

St. Joseph County Grange Fair Animal Health/Emergency Response Plan



July 2008

Developed by St. Joseph County Grange Fair



To: St. Joseph County Grange Fair and other users
Re: Emergency Animal Health Response Plan

Animal Health and well-being issues are on the rise. This Plan is designed to encourage all fair participants to be more proactive in the well-being of livestock exhibited on our fairgrounds. The plan is to increase awareness through education, by establishing preventive action steps and designing appropriate responses for exhibitors, fair participants, and staff. This plan sets general policies and procedures to deal with potential disease outbreaks, but will be altered as needed depending upon the animal disease emergency. The St. Joseph County Grange Fair Board of Directors has the authority to alter or revise this plan.

The St. Joseph County Grange Fair Board developed specific steps within the Animal Health/Emergency Response Plan to assist the staff, directors and superintendents of the fair in addressing animal health education, standardizing check-in procedures, reduce the risk of an animal disease outbreak and provide an emergency response plan, as needed. This plan is meant to serve as a “stand-alone plan”, separate from the fair emergency plan.

Approved by: _____ Date: _____

Updated by: _____ Date: _____

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ST. JOSEPH COUNTY GRANGE FAIR ANIMAL HEALTH/EMERGENCY RESPONSE PLAN

1.0 INTRODUCTION

St. Joseph County Grange Fair recognizes a need for pro-active emergency planning for its staff, directors, superintendents, and individual citizens. This animal disaster plan has been developed primarily for the safety of St. Joseph County Grange Fair staff, directors, superintendents, and visitors. It also supports the continuance of vital agriculture operations, promotes responsible animal care and companionship, and reduces harmful interactions between humans and non-domestic animals in the event of a sick or diseased animal. This Plan provides an organized, detailed system to allocate proper and pertinent resources in the event of an animal disease emergency.

Further, failure to plan for sick or diseased animals prior to an emergency may lead to serious public health concerns during an incident. Injured, ill or, dead animals can pose disease and injury hazards to the public.

1.1 Purpose Statement

To protect the public health, the public food supply, domesticated animal resources, the environment, the agricultural economy, and to ensure the humane care and treatment of animals in case of illness or disease, or other situations that can cause animal suffering.

1.2 Scope

This plan is intended for use by St. Joseph County Grange Fair as a guideline for implementing immediate action to provide care and control of animals, thereby minimizing animal suffering and/or the spreading of an animal disease. Care and control measures outlined herein will apply to all animals at the fair, regardless of ownership.

This plan addresses planning and response with regard to all-hazards, however incidents which are due to significant animal disease will require oversight by the Michigan Department of Agriculture based on established laws and response plans. If incidents of this nature come to the attention of the CART Team, the Michigan Department of Agriculture's State Veterinarians Office should be notified immediately. For safety and for biosecurity reasons, do not attempt to move or handle sick or dead animals that may have been affected by an animal disease. CART Team members have the authority to move dead animals.

2.0 PARTICIPATING AGENCIES/RESPONSIBILITIES

2.1 County Animal Response Team (CART)

St. Joseph County Emergency Management

Responsibilities: Coordinate support agencies to manage animal protection in emergencies. Activate the Emergency Operations Center, if necessary. Assume responsibility at the County level for overall direction and control of the emergency incident.

St. Joseph County Grange Fair Management

Responsibilities: Coordinate and manage animal protection in emergencies. Activate the Fair Emergency Operations Center, if necessary. Assume responsibility for direction and control of the emergency incident on the fair grounds.

St. Joseph County Animal Control Division

Responsibilities: Provide and coordinate personnel and equipment to collect, rescue and shelter companion animals. Assist in identifying, surveying, and maintaining a list of small animal sheltering facilities and transportation as part of the County Animal Response Team.

Branch, Hillsdale, St. Joseph Community Health Agency

Responsibilities: Provide services which address injuries/bites/diseases related to the protection of humans and animals. Provide assistance to the MDA and DEQ in the disposal of dead animals to avoid negative impact on public health and to minimize zoonotic disease outbreaks during an animal health emergency.

Michigan State University Extension of St. Joseph County

Responsibilities: Assist in identifying and procuring additional resources. Provide subject-matter expertise, trained volunteers, personnel, equipment, and shelter as required to care for livestock and large companion animals.

Michigan Department of Agriculture-Animal Industry Division

Responsibilities: Assist in providing information and direction, whenever possible, with regard to the general health of animals. Enforce all state regulations concerning animal health and the movements of live or dead animals.

Private Veterinarian

Responsibilities: Assist in providing information and direction with regard to the general health of animals within their expertise. Provide assistance with identifying needs of animals in shelter situations.

2.2 Resource Groups & Agencies

Michigan Veterinary Medical Association

Provide information on local veterinarians. Encourage their involvement in local animal emergencies.

Private Veterinarians and Veterinary Clinics

In accordance with clinic policies, provide trained personnel and equipment as required to care for animals.

MI Dept. of Environmental Quality

Provide resources necessary for protection of environment and water quality related to animal carcass disposal and decomposition.

