



EUROPEAN COMMISSION  
HEALTH & CONSUMERS DIRECTORATE-GENERAL  
Unit 04 - Veterinary Control Programmes

SANCO/3786/2008

*Programmes for the eradication, control and monitoring of certain  
animal diseases and zoonoses*

## **Surveillance and Eradication programme of Bluetongue**

**Approved\* for 2009 by Commission Decision 2008/897/EC**

**Romania**

\* in accordance with Commission Decision 90/424/EEC



## **Surveillance and control programme for bluetongue Romania**

**- Year 2009 -**

Content:

1. Identification of the programme
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3. Objectives of the bluetongue surveillance programme in 2009
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## **1. Identification of the programme**

Member State:	Romania
Disease:	Bluetongue
Application year:	2009
Reference of this document:	National Sanitary Veterinary and Food Safety Authority No. 2662/29.04.2008
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Date sent to the Commission: 30.04.2008

## **Introduction**

Bluetongue (BT) is an infectious, noncontagious disease of domestic and wild ruminants. It is a vector borne disease and the biologic vectors of the bluetongue virus (BTV) some species of insects belonging to the genus *Culicoides*.

Usually, the virus can be introduced into a free area with infected ruminants originating from countries or zones where virulent virus strains are present or with infected vectors that can reach new free of the disease areas.

BT is worldwide spread and it is thought that the endemic areal of BTV is limited by the 40-50° N and 35° S latitudes. In 2006 BTV disseminated towards the north of Europe affecting Netherlands, Belgium, Germany, Luxembourg.

This new situation demonstrated that the majority of the European countries are exposed to the risk for bluetongue, not only the states from the Mediterranean basin.

The previous serologic and entomologic studies performed by the present in Romania showed that almost 70% of the territory of the country is at risk for BTV infection.

## **2. Historical data on the epidemiological evolution of the disease: The disease never occurred in Romania.**

In Romania the surveillance of bluetongue was applied since year 2000 in the frame of the annual Programme for the surveillance, prophylaxis and control of animal diseases, of zoonotic diseases and environment protection.

The objectives of bluetongue surveillance were the following:

- Early detection of any evidences of bluetongue occurrence on Romanian territory
- Urgent and efficient intervention in case of a bluetongue outbreak
- Establishing of breeding and survival sites for bluetongue virus vectors
- Establishing of the risk zones for bluetongue in Romania
- Fulfilling of the requirements of the Terrestrial Animals Health Code Chapter 2.2.13, Article 2.2.13.2, which stipulates that "A country or a *zone* may be considered free from BTV when bluetongue is notifiable in the whole country and either:
  1. the country or *zone* lies wholly north of 50°N or south of 34°S, and is not adjacent to a country or *zone* not having a free status; or
  2. a surveillance programme in accordance with Appendix 3.8.X, has demonstrated no evidence of BTV in the country or *zone* during the past 2 years; or
  3. a surveillance programme has demonstrated no evidence of *Culicoides* likely to be competent BTV vectors in the country or *zone*."

### ***Components of the strategy during years 2000 - 2007***

#### **2.1. Passive surveillance by:**

Monitoring of the documents

#### **2.2. Active surveillance by:**

- Inspection of animals belonging to domesticated or wild species, susceptible to the BT virus, existing on Romanian territory, as follows:

- in "target" localities located in districts considered to present a major or lower risk for trans boundary contamination
- in "quarantine farms" for imported or exported animals, during a period of time equally to the maximum incubation period of the disease ;
  - Inspection in slaughter houses of all susceptible animals originating from "target" localities or from import "quarantine farms";
  - Monitoring of culicoid vectors, identifying the genus and the species as follows:
    - by capturing the insects with mobile light traps, during the activity season of the insects (from May to October);
    - by weekly catches with permanent traps, covering the whole territory of the country (one permanent trap per district) and all over the year
      - Serological survey, to detect the eventual trans boundary contamination, as follows:
        - in districts considered to present high risk of contamination (CS, CL, CT, DJ, GR, OT, MH, TL, TM, TR), located in the southern part of the country, very close to the national border, on serum samples collected from a number representing 3% of ruminants, minimum 1200 samples/year/district (figure 1);
        - in districts presenting lower risk of contamination (AG, BR, BZ, DB, IF, GJ, IL, Bucharest, PH, VL), in the proximity of the above mentioned districts, on serum samples collected from 2% of ruminants, minimum 400 samples/year/district (figure 1) ;
        - 10% monthly, on sentinel animals in sentinel farms located in areas very closed to the Danube river;
          - Organization of epidemiological activities to asses the health status related to BT of susceptible wild and transhumant animals;
          - In case of an outbreak of bluetongue, the contingency plan is immediately enforced;

Figure 1. Sites of location of the districts considered to present high risk (red) or low risk (blue) of contamination



### **2.3. Serological surveillance**

#### **Years 2000 and 2001**

Samples: ruminants sera

Tests: competitive ELISA, AGID

Number of tested samples: around 5000 samples/year

Positive samples: 0

At that time, the clinical survey of all susceptible animals was enforced.

