

Emergency Preparedness and Management on U.S. Feedlots¹

When an animal health emergency occurs, an immediate response is necessary to protect animals and people and to minimize the economic, animal, and public health impacts of the emergency. The U.S. Department of Agriculture (USDA) and State veterinarians are responsible for controlling a specific set of regulated diseases, such as (but not limited to) tuberculosis, brucellosis, and foot-and-mouth disease (FMD). However, animal health emergencies are not limited to disease outbreaks. They also include any adverse event or disaster that could affect livestock and poultry health and production. Such events include weather-related emergencies, threats from terrorist activities, natural disasters, and utility outages.

A comprehensive plan for how to respond in any type of emergency would benefit feedlot operations by helping to minimize the emergency's impact on animal health, food safety, food supply, and the profitability of the operation.

The U.S. Department of Agriculture's National Animal Health Monitoring System (NAHMS) conducted the Feedlot 2011 study, an in-depth look at large feedlots (1,000 head or more capacity) in 12 States² and small feedlots (fewer than 1,000 head capacity) in 13 States.³

Large feedlots accounted for 82.1 percent of the January 1, 2011, inventory of feedlot cattle in all U.S. feedlots but only 2.8 percent of all feedlots. The 12 participating States accounted for over 95 percent of the inventory of cattle in large feedlots (NASS, "Cattle on Feed" February 18, 2011). Small feedlots accounted for 16.0 percent of the inventory on all U.S. feedlots and 92.9 percent of all U.S. farms with cattle on feed. The 13 participating States accounted for 85.4 percent of U.S. farms with fewer than 500 cattle on feed and 90.5 percent of the inventory on farms with fewer than 500 cattle on feed (NASS, 2007 Census of Agriculture). Study results presented in this information sheet reflect only large feedlots,⁴ which were divided into two groups: those with a capacity of 1,000 to 7,999 head and those with a capacity of 8,000 or more head.

One objective of the Feedlot 2011 study was to describe current management practices on U.S. feedlots, including practices designed to help feedlots respond effectively to emergency events that could jeopardize food production and quality, and animal well-being.

Written plans, training and relationships

One essential part of emergency preparedness is to have a written plan in place that addresses the basic needs for a continuous supply of power, clean water, and safe feed. Such a plan can reduce confusion during an emergency and help ensure a better outcome for the operation. Overall, about one-third of feedlots (34.1 percent) had a written emergency-procedure plan. A higher percentage of feedlots with a capacity of 8,000 or more head (65.8 percent) had such a plan compared with feedlots with a capacity of 1,000 to 7,999 head (21.0 percent). Nearly half of all feedlots (46.3 percent) had a contingency plan for feeding and watering livestock in the event of a utility outage; 67.1 percent of feedlots with a capacity of 8,000 or more head and 37.8 percent of feedlots with a capacity of 1,000 to 7,999 head had a written contingency plan for utility outages (table 1).

Table 1. Percentage of feedlots that had a written emergency-procedure plan and percentage that had a contingency plan for feeding and watering livestock in case of a utility* outage, by feedlot capacity

Plan type	Percent Feedlots		
	Feedlot capacity (number head)		
	1,000–7,999	8,000 or more	All feedlots
Emergency procedure	21.0	65.8	34.1
Contingency plan	37.8	67.1	46.3

*Electricity, natural gas, domestic water supply, etc.

¹ For feedlots with a capacity of 1,000 head or more.

² Arizona, California, Colorado, Idaho, Iowa, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, Washington.

³ Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, Pennsylvania, South Dakota, Texas, Wisconsin.

⁴ Information on small feedlots is available at: <http://www.aphis.usda.gov/naahms>

Training workers in food security, terrorism threats, or recognizing potential terrorist activities, as well as maintaining an active working relationship with local emergency management officials are other important components of emergency preparedness. Overall, during the previous 3 years nearly half of feedlots (48.2 percent) had someone from the operation attend an educational meeting regarding food security, terrorism threats, or the recognition of potential terrorist activities and actions. A higher percentage of feedlots with a capacity of 8,000 or more head (64.3 percent) than feedlots with a capacity of 1,000 to 7,999 head (41.5 percent) had someone attend such educational meetings. Nearly all feedlots (88.5 percent) encouraged employees or others to report what they considered unusual circumstances or activities, and about half of operations (48.4 percent) had active working relationships with local county or regional emergency management officials. Feedlots with a capacity of 8,000 or more head were more likely to have such relationships than feedlots with a capacity of 1,000 to 7,999 head (70.3 and 39.3 percent, of operations respectively).

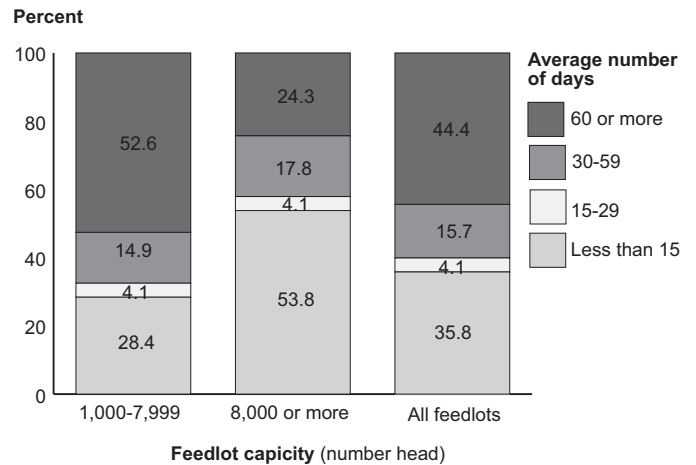
Table 2. Percentage of feedlots by type of training/relationships for handling emergency situations, and by feedlot capacity

