



# **Lumpy skin disease (LSD)** **Epidemiological situation in Europe** *(update since LSD4)*

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

**Fifth meeting (SGE LSD5)**

*19 – 20 October 2017 , Budva, Montenegro*

*Andrea GAVINELLI , Dimitrios DILAVERIS  
European Commission  
Directorate-General for Health and Food Safety  
G-Crisis management in food, animals and plants*

- **LSD occurrence in SE Europe**
- **LSD vaccination in SE Europe**
- **LSD measures in the EU**
- **European Commission support against Lumpy Skin Disease**
- **Recent Activities - Future priorities**
- **Concluding remarks**

## LSD occurrence in SE Europe

### LSD epidemiological situation January - Dec 2015 (ADNS + country reports)

LSD outbreaks in SE Europe  
(Jan – Dec 2015)

➤ Greece : **117**  
(Aug-Dec 2015)

● LSD outbreaks  
01.01-31.12.2016 (ADNS)



## LSD occurrence in SE Europe

### LSD epidemiological situation January - Dec 2016 (ADNS + country reports)

#### LSD outbreaks in SE Europe (Jan – Dec 2016)

- Greece : **104** (ADNS)  
(last on *Nov 2016*)
- Bulgaria : **217** (ADNS)  
(last on *Aug 2016*)
- FYROM : **1.591** (Sep. report)
- Serbia: **225** (ADNS)  
(last on *Oct 2016*)
- Kosovo\*: **1.415**(EFSA report)
- Montenegro: **436**(EFSA rep.)
- Albania: **3.647** (EFSA report)



(\* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence).

● **LSD outbreaks**  
01.01-30.11.2016 (ADNS)

## LSD occurrence in SE Europe

### LSD epidemiological situation January - 30 Sep 2017 (ADNS + country reports)

#### LSD outbreaks in SE Europe (Jan – Sep 2017)

- **Albania: 494**  
(ADNS, 160 with a suspicion date in 2017)
- **Greece : 2** (ADNS)
- **FYROM : 4** (ADNS)



● LSD outbreaks  
01.01-30.09.2017( ADNS)

## LSD vaccination in SE Europe

**All LSD affected countries quickly resorted to mass vaccination of all cattle against LSD using live homologous vaccines**

Country	1 <sup>st</sup> LSD outbreak	Initiation of LSD vaccination
Greece	20 Aug 2015	05 Sep 2015
Bulgaria	13 April 2016	28 April 2016
FYROM	21 April 2016	24 May 2016
Serbia	07 June 2016	27 June 2016
Kosovo*	24 June 2016	11 July 2016
Albania	19 July 2016	26 July 2016
Montenegro	21 July 2016	01 Aug 2016

## LSD vaccination in SE Europe

### 2015

- LSD vaccination in the **North – Eastern Provinces of Greece**

### 2016

- All LSD affected countries (**Greece, Bulgaria, the former Yugoslav Republic of Macedonia, Serbia, Kosovo\*, Albania, Montenegro**) implemented mass vaccination of all their cattle against LSD in their entire territory.
- **Croatia**, not affected by LSD, became the 1<sup>st</sup> country to implement preventive vaccination of its entire country population against LSD (July 2016)

### 2017

- All countries in SE Europe that vaccinated against LSD in 2016 repeat vaccination in 2017 (annual revaccination + vaccination of newborn animals, campaigns completed or in progress).
- **Bosnia and Herzegovina**, not affected by LSD, began implementing preventive vaccination against LSD since 2017 (2<sup>nd</sup> country to implement preventive vaccination after Croatia).

#### **NOTE :**

- In all cases the vaccines used in the above countries were **live, homologous vaccines against LSD** imported from outside the EU.
- In most cases occurrence of new LSD outbreaks in affected countries as above stopped within 1 month following proper completion of their vaccination campaign

## LSD vaccination in SE Europe

- **Urgent advice on lumpy skin disease EFSA Panel on Animal Health and Welfare** [EFSA Journal 2016; 14(8):4573], published 9 Aug 2016.

