

TESTIMONY SUBMITTED TO
THE U.S. HOUSE OF REPRESENTATIVES
AGRICULTURE SUBCOMMITTEE ON
LIVESTOCK AND FOREIGN AGRICULTURE
THE HONORABLE DAVID ROUZER, CHAIR
Washington, DC

**“Impact of an Outbreak of Foot and Mouth Disease (FMD) in the United States and the Urgent
Need for an Adequate Stockpile of FMD Vaccine”**

Submitted By

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Small Ruminant Veterinary Specialist

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February 11, 2016

Chairman Rouzer, Ranking Member Costa, and Members of the House Committee on Agriculture, Subcommittee on Livestock and Foreign Agriculture, my name is Cindy Wolf. My family and I raise sheep and beef cattle in Minnesota. We sell direct to consumers, restaurants, auction markets and to a lamb cooperative. For the past thirty-two years, I have also been employed as small ruminant veterinarian at the College of Veterinary Medicine at the University of Minnesota. Thank you for the opportunity to speak to you about our preparedness for the potential introduction of foot and mouth disease (FMD) into the United States.

Sheep industry demographics

I included two images in my written testimony, one showing the numbers of sheep by state in the U.S. and the other one roughly shows sheep movement. Sheep (and goats) move across the continental U.S. daily traversing several state lines in about every type of vessel made. We hope that most of them have Certificates of Veterinary Inspection but I wouldn't count on it. Sheep sold for human consumption have a wide range of bodyweights and ages dependent on the customs of the end user.

Since FMD transmission can be airborne, there are millions of livestock at-risk along routes of commerce if even one animal should be infected. Young lambs are generally concentrated for a few weeks to a few months while they are being fed prior to processing. The highest concentration of these lambs at any given point in time but mostly in the fall through the spring is in feedlots or crop aftermath on the front range of Colorado, California, Arizona and Oregon. The larger commercial lamb feedlots (including grazing operations) range in size from 20,000 to 80,000 head in one-time capacity. Lambs entering commercial feedlots tend to come from larger-scale breeding flocks. There are approximately 80,000 sheep producers in the U.S. and there are sheep in every state. In general terms, 80 percent of the breeding ewes are owned by 20 percent of the producers.

**All Sheep and Lamb Inventory in the United States
January 1, 2016**



Source: Sheep and Goats (January 2016)
USDA, National Agricultural Statistics Service

Sheep marketing channels & FMD risk

If FMD were to be found in one or more of the larger commercial feedlots, temporary movement restrictions, trace-backs, vaccination, etc. would be relatively straight forward because of geographic concentration. However, there are sheep in transport every day of the year and they are crossing multiple state boundaries through rural America much of the time with stops along the way. Nearly all of the sheep in traditional interstate commerce are ear-tagged back to their flock of origin as required by the cooperative state-federal national scrapie eradication program. Many auction barns that buy and sell sheep also have other species in the same facility. This presents a large disease exposure risk especially in a species whose FMD clinical signs are rather subtle.

Sheep Movement



Sheep the silent carriers and risk to other species

There are a few things about sheep and goats that are unique regarding FMD clinical signs and diagnoses. For example, sheep can be infected with FMD and not present remarkable clinical signs as seen with pigs and cattle. Besides the clinical signs being more subtle, for much of the year many sheep are covered with wool and tend to move with their heads low so seeing FMD lesions from any distance would be difficult.

Lessons regarding sheep and other species from the outbreak in the UK

One of the lessons learned from the 2001 FMD outbreak in U.K. was that sheep were carrying and distributing the virus across the country and throughout marketing channels, spreading it to other livestock before the disease was recognized. Therefore early detection, animal traceability, movement restrictions and vaccination is essential to averting a very large outbreak in the U.S. Veterinarians break down the stages of FMD infection into phases that describe virus progression with phase one being initial infection and the beginning of clinical signs. From a practical

standpoint, by the time someone sees a sheep in what they believe is phase one, there are other animals somewhere that are in stage five or full presentation of clinical signs and all of these infected animals have been spreading virus to susceptible animals. Immune response to the vaccine takes several days once the vaccine is given therefore a large and inclusive vaccination program needs to be done very quickly if a case is diagnosed.

