

Disease Risks Associated with Large Scale Animal Production

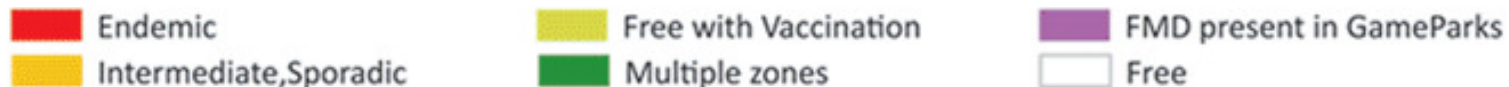
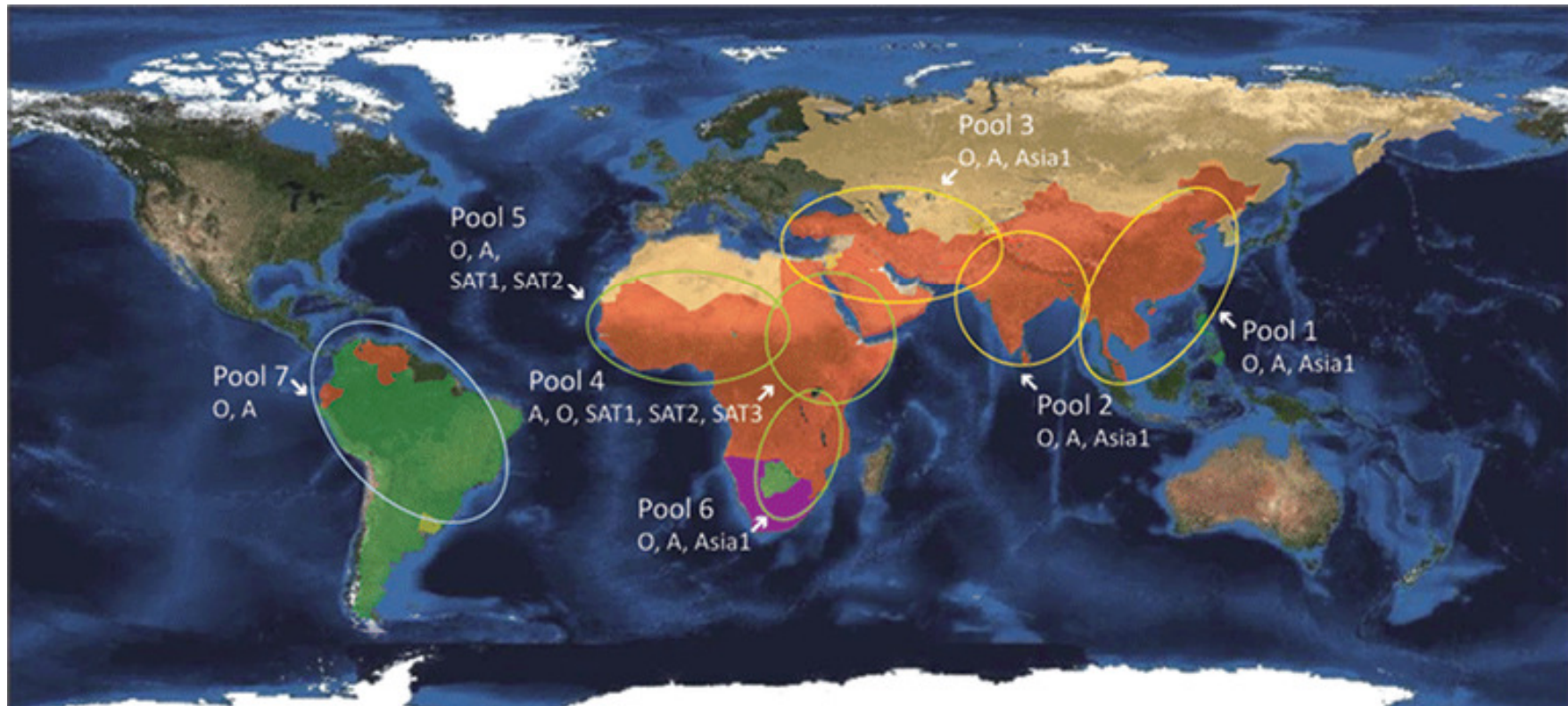
July 14, 2010



Public Concern for Animal Disease Risks

Foot & Mouth (FMD) and Mad Cow (BSE) Diseases

- FMD is one of the most tracked cattle diseases in the world.
- Maps showing status of FMD are available from www.foot-and-mouth.org.



The conjectured status of FMD in 2009 showing approximate distribution of regional virus pools,
Source: <http://www.foot-and-mouth.org/>.

Foot and Mouth Disease Characteristics

- FMD does not exist in the U.S., North America, Central America, Australia, New Zealand, Japan, Chile and many countries in Europe.
- Only cloven-hoofed animals (all domestic and most wild) are susceptible –horses are not at risk.
- FMD is considered to pose no risk to human health.
- FMD outbreaks have been successfully controlled by quarantines and movement restrictions, euthanasia of affected and in-contact animals, and cleansing and disinfection of affected premises, equipment and vehicles.
- According to Cornell, increased herd density is not a major factor in raising the risk of a regional problem with FMD;
- However, use of confinement facilities significantly decreases risks as compared with cattle on pasture.

Foot and Mouth Disease Characteristics

- The high risk factors are infected animals, uncooked meat products from FMD countries, contaminated shoes and clothing and contaminated farm equipment.
- FMD free countries (including the U.S.) have embargoes on all of these agricultural imports from countries where effective control is not practiced.
- Vaccination can be used to reduce the spread of FMD or protect specific animals.
- **FMD was last detected in the U.S. in 1929!**

Mad Cow Disease (BSE)

- Mad cow disease is only spread by humans or animals consuming affected animal protein.
- The source of infection has been definitively established and a solution put in place --banning the feeding of ruminant bone, meat and blood meal products back to ruminants.
- “BSE or mad cow is no longer an issue.”
- Notwithstanding, there is no BSE disease outbreak in cattle under 30 months of age.
- That is why all Asian countries have a 30-month restriction on beef imports (Japan has a 20-month restriction).
- Note: all Bion cattle will be harvested under 30 months of age, therefore there cannot be any risk of BSE from Bion’s facilities even if the disease recurs within the region.

Other Possible Cattle Diseases

- There are less serious concerns for animal health beyond FMD and BSE;
 - However they are not generally transmitted via air from animal to animal across any distance, particularly given enclosure of the herd.
 - Also they are controllable with appropriate operating and medical protocols under the auspices of a trained and licensed veterinarian.
- Lastly, there exists a vast amount of experience throughout the U.S. with cattle herds larger than those proposed by Bion for which ongoing protocols for testing and isolation have successfully prevented any significant outbreaks.