



Croatia - Ministry of Agriculture  
Veterinary and Food Safety Directorate

# Lumpy skin disease

## Croatian surveillance programme 2018

Standing Committee on Plants, Animals, Food and Feed  
Section Animal Health and Welfare

Apr 18 – 19, 2018

# LSD vaccination programme 2016-2017

- Preventive vaccination implemented according to the CID 2016/2009 approving the vaccination programmes against lumpy skin disease submitted by the Member States
- Two vaccination campaigns – herd coverage over 95% (97% and 97,2%)
  - First - started in August, 2016, finished on December 31, 2016
    - ❖ in total 432 145 vaccinated bovine animals



*Vaccination started  
August 8th*

*Vaccination started  
August 24th*

*Vaccination started  
September 5th*

*Vaccination started  
September 21st*

- Second - started in May in 2017 – on the entire territory of Croatia, finished on December 31, 2017
  - ❖ In total 468 574 vaccinated bovine animals

# LSD surveillance 2016-2017

Date	County	Municipality	Herd ID number	Total N of bovines on the farm	Number of bovine animals with clinical signs	Laboratory report ID	Laboratory report ID Date	Metod	Result
26.7.2016.	Lika Senj	Perušić	HR 10162659	55	1	Z-33947/2016	27.7.2016.	PCR	Negative
8.8.2016.	Osijek Baranja	Darda	HR 80118574	6	1	Z-34887/2016	10.8.2016.	PCR	Negative
25.8.2016.	Krapina Zagorje	Hrašćina-Trgovišće	HR 70153995	10	5	Z-36567/2016	29.8.2016.	PCR	Negative
12.9.2016.	Sisak Moslavina	Novska	HR 70027779	250	5	Z-38493/2016	14.9.2016.	PCR	Negative
11.10.2016.	Koprivnica Križevci	Molve	HR 20014428	59	1	Z-43046/2016	19.10.2016.	PCR/analiza gena, sekvencioniranje	Positive(vaccine strain)
31.1.2017.	Koprivničko-križevačka	Koprivnički Bregi	hunting ground	/	1 roe deer	Z- 2128/2017	6.2.2017.	PCR	Negative
4.5.2017.	Brod posavina	Vrbje	HR 30063166	2	1	Z-16323/2017	8.5.2017.	PCR	Negative

# LSD surveillance 2016-2017

Entire territory -2016	Animal species/ category	Test type <sup>(b)</sup>	Test description	Number of samples tested	Number of positive samples
Croatia	Bovine	Virological blood	QPCR	1055	1 (vaccinal strain)
	Bovine	Serological	VNT	778	81 (post vaccination immunity)
<b>Total</b>				<b>1833</b>	<b>82</b>

Entire territory-2017	Animal species/ category	Test type <sup>(b)</sup>	Test description	Number of samples tested	Number of positive samples
Croatia	Bovine	Virological blood	QPCR	100	0
		Virological semen		29	
	Bovine	Serological (sentinel)	VNT	181	0
<b>Total</b>				<b>310</b>	<b>0</b>

(Ref "Detection of lumpy skin disease virus in skin lesions, blood, nasal swabs and milk following preventive vaccination", Bedekovic et al. Transbound Emerg Dis. 2018 Apr; 65(2):491-496. doi: 10.1111/tbed.12730. Epub 2017 Oct 30, link: <https://www.ncbi.nlm.nih.gov/pubmed/29086485>)

# LSD surveillance 2018

- No further preventive vaccination in 2018
- Epidemiological situation in the region
- Risk based
  - Passive surveillance on the entire Croatian territory is on going /awareness campaign:  
[http://www.veterinarstvo.hr/UserDocsImages/Zdravlje\\_zivotinja/BKK/Letak%20bolest%20kvrgave%20kože.pdf](http://www.veterinarstvo.hr/UserDocsImages/Zdravlje_zivotinja/BKK/Letak%20bolest%20kvrgave%20kože.pdf)
  - Active surveillance in high risk and risk areas from April to October
- Main goals:
  - Regaining LSD freedom for the entire territory of Croatia
  - Early detection of possible virus introduction
  - Monitoring of post vaccination immunity

