

# Croatian LSD surveillance programme

## Preliminary results

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GF TADs - Standing Group of Experts on LSD - 18-19 October, 2018, Ohrid

# Lumpy Skin Disease – vaccination data

- Croatian country status - free with vaccination CID 2016/2008
- LSD never confirmed in Croatia
- First vaccination campaign 2016 - **432 145 bovines**
- Second vaccination campaign 2017 - **468 574 bovines**
- **Vaccination coverage over 90%**
- **Current (October 2018) vaccination coverage:**
  - **82 664** bovines vaccinated once
  - **146 826** bovines vaccinated twice
  - **178 901** unvaccinated bovines



# Preparation for exit strategy

- Cease of vaccination from Jan. 1, 2018
- Decision based on epidemiological situation and vaccination coverage
- Pressure by stakeholders due to:
  - Vaccination side effects, and
  - Movement restrictions

# LSD surveillance programme design

- In line with OIE Terrestrial Code – Chapter 11.9. - Article 11.9.4. – 2.
- Map of Croatia – at risk areas – 8 counties – 640 randomly selected bovines for monthly sampling (QPCR & ELISA)
- 540 randomly selected bovines according to vaccination data – immunity control
- Clinical examinations in all sampled herds (10% prev.)
- Programme has been launched in June 2018



# At risk counties

## Dubrovnik-neretva - 2/95

- 140 (150) bovines randomly selected irrespective of their vaccination status
- pre-movement clinical examinations

Šibenik-knin

Split-Dalmatia county

Vukovar-srijem

Osijek-baranja county

Karlovac

Sisak-moslavina

Lika-senj county

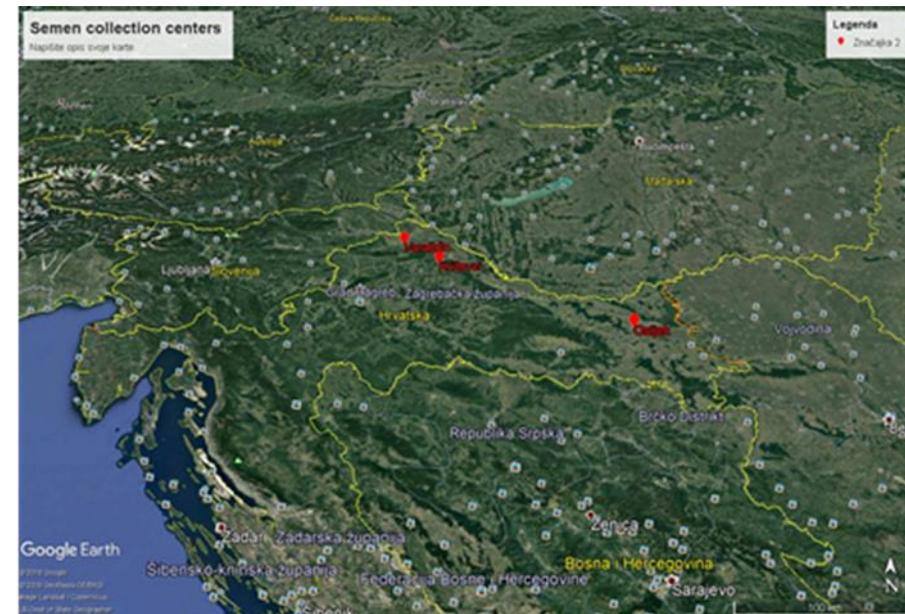


5/95

60 (70) bovines in each county

# LSD surveillance programme design

- Passive surveillance ongoing on the whole Croatian territory – suspicion on LSD was ruled out in 3 bovine herds
- Testing of unvaccinated bulls in semen collection centers
  - VNT
  - ELISA – from June 2018 onwards
  - QPCR – blood and semen
- Pathological examination of dead bovines – no pathological signs on LSD



