

Addressing Needs of a Changing World

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From a Personal Perspective

- Ranch and farm background
- Research assistant perspective of a zoonotic disease in wildlife
- Mixed Practice
- Small Animal Practice
- Local Health Officer
- Elected to state and federal office

Thoughts on the Needs for a Changing World

- Definition of livestock is variable
 - Broad definition: Animal kept or raised for use or pleasure
 - Most common definition: Farm animals kept for use and profit
 - Legal definition is variable depending on section of law
 - With zoonotic disease need to think in broadest terms
 - Expect greater variation in the term “livestock.”

Front line defenses will broaden with One Health Efforts

1. Physicians in private practice and public health reporting systems
2. Veterinarians in private practice with animal health certification and public health reporting
 1. Veterinarians writing a health certificate is an agent of the point of destination with instructions, “free from signs of infectious disease and have not knowingly been exposed to infectious disease.”
 2. Veterinarians will consult with country or state that will be receiving the animal
3. Wildlife managers in state and federal agencies now becoming part of the front line effort

Changing body of scientific knowledge

1. Estimates have 1,400 infectious pathogens known to cause disease in humans
 1. About 61% of these fall into zoonotic disease or disease that is transmissible between humans and animals and that percentage is expected to grow.
 2. A sizable amount of the emergent infections involve wildlife with estimates running as high as 50%
 3. Livestock producers will become more aware of the interaction between wildlife because wildlife is frequently a reservoir for infection

Countries will be changing rules and regulations to protect human health and economically important animals

1. Transportation of livestock and their products becomes more complicated
 1. Animals and their products more mobile
 2. People more mobile (tourists)
 3. Vectors more mobile
2. Countries will use disease as a reason to restrict trade when the real reason is protectionism



Expect more in the area of animal Identification

1. Individual animal identification

1. Electronic I.D. tagging
2. Tattoo numbers
3. Optical scanning
4. DNA evaluations

2. Herd identification

1. Ear notching
2. Less branding

3. Disease certification will become more important in trade

Expect a push for more vigorous meat inspection standards

1. Already seen this in regard to Mad Cow Disease as a trade issue
 1. Type of cuts allowed by Japan and S. Korea
 2. Nervous tissue
2. Greater awareness of food born illness with reduced consumption of raw or rare cooked foods and demand for greater food safety.

More attention will be paid to wildlife-livestock interface

1. Avian influenza in migratory birds (free range birds)
2. Salmonella
3. Chronic Wasting Disease
 1. Report in some areas as high as 40% in some parts of the Rocky Mountain Region
 2. Threat to domestic cervids
4. Bovine Tuberculosis from deer to cattle

Animal Disposal will become more of a concern

1. Ground water contamination
2. Open disposal systems becoming less acceptable
3. Less space available for large animals
 1. Nuisance concerns
 2. Air pollution
 3. Zoonotic disease
4. Prion diseases-difficult to denature protein



Zoonotic Disease in Relation to Livestock will become more of a political problem

1. More people exposed to disease news
 1. Benefit: educates people on spread of disease
 2. Problem: Misinformation can hurt livestock commodities and headline hysteria can cause overreaction.
 3. Solution: Respond quickly to misinformation with scientific fact.

More recent examples of news stories

1. Pathogenic H5N1 avian influenza
2. Mad cow disease
3. Swine Influenza (type H1N1)
4. Pathogenic form of E. coli (0157:H7)
5. Terrorist threats with zoonotic pathogens
 1. Anthrax
 2. Encephalitis
 3. Brucellosis
 4. Bubonic plague
 5. Pox viruses

Conclusion

1. Livestock industries needs to be more prepared to respond to concerns raised by the news media
2. Need to continue information network for producers on zoonotic diseases, especially in underserved rural areas where there is little or no health care services
3. Expect increased cost of production because of zoonotic disease concerns and demand for greater food safety in the world.