



# Mission of the Community Veterinary Emergency Team to Bulgaria

(16-21 July 2018)

# Terms of Reference

Assistance to the scientific, technical, managerial and practical on-the-spot assistance on the refinement of the most suitable control and eradication measures for Peste des Petits Ruminants (PPR) under local conditions, especially as regards epidemiological investigations and management of the restricted areas.

Assistance should be provided as regards specific scientific advice on the suitable diagnostic methods in the National Reference Laboratory.

Provide a written report with conclusions and recommendations aimed to the competent authority. A report to the Commission and the Member States in the framework of the Standing Committee on Plant, Animal, Food and Feed should be delivered.

## **CVET experts and DG SANTE officials**

- Dr Kris De Clercq - Team Leader – BE (virologist)
- Dr Catherine Cetre-Sossah – FR (virologist)
- Dr Raphaëlle Métras – FR (epidemiologist)

## Background – PPR in Bulgaria (1/2)

- 111,000 km<sup>2</sup> - 2.2 million small ruminants
- History of animal diseases incursions
  - FMD 2011
  - Sheep pox & Goat pox 2013
  - BT 2014
  - LSD 2016
- Surveillance at high risk areas: TADs programme and T.H.R.A.C.E. programme (both financed directly or indirectly by the EU)

# Background – PPR in Bulgaria (2/2)

- **June 2018:** report to ADNS and OIE of PPR cases in Voden (Bolyarovo, Yambol region 23<sup>rd</sup> June) and Kosti (Tsarevo, Burgas region, 28<sup>th</sup> June) villages
- **Control measures:** establishment of zones of protection (3km) & surveillance (10 km) around the affected villages, ban of animal movements, and animal culling.
- **Measures at EU level**
  - **Com Impl. Decision (EU) 2018/911 of 25 June 2018 (Interim measures)** replaced by :
  - **Com Impl. Decision EU 2018/954 of 4 July 2018 (Protective measures)**



Source: Bulgarian Food and Safety Agency. **Map** showing the location of the two villages, Kosti village (ADNS 2018/2), to the East (close to the Black Sea), and Voden village, to the West. The farms in Voden where the virus was detected by RT-PCR, in the 10km zone of Voden, are also displayed.

July

# Case definition – PPR

*The following defines the occurrence of PPRV infection as per the OIE Code:*

*"(1) PPRV, excluding vaccine strains, has been isolated and identified as such from a domestic sheep or goat or a product derived from it; or*

*(2) antigen or ribonucleic acid specific to PPRV, excluding vaccine strains, has been identified in samples from a domestic sheep or goat showing clinical signs consistent with PPR, or epidemiologically linked to an outbreak of PPR, or giving cause for suspicion of association or contact with PPR; or*

*(3) antibodies to PPRV antigens which are not the consequence of vaccination, have been identified in a domestic sheep or goat with either epidemiological links to a confirmed or suspected outbreak of PPR or showing clinical signs consistent with recent infection of PPRV."*

***In Bulgaria, the current PPR outbreaks fall within definition (2), with the epidemiological unit being a village. The two villages initially affected, were the villages of Voden and Kösti.***

## Voden outbreak (1/2)

- Village at 10km from Turkish border, 1408 animals
- Early June: Three farms reported clinical signs suspicious of PPR (deaths in lambs + haemorrhagic diarrhea)
- Samples confirmed PPR positive (EURL, RT-qPCR) on June 23<sup>rd</sup> 2018
- All 1408 animals of Voden village were culled
- 10km-zone: 1337 blood and nasal samples were collected late June 2018 for further testing
  - As per July 8<sup>th</sup> 2018, three additional villages were found positive by RT-qPCR (on whole blood samples, tested in the EURL).

[these three villages were defined as three additional outbreaks, although no symptoms were reported on the field. The results of the remaining samples, reported no extra PPRV positive animals]

## Voden outbreak (2/2) - hypotheses

Increase movements of people and animals across the border and within the region early June 2018:

- Various festivals (folk festival June 2nd, religious celebration with increased demand for sheep June 11-15)
- Price of sheep was 3 times higher in Turkey than in Bulgaria: possibility of increased trade (i.e. from Bulgaria to Turkey) and movements of people and animals across the border
- Several farmers within the same village share farm equipment and transport
- Veterinary visits continued during the period not identified yet as a PPR high circulation area.
- Passing of infectious animals across the border: made very difficult (though not excluded) by fence of 4 meters high which is very robust and enforced with barbed wire.



