH). Around the 4th of September, the apparent morbidity rate had increased to 43.48% in cattle and 3.84% in sheep, while, the apparent mortality rate was 0.00% in cattle and 0.89% in sheep. At the end of October, Bluetongue had spread all over Romania. On the 11th of November the apparent morbidity rates 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 quantitative real-time RT-PCR. By analysis of all of the collected data for infected animals across all counties, we estimate that the approximate morbidity rate during the outbreak was 0.05% in cattle and 0.03% in sheep and that the approximate mortality rate was 0.00% in cattle and 0.02% in sheep.

Keywords: Bluetongue in Romania, outbreak bluetongue

În această lucrare este descrisă evoluția bolii limbii albastre pentru prima dată în România. În această țară, testele serologice și entomologice pentru boala limbii albastre sunt efectuate începând cu anul 2000.

Cu toate că vectorii care aparțin complexelor *Culicoides obsoletus*, *C. pulicaris* și *C. nubeculosus* au fost monitorizați de-a lungul perioadei de supraveghere, în România, până în 2014, boala limbii albastre nu a fost diagnosticată.

Primul caz de boala limbii albastre a fost confirmat pe 22 august 2014, în județul Buzău. Serotipul BTV-4 a fost identificat și confirmat de Institutul de Diagnostic și Sănătate Animală (IDSA). În ceea ce privește evoluția bolii pe teritoriul României, în jurul datei de 4 septembrie, rata morbidității aparente avea valoare de 43,48% la bovine și 3,84% la ovine, în timp ce rata mortalității aparente era de 0,00% la bovine și 0,89% la ovine. Până la sfârșitul lunii octombrie boala limbii albastre s-a răspândit în toată România. La data de 11 noiembrie ratele morbidității aparente au fost 8,45% la bovine și 1,06% la ovine, în timp ce ratele mortalității aparente au fost de 0,00% la bovine și 0,08% la ovine. Cazurile infectate au fost confirmate folosind tehnica real-time RT-PCR.

Analizând toate datele colectate, din toate județele, estimăm că rata morbidității aproximative din timpul epidemiei a fost de 0,05%, la bovine și 0,03% la ovine și că rata mortalității aproximative a fost 0,00% la bovine și 0,02% la ovine.

Cuvinte cheie: boala limbii albastre în România, apariția bolii limbii albastre

Bluetongue disease is a non-contagious, insect-borne, viral disease of ruminants (mainly sheep) caused by the Bluetongue virus (BTV), genus Orbivirus, family Reoviridae (1). Twenty-six serotypes have so far been recognized for this virus (3).

Bluetongue has been observed in Australia, the

USA, Africa, the Middle East, Asia and Europe.

In Romania, serological and entomological surveillance for BTV have been continuously performed since 2000 and 2005 respectively. Although BTV vectors belonging to *C. obsoletus*, *C. pulicaris* and *C. nubeculosus* complexes had been identified, Romania was Bluetongue-free until 2014.

The vector-free period is seasonal, associated with dropping temperatures and hard frosts that kill the adult midges (4).

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Viral survival and vector longevity is seen during milder winters (2). The Romanian BTV vector-free period usually begins in December and ends in March-May. Here we describe the evolution of Bluetongue in Romania.

MATERIALS AND METHODS

On September 10th 2008, the Central Veterinary Authorities of Hungary informed the National Sanitary Veterinary and Food Safety Authority (NSVFSA) of Bucharest about a Bluetongue outbreak appearing on the Hungarian territory Forraytania and the surveillance zone demarcated around the outbreak involved the North-Western part of Romania (5).

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 (NSVFSA).

