



Food and Agriculture  
Organization of the  
United Nations



# FAO activities on LSD in Europe and Central Asia

*Standing Group of Experts on Lumpy Skin Disease (SGE LSD) in South-East Europe*

14 January 2021

**Daniel Beltran-Alcrudo, Mark Hovari and Eran Raizman**

*FAO Regional Office for Europe and Central Asia (REU)*



## FAO vision for the control of TADs

- Close monitoring of the epi situation
- Regional Approach - Regional response plan
- Risk assessment for at risk countries
- Information sharing: lessons learnt and best practices
- Foster cooperation of all stakeholders: farmers, traders, processors, veterinarians, etc.
- Raising awareness
- Harmonization of vaccination protocols and other preventive and control measures
- Piloting new approaches for risk mitigation and outbreak control



Food and Agriculture  
Organization of the  
United Nations

## FAO closely follows the spread of LSD

2013 - [LSD in the Eastern Mediterranean](#)

2015 - [LSD in Europe](#)

2017 - [Position Paper on the sustainable prevention, control and elimination of LSD](#)

2017 - [Monograph on LSD in Europe](#)

2020 (Oct) - [RA on the introduction and spread of LSD in Asia](#), economic impact (USD 1.45 billion), and cost-effectiveness of different control strategies



Food and Agriculture  
Organization of the  
United Nations

Introduction and spread of  
lumpy skin disease in  
South, East and Southeast Asia

Qualitative risk assessment and management

FAO ANIMAL PRODUCTION AND HEALTH / PAPER 183







Food and Agriculture  
Organization of the  
United Nations

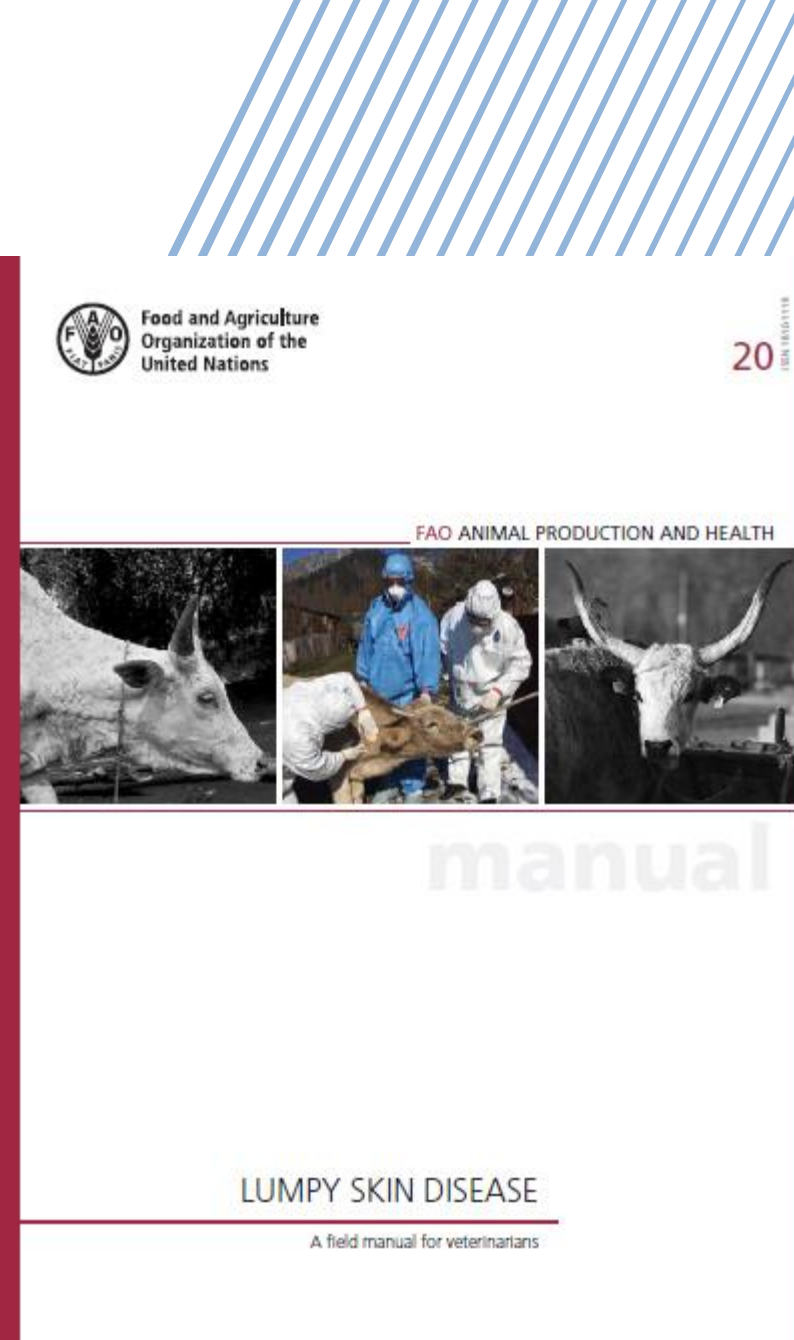
## Field manual for veterinarians on LSD

