

Secure Beef Supply: Contingency Planning Considerations for Producers during an FMD Outbreak



Introduction

Foot and mouth disease (FMD) is a highly contagious foreign animal disease that affects cattle and other cloven-hooved animals, such as swine, sheep, goats, and deer. FMD is not a public health or food safety concern. One strategy for managing FMD in outbreaks involves stopping movement of susceptible animals and animal products (semen, embryos) for a period of time to limit the risk of disease spread. Movement will be by permit only. Permits will be issued by Regulatory Officials based on the risk posed by that movement and the premises' ability to meet permit requirements of the origin and destination states. Guidance for requesting a movement permit is described in the Secure Beef Supply (SBS) Plan for Continuity of Business at www.securebeef.org. A brief description is below. More information about FMD response strategies is available in the USDA FMD Response Plan: The Red Book available at: http://www.aphis.usda.gov/animal_health/emergency_management/downloads/fmd_responseplan.pdf.

At the beginning of an FMD outbreak, it may take several days or weeks for the livestock industry, state and federal officials to understand the extent of the outbreak and have confidence that animals with no evidence of infection can move without spreading FMD. This document provides guidance to producers for developing an operation-specific contingency plan during an FMD outbreak when movement restrictions are in place. **A well-developed and implemented contingency plan should aim to support the operation's biosecurity, promote animal well-being, maintain herd health, and minimize economic losses.**

Components of a Contingency Plan

On the day FMD is diagnosed in the United States, cattle producers who plan to move unaffected animals, semen, and embryos in the near future should follow the guidance in the SBS Plan so they can request a movement permit once movement is allowed by Regulatory Officials (described briefly next). This document only addresses unique contingency considerations not covered in other documents.

Guidance for Requesting a Movement Permit

Movement permit guidance is described in more detail in the SBS Plan and on the website (<http://securebeef.org/beef-producers/permit-guidance/>). Regulatory Officials will determine and communicate the exact permit requirements for cattle, semen, and embryos. Producers should be prepared to meet the requirements prior to requesting a permit, which could include:

- Providing traceability information (Premises Identification Number, GPS coordinates, and information on type and number of animals moved)
- Biosecurity measures listed in the SBS Biosecurity Checklist for Feedlots or Cattle on Pasture are in place and acceptable to Responsible Regulatory Officials (<http://securebeef.org/beef-producers/biosecurity/>)
- Epidemiology information is acceptable
- Destination premises and State are willing to accept the cattle/semen/embryos
 - All interstate movements must also meet existing movement/state entry requirements in addition to outbreak-specific conditions listed in the SBS Plan and from Regulatory Officials.
- No evidence of infection based on surveillance

Cattle Inventory and Potential Movements

When a stop movement order is issued, it will be essential to know the location of cattle within the Control Area, including any that originated from the Control Area, are in transit, or due to be in the next week(s). For animals in transit, Regulatory Officials may either allow their continued movement or require the animals return to their origin. Arrangements for alternate delivery site(s) may need to be made. Communicating with the shipper(s) and/or driver(s) will be critical.

Accurate records detailing the origin and current location of an operation's cattle will also be essential as the outbreak investigation continues.

Movement of cattle to shared grazing areas and permits issued for grazing public lands may be affected by movement restrictions, depending on where the outbreak is occurring. Planning alternative options for cattle grazing or feeding may be needed.

Once movement is allowed following a stop movement order, prioritize which movements will be needed first (cattle to/from pasture/fields for feeding, breeding, calving; cattle to feedlots, harvest; cull cattle; bull studs; semen; embryos), recognizing it will vary by season/time of year. During the period of stop movement, use that time to meet the movement permit requirements that will likely be needed. These are described in the SBS Plan and will depend on the regulations of the receiving state. All interstate movements must also meet existing movement/state entry requirements in addition to outbreak-specific conditions listed in the SBS Plan and from Regulatory Officials.

