

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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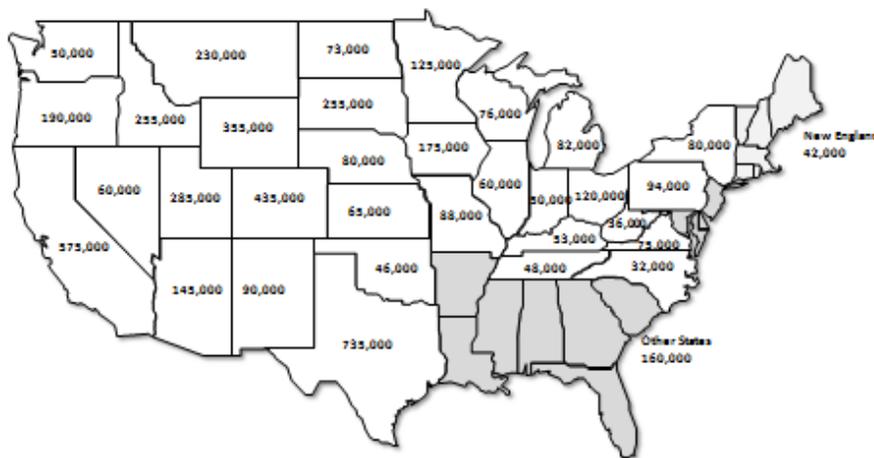
Chairman Rouzer, Ranking Member Costa, and Members of the House Committee on Agriculture, Subcommittee on Livestock and Foreign Agriculture, my name is Cindy Wolf. My family and I raise sheep and beef cattle in Minnesota. We sell direct to consumers, restaurants, auction markets and to a lamb cooperative. 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**



United States Total: 5.32 million head

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, tracebacks, 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.