### **Abstract**

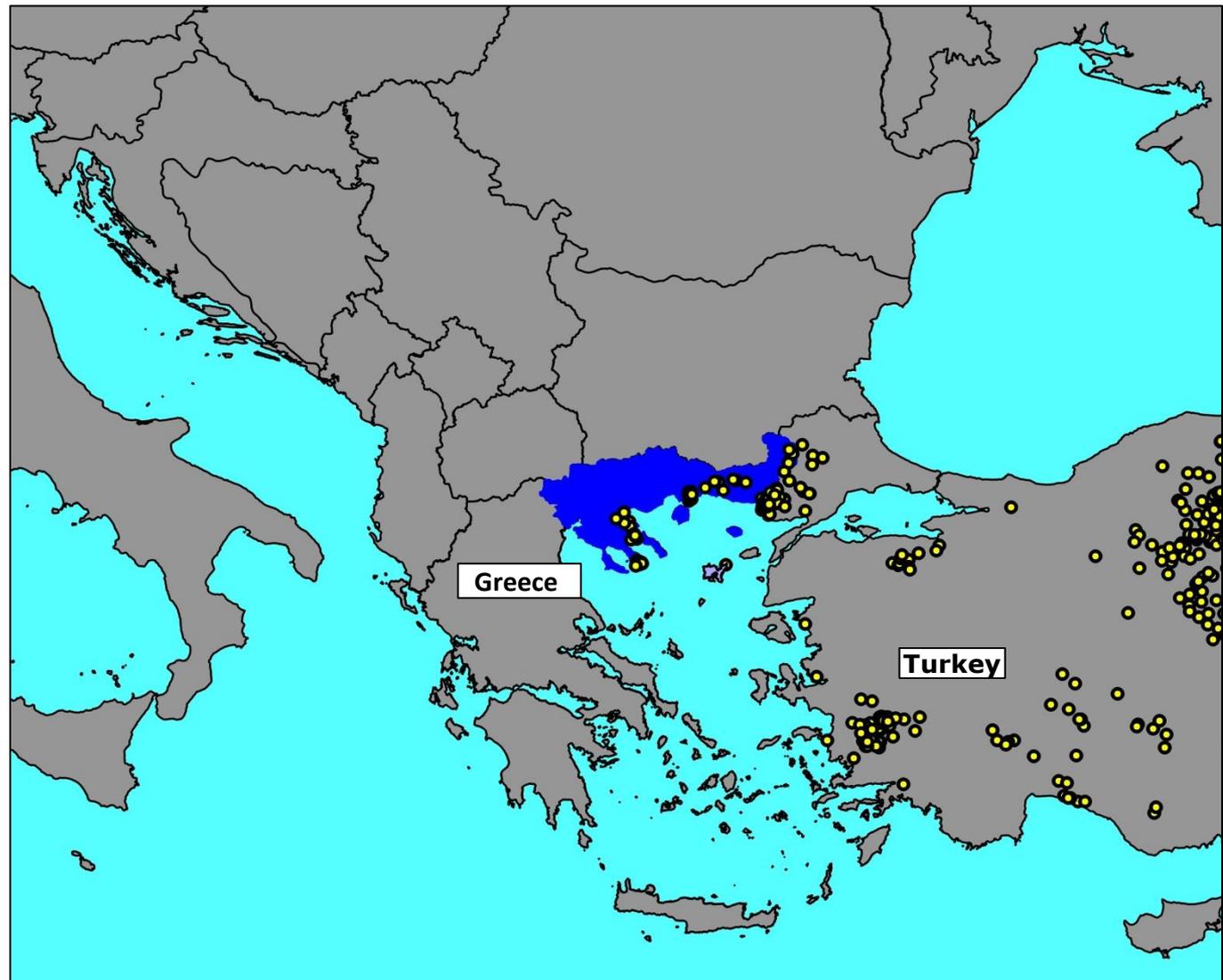
*In order to assess the effects on disease spread and persistence of partial stamping out of only clinically affected animals in holdings where the presence of lumpy skin disease has been confirmed, against total stamping-out policy of infected herds coupled with vaccination, a mathematical model for the transmission of LSDV between farms was developed and different scenarios explored. According to the model, vaccination has a greater impact in reducing LSDV spread than any culling policy, even when low vaccination effectiveness is considered. **When vaccination is evenly applied so that 95% of the farms are vaccinated with 75% of vaccinated animals effectively protected**, then total stamping out and partial stamping out result in a similar probability of eradicating the infection. When no vaccination is applied or when vaccination has a lower effectiveness (e.g. 40%), the probability of eradication is higher when total stamping out is performed as compared to partial stamping out. In general, partial stamping out results in limited increase of the number of farms affected as compared to total stamping out. Independently of the culling interventions applied in the model, **vaccination was most effective in reducing LSDV spread if protection had already been developed at the time of virus entry**, followed by protection of herds after virus entry. No vaccination is the least effective option in reducing LSDV spread. **In order to reach the above described effects, it is necessary to implement vaccination of the entire susceptible population in regions at risk for LSDV introduction or affected by LSDV in order to minimise the number of outbreaks, and high animal- and farm-level vaccination coverage should be achieved.** Farmers and veterinarians should be trained in the clinical identification of LSD in order to reduce underreporting, and the effectiveness of partial stamping out should be evaluated under field conditions.*

