

Self-Assessment Checklist for Enhanced Biosecurity for FMD Prevention: Sheep on Pasture/Rangeland



Target Audience

This checklist and corresponding Information Manual apply to:

- Sheep operations of all sizes and management types that raise sheep on **private** pasture or rangeland, including operations that raise sheep from multiple or single sources on grass or other forages (with or without supplemental grain). This includes, but is not limited to, grazing feeders, purebred/seed stock operations, targeted grazing operations, commercial sheep operations, and dairy sheep on pasture.
- Operations with or without other susceptible animals (e.g., sheep in confinement, pigs, cattle, goats) kept on the premises in addition to sheep on pasture.
- All individuals delivering to, servicing, or working on the sheep operation (family members and/or non-family employees working on or visiting the operation).
- Sheep on operations that have **never been infected with or vaccinated for** foot and mouth disease (FMD).

Sheep grazed on public lands have some unique FMD exposure risk challenges. Public land grazers need to be aware of the exposure risks and implement strict, enhanced biosecurity procedures wherever possible to protect the flock. In addition to this checklist, please refer to the document: *Considerations for Enhanced Biosecurity for Sheep Grazing on Public Land Allotments* at:

https://securesheepwool.org/Assets/SSWS_Enhanced-Biosecurity-Considerations-Public-Lands.pdf

Introduction

In the event of a foot and mouth disease (FMD) outbreak in the United States (U.S.), maintaining business continuity, as well as animal health and well-being are critical to the U.S. sheep industry. The goal of the voluntary Secure Sheep and Wool Supply (SSWS) Plan is to **provide a workable business continuity plan** for sheep producers that have sheep with no evidence of FMD infection and for associated stakeholders. **The plan must be credible to Responsible Regulatory Officials** (local, state, tribal, and federal officials, as appropriate) and provides guidelines only. In an actual FMD outbreak, decisions will be made by the Responsible Regulatory Officials based on the unique characteristics of each outbreak.

During an FMD outbreak, it is the producer's responsibility to keep their animals from becoming infected, focusing on what they can control on their operation. Biosecurity approaches are both structural and operational. Structural biosecurity is built into the physical construction and maintenance of a facility. Operational biosecurity involves management practices designed to prevent the introduction and spread of disease agents onto or off of the premises. FMD will test the effectiveness of both structural and operational biosecurity because the FMD virus is highly contagious. Successful implementation of the biosecurity practices greatly depends on the awareness level and behavior of individuals on the operation. **Implementing effective biosecurity measures to protect sheep raised outdoors (on pasture, dry lots, public lands) from FMD can be expensive and inconvenient. However, a failure of biosecurity resulting in FMD infection of the flock can be devastating.**

FMD is highly contagious and has a major impact on animal health and international trade; however, it does not pose a food safety or public health concern. Existing biosecurity plans may offer protection against endemic diseases (diseases regularly found in sheep flocks) but heightened precautions are needed for FMD. The enhanced biosecurity recommendations outlined in this document are based on the known disease exposure routes for FMD. Operations with susceptible species raised outdoors (on pasture, dry lots, and public lands) may have more difficulty preventing FMD exposure depending on their proximity to infected premises and the presence of wildlife in the area.

This document emphasizes three concepts that all operations raising sheep on private pasture and rangeland should be ready to implement prior to an FMD outbreak in the U.S.:

1. A Biosecurity Manager,
2. A written operation-specific enhanced biosecurity plan, and
3. A Line of Separation.

This checklist for enhanced biosecurity and the corresponding *Information Manual for Enhanced Biosecurity: Sheep on Pasture/Rangeland* can be used to develop an operation-specific, written, enhanced biosecurity plan prior to an FMD outbreak.

All operations should designate a Biosecurity Manager; this is item number 1 in the checklist below. The Biosecurity Manager develops the biosecurity plan PRIOR TO an outbreak; the plan should address items 2-12 on this checklist. The biosecurity plan should describe the scope of the operation, contain forms for documentation of training and signatures, explanations of procedures and signage used by the operation, and protocols written and communicated effectively in languages that are fully understood by the individuals responsible for implementation.