# Sampling and clinical examinations – by counties and by months

County	July			June			August			September			October		
	Holdings	Animals	Clinical examinations	Holdings	Animals	Clinical examinations	Holdings	Animals	Clinical examinations	Holdings	Animals	Clinical examinations	Holdings	Animals	Clinical examinations
I ZAGREBAČKA	60	86	1053		1					6	7	99			
II KRAPINSKO-ZAGORSKA	7	7	91	3	3	48	3	3	48	3	3	59			
III SISAČKO-MOSLAVAČKA*	66	84	1167	69	87	1258	66	86	1204	57	75	1000	11	12	225
IV KARLOVAČKA*	54	72	680	54	69	654	50	70	838	50	70	841			
V VARAŽDINSKA	7	24	111	2	19	37	1	18	16	2	17	16			
VI KOPRIVNIČKO-KRIŽEVAČKA	74	81	1237	8	8	97									
VII BJELOVARSKO-BILOGORSKA	77	88	1340				15	19	339	37	38	663			
VIII PRIMORSKO-GORANSKA							6	6	31	6	6	33			
IX LIČKO-SENJSKA*	9	9	111	44	54	387	41	47	486	52	61	613	4	5	64
X VIROVITIČKO-PODRAVSKA	12	14	240	4	6	95				2	2	27			
XI POŽEŠKO-SLAVONSKA	9	9	183							2	2	26			
XII BRODSKO-POSAVSKA	19	21	349				1	1	17	1	1	16			
XIII ZADARSKA	1	3	28	3	4	14									
XIV OSJEČKO-BARANJSKA*	62	109	1746	59	81	1512	65	168	1558	60	135	1417	17	24	407
XV ŠIBENSKO-KNINSKA*	20	41	164	44	54	521	22	31	317	22	31	317	22	31	317
XVI VUKOVARSKO-SRIJEMSKA*	58	94	1065	56	89	1042	38	77	720	38	78	727	1	1	24
XVII SPLITSKO-DALMATINSKA*	31	34	422	45	51	570	39	43	485	39	42	479			
XVIII ISTARSKA	5	6	93							3	3	63			
XIX DUBROVAČKO-NERETVANSKA*	21	79	322	24	59	215	48	140	488	44	134	487			
XX MEDIMURSKA	6	7	92				6	6	31	6	6	33			
XXI GRAD ZAGREB	5	4	36												
Total	603	872	10530	415	585	6450	401	715	6578	430	711	6916	55	73	1037

# Preliminary results

- 31 511 bovines in 1 904 herds clinically examined – no clinical signs on LSD (data up to Oct. 10)
- 2088 samples tested using QPCR method – all results negative
- 2139 samples tested using ELISA method – 618 samples tested positive
- Laboratory data up to Sept. 25



[https://www.bing.com/images/search?view=detailV2&ccid=Tizc5Huo&id=64ECB9E7B0A0BB39D2F1FD06FB7DE2F24D8A5E4D&thid=OIP.Tizc5Huo5IXhfZcF8GEhgHaE6&mediurl=http%3a%2f%2fwww.lika-online.com%2fwp-content%2fuploads%2f2014%2f09%2fLicka\\_Busa.jpg&exph=451&expw=680&q=GOVEDA+BU%c5%a0a&simid=608018748701671727&selectedIndex=2](https://www.bing.com/images/search?view=detailV2&ccid=Tizc5Huo&id=64ECB9E7B0A0BB39D2F1FD06FB7DE2F24D8A5E4D&thid=OIP.Tizc5Huo5IXhfZcF8GEhgHaE6&mediurl=http%3a%2f%2fwww.lika-online.com%2fwp-content%2fuploads%2f2014%2f09%2fLicka_Busa.jpg&exph=451&expw=680&q=GOVEDA+BU%c5%a0a&simid=608018748701671727&selectedIndex=2)

# Clinical examinations

## Clinical examination healthy bovines

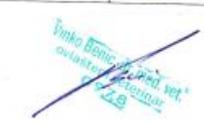
- mucosa examinations
- udder and perineal examination
- skin palpation

## Clinical examination suspect bovines

- full examinations with temperature measurement, and
- lymph nodes palpation

Ministarstvo poljoprivrede - Uprava za veterinarstvo i sigurnost hrane

### Dodatak 14 Obrazac za klinički pregled goveda

Obrazac za klinički pregled goveda					
Obrazac se koristi za potrebe kliničkog pregleda goveda sukladno Programu nadziranja BKK u Hrvatskoj u 2018. godini					
POSJEDNIK	JIBG GOSPODARSTVA	HR	20142499	ŽUPANIJA	02-BARANJSKA
	Ime i prezime, broj telefona	BEIŠE OD. F. M. KVAČIČIĆ		Naselje	B. VEN
		031/4730136		Općina	BELI MANASTIR
Adresa	LAZARER 5/1, B. VEN		Ukupan broj goveda u stadi	1006	
OVO	Ime i prezime ovlaštenog veterinara/ broj telefona	VINKO BENIĆ	031/400-133	Potpis i pečat	
	Ovlaštena veterinarska organizacija				
PREGLED	Datum:	16. 10. 18.		Broj Labnar-a:	114125
	Životni broj goveda:	02 768576052		Nalaz:	B.O.
	Životni broj goveda:	02 505861521		Nalaz:	B.O.
	Životni broj goveda:	02 50556141		Nalaz:	B.O.