Financial Planning

An FMD outbreak in the U.S. will almost certainly result in lost export markets and domestic consumption of red meat may also decrease. This will cause a substantial drop in price for cattle. Financial risk management planning will be critical to business continuity. Cash flow during periods of movement restrictions may be affected. Flexibility in contract arrangements may be needed for receipt of cattle, delivery to packers, and delivery of feed and other supplies to the premises. Some operations may benefit from livestock risk protection or business interruption coverage insurance.

During an outbreak, there will likely be increased expenditures associated with enhanced biosecurity measures. Ensuring FMD virus does not enter an operation on a person, vehicle, or equipment will take vigilance and a capital investment in equipment and personnel time. Enhanced biosecurity measures are described in the SBS plan and briefly below.

If cattle become infected with FMD, depopulation may be a strategy used to decrease disease spread. If animals are depopulated, indemnity may be paid as funds are available. The Code of Federal Regulations authorizes the federal government to pay 50 to 100% of fair market appraised value for the animals taken. States may or may not have additional provisions in their code to pay indemnity. In large or extended outbreaks, depopulation may not be a strategy and cattle will be allowed to recover; no indemnity will be paid for lost production. Indemnity will not restore a livestock business to pre-outbreak financial status.

Enhanced Biosecurity Measures

Routine biosecurity measures are not enough to prevent cattle exposure to FMD because it is very contagious. The SBS Plan includes guidance for producers to with their veterinarian to develop a written, operation-specific enhanced biosecurity plan that meets or exceeds the items in the *Self-Assessment Checklist for Enhanced Biosecurity for FMD Prevention* (Biosecurity Checklist) available on the SBS website: <http://securebeef.org/beef-producers/biosecurity/>. Developing an effective plan takes time and preparation. Several sections describe contingency plans that should be developed including:

- Interrupted animal movement
- Cleaning and disinfecting during inclement weather
- Lack of availability of carcass and manure disposal options
- Alternate delivery options for essential inputs

Communication of Plans

Movement restrictions may cause changes in routines, business practices, and protocols. A communication plan may lessen potential confusion or misunderstandings. Consider including:

- Who should be communicated with, both internal and external to the operation.
 - Regulatory Officials will be determining movement permit requirements; include their contact information in your communication plan
- When they should be alerted of changes in routines, protocols, and expectations.
- What methods of communication will be used (call, email, text, fax, etc.).

Cattle Health Management

Maintaining cattle health and well-being during an FMD outbreak will continue to be important. It will not be “business as normal”. Contingency plans should include considerations for feeding, calving, breeding, enhanced disease monitoring, preventive medicine, and treatment of sick animals.

- Movement of cattle to pastures or fields for grazing may be restricted in an outbreak. Plans for alternative feeding options may be needed (more on feeding in “Managing Inputs” below).
- Calves born on stocker/backgrounder or feedlot operations may not be allowed to leave the operation. Operations should have a plan to care for these calves for up to several weeks while animal movement is stopped.
- Movement of semen and embryos may be restricted. Breeding programs may need to be modified until semen, embryos, and recipient permit requirements can be met.
- Have a strategy to train personnel to monitor cattle for abnormalities and clinical signs of FMD. Resources for FMD disease monitoring, also known as active observational surveillance, is available at: <http://securebeef.org/training-materials/surveillance-observe/>
- Record all treatments in order to meet appropriate withdrawal times in the event cattle are harvested sooner than normal.
- In the event the herd/feedlot veterinarian is unable to visit the operation as frequently as normal, develop alternative plans for consultation and communication such as the use of digital images and videos.
 - Work with the herd/feedlot veterinarian to develop alternative treatment protocols if on-hand supplies are limited and delivery options are affected.
- Submission and shipment of diagnostic samples from necropsies or sick cattle unrelated to FMD may be delayed or suspended during this time. Alternative methods of communication with the herd/feedlot veterinarian to discuss findings and treatment options may be necessary.

