Mission of the Community Veterinary Emergency Team to Greece

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

(12 – 13 April 2016)

Terms of Reference

- The expert should provide assistance to the scientific, technical, managerial and practical on-the-spot aspects required for the development and refinement of the control strategy for lumpy skin disease (LSD) under local conditions taking into account sound scientific basis (including the recent EFSA report on LSD) and within the framework of Council Directive 92/119/EEC.
- The expert should report exclusively to the Commission services and the Greek competent authorities. Daily reports should be produced and continuous contact should be guaranteed between the team, the Commission services and competent authorities. A final report should be produced by the expert; this report should include recommendations to the competent authorities.

CVET experts and DG SANTE officials

- Dr Eeva Tuppurainen – team leader, FI
- Dr Kris de Clercq - BE
- Commission Representative: Dr Dimitrios Dilaveris (DG SANTE) (only 12.04.2016)

LSD outbreak in Nigrita, Serres on 4th of April 2016 (1/2)

- Mixed dairy and beef herd (379 heads) vaccinated against LSDV on 26th Nov 2015
- One pregnant heifer (20 months of age) affected
- TB test in early Feb 2016, no lesions noticed then
- Heifer injured when it was mounted by another animal and was separated from the herd to recover
- In early April, animal was down and the owner noticed hairless patches on the back of the animal, where blackbirds were pecking
- The owner was not aware about LSDV infection

LSD outbreak in Nigrita, Serres on 4th April 2016 (2/2)

- Infected animal was send to a slaughterhouse on 4th of April and LSDV infection detected by the abattoir veterinarian
- The nearest abattoir is 20 km away near Neos Skopos (S131) but the animal was taken to another one located 55 km in the RU of Drama on a disease-free but vaccinated zone
- A LSDV field strain was detected from the samples by the National Reference Laboratory in Athens
- Estimated age of the skin lesions 4 weeks (based on photos taken by slaughterhouse vet)
- No clinical signs of LSD in other animals in the farm
- 40 blood samples were collected from the herd, tested negative in PCR

Inconclusive source of infection (1/2)

- A closed, zero-grazing feedlot farming system
- Nearest outbreaks in Vrasna in November 2015, RU of Thessaloniki (25km distance)
- All farms in Serres in close proximity of the affected region in the RU of Thessaloniki were vaccinated in late November 2015, nearly 100% vaccination coverage
- In the area starting 20km to the North only 40% vaccination coverage

Inconclusive source of infection (2/2)

- No known animal movements from infected regions of Thessaloniki
- Movement of vaccinated animals originating from restricted regions for slaughter in the RU of Serres needs to be investigated
- No temporary farm workers
- Milk, veterinarian, animal trader vehicles – disinfection of the wheels on arrival and exit
- Artificial insemination with frozen semen is carried out by the farmer
- Biting insects were present but not yet in substantial numbers, ticks not a problem, spot-on insect repellent in cattle
- Local feed and water

