“Treatment of milk in Foot and Mouth Disease restricted areas”

Veterinary Task Force,
Lower Saxony State Office for Consumer Protection and Food Safety

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FMD a constant problem in the world
Starting point in 2009

- Foot and Mouth Disease (FMD) Virus can be shed into milk before clinical signs of FMD appear

- Transportation and processing of milk from FMD restricted areas is generally prohibited but can be allowed by authorities (Directive 2003/85/EG; German MKS-Verordnung)

- Dairy plants currently reserve the right to stop collection of milk from FMD restricted areas -> image and marketing problems

- Immense milk disposal problem might occur; existence of dairy farmers?
- High risk of a further spread of the disease

-> (no) practical and accepted crisis plans for farmers and dairy plants in Lower Saxony
Simulations

outbreak / 1 km radius, protection (3 km) and surveillance (10 km) zones

Example 1

<table>
<thead>
<tr>
<th>Distance</th>
<th>Quantity</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 km</td>
<td>486</td>
<td>11.460 l</td>
</tr>
<tr>
<td>3 km</td>
<td>1.181</td>
<td>27.848 l</td>
</tr>
<tr>
<td>10 km</td>
<td>8.590</td>
<td>202.559 l</td>
</tr>
</tbody>
</table>

no dairy

Example 2

<table>
<thead>
<tr>
<th>Distance</th>
<th>Quantity</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 km</td>
<td>196</td>
<td>4.622 l</td>
</tr>
<tr>
<td>3 km</td>
<td>1.695</td>
<td>39.969 l</td>
</tr>
<tr>
<td>10 km</td>
<td>15.078</td>
<td>355.552 l</td>
</tr>
</tbody>
</table>

one dairy
### Beginning of the project in 2009

Establishing contacts and comparison of the crisis planning

<table>
<thead>
<tr>
<th>Country</th>
<th>Ministry</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands</td>
<td>VWA, NZO, COKZ</td>
<td>Transport and processing of milk in 2001; support of the milk industry; „No official imageproblem“</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>LANUV, MVG</td>
<td>MVG: Guarantee of transport and processing of milk</td>
</tr>
<tr>
<td>Germany</td>
<td>LAVES, MVG</td>
<td>No Transport and processing of milk; „imageproblem“</td>
</tr>
</tbody>
</table>

Kick off Meeting, with the milk industry 2009

Main issue: “imageproblem“
What we can afford…

Authorities:

Prevent spread of the disease

Approval of transportation and processing of milk

Farmers:

Disposal problem
Financial ruin threatens

Dairies:

Currently no transportation and processing of milk from FMD restricted areas

FMD crisis: application necessary

CRISIS PLANNING

LAVES Support

SafeGuard Project
Aims of the project

- Verification of possible solutions .... ✓
  - disposal of milk
  - transportation of milk
  - processing of milk

- Establishment of contacts and collaborations
  (farmers, authorities, companies) ✓

- Support and encouragement of individual crisis planning of dairies in Lower Saxony ✓
  Collection of information in dairies
  Capacity of one dairy?

- Awareness training (farmers, authorities, processing companies…) (√)

PREVENT THE SPREAD OF FMD-VIRUS DUE IMPROPER HANDLING OF MILK DURING A FMD-CRISIS
Project phases and Activities

Phase 1: survey
Phase 2: concept development
Phase 3: communication of possible solutions

Phase 1: survey

- study of literature, collection of information
- Analysis of regulations (EU-directive 2003/85/EG and the German FMD-regulation 2005)
- establishment of contacts to FMD experts and the milk industry
- exchange of experiences with colleagues from other countries
- Request of official statements from FMD experts and authorities
- Visiting and consultation of dairy plants to comprise the equipment of milk tankers, plants and the preventive measures in dairy plants
Main results of the survey

• Data collection, established contacts

• Request to the ministry – BMELV – AGTT
  1. Examination of milk samples -> official statement
  2. Biosecurity during the transport of milk in FMD protection zones
     -> revision of the FMD-regulation in Germany

• statements to attest that there is no risk to human health when pasteurized milk from FMD restricted areas is consumed (BfR; Lower Saxony Ministry & LAVES)

• Composition of an audit questionnaire for dairies
• First trial of a staff training in dairies: FMD outbreak and special hygiene measures

• Several information sheets: e.g. disinfection of vehicles
Phase 2: concept development

Possible solutions:

A - Mobile pasteurization of raw milk in restricted areas

B - Disposal and no processing of raw milk

C - Transportation and processing of raw milk under certain conditions

Collection of Information and Composition of a

“Guideline for the treatment of milk from FMD restricted areas.“  (✓)
Guideline

Composition of all project results

8 chapters

Appendix with checklists and handouts

Farmers  Authorities  Dairy Industry
1) No collection of milk in FMD restricted areas

- 72 h – „stand still“
- Limited storage capacities on farms

- Immense disposal problem

- Desinfection and draining of milk into liquid manure

- Limited disposal opportunities

| Kalkmilch | 40 %          | 40-60 l/m³ | 40kg Ca(OH)₂ in 1000l Wasser auflösen oder Fertigprodukte der Kalkwerke; Gründliches Rühren notwendig (s. Tabelle Rührwerke); Problem des Absetzens von Kalk und schlechte Löslichkeit; Ätzend – Schutzkleidung (Handschuhe, Schutzbrille) |
Raw milk collection and transportation

FMD outbreak
Cleaning & desinfection of tankers on the farm
Preparation of farmers and dairies

-> manuals & storage of equipment
FMD outbreak: necessary facilities for milk tankers

- Prevention of „aerosoldispersion“ at loading and off-loading required
  problem: size of milk aerosols unknown
  pigs: 70% > 6 μm, 10-25% < 3 μm (Gloster and Alexander 2004)

- pilot projects:
  2 dairies in Lower Saxony/Germany have one equiped milk tanker
  - membrane filters / pore size 0,2 μm

recommendations for dairies:
membrane or depth filters (60-140 €/filter);
retention of particles ≤ 0,5 - 1 μm
plastic capsules
reuse after sterilization
FMD outbreak: necessary facilities for dairy plants processing raw milk

- Desinfection gates
- Filters for raw milk tanks
- Collection and treatment of leakages
- Collection and treatment of centrifuge sludge and waste water

➢ For collection, transportation, processing of raw milk preparation of dairies absolutely necessary
Phase 3: communication

Publication of the guideline (2011/2012)

Training of authorities (veterinarians), farmers, drivers of milk tankers (2012 -2013)

“Image work“ with the milk industry
FMD in Europe?

2001 ...... 2010 ...... update of the FMD crisis planning ???

Biosecurity measures ↑↑↑

Open communication

Cross border exercise in 2013

Test of the solutions in the guideline

Thank you very much for your attention!