Managing Inputs

Commodities and Feeding

Determine cattle feed requirements and delivery options that will align with your enhanced biosecurity protocols. Enhanced biosecurity guidance for preventing the entry or spread of FMD is available on the SBS website (<http://securebeef.org/beef-producers/biosecurity/>).

For cattle well-being, avoid making any abrupt dietary changes. In an FMD outbreak, minimizing feed input costs while maintaining cattle health and well-being will be essential to business continuity. There may be a shortage of available nutritionists in an outbreak; plan ahead by discussing alternative diets based on commonly available, low-cost feedstuffs and include those step-down rations in your contingency plan.

- Inventory forages and feedstuffs. Establish:
 - How fast feed/forage supplies with last (stored on site, pastures, fields)
 - For feeder cattle, consider slowing gain to extend the feed supply and prevent overweight carcasses.
 - When forage and/or feed will be needed (days, weeks)

- If ration reformulation is necessary to conserve stockpiles of feed
- Alternative feedstuffs to maintain adequate body condition
 - Access to pastures/fields (e.g., if pastures or fields are part of the same premises, consider turning feeder calves out on pasture to reduce daily gain and conserve feedstuffs)
 - Access to dry lots (e.g., for cattle on a forage based diet, consider housing them in a dry lot “part-time” to protect forage supplies)
 - Other sources of feedstuffs if normal source requires an interstate movement permit or is located in an area near infected premises
- Maintain accurate records regarding feedstuffs and commodities including:
 - Origin of feed delivery (address, city, state, country)
 - Date of shipment/arrival
 - Specific feedstuff
- Manage feed storage to limit wildlife access
- Plan for water storage and delivery as applicable
 - Store extra water on-site to prevent gaps in water availability.
 - Identify additional water sources that could be potentially used if usual water source is impacted by movement restrictions.

Deliveries and Traffic

Plan to control regular and unexpected deliveries, pickups, and other traffic in a biosecure manner. A worksheet to help determine the number of types of inputs and outputs is available at: http://securebeef.org/Assets/SBS_InputsOutputs.pdf. Communicate with suppliers and delivery drivers to change delivery dates or drop-off locations if necessary. Do not be afraid to ask drivers where they and their vehicle have been so you can determine any risk they may pose to your operation. Keep records of all movements onto the operation.

- Implement your operation-specific enhanced biosecurity plan.
 - Enhanced biosecurity plan templates are available on the SBS website at: <http://securebeef.org/beef-producers/biosecurity/>
 - Limit access, establish the Line of Separation (LOS), and post signs, place barriers, etc. on your operation to avoid unwanted entry.
 - Establish a cleaning and disinfection (C&D) station for vehicles and equipment that must cross the LOS; create a contingency plan for effective C&D during inclement weather.
 - Determine alternative entry/exit options for seasonal events (harvest, hauling manure) that can maintain enhanced biosecurity.

Personnel

In an outbreak, only allow people essential to the operation to enter. Consider conducting some consults via phone to decrease traffic and risk of disease introduction.

- Anyone entering the operation should follow all biosecurity procedures for the operation. Communicate expectations prior to their arrival on the operation.
- Essential personnel should be trained for outbreak procedures and cross-trained to do other duties in the event some personnel are not available to come to work.
- Ensure personnel understand the chain of command and are aware of any changes in roles related to movement restrictions.
- Keep records of all personnel (including processing crews, animal transporters/truckers, feed suppliers, etc.) that enter your operation and whether they have cattle contact. Only individuals with a valid reason for having animal contact should be allowed to do so.

Managing Outputs

Livestock Markets

Cattle marketing will be impacted by movement restrictions. Cattle movement permit requests will be evaluated based on the risk posed by that movement. Traditional livestock markets will be impacted; explore alternative options to buy or sell cattle such as direct purchases from seedstock breeders, purchasing from operations where cattle no new cattle have been introduced since the FMD outbreak began, and direct sales to slaughter.