3.0 PLANNING ASSUMPTIONS

St. Joseph County Grange Fair should plan for animal-related emergency situations and implement response and recovery operations utilizing local resources. State, federal, and private organizations may provide animal care and assistance in emergencies, when requested.

Animal protection planning should ensure the proper care and recovery of animals impacted during an illness or disease outbreak. This should include measures to identify housing and shelter for animals, establish communication methods to both internal and external audiences (i.e.: exhibitors, fair board members, animal owners and the general public), procure necessary supplies for the care of the animals, and plan for animal release and return to owners or work with animal owner for proper disposal of deceased animals.

A large-scale emergency at St. Joseph County Grange Fair may warrant an immediate response from state and local personnel, agencies, and organizations. However, emergency situations may become compounded due to the nature of the emergency and may also require activation of additional specialized agencies through mutual aid agreements.

3.1 Legal Considerations

It is important to note that animals can be classified broadly into two categories: privately owned and publicly owned. Livestock and companion animals are private property; they belong to individuals or entities and have an economic value that may require compensation if those animals are ordered destroyed. Wildlife, both game and non-game species, belongs to the people of the State of Michigan, and separate laws govern them. Federal and state laws govern how animals are cared for and handled. Some of the most important:

Pets Evacuation and Transportation Standards Act of 2006

Amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121 et seq. to ensure that State and local emergency preparedness operational plans address the needs of individuals with household pets and service animals following a major disaster or emergency.

Animal Industry Act (Public Act 466 of 1988, MCL 287.701 et seq.)

Prevention, control, and eradication of infectious, contagious diseases, or toxicological contamination of livestock and domesticated animals; importation and movement requirements; indemnification in some cases

Michigan Public Health Code (Public Act 368 of 1978, MCL 333.1101, et seq.)

Prevention and control of diseases impacting humans; license of veterinary medicine; use of controlled substances for animal euthanasia

Natural Resources and Environmental Protection Act (Public Act 451 of 1994, MCL 324.101, et seq.)

Wildlife and habitat conservation and management, including taking, possession, and protection

Animals Running at Large (Public Act 328 of 1976, MCL 433.11, et seq.)

Escaped livestock running at large

Dangerous Animals (Public Act 426 of 1988, MCL 287.321)

Confinement and destruction of dangerous animals; penalties

Bodies of Dead Animals Act (Public Act 239 of 1982, MCL 287.651 et seq.)

Disposal requirements for livestock

Dog Law (Public Act 339 of 1919, MCL 287.261)

Licensing, regulating, destruction of dogs; payment for losses

Additionally, there are many other state laws, as well as federal laws and regulations that control the care and handling of animals. For additional guidance, the Fair Manager is encouraged to contact the Michigan Dept. of Agriculture, the Michigan Dept. of Natural Resources, or your local animal control official.

In an emergency situation, the Emergency Management Act (Public Act 390 of 1976, MCL 30.401 et seq.) may be used, and depending on the circumstances, the laws and regulations governing both domestic and wild animals may be suspended as provided by law.

3.2 **Animal Populations**

Determining the number and type of animals at St. Joseph County Grange Fair is an important component of planning for an animal health emergency. Ascertaining what livestock exist, determining how many animals are on the fair grounds, identifying specific specie needs is crucial for appropriate resource planning. All animals exhibited and housed on the fairgrounds are registered at the fair office.

3.3 **Facility Identification**

The following fairground facilities are included in this plan:

- All barns with live animals
- Temporary shelter (tents) for any animals
- Show ring
- Sale ring
- Scale House
- Show and barn equipment (bedding, chutes, wash stalls, scales, gates, pens, brooms, shovels, buckets, etc.)
- Power wash sale ring and other equipment used
- Quarantine/isolation facilities/area
- Check in/out areas (trailer check in and vet check in)
- Restrooms and hand washing stations

4.0 FINANCIAL RESPONSIBILITY:

The fiscal responsibility of maintaining and operating fair events/activities is the responsibility of the fair board. The fair board will make every effort to provide a secure/safe exhibit area but assumes no financial responsibility for damage, destruction, injury, sickness, or disease of either still exhibits and/or livestock which become the responsibility of the exhibitor or owner or both.

Situations may occur which require treatment, specialized care including the potential of quarantine. In such instances, the FAIR MANAGER and/or MANAGER'S DESIGNEE in consultation with the assigned superintendent, local and/or state veterinarians (and, if necessary, appropriate local, state, and/or federal agencies) will make final judgment regarding security, housing (type and location), feeding and care, waste removal, treatment, disposal of deceased animals and the process/procedure for animal release. Exhibitors/owners will be kept fully informed with the understanding that official information will come only from the fair manager and/or manager's designee.

Should isolation and/or quarantine be required, fair management in consultation with the assigned superintendent will develop safe and appropriate procedures for housing (including feed, water, bedding, stall maintenance, necessary security) including who will have access to the location of quarantined animals.

All proceeds including premiums and sale will be held by the fair board until final determination. Should costs exceed premiums and/or sale proceeds the exhibitor including the owner will be billed for the balance. Unused premiums and/or sale proceeds will be released to the designated exhibitor upon animal release determination.