**Audience:** Private and official vets, para-professionals and lab diagnosticians

Available in [English](#),  
[Chinese](#), [Macedonian](#), [Romanian](#), [Serbian](#),  
[Ukrainian](#), [Albanian](#), [Turkish](#) and [Russian](#)

**Distributed in the region through paper and electronic copies**

- Armenia, Azerbaijan, Belarus, Kazakhstan, Moldova, Uzbekistan  
Ukraine and Turkmenistan (125 copies each)





## LSD GEMP (Good Emergency Management Practice)

### Set of guidance documents:

- [Template for LSD Contingency Plan](#)
- [LSD Emergency Vaccination Plan](#)
- [LSD Surveillance and Early Detection Guide](#)
- [Risk assessment questions](#)
- [Prevention measures](#)

All to be compiled into a **Manual**, following the [GEMP](#) structure and principles, including also:

- Risk assessment for LSD
- Template for LSD desktop simulation exercises
- Several references to relevant and recent FAO manuals

### Good Emergency Management Practice: Lumpy Skin Disease Contents

Foreword  
Acknowledgements  
Acronyms  
Objective and scope of the GEMP-LSD Guide

1. Actions in peacetime in case of LSD
  - 1.1. Prepare in peacetime
    - 1.1.1. Plan
      - 1.1.1.1. General procedures in case of an emergency
      - 1.1.1.2. Legislative framework and funding
      - 1.1.1.3. Governance and Chain of Command
      - 1.1.1.4. Risk Analysis
      - 1.1.1.5. Emergency Response Plan
      - 1.1.1.6. Control approaches for Lumpy skin disease
      - 1.1.1.7. Emergency Vaccination Plan
      - 1.1.1.8. Laboratory Contingency Plan
      - 1.1.1.9. Information and reporting systems
      - 1.1.1.10. Communication and Community engagement
    - 1.1.2. Equip
    - 1.1.3. Train
    - 1.1.4. Test
  - 1.2. Prevent in peacetime
  - 1.3. Detect in peacetime
2. Actions in alert phase in case of LSD
  - 2.1. Prepare in alert phase
  - 2.2. Prevent in alert phase
  - 2.3. Detect in alert phase
  - 2.4. Respond in alert phase
3. Actions in emergency phase in case of LSD
  - 3.1. Prevent in emergency phase
  - 3.2. Detect in emergency phase
  - 3.3. Respond in emergency phase
  - 3.4. Recover in emergency phase
4. Actions in reconstruction phase in case of LSD
  - 4.1. Prepare in reconstruction phase
  - 4.2. Prevent in reconstruction phase
  - 4.3. Detect in reconstruction phase
  - 4.4. Recover in reconstruction phase



## Awareness materials

- 2-min video
  - Available in Albanian, Macedonian, Mongolian, English, Romanian, Russian and Ukrainian.
  