Slaughter

Communicate with packers and processors to coordinate delivery of cattle in the event of movement restrictions. Movement permits will need to be requested from Regulatory Officials.

- Determine the steps required to ensure acceptance of cattle with no clinical signs and products from apparently healthy animals.
- Control of disease spread may involve harvesting cattle earlier OR later than normal.
 - Review current language in contracts.
 - Discuss sending lightweight or heavyweight cattle with packers and obtain consensus.
 - Consider consulting with legal counsel prior to an outbreak and potentially including contract language to address an outbreak situation.

Manure/Nutrient Management

Movement of manure off-site may require a movement permit. Contingency plans for on-site storage options will be needed for different times of the year.

- Identify capacity to store manure on-site for at least four weeks.
 - If adequate storage space is not available on-site, movement of manure or application to fields may require a permit. Consider seeking movement permits to apply manure to pastures or fields if land resources are part of the premises.
 - Nutrient application plans must be in compliance with applicable state and local regulations.
 - Consult with university agricultural extension for expertise in planning.

Carcass Disposal

Movement of carcasses off-site may be prohibited, or at the very least, require a movement permit. Landfills and rendering may not be permitted options. Contingency plans for on-site carcass disposal will be needed and may vary with season and weather. Develop a plan for carcass disposal using normal mortality numbers and a contingency plan for a large number of mortalities unrelated to FMD infection (toxicity, etc.).

- Manage carcass disposal to discourage scavenging by domestic animals and wildlife.
- Disposal options may include:
 - Composting on-site
 - Ensure adequate carbon sources are available such as wood chips, straw or dried manure solids for use in composting. If these are not available on-site, shipment options may be limited.
 - Burial on-site
 - Work with local and state regulatory authorities to determine approved burial sites for the number of mortalities expected.
 - If there is not much land associated with the cattle premises, determine if land immediately adjacent to the premises would be available for composting/burial. This will require permission of the landowner and acceptance by Regulatory Officials.
 - For guidance on carcass disposal, please see “USDA FAD PRoP/NAHEMS Guidelines: Disposal” available at: <http://www.cfsph.iastate.edu/pdf/fad-prep-nahems-disposal-manual>

Terms

Active Observational Surveillance: Active Observational Surveillance (AOS) is an enhanced method to monitor livestock (cattle, pigs) for abnormal findings (clinical signs and/or changes in production parameters) that may be an early indicator of FMD virus infection. AOS does not replace the need for diagnostic testing or periodic inspections by Regulatory Officials.

Cleaning and Disinfection (C&D) Station: An area on the perimeter of the operation that is equipped with adequate water and soap to remove visible contamination, and an effective disinfectant labeled for FMD to disinfect vehicles, equipment, and items needing to cross the Line of Separation (LOS) and manages run-off to prevent entry into waterways and animal housing or traffic areas.

Control Area: Consists of an Infected Zone and a Buffer Zone and is at least 10 km (~6.21 miles) beyond the perimeter of the closest Infected Premises. This area may be redefined as the outbreak continues.

Enhanced biosecurity: Heightened measures for protecting cattle on the operation from exposure to FMD.

Infected Premises: Premises where presumptive positive case or confirmed positive case exists based on laboratory results, compatible clinical signs, FMD case definition, and international standards.

Line of Separation (LOS): A clearly identified boundary around or within a premises with susceptible animals to separate off-farm from on-farm movements of vehicles, people and animals.

Permit: Issued by regulatory officials for necessary movements without creating an unacceptable risk of disease spread.

Regulatory Officials: Local, state, tribal, and federal officials responsible for managing the FMD outbreak. This could include the State Animal Health Official, Tribal Leaders, and the USDA Assistant District Director.

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Comments

Please send questions, comments or suggested edits for improvement to: sbsinfo@iastate.edu

Additional Resources

The Secure Beef Supply website has additional resources available at: www.securebeef.org