

Cow-calf Producers' Familiarity with Cattle Diseases and Preferred Contacts and Sources of Information for Disease Outbreaks

An outbreak of any animal disease—whether a foreign animal disease such as foot-and-mouth disease or an endemic disease such as bovine tuberculosis—could be devastating to producers individually and to the livestock industry as a whole. Early detection of disease and rapid response are critical to minimize the adverse effects of animal disease outbreaks.

Because producers typically are in close contact with their animals and will likely be the first to notice signs of illness, they have a crucial role in spotting disease outbreaks and triggering investigations. Consequently, it is important that producers be knowledgeable about diseases and disease agents. By maintaining familiarity with the signs of serious cattle diseases and knowing when and whom to call for help, producers can speed detection of and response to disease occurrences.

In 2007–08, the U.S. Department of Agriculture's National Animal Health Monitoring System (NAHMS) studied beef cow-calf health and management practices in the United States. The Beef 2007–08 study was conducted in 24 States,* representing 79.6 percent of U.S. operations with beef cows and 87.8 percent of U.S. beef cows. The operations were grouped into 4 herd-size categories: 1 to 49, 50 to 99, 100 to 199, and 200 or more beef cows.

The goals of the Beef 2007–08 study included examining producers' familiarity with diseases and learning about producers' preferred contacts for reporting suspected disease conditions and obtaining information about disease outbreaks.

Producer familiarity with diseases

Producers were asked to categorize their level of familiarity with a number of cattle diseases; response categories were “fairly knowledgeable,” “know some basics,” “recognize the name but not much else,” and “have not heard of it before.” Producers were most familiar with brucellosis: 44.8 percent said they were fairly knowledgeable about the disease and 33.6 percent knew some basics (table 1). Producers on about two-thirds of operations knew some basics or were fairly knowledgeable about foot-and-mouth disease, bovine spongiform encephalopathy, and bovine viral diarrhea (65.8, 63.5, and 64.0 percent of operations, respectively).

Table 1. Percentage of Operations by Familiarity with the Following Diseases

Disease	Percent Operations				Total
	Level of Familiarity				
	Fairly Knowl- edge- able	Knew Some Basics	Recog- nized Name, Not Much Else	Had Not Heard of Before	
Foot-and-mouth disease	32.5	33.3	33.0	1.2	100.0
Bovine spongiform encephalopathy (BSE)	26.0	37.5	32.1	4.4	100.0
Johne's disease (paratuber- culosis)	14.8	16.5	23.0	45.7	100.0
Bluetongue	13.3	15.4	34.0	37.3	100.0
Anthrax	22.6	28.3	42.9	6.2	100.0
Bovine viral diarrhea (BVD)	31.6	32.4	23.7	12.3	100.0
Brucellosis (Bang's disease)	44.8	33.6	17.6	4.0	100.0
Bovine tuberculosis	22.8	27.3	31.4	18.5	100.0
Vesicular stomatitis	8.7	12.2	21.2	57.9	100.0
Anaplasmosis	16.2	13.7	22.9	47.2	100.0
Rinderpest	3.9	4.8	13.6	77.7	100.0

*** States:**

Alabama, Arkansas, California, Colorado, Florida, Georgia, Idaho, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Tennessee, Texas, Virginia, and Wyoming.

On nearly one-half of operations (49.1 percent), producers either had not heard of anthrax or recognized the name but did not know much else. On about two-thirds of operations (68.7 percent), producers knew little or nothing about Johne's disease. Not surprisingly, producers on more than three-fourths of operations (77.7 percent) had not heard of the foreign animal disease rinderpest, which has occurred only in Africa and Asia in recent years and has been the target of a global eradication program by the Food and Agriculture Organization of the United Nations since 1992.¹

In general, a higher percentage of producers on operations with 200 or more beef cows than on operations with 1 to 49 beef cows were fairly knowledgeable or knew some basics about most of the listed diseases (table 2).

