

Biosecurity and control measures

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Train-of-trainer for field veterinarians on LSD (TCP/RER/3605) - Kiev, Ukraine, 31 May – 1 June 2018



Biosafety

The consistent application of safety measures to minimize or prevent exposure to the person handling a biological agent, laboratory and building occupants, the community and the environment.

Biosecurity

Maintaining a biological agent a secure way, either by physical or procedural means, so as to ensure it does not constitute a hazard to man or his environment.

Biosecurity plan

Identifies potential pathways for the introduction and spread of disease in a zone or compartment

Describes the measures which are being or will be applied to mitigate the disease risks.

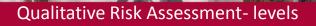
Preparedness

- Knowledge-information
- Plan- what to do upon detection
- Surveillance- look for a new incursion
- Awareness risk management & communication
- Risk-based approach/ realistic approach

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Risk Assessment

- Risk management is based on risk assessment
- Qualitative Yes/ No
 - Several grades, categories
- Quantitative- math modeling, many types
 - Bio-stats', epidemiologists, socio-economists...
- First Qualitative then Quantitative
- Different person/ team from decision-makers
- Risk assessment affects control measures
- Realistic approach (K.I.S)



The logical overall risk estimate is expressed in words

Probability category	Interpretation
Negligible	Event is so rare that it does not merit to be considered
Very low	Event is very rare but cannot be excluded
Low	Event is rare but does occur
Medium	Event occurs regularly
High	Event occurs very often
Very high	Event occurs almost certainly

Source: EFSA

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LSD risk of spreading Probability **Estimated risk** route category Cattle on foot VH Negligible VΗ vehicle- Agric Very low vehicle- other L Low Dairy products VL Medium High Meat products L Very high Other products (hides, horns..) Н Cattle feed L Cattle manure M Insects- active movement Н Н Insects- passive movement Wild ruminants VL Small ruminants VL Others?

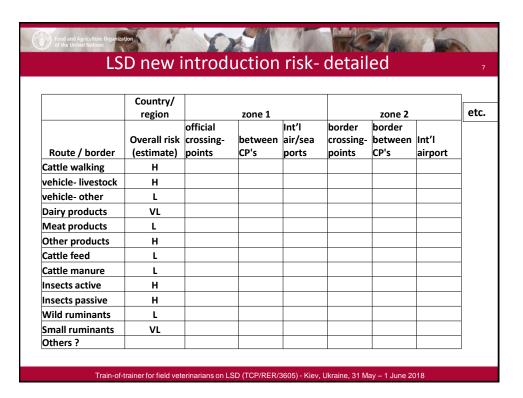


Fig. Food and Agriculture Organization of the United Hations Biosecurity 8

- Don't demand what you can't/won't enforce
- Most LSD spread is by flying-biting-insects
- Define epi' unit; grazing, non-grazing
 - Herd size- Backyard herds; 1-10 heads
 - Herd density
 - Free roaming, nomadic
 - Communal grazing, seasonal grazing
- Trade movements- official/ non-official
- Enforcement-compliance balance

Control measures

- General principles
- Disease specific- no "one size fits all"
- Ways of spread
- Rate (speed) of spread
- Impact
 - zoonotic
 - Food security- economical crisis
 - Trade- national/int'l
- LSD- "relatively easy" to prevent-contain-eliminate
 - Provided executing good risk analysis

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Control measures- what

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- Vaccine- highly effective
- Vaccine- cost effective (vs stamping-out/ losses)
- Vaccination
 - Once- easy to operate- relative to other control measures
 - Coverage- 90%, achievable
 - Preventative/ Responsive/ combined
 - Ahead of LSD spread- distance and time
 - Vaccinators- competent/ motivated Other means
- Monitor assess- decide- execute

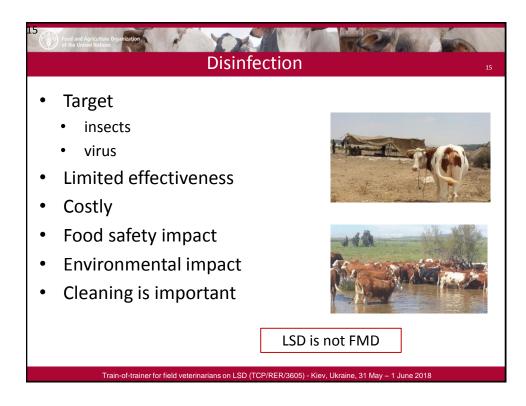
Where — value chain • Field (farms) • buildings • Fenced pens and pastures • Open pasture • Roads- main, side • Markets/ auction yards/ sale points • Processing plants • Meat, milk • Hides • Manure • Borders



ad and Agriculture Organization the United Nations Movement control

- Zoning- physical boundaries, avoid circles
- Wide protection zone- 50-100 km wide
- · Permits, recording, reporting
- Other species- allow, inspect
- Road check-ups
 - Where- fixed/mobile, risk-based
 - Who, when, authority, confiscated animals/products
- Processing plants- top priority
 - Minimize restrictions
 - Optimize control; entrance, vehicles, workers







Carcass disposal (dead/culled)

- On-farm/ out of farm
- feasibility on farm/ near farm, cost
- Legislation & environment; water, land...
- Amount of carcasses to dispose/time
- Carcass is not an important source of spread
 - Cover, spray with insect repellent
 - Vehicles route- entering non-infected farms/regions
 - Special vehicles/ special routes extra costs

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Kazakhstan- Disposal and incineration

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When and how to end measures

- LSD has a sweeping mode, no carrier state
- Herd protection; by infection / by vaccination
- Trade disruption restrictions reduce compliance
- Active surveillance / maintain awareness
- Repopulation; vaccinated herds- no empty farms
- Vaccinate purchased & born cattle
- Update risk analysis & contingency plan
- Vaccinate for several years (?)... withdrawal

Food and Agriculture Organization of the United Nations Summary 21

- Regional collaboration and information
 - Direct
 - Via int'l organizations
- · Periodic risk assessment
- Vaccine stockpile
- Risk-based preventative vaccination
- surveillance
- Be ready

