Western Dairy News
for the West, about the West, from the West

Controlling the disease without crippling the industry

Response to any outbreak must consider the needs of both farmers and consumers.

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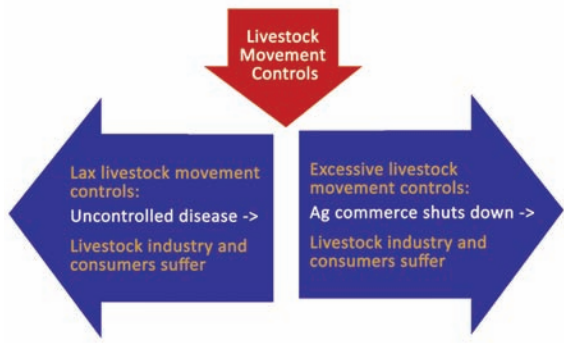
It is difficult to believe that Foot and Mouth Disease (FMD) could be a present day threat to the U.S., since it was eradicated here in 1929. To accomplish this, FMD-infected herds of cattle were gathered into deep trenches, shot and buried. There was more recently a major outbreak in the United Kingdom in 2001, during which infected livestock were euthanized and carcasses were incinerated in open pyres.

The risk of FMD entering our country is very real and ever present because of its highly contagious nature and presence in approximately two-thirds of the world. North America is presently free of FMD, but an invasion could occur either through the import of infected animals or animal products, by the virus being carried on people or objects, or through an intentional agro-terrorism event. FMD could be considered the most economically damaging livestock disease in the world and it is not an easy foe to fight for many reasons.

Response would be much different

If an outbreak of FMD occured within our borders today, the response would be very different from the 1920s or 2001 because so much has changed about livestock markets. Livestock and their products must "move" to keep producers in business, yet in the face of an FMD outbreak infected livestock and their products must "stop" to keep the disease from spreading. The challenge is, how will we manage that tension and keep non-infected or unaffected livestock and their products in the channels of commerce to provide food for the nation and the world?

In the face of a FMD outbreak the most effective and efficient response could only be possible through a collaborative effort between the states, federal entities and the livestock industry. State departments of agriculture, along with brand inspectors, state patrol personnel, state departments of transportation and local law enforcement need to work together to develop specific protocols for check points to control livestock movement during a disease incident. In addition, cooperation and compliance with livestock movement restrictions by the livestock industry would be a key factor in a successful emergency response to FMD.



An FMD outbreak in the U.S. would have a major impact on the whole country. Not only would it negatively affect livestock health and well being, there might be possible environmental health risks due to the need for carcass disposal of mass mortalities of animals. Consumers might question whether they should eat meat or drink milk, leading to a dramatic decrease in the consumption of both and thereby affecting producers and processors. Finally, the U.S. could lose some of its international trade markets for meat and milk products for a period of time. The total result would be a huge economic calamity.

In many western states, agriculture is one of the largest sectors in their economies. The dairy industry not only sells a product (milk) but it is also a significant contributor to the beef supply. There are areas in the western states where there are very high concentrations of animals. The FMD-susceptible species (cattle, sheep, goats and swine) in Colorado alone, for example, total more than three million head.

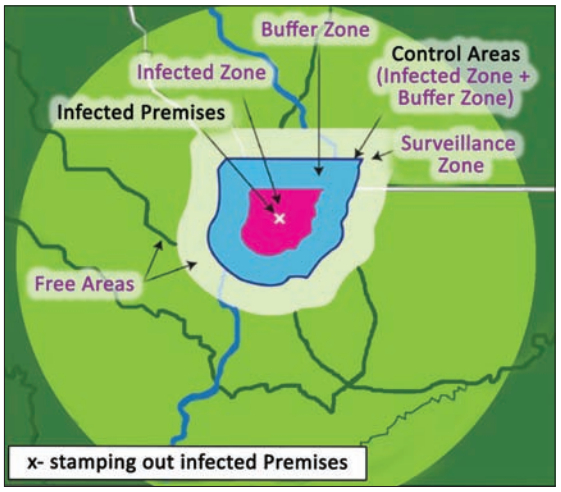
Outbreaks of FMD occur around the world, most recently in Egypt and Korea. These countries have found that one of the most important components to effectively and efficiently stop its spread is to institute appropriate livestock movement controls. The problem is, they can also cripple markets.

If livestock movement restrictions are too lax it results in uncontrolled disease and both the livestock industry and consumers suffer. If excessive controls are put in place then agricultural commerce shuts down, with the end result being that both the livestock industry and consumers suffer. Therefore, appropriate livestock movement restrictions during an outbreak must not be too loose or too tight, because the end result may be the same – and it is not good.

Preparedness and response planning

FMD preparedness and response planning has been occurring at the Federal, state and industry levels. USDA-APHIS has written a detailed FMD Response Plan (*"The Red Book"*) addressing many components of an FMD outbreak. It discusses the history, impact, transmission, diagnosis, immunity and vaccination protocols for FMD. In addition, it contains an incident management plan and outbreak response tools.

One major change in U.S. FMD response since the 1920s is the inclusion of vaccination as one option for responding to an outbreak. During South Korea's last outbreak, its president reported that



"traditional quarantine efforts have limits and FMD vaccination may be the best solution." Traditional response plans for FMD have been to quarantine, depopulate and eradicate the disease. New vaccination strategies bring new options and hope for a more effective response.

On the state level, most states have written extensive livestock emergency preparedness and response plans that detail their response activities relating to a significant livestock disease outbreak. But it is not only the states that have developed emergency plans; livestock industries and associations have done detailed planning in this area too. Therefore, state livestock plans must be integrated with livestock industry plans and it is important to test and validate them through exercises and training events.

