Secure Milk Supply Plan

Training and Implementation of Biosecurity and the Line of Separation Concept

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Importance of FMD in Dairy Cattle

• Animal health issue: Cows can shed FMD virus in milk before showing clinical signs

• Standard milk pasteurization (HTST) and some cheese processing times and temperatures used in U.S. not sufficient to completely eliminate FMDv from dairy products
  – No research on higher times/temps ability to inactivate FMD virus

• **FMD is not a public health or food safety concern**
Secure Milk Supply Plan

• **Initial Goal**
  – To *maintain* milk movement from dairy farms with no evidence of infection in a Foot and Mouth Disease (FMD) outbreak and to provide a continuous supply of wholesome milk and milk products for consumers

• **Continuity of Business Planning**

• **Voluntary**
National Partners

Industry
• Working groups, topic experts

Academia
• Iowa State University
• University of California, Davis
• University of Minnesota

USDA-APHIS-VS
• National Preparedness and Incident Coordination Center (NPIC)
• Centers for Epidemiology and Animal Health (CEAH)

Regional Partners

• California
• Colorado
• New England States Animal Agricultural Security Alliance (NESAASA)
  – CT, MA, ME, NH, RI, VT
• Mid-Atlantic States
  – VA, MD, TN, NC, SC, DE, WV, NJ, NY, PA, GA, OH
• Michigan
• Pacific Northwest
  – WA, OR
• WI, MN

Quarterly partner calls facilitate coordination, collaboration and information sharing
### Diversity of Milk Production Among SMS Regional Partners, 2015

#### Pacific NW
- Total number of milk cows: 402,000
- Total number of farms (2014)*: 730
- % total U.S. milk production: 4.5%

#### California
- Total number of milk cows: 1.8 million
- Total number of farms (2014)*: 1,485
- % total U.S. milk production: 20.1%

#### Colorado
- Total number of milk cows: 146,000
- Total number of farms (2014)*: 120
- % total U.S. milk production: 1.8%

#### Wisconsin
- Total number of milk cows: 1.3 million
- Total number of farms (2014)*: 10,290
- % total U.S. milk production: 14.3%

#### New England
- Total number of milk cows: 207,900
- Total number of farms (2014)*: 1,575
- % total U.S. milk production: 2.0%

#### Mid-Atlantic
- Total number of milk cows: 1,766,000
- Total number of farms (2014)*: 17,320
- % total U.S. milk production: 18.3%

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**Sources:**
- Hoard's Dairyman. Equal Influences grew U.S. milk production; March 10, 2016; page 156.
The dairy industry (producer and processor) business flow is complex.
Tools for Control of FMD

• Stop Movement
• **Biosecurity**
• Stamping Out
  – Slaughter of all clinically affected and in-contact susceptible animals (within 24 hours or as soon as possible)
• Trace back/Trace forward
  – 2 incubation periods prior to outbreak (OIE incubation period for FMD is 14 days)
• Rapid Diagnostics
• Vaccination
  – Vaccinate to kill/Vaccinate to live
SMS Biosecurity Performance Standards (BPS)

• BPS for Raw Milk Collection and Transport
  – Goal: Mitigate the spread of FMD virus by milk trucks, haulers/drivers

• Guidelines for
  – Decision makers
  – Dairy premises owners
  – Haulers/drivers
  – Processing plant personnel
Line of Separation (LOS)

• A clearly identified boundary around or within a dairy premises to separate off-farm from on-farm movements of vehicles, people and animals

• Purpose: Prevent movement of FMDv onto or off of a premises

• Only cross LOS through an LOS access point following appropriate biosecurity measures
LOS Access Point(s)

• Designated areas where vehicles, people, equipment or supplies cross LOS

• Movement through LOS access point in either direction requires instituting appropriate biosecurity measures

• Movement of **vehicles, equipment and supplies** across the LOS requires an operational C&D station at access point

• Movement of **people** through LOS access point(s) requires specific biosecurity attire
LOS Around Entire Dairy
Line of Separation Options for Milk Collection

- Milk house OUTSIDE LOS
- Transfer hose crosses LOS
- Milk tanker crosses LOS
Milk House OUTSIDE LOS

- Hauler wears gloves, protective footwear
- Farm staff C&D milk house surfaces after collection
Critical control point: Transfer hose
Hauler does not cross LOS – Wears gloves, footwear
Farm staff meet licensed weigher/sampler requirements
Milk Tanker Crosses LOS
Examples
Dairy Example 1

- Milking over 1500 cows
- Cheese manufacturing plant on site
  - Public sales (visitor traffic)
  - On- and off-farm milk processing (seasonal)
- 28 Employees
- Ship 1.5 to 2 loads of milk per day
  - Single loads to processing plant
  - Dedicated milk hauler
  - Truck mounted hose
    - Different hose at plant
    - Sanitized daily
  - Shared drive path to milk house
Inputs and Outputs

