

Secure Milk Supply (SMS) Plan

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Overview

- Foot-and-mouth disease (FMD)
- FMD Response Plan
 - Continuity of business planning
- Secure Milk Supply (SMS) Plan
 - Partners
 - Project components
 - Documents
- Next steps

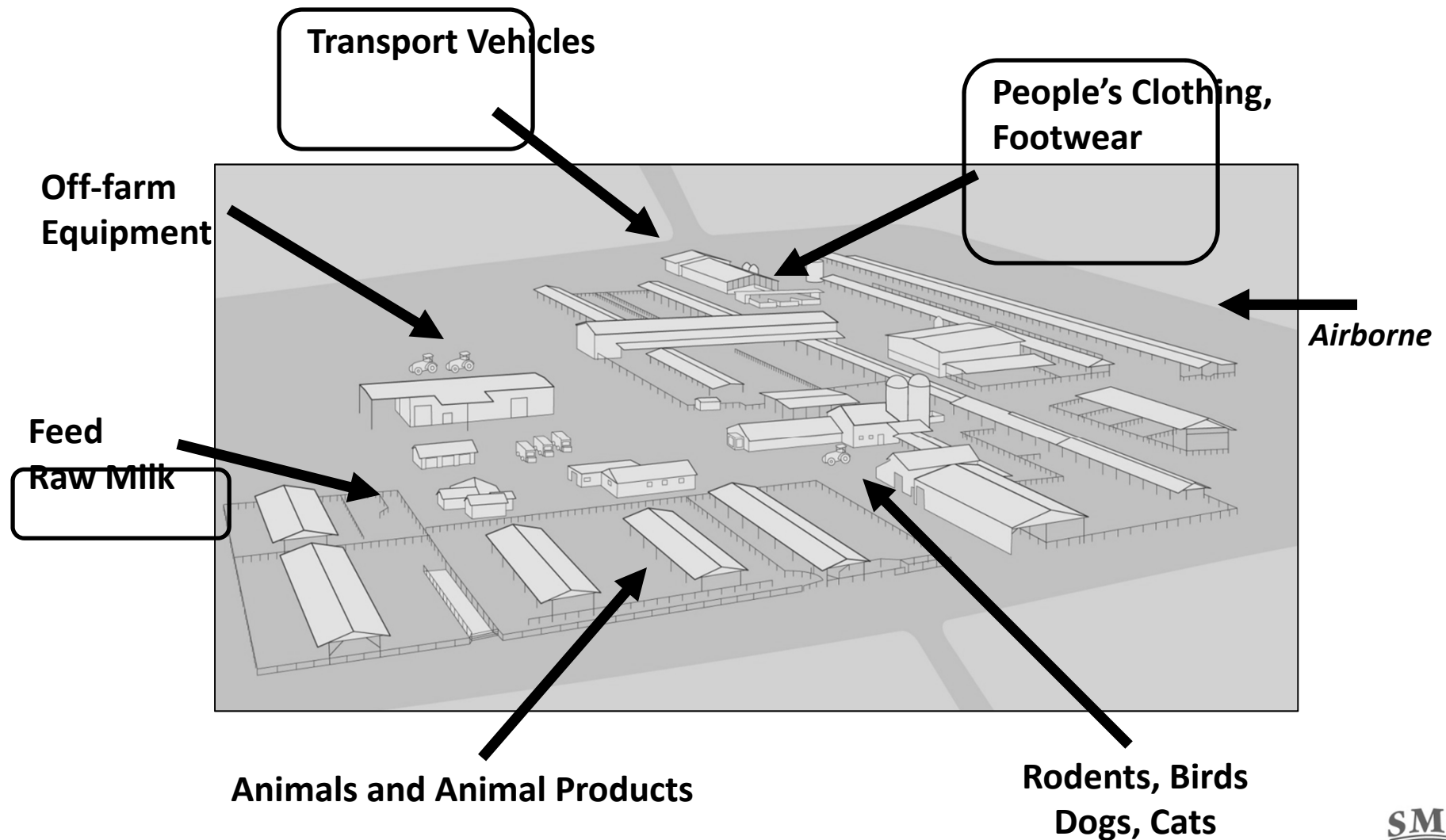


FMD Virus in Dairy Products

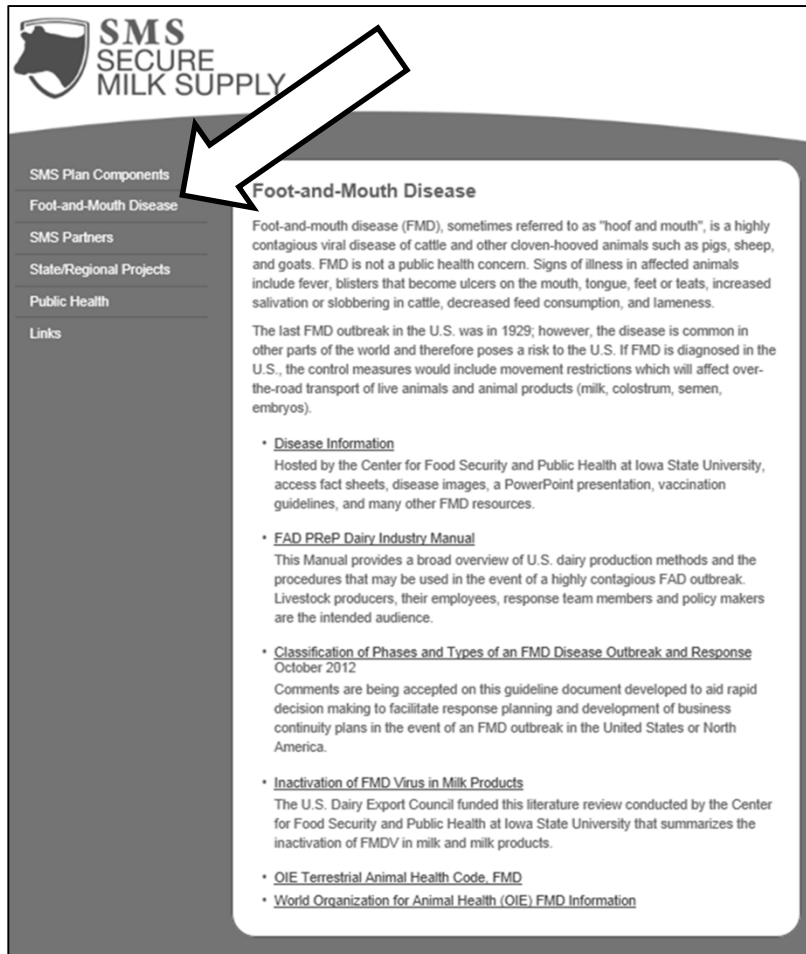
- Shed in milk
- Single HTST pasteurization does not completely inactivate it
 - Low levels of virus if milk pH above 7.0
- Traditionally zero tolerance despite no public health risk
- Trade partners (OIE), other industry lack of acceptance



FMD Entering/Leaving a Dairy



www.securemilksupply.org



- FMD Info
- Dairy Industry Manual
- Phases and Types
- Inactivation of FMDV in dairy products
- OIE resources

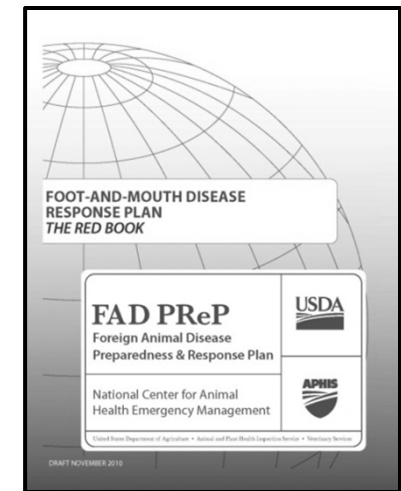


National FMD Response Planning and Preparedness