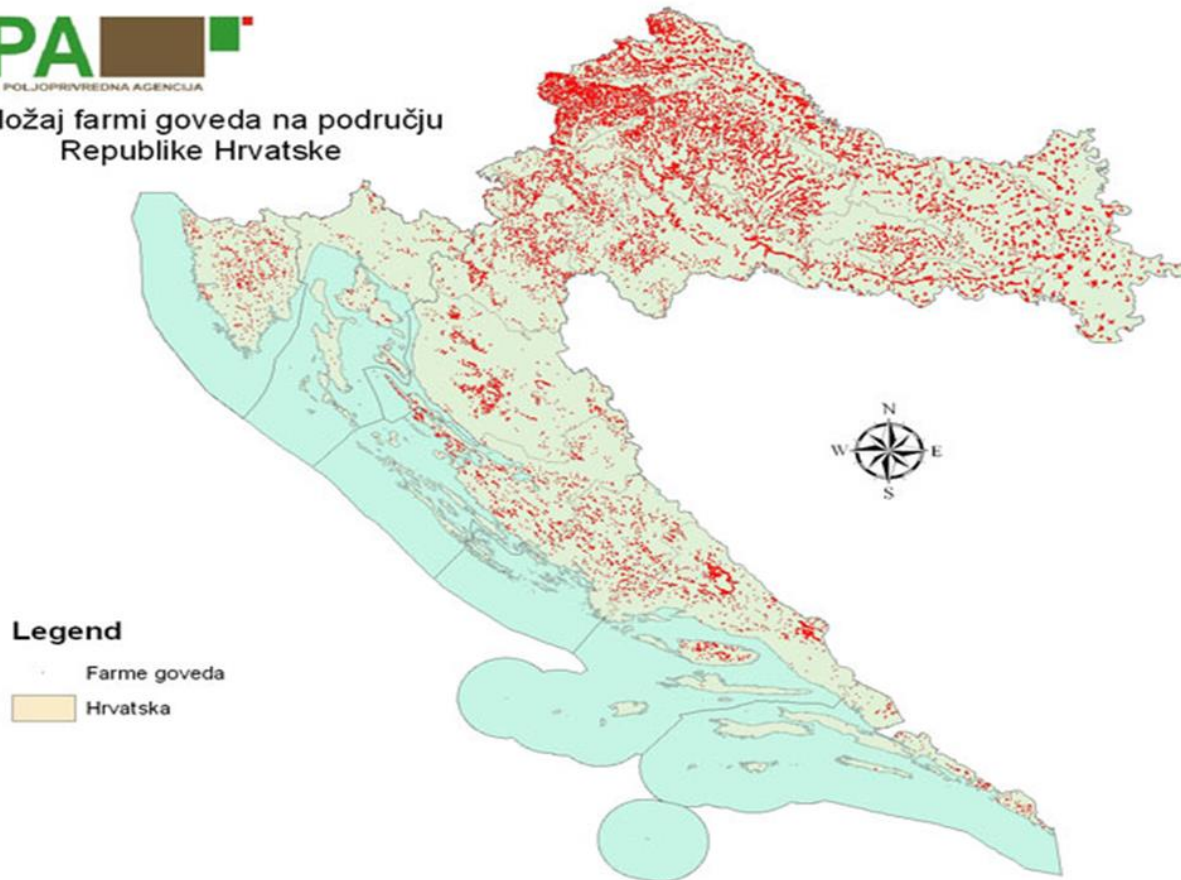
# 2017 outbreaks - WAHIS



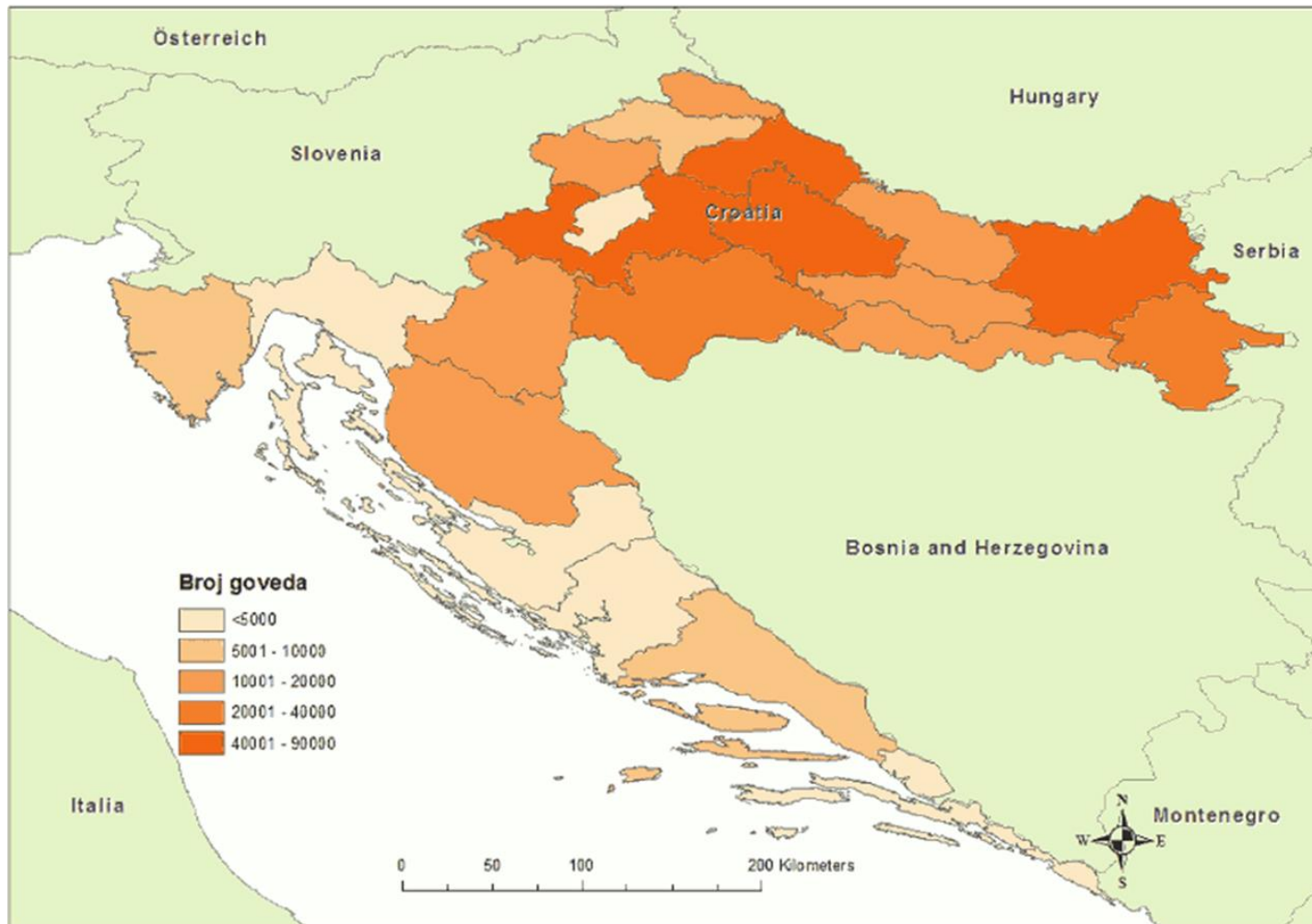
# Distribution of cattle farms



Položaj farmi goveda na području  
Republike Hrvatske



# Density of cattle population at county level







# High risk and risk areas



# Programme components

## 1. LSD surveillance in high risk and risk areas

- 140 randomly selected bovine animals in high risk Dubrovnik-Neretva county /95% probability to detect a prevalence as low as 2% if LSD is present
- 60 randomly selected bovine animals in risk areas: Sibenik-knin, Split-Dalmatia, Vukovar-srijem, Osijek-baranja, Karlovac, Sisak-moslavina, Lika-senj county (420 bovine animals) /95% probability to detect a prevalence as low as 5% if LSD is present
- Monthly testing – ELISA and PCR
- Further testing on seropositive animals - PCR
- Pre-movement clinical checks in Dubrovnik-Neretva county
- Time framework from April to October 2018