Implementing the biosecurity plan, including training of individuals, before an FMD outbreak occurs provides the best chance to prevent animals on the operation from being exposed. Once the biosecurity plan is written, operation owners/managers may use the checklist in one of the following ways:

1. **In the absence of FMD in the United States**, operation owners/managers should decide which items (#2-12) they will implement. The biosecurity plan should describe the strategy for how each item could be implemented (supplies needed, changes in management practice, etc.). These items may supplement or replace measures included in the operation's everyday biosecurity plan.
2. **If FMD is diagnosed anywhere in the U.S.**, operation owners/managers should immediately implement ALL of the items on the checklist to minimize the risk of exposing their animals.
3. **If the operation is located in an FMD Control Area**, Responsible Regulatory Officials may require that all of the items on the checklist, and possibly others, be implemented before animal movement is permitted.

Scope of Biosecurity Plan

Each location (premises) should have its own biosecurity plan. Begin by defining your premises, clearly describing the animals (all species) and animal housing (buildings, pastures, rangeland, and dry lots) associated with the operation. Additionally, other businesses operated from the same premises will need to be accounted for in the biosecurity plan (distribution or sales of feed, mineral, fertilizer, compost, seed, equipment, hosting farm tours, etc.). Biosecurity plans for premises owned/managed similarly may have significant overlap.

A Premises Identification Number (PIN) facilitates requesting movement permits during an outbreak. A PIN is linked to the geospatial location reflecting the actual location of the animals on the premises. This includes a valid 911 address and a set of matching coordinates (latitude and longitude). A PIN is required for both the premises of origin and the premises of destination (www.aphis.usda.gov/aphis/ourfocus/animalhealth/traceability/state-pin). When animals on a premises become infected, all locations with the same PIN will be considered infected. Generally, it is best to have separate PINs for premises with animals that are under the same ownership or management but reared/housed off-site and accessed via a public road.

Acknowledgments

This Secure Sheep and Wool Supply (SSWS) *Self-Assessment Checklist for Enhanced Biosecurity: Sheep on Pasture/Rangeland* was developed by the Center for Food Security and Public Health (CFSPH), Iowa State University (ISU), College of Veterinary Medicine and representatives from the sheep industry, state and federal agencies, and academia.

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Recommendations for Biosecurity

Each self-assessment checklist item has three possible responses, described below. Implementation of each component is essential to prevent virus entry and protect the health and well-being of the animals on the operation.

- **In place:** All items are addressed in the biosecurity plan and are, or are capable of being, implemented on the operation as evidenced by visual inspection or by signed and/or dated documentation, as applicable.
- **In progress:** Some, but not all, of the items are addressed in the biosecurity plan and are, or are capable of being, implemented on the operation as evidenced by visual inspection or by signed and/or dated documentation, as applicable.
- **Not in place:** The items have not been addressed in the biosecurity plan or are not capable of being implemented on the operation.

1. Biosecurity Manager and Written Plan

A Biosecurity Manager is identified for the operation. This individual is responsible for developing the enhanced biosecurity plan with the assistance of a veterinarian (if they are not a veterinarian) and ensuring biosecurity training of, or communicating biosecurity measures with, all individuals who enter the operation. The Biosecurity Manager has the written authority to ensure compliance with biosecurity protocols and take corrective action as needed.

- In place In progress Not in place

An operation-specific, written, enhanced biosecurity plan has been developed by the Biosecurity Manager. The plan is reviewed at least annually and whenever the operation goes through a change that affects biosecurity (expands, adds a new aspect of the business, etc.). The biosecurity plan clearly defines the scope of the operation and includes biosecurity for other susceptible species kept on the premises. The biosecurity plan includes a map of the operation indicating the Line of Separation (LOS), LOS Access Point(s), cleaning and disinfection (C&D) station(s), designated parking area, and carcass disposal/pickup location. The map indicates vehicle movements (animal transport vehicles, deliveries, etc.) and carcass removal pathways. The Biosecurity Manager ensures that all individuals entering the operation frequently (weekly or more often) have access to a copy of the biosecurity plan. The Biosecurity Manager is capable of implementing the written plan if FMD is diagnosed in the U.S.

- In place In progress Not in place

2. Training

The Biosecurity Manager and essential personnel are trained at least annually about the biosecurity measures necessary to keep FMD out of the flock; training is documented. The Biosecurity Manager informs individuals entering the operation of biosecurity measures they are to follow in a language they understand. Individuals are aware of the biosecurity concepts and procedures that apply to their specific areas of responsibility. Effective training ensures that individuals are aware of the concepts and procedures that apply to their specific areas of responsibility. The biosecurity plan describes training required before entering this operation.