#### **Year 2002**

Samples: ruminants sera

Tests: competitive ELISA, AGID

Number of tested samples: 10,149

Positive samples: 0

#### **Year 2003**

Samples: ruminants sera

Tests: competitive ELISA, AGID

Number of tested samples: 22,007

Positive samples: 0

#### **Year 2004**

Samples: ruminants sera

Tests: competitive ELISA, AGID

Number of tested samples: 22,100

Positive samples: 0

#### **Year 2005**

Samples: ruminants sera

Tests: competitive ELISA, AGID

Number of tested samples: 18,470

Positive samples: 0

In 2004, 2005 and 2006, the location of "target" localities was established inside of 25 square kms quadrates.

#### **Year 2006**

Samples: ruminants sera

Tests: competitive ELISA, AGID

Number of tested samples: 18,680

Positive samples: 0

#### **Year 2007**

Samples: ruminants sera

Tests: competitive ELISA, AGID

Number of tested samples: 70 569

Positive samples: 0

**Year 2008 (first trimester)**

Samples: ruminants sera

Tests: competitive ELISA, AGID

Number of tested samples: 6531

Positive samples: 0

**2.4. Vectors surveillance**

**Year – 2003 (figure 2)**

No. of districts – 11

No. of localities – 19

No. of catches – 25

Identified vectors: *Culicoides obsoletus*  
*Culicoides pulicaris*

Figure 2. Sites of vectors identification in 2003.



**Year – 2004**

No. of districts – 42

No. of localities (sites) – 314

No. of catches – 709

Identified vectors: *Culicoides obsoletus* (figure 3)  
*Culicoides pulicaris* (figure 4)

Figure 3. Sites of *C. obsoletus* vectors identification in 2004.



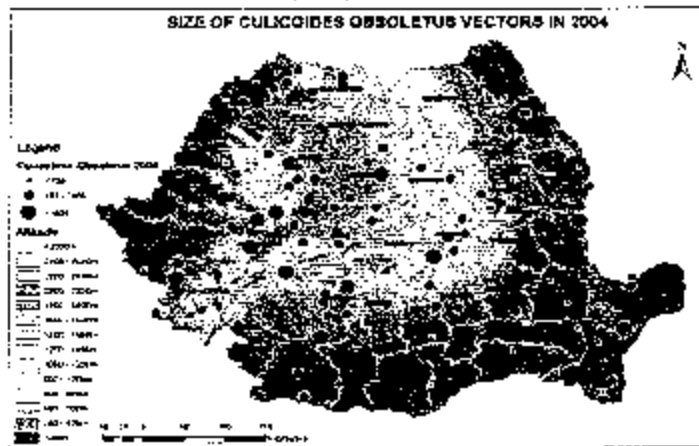
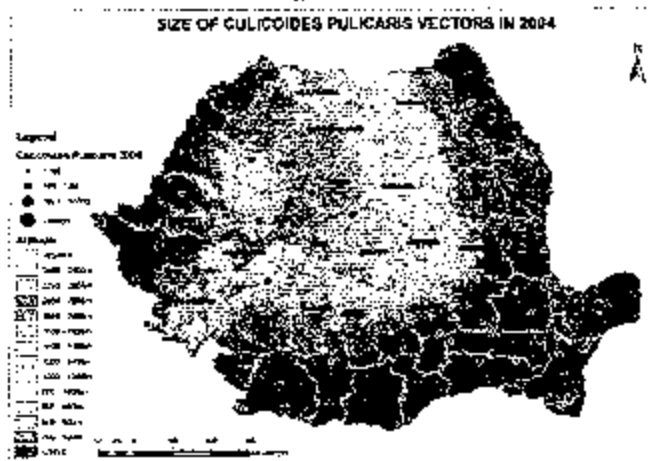


Figure 4. Sites of *C. pulicaris* vectors identification in 2004.



**Year – 2005**

No. of districts – 31

No. of localities (sites) – 31

No. of catches – 568

Identified vectors: *Culicoides obsoletus*  
*Culicoides pulicaris*

**Year – 2006**

No. of districts – 38

No. of localities (sites) – 38

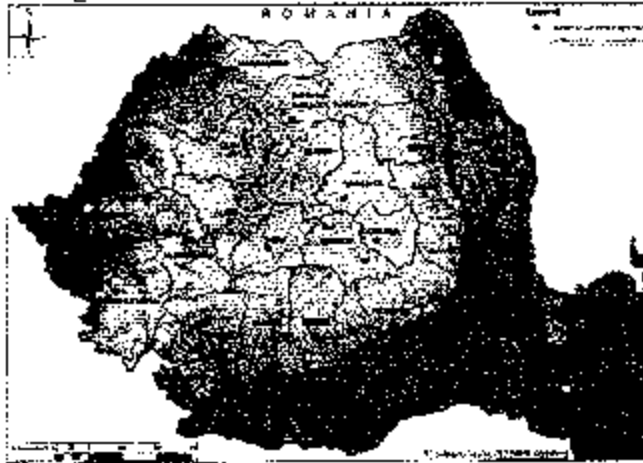
No. of catches – 842

Identified vectors: *Culicoides obsoletus*  
*Culicoides pulicaris*

During 2005, 2006 and 2007 permanent black light traps (South Africa type) were installed in every district (one light trap/district) and vectors were collected weekly (one night/week) in order to assess the seasonal incidence and abundance of the vectors.

In five districts HOBO meteorostations were installed in order to monitor the environment parameters that can influence the activity and competence of the vectors (figure 5).

