New England Secure Milk Supply Project Update 2014

by Richard Horwitz for the
Northeast U.S. Animal Health Association Meeting
Portland, Maine – May 12, 2014
Exercise of the New England Secure Milk Supply Plan

Concord, New Hampshire – May 19, 2013
Action Plan for a Permits Group in Regional FMD Response

Drafted by Richard P. Horwitz, Consultant for the NESAA SA FMD-Response Exercise
In Concord, NH, May 9, 2013

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Homeland Security Exercise and Evaluation Program (HSEEP)
After Action Report/Improvement Plan
New England SMS 2013
(AAR/IP)

New England SMS 2013
May 9, 2013

AFTER ACTION REPORT/IMPROVEMENT PLAN
SEP. 27, 2013

On-line at NESAA SA.weebly.com
Exercise Follow-up:
Progress in Readiness Reviews
for the
New England Secure Milk Supply (SMS) Project

by
Richard P. Horwitz, Ph.D.
Consultant

Prepared for the
United States Department of Agriculture,
Animal and Plant Health Inspection Service (USDA-APHIS)
and
the New England Animal Agricultural Security Alliance (NESAASA)
under
Cooperative Agreement Number 13-9644-1245CA (FFY 2013)

February 26, 2014

On-line at NESAASA.weebly.com
New England as a Jurisdiction for SMS
New England Remains an Appropriate “Region” for SMS

A larger jurisdiction – the “Northeast” or AMS “Federal Order 1” – is conceivable but so far unattractive to New England for reasons of regional biosecurity, readiness, and representation.

The case remains strong for a six-state approach to supporting continuity of dairy operations in an animal-disease emergency.
Current Biosecurity Readiness of NE Dairy Farms

Number of Farms by Readiness Rating

Readiness Rating Stats

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.593</td>
</tr>
<tr>
<td>Median</td>
<td>0.603</td>
</tr>
<tr>
<td>Mode</td>
<td>0.607</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.134</td>
</tr>
<tr>
<td>Range</td>
<td>0.901</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.045</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.946</td>
</tr>
<tr>
<td>Count</td>
<td>991</td>
</tr>
</tbody>
</table>
Main challenge: Increase Farm Readiness
Exercise Follow-up:
Policy toward Dairy Farms with Swine
in the
New England Secure Milk Supply (SMS) Project

by

Richard P. Horwitz, Ph.D.
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Prepared for the
United States Department of Agriculture,
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Cooperative Agreement Number 13-9644-1245CA (FFY 2013)

April 7, 2014
Conclusions

• Pigs themselves need not be considered crucial to the economic viability of dairying in New England.
  
  • The vast majority of dairy farms in the region (nearly 90%) have no pigs, and the remainder have very few.
  • The largest swine herd has barely 50 head, and the average has only 6.
  • These herds could not generate enough income to sustain a commercial dairy farm.

• More crucial for continuity of these operations is dairying itself. Although the share of regional agriculture directly related to dairy operations with swine may seem small, the absolute number of farms and livestock and the amount of food at-risk are striking.

Estimated Impact of Restricted Commerce for Regional Dairies with Swine, January 2014

~ 200 Dairy Farms, with ~ 1,200 pigs, that:
  • Milk ~ 18,000 cows
  • Produce ~ 870,000 pounds of milk per day
  • Care for ~ 50,000 head of livestock.
Conclusions

- Farms with pigs are just as prepared – as ready to implement SMS-mandated biosecurity – as those without them. As a group, they are actually slightly more “Ready” in five of the six states as well as the region as a whole.

<table>
<thead>
<tr>
<th></th>
<th>Average Readiness Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy Farms with Pigs</td>
<td>0.613</td>
</tr>
<tr>
<td>Dairy Farms with No Pigs</td>
<td>0.590</td>
</tr>
<tr>
<td>All Dairy Farms</td>
<td>0.593</td>
</tr>
</tbody>
</table>

- According to most recent research on conditions required for the availability, distribution, and reception of FMD virus, the threat of contagion in New England from dairy farms with pigs should not be expected to be greater than from dairy farms without them.

