Contact Ausvet

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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

mla
MEAT & LIVESTOCK AUSTRALIA

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. Supporting exporters, importers, and local farmers to maintain food security will be essential, by ensuring ongoing trade and implementing safe and effective strategies. 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 small holders 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 FOOT & MOUTH DISEASE FACTS

What is Foot & Mouth Disease (FMD)?

- FMD is a viral disease that is highly infectious. It affects cloven-hoofed animals including cattle, buffalo, goats, sheep, deer. FMD is not considered a public health risk.
- The virus results in high morbidity (disease) and low mortality (deaths). It causes production loss, delayed growth, reduction in milk, may cause abortion and occasionally death in young animals.
- There are seven different serotypes and more than 50 subtypes of the virus. Their presence and distribution vary across the world. There is a lack of cross protection between FMD vaccines and vaccine selection needs to be done carefully to suit the appropriate serotype and subtype.

How does FMD spread?

- The virus is spread via direct contact with other infected animals and indirect contact, such as aerosol (air), equipment, people, vehicles, clothing, boots.
- The virus survives under the right environmental conditions including neutral pH, lower temperatures and higher humidity. A contaminated environment alone can sustain an outbreak.

What are the clinical signs?

- Drooling and salivation, lameness or reluctance to move/walk, sores or blisters on the mouth, muzzle, feet or teats, poor appetite and fever.
- Secondary infections may lead to severe illness and death if not managed appropriately. Good supportive care will reduce the risk of secondary infections.

Contact Project

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

GENERAL FMD BIOSECURITY MEASURES

1 Boundary control – direct contact or close proximity of animals will facilitate disease spread

- Don't let external livestock or wild animals contact your livestock.
- Aim to create a buffer zone around non-infected animals, where surrounding areas have vaccinated animals.
- Control people and vehicles entering livestock areas. They can transmit FMD virus on their shoes, clothes or other surfaces.
- Where possible, use an all-in all-out production system, or sections within the farm or feedlot with same-date entry livestock to prevent perpetual risk of contamination to all livestock.
- Control livestock feed and all other consumables entering the property. Ensure all deliveries follow biosecurity protocols. If this is not feasible, a biosecure handover must be planned to ensure no cross contamination.

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

- Conduct daily examinations on all livestock for clinical signs, as listed above.
- If a sick animal is identified, other animals in the same group will have been exposed and pose a risk for disease spread.
- Where feasible, groups of infected or suspected infected animals should be separated from healthy animals.

3 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 antibiotic therapy. Antibiotics will NOT treat FMD virus.
- Medication costs can be high and should be carefully considered. Other medications may not be required if adequate quality food and water is provided.
- Remember, drugs used in livestock before slaughter can go into the food chain presenting a public health risk.

4 People movements and hygiene – virus can be spread on contaminated vehicles, clothing, boots, forage & feedstuffs, equipment and other items.

- Limit access of visitors and contractors to your property.
- There should be no movement of people between infected animals and healthy animals.
- Provide clean clothing to visitors and/or staff to change into on arrival, including boots.
- Ensure clothing and equipment are washed daily, with appropriate disinfectants.
- FMD virus can survive in the soil, manure, bedding and feedstuffs for several months or more, depending on environmental factors such as temperature and humidity.

5 Vaccination to control FMD

- Vaccination is one of the best tools available for FMD control. The choice of vaccine must match the virus subtype and can differ with other parts of the world.
- Vaccinated animals are at less risk of disease, but can still become infected. Vaccinated animals with disease will shed less virus into the environment.
- Vaccinate animals at least 4-7 days before coming into contact with potentially infected animals.
- Livestock need to be vaccinated with adequate time to develop immunity. Otherwise, vaccination will likely offer little protection when animals are exposed to the virus.
- Cattle require re-vaccination every 4–6 months. This will vary between vaccine type, vaccine quality and the level of disease.
- Manufacturer instructions for transport, storage and use of the vaccine must be followed to ensure the vaccine is viable and effective for animals to develop protection (e.g. storage temperature and shelf life).

6 Cleaning and disinfection

- Clean and disinfect all equipment, clothing, vehicles and other items that could pose a risk to disease spread.
- Make sure to remove organic material (i.e. soil, blood, manure) from all surfaces before applying disinfectant. Use of a high-pressure hose is NOT recommended as it can spread contaminated material.
- Once organic material has been removed, 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.
- Careful selection of disinfectants is needed to ensure effective control against the FMD virus. Agents that kill FMD virus include acid and alkaline disinfectants such as citric acid, sodium hydroxide (caustic soda) and sodium carbonate (washing powder). The table below outlines the use of recommended disinfectants for treatment of equipment, fabric and surfaces.
- The timeframe for re-introduction of cattle following cleaning and disinfection will vary between sites, depending on factors such as the production system in use (i.e. all in all out vs continual introduction), flooring material (concrete vs dirt), type of disinfectant, effectiveness of cleaning (i.e. presence of organic material following cleaning) and many others.

Disinfectant recommendations for FMD[1]	Application method	Rate	CAUTION
Citric acid - anhydrous powder	Non-porous surfaces – apply solution for 15 minutes	30g product / L	Product is corrosive. **Wear protective clothing and avoid contact with eyes and skin.**
	Porous surfaces – apply solution for 30 minutes.		
Sodium hydroxide	Clothes/footwear and small equipment: soak for at least 10 minutes.	Always dilute product with water. 50mL product / L	**Wear protective (water-resistant) clothing, gloves and safety glasses.**
	Surfaces: apply 1-1.5L/m2 and soak for at least 10 minutes. Do not use high-pressure sprays.		
Sodium carbonate - washing soda crystals	Apply solution for 30 minutes	100g product / L	Mildly caustic for eyes and skin.
Sodium carbonate - anhydrous powder	Apply solution for 20 minutes	40g product / L	
Sodium hypochlorite (bleach)	Clothes/footwear and small equipment: soak for 15-30 minutes.	250ml product / L	Product is corrosive to metals and toxic for eyes and skin. **Wear protective clothing, masks and gloves.**
	Surfaces: apply 1-1.5L/m2 and soak for 15min on non-porous surfaces and 30 minutes on porous surfaces. Do not use high-pressure sprays.		
Potassium peroxymonosulphate, sodium dodecyl benzene sulfonate and sodium chloride E.g. Virkon powder	Clothes/small items and equipment: Soak for at least 10 minutes.	20g product / L (2%)	Mildly corrosive for many metals.
	Surfaces: apply 1-1.5L/m2. Do not use high-pressure sprays.		

[1] Note that different recommendations exist for LSD.

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7 Disposal methods

- 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. Options include rendering and burial.
- Dispose of contaminated materials (e.g. carcases, offal, manure) using a method that does not contaminate the environment or allow feral animals to gain access to infected material. This can facilitate disease spread.

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

- https://aus.vet/ausvetplan
- https://aus.vet/daff_fmd
- https://aus.vet/mla_fmd