- Repository of Leaflets and posters:
  - Editable
  - Available in Arabic, Bosnian, Bulgarian, English, Mongolian, Romanian, Russian, Ukrainian and Vietnamese



#ZeroHunger #FAO  
Boala limbii albastre și Dermatoza nodulară contagioasă – conștientizare și prevenire

Mai multe informații detaliate pot fi descărcate din Manualul privind Dermatoza nodulară contagioasă pentru medici veterinari de aici <http://www.fao.org/3/77330q/77330q.pdf>

**PENTRU MAI MULTE INFORMAȚII:**  
Agenția Națională pentru Siguranța Alimentelor  
Adresă: mun. Chișinău, str. M'Kogălniceanu 63  
Tel.: +373 22 29 47 30  
e-mail: info@ansa.gov.md  
Web: ansa.gov.md

**Dermatita nodulară contagioasă**

**DNC**

**PENTRU MEDICI VETERINARI**

**Monitorizarea bovinelor și notificarea cazurilor suspecte**

- În timpul focurilor sau în zonele expuse riscului, bovinele trebuie să fie monitorizate atent.
- Notificați imediat orice suspexiune.
- Notificați fermierii vecini sau pe cei care au cumpărat sau au vândut recent animale, astfel încât să poată verifica animalele.
- Când se suspectează DNC, mișcarea animalelor este stopată imediat.