Vaccine needs

My close friend and colleague who was the state veterinarian for Maine for the 27 years, Dr. Don Hoenig has said the following. "In the past 13 years, I've been involved in national and regional efforts to enhance and improve our preparedness and response to FMD. Our response plans have been dramatically upgraded. State, federal, and industry stakeholders have held countless meetings and training sessions and conducted numerous tabletop and on-farm, functional exercises to test our plan. A major development in our response planning is the acknowledgement that, if an outbreak becomes widespread, a large-scale FMD vaccination strategy will need to be implemented. Unfortunately, preemptive vaccination is not feasible or practical since there are seven serotypes of FMD virus and over 65 subtypes. Predicting which of these viruses might come to the U.S. is impossible."

I believe that it is imperative that as a country we continue to move away from a singular approach of stamping out regarding FMD control to one that relies upon cooperation to produce and deliver timely effective vaccination, communication and education. To accomplish FMD control where business continuity will be possible, we will need to adequately fund vaccine contracts to ensure there is at least one functional FMD vaccine bank(s) maintained and ready to launch into production. Part of these contracts will need to include making the most likely serotype(s) available, rapid production time of needed number of doses, and pre-existing licensure of manufacturing processes so vaccine will be legal to use in US. Also we (stakeholders and government) will want to continue the readiness development process so the executors of the control plan know how they will immediately find the herds and flocks needing to be vaccinated, acquire ancillary supplies (needles, syringes, special ear tags, handling equipment), manpower, ID vaccinates, and ensure whole farms are vaccinated as rapidly as possible. While this will not be a small investment, the cost of not having a vaccine preparedness plan in place given the risk is extremely high. It is essential to the security of US agriculture and the country that we are fully prepared and ready to produce potentially needed doses of the appropriate serotype in an extremely rapid timeframe. It is our responsibility to protect agriculture as a component of our country's critical infrastructure of which this one part.

Lastly we need to continue to bolster our efforts at airports and border crossings with improved screening techniques and additions to the Beagle brigade. We must continue to educate and remind the public about not bringing in food or other agricultural products from foreign countries as well as livestock producers to be vigilant and proactive regarding suspect cases.

Conclusion

The American Sheep Industry appreciates the support of this committee in furthering a plan to bolster our preparedness for a FMD outbreak.

Curriculum Vitae

- I. NAME:** Cynthia Beth Wolf
- II. DATE OF BIRTH:** March 5, 1960
- III. PLACE OF BIRTH:** Baltimore, Maryland
- IV. PRESENT BUSINESS ADDRESS:** University of Minnesota
College of Veterinary Medicine
Department of Population Medicine
225 Veterinary Medical Center
1365 Gortner Avenue
Saint Paul, MN 55108
- V. MARITAL STATUS:** Married
- VI. EDUCATION:**
- | | | |
|---|------|--|
| D.V.M. | 1984 | Virginia Maryland Regional College of Veterinary Medicine, Virginia Polytechnic Institute and State University, Blacksburg, Virginia |
| Clinical Internship (Large Animal Medicine) | 1985 | College of Veterinary Medicine
University of Minnesota
Saint Paul, Minnesota |
| Research Associate | 1986 | MGI and College of Veterinary Medicine
University of Minnesota
Saint Paul, Minnesota |
| Clinical Residency (Large Animal Medicine) | 1989 | College of Veterinary Medicine
University of Minnesota
Saint Paul, Minnesota |
- VII. GRADUATE WORK:** Diagnostic Methods to Enhance Detection of Equine Neonatal Septicemia
- VIII. LICENSURE:** Minnesota, Virginia
- IX. PRESENT POSITION:** Clinical Specialist
Department of Veterinary Population Medicine
College of Veterinary Medicine
University of Minnesota
Saint Paul, Minnesota
- X. PROFESSIONAL POSITIONS:**

Committee Member, USDA Secretary of Agriculture Advisory Committee on Animal Health
2011 - 2015

Committee Member, USDA Secretary of Agriculture Advisory Committee for Foreign Animal
and Poultry Diseases
2009-2010

Chair, Sheep Working Group
National Animal Identification System, APHIS
2002-2011

Committee member, AVMA Animal Welfare Committee
2013-present

Chair, Committee for Sheep and Goats
United States Animal Health Association,
2004-2008

Chair, Minnesota Scrapie Board
1998-present

Chair, AASRP Student Educational Opportunities
American Association of Small Ruminant Practitioners
2000-present

Vice Chair, ASI Animal Health Committee
2003-present
Chair, ASI Animal Health Committee
1990-2002
American Sheep Industry Association