Figure 5. Site of distribution of the permanent traps (red) and HOBO meteorostations (yellow) during the season 2005-2006



**Year – 2007**

No. of districts – 34

No. of localities (sites) – 34

No. of catches – 430

Identified vectors: *Culicoides obsoletus*  
*Culicoides pulicaris*

**Year – 2008 (first trimester)**

No. of districts – 9

No. of localities (sites) – 9

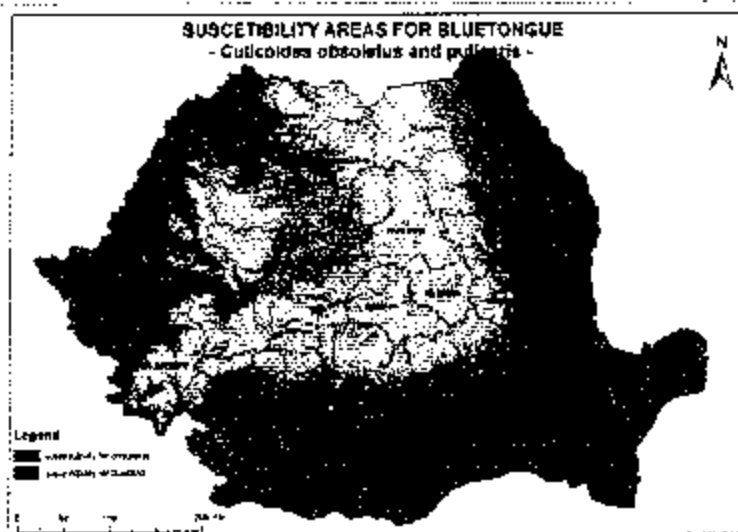
No. of catches – 38

Identified vectors: *Culicoides obsoletus*  
*Culicoides pulicaris*

**2.5. Results of the surveillance performed during 2003 – 2007**

Based on the investigation performed during 2003 – 2007 risk maps for bluetongue virus were realized. The maps show the areas where competent vectors from *Culicoides obsoletus* and *Culicoides pulicaris* exist, up to the altitude of 500 m (figure 6).

Figure 6. BT risk maps for *C. obsoletus* and *C. pulicaris*



### **3. Description of the submitted program**

In 2007 the surveillance strategy for BT was modified due to the epizootic that occurred in some member states and adapted to the local conditions established based on the entomologic studies.

#### **3.1. Objectives of the bluetongue surveillance programme in 2009:**

- Early detection of any evidences of bluetongue occurrence on Romanian territory
- Urgent and efficient intervention in case of a bluetongue outbreak
- Establishing of breeding and survival sites for bluetongue virus vectors
- Establishing of the risk zones for bluetongue in Romania
- Qualification of domesticated ruminants populations in Romania as “free of bluetongue”.

The serologic survey was expanded to the whole territory of the country. A periodic (monthly) surveillance was enforced. The target herds were established into quadrats of 25/25 kms recte 525 square kms during the season May to October (figure 7) and 50/50 kms recte 2500 square kms , from November to April (figure 8) depending of the season of vectors activities. In each quadrat one target herd was established.

Figure 7. Quadrats of 25/25 kms for target localities from Mai-October

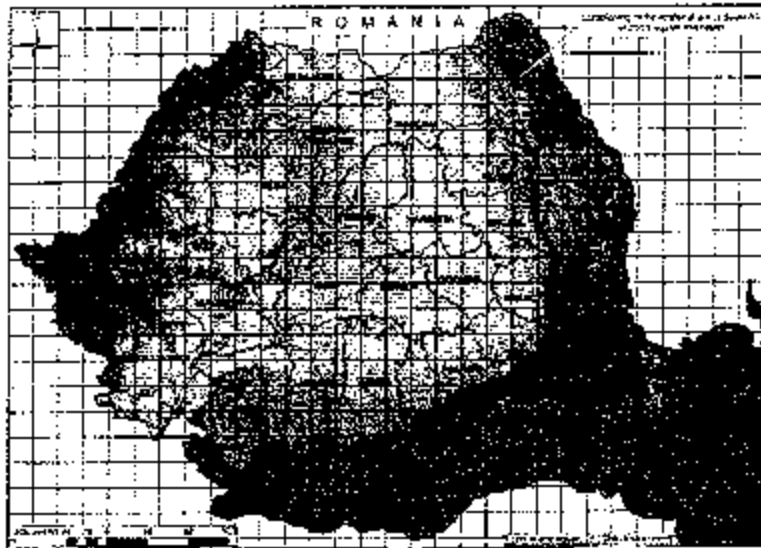
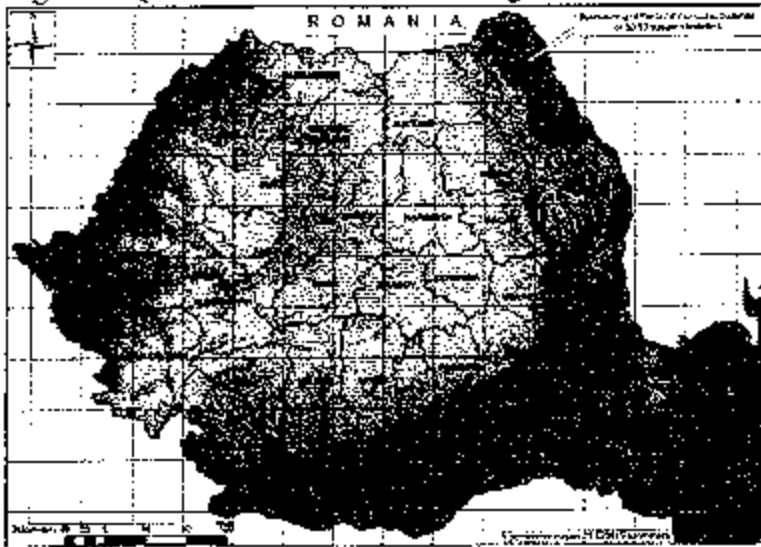


