



FAO Lumpy Skin Disease Field Manual

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Field Manual for Lumpy skin disease

- One of the series prepared by FAO's Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES)
- Unprecedented and aggressive spread of LSD to previously disease-free regions (since 2012)
- A huge demand for more knowledge on LSD amongst all cattle stakeholders
- Data in a short and easy-to-read format to provide fast access to essential information
- Intended for private and official veterinary professionals (in the field and slaughterhouses), para-professionals and laboratory diagnosticians
- Contains essential key information and **multiple pictures and diagrams**, avoiding all-inclusive highly scientific text
- In English, Russian, plus three other languages in the affected region



The Field Manual describes in chronological order

- How to recognise LSD; typical clinical signs, post-mortem findings, differential diagnostics and epidemiology
- What to do if a suspected case is detected at a farm
- Notification
- Immediate control actions at a farm
- Laboratory confirmation of the tentative field diagnosis, using available tests, preferred sample material
- Storage and dispatch of samples to national and international laboratories
- Control and eradication measures in the region/country
- Available vaccines, adverse reactions and vaccination protocol
- Biosecurity at a farm
- Feasible surveillance during and after an outbreak



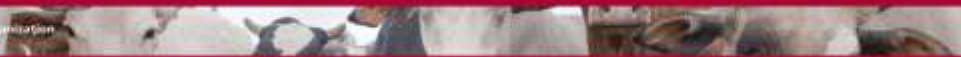
Sections 1, 2 and 3: Introduction, causative agent and epidemiology

- Virus characteristics are described in the light of control measures, such as transmission, disinfection etc.
- Current geographical distribution
- Different modes of transmission and host range



Section 4 and 5: In depth description of typical clinical signs and differential diagnosis

- Characteristic clinical signs are discussed
- A number of images on the LSD lesions in the skin and mucous membranes
- Challenging recognition of early infections and skin lesions in free-ranging beef cattle or cattle with long winter coat
- Differential diagnosis with images
- Post-mortem findings



Section 6: Immediate measures in the farm in case of suspicion

- Suspicion raised by owners, private veterinarians, animal traders and slaughterhouse staff
- Preparation of an investigation kit to assist official district veterinarians
- Chain of notification
- Type and number of samples
- Separation of sick animals (if feasible)
- Clinical examination and sample collection from the rest of the animals
- Freezing cattle movements and trade



Section 6. How to conduct outbreak investigation at the farm

- What data should be included into an outbreak investigation
 - How long the disease has been present
 - Magnitude of the problem: a number of cases, definition of epidemiological unit and population at risk
 - Possible source of infection
 - Movement of animals, people, vehicles or other fomites



Section 7. Sample collection, storage and dispatch

- General rules for sample collection
- Preferred samples
- List of required materials for sampling
- Suspected case often detected during the weekend - safe sample storage and transport for good quality of the samples – how long and at what temperature blood, tissue and serum samples can be kept
- International dispatch of potentially infectious samples is expensive, requires authorization and a courier company specialized for transport of dangerous goods - Paperwork and packing of samples for international dispatch are well described



Section 8. Laboratory diagnostics

- The aim is not to describe the molecular diagnostics assays in detail (the references for the tests provided)
- Virus detection in different outbreaks scenarios
 - Basic diagnostic tests
 - Differentiating a virulent from an attenuated LSDV strain
 - Differentiation between LSDV, SPPV and GTPV
- Detection of antibodies
- Feasible use of serology and presence of antibodies in infected animals
- Role and detailed contact info of the international reference laboratories and disease experts



Section 9. Control and prevention of LSD

- Disease prevention
- Available vaccine products and commercially available vaccines
- Vaccination strategy and adverse reactions
- Cattle movement control
- Stamping-out and disposal of carcasses
- Cleaning and disinfection at a farm
- Insect control on the animals, facilities and in the environment
- Farm biosecurity
- Target audience for awareness campaigns





Section 10. Surveillance programs

- Active and passive clinical surveillance
- Feasible use of diagnostic tools for post-outbreak surveillance
 - PCR
 - Serology



Thank you for your attention!
Any comments and suggestions are greatly appreciated!

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