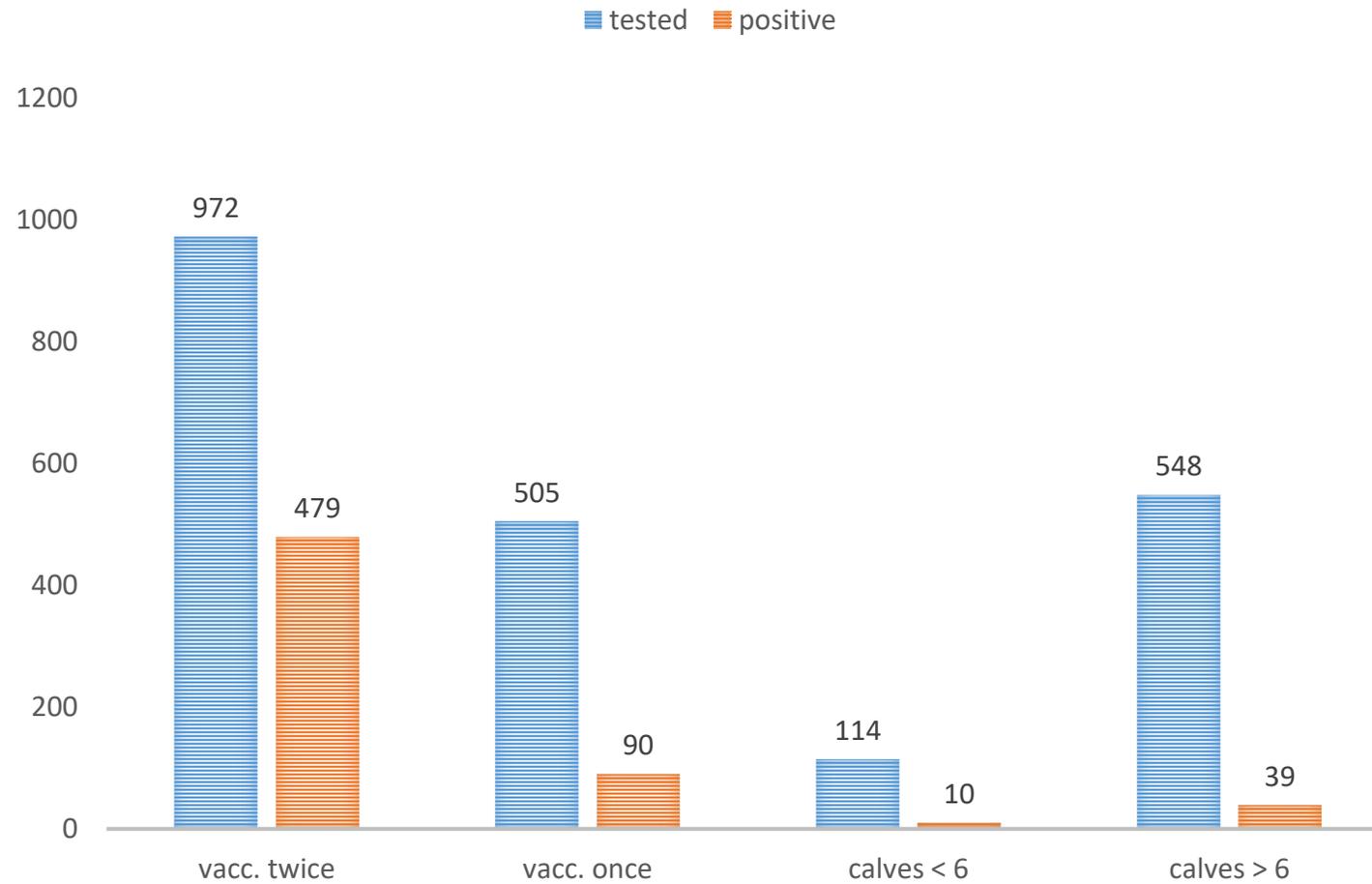
# Immunity control results

County	Elisa testing on bovines vaccinated twice								Elisa testing on bovines vaccinated once									
	June		July		August		September		June		July		August		September			
	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive		
I ZAGREBAČKA	10	1	1	7					26	2	2	1						
II KRAPINSKO-ZAGORSKA			4	1							1	1						
III SISAČKO-MOSLAVAČKA*	14	3	52	27	41	19	1	1	8	2	21	2	18	4				
IV KARLOVAČKA*	17	9	64	25	48	19	21	8	7	2	23	3	17	3	8	2		
V VARAŽDINSKA	1	0	4	1	1	0					1	0						
VI KOPRIVNIČKO-KRIŽEVAČKA	5	3	17	10			1	0			7	3	3	0	1	0		
VII BJELOVARSKO-BILOGORSKA	6	3	14	7	2	1			1	0	4	0						
VIII PRIMORSKO-GORANSKA																		
IX LIČKO-SENJSKA*	1	1	34	16	31	16	30	13			6	2	6	2	4	1		
X VIROVITIČKO-PODRAVSKA	2	1			1	1			1	1	1	0						
XI POŽEŠKO-SLAVONSKA	4	2							1	0								
XII BRODSKO-POSAVSKA											5	0						
XIII ZADARSKA			4	2														
XIV OSJEČKO-BARANJSKA*	11	5	38	22	27	14	13	4	14	2	50	9	29	7	28	4		
XV ŠIBENSKO-KNINSKA*	10	6	27	18	37	21	16	10	8	1	9	3	19	6	7	3		
XVI VUKOVARSKO-SRIJEMSKA*	23	11	35	18	32	20	17	8	15	3	26	2	24	2	3	0		
XVII SPLITSKO-DALMATINSKA*	17	9	31	14	36	14	8	4	3	0	6	0	8	0	4	1		
XVIII ISTARSKA			4	2	1	0	1	0										
XIX DUBROVAČKO-NERETVANSKA*	4	2	61	29	77	42	14	9		4	30	8	41	4	7	0		
XX MEĐIMURSKA			1	0							2	0						
XXI GRAD ZAGREB																		
total	125	56	391	199	334	167	122	57	84	17	194	34	165	28	62	11		
total tested	972	49,27%								505	17,82%							