• Daily
  – Feed (in and out)
    • Dedicated feed trucks in outbreak
  – Raw milk from other dairies (seasonal)

• Weekly
  – Springing heifers
  – Garbage
  – Fuel

• Propane monthly, deads composted on site... other?
Dairy Example 1

1. Cheese Plant
2. Visitor Center
3. Event Center
4. Feed
5. Calf Barn
6. Milk House/Parlor
7. Lactation Barn 1
8. Lactation Barn 2
9. Lactation Barn 3
10. Lactation Barn 4
11. Dry Cows
12. Close-Up Cows/Weaned Calves
Dairy Example 1: LOS 1
(closer look at C&D station)
Dairy Example 1: LOS 2
Dairy Example 1: LOS 2
(closer look at C&D station)
Dairy Example 2

• Milking 100 cows
• Owner plus 2 employees
  – Owner licensed milk hauler
• Milk picked up daily
  – Shared load tanker with 1+ other farm
• Inputs
  – Silage, hay across road, mix feed 2x/day
  – Weekly feed deliveries
    • Grain bins near road
  – Bi-weekly fuel deliveries
Milk tanker pulls in next to milk house

Feed (silage, hay) across road from dairy

Shared public road between dairy and feed
Dairy Example 2: LOS
Dairy Example 2: LOS
(Milk house outside LOS)
Biosecurity Tools and Training

- **Self-Assessment**
  - Whole farm biosecurity focused on preventing FMD virus entry

- **Biosecurity Officer**
  - Write the plan with assistance of veterinarian
  - Serve as point person on farm to oversee training, implementation, authority to ensure compliance

- **Training**
  - 9 additional areas

- **Biosecurity Officer Information Manual**
Written Operation-Specific Plan

- Standard Operating Procedures (SOPs)
- Contingency Plans
  - Periods of no movement
  - Animals, feed, etc.
  - Inclement weather
  - Other

DAIRY FARM STANDARD OPERATING PROCEDURES (SOP) TEMPLATES

Standard Operating Procedures (SOP) are a set of fixed instructions or steps for carrying out a given operation. These instructions are designed to allow milk to move while controlling the spread of IAD. All individuals who implement or verify implementation of the SOP for the M-A-SMS must have satisfactorily completed training. Below are template SOPs that can be customized to each dairy premises.

Farm Premises: Appointment of a trained Biosecurity Officer (Farm owner or Farm Manager) is required. It is the responsibility of the Biosecurity Officer to verify and document that all trained farm personnel adhere to the SOP.

Farm Premises Plan: M-A-SMS consultants, in collaboration with farm management, will determine the best farm premises plan for the farm. Exact adherence to each SOP is required.

Establish the Line of Separation (LOS) and Controlled Access Points

1. Set up permanent or temporary barriers indicating LOS and hang sign(s) on each gated entrance (Cross Only at Biosecure Entry Point). Include contact information on sign(s) and tenure access point(s) immediately upon entry/exit.
2. Establish Vehicle/Equipment Controlled Access Point:
   a. Prevent off-farm vehicles from driving in that area
   b. Allow sufficient room for farm-dedicated vehicles/personnel to access
   c. Set up fence posts/ropes and signs guiding employees and traffic to designated entrance
   d. Hang sign (Cross only at Biosecure Entry Point)
3. Set up G&O wash station for all vehicles crossing the LOS (see section below)
4. Establish Employee Controlled Access Point (Cross Only at Biosecure Entry Point):
   a. Set up fence posts/ropes and signs guiding employees to designated entrance and post sign: NOTICE Biosecure Entry Ahead (Employee Only)
   b. Designate an entry area (building, gated area, etc.)
   c. Post sign: STOP Biosecure Policy Clean Dressed & Grooming Required (English and Spanish)

Non-Employee Vehicles Entering Operation

Log: Farm Visitor Log

1. Biosecurity Officer (appointed management) supervises all entry to farm, restricts movement at controlled access points and collects all information for documentation on the Farm Visitor Log. Log shall be available for review by the State Veterinarian’s office and maintained for duration of the event
2. Close controlled access point immediately after permitted entry
Training Materials

Signage
- Do Not Enter - Cross only at Biosecure Entry Point
  - English/Spanish
- Biosecure Entry Ahead
  - English
  - Spanish
- Stop - Biosecure Entry Point
  - English
  - Spanish
- Wear PPE - Clean and Disinfect
  - English
  - Spanish
- Do Not Enter - Milk Collection Occurring
  - English
  - Spanish
- Entry Permitted - Cleaning and Disinfection Complete
  - English
  - Spanish

Contact Us »
• Farm activities
• Visitors with cattle contact
• Visitors without cattle contact
• English and Spanish
• Dairy and Beef
Thank you!

Questions?