Figure 8. Quadrats of 50/50 kms for target localities from November to April



- from May to October, monthly surveillance by competitive ELISA on serum samples taken from susceptible animals (bovines, ovines, goats) in quantum of 3% from ruminants (minimum 1200 samples)/district/period;
- from November to April, monthly surveillance by competitive ELISA on serum samples taken from susceptible animals (bovines, ovines, goats) in quantum of 1% from ruminants (minimum 400 samples)/district/period;

### 3.2. Serological survey

In Romania, the estimated number of ruminants at risk for bluetongue is the following

- bovines: 2,700,000
- sheep: 9,900,000
- goats: 1,070,000

The estimated number of ruminants that should be surveyed by serology in 2009 is 95,600

During the intense activity of the vectors (from May to October): 3% of ruminants will be tested by ELISA competitive (an average of 1440 samples/district)

Table 1. Sampling model from May to October

Number of quadrats of 25 /25km ( 525 skm )	390
Average number of target herds per district	12
Average number of samples /district/period	1550
Average number of samples/target herds/month	12
Total number of animals to be tested during the period	63,700

During the low activity season of vectors (from November to April): 1% of ruminants will be tested (an average of 432 serum samples/district).

Table 2. Sampling model from November to April

Number of quadrats of 50 /50km ( 2500 skm )	98
Average number of target herds per district	4
Average number of samples /district/period	780
Average number of samples/target herds/month	12
Total number of animals to be tested during the period	31,900

The methodology for establishing the target herds to collect the serum samples is the same applied for the year 2008

All serum samples will be tested in district veterinary laboratories

The test to be used for serologic surveillance is competitive ELISA

### 3.3. Monitoring of culicoid vectors

Identification of the genus and the species and seasonal abundance and distribution as follows:

- by capturing the insects with mobile light traps, during the activity season of the insects (from May to October) according to a monthly timetable for each capturing site (table 3);

Table 3. Monthly timetable of vectors collections by mobile traps

black light trap code	Days of the month ( from May to October)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
"YYYYYYZZ"		*						*							*								*							

\* Days of capturing

\*\* CM = Mobile light trap: YYYY= the name in short of the locality of collection site; ZZ= the acronym of the district name. Example: the code CPVORBT means: mobile light trap located in Vorona village, district Botosani

- by weekly catches with permanent traps, covering the whole territory of the country (one permanent trap per district) and all over the year (table 4)

Table 4. Weekly timetable of vectors collections by permanent traps

Black light traps code	The name of the farm of collection site	Chatching interval
XXYYYYZZ	.....	One night/week January → Decembre

Black light traps type South Africa will be used.

### 3.4. Monitoring of environmental parameters with HOBO meteostations

In five districts (Botosani, Cluj, Arad, Caras Severin, Constanta) along with the permanent light traps, HOBO meteostations are installed. The stations record the environmental data every hour. All the data stocked in the HOBO dataloger are transferred every month to a laptop and used for spatial and statistic analyses and correlated with the dimension and structure of the vectors populations in order to quantify the influence of the environmental factors on the biology of the insects.

### 3.5. Surveillance on wild ruminants

Laboratory tests (virology and molecular biology ) are applied on found dead wild ruminants or sick animals killed by shouting because they show symptoms that might be attributed to bluetongue, in order to collect useful data for epidemiologic and risk analysis. Close collaboration with forestry administration and hunting associations is enforced.

## 4. Measures of the submitted programme

### 4.1. Summary of measures under the programme

Duration of the programme: 1 year

- Control
- Testing- yes
- Slaughter of positive animals
- Killing of positive animals
- Vaccination
- Treatment
- Disposal of products
- Monitoring or surveillance - yes
- Eradication
- Slaughter of positive animals
- Killing of positive animals
- Extended slaughter or killing
- Disposal of products
- Other measures (specify):

#### **4.2. Designation of the central authority charged with supervising and coordinating the departments responsible for implementing the programme:**

In Romania, the National Sanitary Veterinary and Food Safety Authority (ANSVSA) is the institution that approves and coordinates the national programme for monitoring, surveillance and control of bluetongue

The National Sanitary Veterinary and Food Safety Authority is led by its President, State Secretary, and the headquarter is located in Bucharest, Negustori street no. 1B, district 2, postal code 023951, phone: 0040213157875, fax: 0040213124967, e-mail: [office@ansv.ro](mailto:office@ansv.ro).

#### **4.3. Description and delimitation of the geographical and administrative areas in which the programme is to be implemented:**

The programme will be applied to the whole territory of Romania.

Fig. 9 Administrative map of Romania with the 41 counties and the municipality of Bucharest:



#### **4.4. Measures implemented under the programme**

**4.4.1. Measures and terms of legislation as regards the registration of holdings: Only surveillance and monitoring.**

**4.4.2. Measures and terms of legislation as regards the identification of animals:**

- Order 171/2004 for the approval of the veterinary Norm regarding the system of identification and registration of sheep and goats.
- Order 5/2005 regarding the approval of the Regulations for the identification and registration of animals, with subsequent amendments.
- Order 60/2005 that amends Order 5/2005 regarding the approval of the Regulations for the identification and registration of animals.
- Order 87/2005 that amends Ordinance 5/2005 regarding the approval of the Regulations for the identification and registration of animals.