Continuity of Business (COB) Planning

USDA FMD Response Plan

- Response Goals (4.1)
 - Detect, control, contain FMD in animals as quickly as possible
 - Eradicate FMD using strategies that stabilize animal agriculture, food supply, economy, protect public health
 - Provide science- and risk-based approaches and systems that facilitate continuity of business for *non-infected animals* and *non-contaminated animal products* **(MILK)**



www.aphis.usda.gov/animal_health/emergency_management/downloads/fmd_responseplan.pdf

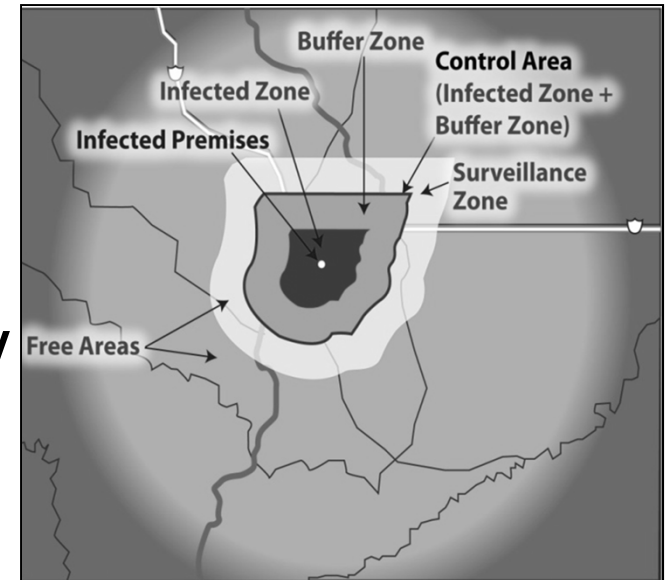
First 72 Hours of FMD Outbreak

Figure 4-1. Critical Activities in the First 72 Hours of a U.S. FMD Outbreak



USDA-APHIS FAD PReP FMD Movement Guidelines

- Establish FMD Control Area
 - Infected and Buffer Zone
 - Federal quarantine
 - Movement by permit and risk assessment only
 - Movement controls in place until FMD eradicated