## LSD vaccination in SE Europe

### LSD vaccination in South East Europe in 2015 – Situation as at Dec 2015

#### Vaccination in:

- Greece (Northern part), not full vaccine coverage every where



 Vaccination area  
(not full coverage)

 LSD outbreaks as at  
1 Jan -31 Dec 2015 (ADNS)

## LSD vaccination in SE Europe

# LSD vaccination in South East Europe in 2016 – Situation as at early 2017

### Vaccination completed in:

- Bulgaria
- Greece (Northern part)
- Serbia
- FYROM
- Montenegro
- Kosovo
- Croatia
- Albania

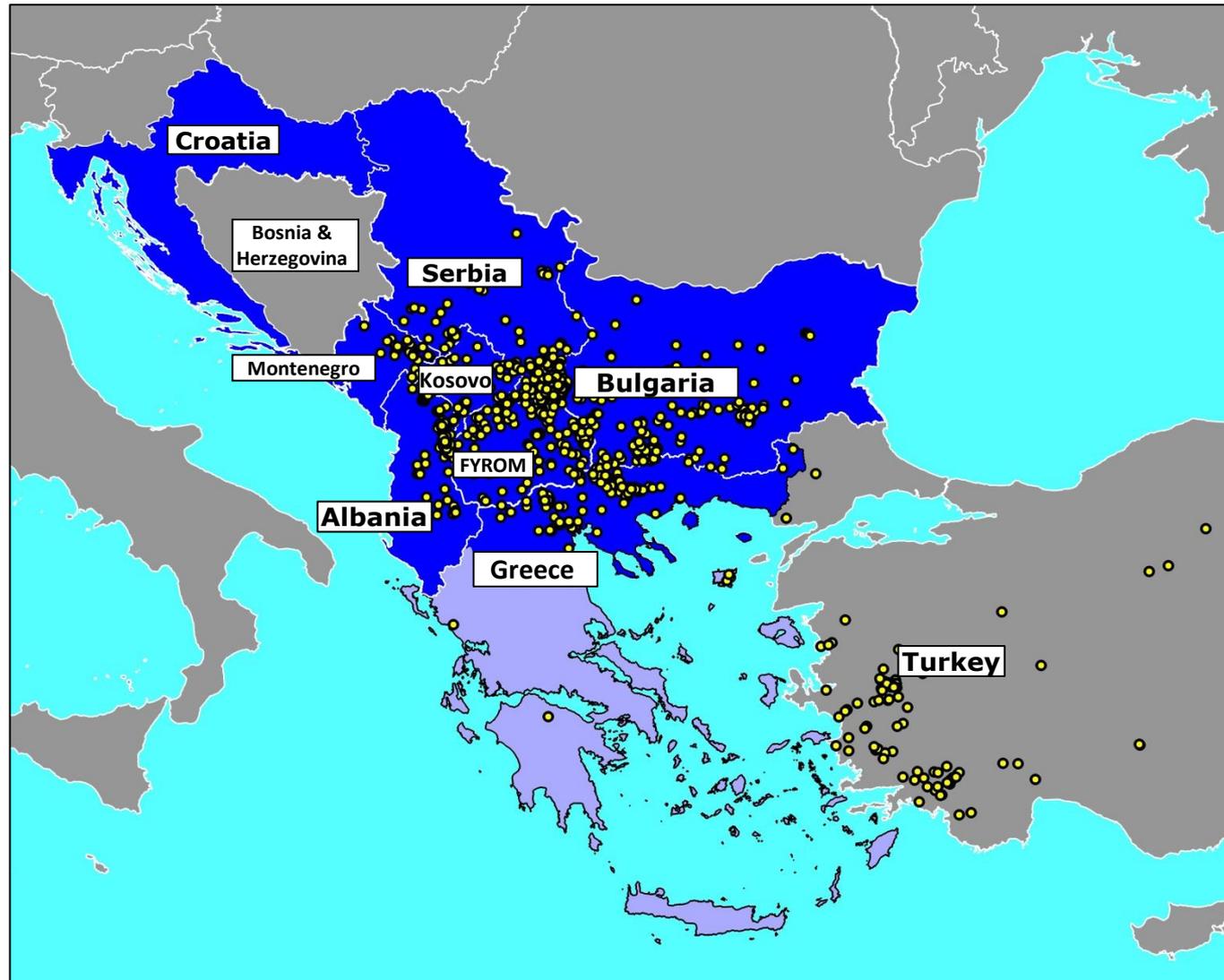
### Vaccination in progress in

- Southern part of continental Greece

 Vaccination Completed by end 2016 - early 2017

 Vaccination in progress

 LSD outbreaks as at 1 Jan -31 Dec 2016 (ADNS)





European  
Commission

## LSD vaccination in SE Europe

# LSD vaccination in South East Europe – Situation as at mid- October 2017

Vaccination completed since 2016 (annual revaccination in progress) or completion of primary vaccination:

- Bulgaria
- Greece (Northern part)
- Serbia
- FYROM
- Montenegro
- Kosovo
- Croatia
- Albania

