

Secure Milk Supply (SMS) Plan for Continuity of Business

A.S. Leaflet R3236

Dr. Danelle Bickett-Weddle, Associate Director,
Center for Food Security and Public Health,
Iowa State University

Introduction

The Secure Milk Supply (SMS) Plan provides a workable continuity of business (COB) plan for dairy premises with no evidence of foot and mouth disease (FMD) infection in a regulatory Control Area to move raw milk to processing that is credible to Responsible Regulatory Officials (local, state, tribal, and federal officials, as appropriate). Officials must balance the risks of allowing movement of raw milk against the risk of not allowing movement and thus the necessity for on farm disposal of raw milk. FMD is a highly contagious foreign animal disease that infects cattle and other cloven-hooved livestock, such as swine, sheep, goats, and deer. FMD is not a public health or food safety concern. FMD has been eradicated from the U.S. since 1929 but it is present in many other countries and causes severe production losses in animals.

The SMS Plan is the result of a multi-year collaborative effort by industry, state, federal, and academic representatives. Funding for its development was provided by USDA Animal and Plant Health Inspection Service (APHIS). The SMS Plan provides **guidance only**. In an actual outbreak, decisions will be made by the Responsible Regulatory Officials based on the unique characteristics of each outbreak.

Milk Movement at Beginning of an FMD Outbreak

In an FMD outbreak, Responsible Regulatory Officials have the authority and responsibility to establish Control Areas around FMD Infected Premises¹ and to manage animal and animal product (such as milk) movement within, into, and out of the Control Area. Decisions on raw milk movement will depend on factors unique to each outbreak and Control Area. Processing of milk from a Control Area always must include pasteurization. There may be additional restrictions if milk is to be moved outside of the Control

Area or into another state for processing. The following recommendation provides the flexibility for Responsible Regulatory Officials to manage milk movement during an FMD outbreak according to their collective judgement and the circumstances surrounding the outbreak.

Dairy premises in any FMD Control Area that are **designated as Infected, Suspect², or Contact³ Premises** will not be allowed to move milk until a permit is issued by Responsible Regulatory Officials.

Dairy premises in any FMD Control Area that are **NOT designated as Infected, Suspect, or Contact Premises** will be informed by Responsible Regulatory Officials that they either:

- Continue moving milk to processing with or without additional requirements (such as a National Premises Identification Number (PIN), increased premises biosecurity, truck and driver biosecurity, and/or some form of pre-certification by their state) depending on the characteristics of the outbreak.
- OR**
- Stop movement of milk, become a Monitored Premises⁴ (which requires having a valid PIN, and be inspected to ensure adequate biosecurity and surveillance) and obtain a permit to move milk to processing. In the event a permit is required, guidance is included in this SMS Plan.

Dairy premises in an FMD Control Area must **immediately** increase biosecurity as recommended in this Secure Milk Supply Plan in order to best protect their animals from becoming infected and to become designated as a Monitored Premises. Premises must be a Monitored Premises in order to request a permit for the movement of any live animals. Components of the SMS Plan for milk movement may also apply to animal movement and this is indicated where applicable. More information about animal movement is provided separately (see *Managed Movement of Cattle* as part of the Secure Beef Supply Plan). Participation in either Plan is voluntary.

¹ 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. *USDA FMD Response Plan, 2014*

² Suspect Premises: Premises under investigation due to the presence of susceptible animals reported to have clinical signs compatible with FMD. This is intended to be a short-term premises designation. *USDA FMD Response Plan, 2014*

³ Contact Premises: Premises with susceptible animals that may have been exposed to FMD, either directly or indirectly, including

but not limited to exposure to animals, animal products, fomites, or people from Infected Premises. *USDA FMD Response Plan, 2014*

⁴ Monitored Premises (MP): Premises objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises. Only At-Risk Premises are eligible to become MP. MP meet a set of defined criteria in seeking to move susceptible animals or products out of the Control Area by permit. *USDA FMD Response Plan, 2014*

Rationale for Allowing Continued Movement of Milk from Dairies in Control Areas Under Certain Circumstances

FMD virus is not a food safety or public health concern. Each Control Area is at least 120 square miles around an Infected Premises and may be much larger. This could include many dairy premises and overwhelm the ability of Responsible Regulatory Officials to certify dairy premises as having valid PINs, adequate biosecurity, and surveillance to be designated as Monitored Premises, resulting in prolonged dumping of milk.