Continuity of Business (COB) Planning

- Minimize unintended negative effects of disease and disease response, while achieving response goals
 - Control or eradicate disease without “destroying” the industry
- Provide risk-based solutions derived from scientific data, national and international standards
 - Mitigate unintended consequences of FAD response on agriculture, food industries, consumers, and communities



Secure Milk Supply (SMS) Plan – Partners

National SMS Partners

Academia

- Iowa State University, Center for Food Security and Public Health
 - Jim Roth, DVM, PhD, DACVM
 - Danelle Bickett-Weddle, DVM, MPH, PhD, DACVPM
- University of California, Davis
 - Pam Hullinger, DVM, MVPM, DACVPM
- University of Minnesota, Center for Animal Health and Food Safety
 - Tim Goldsmith, DVM, MPH, DACVPM
 - Sarah Easter-Strayer, DVM

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USDA-APHIS-VS

- Centers for Epidemiology and Animal Health (CEAH)
 - Tim Clouse, MA
 - Kristen Johnson, DVM, MS
- National Center for Animal Health Emergency Management (NCAHEM)
 - Jon Zack, DVM
- Provides funding to Partners

Industry

- Working groups
- Topic experts



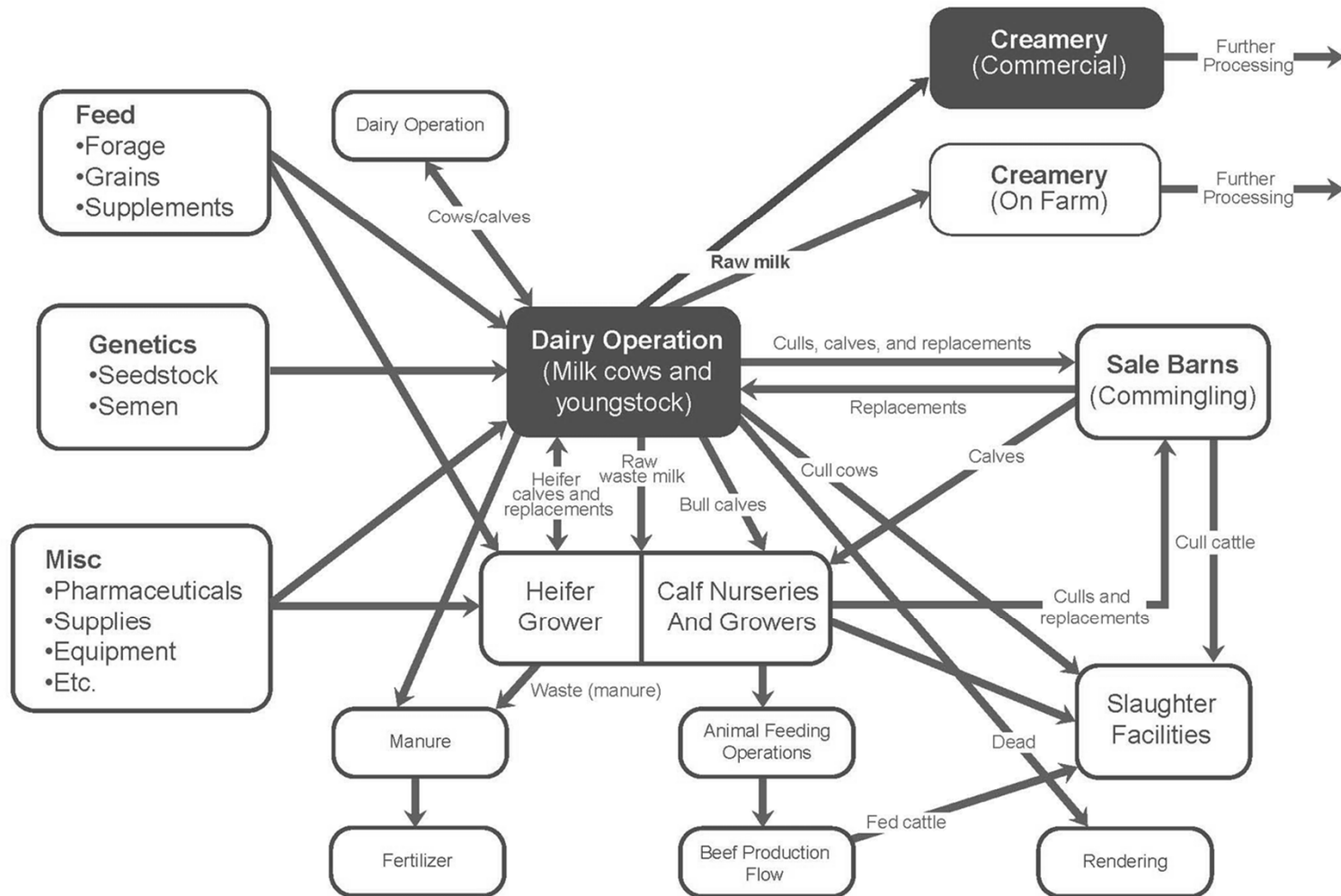
State/Regional SMS Partners

- North Carolina – Dairy biosecurity workgroup
 - New England States Animal Agricultural Security Alliance (NESAASA) – Six NE states
 - SMS-Wisconsin
 - Coordinated by the Wisconsin Milk Marketing Board
 - Mid-Atlantic states
 - VA, MD, TN, NC, SC, DE, WV
 - California
 - Colorado
 - New York, New Jersey, PA
 - Pacific Northwest
 - Texas
-
- Quarterly coordination calls



Secure Milk Supply (SMS) Plan – Components

The dairy industry (producer and processor) business flow is complex



Secure Milk Supply Plan

- **Initial Goal**