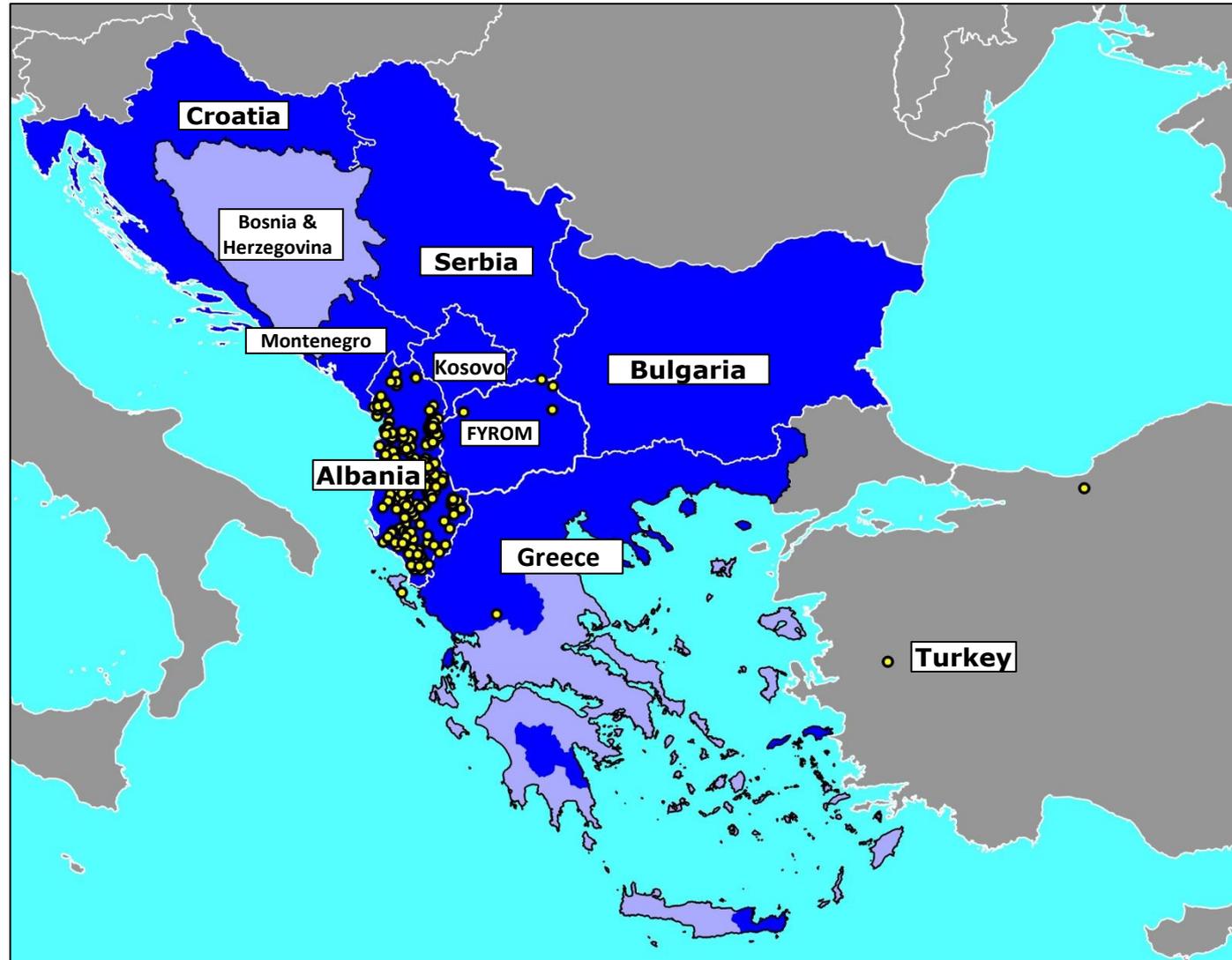
Vaccination in progress in

- Southern part of continental Greece & islands
- Bosnia & Herzegovina

 Annual revaccination in progress or completion of primary vaccination

 Primary vaccination in progress

 LSD outbreaks as at 1 Jan-15 Oct 2017 (ADNS)



## **LSD in SE Europe: Situation as at mid October 2017**

### **LSD outbreaks in 2017 :**

- Albania : outbreaks reported in Jan-Feb 2017 (with a reducing trend), no outbreaks in March, recurrence from April with increasing number of outbreaks (in total 494 outbreaks reported in ADNS from Jan-Sep 2017, 160 with a suspicion date in 2017 )
- Sporadic outbreaks:
  - ✓ 4 in the former Yugoslav Republic of Macedonia (1 on January and 3 on April without further spread)
  - ✓ 2 in Greece (1 on Mar in the island of Corfu - not included in the areas where vaccination was implemented) and one in Karditsa (mainland, no secondary spread).

## **LSD in SE Europe: Observations in 2017**

- Vaccination, as implemented so far in SE Europe (mass vaccination with live homologous vaccines according to manufacturer's directions) seems to have worked well since there is :
  - No further spread of LSD in 2017 , beyond the previously affected countries in 2016 , throughout the LSD high risk season (April – todate)
  - No new LSD outbreaks reported in those affected countries where full vaccination coverage has been achieved

### **However ....**

- The virus is still present (Albania, the former Yugoslav Republic of Macedonia, Greece)
- Non immune animals remain at risk of infection, even in areas with relatively high vaccine coverage