Hill-top beef holding near to Lithotopos village in the RU of Serres

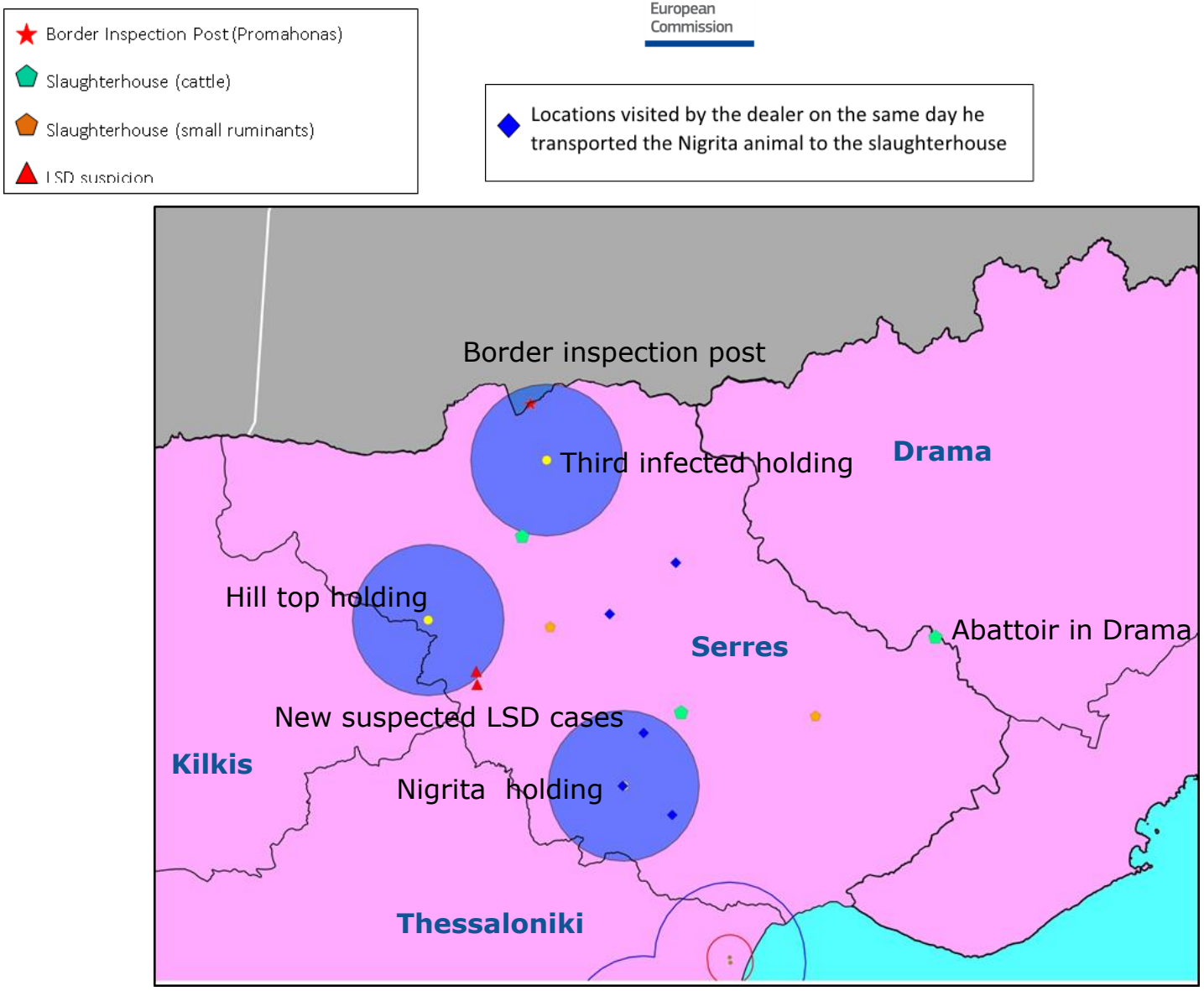
- Located 20 km distance from Bulgarian border, free-ranging beef cattle of 70 heads, communal grazing lands also used by four other farmers
- Unvaccinated animals and vaccination coverage 40% in the mountainous region
- Clinical signs first noticed by the owner on Sat 9th of April, samples collected on following day and tested positive in NRL in Athens
- On the day of CVET visit on Tue 12th of April several more cattle with skin lesions were detected
- The herd was culled on Wed 13th of April

Inconclusive source of infection

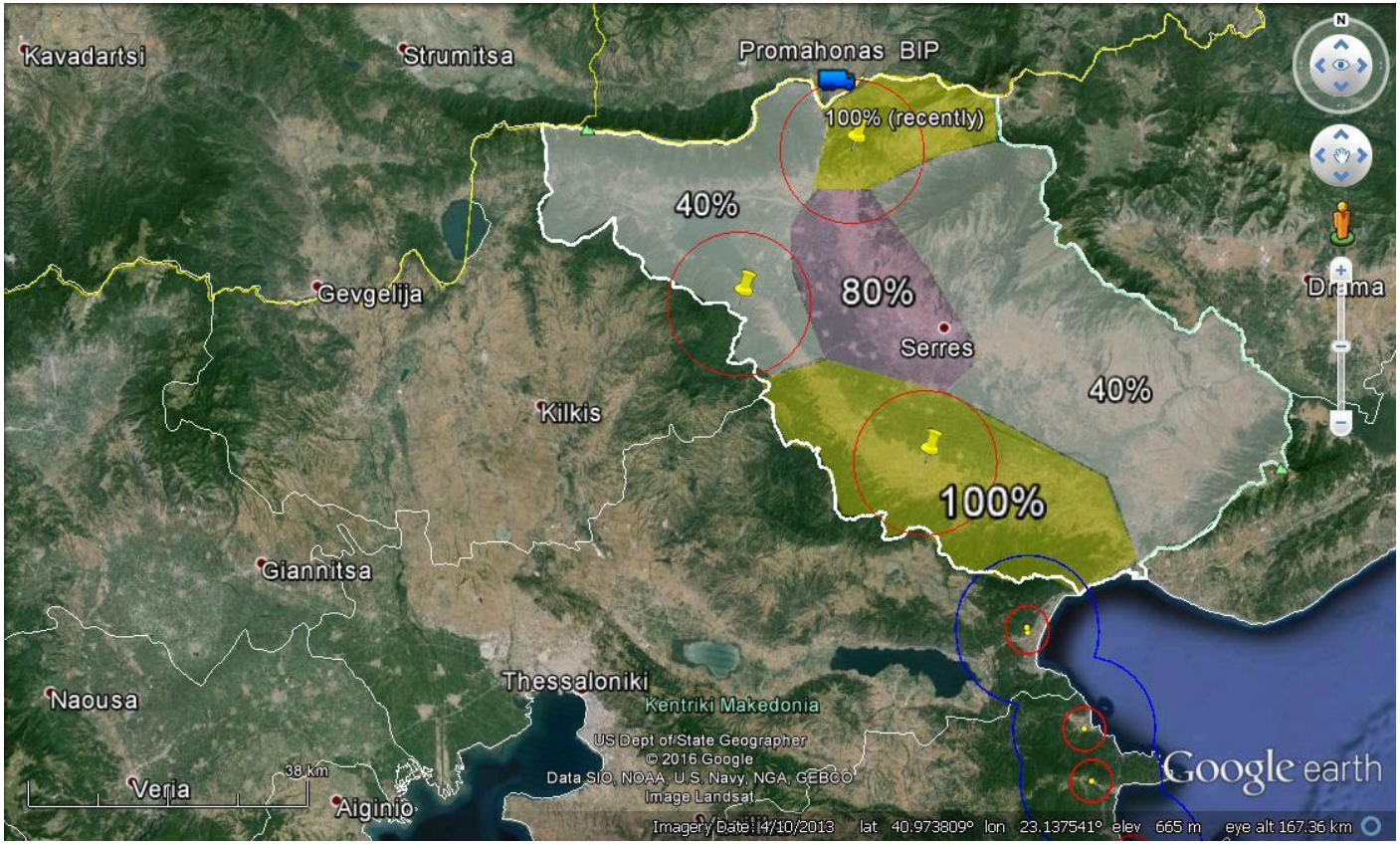
- Abundance of ticks, biting flies, tabanids, mosquitos
- A spot-on insect repellent was used
- Only owners, permanent staff visit the holding regularly; state and private veterinarians irregularly
- Cattle for slaughter or trade are transported by the owner to lowland farm and are picked up from there
- Nearest abattoir (S10) is located in Hortero near Sidirokastro at 24 km distance, it’s used for cattle over 72 months of age (due to TSE regulations)

