

**Annex XI**  
**Agricultural Emergencies**  
**Appendix A**  
**Animal Health Emergency**

**LEAD AGENCY:** Division of Animal Industry, Department of Agriculture

**SUPPORTING AGENCIES:** Colorado Brand Board, Colorado State University, Colorado State University Cooperative Extension, Local Sheriff Departments, Local Fire Departments, Local Emergency Management Departments, Colorado Department of Public Safety, Colorado State Patrol, Colorado Bureau of Investigation, Colorado Office of Preparedness and Security and Fire Safety, Colorado Office of Emergency Management, Colorado Division of Wildlife, CFAWA, Code 3, Colorado Humane Society, American Red Cross, Colorado Department of Education, Colorado Department of Human Services, Colorado Department of Labor, Colorado Department of Public Health, Colorado Department of Corrections, Colorado National Guard, Colorado Department of Natural Resources, USDA, APHIS, FBI

**I. Purpose**

The purpose of this appendix is to provide a course of action for a statewide-integrated response to an animal health emergency that is beyond the capabilities of local and county resources. The intent is to preserve and maintain one of Colorado's major economic resources, the livestock industry, from an emergency that could be caused by disease, a natural disaster, or an act of terrorism.

**II. Scope**

The scope of this appendix is to describe the general response of the Colorado Division of Animal Industry, Department of Agriculture and other supporting agencies in response to an animal health emergency.

Generally animal care and control is the responsibility of the owner and the local jurisdiction.

**III. Planning Assumptions**

**A. Animal Disease Emergency:**

1. All reportable disease outbreaks shall be treated as an emergency or disaster unless determined otherwise by the State Veterinarian.
2. Accredited veterinarians will immediately report any reportable disease to the State Veterinarian's Office. Any foreign animal disease or parasite will also be reported. The diseases on the OIE list A and B are also reportable diseases. A current list of these diseases can be obtained from the State Veterinarian's Office or from the website <http://www.oie.int/> . See Attachment B

3. Rocky Mountain Animal Health Laboratory, Colorado State University Diagnostic Laboratories (Fort Collins, Rocky Ford, and Grand Junction) will immediately report any of the diseases mention in the above list of diseases.
4. Upon the suspicion of a FAD (foreign animal disease) the State Veterinarian's Office will be notified. At this time a FADD (foreign animal disease diagnostician) will be sent to the location of the suspected incursion for specimen collection. The specimens will then be flown to the foreign animal disease diagnostic laboratory (FADDL) on Plum Island, New York for conformation of the disease. Once a confirmed diagnosis is made the AVIC and the State Veterinarian will work in concert to provide the technical expertise in the control and eradication of the disease.
5. Disasters in the past decade have shown that damage to production agriculture can be not only an economic crisis to individuals and communities but, especially in animal production agriculture, can prove to be an environmental and public health challenge.
6. FAD can be used as a weapon of mass destruction, causing enormous economic damage. It may also pose as a vehicle or reservoir for zoonotic diseases that may threaten human life and ability to feed the nation. If a zoonotic disease is diagnosed the public health officials must be notified.

B. Other Disasters:

1. Many people are reluctant to leave their pets. When unable to take their pets, many people may choose to stay in an unsafe location. This is particularly true of the elderly.
2. People will frequently try to reenter an area to retrieve animals before it is advisable for them to return to the evacuated area.
3. People will live in the streets rather than evacuation shelters if they have to abandon their animals.
4. Some people will abandon their pets during a disaster. This includes unscheduled drop-offs at animal facilities.
5. This type of behavior could put people, pets, animals and emergency responders in a precarious position.
6. Emergency individuals and groups will assist to provide animal services to supplement established organizations only as time permits. Human health and safety is of primary concern. Such services include but are not limited to collection, boarding, and reunification.
7. Pre-disaster education is of utmost importance to ensure the public has ample time to implement arrangements for both large and small animals. The Colorado SART (State Animal Response Team) will provide an instrumental lead in this area.