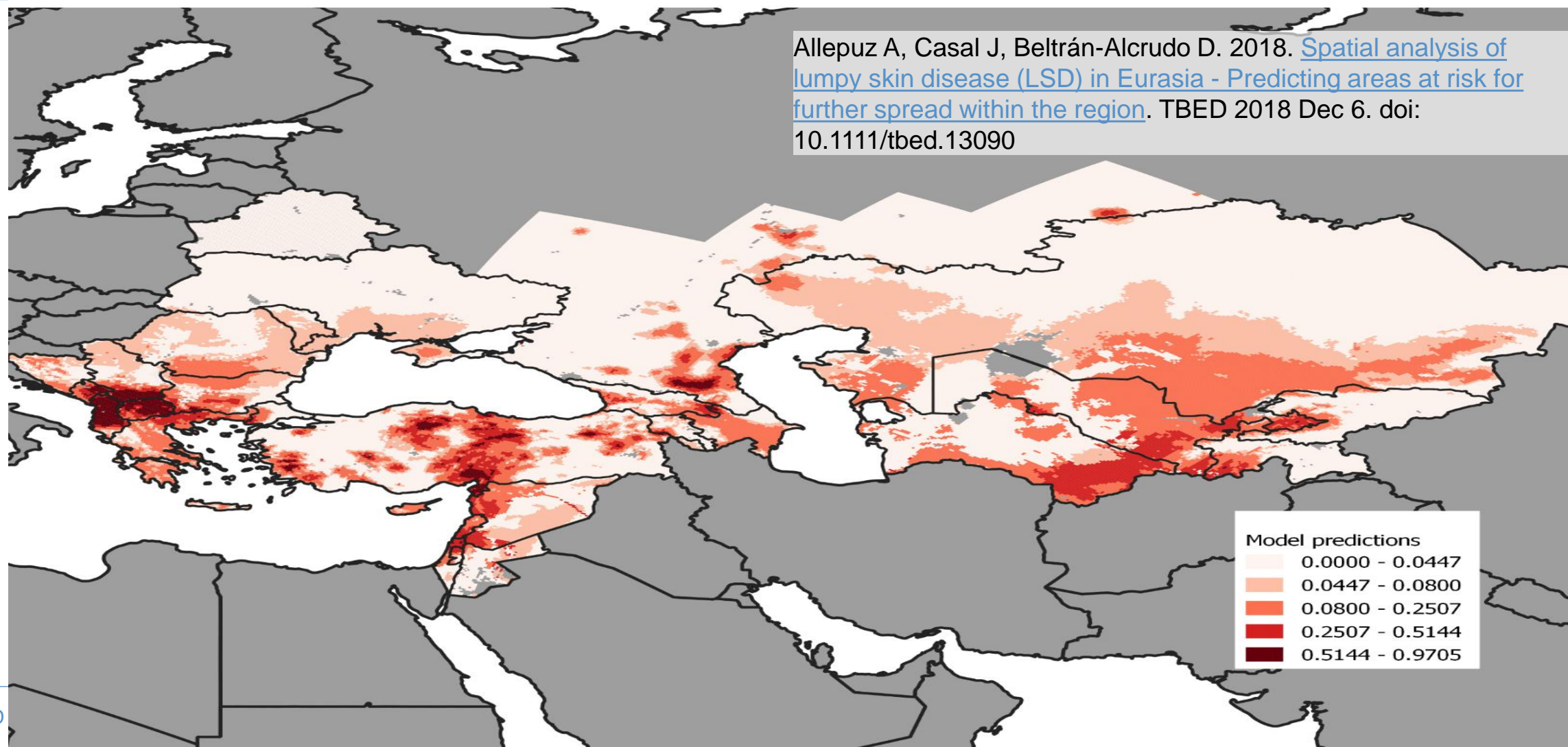
**Cum să protejați o fermă?**

- Vaccinarea va proteja animalele în 3 săptămâni.
- Cumpărați animale doar din surse de încredere. Animalele noi trebuie examinate înainte de mișcare și la sosire, și trebuie ținute în carantină (separate de efectiv) pentru 20 de zile. În timpul unei fiare în zonă, introducerea de animale noi într-un efectiv ar trebui evitată.
- Aplicarea regulată a unui insecticid eficient prin scufundare, pulverizare sau altă formă probată de aplicare pe animal.
- Țineți ferma liberă de locuri pentru dezvoltarea insectelor, cum ar fi apa stătătoare și bălăganul.
- Limitați vizitatorii la fermă ar trebui evitată doar la servicii esențiale. Toate vehiculele, echipamentele și încălțămintea trebuie să fie curățate înainte de a intra în proprietate sau ar trebui să țineți bălăganul.
- Este recomandat ca să fie ucise de urgență animalele grav afectate (cu muști noduli) deoarece insectele vor transmite boala animalelor noi.



## Spatial Analysis of LSD

Allepuz A, Casal J, Beltrán-Alcrudo D. 2018. [Spatial analysis of lumpy skin disease \(LSD\) in Eurasia - Predicting areas at risk for further spread within the region](#). TBED 2018 Dec 6. doi: 10.1111/tbed.13090







## Cost assessment tool for LSD

Country: **Example** Year: **2018**

Choose currency:

EUR

MKD 1

EUR 0.01639

Change: 61.0128127

Only cells with pale background should be modified

### Scenario 1

Livestock data:	# Herds	# Animals	Anim/herd	Proport herds
Herd in the country	27426	232500	8.48	100.0%
Dairy herds	27,426	232,500	8.48	100.0%
Beef herds	0	0	#DIV/0!	0.0%
Other	0	0		0.0%

Disease data:	Total:	Per herd:	Per at risk animal
<b>Outbreaks</b>	<b>1530</b>		
<b>Population in affected her</b>	<b>30486</b>	19.93	1.00
Sick animals	3872	2.53	0.13
Dead	449	0.29	0.01
Abortions	38	0.02	0.00

Control data:	# Herds	# Animals	Anim/herd	% Herds	% Animals
In the whole population:					
Vaccination	27,426	232,500	8.48	100.0%	100.0%
Other (repellents, insecticides...)	50	500	10.00	0.2%	0.2%

You can modify the values of this table in "Evolution of epidemic" sheet

### Scenario 2:

### Vaccination

Region	Onset Date	# Herds	# Cattle	Start Vac.	Herds/week	Target Vacc	
West	4/15/2019	6000	70000	5/1/2019	600	70%	4200
North	5/1/2019	10000	90000	5/1/2019	800	50%	5000
East	6/1/2019	6500	45000	6/1/2019	500	50%	3250
South	8/1/2019	4926	40000	7/1/2019	600	50%	2463
4 regions	4/15/2019	27426	245000	5/1/2019	625	54%	0

Same populations than Scen. 2, without va

Disease data:	Total	Per herd	Scenario 3: Total	Per herd	
Outbreaks	2182		Outbreaks	24801	
Population in affected herds	43476	19.93	Population in affected herds	494173	19.93
Sick animals	3000	1.37	Sick animals	130000	5.24
Dead	500	0.23	Dead	500	0.02
Abortions	40	0.02	Abortions	40	0.00

Control data:	# Herds	# Animals	Anim/herd	% Herds	% Animals
Scenario 3: NO vaccination					
Vaccination	27426	196000	7.146503318	1	0.8
Other (repellents, insecticides...)	50	500		2	36

Casal J et al. 2018. [Economic cost of LSD outbreaks in three Balkan countries: Albania, Bulgaria and the Former Yugoslav Republic of Macedonia \(2016-2017\)](#). TED 2018;00:1–9.





