Animal Agriculture’s Importance to U.S. Economy

<table>
<thead>
<tr>
<th>Farm</th>
<th>Pigs</th>
<th>Sales (2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle and calves</td>
<td>799,249</td>
<td>1,220,973</td>
</tr>
<tr>
<td>Poultry and eggs</td>
<td>146,917</td>
<td>17,328,947</td>
</tr>
<tr>
<td>Milk and other dairy products from cows</td>
<td>99,703</td>
<td>3,168,529</td>
</tr>
<tr>
<td>Hogs and pigs</td>
<td>74,709</td>
<td>10,256,981</td>
</tr>
<tr>
<td>Sheep, goats, and hair products</td>
<td>121,771</td>
<td>70,845</td>
</tr>
<tr>
<td>Total</td>
<td>1,212,284</td>
<td>14,885,802</td>
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</tbody>
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Colorado’s number two economic “driver” in the state is agriculture.

Animal agriculture is the largest sector of Ag in Colorado.

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World FMD Prevalence

How will our response be different than in 1929?

CDA’s livestock emergency disease response plans are posted on our website

www.colorado.gov/ag/animals
It will not look like 2001 in UK!

Cost to the UK 2001 FMD Outbreak:
Approximately 30 Billion $ and immeasurable human suffering

Long Term Outcomes
FMD Carcass Disposal in the UK
• Public perception: The disposal of carcasses was the most objectionable part of the FMD response
• Management at FMD burial sites is $ business

Long Term Economic Impact of UK Burial Sites
• Ash Moor, Meeth, Devon
  - £7.5M to build
  - £240,000/yr to maintain (security, drainage, maintenance)
• Great Orton Airfield, Cumbria
  - £12M to build
  - £850,000/yr to maintain
  - Disposal of 240m³ leachate/week

Depopulation and Disposal created by:
Natural Disasters
– Fire
– Flood
– Tornado
– Blizzard
– Earthquake
– Heat stress
– Most any adverse natural event

Carcass Disposal
Need created by:
• Disease, Toxicoisis, Trauma
  – Infectious disease
  – Foreign animal disease
  – Zoonotic disease
  – Radiological contaminant
  – Trauma, highway accidents

Methods of Disposal
• BURIAL
  + Landfill or trench
  + Readily achievable
  + Reasonable cost
  - Environmental issues
  - Persisting biomass
  - Spore forming bacteria
Methods of Disposal

• INCINERATION
  + Rapid setup
  + Biosecurity
  + Destroy prions
    - Labor intensive
    - Fuel intensive
    - Limited biomass disposal
      (150 head x 700 lbs or 56 tons/24 hrs.)

• COMPOSTING
  + Able to handle large biomass
  + May do on site or in place
  + Destroys most pathogens
  + Utilize biomass byproduct
    - Carbon source requirements
    - Monitor process

• RENDERING
  + Commercial availability
  + Eliminates biomass
  + Moderate cost
    - Facility capacity
    - Transport carcasses
    - Epidemiologic issues

• ALKALINE HYDROLYSIS
  + Sterilization
  + 90+% biomass reduction
  + ‘Clean’ process
    - Limited biomass capacity
    - Effluent disposal
    - Costly and slow

Carcass Disposal: A Comprehensive Review

• A consortium project from KSU, Texas A&M and Purdue University.
  - A detailed explanation of all carcass disposal methods with practical “cookbook like” explanations

  • Disposal Technologies:
    - Burial: 78 pages
    - Composting: 93 pages
    - Incineration: 31 pages
    - Rendering: 82 pages etc...
MOUs

1. Memorandum of Understanding (MOU) between Colorado Department of Agriculture (CDA) and Colorado Department of Health and Environment (CDPHE): regarding storage, treatment or disposal of livestock carcasses when there has been mass mortalities

2. MOU between Colorado and border states concerning the movement of livestock across state lines in the face of a significant disease outbreak

3. MOU between Colorado Department of Agriculture and the Eastern Colorado Incident Management Team (ECIMT)

4. MOU between CDPHE and CDA on the mutual roles for each agency in a zoonotic disease outbreak

National Veterinary Stockpile

- NVS is the nation’s repository of veterinary countermeasures, including supplies, equipment, field tests, & vaccines
- NVS can also arrange service contracts for mass depopulation, disposal, and decontamination teams, called 3D Teams
- NVS is mobilized through pre-arranged coordination efforts between USDA-Veterinary Services and the State Veterinarian of a state

Thank you for your interest in Agriculture and your collaboration in preparedness and response!