- In place In progress Not in place

3. Protecting the Flock

Line of Separation (LOS)

The biosecurity plan includes an LOS, which is established as an outer control boundary around, or within, the premises to limit movement of virus into areas where susceptible animals can be exposed. The LOS is clearly defined in the biosecurity plan and is clearly marked on the premises. Animals, vehicles, people, or items only cross the LOS through clearly marked and controlled LOS Access Point(s), following appropriate biosecurity measures. Sheep are prevented from nose-to-nose contact with livestock on adjacent premises. Sheep do not have access to streams, waterways, or run-off water that may have come from other premises with FMD-susceptible species.

- In place In progress Not in place

Maximize Distance between Susceptible Livestock on Adjacent Premises

The distance is maximized between susceptible livestock on adjacent premises, and steps to do so have been coordinated with owners/operators of these premises.

- In place In progress Not in place

LOS Access Point(s)

Entry to the operation is restricted to a limited number of controlled LOS Access Points. These LOS Access Points are protected with a suitable barrier (e.g., gate, cable, rope) to prevent unauthorized vehicles from entering. Each LOS Access Point is clearly marked with a sign in a language understood by all entering. Vehicles moving through an LOS Access Point are cleaned to remove visible contamination and then disinfected. People and items moving through LOS Access Points follow specific biosecurity steps. The animal load-out/load-in area(s) does not serve as a people entry point. All movements (animals, vehicles, equipment, people) that cross the LOS are recorded and are available for review upon request. Deliveries are made outside the LOS at a designated area indicated on the premises map.

- In place In progress Not in place

Cleaning and Disinfection (C&D) Station

There is an operational, clearly marked, and equipped C&D station with the means to remove visible contamination and then disinfect vehicles, equipment, and items needing to cross the LOS. The C&D station is operated by individuals who have received documented training in proper selection and use of personal protective equipment (PPE) and the principles of C&D. Runoff from the C&D station is managed following state and local regulations, ensuring it does not enter waterways, animal housing, or on-farm traffic areas. The biosecurity plan contains contingency plans for vehicle and equipment C&D in inclement weather.

- In place In progress Not in place

Designated Parking Area

There is a clearly marked, designated parking area outside of the LOS, away from animal areas, for vehicles that will not enter the LOS and have not been cleaned and disinfected.

- In place In progress Not in place

4. Vehicles and Equipment

Vehicles and Equipment (non-animal transport)

All vehicles (including empty livestock trailers) and equipment are cleaned and effectively disinfected prior to crossing the LOS, otherwise, entry is prohibited.

- In place In progress Not in place

Livestock Trucks/Trailers (animal transport vehicles)

All animal transport vehicles delivering animals to the premises are cleaned and effectively disinfected before animals are loaded for delivery to the operation (incoming loads). Vehicles moving through an LOS Access Point should have the tires and undercarriage cleaned to remove visible contamination and then disinfected.

In place In progress Not in place

5. Personnel

Prior to Arriving at the Operation

Crossing the LOS is limited to individuals who are essential to the management of the operation. Everyone crossing the LOS on foot or exiting their vehicle inside the LOS arrives at the operation having showered and wearing clean clothing and footwear since last contacting susceptible animals. All individuals crossing the LOS have a signed agreement on file agreeing to follow these instructions.

In place In progress Not in place

Entry Logbook

Everyone crossing the LOS Access Point(s) completes the entry logbook, unless they are a scheduled worker. The entry logbook is monitored by an individual working on the operation to ensure accurate completion. The contact information and work schedule records for all workers are maintained.

In place In progress Not in place

Biosecure Entry Procedure

All individuals who cross an LOS Access Point on foot or exit their vehicle inside the LOS ensure that visible contamination on their footwear, clothing, or exposed skin does not enter the operation, following the biosecure entry procedure as specified in the biosecurity plan.

In place In progress Not in place

6. Animal Movement

Incoming Animals

Animals come only from sources with documented biosecurity practices that either are not in an FMD Control Area OR are held in quarantine separately from the destination flock and carefully observed for clinical signs of FMD for 30 days before crossing the LOS.

In place In progress Not in place

Pre-movement Isolation Period

No animals from an FMD Control Area are introduced onto the operation for at least 14 days prior to moving animals to another production site with susceptible animals.