## Online course on LSD preparedness (1)

### Characteristics:

- 4-week tutored course (10 hours)
- Developed by FLI and FAO (REU and EuFMD)
- Delivered through EuFMD online training platform
- Format: Webinars, discussion forum, exercises, final test
- Certification process
- Audience: Vets (public & private) involved in diagnosis, outbreak investigation, LSD management, or those working with cattle
- Up to 400 participants/course
- GF-TADs-labelled

### MODULES

General overview on LSD  
(Module 1)

Clinical diagnosis  
(Module 2)

Laboratory diagnosis (Module 3)

Epidemiology and outbreak  
investigation (Module 4)

Monitoring and surveillance  
(Module 5)

Control and eradication  
(Module 6)



## Online course on LSD preparedness (2): Courses so far

[Europe and Asia](#) (July 2020): 298 participants / 44 countries

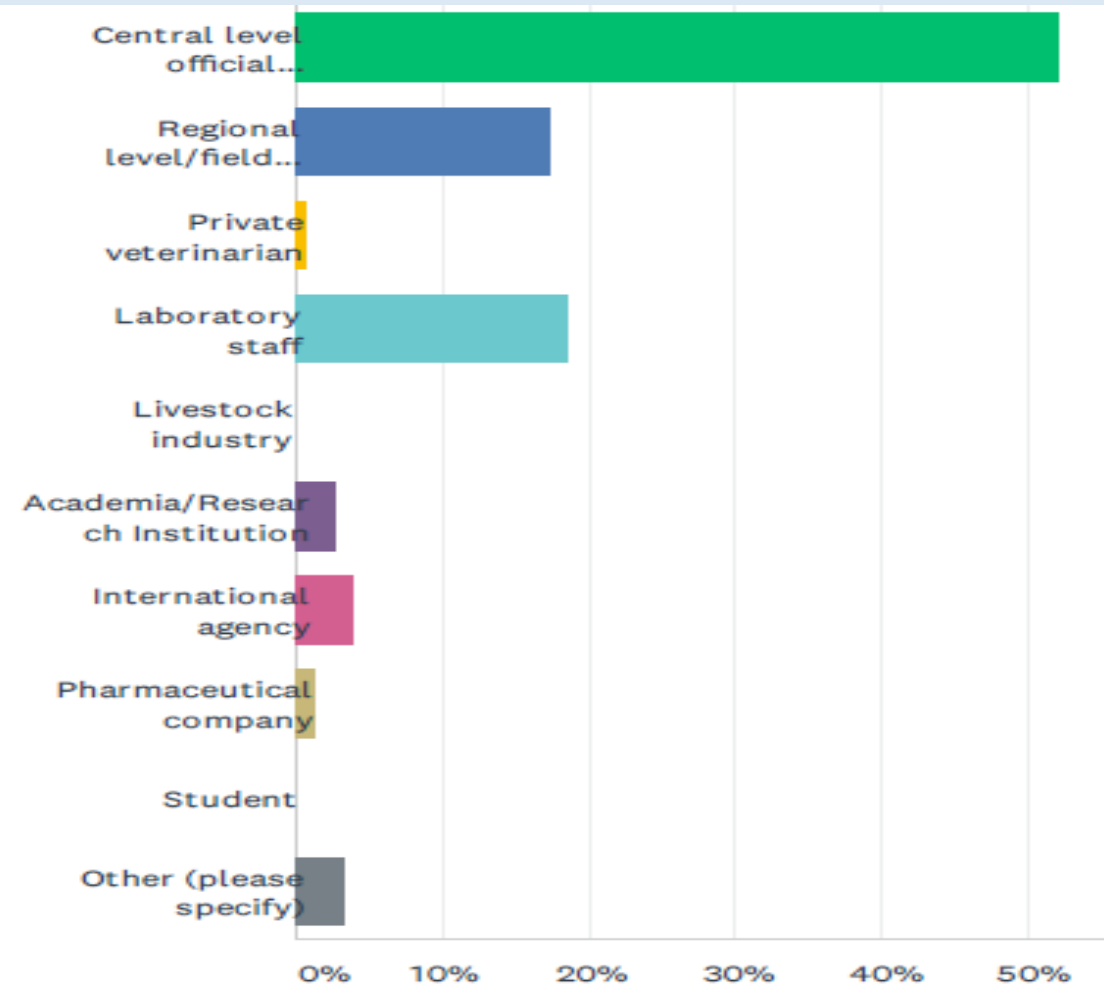
- Adaptations and improvements based on feedback

### Adaptations to other regions:

[Ex-USSR](#) (Russian; October 2020) – 400 participants/16 countries?