- On special occasions the disease can move within the same country with outbreaks occuring in areas where it was not present before (e.g. Karditsa – Greece)
- Areas with partial vaccine coverage are at high risk of LSD recurrence, even if surrounded by fully vaccinated areas
- LSD in South East Europe demonstrates constant seasonality so far (high risk of recurrence from April onwards)

### Legal framework

- **Dir. 92/119/EEC** ⇒ **LSD control measures**  
(COUNCIL DIRECTIVE 92/119/EEC of 17 December 1992 introducing general Community measures for the control of certain animal diseases and specific measures relating to swine vesicular disease)
- **Dir. 82/894/EEC** ⇒ **LSD notification (ADNS)**  
(COUNCIL DIRECTIVE of 21 December 1982 on the notification of animal diseases within the Community)

## Commission Implementing Decisions on LSD in force

- COMMISSION IMPLEMENTING DECISION **EU (2016)/2008**, of 15 November 2016 **concerning animal health control measures relating to lumpy skin disease in certain Member States** (notified under document C(2016) 7023) (amended by Commission Implementing Decisions (EU) **2017/1178** & **2017/1460** )

**Amendments related to *zoning*, and refinement of measures for *germinal products and holdings subject to revaccination*.**

- COMMISSION IMPLEMENTING DECISION **(EU) 2016/2009** of 15 November 2016 **approving the vaccination programmes against lumpy skin disease submitted by the Member States** (notified under document C(2016) 7219)

## LSD measures at EU level

### Commission Implementing Decisions on LSD

#### New zoning rules

**Part I : free zones with vaccination** ( areas where no LSD outbreak has occurred , subject to no LSD restrictions where an LSD vaccination programme is implemented)