5.0 CONCEPT OF OPERATIONS

5.1 General

The primary and support agencies will manage and coordinate, or assist in coordinating, local animal protection activities. These agencies will use established animal protection and support organizations, processes, and procedures. Responsibility for situation assessment and determination of resource needs in the event of a large-scale emergency lies primarily with St. Joseph County Grange Fair Management, the local incident commander, and St. Joseph County Animal Control. Depending upon the nature of the emergency, other partners may assist as listed under primary and support agencies in section 2.0, 2.1, and 2.2 of this plan.

When county resources and mutual aid agreements are insufficient, animal protection assistance and resources such as food, medicine, shelter, bedding material, specialized personnel, and additional veterinary medical professionals, will be requested from the State of Michigan via processes outlined under the Michigan Emergency Management Act, PA 390. Should the need for State or Federal resources arise, the State Emergency Operations Center will coordinate the requests for assistance.

Animal protection operations will be managed using the St. Joseph County Grange Fair Emergency Plan and NIMS - the National Incident Management System. Public health concerns will be managed in accordance with appropriate Hillsdale- Branch- St. Joseph County Community Health Agency plans and procedures. Fair Staff and Board Members will receive NIMS training as time and space within classes allow.

5.2 Notification & Communications

This plan and its procedures will be activated in the event of an emergency that results in a significant need for animal protection. St. Joseph County Grange Fair Management will determine when these procedures will be implemented and notify the appropriate agencies. St. Joseph County Grange Fair Management will maintain a call down notification system.

Communications among the fair management, emergency management coordinator, the County Animal Control Director, and support agencies will occur primarily through telephone, facsimile, and cellular telephone transmission. St. Joseph County Grange Fair Management will maintain a list of radio and TV stations for the purpose of public notification when necessary. Public information statements will be issued through various media outlets.

5.3 Public Information

The St. Joseph County Grange Fair Public Information Officer in conjunction with the County Public Information Officer will be responsible for the coordination of all media activities and press releases associated with the protection of animals. Responsibilities may include:

- ❖ Notifying the public of the quarantine.
- ❖ Delivering instructions to the animal owners regarding an impending emergency.

- ❖ Obtaining animal-related information from the owners of animals.
- ❖ Public information statements will be issued through various media outlets.
- ❖ Promoting public awareness and instructing animal owners on how to monitor their animals through literature, clinics and/or seminars.
- ❖ Others as determined by the nature of the animal health emergency.

Steps:

1. The Public Information Officer will work prior to an animal incident to develop press release templates for anticipated animal emergencies.
2. During the response phase, the fair management will provide continued updates to the PIO on the animal response effort. This will include general information on the response and special instruction for the general public, as well as for owners as applicable.
3. The PIO will provide information to the media, public and key audiences as appropriate.

It is extremely important that everyone receive the same information from the same source to prevent misinformation. Consistent information shall be prepared ahead of time, edited and approved by the fair manager or his/her designee. The fair manager or his/her designee shall be the appointed spokesperson for internal and external communication. When citing a source of any information they shall know of ahead of time of the communication the designed course of action.

All media would be directed to the fair office when they enter the gate. There, the fair manager or designee shall be the spokesman that will address the situation. The fair manager or designee will be responsible for communicating to all media sources. Careful deliberation about what information needs to be released shall be taken. Exhibitors should not talk to the media but should rather direct them to the office. To ensure reaching the media in a timely fashion, the information will be distributed in a variety of forms: fax, email and hard copy if on the grounds. All media shall receive the same information.

Internal guidelines:

The fair manager or his/her designee in cooperation with the Fair Veterinarian and fair board shall keep the exhibitors and families informed of the situation.

Every attempt shall be made to provide regular updates to exhibitors, parents and leaders about daily events. In the event of quarantine on market animals, additional communication will be established with buyers, packers, processors and truckers.

6.0 Chain of Command

The St. Joseph County Grange Fair chain of command shall be as follows:

1. Fair Manager
2. Fair Director, assigned to an area
3. MSU Extension Director
4. Superintendent
5. Assistant Superintendent
6. 4-H Leader

Parents/livestock owners shall be consulted by fair superintendents/fair staff relating to the health of any animal(s). The veterinarian working with the owner of the affected animal may be consulted for advice by the owner. St. Joseph County Grange Fair Management has final authority on the exhibits on the fairgrounds.

7.0 Education/Awareness of Health/Emergency Policy

- 7.1 Superintendents will discuss health issues and health emergency plan with all animal exhibitors/owners to ensure awareness, understanding and compliance with our plan and procedures.
- 7.2 Health/Emergency Policies will be posted online on the fair website and MSU Extension for fair participants to review. All animal exhibitors/owners shall be required to be aware and understand the plan and procedures. Superintendents shall monitor that exhibitors are in compliance.
- 7.3 Recommended vaccinations shall be as required by the State Veterinarian and documented to the superintendent of the species and the fair office.
- 7.4 Superintendents shall discuss with exhibitors use of hand washing stations, proper cleaning of pens and stalls, **NOT** sharing feed pans or equipment, and the wearing of proper footwear and disinfecting before entering another barn.