Most states have developed some type of ready reserve of emergency responders in order to build their capacity to respond more efficiently and effectively to an emergency incident. Here in Colorado we have developed the Colorado Rapid Response for Ag & Livestock (CORRAL) system in which we organize our livestock emergency planning and response activities. One of its key components is the building of a ready reserve of veterinary responders to join a concerted effort by the Colorado Department of Agriculture (CDA) and livestock industries to respond to a potentially damaging livestock disease.

Business continuity planning

Agreements or Memorandums of Understanding (MOUs) between agencies, organizations and other states' animal health officials are another vital way to increase the ability of states to quickly respond and mitigate infectious livestock disease outbreaks in the event that one occurs. One of the important MOUs that CDA has in place is with the Colorado Department of Public Health and Environment (CDPHE). It gives CDA the lead authority in the state to direct and manage the disposal of livestock carcasses in the event of any "all-hazards" event that results in mass livestock mortality. Some states have been in discussion with USDA-APHIS and EPA to discuss procedures and decision-making tools for the disposal of a large number of livestock carcasses that could occur during an FMD outbreak.

Also, states have done extensive planning and have implemented functional exercises with the USDA-APHIS National Veterinary Stockpile (NVS) program. These efforts have produced state NVS logistical plans, which are key since logistics involved in response activities are often one of the most challenging aspects of any disease outbreak emergency. The NVS holds a reserve of many needed supplies and equipment that would be vital if an FMD outbreak were to occur, in addition to being the conduit to deliver FMD vaccine to affected areas. The vaccine is held in a multinational reserve called the North American FMD Vaccine Bank and is a joint effort between Canada, the U.S. and Mexico.

MOUs between some states have been developed that allow for movement of both unaffected livestock and their products across those states' borders in the face of an outbreak. This ability would be particularly important for those states that have livestock industries that move significant numbers of animals and products into surrounding states. To enable their livestock industries to continue marketing products during a disease outbreak through their normal channels of trade is extremely important for their viability and for the states' economies.

These MOUs between states are designed for the business continuity of their stakeholders; therefore the national planning for business continuity of livestock industries spearheaded by USDA APHIS Veterinary Services is most welcomed by industry and state animal health officials. Basically, agricultural business continuity planning has taken place to ensure that livestock producers and agriculture-related industries can remain in business in spite of a disease outbreak.

One of those business continuity plans is the Secure Milk Supply (SMS) Plan. This project is intended to identify and address key FMD response issues so that government and industry are better prepared to respond to FMD and to ensure business continuity of the dairy industry in the face of an outbreak. It is a joint project of USDA-AHPIS, Iowa State University, University of California-Davis, and the University of Minnesota, along with representatives from industry, state and federal government and academia. It is an issue that is extremely important to federal/state animal health officials, dairy producers, processors, allied industries, policy makers, emergency management, consumers and the nation's economy. Various states and regions are now in the process of taking the national SMS Plan and applying it to their state or region's unique dairy industry.

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SMS SECURE MILK SUPPLY

If an FMD outbreak would occur somewhere in the U.S., emergency declarations would be put in place and state and federal FMD response plans would be activated. This would include implementation of livestock movement restrictions and the permitting of livestock movement by the appropriate state animal health officials. The FMD response plans outline possible quarantine and disease control zones which would be set up to isolate the disease and protect unaffected dairy farms. In the green diagram above, from the 2012 USDA-APHIS VS FMD Response Plan, it shows a possible way to set up a quarantine zone and contain the disease.

Unfortunately, if there are dairy farms located inside the Control Area (consisting of the infected zone and the buffer zone), they would not be able to move milk or livestock out of the Control Area unless there is a way to quickly know that a particular farm is not infected with FMD. The problem is, most dairy operations do not have much capacity to store milk for longer than 24 hours. This highlights the need to have a ready plan to quickly assess whether dairy farms in the Control Area are free of FMD and to know what level of disease prevention procedures (biosecurity) they have in place.

This is one of the main challenges for the new business continuity planning or the SMS project. There need to be special protocols for monitoring farms for the presence of FMD; setting up disease prevention procedures (biosecurity) for producers, milk haulers, milk processors; and an efficient method to issue permits for the movement of milk and livestock. These are the main components to the complex planning of the SMS.

Biosecurity is the best defense

Biosecurity is maybe the best defense against FMD and it is one of the most important components of the SMS Plan. Biosecurity is comprised of all the practices and protocols that an operation puts into place to prevent, protect and mitigate the risk of disease. When FMD occurs in a country, biosecurity plays a vital role in preventing unaffected farms from getting the disease. For those unfortunate farms that have infected animals, biosecurity is very important in containing the virus so it is not transmitted to other farms.

Last year during South Korea's FMD outbreak, the country was having a very difficult time getting it under control and the agriculture ministry declared that "all visitors and vehicles should undergo disinfection before they enter any of the locations hit by the outbreak." South Korea found that to effectively control the outbreak, biosecurity needed to be ramped-up!

The SMS project and regional efforts underway to apply its plan components to that region's unique dairy industry will provide for specific biosecurity protocols and standards so that if FMD does occur in the U.S., needed biosecurity can be ramped-up and quickly implemented.

It would benefit all dairy farms to evaluate their current biosecurity practices for disease prevention and to look for gaps that exist before FMD or another significant livestock disease occur in the U.S. In addition, if we can do some pre-planning, some of the issues that will challenge us during an outbreak may not be so overwhelming when, or if, it ever reappears in our country.