- To maintain milk movement from dairy farms with no evidence of infection in an FMD outbreak and to provide a continuous supply of wholesome milk and milk products for consumers

- **Initial Focus**

- Milk trucks



Working Groups

1. Biosecurity (sunsetted)

- Premises, Milk hauler (transport), Milk processing
- Final 'drafts' January 2012

2. Milk movement

- Proposed decision matrix for Incident Management Team, Draft recommendations

3. Cleaning & disinfection

4. Risk assessment



Biosecurity Performance Standards

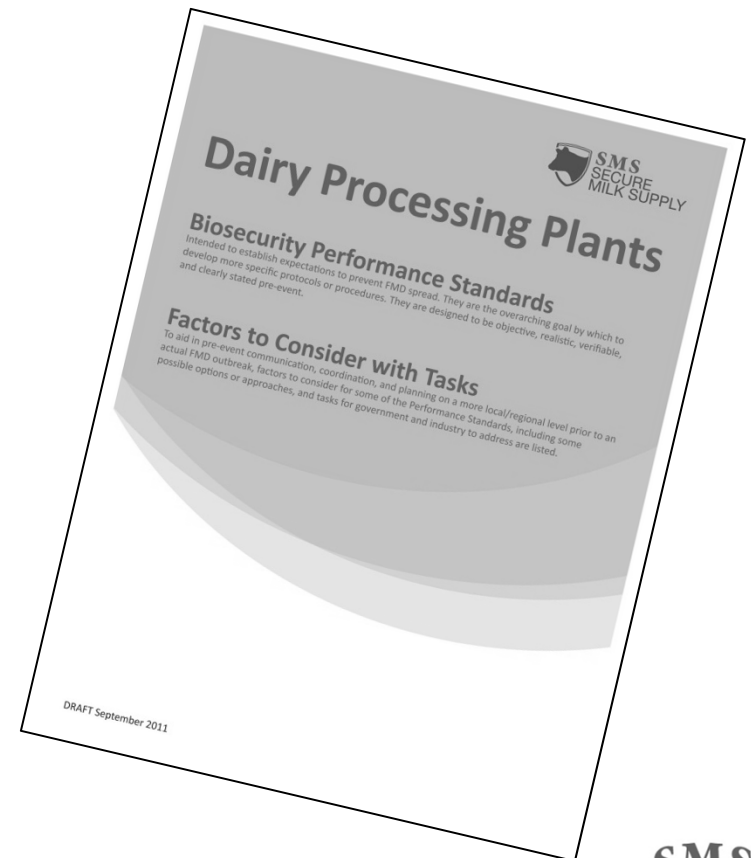
Biosecurity Practices during FMD Outbreak

- Goal is to reduce the risk of FMD:
 - Entering a dairy operation,
 - Being transmitted off infected, undetected farms, and
 - Contaminating processing prior to pasteurization



Biosecurity Documents

- Premises, hauler, processing
- Standardized language based on input
 - Purpose
 - Intended Audience
 - Scope
 - Info about FMD
 - Terminology
 - Cleaning and Disinfection
 - Approved Disinfectants



Biosecurity Performance Standards

- Establish *expectations* to prevent FMD spread
- Overarching goal by which to *develop more specific* protocols or procedures
- Developed by *members* of various SMS Plan Biosecurity Working Groups
- Designed to be objective, realistic, verifiable, and clearly stated *pre-event*



Example BPS: Processor Document

(Jan 2012)

3.4.3 After off-loading milk, the performance standard is to ensure no residual raw milk in the tanker and hoses leaks upon leaving the receiving bay at the processing plant:

3.4.3.1 The Pasteurized Milk Ordinance (PMO) requires CIP of milk tankers once every 24hr period when in use.

3.4.3.2 In absence of full CIP or performing a sanitary rinse of the tanker after each off-load, all access points to raw milk on tanker should be completely sealed to prevent leaking.