Table 2. Percentage of Operations that were Fairly Knowledgeable or Knew Some Basics About the Following Diseases, by Herd Size

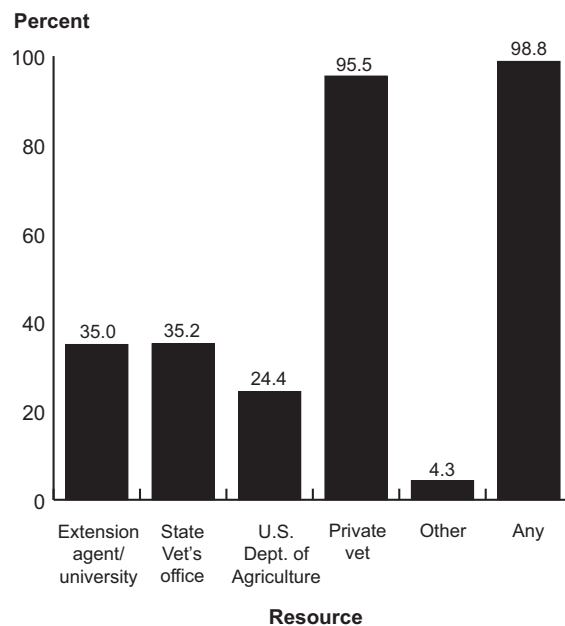
Disease	Percent Operations				
	Herd Size (Number of Beef Cows)				All Operations
	1-49	50-99	100-199	200 or More	
Foot-and-mouth disease	64.1	67.1	72.8	74.8	65.8
Bovine spongiform encephalopathy (BSE)	60.5	66.9	74.3	79.2	63.5
Johne's disease (paratuberculosis)	27.4	37.4	42.7	50.5	31.3
Bluetongue	25.9	33.4	36.0	43.9	28.8
Anthrax	49.1	52.1	58.5	60.7	50.9
Bovine viral diarrhea (BVD)	57.8	75.8	81.0	89.3	64.1
Brucellosis (Bang's disease)	74.5	84.8	90.3	95.1	78.4
Bovine tuberculosis	46.8	56.0	59.7	63.2	50.1
Vesicular stomatitis	18.8	23.2	29.3	31.1	21.0
Anaplasmosis	26.4	34.0	44.6	45.1	29.9
Rinderpest	7.9	9.2	12.9	10.0	8.6

While knowledge about diseases, disease agents, and transmission modes enables producers to play a crucial role in rapid detection of and response to disease or disease outbreaks in cattle herds, that knowledge also enables producers to develop biosecurity protocols for their operations that will help prevent or limit the spread of disease. For information from the NAHMS Beef 2007–08 study about biosecurity practices, please see “Biosecurity on U.S. Beef Cow-calf Operations,” NAHMS #557.0509, December 2009.²

Reporting contacts for suspected cases of disease

As noted previously, producers play a crucial role in reporting suspected illness and providing early detection of disease outbreaks. To facilitate the reporting process, it is helpful to know whom producers are most likely to contact about a possible foreign animal disease on the operation. Education efforts can target producers' likely contacts to be sure producers are aware of the appropriate procedures for reporting a suspected outbreak, which will help to speed investigation, diagnosis, and response. Almost all operations would contact a private veterinarian (95.5 percent) or at least one of the listed resources (98.8 percent) if an animal on the operation was suspected of having foot-and-mouth disease or another foreign animal disease (figure 1).

Figure 1. Percentage of Operations that Would Contact the Following Resources if there was an Animal Suspected of Having Foot-and-Mouth Disease (or Other Foreign Animal Disease) on the Operation



Sources of information about disease outbreaks

During a disease outbreak or other animal health emergency, producers need ready access to reliable information. By knowing the sources that producers would use to obtain information about animal health outbreaks, responders to an animal health emergency can disseminate critical information appropriately to ensure that producers receive accurate information quickly.