On 21st of August 2014, some cattle owners from Buzău County have requested the presence of veterinarian for their sick animals. While examining animals the veterinarian found oral, mammary and podal lesions, clinical signs attributable to Bluetongue and the vet had sent blood samples from these animals for laboratory analysis to Sanitary Veterinary and Food Safety Directory Buzău. Following serological tests, the samples were found positive for Bluetongue. Later, the 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 using fixed traps in all counties, and weekly catches with mobile traps in restricted zones, for further morphological identification of *Culicoides*. Also, blood samples from all the counties have been collected. The National Reference Laboratory – Institute for Diagnosis and Animal Health Bucharest typed all the blood samples, using ELISA and quantitative real-time RT-PCR.

Any vaccination of affected animals during this outbreak wasn't performed, only symptomatic treatment and movement control of animals inside the country, control of insects and disinfection of infected premises /establishments.

RESULTS

First case of Bluetongue in Romania was confirmed on 22nd of August 2014 in county of Buzău,

South-Eastern Romania. The Institute for Diagnosis and Animal Health (IDAH) (National Reference Laboratory) identified the BTV serotype 4, using quantitative real-time RT-PCR; then, the Pirbright Reference Laboratory confirmed the results on 1st of September 2014. Around the 4th 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.

On 22nd of September, the apparent morbidity rate decreased to 14.18% in cattle and 2.07 in sheep while the apparent mortality rate remained 0.00% in cattle and decreased to 0.07% in sheep.

At the end of October, Bluetongue has extended all over Romania. On 11th 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 having Bluetongue, using quantitative real-time RT-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 presented in Fig. 1 and Fig. 2.

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

On the 2nd of December 2014 there were no new outbreaks to be reported in this country.

Giving the situation, NSVFSA decided that any new outbreak will be reported in the bi-annual reports.

Comprising all the data from the 22nd of August until the 2nd of December 2014, period the estimated morbidity rate was 0.05% in cattle and 0.03% in sheep and the estimated mortality rate was 0.00% in cattle and 0.02% in sheep from the total number of animals in infected counties.

CONCLUSIONS

Upon the Romanian notifications to World Animal Health Organization (OIE) on 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 meet the requirements: live animals showing no disease symptoms, animals to be sent for immediate slaughtering at the destination, and existence of the import agreement from the veterinary services in the importing EU member state (5).

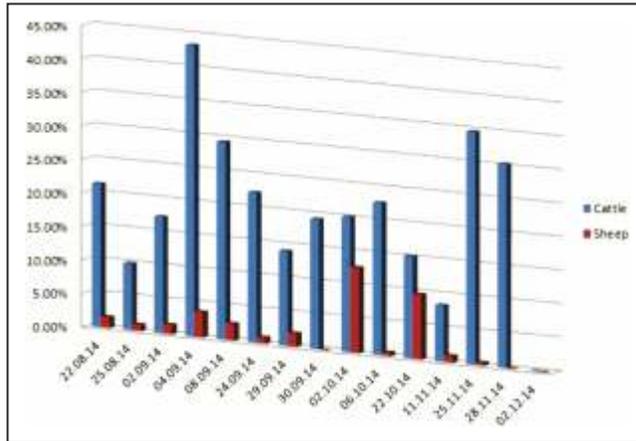


Fig. 1. Morbidity rates for Bluetongue in Romania, 2014

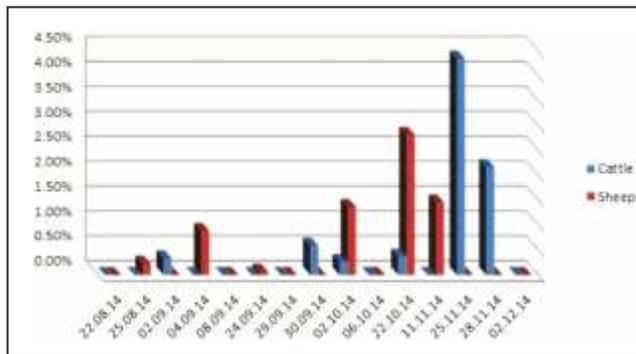


Fig. 2. Mortality rates for Bluetongue in Romania, 2014

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 cost 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.

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