

Contact Ausvet



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Project site



AUSTRALIA (PERTH)

5 Shuffrey Street
Fremantle WA 6160 Australia
Email: contact@ausvet.com.au

INDONESIA (JAKARTA)

Arkadia Green Park
Tower G, 8th Floor, Room 817
Jl. TB Simatupang No.Kav. 88, RT.1/RW.1
Kebagusan, Kec. Ps. Minggu
Kota Jakarta Selatan
Daerah Khusus Ibukota
Jakarta 12520 Indonesia
+62 821 2303 7587

ausvet.com.au



Indonesia Biosecurity Support Project

With the recent arrival of Lumpy skin disease (LSD) and Foot and mouth disease (FMD) in Indonesia, concerns have been raised over the health of Australian and Indonesian livestock.

MLA advised that 113 feedlots had recently received Australian imports and it was decided that an immediate Biosecurity Support program would need to be implemented.

Infectious disease control requires a combination of prevention, preparation and response plans, best practice biosecurity, animal welfare considerations and animal (and human/staff) management.

Devising a support plan to address these issues is imperative to assist the disease response. During initial consultations, several clear key objectives were identified;

1. Reduce the impact of FMD and LSD on Indonesian feedlots: **Protect Imports**
2. Protect Australian Livestock being exported: **Protect Exports**
3. Develop appropriate biosecurity tools, resources and strategies: **Educate, Assist and Manage**
4. Develop and implement a data collection and reporting system: **Manage and Monitor**
5. Instil confidence in the Indonesian government in the ability of the feedlot sector to manage disease risks: **Create Trust**

Why Ausvet?

Ausvet are a team of experts who provide global consultancy services in epidemiology, disease surveillance, animal health, health information systems, biosecurity, risk assessment, research and data analysis and project management.

Our vets have worked in;

- > Animal Health and Welfare
- > Livestock Export
- > Feedlots
- > Disease outbreak response (including FMD).

In addition, staff have post-graduate qualifications in epidemiology (including FMD), and we have over nine years of continuous experience working in Indonesia, including with smallholders and in Government.

Ausvet is committed to biosecurity and food security. We designed and implemented the Indonesian National Animal information system (ISIKHNAS), have a dedicated office in Indonesia and have undertaken numerous animal health projects in Indonesia, including a current project with sector 1 and 2 poultry producers to improve trust and transparency in animal health.

We have also recently delivered a biosecurity and emergency response plan in Fiji, so we understand emergency response plans where focus is needed on food security and ensuring supply chain continuity.

10 ESSENTIAL LUMPY SKIN DISEASE FACTS

What is a lumpy skin disease (LSD)?

- > LSD is a viral disease that affects cattle (both beef and dairy) and buffalo.
- > Humans are NOT susceptible to this virus.
- > Morbidity of LSD is variable, but mortality (deaths) is low
- > LSD causes severe production losses through a sharp decline in milk yield, loss of body condition, poor reproductive performance including abortion, hide damage and occasionally, death of animals.
- > Originally restricted to Africa, LSD spread rapidly through the Middle East, southeast Europe, the Balkans, Caucasus, and Russia since 2012. In 2019, LSD spread into China and southern Asia. It has continued to spread into south-east Asia in 2021 and 2022.

How does LSD spread?

- > LSD is mostly spread by biting insects, including stable flies, mosquitoes, and ticks.
- > It can also travel long distances through the movement of infected animals.
- > Other routes of spread, such as via contaminated feed and water, through contaminated products and equipment, and in the semen of diseased animals may also be possible.

What are the clinical signs?

- > Diseased animals first have a watery discharge from the nose and eyes, followed by a high fever and characteristic skin nodules.
- > Affected animals develop firm raised lumps 2 to 5 cm in diameter. These can occur on any part of the body but are often observed on the head, neck, udder, genitals, and limbs.
- > Over time, the scabs may fall out leaving large holes that may become infected.
- > Mild cases may only have one or a few lumps, while lesions can occur over the entire body in severe cases.



Contact Project

AUSVET feedlot.biosecurity@ausvet.com.au
MLA info@mla.com.au



GENERAL LSD BIOSECURITY MEASURES

1 Monitor all animals for clinical signs and isolate sick animals/groups

- > Conduct daily examinations on all livestock for clinical signs, as listed above.
- > Animals with skin nodules should always be removed from the herd. They serve as a constant source of contamination for biting insects. Alternatively, lesions must be protected.
- > Cattle herds should be kept separate from other herds by avoiding communal grazing or mixing consignments.
- > Early detection and removal of clinically affected are critical to LSD control.