8. Animal shelters, veterinary hospitals, and boarding kennels will probably have full capacity and should not be considered as an alternate source for animal evacuation.
9. Long term (> 2 weeks) boarding of animals in temporary facilities is not feasible.
10. Large-scale decontamination of livestock may be needed in a chemical or biological event. *See attachment 3*
11. Evacuation of animals must occur in advance of a disaster if time permits. Arrangements for feeding and care of large numbers of livestock in the affected areas need to be addressed. Milking and manure removal are a couple of the situations that need to be considered.
12. Private sector agencies, whether through Congressional mandate as with the American Red Cross (ARC) or missions assigned through Voluntary Organizations Active in Disaster (VOAD), play an enormous role in disaster response.
13. The Colorado State Animal Response Team (SART), county animal response teams (CART), along with the other volunteer groups and emergency individuals will assist to provide animal services to supplement established organizations only as time permits. Human health and safety is of primary importance. Such services include but are not limited to collection, boarding, transporting, and reunification.
14. Federal and state emergency operation plans based on statutory authority and executive order authority assigned to various agencies can through emergency support functions accommodate all areas of emergency response.

#### **IV. Situation**

The type of incursion will dictate the response to the situation. Two major categories exist. One would be a foreign animal disease (FAD). The introduction could be accidental or intentional. The intentional terrorist introduction could be from radical groups from within our own country or from a foreign group with different political views. The other category of an animal emergency would be one of a natural disaster such as a flood, tornado, wildfire, drought, blizzard or heat.

#### **V. Concept of Operations**

- A. The Colorado Department of Agriculture, the primary agency, in the event of an animal health emergency, may request activation of the state emergency operations plan in support of such an emergency. The primary agency will coordinate with appropriate agencies and organizations to ensure operational readiness, The primary and support agencies will develop and maintain standard operating procedures (SOP) for surveillance and response to include, but not limited to, poultry, cattle, swine, dairy, sheep, goats, equine, and companion animal industries as well as wildlife and exotic animals. Such SOPs will be developed for surveillance and response to pests of crops and horticulture. These

procedures will relate to catastrophic disaster and diseases that pose a significant impact on human life property or the economy. This may or may not occur in concert with an extraordinary declaration of emergency by the United States Secretary of Agriculture. The primary agency will respond to meet responsibilities of the ESF in a declaration of disaster for any catastrophic of "all Hazard" event.

- B. The primary agency will coordinate and support the appropriate agencies to protect the public from disease or injury from animals, animal industry or production agriculture which have been negatively impacted by and emergency or disaster. This function will also include, but not be limited to, facilitating the evacuation of animals.
- C. The primary agency's emergency management coordinator will facilitate and coordinate with support agencies and organizations such as the state and local veterinary medical organizations, humane organizations, animal rescue groups and private sector entities to meet emergency responsibilities
- D. The primary agency's offices, divisions and districts will provide personnel, supplies, equipment and facilities at the request of the primary agency's emergency coordinator.
- E. Acts of terrorism may be directed to the nation's food supply, either as the target or as a vehicle of chemical and biologic weapons of mass destruction. Acts of terrorism are a federal crime, and the response to such events are authorized and outlined in the United States Government Interagency Domestic Terrorism Concept of Operations (the CONPLAN). The Federal Bureau of Investigation (FBI) is recognized as the primary federal agency in acts of terrorism. All other activities will proceed as consequences of such an event as described in the CONPLAN. At such time as the Attorney General of the United States relieves the FBI of the primary federal agency status, the event will proceed according to the Federal Emergency Operations Plan, the extraordinary state of emergency and uniform methods for the specific events, state emergency operations plan and this ESF.
- F. All other events whether an emergency or catastrophic event will follow the guidelines of the federal and state emergency operations plans. All emergency and catastrophic events related to animal health emergency management will be guided by such policy adopted by USDA, the State Department of Agriculture Board of Animal Health and the United States Animal Health Association.
- G. Emergency operations necessary for the performance of this function include, but are not limited to:
  - 1. There is notification of the occurrence of a natural disaster that would allow for the evacuation of animals and a request is received from a local emergency management organization for disasters;

2. There is notification of the occurrence of a natural disaster that exceeds the capabilities of the local emergency management organization to deal with animal evacuation;
3. There is notification of an unusual disease condition, the diagnosis of an emerging disease, or the diagnosis of an OIE list A or List B disease.
4. A natural disaster affecting animals is declared by the Governor;  
or
5. The State Veterinarian deems animal health emergency measures