- Dumping milk presents hazards for FMD virus spread and environmental concerns.
- In a large outbreak, dumping excessive amounts of milk could lead to shortages of milk and milk products for consumers.
- Indemnity for dumped milk is unlikely to be available during an outbreak due to federal policy guiding the use of taxpayer money in disease outbreaks.
- Dumping milk at the start of the outbreak sends the erroneous message that the milk is not safe and wholesome for human consumption. This message will be hard to change if the outbreak expands and the milk is later allowed to move for processing and to market.
- Responsible Regulatory Officials will be focusing on critical response activities with competing priorities, such as:
 - Trace back/trace forward of all movements from Infected Premises (cattle, swine, sheep, goat).
 - Rapid investigation of Suspect and Contact Premises.
 - Quarantine, stop movement, and biocontainment on Infected Premises.
 - Any necessary depopulation, disposal, and virus elimination activities as dictated by the response strategy.
 - Surveillance in and around the Control Area(s).
 - Permitting critical/essential movements such as feed, equipment, etc.

FMD Response Guidance Documents

There are many guidance documents for Responsible Regulatory Officials to use in an FMD Outbreak and the SMS Plan aligns with them. References and explanations of these documents can be found at:

www.securemilksupply.org.

Managed Movement of Animals and Milk in an FMD Response

An effective strategy for managing an FMD outbreak involves stopping movement of susceptible animals and their products (milk, semen, embryos) for a period of time. Movement restrictions may be put in place for the Control Area(s) to limit risk of disease spread by animals, animal products, vehicles, and other equipment. Movement permits, if required, will be issued based on the risk posed by movement of that item and the dairy operation's ability to meet permit requirements. Dairy operations that follow the guidance in this SMS Plan will be better prepared to request a **milk** movement permit in the event permits are required by Responsible Regulatory Officials. At the beginning of an FMD outbreak, several days or weeks may be needed before the livestock industry, federal and state officials have sufficient knowledge of the extent of the outbreak to have confidence that **animals** with no evidence of infection can be moved safely without contributing to disease spread. Based on risk, permitting animal movement likely will be delayed. A summary of movement permit guidance for milk (if required) and animals is provided in Tables 1 and 2, respectively.

It is the Responsible Regulatory Officials' responsibility during an outbreak to detect, control, and contain FMD as quickly as possible with the ultimate goal of eradication. Responsible Regulatory Officials managing the incident will be making permitting decisions regarding the movements of animals and animal products (milk, semen, embryos) within, out of, and through Control Areas based on the unique characteristics of the outbreak, the status of the premises, and the potential risks and mitigations involved with the types of movement. Officials must balance the risks of allowing movement of raw milk against the risk of not allowing movement and thus the necessity for on-farm disposal of raw milk. They may or may not require milk movement permits.

It is the producer's responsibility during an FMD outbreak to keep his/her animals from becoming infected, focusing on what producers can control on their operation. To facilitate business continuity (movement), producers will need to provide assurances to the Responsible Regulatory Officials that they are not contributing to the spread of disease nor putting their own animals at risk of exposure. Some movements (live animals) carry more risk than others (raw milk to processing). Biosecurity will be paramount to limiting disease spread. Developing an enhanced biosecurity plan prior to an outbreak and sharing that with State Animal Health Officials builds trust and confidence when requesting movement permits during an outbreak. Further, an enhanced biosecurity plan increases individual preparedness to maintain COB in the face of an FMD outbreak.

- If a milk movement permit is required, producers should be ready to provide evidence that they have implemented the *SMS Biosecurity Performance*

Standards for Raw Milk Collection and Transport available at www.securemilksupply.org. Additional permit guidance is included in Table 1.

- When requesting an animal movement permit, producers should be ready to provide evidence that they have implemented all of the enhanced biosecurity measures recommended in the *SMS Self-Assessment Checklist for Enhanced Biosecurity for FMD Prevention* available at www.securemilksupply.org.
 - Additionally, producers should be prepared to manage their dairy premises if they are not allowed to move animals (calves, heifers, bulls, steers, dry cows, etc.) for several days or weeks. Such contingency plans will be important to implement during the timeframe when Responsible Regulatory Officials are conducting appropriate surveillance to demonstrate a lack of evidence of disease and more confidence that an animal movement does not present a significant risk for disease spread. Additional permit guidance is included in Table 2.