Other affected farms by the time of CVET mission

- In Thessaloniki: Adverse vaccine reaction in imported cattle (68 heads) from Denmark, vaccinated 8th and 9th of March, clinical signs detected in two cattle 10 days post-vaccination, vaccine virus detected from the skin of the other animal
- 4th of April a cattle farm near Roupel, Serres, very close to Bulgarian border, cattle entry point from Bulgaria to Greece, cattle resting station in close proximity – the region was swiftly 100% vaccinated after the suspicion
- 12th of April, a suspected case in an unvaccinated cattle farm in Strimoniko, 13 km by beeline, 18 km by road distance from the Lithotopos hill top farm and 25 km from Nigrita farm, no further data available by the time of the CVET visit


Border Inspection Post (Promahonas)
Slaughterhouse (cattle)
Slaughterhouse (small ruminants)
LSD suspicion
Locations visited by the dealer on the same day he transported the Nigrita animal to the slaughterhouse
Border inspection post
Third infected holding
Drama
Hill top holding
Serres
Abattoir in Drama
New suspected LSD cases
Kilkis
Nigrita holding
Thessaloniki

Vaccination status against LSDV in the RU of Serres



Visit to the national reference laboratory in Athens

- General CaPV conventional and real-time PCR
- Species-specific CaPV assay
- In-house assay to differentiate between virulent and vaccine strains which is run parallel with sequencing
- Good staff competency
- Identified weaknesses limiting the number of tests performed/day
  - Only one PCR thermocycler is available for the diagnostics of all diseases the lab is working with (such as rabies)
  - Capacity to test less than 40 samples/day
  - Limited number of staff
  - Lack of a serological assay
- Identified needs: PCR thermocycler, extraction robot, Nanodrop spectrophotometer and a technician

European Commission

The scale of the problem is getting worse

Recommendations (1/2)

- Mass vaccination in affected regions, aiming 100% vaccination coverage
- Preventive vaccination campaigns should be carried out at buffer zones between affected and disease-free regions within the country and at the borders
- Movement of vaccinated cattle, originating from infected regions to a slaughterhouse within disease-free area is not recommended
- The nearest slaughterhouse within the restricted region should always be preferred
- Only healthy vaccinated animals are safe to move after the immunity has been fully established (28 days post-vaccination)
- In case it is necessary to use a slaughterhouse at the disease-free region, cattle should be inspected by a veterinarian to be free of characteristic clinical signs of LSDV on the day of transport at the farm of origin

Recommendations (2/2)

- Animal traders and their animal facilities should be registered
- The diagnostic capacity at the NRL in Athens needs to be strengthened
- In order to investigate unnoticed LSD outbreaks in the border regions, a serological and clinical surveillance should be urgently commenced at the border zones (25km) between Greece, Bulgaria, FYRO Macedonia
- A revision of the Council Directive 92/119/EEC is recommended in regard to stamping out -policy in vaccinated herds after full immunity have been established and in herds in which with a vaccine adverse reaction is detected

Thank you for your attention!

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Risks involved in movement of vaccinated cattle from infected to disease-free regions for slaughter

- In a vaccinated herd, there may been immunocompromised individual(s), that are not protected by the vaccine and therefore may get infected by a field strain
- Some animals may be accidentally missed during the vaccination campaign
- Failure in subcutaneous administration of the vaccine may occur
- Vaccine virus may be inactivated if posed to direct sunlight
- Some cattle may be already incubating the disease when vaccinated
- Consequently: unless effective risk mitigation measures are in place, even a short waiting time of infected animals showing skin lesions, kept in open animal transport vehicle on route or at the abattoir may allow sufficient time for vectors to get contaminated