## **VI. Organization and Responsibilities**

- A. Primary Agency—Colorado Department of Agriculture
  1. Division of Animal Industry
  2. Division of Plants
- B. Response Agencies:
  1. Primary Agency—Agency or agencies with statutory authority for animal and the animal industry. Division of Animal industry, Department of Agriculture. Should the emergency become overwhelming for the local and state governments, or if it becomes a multi-state emergency then the USDA will become the lead agency in concert with the Colorado State Veterinarian.
    - a. Division of Animal Industry
    - b. Division of Plants—Crop, feed, fertilizer, any and all information that comes under the expertise of the Division of Plants.
  2. Resource Agencies
    - a. Colorado Brand Department—Personnel, warning, communication, law enforcement, quarantine, animal management and operations.
    - b. Colorado Cooperative Extension Service—Personnel, warning, communication, animal management, operations, incident command system, response and recovery
    - c. Colorado State University and State Diagnostic Laboratories—Specialize Consultation, Equipment, Laboratories, Diagnostics Facilities, Research and Development, Standardization of Training and Training, Carcass Disposal Colorado State University and State Diagnostic Laboratories—Specialize Consultation, Equipment, Laboratories, Diagnostics Facilities, Research and Development, Standardization of Training and Training, Carcass Disposal
    - d. Local Sheriffs along with the local fire departments and local emergency management people—Warning and communications, Coordination and Information, Leadership and funding, resource support, Law enforcement, Search and rescue, Fire fighting, VMAT, HAZMAT. Damage assessment, Animal management, Evacuation and Quarantine,

Construction Technical Local Sheriffs—Warning and communications, Coordination and Information, Leadership and funding, resource support, Law enforcement, Search and rescue, Fire fighting, VMAT, HAZMAT. Damage assessment, Animal management, Evacuation and Quarantine, Construction Technical

- e. Department of Public Safety
  - i. Colorado State Patrol—Traffic control, Quarantine enforcement, Communication, Equipment and aircraft escort
  - ii. Colorado Bureau of Investigation—Specialized communication, investigation, and intelligence
  - iii. OPSFS (Office of Preparedness, Security and Fire Safety) Critical Infrastructure Protection, Information sharing, Fire Safety, Communications, Leadership, and Homeland Security Funding
- f. Office of Emergency Management—Communications, State Emergency Operations Center and Coordination of All State Resources for Mitigation, Planning, Training, Response and Recovery, funding, and leadership.
- g. Forest Service--Fire Services, Specialized Equipment and Aircraft, Facilities, Decontamination and Hazardous Materials, and Incident Management Teams.
- h. Colorado Division of Wildlife—Coordinate with the lead agency on matters concerning wildlife.
- i. Colorado Veterinary Medical Association - Colorado SART, American Red Cross, Voluntary Organizations Active in Disaster (Code 3, CFAWA, Colorado Humane Society), VMAT
- j. Agribusiness and Private Industry—Equipment, Personnel and Technical Support Agribusiness and Private Industry—Equipment, Personnel and Technical Support
- k. Department of Corrections—General Equipment, Personnel, Aircraft, and Vehicles. This organization may be used in the handling of animals, as there is a program that teaches this to the inmates.
- l. Department of Military Affairs (Colorado National Guard)—Specialized Equipment, Personnel, Aircraft, Vehicles, Tents, Supplies, Herd depopulation, and security.
- m. United States Department of Agriculture (USDA)- Information, Mapping, leadership, management, funding
- n. Environmental Protection Agency—Hazardous Materials, Decontamination

## **Attachment A**

### **Emergency Disposal of Dead of Diseased Livestock**

Most livestock farms deal with a low level of mortality by contracting with local rendering companies. Poultry are not rendered, and poultry farms frequently use composting to dispose of carcasses. However, in the case of a sudden large-scale mortality, the methods used to deal with low levels of animal mortality can be overwhelmed, leading to the need for alternative methods of carcass disposal.

Under certain conditions, rendering facilities may not be able to process contaminated carcasses, such as sheep carcasses and carcasses of animals that have drowned. Alternative methods for carcass disposal may need to be employed. Planning should determine when the threshold for maximum existing disposal capacity is exceeded and alternative methods for disposal are needed.

In some cases, large-scale carcass disposal has been possible by obtaining exceptions to existing regulations, such as for burial and burning. Although most of these exceptions have been approved, it is preferable to identify appropriate methods for large-scale carcass disposal and to facilitate regulatory agencies.

Carcasses can be spread over wide geographic areas if they cannot be disposed off on-site. Therefore, carcasses may need to be transported to an appropriate location. Transportation of carcasses must avoid spillage of animal waste products and prevent the spread of disease to other animals en route. Planning should identify suitable methods for transportation, including storage, packaging, and handling of carcasses as well as ways to monitor biosecurity.