These findings suggest that the same biosecurity and hence minimum Readiness Rating should be required for permitting milk pickup from New England dairy farms with and without pigs.
Rhode Island Foot-and-Mouth Disease Preparedness Workshop
Scott Marshall and Rich Horwitz
West Kingston, RI - April 25, 2014
Acknowledgment
Materials used in this workshop were developed cooperatively by:

Michael Payne DVM, PhD
Western Institute for Food Safety and Security
University of California – Davis

Pam Hullinger DVM, MPVM, DACVPM
School of Veterinary Medicine
University of California, Davis

Denise Mullinax MS
California Dairy Quality Assurance Program
California Dairy Research Foundation
Agenda

- 11:00 – FMD Basics and Lessons Learned
- Noon – Lunch with discussion
- 12:45 – Plan for FMD Response and Prepare to . . .
- 1:15 – Secure Farm Perimeter
- 1:45 – Clean and Disinfect Traffic
- 2:15 – Monitor Herd
- 3:00 – General Discussion and wind-up
Takeaways

▪ Foot-and-Mouth Disease represents a serious risk to your operation and deserves your attention.

  *The question is not *if* but *when* and *where* FMD will break in the U.S.*

▪ Prospects for your operation to survive an FMD outbreak are very real and greatly improving.

  *The Secure Milk Supply (SMS) project is advancing a regional and national, government and industry partnership to protect the dairy industry.*

▪ Ultimately, the only person who can protect your operation is YOU!

  *Advance on-farm preparation is essential.*
Likely Effects

**Health impact likely harsh but short-term and survivable**
- Morbidity high
- Mortality low
- Drop in productivity

**Economic impact likely severe and persistent.**
- Cost of emergency response
- Export market lost
- Consumer panic
- Lost farm income
## A Tale of Two Outbreaks
... UK vs. Uruguay in 2001

<table>
<thead>
<tr>
<th></th>
<th>UK</th>
<th>Uruguay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle population</td>
<td>≥ 10 million</td>
<td>≥ 10 million</td>
</tr>
<tr>
<td>Sheep population</td>
<td>≥ 35 million</td>
<td>≥ 12 million</td>
</tr>
<tr>
<td>Pig population</td>
<td>≥ 5 million</td>
<td>≥ .3 million</td>
</tr>
<tr>
<td>No. infected herds</td>
<td>2,026</td>
<td>2,057</td>
</tr>
<tr>
<td>No. FMD+ slaughtered</td>
<td>3,910,000</td>
<td>6,937</td>
</tr>
<tr>
<td>Total slaughtered</td>
<td>≈ 10 million</td>
<td>6,937</td>
</tr>
<tr>
<td>Outbreak duration</td>
<td>36 weeks</td>
<td>18 weeks</td>
</tr>
<tr>
<td>No. doses vaccine</td>
<td>0</td>
<td>24 million</td>
</tr>
<tr>
<td>Direct cost</td>
<td>US$ 4.6 B</td>
<td>US$ 13 M</td>
</tr>
<tr>
<td>Total economic impact</td>
<td>&gt;US$ 12 B</td>
<td>&lt;US$ 400 M</td>
</tr>
</tbody>
</table>
What was different?

<table>
<thead>
<tr>
<th></th>
<th>UK</th>
<th>Uruguay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time to diagnosis</td>
<td>Severely delayed</td>
<td>Minimal delay</td>
</tr>
<tr>
<td>Species targeted</td>
<td>Mainly Sheep</td>
<td>Mainly Cattle</td>
</tr>
<tr>
<td>Control strategy</td>
<td>Mass depopulation</td>
<td>Rapidly switched to vaccination</td>
</tr>
<tr>
<td>Biosecurity</td>
<td>Poor initially</td>
<td>Better initially</td>
</tr>
</tbody>
</table>

“Uruguay: 284 infected dairies and NO milk dumped”

Sent to condensed milk processing
Even if due diligence and luck fail . . . . we should not have to resort to the measures of 2001

- Plans for response now anticipate stopping depopulation, once an outbreak is more than local.
- Plans for response now anticipate the use of vaccination.
- National and state government and the dairy industry are united in an effort to sustain dairy operations and consumer confidence.
“On-farm preparation” means . . .