- Complete CIP of the tanker after each off-load may not be possible in many situations (lack of CIP equipment, lack of waste water permits, lack of off-loading capacity for incoming loads, etc.).
- Sanitary rinse may not be possible due to lack of permit

General Procedures – More Specific
Guidance Needed



More Specific Guidance

- Dependent upon resources, climate, capabilities, scope of outbreak
- Establish expectations
 - State agencies, industry
- Verification, confidence in protocols
- Next steps for states, industry, C&D working group...

Slowed Movement

Recognize implementation
and verification of biosecurity
performance standards (BPS)
is going to impact the
speed of product movement



Milk Movement Working Group

Decision Support Tools
Permitting Resources

Movement Workgroup

- Developing tools to facilitate movement and permitting decisions
 - Decision matrix by phases of an outbreak
 - Biosecurity, surveillance, OIE standards
- Need a robust, scalable, fully functional permitting system in place
 - Without traceability in place, a permitting system will take more time



Phases and Types of FMD Outbreaks



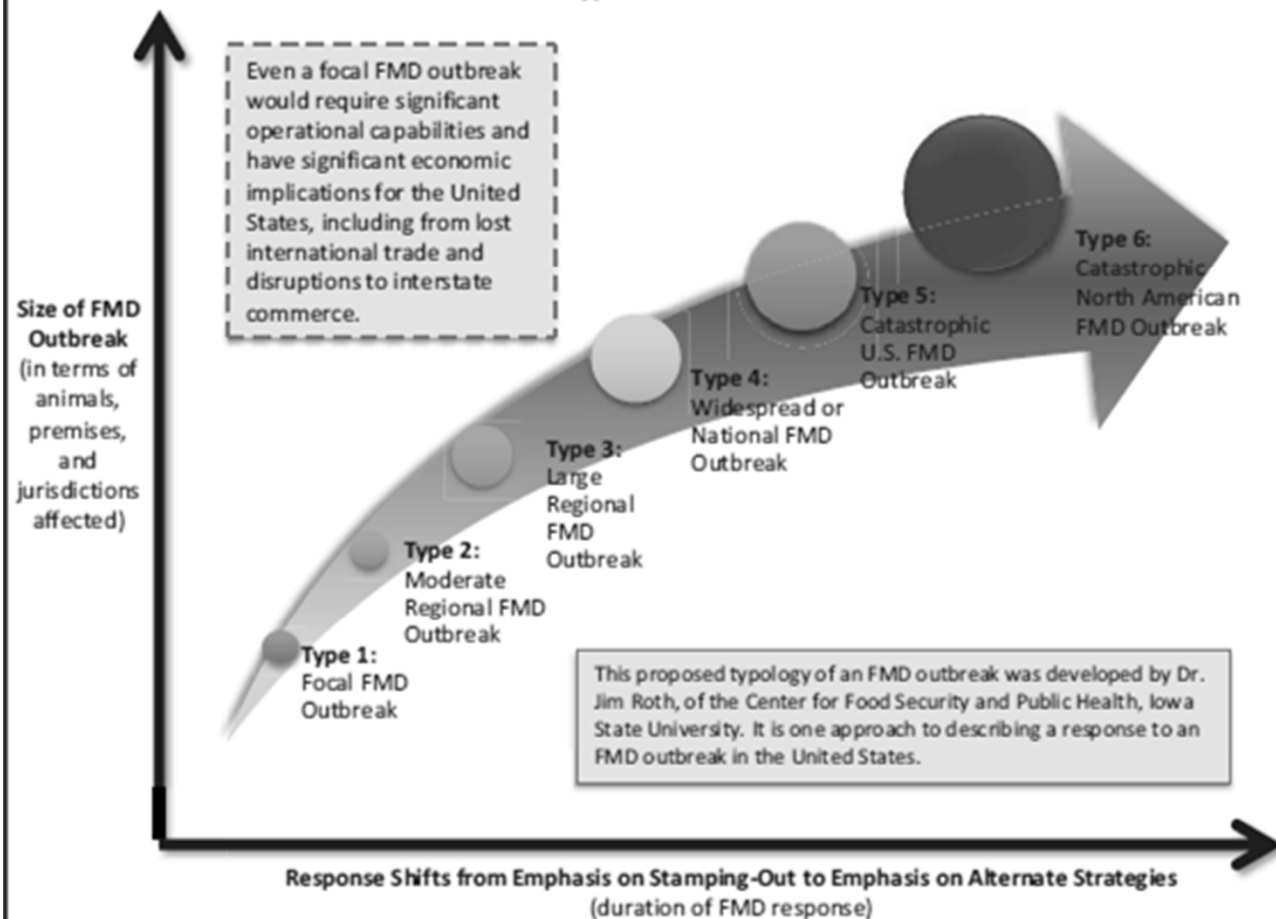
Overview of Phases and Types of FMD Outbreaks