Milk processors are essential to the success of business continuity for the dairy industry during an FMD outbreak. Since cows may shed FMD virus in the milk before they show clinical signs, it must be assumed that, in some cases, milk from infected and undetected herds will enter the human food chain. FMD is not a public health or food safety concern. Milk processing per the Food and Drug Administration (FDA) [Grade "A" Pasteurized Milk Ordinance \(PMO\)](#), assures milk and milk products are safe and wholesome for human consumption. These same principles apply to milk that meets all quality PMO standards from an FMD affected herd.

- It is not necessary to recall from commerce pasteurized milk or milk products for human consumption. This and additional recommendations for products for animal consumption are included in *SMS Plan Recommendations for Processors during an FMD Outbreak*, available at www.securemilksupply.org.
- A review of inactivation of FMD virus in milk products was completed in 2012 and is available at: <http://www.cfsph.iastate.edu/pdf/inactivation-of-foot-and-mouth-disease-virus-in-milk-products>

Processing plant employees, milk haulers, truck drivers, and others who contact raw milk or raw milk products must observe proper biosecurity protocols to avoid

transmitting the FMD virus to susceptible animals when these individuals leave the plant. All personnel must be instructed on biosecurity steps to follow prior to and after leaving the plant.

- Biosecurity guidance for plant employees, milk haulers, and truck drivers is provided in the *SMS Biosecurity Performance Standards for Raw Milk Collection and Transport* available at www.securemilksupply.org

Participation in the SMS Plan includes guidance for producers (when requesting) and officials (when evaluating requests) for animal and/or animal product movement permits. There may be additional requirements depending on the scope of the outbreak. If permits are required, following the guidance in this SMS Plan could enable milk movement sooner.

Participation in the Secure Milk Supply Plan

During an outbreak, dairy premises in a Control Area that need to move milk may need to comply with the SMS Plan guidelines to request and receive a milk movement permit, if required by Responsible Regulatory Officials. These officials may also implement additional requirements depending on the scope of the outbreak. All interstate movements must meet normal movement/state entry requirements in addition to these outbreak-specific conditions. Implementing the guidance outlined in the SMS Plan before an outbreak decreases the risk of disease spread and facilitates issuing milk movement permits for premises with no evidence of infection and allied industries.

For other information regarding 1) Preparation prior to an outbreak; 2) guidance once FMD is diagnosed in the US; and 3) requesting a secure food supply movement permit during an outbreak, consult the SMS document at www.securemilksupply.org

Acknowledgements

This Secure Milk Supply (SMS) Plan for Continuity of Business was developed by the Center for Food Security and Public Health (CFSPH), Iowa State University (ISU), College of Veterinary Medicine and reviewed by representatives from the dairy industry, state and federal agencies, and academia. Funding was provided by the USDA APHIS Veterinary Services Surveillance, Preparedness and Response Services, National Preparedness and Incident Coordination Center.

Additional Resources

The Secure Milk Supply website has additional resources available at: www.securemilksupply.org

Table 1. Summary of Movement Permit Guidance, if required, for Raw Milk located within a Control Area during an FMD Response

Permitting Guidance for Movement of Milk	Condition Met?
1. Traceability information is available (PIN, GPS Coordinates, and identification information on truck/tanker moved)	Yes
2. Biosecurity performance standards for raw milk collection and transport are in place and acceptable to Responsible Regulatory Officials	Yes
3. Dairy operation is not designated as Infected, Suspect, or Contact Premises	Yes
4. Destination premises and State are willing to accept the milk	Yes
5. No evidence of infection based on surveillance	Yes
6. Permit guidance to move milk if all above responses are “Yes”	Consider Issuing MOVEMENT PERMIT

Table 2. Summary of Movement Permit Guidance for Cattle, Semen and Embryos located within a Control Area during an FMD Response

Permitting Guidance for Movement of Cattle/Semen/Embryos	Condition Met?
1. Traceability information is available (PIN, GPS Coordinates, and information on type and number of animals/quantity of semen/embryos to be moved)	Yes
2. Biosecurity measures listed in the Biosecurity Checklist are in place and acceptable to Responsible Regulatory Officials	Yes
3. Epidemiology information is acceptable	Yes
4. Destination premises and State are willing to accept the cattle/semen/embryos	Yes
5. No evidence of infection based on surveillance	Yes
6. Permit guidance to move cattle/semen/embryos if all above responses are “Yes”	Consider Issuing MOVEMENT PERMIT

