



# Mission of the Community Veterinary Emergency Team to Cyprus

SCOPE of the mission: Lumpy skin disease in  
cattle in Cyprus

(9 – 11 December 2014)

# Terms of Reference

- To provide scientific, technical, managerial and practical on-the-spot assistance for the development of the most suitable eradication, preventive and control measures for lumpy skin disease (LSD) under local conditions, especially as regards vaccination, stamping out, movement restrictions, surveillance and biosecurity within the framework of Council Directive 92/119/EEC.
- To provide targeted support taking into account the recommendations of the recent EFSA report on LSD

# CVET experts and DG SANTE officials

- Dr Eeva Tuppurainen - LSD expert, Capripoxvirus Reference Laboratory, The Pirbright Institute, UK
- Dr Francesco Berlingieri (DG SANTE)
- Dr Nicolas Krieger (DG SANTE)

# LSD summary

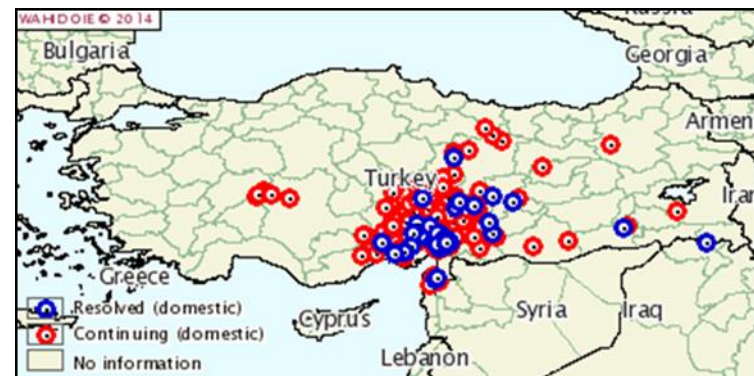
- Lumpy skin disease virus (LSDV) belongs to the genus *Capripoxvirus* within the family *Poxviridae*
- Endemic in Africa and the Middle East, recent outbreaks in Syria, Turkey, Israel, Jordan, Iraq, Iran, Azerbaijan and Kuwait
- High impact disease, causing substantial losses for dairy and meat producers and restrictions or a total ban of international trade of live animals and their products
- Transmission occurs mechanically by arthropod vectors (insects and ticks), direct contact, indirectly via contaminated feed and water, iatrogenic and seminal transmission

# Clinical signs in cattle



# LSD outbreak in Cyprus

- Non-specific clinical signs in cattle were noticed by farmers on 22.11.14 in the north-east peninsula in Cyprus
- Veterinarians were notified on 24.11.14
- Typical LSD skin lesions in cattle were detected on 27.11.14
- Cattle showing clinical signs of LSD were killed on the following day
- The laboratory confirmation of the disease was carried out by the Pendik Veterinary Institute, Turkey
- By 9.12.14 six farms were affected in two villages



## Origin of infection

- Inconclusive – epidemiological studies are on-going
- Wind-borne introduction of the virus by infected vectors from endemic countries, such as Turkey or Syria
- Introduction of infected vectors via importation of straw or hay from Turkey
- Illegal introduction of infected cattle
- Movement of people, such as temporary farm workers with previous contact with infected cattle

# Control and eradication measures already in place in the affected areas (1/2)

- *In infected farms:*
  - Clinical inspections of cattle and sample collection
  - Killing of infected and suspected animals (since 15.12 full stamping-out of the infected herds)
  - Animal movement restrictions and quarantine
  - Cleaning and disinfection of the premises
  - Insect control
  - Epidemiological investigations
- Farmers get full market value compensation for killed animals
- No vaccination practiced



# Control and eradication measures already in place in the affected areas (2/2)

- *Protection zone (a radius of 3 km):*
  - Animal movement restrictions (except to the slaughterhouse)
  - Awareness campaign
  - Clinical surveillance
  - Insect control
- *Surveillance zone (a radius of 10 km):*
  - Authorization required for the movement of cattle
  - Awareness campaign
  - Clinical surveillance
  - Insect control

## Additional information

- The estimated number of cattle holdings in the affected part of the island is 1000, comprising 55.000 to 60.000 cattle, mainly Holstein breed
- Cattle are kept in open facilities, closed farming system but neighboring farms are often in very close proximity to each other
- Arthropod vectors are present around the year
- A generic contingency plan was initially used for LSD
- Local laboratories have appropriate equipment and staff are competent to perform diagnostic assays for LSDV but the tests need to be set up

# General recommendations by CVET for the whole island

- **Regional contingency plans should be updated in regard of LSDV**
- **Local diagnostic laboratories should set up real-time and conventional PCR (back up) assays for LSDV**
  - Rapid and accurate laboratory confirmation of the diagnosis allows implementation of control and eradication measures without delay
  - Serological assay for retrospective serological surveys
- **Awareness campaigns for field veterinarians, farmers and animal care staff**
  - Typical clinical signs of LSDV
  - Instructions in case of suspected infection in the farm

## Recommendations for regions that are currently free of disease but at risk

- Set up an active clinical surveillance program
  - Daily check-ups of cattle by farmers or if needed by field veterinarians
- Sample collection and testing in local diagnostic laboratory using a real-time PCR method
- Use of insect and tick repellents in animals and facilities
- Entomological investigations in the region

# Recommendations for the affected areas (1/2)

## **Eradication of LSDV without vaccination**

- The radius of the protection zone should be increased to a minimum of 25 km and the radius of the surveillance zone to 50 km (Davies 1990; Carn 2003)
- Culling of infected and in-contact cattle and, if possible and relevant, in those farms located in immediate proximity
- Incineration of carcasses or alternatively burial deep in the ground
- Thorough cleaning and disinfection of the premises, using effective disinfectants
- Strict movement restrictions as described in 92/119/EEC
- Biosecurity measures for persons and vehicles visiting infected premises and holdings

# Recommendations for the affected areas (2/2)

## Eradication of LSDV with ring-vaccination

- The use of vaccination can be considered in case the measures foreseen in 92/119 including stamping-out are not able to contain the disease, notably due to the transmission by blood-feeding arthropod vectors
- Only live attenuated vaccines against LSD are currently commercially available
- Vaccinated animals are likely to show some adverse reactions (local reaction at the vaccination site and less than 10% may show mild general disease) of which farmers should be informed in advance
- Epidemics can be controlled effectively by large scale vaccination using effective vaccine and 80% coverage

# General comments

- In general LSDV epidemics are not self-limiting
- The efficacy of total stamping-out of policy is currently not known
- Total stamping-out policy is likely to be most effective if it is carried out at very early stage of the outbreak
- In case of the outbreak has been on-going for some time, contamination of vectors with LSDV may hamper the eradication of the disease

# Thank you for your attention!

*Contact info:*

Eeva Tuppurainen, *DVM, MSc, MRCVS*

Head of the Capripoxvirus Reference Laboratory (until 21<sup>st</sup> Jan 2015)

t +44 (0) 79 63828625

e [eeva.tuppurainen@pirbright.ac.uk](mailto:eeva.tuppurainen@pirbright.ac.uk).

[tuppurainene@gmail.com](mailto:tuppurainene@gmail.com)