An FMD outbreak in the United States will be a complex event. Having pre-defined phases and potential types of an FMD outbreak may be useful to facilitate the development of adaptable emergency response plans and processes. This information is intended to be guidance, acknowledging that any FMD outbreak will be unique and responders will need to tailor the response accordingly. The phase and the type of the FMD outbreak will change over the course of the outbreak.

Phase: A temporal stage in FMD outbreak response.

Type: A categorical measure of magnitude of an FMD outbreak.

Six Types of FMD Outbreaks



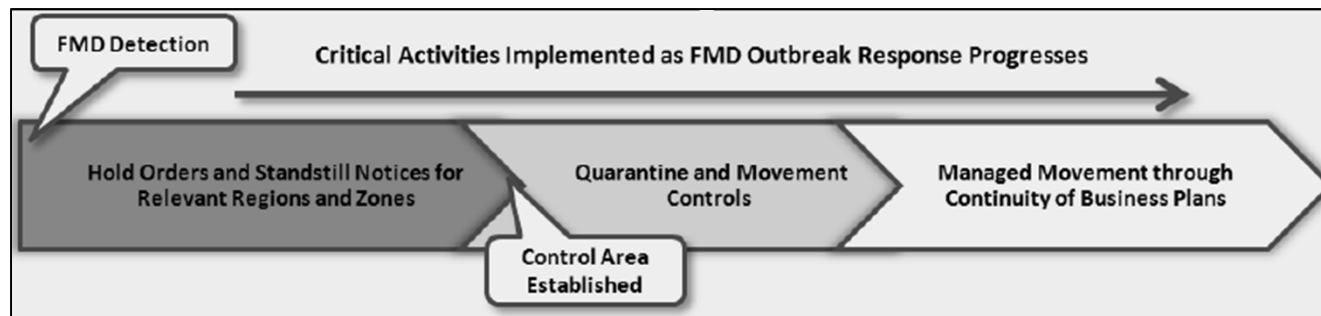
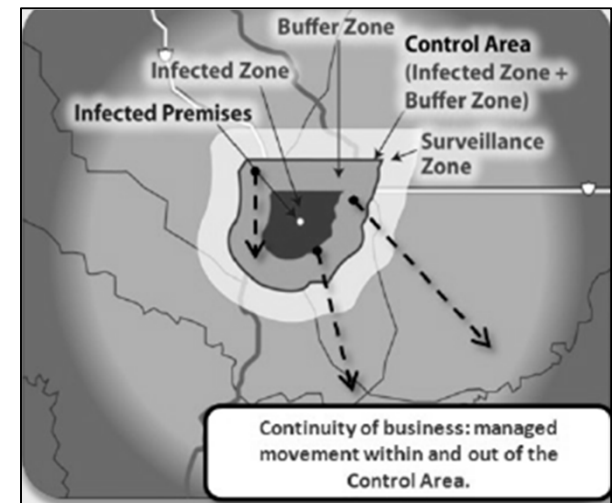
Phases of FMD Response



USDA-APHIS FAD PReP FMD Movement Guidelines

- Establish FMD Control Area

- Infected and Buffer Zone
- Federal quarantine
- **Movement by permit, risk assessment only**
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Example Decision Matrix

Milk Movement Permit Decision Matrix in the Event of an FMD Outbreak									
(Example) Phase 2: Type 4 - Widespread or National FMD Outbreak									
Premises Designation		Increased Premises Biosecurity*	Increased Milk Truck Biosecurity*	Increased Milk Plant Biosecurity*	Active surveillance for absence of clinical signs **	Multiple Farm Loads per Truck Allowed	Permit to Treat to OIE Standards		
							in Control Area	out of Control Area	
Control Area									
Infected premises	No milk movement								
Contact premises		Yes	Yes	Yes	Yes	No	OK	No	
Suspect premises	No milk movement								
At risk premises		Yes	Yes	Yes	Yes	No	OK	No	
Monitored premises		Yes	Yes	Yes	Yes	Yes	OK	OK	
Vaccinated premises (14 days post vac)		Yes	Yes	Yes	Yes	Yes	OK	OK	
Free Area***									
Free Premises in surveillance zone		No	No	No	Yes	Yes	OK	OK	
Free Premises not in surveillance zone		No	No	No	No	Yes	OK	OK	
* Milk truck biosecurity, premises biosecurity, and milk plant biosecurity will all be increased in the event of an FMD outbreak. The increased biosecurity needs to be defined.									
** Active surveillance for absence of clinical signs needs to be defined.									
*** Even though it may not be required for milk movement, all livestock operations in the U.S.should implement FMD specific biosecurity plans and continue until freedom from FMD is re-established.									