8.0 Check In Procedures:

- 8.1 Superintendents/Leaders will inspect all animals upon arriving at the fair to determine the general well being of each animal before an animal is placed in a barn. If an animal presents itself as being not in good health, the animal shall not be allowed into the barn until cleared by their veterinarian and fair management.
- 8.2 Individual isolation/quarantine area will be stock trailers positioned near the fence (on the east side of the back parking area) if possible. An attempt will be made to avoid same species use of trailers. Signs with contact information for the superintendent, fair vet and fair office will be posted.
- 8.3 Other animals transported with the animal in question shall not be allowed into the barns until cleared by their veterinarian and fair management.
- 8.4 Superintendents of each species will develop and follow their respective criteria for check procedures.

9.0 Animal Treatment:

- 9.1 No animal shall be treated without the knowledge of the superintendent or designee of that species. If an animal requires treatment, the treatment shall be documented on a form or record of activity and presented to the Superintendent and on file. When necessary the superintendent can rely on the expertise of the CART Team. In the case of conflicting advice, the fair manager and/or his/her designee will have the final say.
- 9.2 All market animals are to **only** be treated after the approval of a Veterinarian. If an animal requires treatment, the treatment shall be documented on a form or record of activity and presented to the Superintendent and on file.
- 9.3 The fair manager or his/her designee, after consulting with the fair Veterinarian, has the authority to send an animal home.
- 9.4 Treatment of an animal shall be by the veterinarian or by the direction of a Veterinarian of the owner of said animal verified with written documentation.
- 9.5 Cleaning and disinfecting will be conducted at the direction of the CART Team.

10.0 Disposal

- 10.1 For an isolated incident and where the cause of death has been determined to not fall under MDA jurisdiction, it shall be the animal's owner responsibility to properly dispose of the carcass. This shall be coordinated with the species superintendent and fair management to be completed as soon as feasibly possible.
- 10.2 For an incident that involves multiple owners or animals, the CART team will determine disposition.

11.0 REVIEW AND UPDATE

On a regular basis, this procedure will be reviewed and updated as appropriate by the St. Joseph County Grange Fair Management, and other affected agencies. This procedure will be periodically tested by an appropriate exercise method.

Effective Date: August 1, 2008

12.0 APPROVAL

County Animal Response Team*

ST. JOSEPH COUNTY EMERGENCY MANAGEMENT

Signature: _____ Date _____

ST. JOSEPH COUNTY GRANGE FAIR MANAGEMENT

Signature: _____ Date _____

ST. JOSEPH COUNTY ANIMAL CONTROL DIVISION

Signature: _____ Date _____

BRANCH-HILLSDALE-ST. JOSEPH COMMUNITY HEALTH AGENCY

Signature: _____ Date _____

ST. JOSEPH COUNTY MICHIGAN STATE UNIVERSITY EXTENSION

Signature: _____ Date _____

MICHIGAN DEPARTMENT OF AGRICULTURE – ANIMAL INDUSTRY DIVISION

Signature: _____ Date _____

PRIVATE VETERINARIAN

Signature: _____ Date _____

APPENDIX C - GUIDELINES FOR HANDLING HORSE AND CATTLE DURING EMERGENCIES

Guidelines for Horses during Emergencies

Adapted from the American Veterinary Medicine Association Disaster Preparedness and Response Guide

Free roaming horses will naturally group together and move as a group. Many horses will allow themselves to be caught, especially if they are encouraged with grain. Catching a horse can be done by first placing a rope loosely around its neck, and then fitting on a halter. If a large group of horses avoid capture, they should be rounded up in small groups and corralled into smaller confinements. If the horses cannot be rounded up and have not suffered any obvious injuries, they may be kept fenced in and fed without further human contact.

When moving horses into an unfamiliar environment, the handler should allow them time to investigate their new surroundings. Not all horses are familiar with being tied to a stationary object. If horses must be tied, use a quick release knot. Many horses have only been kept in wooden fenced paddocks. If wire fencing is all that is available, tie 2" x 24" cloth strips to the top wire every 6 to 10 feet.

Identification

Many horses are permanently identified with a tattoo on the inside of their upper lip, freeze brands under the mane, and brands on the outsides of their hind limbs. These are helpful in recording the identification on a horse. Other methods for identification that can be used include neck banding, microchip injection, painting or etching the hooves, and describing all whorls of the horses' coats. Photographs of the right and left sides of the body, medial and lateral aspects of the lower legs, and the face of a horse are helpful in matching owners' descriptions when trying to locate misplaced animals.

Behavior

Most horses are familiar with people and are used to being handled. Horses will seek to establish hierarchy when first grouped together. If this occurs under confined conditions, horses may become violent resulting in serious injuries to each other and to people handling them. Horses show signs of aggression toward people by pinning their ears back, extending their necks to bite, or turning their rear quarters toward an approaching person. Special care should be taken to avoid standing between mares and their foals, and when handling stallions (adult un-castrated males).

Ideally, horses should be kept in small herds at pasture or in individual stalls. If this is not possible, allow horses plenty of room to reduce aggression. Never place two or more stallions together. If at all possible, observe horses for the first few hours after placing together in a herd.

