

The dairy veterinarian's role in emergency preparedness on the farm

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Since 9-11 and the anthrax deaths and threats, there has been a lot of discussion about bio- and agro-terrorism. The conversations, as we recognize now, are not so far-fetched. However, as humans, we cannot reasonably be on high alert for the rest of our lives, nor can we ask our dairy producers to do so. What we and the producers need are practical, reasonable strategies to reduce our risks, prepare for, and mitigate the consequences of any range of emergencies that might face us and our industry.

What kinds of emergencies might we have to deal with? The range includes:

- Foreign animal disease introduction such as from
 - Foot and mouth disease (FMD) or finding a case of bovine spongiform encephalopathy (BSE)
- Zoonoses or direct public health concerns such as those from
 - Tuberculosis, brucellosis, and toxins consumed by animals that might contaminate meat and milk
- Animal disease outbreaks such as from
 - Type II BVD (such as in Canada and Pennsylvania in the early 1990s) and
 - *Salmonella* Newport outbreaks in cattle the United States in the last five years
- Natural disasters such as
 - Floods, power outages, earthquakes, ice storms, drought, and hurricanes.

Any of these emergencies pose a threat to animal health and welfare which can affect producer profits, trade, consumer confidence, and public health through the loss of nutritional products, direct health effects, and indirect effects through effects on the environment and local, regional, or national economy.

From the Federal Emergency Management Agency course *Livestock in Disasters*¹, two important questions kick off their training program: "How many of your animals, production, or sales could you afford to lose to a disaster and remain viable as a business?" and "If a large-scale disaster occurred in your community, how would that affect your county's revenue?" These questions help us reflect on what it is that's important and how we might want to protect it the best we can.

Emergency management

There are four phases of emergency management: mitigation, preparedness, response and recovery. All of these phases must be considered when addressing the specific emergency to prepare for. The mitigation phase includes those things that can minimize the cause, impact or consequences of a disaster, such as through buying insurance. On the farm, this might also mean putting biosecurity measures into place.

Preparedness includes those activities such as training and education and planning for events that cannot be mitigated, such as developing a list of items that might be essential in the face of a problem, such as having a working generator for running the milking parlor in the face of power outages.

Response occurs just after a disaster. The kinds of response needed will depend on the preparations taken beforehand. Recovery is that time of rebuilding, when life is not yet normal and when thought is given to reduce future vulnerability.

What can we do to prepare?

The veterinarian, being one of the most trusted advisors on the dairy, can help motivate clients to mitigate, prepare, and develop plans for all kinds of emergencies by helping them address the following questions:

1. **What kinds of things have the potential to happen here?** Some examples include
 - a. Disease introduction
 - b. Power outage
 - c. Toxins contaminating feed and cattle

d. Flooding

We can move our clients to awareness of likely problems, many of which have similar prevention strategies. We can also discuss or assess how likely these things are to happen by asking the question: "What are the farm-specific risks?"²

2. Where can we control the problem before it gets too big to handle?

- a. Biosecurity and early disease detection systems^{3,4}
- b. On-farm generator that is tested on an annual basis¹
- c. Prevention through eliminating chances of chemicals entering feedstuffs and early detection of problems with the cattle
- d. Pre-identified routes of evacuation and location of animal shelters and sources of emergency feeds

We can help clients identify specific areas for prevention, mitigation, and preparedness for the range of likely problems. This requires a thorough knowledge of the farm system and all the important or major control points that can be implemented there. This step often requires that we gather information and gain new knowledge about effective control measures.

3. What kind of early warning systems can we put into place?

- a. Trained producers and farm employees that recognize signs of disease and have a plan on who to call
- b. Keeping informed at the local level for any likely cause
- c. Trained personnel that can recognize signs of disease or performance problems and have a plan on who to call
- d. Keeping informed at the local level for any potential for flooding

At this point, we are moving from assessing vulnerabilities and information gathering to implementation plans for early detection. To enable implementation first requires training, the necessary equipment to get the jobs done, and buy-in by all involved in the detection systems. The veterinarian is almost always in an educational role on the farm and can help outline the training needs or provide the training and motivation. The new plans will require some reinforcing through practice of drills or exercises or an annual risk assessment.

4. What plans do we have for recovery? Answers to this question involve the dairy producer, financial consultant, and many other individuals tied to the farm, including the community. Some things to consider for our examples include:

- a. Carcass disposal plans
- b. Payment plans for loss of income or higher costs
- c. Carcass disposal plans
- d. Decontamination of dairy housing areas and croplands

With some of our emergencies, we can see that some strategies are the same. As an example, this will be true for the prevention and mitigation of disease outbreaks from almost any contagious agent.

Because dairy veterinarians know dairy systems so well and are part of the farm team, we have a critical role to play in assisting clients in their develop emergency plans by creating awareness of potential problems, assessing farm-specific risks, helping identify possible control points specific to that farm, and by providing training and motivation.

Resources

1. FEMA. Livestock in Disasters. Course IS-111 <http://training.fema.gov/emiweb/IS/is111.asp>
2. Center for Food Security & Public Health, Iowa State University. Biological Risk Management: Version 1.0. <http://www.cfsph.iastate.edu>
3. USDA:Veterinary Services Emergency Programs. <http://www.aphis.usda.gov/vs/ep/>
4. Penn State Veterinary Science Outreach. Biosecurity Resources. <http://www.vetsci.psu.edu/Ext/Biosecurity/BioMain.htm>