The need for effective and efficient methods for carcass disposal has been a recurring problem in many large-scale disasters. Common issues include logistical problems, appropriate choice of methods, environmental concerns (impact on water, soil, and air), and public and animal health.

In the past, carcass disposal has been addressed in the response to disasters. In some cases the absence of a plan to dispose of carcasses has led to costly delays, haphazard choices of disposal methods, and awkward compromises in an attempt to balance cost, public health, environmental protection, and biosecurity. This lack of planning has led to greatly increased costs of response operations in previous disasters.

In some cases carcasses are disposed of similar to other disaster debris; however, it is becoming increasingly difficult to find local disposal facilities that will accept large numbers of carcasses. Therefore farmers, producers, renderers, emergency managers, veterinarians, extension agents, and others should spend time planning for large-scale carcass disposal. It is very important to develop these plans at the local level, because of the individuality of issues that arise in each community.

There are a number of special concerns that arise surrounding the disposal of carcasses. These include public health, animal health, and environmental concerns.

Dead animals are a treat to public health because of intolerable odors and the potential spread of diseases such as Salmonellosis, Campylobacter, Clostridium perfringens, and

other zoonotic diseases. If poisoning is the cause of death, consideration also needs to be given to the risk of human exposure to the toxin involved.

Dead animals are a threat to living animals. Although they do pose threats to humans, carcasses are more likely to be infected with diseases that can harm other animals on the farm. Therefore, special attention must also be paid to implementing effective biosecurity on farms when disposing of carcasses.

Large numbers of carcasses present additional problems at certain times of the year. For example, they will rapidly decompose in the summer.

In winter months, snow and ice can restrict access to the site where carcasses lie or need to be moved.

The environment is threatened as carcasses decompose and release large numbers of coliform, Clostridia, and other bacterial organisms. When these organisms are shed into the environment, surface and ground water can become contaminated, leading to infringements of EPA and DNR regulations. In the case of intoxications., further consideration has to be given as to whether the toxin will leach into the environment and cause more problems.

In the case of sheep, special considerations are necessary. Many renderers have stopped accepting sheep carcasses because of the risk of a Transmissible Spongiform Encephalopathy (TSE) such as scrapie. This means that most sheep have to be disposed of on-site.

When large numbers of carcasses need to be disposed of on-site, special permits may be required. State and county environmental protection agencies and health departments issue these permits.



## Attachment B

**OIE List A diseases** are those transmissible diseases that (1) have the potential for very serious and rapid spread, irrespective of national borders, (2) are of serious socio-economic or public health consequence, and (3) are of major importance in the international trade of animals and animal products. At present, List A contains 15 diseases (Table 1), most of which are caused by viral agents.

<b>Table 1: OIE List A</b>	
Foot and Mouth Disease	Sheep Pox and Goat Pox
Vesicular Stomatitis Virus	African Horse Sickness
Swine Vesicular Disease	African Swine Fever
Rinderpest	Classical Swine Fever
Peste des Petits Ruminants	Highly Pathogenic Avian Influenza
Contagious Bovine Pleuropneumonia	Newcastle Disease
Lumpy Skin Disease	Bluetongue/EHD
Rift Valley Fever	

**List B diseases** are transmissible diseases that (1) are considered to be of socio-economic and/or public health importance within countries and (2) are significant in the international trade of animals and animal products. Currently List B contains approximately 90 diseases (Table 2) caused by viral, bacterial, and parasitic disease agents.

<b>Table 2: OIE List B</b>	
Multiple Species	Sheep and Goat
Anthrax	Ovine epididymitis ( <i>Brucella ovis</i> )
Aujeszky's Disease	Caprine and ovine brucellosis (excluding <i>B. ovis</i> )
Echinococcosis/hydatidosis	Caprine arthritis/encephalitis
Heartwater	Contagious agalactia
Leptospirosis	Contagious caprine pleuropneumonia
Q Fever	Enzootic abortion of ewes (ovine chlamydiosis)
Rabies	Ovine pulmonary adenomatosis
Paratuberculosis	Nairobi sheep disease
New World Screwworm ( <i>Cochliomyia hominivorax</i> )	Salmonellosis ( <i>S. abortusovis</i> )
Old World Screwworm ( <i>Chrysomya bezziana</i> )	Scrapie
Trichinellosis	Maedi-visna