Methods of restraint

Horses can be dangerous. Restraint and handling of horses should be done by people with equine experience. Most horses will cooperate once they have a halter and lead rope on. If sedation is required for restraint, authorized personnel will perform the sedation. Injured horses should not be worked on until they are fully sedated. This usually takes 5 — 10 minutes after intravenous injection. Sedated horses may still kick if abrupt movements or sounds startle them.

Health concerns

Dietary changes predispose horses to colic, laminitis, and hyperlipemia. Mixing of horses from various sources predisposes them to contagious respiratory disease. Vaccinating all horses against Equine Herpes Virus, Equine Influenza, Eastern and Western Equine Encephalitis, Tetanus, and West Nile Virus, can minimize the spread of contagious disease. Any horse that will be spending more than a few days grazing on shared pasture should be dewormed with a paste dewormer. A fly spray or insect repellent approved for use on horses should be applied to them to decrease the spread of vector-borne diseases.

Typical weights and heights

Horses are measured in "hands," one hand being equal to 4 inches. Horse's heights are measured at the highest point of the shoulder (withers). Typical weights and sizes of horses are:

	Adult weight (#)	Newborn weight (#)	Approx. Height
Giant Breeds	1,500 – 2,000	150 - 200	17+ hands
Full Size	750 - 1,200	75 -100	15 -17 hands
Pony	500 - 750	50 – 75	< 15 hands
Miniature	200 - 400	20 - 40	< 40 inches

Typical feeding requirements of horses

Ideally, horses should be fed individually or in small groups. They should be fed twice a day at regular intervals. If horses are fed in groups, the most aggressive ones should be fed first. If that is not possible, observe horses at feeding time to ensure that all horses allow each other access to feed and water.

Under resting conditions and when ambient temperatures are above 40° F, horses should consume about 2% of their body weight per day in dry matter. About 75% of this should be derived from forages (hay) and 25% from grain. 12% protein horse pellets and sweet feed are the preferred grains. Total feed intake depends on body size. For example, a 1,000 lb horse will require 7.5 lb (approximately 1 /5 of a rectangular bale) of hay and 2.5 lb of grain at each feeding. This amount should be fed in the morning and in the evening. In addition, horses require about 2% of their body weight in fresh water per day, and 1 -2 oz of loose salt. All of the feeding requirements should be doubled for lactating mares and increased if ambient temperatures fall below 40° F.

To estimate the amount of feed required for a horse herd, calculate the biomass of the horses by estimating the approximate weight of all the horses and adding the weights together. Multiply this figure by the feed requirements listed above to calculate the amount of hay, grain, water, and salt needed for the herd.

Sheltering and housing

Ideally, horses should be kept in small herds at pasture or in individual stalls. The amount of bedding required depends on the type of flooring. Porous flooring with plenty of lime mixed into it requires the least additional bedding. Concrete flooring requires the most. The approximate amount of bedding that will be required is one bale of straw per 12 x 12 ft stall.

Straw is the preferred bedding under emergency conditions, as it is likely to be available, is space efficient, and is most degradable. Alternatively, 2 bales per stall of conifer wood shavings or shredded newspapers can be used. Black walnut and exotic wood shavings cannot be used.

Fencing materials that are free of projections should surround paddocks for horses. Barbed wire is not suitable for fencing horses. Electric wire fencing can be used, but it must be made visible to horses by 2" x 24" strips of cloth every 6 to 10 feet.

Sanitation

Horses will produce about 0.5% of their body weight of manure per day. Manure should be removed from stalls at least once a day. Manure from horses on pasture should be collected once per week if possible. Manure should be stacked in neat piles, with minimal surface area, to promote composting and reduce fly hatching. To further reduce fly burdens, the manure pile can be sprayed every 3 days with fly spray.

Horses void about 0.5% of their body weight as urine each day. Urine is a major attractant to stable flies. Completely remove the stall bedding at least every third day to reduce fly problems. The total amount of manure and bedding that will accumulate can be calculated from the number of horses, the average amount of manure produced, plus the number of straw bales used. Manure piles should be located at least 200 yards from the stabling facilities.

Zoonoses

Zoonoses are diseases which can be transmitted from animals to people and from people to animals. Salmonella is endemic in many horse populations. Stressed horses, such as those surviving a major disaster, are most likely to suffer from clinical salmonellosis and develop fulminant diarrhea. Horses that develop diarrhea may have a guarded to poor prognosis and are a potential source of infection to other horses and personnel. For these reasons, serious consideration should be given to euthanasia, especially if the horse can only be maintained by compromising the level of care to other horses.

Euthanasia and disposal

Disposal must be considered prior to euthanasia. If at all possible, it is easiest to walk the horse to the site where the carcass will be buried, rather than transport dead horses to a disposal site. Euthanasia will be done under supervision of qualified personnel. Records will be kept of all dead horses.