Training/relationships	Percent Feedlots		
	Feedlot capacity (number head)		
	1,000–7,999	8,000 or more	All operations
Attended educational meeting	41.5	64.3	48.2
Reporting unusual activities	85.1	96.6	88.5
Working relationship with local officials	39.3	70.3	48.4

Sustainability

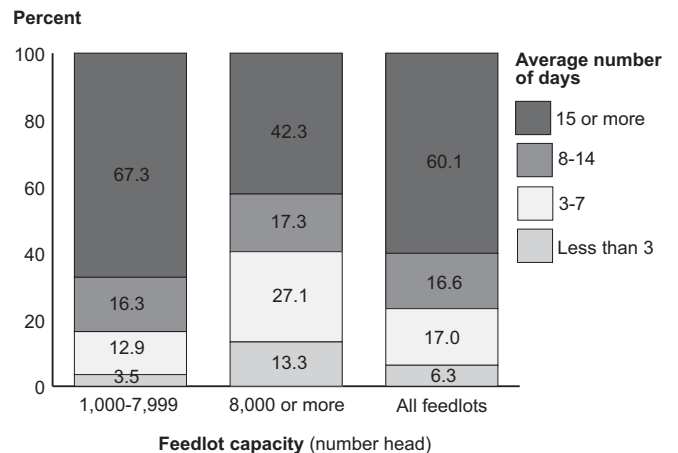
A contingency feed supply is another important component of an emergency management plan. This supply should be adequate enough to ensure that cattle get basic nutrition for an extended period in case acquiring additional feed is not possible. Overall, nearly half of feedlots (44.4 percent) had an average of 60 or more days of feed available for basic nutrition, while more than a third (35.8 percent) had an average supply of less than 15 days. Five of 10 feedlots with a capacity of 1,000 to 7,999 head (52.6 percent) had a feed supply that would last 60 days or more, while only 24.3 percent of large feedlots with a capacity of 8,000 or more head had a supply that would last 60 days or more (figure 1).

Figure 1. Percentage of feedlots by average number of days feed on the premises would provide cattle basic nutrition if acquiring additional feed was not possible, and by operation capacity



Similarly, it is important to have a backup power source to maintain critical operations, such as pumping water, for an extended period of time during a utility outage or lack of fuel availability. Overall, nearly two-thirds of feedlots (60.1 percent) had a power-generation capacity of 15 or more days on average; feedlots with a capacity of 1,000 to 7,999 head were more likely to have 15 days or more of power-generation capacity (67.3 percent) than feedlots with a capacity of 8,000 or more head (42.3 percent) [figure 2].

Figure 2. Percentage of feedlots by average number of days facility could generate enough power to maintain critical operations such as water and feed delivery, and by feedlot capacity



Vaccinating animals in the event of an outbreak of foreign animal disease such as FMD could be an effective way to prevent disease spread. Feedlot operations could benefit from being prepared to process and vaccinate a large number of animals in a short period of time. Nearly half of feedlots with a capacity of 8,000 or more head (49.7 percent) and nearly a third of feedlots with a capacity of 1,000 to 7,999 head (29.2 percent) had the ability to process an average of 100 animals or more per hour using only existing staff, should vaccination be required. About a third of feedlots with a capacity of 1,000 to 7,999 head (31.5 percent) had the ability to process fewer than 75 animals per hour.

Summary

A written emergency-procedure plan is an essential part of emergency preparedness and helps to ensure that an operation can provide basic needs such as power, clean water, and feed during an emergency event or utility outage. Less than one of four feedlots with a capacity of 1,000 to 7,999 head had an emergency-procedure plan in place, while about two-thirds of feedlots with a capacity of 8,000 or more head did. Feedlots with a capacity of 1,000 to 7,999 head were also less likely than feedlots with a capacity of 8,000 or more head to have active relationships with local emergency management officials or to be able to vaccinate a large number of animals in a short period of time. Conversely, feedlots with a capacity of 1,000 to 7,999 head were better prepared to supply feed for basic nutrition and backup power for an extended period of time than feedlots with a capacity of 8,000 or more head, which could be a reflection of the higher expense and larger storage space required for feed and fuel on the larger feedlots. In a prolonged emergency, larger operations will be challenged to maintain operations, though it appears that they are more likely to have prepared to address some of these challenges. More information about emergency preparedness is available in following resources.

Guidance on emergency plan development for farms:

Iowa State University All Hazards Farm Emergency Preparedness Planning

- Iowa State University Center for Food Security and Public Health.
<http://www.prep4agthreats.org/Assets/Factsheets/Farm-Emergency-Preparedness-Plan.pdf>

The University of Vermont Emergency Preparedness – Disaster Planning for Livestock

- The University of Vermont.
http://www.uvm.edu/~ascibios/?Page=Emergency/Disaster_Planning_for_Livestock.html&SM=submitenuemergency.html

Michigan State University Extension – Emergency Planning for the Farm

USDA Emergency Preparedness and Response resources:

State Offices and Agencies of Emergency Management.

FEMA resources and online emergency preparedness training

- FEMA, Emergency Management Institute.
- FEMA, Emergency Management Institute online training. *Animals in Disasters: Awareness and Preparedness.*
- FEMA, Emergency Management Institute online training. *Animals in Disasters: Community Planning.*
- FEMA, National Response Framework (NRF).
- FEMA, NRF, Emergency Support Function #11 – Agriculture and Natural Resources.

For more information, contact:

USDA–APHIS–VS–CEAH
NRRRC Building B, M.S. 2E7
2150 Centre Avenue
Fort Collins, CO 80526-8117
970.494.7000
<http://www.aphis.usda.gov/nahms>

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