- **Croatia** (LSD never occurred, preventive vaccination in progress)
- **Certain areas of Bulgaria** , East and North (areas where no LSD outbreaks occurred , 100% vaccination of cattle has already been completed and no outbreaks occurred at 20 km distance)
- **Certain areas of Greece** (**islands except Limnos and Kerkyra**)

**Part II: infected zones** (areas where LSD outbreaks were confirmed , subject to the implementation of an LSD vaccination programme)

- **the rest of Bulgaria** (excluding the areas in Part I)
- **part of Greece** (continental Greece and Limnos & **Kerkyra** islands).

Live bovines from Part I (free zones with vaccination) to:

- Part I or Part II areas (conditions)
- Any other MS or third country under conditions
- Any other MS or third country under conditions and bilateral agreements

Live bovines from Part II (affected zones) to :

- Part II areas of same or other MS (conditions ± bilateral agreements)
- Other areas ( MS /Third country) only on the basis of conditions and bilateral agreements

## LSD measures at EU level

### LSD zoning - Commission Implementing Dec. (EU) 2016/2008 (as amended)

#### Free zones with Vaccination (Part I):

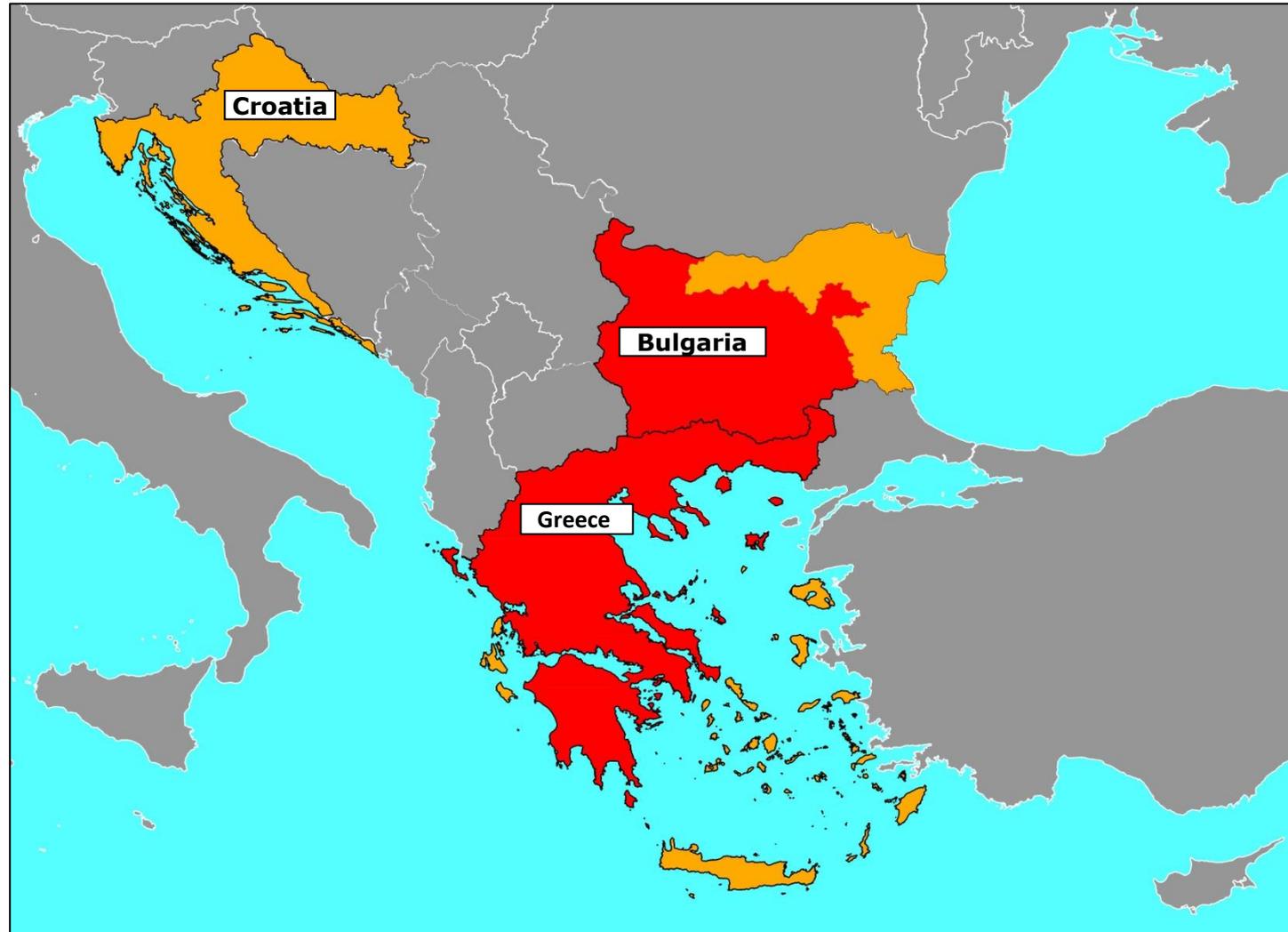
- Croatia
- Bulgaria (certain areas in the North and East part)
- Greece (islands except Kerkyra and Limnos)