Guidelines for Cattle during Emergencies

Cattle are grazers and browsers by nature and are easily adaptable to new environments. They are gregarious animals that follow herd instincts, but may be excited and frightened by new persons, predators, and dogs in their midst. Because of their gregarious nature, individual cows become anxious in situations that lead to their isolation from the herd. They have keen eyesight and hearing and can detect something unusual at distances of several hundred yards.

Behavior during the disaster event

Cattle normally will move away from fire and flood, but in an excited state they may actually move into such a disaster. Herding and driving cattle during a disaster is made more difficult because herding instinct is overridden by survival reaction. Injuries, especially to the younger animals, are much more probable during a disaster.

Behavior during the immediate aftermath

Most cattle, if given hay, water, and a space to stand or lie down, will acclimate well in their new surroundings. The more antisocial animals, especially bulls, may not become content as quickly and may attempt to escape. There is also a problem with establishment of social dominance within

a group if new numbers are added. This is particularly true with bulls, and though cows usually settle down soon, the bulls may continue the struggle for dominance for a protracted period. Bulls are dangerous. They should be penned separately and handled only by people with experience.

Capture, containment and restraint

Dairy cattle are used to caretakers, are socialized to human beings, and are easily penned. Beef cattle commonly are fed hay and grain in or around a barn or corral, which can aid in penning. If a preexisting structure is not in place, a temporary corral can be built with portable gate panels. Avoid barbed wire and woven wire fencing because of the danger of injury to excited animals and animals unfamiliar with fences. Portable corrals may be used to make runways and chutes for restraint. To load cattle into a trailer, portable gate panels can be made progressively smaller from the corral into a narrow alley, which ends at the truck. Avoid creating tight turns and have a way of blocking the entrance of the alleyway so that animals cannot back up into the corral rather than go forward to the truck.

The most common and available method of restraint is the lariat and halter. This restraint is dependent on having something to which the animal can be secured. For particularly fractious animals, application of a nose lead in combination with a rope halter provides additional distractions and approved restraint.

The most desirable restraint device is the portable cattle chute with a head restraint. Diagnosis and treatment are much easier and safer with this equipment. Tranquilization or sedation of injured animals may be necessary. Tranquilization will be done under supervision of qualified personnel.

If evacuation from the home premise is necessary, bumper-pull or fifth wheel type stock trailers, 12' x 16' or larger and without compartments, should be used. The low bed with a low center of gravity allows easier loading and unloading and is more stable in winds and water.

Animal identification methods

Permanent identification of dairy cattle is usually numerical by means of an ear tag, ear tattoo, brand, microchip, or numbered neck chain. Animals may be temporarily identified through use of livestock marking crayons. All cattle are required to be officially identified prior to leaving a premise in Michigan. Contact the Michigan Department of Agriculture's Animal Industry Division with specific questions about official ID.

Typical weights

Dairy cattle – Holsteins are the largest and most common of the 5 major breeds of dairy cattle. Holsteins are black and white and cows weigh an average of 1,500 lbs., mature bulls can tip the scales at more than a ton. Jersey dairy cattle are the smallest, with mature cows weighing approximately 1,000 lb. and bulls near 1,500 lb. Weigh tapes for measuring heart girth provide a fairly accurate estimate of weight in dairy cattle.

Beef cattle – There are wide variations among and within beef breeds. Weights can range from an 850 lb. British crossbred female to 2,500 lb. Charolais male. A weight tape for beef cattle, which measures heart girth, is fairly accurate.

Nutritional requirements

Cattle are grazing animals and can be maintained adequately on a variety of grasses on pasture. Care should be taken in selecting the site to pen cattle, because ornamental plants, which may be appealing to hungry ruminants, can be extremely toxic if consumed by cattle.

Beef cattle and yearling cattle require only grass hay and water for survival. Calves less than 3 months old require milk or milk replacer along with grass hay.

Lactating dairy cattle have different needs. Some important feeding recommendations for lactating dairy cows during an emergency situation are discussed here. The first priority is to provide feed to keep the cows healthy; providing feeds which support milk production is secondary. Hay is the best feed choice to keep the cows healthy. Provide all the hay the cows will consume. An individual mature dairy cow will consume about 30-40 pounds of hay. Younger dairy cattle (heifers) will consume about 15-20 pounds per day per animal. Hay quality is not highly important, although the hay should be clean and not moldy. Small square bales or large round or square bales may be used and can be placed on the ground if feed bunks or bale feeders are not available. Spread the hay around the paddock so that all cows have access to the hay. Hay silage can be fed if dry hay is not available. Corn silage should not be the first choice since it contains grain, which can make cows sick if they consume too much.

Water is very important and must be provided. A dairy cow will need about 25-30 gallons of water per day. Some type of large water trough will be needed for the cows to drink from.

Milk production in dairy cattle will increase or decrease according to nutrient intake. Grass hay can be fed to dairy cattle for several days and they will suffer only temporary milk production loss when put back on their full production level ration. By reducing the caloric intake, a cow will reduce its milk production. Decrease in milk production may not be rapid enough to prevent mastitis. If the disaster causes electric power outages or cattle are moved to a location without milking facilities, milking even a small number of cows becomes an unrewarding and difficult task. However, having portable milkers and generators or pre-determined evacuation sites with milking equipment available is an important planning consideration for dairy producers and emergency managers.