Chair, Sheep and Goat Health Committee
National Institute of Animal Agriculture
1999-2005

Committee Member, AVMA Judicious Use of Anti-Microbials
American Veterinary Medical Association
1999-2004

Chair, AVMA Animal Agriculture Liaison Committee
American Veterinary Medical Association
1997-2000

Committee Member, AVMA Animal Agriculture Liaison Committee
American Veterinary Medical Association
1996-2004

Part-time Instructor and Graduate Student
1991-1995
Department of Clinical and Population Sciences, College of Veterinary Medicine
University of Minnesota, Saint Paul, Minnesota

Instructor and Small Ruminant Extension Veterinarian

Department of Clinical and Population Sciences
1989-1991, Two year grant-funded, half-time position
Pipestone Lamb and Wool Program, Southwestern Technical College
Pipestone, Minnesota

Resident, Large Animal Medicine
1985-1988

Primary responsibilities involved clinical large animal medicine; diagnosis and therapy of horses, dairy and beef cattle, sheep, goats, horses, and llamas
Veterinary Teaching Hospital, Department of Clinical and Population Sciences
University of Minnesota, Saint Paul, Minnesota

Intern, Large Animal Medicine
1984-1985

Primary responsibilities involved clinical large animal medicine; diagnosis and therapy of horses, dairy and beef cattle, sheep, goats, horses, and llamas
Veterinary Teaching Hospital, Department of Clinical and Population Sciences
University of Minnesota, Saint Paul, Minnesota

Research Associate, Bovine Coliform Mastitis and Vaccine Development
1985-1986

Primary responsibilities included design and conduct of challenge experiments, acquisition and daily care of experimental cows and calves, supervision of certain laboratory assays and analysis of data, as well as, presenting the results to Molecular Genetics Inc. in order to help guide decisions regarding this project.

XI. PROFESSIONAL PRESENTATIONS

Numerous nationally, regionally and locally from 2002-2016

**Committee on Agriculture
U.S. House of Representatives
Required Witness Disclosure Form**

House Rules* require nongovernmental witnesses to disclose the amount and source of Federal grants received since January 1, 2013.

Name: Dr. Cindy Wolf

Organization you represent (if any): American Sheep Industry Association

1. Please list any federal grants or contracts (including subgrants and subcontracts) you have received since January 1, 2013, as well as the source and the amount of each grant or contract. House Rules do **NOT** require disclosure of federal payments to individuals, such as Social Security or Medicare benefits, farm program payments, or assistance to agricultural producers:

Source: _____ Amount: _____

Source: _____ Amount: _____

2. If you are appearing on behalf of an organization, please list any federal grants or contracts (including subgrants and subcontracts) the organization has received since January 1, 2013, as well as the source and the amount of each grant or contract:

Source: USDA/Ag Marketing Service Amount: \$6,585,750

Source: USDA/Foreign Ag Service Amount: \$2,489,234

Source: USDA/APHIS Amount: \$135,562

3. Please list any payment or contract originating with a foreign government (including subcontracts) you have received since January 1, 2013, as well as the country of origin and amount of each payment or contract.

Country of Origin: _____ Amount: _____

Country of Origin: _____ Amount: _____

4. Please list any payment or contract originating with a foreign government (including subcontracts) the organization has received since January 1, 2013, as well as the country of origin and amount of each payment or contract.

Country of Origin: _____ Amount: _____

Country of Origin: _____ Amount: _____

Please check here if this form is NOT applicable to you:

Signature: _____

* Rule XI, clause 2(g)(5) of the U.S. House of Representatives provides:

(A) Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial presentations to the committee to brief summaries thereof.

(B) In the case of a witness appearing in a nongovernmental capacity, a written statement of proposed testimony shall include a curriculum vitae and a disclosure of any Federal grants or contracts, or contracts or payments originating with a foreign government, received during the current calendar year or either of the two previous calendar years by the witness or by an entity represented by the witness and related to the subject matter of the hearing.

(C) The disclosure referred to in subdivision (B) shall include— (i) the amount and source of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) related to the subject matter of the hearing; and (ii) the amount and country of origin of any payment or contract related to the subject matter of the hearing originating with a foreign government.

(D) Such statements, with appropriate redactions to protect the privacy or security of the witness, shall be made publicly available in electronic form not later than one day after the witness appears.

PLEASE ATTACH DISCLOSURE FORM TO EACH COPY OF TESTIMONY.