The movement of ruminants is controlled with the following documents:

- Animal holding movement registry
- Animal movement document

- Sanitary veterinary transport certificate for live animals

With all of these documents, the ruminants are allowed to move from farm to farm, animal collection centers, animal markets, slaughterhouses or rendering plants. These movements are registered in the database along with all relevant documents.

**4.4.3. Measures and terms of legislation as regard the notification of the disease:**

- Order 156/1999 for the approval of the Sanitary Veterinary Norm regarding the announcement, declaration and notification of animal transmissible diseases.
- Order 107/2005 for the approval of the Sanitary Veterinary Norm regarding the notification of animal diseases, with all subsequent amendments, for the official transposition of Council Directive 82/894/EEC on the notification of animal diseases within the Community.

**4.4.4. Measures and terms of legislation as regard the measures in case of a positive result:**

- Order 32/2006 for the approval of the Sanitary Veterinary Norm that establishes specific provisions for the control and eradication of bluetongue as transposed from the Directive 2000/75/EC, with subsequent amendments.

**4.4.8. Measures and terms of legislation as regards the compensation for owners of slaughtered and killed animals:**

- Governmental Decision 1415/2004 on according compensation for slaughtered animals, killed or otherwise affected due to the rapid elimination of transmissible animal disease outbreaks.
- Governmental Decision 1580/2005 that amends Governmental Decision 1415/2004 on according compensation for slaughtered animals, killed or otherwise affected due to the rapid elimination of transmissible animal disease outbreaks.

**5. General description of the costs and benefits:**

Romania considers that it is necessary to rapidly put in place a harmonized BT monitoring and surveillance scheme in the EU. This harmonized system will allow the full and secure implementation of the measures foreseen in Decision 2005/393/EC ensuring transparency among the Member States and also as regards the Third Countries.

The serological monitoring will allow to qualify the ruminants in Romania as free of bluetongue and therefore the farmers will be able to export animals.

On the other hand an early detection of any incursion of BTV into Romanian territory could be rapidly jugulated by the veterinary administration.

The identification of bluetongue risk areas in Romania, will allow to the veterinary services to enforce the prophylactic action in those areas.



**6. Data on the epidemiological evolution during the last five years**

**6.1. Evolution of the disease**

**6.1.1. Data on evolution of the disease**

**6.1.1.1. Data on herds (a) (one table per year and per disease/species)**

Year: 2003, disease: Bluetongue, Situation on date 31.12.2003, Animal species: Bovine.

region	Total number of herds	Total number of herds under the program	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (20 districts)	1,780	180	180	0	0	0	0	100	0	0

Year: 2004, disease: Bluetongue, Situation on date 31.12.2004, Animal species: Bovine.

region	Total number of herds	Total number of herds under the program	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (20 districts)	1,780	180	180	0	0	0	0	100	0	0

Year: 2005, disease: Bluetongue, Situation on date 31.12.2005, Animal species: Bovine.

region	Total number of herds	Total number of herds under the program	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (20 districts)	1,780	180	180	0	0	0	0	100	0	0

Year: 2006, disease: Bluetongue, Situation on date 31.12.2006, Animal species: Bovine.

region	Total number of herds	Total number of herds under the program	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (20 districts)	1,780	180	180	0	0	0	0	100	0	0

Year: 2007, disease: Bluetongue, Situation on date 31.12.2007, Animal species: Bovine.

region	Total number of herds	Total number of herds under the program	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (42 districts)	4,365	400	400	0	0	0	0	100	0	0

Year: 2003, disease: Bluetongue, Situation on date 31.12.2003, Animal species: Ovine.

region	Total number of herds	Total number of herds under the program	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (20 district)	2,640	220	220	0	0	0	0	100	0	0

Year: 2004, disease: Bluetongue, Situation on date 31.12.2004, Animal species: Ovine.

region	Total number of herds	Total number of herds under the program	Number of herds of checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (20 district)	2,640	220	220	0	0	0	0	100	0	0

Year: 2005, disease: Bluetongue, Situation on date 31.12.2005, Animal species: Ovine.

region	Total number of herds	Total number of herds under the program	Number of herds of checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (20 district)	2,640	220	220	0	0	0	0	100	0	0

Year: 2006, disease: Bluetongue, Situation on date 31.12.2006, Animal species: Ovine.

region	Total number of herds	Total number of herds under the program	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (20 district)	2,640	220	220	0	0	0	0	100	0	0

Year: 2007, disease: Bluetongue, Situation on date 31.12.2007, Animal species: Ovine.

region	Total number of herds	Total number of herds under the program	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	%positive herds depopulated	Indicators		
								%herd coverage	%positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9	10	11
Romania (42 district)	6,090	510	510	0	0	0	0	100	0	0

### 6.1.1.2. Data on animals

Year: 2003, Disease: Bluetongue, Situation on date: 31.12.2003, Animal species: Bovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering			indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals	Animal prevalence
1	2	3	4	5	6	7	8	9	10	
Romania (20 districts)	1,000,000	13,204	13,204	13,204	0	0	0	100	0	