- ISU working on computerized mock-up
- Above Yes/No are just examples



OIE Article 8.5.38: Milk/Cream for **Human** Consumption

- One of the following procedures should be used to inactivate FMDv:
 1. Sterilization process applying a minimum temperature of 132°C (270°F) for at least 1 second (UHT), -OR-
 2. Milk with pH less than 7.0, sterilization process applying a minimum temperature of 72°C (162°F) for at least 15 seconds (HTST), -OR-
 3. Milk with pH of 7.0 or over, the HTST process applied twice

OIE Article 8.5.39: Milk for **Animal** Consumption

- One of the following procedures should be used to inactivate FMDv:
 1. HTST process applied twice;
 2. HTST combined with another physical treatment
 - Maintaining a pH 6 for at least 1 hour or
 - Additional heating to at least 72°C (162°F) combined with desiccation;
 3. UHT combined with another physical treatment referred to in point 2 above

Draft Recommendation

- Milk processors should be asked to provide evidence that their processing procedures meet the World Organization for Animal Health (OIE) Terrestrial Animal Health Code 2011 requirements for the inactivation of the FMD virus in milk and milk products for human consumption and for the inactivation of the FMD virus in milk and milk products for animal consumption.
- Audit next...

Draft Recommendation (cont'd)

- The procedures should be subject to audit by appropriate authorities
 - Those processors whose procedures meet OIE standards would be issued a certificate by the SAHO indicating that they may continue to process milk from farms within a Control Area which have no evidence of FMDV infection during an FMD outbreak (with appropriate biosecurity at the processing plant).
 - If processor standard procedures do not meet OIE requirements, they may propose to implement new procedures which meet OIE standards in the event of an FMD outbreak.
 - These processors could be issued a certificate which would allow them to continue to process milk if they immediately implement the new OIE compliant procedures in the event of an FMD outbreak.

Risk Assessment Working Group

Pro-active Risk Assessments

- Scope:
 - Assessment of the risk associated with the movement of raw Grade A milk into, within, and outside of a Control Area during a FMD outbreak prior to processing
- First step: Normal dairy operations and risk of FMD virus spread from infected, undetected farms
 - Bioaerosol risk from tankers



Risk Assessment Update

- Final draft of baseline risk assessment (RA) has been completed
 - Undergoing technical editing
- Working Group monthly conference calls, 3rd Tuesday
 - Address results of RA in conjunction with the applicable BPS
 - Dairy premises, hauler, processing plant
 - Industry, regional SMS groups, Federal/State officials, academic partners



RA Working Group Goals

- Determine if identified risk pathways from the RA are addressed by BPS
- Estimate risk reduction with implementation of BPS
- Identify potential gaps and provide science-based input into development of specific mitigations or SOPs
- Address other concerns raised by the group
- Develop document that provides additional information to consider in development of regional emergency response plans



Participating in the Working Groups

1. Cleaning & Disinfection

- Danelle dbw@iastate.edu

2. Milk Movement

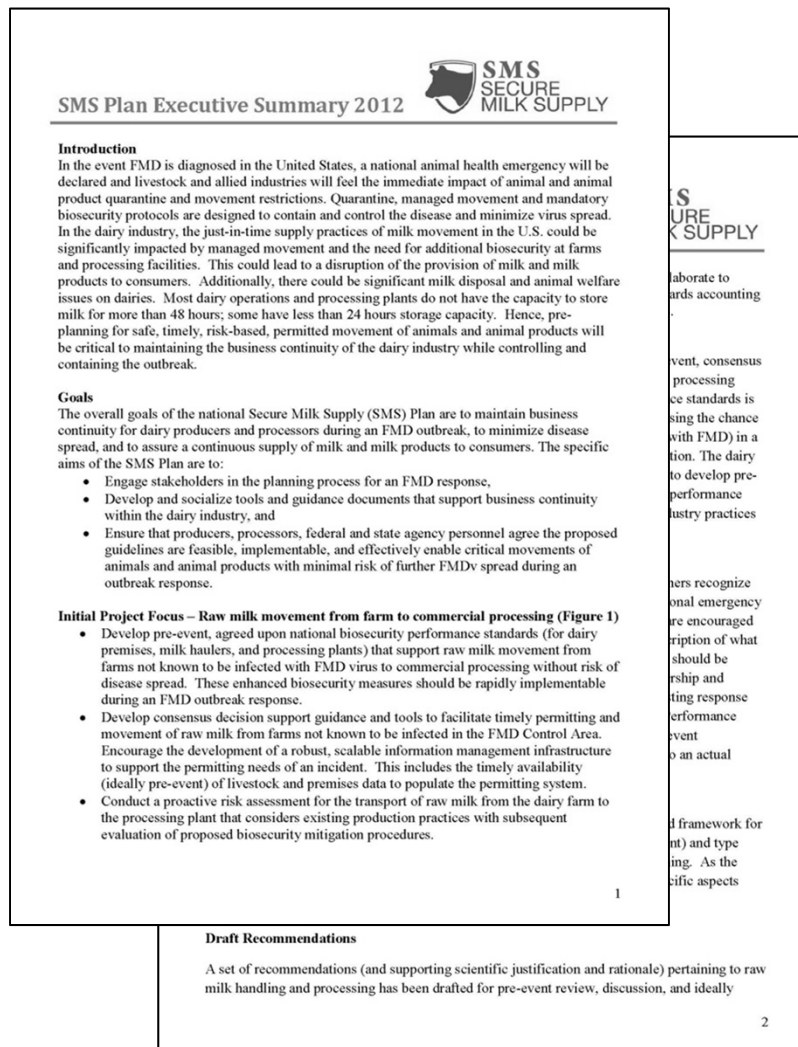
- Jim Roth jaroth@iastate.edu or
- Pam Hullinger phullinger@ucdavis.edu