Table 3. Summary of Resources for Milk and Animal Movement

Milk	Animal	Resource
X		Milk Movement from Control Areas in an FMD Outbreak: Responsible Regulatory Officials have the authority and responsibility to manage milk movement within, into, and out of the Control Area. They may require that dairy premises meet certain requirements as described in <i>Milk Movement from Control Areas in an FMD Outbreak</i> , October 2016 available at: http://securemilksupply.org/Assets/SMS-Milk-Movement-FMD-Control-Areas_FINAL.pdf

Iowa State University Animal Industry Report 2018

Milk	Animal	Resource
X		<p>Biosecurity Performance Standards (BPS) for Raw Milk Collection and Transport: Recommended BPS for dairy premises, milk haulers, and dairy processing plants to implement to reduce the chance of spreading FMD via milk trucks/tankers and haulers/drivers.</p> <p>http://securemilksupply.org/Assets/SMS-BPS-Raw-Milk-Collection-Transport-Factors_FINAL.pdf</p>
X		<p>Risk Assessments for Raw Milk Movement: Two proactive risk assessments were conducted that evaluated the movement of raw milk from an FMD infected, but undetected, dairy premises during an outbreak. The first report identified areas of risk that could result in further spread of FMD virus under current industry standards (no additional mitigations or restrictions in place). The second report evaluated the effectiveness of the BPS for Dairy Premises, Milk Haulers, and Dairy Processing Plants to mitigate the risk. A summary of results is available at: http://securemilksupply.org/Assets/SMS-Proactive-Risk-Assessments-Results-Summary.pdf</p>
X	X	<p>Animal Surveillance: Designated dairy operation personnel should be trained in Active Observational Surveillance (AOS) for routinely monitoring cattle for potential signs of early FMD virus infection during an outbreak. This is another assurance to other producers, processors, and Responsible Regulatory Officials that they are not contributing to the spread of disease nor putting their own animals at risk of exposure. AOS training materials and a record keeping system to track observations, milk production, and feed consumption data are available in English and Spanish at: www.securemilksupply.org</p>
X	X	<p>Enhanced Biosecurity: Existing biosecurity plans for dairies may offer protection against endemic diseases but heightened precautions are needed for FMD. Enhanced biosecurity recommendations in the <i>Self-Assessment Checklist for Enhanced Dairy Biosecurity</i> are based on the known exposure routes for FMD. Writing an operation-specific enhanced biosecurity plan and training individuals before an FMD outbreak occurs provides the best chance to prevent animals on the operation from being exposed once fully implemented.</p> <ul style="list-style-type: none"> • Self-Assessment Checklist for Enhanced Biosecurity for FMD Prevention • Information Manual for Enhanced Biosecurity for FMD Prevention • Enhanced Biosecurity Plan Templates: <ul style="list-style-type: none"> ○ Fillable Word document ○ Write in • Enhanced Biosecurity Information Manual Logs
X		<p>Permit Guidance: In the event permits are needed to move milk, documents are available for those needing to navigate the permit requesting or issuing process.</p> <p>Regulatory Officials Dairy Producers Milk Haulers Milk Processors</p>

Secure Milk Supply Plan In the Event of a Foot and Mouth Disease Outbreak



What is the Secure Milk Supply (SMS) Plan?

- Provides a workable business continuity plan for dairies that are under movement restrictions but *not infected* with foot and mouth disease (FMD)
- Offers movement guidance for producers, haulers, processing plants, and officials managing the outbreak
- Provides biosecurity and surveillance tools for producers

Business Continuity

Biosecurity

How will the U.S. respond to a Foot and Mouth Disease (FMD) outbreak?

- Response will focus on stopping the spread of this animal disease
- Control Areas will be set up around FMD infected and surrounding farms
- Movement restrictions will be put in place for animals and animal products (milk!) in Control Areas

Movement Guidance

Surveillance

Why is the Secure Milk Supply Plan needed?

- Help dairies in Control Areas whose cattle have no signs of FMD continue to move milk
- Limit milk disposal problems and lost income for dairies, haulers, processors, and grocers
- Maintain the supply of milk and milk products to consumers because FMD is not a public health or food safety concern

How can you voluntarily participate in the Secure Milk Supply Plan?

- Contact your State Animal Health Official to request a Premises Identification Number (PIN)
- Visit the Secure Milk Supply website securemilksupply.org
- Develop your dairy's SMS Plan using the materials available in English and Spanish