# Programme components

## 2. Immunity monitoring in vaccinated bovine population

- 500 Bovine animals will be randomly selected according to their vaccination status as follows:
  - 100 bovine animals vaccinated twice and last time within 5 months before testing
  - 100 bovine animals vaccinated once at least 10 months before testing
  - 100 non vaccinated bovine animals younger than 6 months
  - 200 non vaccinated bovine animals older than 6 months
- Non-vaccinated animals must originate from domestic bovine population and be born to dams vaccinated at least once
- Testing will be repeated on seropositive bovine animals three times every 3 months starting in April

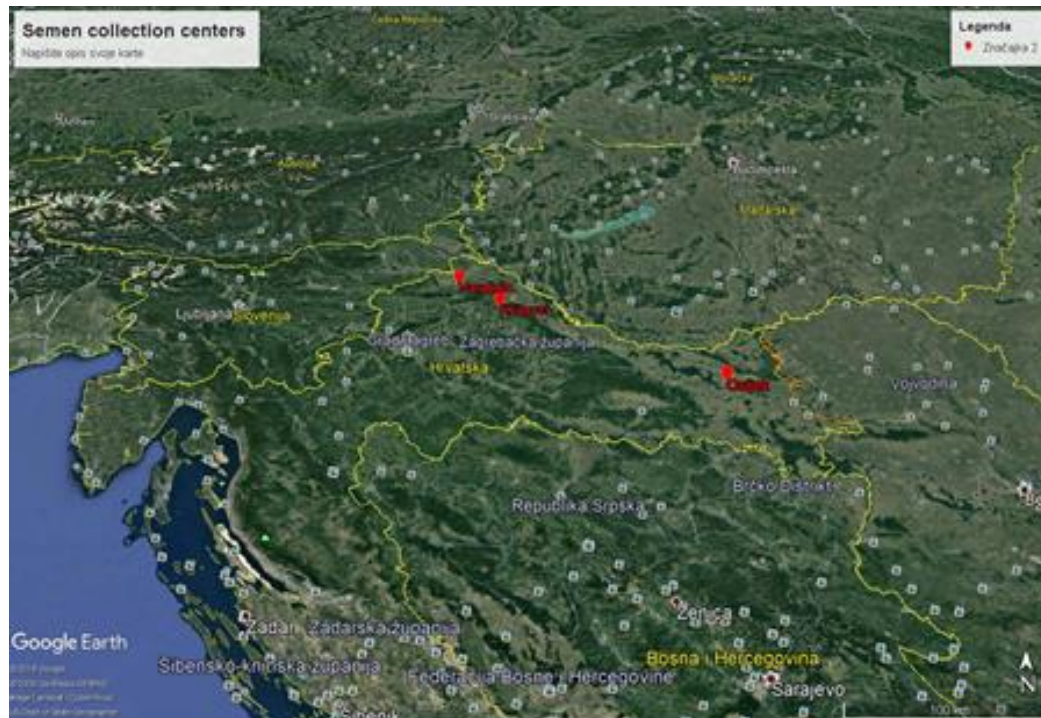
# Programme components

## 3. Clinical examination within selected herds

/95% probability to detect a prevalence as low as 10% if LSD is present within herd

# Programme components

4. Non – vaccinated bulls (30 animals) in semen collection centers
  - ELISA testing every 28 days
  - PCR testing every 14 days
  - PCR testing of collected semen



# Conclusions

- Total number of 1090 bovine animals will be tested within active surveillance
- Expected number of:
  - 4960 PCR tests
  - 4260 ELISA tests
- Regaining of freedom beginning of September 2018

Thank you very much!