#### Infected zones (Part II):

- Continental Greece (including the islands of Limnos and Kerkyra)
- Bulgaria (excluding the "free with vaccination" zones)

 Free with  
Vaccination zone

 Infected zone



## European Commission support against Lumpy Skin Disease

- **EU LSD vaccine bank** (*vaccine donations to various countries in 2016-2017*)
- **EU financial support**
  - *For EU Member countries*: reimbursement for the cost of control measures (e.g. stamping out e.t.c) + cost of LSD homologous vaccines purchased and used through national procedures up to 1,1 EURO per dose
  - *For non EU Member countries*: reimbursement for the cost of LSD homologous vaccines purchased and used through national procedures up to 1,1 EURO per dose
- **Technical support: CVET** (Community Veterinary Emergency Team) missions for LSD (*7 missions so far in various countries until 2016*) ⇒ **available upon request**
- **LSD training activities in the pipeline**
  - ❑ **LSD Workshop (late 2017, Kiev, Ukraine)**
  - ❑ **LSD Sustained Technical Missions (STMs) in Ukraine, Georgia, Turkey (late 2017 or early 2018)**
- **(Scientific support: EFSA Opinions on LSD** (2 opinions & 1 report published so far, **1 more report due for early 2018**) <https://www.efsa.europa.eu/en/topics/topic/lumpy-skin-disease>
- **Appointment of an EU Reference Laboratory (EURL) for Diseases caused by Capripox viruses** (including LSD) **CODA – CERVA, Belgium** (COM Reg (EU) 2017/140 of 26 January 2017)

## European Union Lumpy Skin Disease Vaccine Bank

Created on April 2016 to support the initial stages of an LSD vaccination campaign

### 2016 grants

Country	Number of doses granted	Delivery date
Bulgaria	200.000	April & Dec 2016
Greece	150.000	April , July & Dec 2016
the former Yugoslav Republic of Macedonia	50.000	May 2016
Serbia	50.000	June 2016
Kosovo*	25.000	July 2016
Albania	75.000	July & Dec 2016
Montenegro	25.000	July 2016
Croatia	50.000	Sep 2016

**625.000 doses of LSD vaccine (live-homologous) granted in 2016 to various countries**

\*This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

## European Union Lumpy Skin Disease Vaccine Bank 2017 (Jan –June) grants

Country	Number of doses granted	Delivery date
Bosnia & Herzegovina	100.000	April 2017
Montenegro	45.000	April 2017
Greece	70.000	June 2017
Albania	55.000	June 2017
Kosovo*	55.000	June 2017

