Standing Group of Experts on Lumpy Skin Disease in Europe under the GF-TADs umbrella

First meeting (LSD1) Brussels, Belgium, 4-5 July 2016

Report of Russia
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Lumpy skin disease in Near Eastern and European countries
2013 - 2016

Legend
LSD cases by years:
- ● 2013
- ▲ 2014
- ■ 2015
- □ 2016

Affected countries according to the OIE data:
1. Azerbaijan ............... 16
2. Armenia .................. 1
3. Bulgaria ................. 17
4. Greece ................. 173
5. Egypt ..................... 83
6. Israel ..................... 172
7. Jordan ...................... 2
8. Iraq ....................... 721
9. Iran ....................... 6
10. Lebanon ............... 17
11. Macedonia ............ 21
12. Palestine ............... 58
13. Russia ................. 172
14. Saudi Arabia .......... 3
15. Serbia ................. 57

Affected countries according to media:
1. Cyprus ............... 2
2. Kuwait ............... 5
3. Turkey ............. 941

Historic nosoareal

Current situation

80 - 2000 - 40

OIE data as of 01.07.2016.
Lumpy Skin Disease in the RF in 2015

1. No LSD cases were reported in the RF until 2015.

2. Epidemic situation in 2015:
   - Clinical signs of LSD were detected in cattle in 11 settlements of the Republic of Dagestan;
   - in 4 settlements of the Chechen Republic;
   - in 2 settlements of the Republic of North Ossetia.

In all cases biomaterial samples were collected and tested by PCR
LSD infected RF regions, 2015

Republic of North Ossetia
- s. Darg-Kok
- s. Kardzhan

Republic of Chechnya
- s. Podgornoye
- s. Ken-Yurt
- s. Novoterskoye
- s. Kalinovskaya

Republic of Dagestan
- s. Krasnoye
- Ullubiyevka

Republic of Dagestan
- s. Gvedysh
- s. Barnab
- s. Kalob
- s. Khidib
- s. Tepebino
- ZAO “Darada-Murada”

Republic of Chechnya
- s. Barnab
- s. Kalob
- s. Khidib
- s. Tzumiluhk
- s. Khadiyal
- s. Khidib
- ZAO “Darada-Murada”
- s. Ullubiyevka

Republic of North Ossetia
- s. Drag-Kok
- s. Kardzhan

LSD infected settlements (OIE data)
Laboratory diagnosis:

- LSD is diagnosed based on the epidemiical data, clinical signs, post-mortem findings and laboratory tests;

- FGBI “ARRIAH” performs comprehensive diagnosis which includes:
  - virological tests: virus isolation;
  - molecular biology techniques: capripoxvirus detection and identification using multiplex PCR (2007), study of capripoxvirus genome fragments by sequencing;
  - antigen determination;
  - Bioassay in naturally susceptible animals
Lumpy Skin Disease in the RF in 2016

Epidemic situation in 2016:

- infected Subjects of the RF - 7;
- total number of outbreaks - 52

In all cases biomaterial samples were collected and tested by PCR
Epidemic situation on Lumpy skin disease in the Russian Federation, 2016 (N = 155 as for 04.07.2016)

- Astrakhan oblast: N = 3
- Krasnodar kraj: N = 1
- Rep. Dagestan: N = 27
- Kalmyk Rep.: N = 40
- Chechen Rep.: N = 60
- Stavropolsky kraj: N = 24

Legend:
- LSD cases in 2015
- LSD-affected districts in 2016

*data provided by FGBI "Veterinary Center" (Moscow)
Measures taken in case of infection

Legal basis of the control: Order of the Ministry of Agriculture of the Russian Federation No. 81 of May 17, 2005 (Moscow) “Approval of the List of Quarantine and Highly Dangerous Animal Diseases”

1. No cattle movements and regrouping;
2. In case of new disease cases the diseased and suspect animals shall be isolated in the same facilities where they were housed;
3. No marketing of animals, their slaughter products and feed;
4. Samples of pathological materials shall be collected from disease suspected animals and/or from dead cattle and shall be urgently (within 24 hours) sent for testing;
5. Comprehensive measures shall be taken to prevent spread of the disease and to eradicate it taking into account potential confirmation of lumpy skin disease diagnosis.
Measures taken for the infection eradication

According to quarantine requirements in case of the outbreak confirmation on a farm the cattle owners shall do the following:

- Stop all cattle movements and regrouping;
- Ban entrance of unauthorized persons to the farm excluding animal handlers and veterinarians;
- Stop slaughter of animals kept on the farm as well as marketing of animals, their slaughter products and feed;
- Ban exit and entrance of vehicles to the LSD outbreak as well as exit of personnel without decontamination.

As soon as the first LSD cases occurred in a herd the diseased and contact animals shall be withdrawn from the herd. Such animals shall be bloodlessly killed under the due control of the official veterinarians.

In order to prevent the disease spread all LSD susceptible animals located in the outbreak shall be treated with repellents and insecticides. The animals are also subject to vaccination!
Preventive vaccination

Heterologous live attenuated vaccine is used for the disease specific prophylaxis.

FGBI ARRIAH has completed a series of experiments involving cattle infection with the vaccine based on the attenuated sheep pox virus strain “ARRIAH”:

- At OIE recommended administration dose of $10^4 \text{ TCID}_{50}$ the vaccine demonstrates relevant potency and protects cattle against challenge with virulent LSD virus strain.

Currently preclinical trials of the homologous LCD vaccine are in process.
LSD PREVENTION

Live attenuated LSDV vaccine or live attenuated sheep and goat pox virus vaccine

FGBI ARRIAH has performed a series of experiments determining the potency of live attenuated sheep pox virus vaccine based on “ARRIAH” strain:

-At the OIE recommended dose of $10^4$ TCID$_{50}$ this vaccine confers full protection in cattle challenged with virulent LSDV

The vaccines in our portfolio:

• Freeze-dried live attenuated sheep pox virus vaccine (50 and 100 doses)
• Freeze-dried live attenuated goat pox virus vaccine (50 and 100 doses)
• Freeze-dried live attenuated sheep and goat pox virus vaccine (50 and 100 doses)
Thank you for your attention!