Year: 2004, Disease: Bluetongue, Situation on date: 31.12.2004, Animal species: Bovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering		indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals Animal prevalence
1	2	3	4	5	6	7	8	9	10
Romania (20 districts)	1,000,000	13,260	13,260	13,260	0	0	0	100	0

Year: 2005, Disease: Bluetongue, Situation on date: 31.12.2005, Animal species: Bovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering		indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals Animal prevalence
1	2	3	4	5	6	7	8	9	10
Romania (20 districts)	1,000,000	11,082	11,082	11,082	0	0	0	100	0

Year: 2006, Disease: Bluetongue, Situation on date: 31.12.2006, Animal species: Bovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering			indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals	Animal prevalence
1	2	3	4	5	6	7	8	9	10	
Romania (20 districts)	1,000,000	11,208	11,208	11,208	0	0	0	100	0	

Year: 2007, Disease: Bluetongue, Situation on date: 31.12.2007, Animal species: Bovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering			indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals	Animal prevalence
1	2	3	4	5	6	7	8	9	10	
Romania (42 districts)	2,750,000	47,000	47,046	47,046	0	0	0	100	0	



Year: 2003, Disease: Bluetongue, Situation on date: 31.12.2003, Animal species: Ovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering		indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals Animal prevalence
1	2	3	4	5	6	7	8	9	10
Romania (20 districts)	2,000,000	8,800	8,802	8,802	0	0	0	100	0

Year: 2004, Disease: Bluetongue, Situation on date: 31.12.2004, Animal species: Ovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering		indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals Animal prevalence
1	2	3	4	5	6	7	8	9	10
Romania (20 districts)	2,000,000	8,840	8,840	8,840	0	0	0	100	0

Year: 2005, Disease: Bluetongue, Situation on date: 31.12.2005, Animal species: Ovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering		indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals Animal prevalence
1	2	3	4	5	6	7	8	9	10
Romania (20 districts)	2,000,000	7,390	7,388	7,388	0	0	0	100	0

Year: 2006, Disease: Bluetongue, Situation on date: 31.12.2006, Animal species: Ovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering		indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals Animal prevalence
1	2	3	4	5	6	7	8	9	10
Romania (20 districts)	2,000,000	7,470	7,472	7,472	0	0	0	100	0

Year: 2007, Disease: Bluetongue, Situation on date: 31.12.2007, Animal species: Ovine

Region	Total numbers of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	slaughtering		indicators	
						Number of animals with positive results slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals Animal prevalence
1	2	3	4	5	6	7	8	9	10
Romania (42 districts)	11,946,166	23,500	23,523	23,523	0	0	0	100	0

6.1.2. data on evolution of the disease - NOT APPLICABLE

6.2.1. stratified data on surveillance and laboratory tests

Year: 2003, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Bovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (20 districts of 42)	13,204	0

Year: 2004, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Bovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (20 districts of 42)	13,260	0

Year: 2005, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Bovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (20 districts of 42)	11,082	0

Year: 2006, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Bovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (20 districts of 42)	11,208	0

Year: 2007, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Bovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (districts)	47,046	0

Year: 2003, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Ovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (20 districts of 42)	8,802	0

Year: 2004, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Ovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (20 districts of 42)	8,840	0

Year: 2005, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Ovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (20 districts of 42)	7,388	0

Year: 2006, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Ovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (20 districts of 42)	7,472	0

Year: 2007, disease: Bluetongue, Description of the used serological tests: Competitive ELISA, Species: Ovine.

Region	Serological tests	
	Number of sampled tested	Number of positive samples
Romania (42 districts)	23,523	0

6.3. data on infection: **NOT APPLICABLE**

6.4. data on the status of herds at the end of each year: **NOT APPLICABLE**

6.5. data on vaccination or treatment programmes: **NOT APPLICABLE**

6.6. Data on wildlife: **NOT APPLICABLE**

6.6.2. Monitoring of wildlife: **NOT APPLICABLE**

6.6.3. Data on vaccination or treatment of wildlife: **NOT APPLICABLE**

## 7. Targets

Disease: Bluetongue, Animal species: Bovines

Region	Type of the test	Target population	Type of sample	Objective	Number of planned tests
Romania (42 districts)	Competitive ELISA	Bovine – all categories	serum	Qualification - surveillance	67,000

### 7.1.2.1. Targets on the testing of herds

Disease: Bluetongue, Animal species: Bovine + Ovine + Goats

Region	Total number of herds	Total number of herds under the programme	Number of herd expected to be checked	Number of expected positive herds	Number of expected new positive herds	Number of herds expected to be depopulated	% positive herds expected to be depopulated	Target indicators			
								Expected % herd coverage	% positive herds Expected period herd prevalence	% new positive herds Expected herd incidence	
1	2	3	4	5	6	7	8	9	10	11	
Romania (42 districts)	10,455	492	492	0	0	0	0	100	0	0	0

7.1.2.2. Targets on the testing of animals

Disease: Bluetongue, Animal species: Bovine + Ovine + Goats

Region	Total number of animals	Number of animals under the programme	Number of animals expected to be tested	Number of animals to be tested individually	Number of expected positive animals	Slaughtering		Target indicators	
						Number of animals with positive result expected to be slaughtered or culled	Total number of animals expected to be slaughtered	Expected % coverage at animal level	% positive animals (expected animal prevalence)
1	2	3	4	5	6	7	8	9	10
Romania (42 districts)	13,670,000	95,600	95,600	95,600	0	0	0	100	0