In the NAHMS Beef 2007–08 study, producers were asked how likely they would be to consult various information sources if an outbreak of foot-and-mouth

disease or other foreign animal disease occurred in the United States. A majority of operations (85.1 percent) were very likely to get information from a private veterinarian (table 3). The next two sources that producers would be very likely to consult were other beef producers (46.2 percent of operations) and extension agents (40.8 percent of operations). Although official organizations can provide rapid, up-to-date information via the Internet, more than 60 percent of producers were not likely to consult the Internet, which might reflect lack of access to the Internet in remote locations.

Table 3. Percentage of Operations by Likelihood of Using the Following Sources to Obtain Information if an Outbreak of Foot-and-Mouth Disease (or Other Foreign Animal Disease) Occurred in the United States

Source	Percent Operations			Total
	Likelihood			
	Very Likely	Somewhat Likely	Not Likely	
Other beef producers	46.2	30.8	23.0	100.0
Private veterinarian	85.1	10.3	4.6	100.0
Extension agent	40.8	28.3	30.9	100.0
Beef organization or cooperative	20.4	27.2	52.4	100.0
Magazines	18.7	30.0	51.3	100.0
Internet	20.9	17.3	61.8	100.0
State Veterinarian's office	28.0	21.1	50.9	100.0
U.S. Department of Agriculture	26.7	28.3	45.0	100.0
Television/newspapers	22.2	28.5	49.3	100.0
Other	2.7	3.3	94.0	100.0

With almost half of producers being very likely to consult other beef producers in the event of a disease outbreak, it is crucial that responding officials disseminate accurate information rapidly to the sources producers are most likely to consult to minimize spread of misinformation and fear.

Producer beliefs on U.S. outbreak preparedness

Overall, 6 of 10 operations (60.7 percent) strongly agreed or agreed with the statement "The United States is well prepared to handle outbreaks of livestock disease currently not found in this country, such as foot-and-mouth disease and rinderpest" (table 4). The percentages of operations by each level of agreement were similar across herd sizes.

Table 4. Percentage of Operations by Level of Agreement with the Statement "The United States is Well Prepared to Handle Outbreaks of Livestock Disease Currently not Found in this Country, such as Foot-and-Mouth Disease and Rinderpest," by Herd Size

Level of Agreement	Percent Operations				
	Herd Size (Number of Beef Cows)				
	1-49	50-99	100-199	200 or More	All Operations
Strongly agree	11.0	10.2	6.7	9.3	10.4
Agree	49.3	58.5	46.1	47.1	50.3
Disagree	19.7	19.1	28.1	19.4	20.4
Strongly disagree	12.1	11.3	6.6	16.2	11.7
No opinion	7.9	0.9	12.5	8.0	7.2
Total	100.0	100.0	100.0	100.0	100.0

Nearly one-third of all operations (32.1 percent) disagreed or strongly disagreed that the United States is well prepared to handle outbreaks of foreign animal disease. Seeking further input from producers about their reasons for believing the United States is not well prepared to handle such disease outbreaks might provide important insights into ways to improve response and communications during animal health emergencies.

Summary

By being familiar with cattle diseases and their modes of transmission, producers will be better able to protect their animals from disease and provide an early warning in the event of a possible outbreak. Knowledge about the people, organizations, or information sources producers would contact if they suspect illness in their animals or need information about a disease outbreak can help ensure that vital information is available when and where producers and first responders to an emergency will be most likely to access it.

References

1. http://www.oie.int/eng/maladies/Technical%20disease%20cards/RINDERPEST_FINAL.pdf
2. National Animal Health Monitoring System, Biosecurity on U.S. Beef Cow-calf Operations, #557.0509, December 2009; http://nahms.aphis.usda.gov/beefcowcalf/beef0708/Beef0708_is_Biosecurity.pdf

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