A Secure Perimeter

B Clean & Disinfect

C Monitor Herd Health
Disinfection stations at processing plants and on farms have the same components, but logistics must be tailored to the premises.
IF YOU SEE ...
SI VES ...

Blisters on the tongue
Ampollas en la lengua

Blisters on the mouth
Ampollas en el hocico

Blisters between the toes
Ampollas entre las pezuñas

Blisters on the udder and teats
Ampollas en las tetas

Blisters on the Coronary Band
Ampollas en la zona coronaria

... Tell the boss
... Avisa al jefe
**GO GUIDE**

for responding to an outbreak of Foot-and-Mouth Disease

☐ **1. Review Your FMD Plan and Map**
   Your dairy Foot-and-Mouth Disease Emergency Response Plan (with its maps and SOPs) should contain detailed directions about what you need to do, specifically for your operation.

☐ **2. Close All Entrances to the Dairy**
   The most important thing you can do to protect your herd is to prevent the virus from coming onto the farm. That means closing off all entrances except one for essential traffic, where vehicles must be cleaned and disinfected. Do not allow shipments of livestock to enter or leave your farm.

☐ **3. Set Up Cleaning and Disinfection Station(s)**
   C&I all foot and vehicle traffic, in and out, at the main gate. Remember in the FMD outbreak in the United Kingdom, farms with effective C&I were 80% less likely to contract the disease.

☐ **4. Check Animals For Signs of FMD**
   In order to qualify for a permit to ship milk during a FMD response you will be required to monitor herd health daily and to report suspicious signs.

☐ **5. Contact Your Co-op or Creamery for Further Instructions**
   During an outbreak your co-op and processor will be in close contact with the state and federal animal health officials that will be controlling the response. Producers, haulers and processors that meet biosecurity and surveillance requirements will be issued permits to ship milk.

“The only person who can protect your herd is you, but we have a team and a plan to help you.”
Materials to help farms prepare for an FMD Emergency (With assistance of the California Dairy Quality Assurance Program, the national SMS project, the School of Veterinary Medicine and the Western Institute for Food Safety and Security at the University of California, Davis)

- 1. If you see ... Poster
- 2. To Do List - Go Guide
- 3. Dairy Farm FMD Emergency Response Plan
- 4. Legend and Sample Map for Dairy Farm ERP
- 5. Sign - No Trespassing
- 6. Sign - Emergency Disease Prevention Measures in Effect
- 7. Sign - Stop at Main Gate
- 8. Log for Vehicle Entry Documentation
- 9. C&D Procedure
- 10. Herd Monitoring Daily Log

See also Job Aids in the New England SMS Plan, such as

- 2.01 How to Reduce Risks to Your Farm
- 2.02 How to Spot Clinical Signs of FMD
- 2.03 How to Conduct Active Observational Surveillance: A Guide for Herd Health Monitors
- 2.04 How to Increase Farm Biosecurity - On-line Support
- 2.05 How to Protect Farm Employees During a FMD Outbreak
- 2.06 How Drivers Can Reduce the Risk of Spreading Infection
- 2.07 How to Wash the Exterior of a Milk Tanker
- 2.08 How to Clean and Disinfect FMD Virus
- 2.09 How to Use Boot Baths
- 2.10 How to Communicate with Dairy Consumers about FMD
Work in Progress – Topics for Discussion

- Delivery of permits to producers
- Training and certification of herd health monitors
- Surveillance via testing bulk tanks for FMDv
- Development of vaccine, distribution planning and integration with SMS
- Protocol for keeping tanker driver in the cab
  - Hose hook-up, disconnect, and C&D
  - Measuring and collecting samples from the bulk tank
  - Storage and maintenance of transfer hose on-farm
New York Suppliers, Routes, and Strategies for Continuity of Dairy Commerce in New England

by
Richard P. Horwitz, Ph.D.
Consultant

Prepared for the
United States Department of Agriculture,
Animal and Plant Health Inspection Service (USDA-APHIS)
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Cooperative Agreement Number 13-9644-1245CA (FFY 2013)