Cattle	Equine
Bovine anaplasmosis	Contagious equine metritis
Bovine babesiosis	Dourine
Bovine brucellosis	Epizootic lymphangitis
Bovine genital campylobacteriosis	Equine encephalomyelitis (Eastern and Western)
Bovine tuberculosis	Equine infectious anemia
Bovine cysicercosis	Equine influenza
Dermatophilosis	Equine piroplasmosis
Enzootic bovine leukosis	Equine rhinopneumonitis
Haemorrhagic septicaemia	Glanders
Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis	
Theileriosis	Equine viral arteritis
Trichomonosis	Japanese encephalitis
Trypanosomosis (tsetse-transmitted)	Horse mange
Malignant catarrhal fever	Surra ( <i>Trypanosoma evansi</i> )
Bovine spongiform encephalopathy	Venezuelan equine encephalomyelitis
Swine diseases	Avian diseases
Atrophic rhinitis of swine	Avian infectious bronchitis
Porcine cysticercosis	Avian infectious laryngotracheitis
Porcine brucellosis	Avian tuberculosis
Transmissible gastroenteritis	Duck virus hepatitis
Enterovirus encephalomyelitis	Duck virus enteritis
Porcine reproductive and respiratory syndrome	Fowl cholera
Lagomorph diseases	Fowl pox
Myxomatosis	Fowl typhoid
Tularemia	Infectious bursal disease (Gumboro disease)
Rabbit haemorrhagic disease	Marek's disease
Crustacean diseases	Avian mycoplasmosis ( <i>M. gallisepticum</i> )
Taura syndrome	Avian chlamydiosis
White spot disease	Pullorum disease
Yellowhead disease	
Fish diseases	Mollusc diseases
Viral haemorrhagic septicaemia	Bonamiosis
Spring viraemia of carp	Haplosporidiosis

Infectious haematopoetic necrosis	Perkinsosis
Epizootic haematopoetic necrosis	Marteilosis
	Mikrocytosis
<b>Bee diseases</b>	<b>Other List B diseases</b>
Acariosis of bees	Leishmaniasis
American foulbrood	
European foulbrood	
Nosemosis of bees	
Varroosis	

## Decontamination

Exposure of livestock to hazardous materials can present special problems. Animal may ingest, inhale, or otherwise come into contact with hazardous material. Although the animals may not appear clinically affected, their meat, milk, and eggs may contain residues that present a source of exposure for people.

Humans exposed to hazardous materials should be seen by a physician and animals by a veterinarian. Many toxic effects are acute; but precautions also need to be taken to minimize long-term consequences. A veterinarian may choose to consult the Food Animal Residue Avoidance Databank (FARAD)(<http://www.farad.org>)

Professional advice should be sought to determine the safety of the milk for human consumption. Representatives of the USDA Food Safety Inspection Service (FSIS), Food and Drug Administration (FDA), and their state equivalents (especially for contaminated milk) should investigate the safety of the human food supply.

Food products and live animals that are potentially contaminated may need to be held on the facility until safety can be assured. This is especially true in the case of a foreign animal disease. Movement of livestock, equipment, or even people needs to be evaluated when a foreign animal disease is involved.

Specialist firms who work under the guidance of the Environmental Protection Agency can determine the safety of the environment.

Many food processors test for the presence of contaminants that threaten the safety of the food supply prior to movement for processing and continuously during processing. However, if a chemical contaminant is suspected that is not usually tested, those knowledgeable about the contaminant should advise the processors prior to movement or processing.

Many farmers are often qualified to handle normal use of hazardous materials on their farms. However, if there is any suspicion of contamination of livestock from hazardous materials, it is essential that livestock producers seek specialist advice. Representatives from the USDA Animal Plant Health and Inspection (APHIS) have authority over live animals, the FDA over animal feed and milk, and FSIS over culled livestock going for slaughter. State officials and many processors are also trained and qualified to deal with these issues.

Other sources of information are the federal and state Food and Drug Administration and state chemists, whose role includes the safety of animal feeds. Owners should not treat hazmat-contaminated animals themselves. Most veterinarians can advise on how to treat the clinical aspects of common poisonings. In addition, the ASSPCA Animal Poison Control Center (<http://www.aspca.org/apcc>) in Urbana, Illinois; most colleges and schools of veterinary medicine; state animal disease diagnostic laboratories; and some human poison control centers can provide needed information on how to deal with animal poisonings. In some cases there may be a charge for these services.