## Kosti outbreak (1/2)

- Village at 8km from Turkish border, 538 animals
- June 28<sup>th</sup>: 10 sheep (from one farm, n=184 sheep) reported with symptoms
- PPR was confirmed by NRL (Sofia) on June 29<sup>th</sup> 2018
- All 538 animals of Kosti village were culled
  
- 10km-zone (protection and surveillance respectively) around the village was defined: 348 blood and nasal samples taken in sheep and goats in the surveillance zone of Kösti on June 29<sup>th</sup>, 257 tested: all tested negative by serology or PCR (NRL, Sofia). The remaining samples will be analysed shortly. The owner of the first affected farm raised small ruminants since 2016, and owned cattle before that, which got infected in 2011 by FMD.

# Control & surveillance measures (1/2)

**Protection and surveillance zones.** Sampling of goats and sheep took place within the protection and the surveillance zones around the first two outbreaks (1617 samples around Voden, 406 samples around Kösti).

**Stamping-out.** Farmers and population are reluctant to slaughter because of the absence of symptoms. Starting July 14th, 2018, the government faced important political issues related to stamping out, and protests block the culling procedures.

**Ban of animal movements.** The ban of animal movements from/to the affected regions was implemented from mid-June 2018. Movements are monitored and allowed by private veterinarians with certificate (electronic document). Animals are identified with ear-tags. The authorization is printed and stamped. However, this does not exclude illegal movements, although they are not very likely to happen.

# Control & surveillance measures (2/2)

**In the rest of the country**, surveillance includes so far active search for possible new cases, based on clinical examination.

**Border area with Turkey.** A four-meters-high fence with barbed wire is present along the Turkish border. This fence was finished in November 2017. The surveillance in this high-risk area for disease introduction is reinforced by two diseases surveillance programmes:

- (1) the T.H.R.A.C.E. programme
- (2) the TADs (Transboundary Animal Diseases) programme

Both programmes paid at 100% by the EU (DG SANTE),  
Surveillance of diseases (FMD, PPR, SGP LSD) along the border of Bulgaria with Greece and Turkey.

**TADs programme**, $\Rightarrow$  2600 sera collected for PPR sero-surveillance, between March 2017 and March 2018 (all negative for PPR antibodies).

# Conclusions & Recommendations

## **On the disease itself & its detection**

Mild symptoms: hypovirulent strain from Turkey ? (vaccination in Thrace region) → isolation and sequencing necessary

Disease recognised quickly: evidence of increased awareness from VS

## **On the national control measures**

Implemented in line with Dir 92/119/EEC & Decision EU 2018/954.

10-15 days elapsed between observation of 1st symptoms and report to the Vet Authorities → possible window of disease spread

**Stamping out:** difficult to implement because of public opinion & protests

**Animal movements restrictions:** increased cooperation with Border Control Police

**Vaccination:** pros/cons to consider should the disease spread further

# Conclusions & Recommendations

## **On the epidemiological situation**

Turkey-Thrace region has been vaccinating against PPR until early 2017, and resumed vaccination early 2018 (Nigerian strain 75/1)

Very likely that the virus introduced in Voden and Kosti came from Turkey in:

- (i) two separate introductions OR
- (ii) one introduction and then subsequent spread

## **On surveillance**

Further serological analyses from Kosti (the first batch of samples may have been collected too early)

Maintain high awareness on the whole territory

Maintain communication to other countries

# Conclusions & Recommendations

## On diagnostic capacities / lab analyses

Ocular & nasal discharges, gums, lymph nodes, spleen – for virology

Stored 4°C during transport from field if immediate lab analyses, otherwise -80°C

EURL to organise shipment of samples

Continued participation of NRL to ring trials organised by PPRV EURL for serology and genome detection

NRL: additional personnel needed to cope with crisis period

# Summary

- *Processing of the remaining blood samples for PPRV serology (ELISA) from the surveillance zone between Kösti and Voden;*
- *A second round of sampling (n=257) for PPRV serology testing in the Kösti 10km surveillance zone to take place as soon as possible and eventually a second round of sampling in the 10 km zone around Voden depending on the results of the first round (still ongoing);  
If (1) and (2) are positive, to conduct a further 20km serological survey around Kösti;*
- *Maintain the active surveillance based on clinical examination in the rest of the country (especially to look for clinical signs in younger animals);*
- *Study/assess the possibility of vaccination and its modalities/consequences, even if vaccination is not recommended at this stage;*
- *Create a map of the spatial distribution of small ruminants and to collate animal movement data to identify areas at higher risk of disease occurrence within the country;*
- *EURL to put every effort to isolate the PPR virus and identify the lineage as soon as possible;*
- *Bulgarian authorities to provide biological samples (ocular, nasal, rectal swabs, blood, serum) from the animals showing clinical signs, and lung, lymph nodes, and intestine from dead animals; and link with EURL for shipment for further PCR/virological analyses.*

**Thank you for your attention!**