**325.000 doses of LSD vaccine (*live-homologous*)  
granted in 2017 (until June) to various countries**



## Regional Coordination on LSD

### Meetings on LSD

- **Joint EFSA –DG SANTE Workshop** (*Brussels, 11-12 May 2016*) "Strengthening regional cooperation in South East Europe and Middle East for prevention and control of Lumpy Skin Disease" (*Albania, Bosnia and Herzegovina, Bulgaria, Cyprus, FYROM, Israel, Jordan, Kosovo\*, Lebanon, Montenegro, Serbia, Turkey*)
- **Standing Group of Experts on Lumpy Skin Disease in the South East Europe region under the GF-TADs umbrella** (*Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the former Yugoslav Republic of Macedonia, Greece, Hungary, Israel, Kosovo\*, Montenegro, Romania, Russia, Serbia, Slovenia, Turkey*)
  - 1<sup>st</sup> Meeting in Brussels on 4-5 July 2016
  - 2<sup>nd</sup> meeting in Lisbon (Portugal) on 21 September 2016
  - 3<sup>rd</sup> meeting in Istanbul, (Turkey) on 12-13 December 2016
  - **Teleconference on LSD vaccine procurement , 23 February 2017**
  - **4<sup>th</sup> meeting in Paris , 24 May 2017**
  - **5<sup>th</sup> meeting in Budva (Montenegro), 19-20 October 2017**
- **Ministerial Conference on Lumpy Skin Disease**, 8-9 Sep 2016, Sofia-Bulgaria (*Austria, Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, the former Yugoslav Republic of Macedonia, Greece, Hungary, Italy, Israel, Moldova, Montenegro, Romania, Serbia, Slovak Republic, Slovenia, Turkey, Ukraine*)

## **Current state of play**

### ➤ **Coordinated vaccination control policy against LSD**

Mass vaccination, with live homologous vaccines, uniformly adopted across South East Europe (EU + non EU countries) with support from the EU (vaccines from the EU vaccine bank + financial assistance for vaccine purchase)

### ➤ **Disease notification**

All affected countries in SE Europe, including non EU-Members, report LSD outbreaks on the Animal Disease Notification System of the EU (ADNS)

### ➤ **Sharing of information-planning coordination**

Regular regional meetings of the GF-TADs LSD group (presentations, discussions , exchange of info)

### ➤ **Creation / renewal of emergency (National) stocks of LSD vaccines**

In progress/completed in at least 2 EU Member States (*Austria & Hungary*), *potential cooperation between neighbouring countries (vaccine transfer from Hungary to Bulgaria)*

## Future activities

### Recent Events – Activities in the pipeline

- **EU LSD vaccine bank:**
  - ✓ **Expansion – replenishment in progress (contract signed on June 2017 for 2,34 million doses).**
  - ✓ **New tender for LSD vaccines planned for launch before the end of 2017 (<https://etendering.ted.europa.eu/general/page.html?name=home>)**
  
- **EFSA : request submitted by DG SANTE for updated epidemiological analysis of the LSD data (EU MS affected ± at risk & non EU Member countries )**
  - 1<sup>st</sup> report published April 2017.
  - **2<sup>nd</sup> report due for early 2018**
  
- **NEW OIE CODE CHAPTER ON LSD (adopted May 2017 – 85<sup>th</sup> Gen Session)**  
**Important new elements**  
**Safe commodities : skeletal muscle meat e.t.c.**  
**Recovery of free status - separate rules for:**
  - **Affected countries** implementing stamping out
  - **Affected countries** not implementing stamping out
  - **Non affected countries**, implementing **preventive vaccination**

## EC Priorities for LSD in SE Europe

### **The European Commission will continue to :**

- Provide **technical assistance** (for EU and non EU Member Countries) will continue to be provided through CVET expert missions
- Provide **training opportunities** (for EU and non EU Member Countries) e.g. through the BTSF initiative.
- Support the **regional vaccination policy** against LSD
- Promote **regional coordination and cooperation** for the control of LSD
- Follow closely :
  - ✓ the LSD epidemiological situation (South East Europe + West Eurasia) in order to take prompt action, as and when needed, to prevent entry / spread into the EU.
  - ✓ the scientific knowledge on LSD (EURL-EFSA) and use it to further refine / optimise the LSD control measures
  - ✓ the discussions on the LSD measures at international level with a view to minimise the impact of trade restrictions).

## Concluding remarks

- **LSD situation has greatly improved in 2017** compared to 2016
- **Regional approach** figures as the key to successful LSD control
- LSD, so far demonstrates **persistence** and **constant seasonality**.
- **Mass vaccination** uniformly implemented, using efficient vaccines, remains the most important control policy against LSD. **Preventive vaccination** is still the most effective method to control LSD spread.
- **Availability of sufficient vaccine doses** is the key for the successful implementation of vaccination programmes.
- **There are still many gaps in our knowledge for LSD** (transmission, spread, overwintering, duration of vaccine immunity e.t.c)



European  
Commission

**THANK YOU !!!!**