In place In progress Not in place

Contingency Plan for Interrupted Animal Movement

A plan exists to manage animals in a biosecure manner in their current location in the event animal movement is stopped for several weeks.

In place In progress Not in place

Animal Load-out and Load-in

The biosecurity plan describes whether or not the livestock truck crosses the LOS, the drive path to the animal load-out/load-in area(s), and the capabilities to clean and disinfect between animal load-out and load-in OR there are separate and dedicated animal load-out and load-in areas that prevent cross-contamination. The animal load-out/load-in area(s) is NOT a people entry point. These details are labeled on the premises map. Animals are loaded-out using a staged procedure.

- In place In progress Not in place

7. Animal Product Movement

Semen, Embryos

Semen and embryos collected after FMD has been diagnosed in the United States come from sources with documented, enhanced biosecurity practices and no current or previous evidence of FMD infection. Semen and embryos are transported in containers whose exteriors can be cleaned and effectively disinfected to minimize the risk of virus contamination.

- In place In progress Not in place
 Does not apply (explanation included in the biosecurity plan)

Feeding Dairy Products

Lambs on the operation are fed either colostrum/milk originating from the operation where they are housed or colostrum/milk replacer manufactured according to World Organization for Animal Health (OIE) recommendations for inactivation of FMD virus for animal consumption (see the biosecurity manual).

- In place In progress Not in place
 Does not apply (explanation included in the biosecurity plan)

Wool Shearing and Handling

Shearing Equipment

All shearing equipment such as clippers and shearing machines, slings, combs/cutters, and blades are either new or have been disinfected according to the written biosecurity guidelines prior to crossing the LOS. Blade washes/coolants/cleaners/conditioners either are previously unopened products or have only been used on animals within the LOS. Shearing trailers are cleaned and disinfected according to written biosecurity guidelines.

- In place In progress Not in place
 Does not apply (explanation included in the biosecurity plan)

Shearing Clothing and Footwear

All shearers' clothing and footwear such as moccasins, shearing singlets, and shearing trousers are free of visible contamination and have been cleaned and disinfected according to the written biosecurity guidelines prior to crossing the LOS.

- In place In progress Not in place
 Does not apply (explanation included in the biosecurity plan)

Wool Handling Equipment

All wool handling equipment such as cotton or paper twine, burlap or plastic wool bags, nylon bales, brooms, sorting containers and tables, balers, or clips are new (preferable) or have been cleaned and disinfected prior to being brought onto the premises according to the written biosecurity guidelines.

- In place In progress Not in place
 Does not apply (explanation included in the biosecurity plan)

Wool Handling and Storage

Plans are in place for storing raw wool on site for a prolonged period in a biosecure manner.

- In place In progress Not in place
 Does not apply (explanation included in the biosecurity plan)

Wool Disposal

Written plans are in place for disposing of wool on site in a biosecure manner in the event there is no market.

- In place In progress Not in place
 Does not apply (explanation included in the biosecurity plan)

8. Carcass Disposal

Dead animals are disposed of in a manner that prevents the attraction of wildlife, rodents, and other scavengers. Rendering trucks and other vehicles hauling dead animals to a common disposal site do not cross the LOS.

- In place In progress Not in place

9. Manure Management

Manure is stored and removed in a manner that prevents exposure of susceptible animals (either on or off the premises of origin) to disease agents and meets state, local, and Responsible Regulatory Officials' regulations.

- In place In progress Not in place

A plan exists for storing manure on-site in the event it cannot be permitted to move off-site during an outbreak.

- In place In progress Not in place

10. Other Animal Control

Control measures are in place to minimize interaction between sheep and other animals (deer, feral pigs, rodents, non-livestock guardian and herding dogs, cats, etc.).

- In place In progress Not in place

Livestock Guardians, Herding Dogs, and Ranch Horses

Livestock guardians, herding dogs, and ranch horses are restricted to their own flocks and pastures. If they leave and need to re-enter the pasture, biosecurity measures are taken to ensure visible contamination is removed from their fur and feet/hooves prior to entry.

- In place In progress Not in place

11. Feed

Feedstuffs are delivered, stored, mixed, and fed in a manner that minimizes contamination, and feed spills are cleaned up promptly to avoid attracting wildlife.

- In place In progress Not in place

Comments

Please send comments or suggested edits for improvement to: sswinfo@iastate.edu