EC request as outcome of recommendation from GF-TADS meeting, July 2016

ToR:

- To analyse epidemiological data on LSD from MS and neighbouring countries
- To include spatio-temporal analysis
- Risk factors involved in the occurrence, spread and persistence.
INVolVEMENT OF MS AND NEIGHBOURING COUNTRIES

- High degree of participation: Greece, Bulgaria, FYROM, Albania, Serbia, Montenegro, Turkey, Kosovo, Croatia, Bosnia and Herzegovina, Romania

- Agreement on data models:
  - Outbreak data
  - Cattle population
  - Vaccination data

- Creation of mutual collaboration:
  - Workshop, web meeting
  - Support from EC
publication before Easter 2017

Content:
- Descriptive analysis of spatial-temporal of outbreaks + vaccination + climatic data
- LSD speed of propagation
- Assessment of vaccination effectiveness
- Distribution of vaccine adverse reaction
- Opportunity maps for vector survival
- Guidance for field survey on vectors
LUMPY SKIN DISEASE – SITUATION IN SOUTH-EASTERN EUROPE IN 2016

East-west spread; seasonality with outbreak peak in summer months

Since 2015 (excluding Turkey): 7,600 LSD outbreaks; 12,800 affected animals

- proximity to affected farms
- temperatures $>$ abundance of insect vectors

Black dots: new outbreaks; grey dots past outbreaks

Risk factors for spread
spatial pattern of outbreaks, as reported in Turkey in 2014

transmitted mainly by vector at short distance (<10km), and with some transmission over longer distances and faster spread rate, due to less frequent long distance movement of infected cattle
VACCINATION CAMPAIGN

- Mass vaccination with homologous strain is one of the factors that mainly influence LSD spread.
- Protective effect of vaccination (case study of Albania): about 70% at farm level and 77% at animal level.
- Adverse effects in 0.19% of the vaccinated farms (Croatia).

Proportion of vaccinated (blue) and unvaccinated (red) affected herds in Albania.

Outbreaks per month, temperatures and percentage of vaccinated animals in Greece 2015-2016.
OPPORTUNITY MAPS OF VECTOR SURVIVAL

- vector survival: possible throughout the entire year in many regions of Greece.
- warm temperatures and related abundance of insect vectors considered ones of the main risk factors for LSD spread.
Data collection from 9 countries (Greece, Bulgaria, Albania, Serbia, FYROM, Montenegro, Turkey, Croatia, Kosovo): great effort and high commitment by the veterinary services

Data provided on 1, 2, 3

Quality and quantity can be improved (adherence data model and farmID)
Mass vaccination campaign with a live homologous vaccine against LSD carried out at regional level in south-eastern Europe: in few months 90% vaccination coverage of the animal population reached
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- Esra Satir from Pendik Veterinary Control Institute, Turkey

- EFSA staff, WG, AHAW Panel
- JRC
Past LSD events and related EFSA outputs
**LSD events**

2013
- LSD spread in Middle East, Turkey

2015
- LSD spread to Greece

2016
- Further spread to Bulgaria and neighbouring countries

**EC/MS reactions**

EC Mandate for EFSA SO - Nov 2013

Bulgarian letter to EFSA for regional coop. - Dec 2015

EC Mandate for EFSA urgent advice - Jun 2016

New: EC Request for scientific and technical assistance - Aug 2016

**EFSA outputs**

EFSA SO Jan 2015

EFSA/DG SANTE Workshop May 2016

EFSA urgent advice - Aug 2016

Ongoing, 2016-2018
**EFSA OUTPUTS ON LSD – OBJECTIVES**

- **EFSA scientific opinion on LSD**: disease characterisation; assessment of risk of introduction, spread, impact, control in the EU

- **EFSA/DG SANTE workshop**: strengthening regional cooperation in South East Europe and Middle East for improving LSD surveillance, prevention and control (15 countries + 6 international orgs)

- **EFSA urgent advice on LSD**: assessment of combinations of stamping-out and vaccination policy

- **Data collection on LSD**: cooperation with South-European countries, spatio-temporal dynamics of LSD epidemics