Providing safe drinking water for animals

Because contaminated water may contain pathogenic organisms, treat it with chlorine to make it safer. Ideally, the water should be tested, but during a disaster this may not be possible. Treating water with sodium hypochlorite (household bleach) will be beneficial. The following treatments should be followed when treating water:

16 drops of bleach for 1 gallon of water

1 Tablespoon of bleach for 15 gallons of water

½ cup of bleach for 120 gallons of water

When treating water, use unscented bleach. Allow the water to stand for 30 minutes after treatment to allow the bleach to mix thoroughly with the water.

Health concerns

Emergency conditions that lead to the commingling of animals from various operations increase the risk of infectious disease. This can be caused by a multitude of enteric and respiratory pathogens. In light of the difficulty imposed by attempting individual treatment, mass medication may be considered for treatment and control of infection. Large ruminants are frequently affected with bloat, diarrhea, and pneumonia during prolonged unusual events.

Prevention of most bloat and diarrhea can be accomplished through nutritional management. Pneumonia can be partially prevented through vaccination against respiratory pathogens and providing rest and fresh air during the disaster. Even the best managed cattle will contract some stress-related pneumonia and a treatment center should be set up for care of sick cattle.

Severe traumatic injuries will require individual examination and treatment. Lacerations and fractured bones may be detected in cattle during the aftermath of a disaster. The lacerations can be treated but fractures are difficult to manage in cattle and euthanasia may be required. Qualified personnel will conduct drug administration and pain management.

Housing and sanitation

Dairy cattle should be kept clean, dry and comfortable. If the disaster occurs during the hot and humid season, shade must be provided if it does not exist in the area of confinement. Avoid total enclosure, but shelter animals with shade cloth or plastic tarp from the extremes of heat or cold stress. Cattle should be moved with care if the ambient temperature exceeds 30° C (86° F) in order to avoid heat stress. The comfortable range in temperature for dairy cattle is between 41° and 78° F. Beef cattle requiring medical care might be housed in a confined area to expedite treatment, but healthy cattle do better in pastures or paddocks, and they tend to settle down quicker when put in an environment similar to where they had been maintained prior to the disaster. In addition, the open air will help disperse respiratory pathogens.

Provision for manure removal is important. Cattle excrete about 5% of their body weight in manure and urine daily. Straw should be used for bedding, when required, because it will be easier to obtain and dispose of during times of disaster.

Zoonoses concerns

Zoonoses are diseases which can be transmitted from animals to people and from people to animals. The greatest risks are from enteric pathogens such as salmonella, cryptosporidia campylobacter, and giardia. Adult cattle maintained in questionable sanitary conditions can transfer these diseases without becoming clinically ill. Calves and yearlings will usually become sick and require treatment. Contaminated water can be a source of pathogens for the cattle; therefore caretakers should use caution when handling cattle with diarrhea and never consume water from an unapproved source.

Euthanasia and disposal

Disposal must be considered prior to euthanasia. If at all possible, it is easiest to herd the animals to the site where the carcass will be buried, rather than transport dead animals to a disposal site. The recommended method of euthanasia is with an appropriate chemical injection. Euthanasia will be performed under the supervision of qualified personnel. Records will be kept of all dead animals. Disposal of dead cattle can create a problem due to the potential health hazard and great volume of carcasses. Methods such as deep burial or burning can be done if local air and water quality regulations permit. Refer to Michigan Compiled Laws Act 239, Public Acts 1982, "Bodies of Dead Animals" and the Michigan Department of Agriculture's Mass Carcass Disposal Plan for disposal requirements.

Guidelines for Other Livestock during Emergencies

Information on handling, nutrition and transport of other livestock may be obtained from: Michigan State University Department of Animal Science (517-355-8383), MSU College of Veterinary Medicine Large Animal Clinical Information Service (517-355-1281), Michigan Department of Agriculture (517-373-1077) and the Michigan Veterinary Medical Association (517-347-4710).

APPENDIX F - DEFINITIONS OF TERMS

Accredited Veterinarian: a veterinarian approved by the administrator of the United States department of agriculture, animal and plant health inspection service in accordance with provisions of 9 C.F.R. part 161, and considered pre-approved to perform certain functions of federal and cooperative state/federal programs.

Animal: mollusks, crustaceans, and vertebrates other than human beings including, but not limited to, livestock, exotic animals, aquaculture, and domestic animals.

Carcasses: the dead bodies of animals, poultry, or aquaculture. Carcasses do not include rendered products.

Cattle: all bovine (genus bos) animals, bovine like animals (genus bison) also commonly referred to as American buffalo or bison and any cross of these species unless otherwise specifically provided.

Commingling: concurrently, subsequently sharing, or subsequent use by livestock or other domestic animals of the same pen or same section in a facility or same section in a transportation unit where there is physical contact or contact with bodily excrements, aerosols, or fluids from other livestock or domestic animals.

Consignee: the person receiving the animals at the point of destination named on the official interstate or intrastate health certificate, official interstate certificate of veterinary inspection or animal movement certificate, entry authorization form, fish disease inspection report, ownership statement, or sales invoice.