2 Integrated pest management for insects

- > These measures cannot fully prevent transmission but may reduce the risk.
- > Sites housing cattle or buffalo should consider an integrated pest management plan that addresses insect numbers through both chemical and non-chemical means.
- > All life stages of biting insects must be controlled to break the breeding cycle.
- > Reduce the number of breeding and resting sites. For example, fill potholes, remove standing water sources and ensure drains are free flowing. Remove wet manure, especially from under fence lines and sediment collection areas—to completely stop fly breeding, this must be done every seven days.

- > Apply adulticide controls, such as residual spraying or fogging. Only treat places where flies rest, like pen fences, building exteriors, undersides of shade cloth, trees, and other vegetation. Misuse of chemicals can pose a risk to the environment, including bees, aquatic life, wildlife, and people.
- > Pour-on and sprays are available for cattle. These provide some repellent action as well as insecticidal effects and last for up to 3 weeks.
- > Anti-mosquito nets can be considered in cases when cattle are permanently kept indoors.
- > Consider tick control.
- > ALWAYS use chemicals STRICTLY as per the product label and seek professional advice if you are unsure about how to use a chemical.
- > Rotate the chemicals in use if possible.
- > Design facilities that are not favorable to insect breeding where possible.
- > Maintain chemical and insect control records.
- > Chemical residues in cattle may be a trade and food quality risk. Refer to the product label.
- > For more information on insect control in cattle feedlots, see <https://flyboss.com.au/manage-cattle-surrounds/>.

3 Vaccination to control LSD

- > Vaccination is one of the best disease control measures available for LSD. LSDV, sheep pox, or goat pox vaccines can be used.
- > All animals need to be vaccinated, including small calves and pregnant cows.
- > Vaccinate animals at least 3 to 4 weeks before being moved. Livestock need to be vaccinated with adequate time to develop immunity. Otherwise, cattle may still get infected by the circulating virus and may develop LSD despite being vaccinated.
- > Some vaccines can cause a local reaction at the site of inoculation, as well as fever and a reduction in milk yield. This indicates that the vaccine virus is replicating and producing good protection.

4 Animal husbandry and supportive treatment of clinical animals

- > Severely affected animals should be monitored to ensure animal welfare considerations. Animals with severe secondary infection may require welfare slaughter.
- > Provide water, feed, and a quiet place to assist recovery.
- > Animals with secondary infection may require non-steroidal anti-inflammatories and antibiotic therapy. Antibiotics will NOT treat the LSD virus.

- > Medication costs can be high and should be carefully considered. Other medications may not be required if adequate quality food and water are provided.
- > Remember, drugs used in livestock before slaughter can go into the food chain presenting a public health risk.

5 Restrict movements in infected regions

- > Stock should be bought only from trusted sources. New animals should be kept separated from the herd for at least 28 days.
- > If there are known outbreaks in your area, don't move cattle on or off your property and limit visitors to essential services.
- > All visitor vehicles and equipment should be cleaned (in a dedicated area) when entering farms. Boots should be cleaned, and clean protective clothing should be worn when working with animals.
- > Do not send animals showing clinical signs to a slaughterhouse. These animals should be culled and disposed of on-site or at an appropriate rendering plant.

6 Cleaning and disinfection

- > Thoroughly disinfect, or dispose of, contaminated equipment, clothing, vehicles, and other items that could pose a risk of disease spread using any common disinfectant.
- > Almost all disinfectants will be effective against LD when manufacturer's instructions are followed.
- > When possible, wash clothing at greater than 60 °C.
- > Once organic material has been removed (i.e., dirt, manure, straw), spray disinfectant over the entire surface and leave for the directed contact time. Contact time is important for a disinfectant to be effective in killing the virus.
- > Disinfectants can be corrosive and harmful to human and animal health and the environment. Wear protective clothing.

7 Disposing of carcasses and contaminated materials

- > Disposal methods appropriate to the livestock premises will need to be identified, with consideration of factors such as the environment, safety, available land area, and number of animals. Possible methods may include burning, burial, or rendering.
- > Clean and disinfect, or dispose of, contaminated materials.

8 Documentation and reporting

- > Document all entries and movements of livestock onto your property.
- > Ensure outbreaks of new disease are reported to the relevant animal health authorities.
- > Delays in reporting will negatively impact disease control.

9 Key contacts for support Indonesia

1. Contact your local disease reporter/ Deptan
2. Report directly to iSIKHNAS

Contact project

- > feedlot.biosecurity@ausvet.com.au

10 Other resources

- > AUSVETPLAN documents: <https://animalhealthaustralia.com.au/ausvetplan/>
- > Department of Agriculture, Fisheries and Forestry updates: <https://www.agriculture.gov.au/biosecurity-trade/pests-diseases-weeds/animal/lumpy-skin-disease>
- > Meat & Livestock Australia: <https://www.mla.com.au/research-and-development/animal-health-welfare-and-biosecurity/fmd-and-lsd/>
- > Animal Health Australia <https://animalhealthaustralia.com.au/lumpy-skin-disease/>

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