[Asia-Pacific](#) Region (English; January 2021)

[Southern Africa](#) Regions (English; January 2021)





## Online course on LSD preparedness (3) – Upcoming activities

- Conversion back to standardized face-to-face training materials
- Development of a stand alone intro course / taster
- Assessment of course feedback and follow-up





## Emergency TCP for LSD preparedness in Central Asia

### Main activities:

- Assessment missions (vet services, lab capacity, legal/reg. framework)
- Risk assessment, Cost-benefit assessment
- Capacity building:
  - Training workshops: epi, vaccination, lab diagnosis, stamping out
  - ToT (cascade) of field vets
  - Farmer field school events
  - Incorporate LSD in academic curricula
- Awareness strategy and materials
- SimEx
- Regional coordination



- **Budget: 500,000 USD**
- **Target countries: Kyrgyzstan, Tajikistan and Uzbekistan**
- **Duration: January 2021- January 2021**  
(In close coordination with OIE)



## Mailing list on FAO activities on specific diseases

ASF (18 updates)

LSD (11 updates)

To be added, please email me at  
[daniel.beltranalcrudo@fao.org](mailto:daniel.beltranalcrudo@fao.org)

2nd Update on lumpy skin disease activities at FAO - Message (HTML)

FILE MESSAGE

Record Search Type ▼ FAO Registry

Delete

Respond

Move to: ?

To Manager

Team Email

Move

Assign Policy

Follow Up

Mark Unread

Categorize

Editing

Zoom

Wed 3/7/2018 5:58 PM

Beltranalcrudo, Daniel (REUT)

2nd Update on lumpy skin disease activities at FAO

To

Bcc Raizman, Eran (AGAH); Rozstalnyy, Andriy (REU); Cowan, SharonLee (REU); Szucs, Tibor (REUT); Plantek, Lea (REUT); 'tuppurainene@gmail.com'; 'Tsvyatko Alexandrov'; 'BROGLIA Alessandro'; 'CORTINAS ABRAHANTES Jose'; 'Nadège Leboucq'; 'Tsviatko Alexandrov'; 'Kris De Clercq'; 'Burkhard Bauer'; 'Alberto Oscar Allepuz Palau'; 'Jordi Casal Fàbrega'; 'LAMIEN, Charles Euloge'; 'CATTOLI, Giovanni'; 'I.Naletoski@iaea.org'; 'edi.ferro@bujqesia.gov.al'; 'Kipi, Arben (FAOAL)'; 'Ledi Pite'; 'Chadikovska, Lidija (FAOMK)'; 'Valdet.Gjinovci@rks-gov.net'; 'vesna.dakovic@mpr.gov.me'; 'budimir.plavsic@minpolj.gov.rs';

You forwarded this message on 3/7/2018 5:59 PM.

Dear Colleagues,

We would like to update you about the new FAO initiatives/news since the January 2018 update (see below). Please click in the hyperlinks for further information:

- FAO has started a **Technical Cooperation Project (TCP)** to address preparedness for LSD in Belarus, Moldova and Ukraine. Activities are expected to start in the coming months;
- FAO has **shipped copies of the LSD Manual** to countries in the Balkans. Additional copies will be shipped to Central Asian and Eastern Europe at risk countries in the coming days;
- A **manual on RVF surveillance** is now available on-line. Rift Valley fever may be the next cattle disease following the steps of LSD into the region;
- FAO organized a **Training on participatory epidemiology principles and techniques in Georgia** applied to ruminants between September and December 2018, and developed a ruminant surveillance system, which integrates participatory disease surveillance and current on-going surveillance activities.

Within the joint FAO/IAEA program, the following activities have been conducted:



Food and Agriculture  
Organization of the  
United Nations

Thanks for your attention