January 20, 2014
The ten largest plants together handle:
- 80% of the milk processed in New England,
- 82% of the milk produced on New England dairy farms, and
- 87% of the milk shipped to New England from New York
Origin of NY Supply New England Plants

NY Suppliers to NE Dairy Plants

Source of Most NY Supply to NE

<table>
<thead>
<tr>
<th>Predicted Route to/from New York</th>
<th>Milk Shipped to New England (pounds in September, 2013)</th>
<th>Share of Total NY-to-NE Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-90</td>
<td>85,417,018</td>
<td>67%</td>
</tr>
<tr>
<td>US-2</td>
<td>35,913,912</td>
<td>28%</td>
</tr>
<tr>
<td>I-84</td>
<td>4,491,043</td>
<td>4%</td>
</tr>
</tbody>
</table>

In total, nearly all (99%) of the regional supply of unpasteurized milk from New York can be expected to enter New England by just three roads:
- I-90, crossing into Massachusetts
- US-2, crossing into Vermont
- I-84, crossing into Connecticut
Priorities?

Goal?

- Move the most milk
- Sustaining the largest number of plants
- Fill the most critical needs of particular producers and processors

Strategy?

- NY administer NE SMS Plan in critical counties (“regionalize” in-state)
- NE recruit NY suppliers to accept NE SMS Plan
- Special Accommodation on border-crossing routes
Communications – Fed/Regional/State JIC Exercise

Virtual, Regional FMD Communication Workshop
April 30, 2014, 1-3 PM

Fredric Cantor, DVM, MPH
Emergency Coordinator
SPRS, District 1
Veterinary Services
USDA, APHIS

On behalf of New England States Animal Agricultural Security Alliance (NESAASA)
Fredric.L.Cantor@aphis.usda.gov
508-363-2290

Scenarios-1

1. State reps office wants to know how to respond to constituents asking if the milk is safe to drink?
   - (Questions to stimulate discussion—Which messages should be used? Who would be the lead on this response? Who would they need to consult? How would they coordinate with other stakeholders? Which ones? What resources should they use? What messages would the department of health be willing to post on milk safety?)

   TOPIC: Foot and Mouth Disease
   Stakeholder: Public/Media
   Question: What should I know about Foot and Mouth Disease (FMD)?

<table>
<thead>
<tr>
<th>Key Message 1</th>
<th>Key Message 2</th>
<th>Key Message 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foot and Mouth Disease is a viral disease of animals.</td>
<td>FMD is not a human health threat.</td>
<td>Public awareness and participation in prevention efforts are critical to keeping the U.S. free of the disease.</td>
</tr>
</tbody>
</table>

   Supporting Fact 1-1: It affects cloven (split) hooved domestic and wild animals including: cattle, swine, sheep, goat and deer.
   Supporting Fact 2-1: Evidence shows that the disease is not passed to humans from contact with infected animals or food products.
   Supporting Fact 3-1: The public should know the signs of foot and mouth disease and report any cases of wild or domestic animals they believe may be showing symptoms.

   Supporting Fact 1-2: FMD does not affect dogs, cats or horses.
   Supporting Fact 2-2: Meat and milk are safe for human consumption.
   Supporting Fact 3-2: When traveling abroad report any contact you may have had with animals or farms and properly disinfect clothes and shoes.

   Supporting Fact 1-3: The virus is very contagious and is typically spread through contact with infected animals or infected objects like equipment, vehicles and clothing and through the air.
   Supporting Fact 2-3: FMD is not at all related to Hand, Foot and Mouth disease which is a common virus that affects children.
   Supporting Fact 3-3: You can learn more at the USDA’s website, www.usda.gov or the [State] Department of Agriculture’s website, www.xxx.xxx
Questions or Comments?
Contact Information

On-line at NESAASA.weebly.com

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