7.3.2. Target on vaccination or treatment of wild life: **NOT APPLICABLE**

**8. Detailed analysis of the cost of the program**

Costs related to	Specification	Number of units	Unitary cost in euro	Total amount in euro	Community funding requested (yes/no)
<b>1. Testing</b>					
1.1. Cost of the analysis	Test: Competitive ELISA	95,600	1,1	105,160	yes
1.2. Cost of sampling	Serum Samples	95,600	0,7	66,920	yes
1.3. Other costs	Packing and transportation	20,000	1,2	24,000	yes
<b>2. Vaccination or treatment</b>	<b>NOT APPLICABLE</b>				
<b>3. Slaughtered and destruction</b>	<b>NOT APPLICABLE</b>				
<b>4. Cleaning and disinfection</b>	<b>NOT APPLICABLE</b>				
<b>5. Salaries</b>	<b>NOT APPLICABLE</b>				
<b>6. Consumable and specific equipment</b>	<b>NOT APPLICABLE</b>				
<b>7. Other costs</b>					
Entomological survey					
7.1.	Vectors collecting	2.200	1,0	2,200	
7.2.	Vectors identification	2.200	1,5	3,300	
7.3.	Costs with packing and transportation			4,500	
<b>TOTAL</b>			<b>206,080 EURO</b>		



# THE PLAN FOR EMERGENCY VACCINATION AGAINST BLUETONGUE SEROTYPES 1 OR 8 IN ROMANIA

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# **SECTION A**

## **INTRODUCTION**

Bluetongue (BT) is an infectious, noncontagious disease of domestic and wild ruminants. It is a vector borne disease and the biologic vectors of the bluetongue virus (BTV) some species of biting insects belonging to the genus *Culicoides*.

Usually, the virus can be introduced into a free area with infected ruminants originating from countries or zones where virulent serotypes are present or with infected vectors that can reach new free of the disease areas.

BT is worldwide spread and it is thought and during the years the disease disseminated beyond its so called traditional boundaries, towards the north of European continent affecting Netherlands, Belgium, Germany, Luxembourg, France, United Kingdom, Denmark, Switzerland, Czech Republic, by the viral serotype 8 but also serotype 1 is spreading to the northern European latitudes.

The previous serologic and entomologic studies performed by the present in Romania showed that almost 70% of the territory of the country is at risk for BTV infection.

### **1. OBJECTIVES**

- Avoiding the spreading of the disease outside the established protection zone,
- Prevention of the clinical disease by mitigating the virus circulation;
- Reduction of the infection prevalence through mass vaccination with an at least 90% coverage of domestic ruminants (bovines, sheep, goats).
- Decreasing of the economic losses for the animal owners or keepers;
- Facilitation of the animal movement for intra-community trade or export to third countries;
- Eradication of the bluetongue outbreaks;

### **2. TYPE OF VACCINATION**

- the vaccination programme is compulsory for both animal owners or animal keepers and veterinarians;
- a mass vaccination strategy is applied (all bovine animals older than 3 months and all ovine and caprine animals over 2 months of age);
- vaccinations are carried out by veterinarians;
- vaccination costs supported entirely by the Romanian government fully or partially reimbursed by the European Commission.

### **3. DISEASE SITUATION AND RISK**

Although Romania is free of bluetongue, there is a permanent risk of BT virus introduction on the Romanian territory through a certain possibilities (trade of viremic animals, accidental achievement of infected vectors, etc.).

### **4. COSTS AND BENEFITS OF VACCINATION**

#### **Costs**

The costs are evaluated based on a hypothetic outbreak of bluetongue. The costs of the vaccination programme will include the following:

- costs derived from the vaccine doses: 33,100,000 Euros;
  - cost derived from the vaccination actions: 11,000,000 Euros;
  - costs derived from identification of vaccinated animals: 25,000 Euros;
  - costs derived from other materials used for vaccination and registration, vaccine purchasing and distribution: 5,000 Euros;
- Total costs: 44,130,000 Euros.

#### **Benefits**

##### **At microeconomic level (farmers, animal breeders, animal keepers)**

- Prevention of the clinical disease by mitigating the mortality and morbidity in affected herds;
- Decreasing of the economic losses for the animal owners or keepers by facilitating the animal movement for intra-community trade or export to third countries.

##### **At macroeconomic level**

- Avoiding the spreading of the disease outside the established protection zone,
- Prevention of the clinical disease by mitigating the virus circulation;
- Reduction of the infection prevalence through mass vaccination with an at least 90% coverage of domestic ruminants (bovines, sheep, goats).
- Facilitation of the animal movement for intra-community trade or export to third countries;
- Eradication of the bluetongue outbreaks.

### **5. FINANCIAL SUPPORT OF THE PROGRAMME**

- The costs of the vaccination programme against bluetongue are fully covered from governmental funds, fully or partially reimbursed by the European Commission.

### **6. LEGISLATIVE BASIS**

Council Directive 2000/75/EC of 20 November 2000, the following articles:

- Article 5 of (the Bluetongue Directive) vaccination must be carried out in accordance with the Directive.

- Article 9 permits vaccination in a Protection Zone, subject to Commission approval of a vaccination plan;
- Article 10 prohibits vaccination in a Surveillance Zone.