3. Risk Assessment

- Sarah Easter-Strayer easte068@umn.edu

- Industry & Government partners essential
- Draft guidance shared with USDA-APHIS, States, informs risk assessments

Executive Summary 2012



- 4 page doc overview
- 80 page doc
 - BPS
 - Factors to consider
 - Phases and Types
 - Decision matrix
 - Draft recommendations



Next Steps

Next Steps

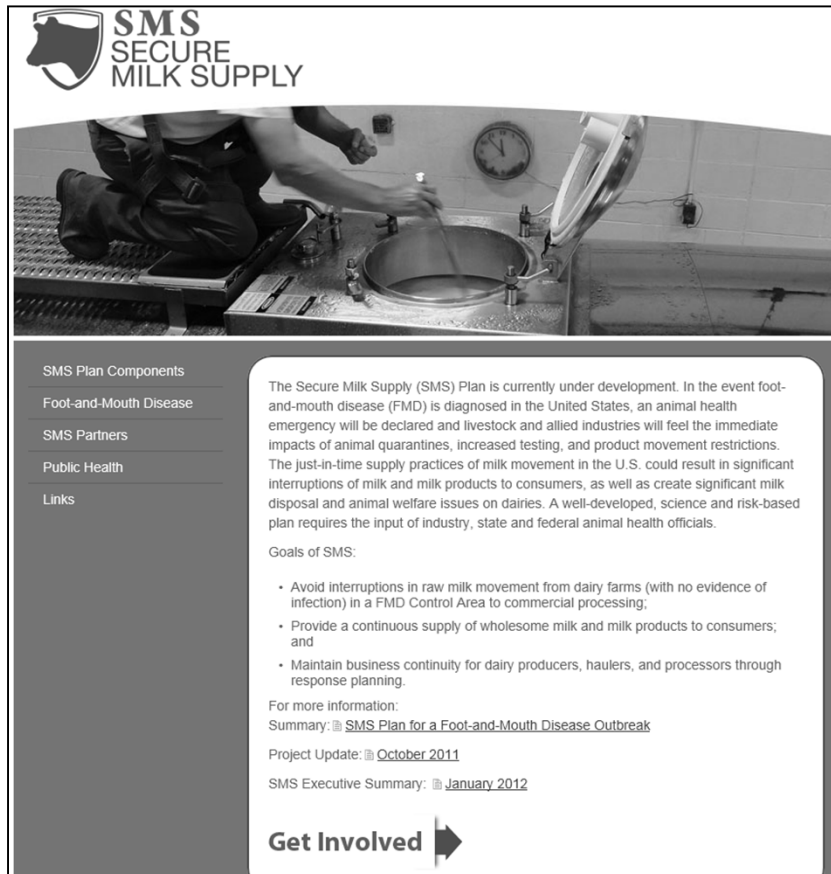
- Movement guidance
 - Active observational surveillance tools
 - “Phases and Types” out for comment
- Cleaning and disinfection
 - Help establish options for local SOPs
 - Citric acid exemption from EPA
 - Working with USDA-APHIS
- Risk assessment
 - Discuss mitigation steps with WG

Next Steps (cont'd)

- Support state/regional plan development
- Gain acceptance
 - Local, state, tribal, national government agencies
 - Agriculture, food sectors
 - International trading partners
 - Civil, consumer, environmental organizations
- Maintain, exercise and update plans so they remain current



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- Project updates
- Working group info
- Partner information
 - Contact information
- FMD info
- BPS documents are NOT posted due to 'draft' status