total positive	479									90								

# Immunity control results

County	Elisa testing on non-vaccinated bovines younger than 6 (9) months								Elisa testing on non-vaccinated bovines older than 6 (9) months									
	June		July		August		September		June		July		August		September			
	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive		
I ZAGREBAČKA	2	0							7	0	7	0						
II KRAPINSKO-ZAGORSKA			1	0					1	0	5	1						
III SISAČKO-MOSLAVAČKA*			6	1	4	1			5	0	29	4	20	3	3	0		
IV KARLOVAČKA*	4	1	1	0	5	1	2	0	9	1	14	0	19	1	5	0		
V VARAŽDINSKA											3	0	16	0				
VI KOPRIVNIČKO-KRIŽEVAČKA			7	2			1	0	9	1	36	3			5	0		
VII BJELOVARSKO-BILOGORSKA			3	0					8	0	39	8	2	0				
VIII PRIMORSKO-GORANSKA					1	0							2	0				
IX LIČKO-SENJSKA*			3	0	4	0	8	0	4	0	12	1	16	0	15	0		
X VIROVITIČKO-PODRAVSKA			1	0					5	0	4	0	2	0				
XI POŽEŠKO-SLAVONSKA											2	1						
XII BRODSKO-POSAVSKA	1	0	1	1					3	0	8	1						
XIII ZADARSKA											3	0						
XIV OSJEČKO-BARANJSKA*	2	0	7	1	4	1	10	0	10	0	24	4	28	1	28	0		
XV ŠIBENSKO-KNINSKA*			2	0	2	0	4	0	1	0	5	1	5	0	5	0		
XVI VUKOVARSKO-SRIJEMSKA*	1	0	2	0	3	0	2	0	11	0	22	0	22	2	9	0		
XVII SPLITSKO-DALMATINSKA*	3	0	2	1	5	0	1	0	3	0	3	1	12	0	3	0		
XVIII ISTARSKA											2	0	1	0	1	0		
XIX DUBROVAČKO-NERETVANSKA*			5	0	4	0					12	2	15	3	1	0		
XX MEĐIMURSKA									4	0								
XXI GRAD ZAGREB									3	0								
total	13	1	41	6	32	3	28	0	83	2	230	27	160	10	75	0		
total tested	114	<b>8,77%</b>								548	<b>7,12%</b>							
total positive	10									39								