The Council Directive 2000/75/EC of 20 November 2000 is transposed into Romanian legislation by the Order No. 32/2006 of the President of the National Sanitary Veterinary and Food Safety Authority (NSVFSA), with subsequent amendments. Commission Regulation 1266/2007 on implementing rules for Council Directive 2000/75/EC as regards the control, monitoring, surveillance and restrictions on movements of certain animals of susceptible species in relation to bluetongue.

## **7. COMPETENT AUTHORITIES**

The vaccination programme is implemented under the official control of NSVFS. Vaccinations are performed by the private veterinarians under the strict supervising and control of the official local veterinary authorities in District Sanitary Veterinary and Food Safety Directorates.

# **SECTION B**

## **VACCINATION**

### **1. TYPE OF VACCINE**

Inactivated vaccine is preferred but in case there will be not enough vaccine stocks, a combined strategy with live attenuated and inactivated vaccine will be used.

### **2. AREA OF VACCINATION**

Vaccination against bluetongue is carried out only in the protection zones.

### **3. SPECIES TO BE VACCINATED**

All bovine animals older than 3 months and all ovine and caprine animals over 2 months of age.

### **4. NUMBERS OF ANIMALS TO BE VACCINATED**

Due to the fact that Romania is free of bluetongue, the number of animals to be vaccinated and the estimated number of vaccine doses are evaluated based on a hypothetical outbreak of bluetongue.



Animals located in the protection zone in an area around the red area (yellow) will be vaccinated with live attenuated vaccine (figure 1, table 2).

Table 2. Estimated of **live attenuated** vaccine doses needed in 2009

Species	Total no animals	Total no of holdings	No of animals in Protection Zone	No of holdings in Protection zone	No of live attenuated vaccine doses	No of inactivated vaccine doses
Bovines	2,700,000	1,244,707	800,000	368,802	500,000	900,000
Sheep	9,900,000	392,915	900,000	35,719	600,000	900,000
Goats	1,070,000	158,405	60,000	8,929	40,000	60,000
<b>Total</b>	<b>13,670,000</b>	<b>1,796,027</b>	<b>1,760,000</b>	<b>413,450</b>	<b>1,140,000</b>	<b>1,860,000</b>

It is expected to apply the vaccination at least 3 years consecutively. Therefore, the estimated total amount of necessary vaccine is:

- Inactivated vaccine: 12,300,000 doses
- live attenuated vaccine: 3,400,000 doses

In the surveillance area, the absence of viral circulation will be monitored on sentinel animals.

## 5. VACCINATION FREQUENCY

Usually, vaccination with inactivated vaccine consist in two inoculations at 2-3 weeks apart followed by revaccinations at every six months and vaccination with live attenuated vaccine is performed by a single inoculation followed by annual revaccinations.

Practically the number and frequency of vaccinations will be established according to the manufacturer's instructions.

## 6. IDENTIFICATION OF VACCINATED ANIMALS AND PREMISES

Identification of vaccinated animals

Vaccinated animals will be identified by a third ear tag colored in blue.

Also, in the held certificate will be specified, by the official veterinarian that the animals are vaccinated against bluetongue virus.

## 7. VACCINE PROCUREMENT AND SUPERVISION OF THE VACCINATION PROGRAMME

The NSVFSA will organize the tenders for vaccine acquisition and the vaccine will be distributed to the District Sanitary Veterinary and Food Safety Directorates (DSVFSD) (the local veterinary authorities). The DSVFSD will release the vaccine doses to the private veterinarians, which will inoculate the vaccine to the animals under the official supervision of the DSVFSD.



## **8. MOVEMENT RESTRICTIONS**

According to the legal provisions, animals vaccinated against bluetongue are not allowed to leave the protection zone unless they are moved direct to slaughter, or they can be certified as vaccinated and meet the criteria set out in the legislation.

## **9. MONITORING AND SURVEILLANCE**

### **Monitoring of vaccination actions**

The vaccination actions will be carried out by the private veterinarians under the strict supervision of the official veterinarians. All vaccinations will be recorded in the vaccination register (it includes the name and address of animals owner or keeper, the registration code of the holding, ID number of animals, the date of vaccination and the type of used vaccine).

### **Monitoring of vaccinated animals**

Vaccinated animals are not tested for antibodies against bluetongue. Only in the surveillance zone, seronegative sentinel animals will be monitored for the presence of specific antibodies.

On vaccinated ruminants, PCR test for viral nucleic acid detection will be applied as a condition for free movement purposes.

Since bluetongue is a notifyable disease, all over restricted zones a systematic clinical surveillance on susceptible animals will be permanently applied.

## **10. EDUCATION**

Information of animals owners and animals keepers on the necessity and advantages of vaccinating of susceptible animals in affected or at risk areas will be carried on in order to achieve the full cooperation of the above mentioned entities.

Awareness of the public opinion about the fact that bluetongue is not a zoonotic disease and therefore there are not any threats to the public health or food safety. Although, consumption of milk or meat obtained from animals which were protected against the vectors attack being treated with insecticides or repellents will be allowed only after the withdrawal period.

## **11. REPORTING TO THE COMMISSION**

The NSVFSA will systematic (at every six months, according to the legislation) report the state of the art of vaccination programme and the data achieved, in order to properly inform all interested authorities.

## **12. PERIOD OF VACCINATION PROGRAMME AND EXIT STRATEGY**

This programme is intended to be applied for at least three years.