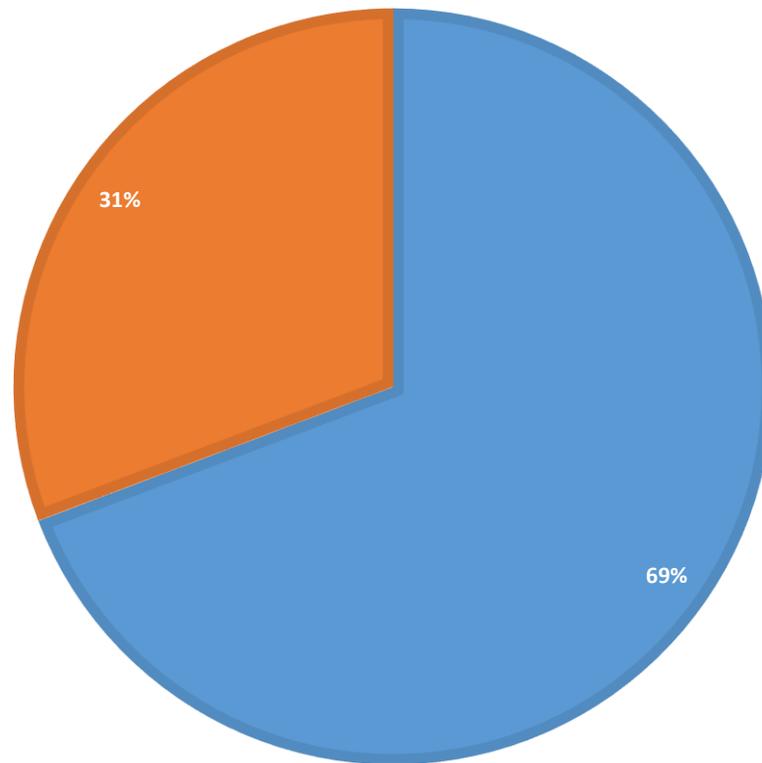
# Immunity control



# Calves immunity in relation to cows vaccination

## MATERNAL IMMUNITY

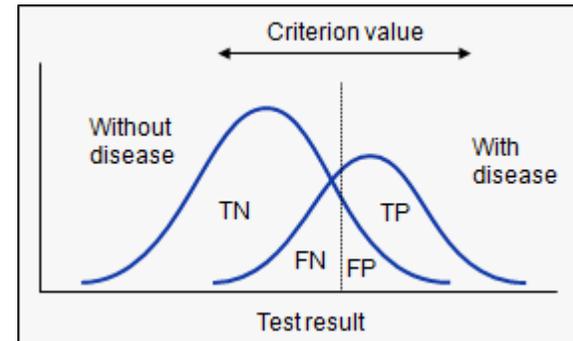
■ calves born to cows vacc. twice   ■ calves born by cows vacc. once



# Unvaccinated bulls in semen collection centers surveillance data

	Jan.			Feb.			Mar.			Apr.			May			Jun.			Jul.			Aug.			Sep.		
Number of samples according to the used test	V a r a ž i e d i n	O s j e k	K r i ž e v i c i																								
VNT	11	23		11	27		11	20		12	27	2	11	16		18	8		3								
ELISA																10		18	11		32	16	10	16	17	10	
QPCR blood	22	28		33	34		22	20		23	32		29	13		36	19		36	16		32	31	10	32	34	5
QPCR semen	25	16			8			6	8		5			3					14	5				16		5	

- 5 bulls tested seropositive on ELISA tests
- VNT used as confirmation test – all results negative
- Repeated ELISA testing – all following results negative
- QPCR testing on blood and semen samples – all results negative



# Preliminary conclusions

- No LSD virus circulation in Croatia
- Expected level of seroprevalence
- Croatia is free from LSD

Thank you very much!