Contagious disease: an illness due to a specific infectious agent or suspected infectious agent or its toxic products which arises through transmission of that agent or its products from an infected animal, or inanimate reservoir to a susceptible host, either directly or indirectly through an intermediate plant or animal host, vector, or the inanimate environment, or via an airborne mechanism.

Direct movement: transfer of animals to a destination without unloading the animals en route and without exposure to any other animals or bodily excrements, aerosols, or fluids from other animals.

Disease: any animal health condition with potential for economic impact, public or animal health concerns, or food safety concerns.

Domestic animal: those species of animals that live under the husbandry of humans.

Equine: all animals of the equine family which includes horses, asses, jacks, jennies, hinnies, mules, donkeys, burros, ponies, and zebras.

Exhibition or exposition: a congregation, gathering, or collection of livestock that are presented or exposed to public view for show, display, swap, exchange, entertainment, educational event, instruction, advertising, or competition.

Exhibition facility: any facility used or intended to be used for public view, show, display, swap, exchange, entertainment, advertisement, educational event, or competition involving livestock. Exhibition facility does not include a public stockyard, an auction sale yard, and a livestock yard

where livestock are accepted on consignment and the auction method is used in the marketing of the livestock.

Exhibitor: any person who presents livestock for public display, exhibition, or competition or enters livestock in a fair, show, exhibition, or exposition.

Exotic animal: those animals that are not native to North America.

Fair: a competition and educational exhibition of agricultural commodities and manufactured products for which premiums may be paid and which is conducted by an association or governmental entity.

Garbage: any animal origin products, including those of poultry and fish origin, or other animal material resulting from the handling, processing, preparation, cooking, and consumption of foods. Garbage includes, but is not limited to, any refuse of any type that has been associated with any such material at any time during the handling, preparation, cooking, or consumption of food. Garbage does not include rendered products or manure.

Herd or flock of origin: any herd or flock in which animals are born and remain until movement or any herd or flock which animals remain for at least 30 days immediately following direct movement into the herd or flock from another herd or flock. Herd or flock of origin includes the place of origin, premises of origin, and farm of origin.

Infectious disease: an infection or disease due to the invasion of the body by pathogenic organisms.

Isolated: the physical separation of animals by a physical barrier in such a manner that other animals do not have access to the isolated animals' body, excrement, aerosols, or discharges, not allowing the isolated animals to share a building with a common ventilation system with other animals, and not allowing the isolated animals to be within 10 feet of other animals if not sharing a building with a common ventilation system. Isolated animals have a feed and water system separate from other animals.

Livestock: those species of animals used for human food and fiber or those species of animals used for service to humans. Livestock includes, but is not limited to, cattle, sheep, new world camelids, goats, bison, privately owned cervids, ratites, swine, equine, poultry, aquaculture, and rabbits. Livestock does not include dogs and cats.

Official Identification: an identification ear tag, tattoo, electronic identification, or other identification approved by the United States department of agriculture or the department.

Official interstate health certificate or official interstate certificate of veterinary inspection: a printed form adopted by any state that documents the information required under section 20 and that is issued for animals being imported to or exported from this state within 30 days before the importation or exportation of the animals it describes. A photocopy of an official interstate health certificate or an official interstate certificate of veterinary inspection is considered an official copy if certified as a true copy by the issuing veterinarian or a livestock health official of the state of origin.

Official test: a sample of specific material collected from an animal by an accredited veterinarian, state or federal veterinary medical officer, or other person authorized by the director and analyzed by a laboratory certified by the United States department of agriculture or the department to

conduct the test, or a diagnostic injection administered and analyzed by an accredited veterinarian or a state or federal veterinary medical officer. An official test is conducted only by an accredited veterinarian or a state or federal veterinary medical officer except under special permission by the director.

Official Vaccination: a vaccination that the director has designated as reportable, administered by an accredited veterinarian or a state or federal veterinary medical officer, and documented on a form supplied by the department.

Quarantine: enforced isolation of any animal or group of animals or restriction of movement of an animal or group of animals, equipment, or vehicles to or from any structure, premises, or area of this state including the entirety of this state.

Reportable disease: an animal disease on the current reportable animal disease list maintained by the state veterinarian that poses a serious threat to the livestock industry, public health, or human food chain.

Slaughter facility premises: all facilities, buildings, structures, including all immediate grounds where slaughtering occurs under federal or state inspection, or otherwise authorized by the director.

State veterinarian: the chief animal health official of the state as appointed by the director under section 7, or his or her authorized representative.

“Swine” means any of the ungulate mammals of the family suidae.

Toxicological disease: any condition caused by or related to a toxic substance.

Veterinarian: a person licensed to practice veterinary medicine under article 15 of the public health code, 1978 PA 368, MCL 333.16101 to 333.18838, or under a state or federal law applicable to that person.

Wild animal: any non-domesticated animal or any cross of a non-domesticated animal.
Source: animal industry act (PA 466)

WEB RESOURCES

Michigan Medical Veterinary Association
www.michvma.org (emergency preparedness)

Michigan State University College of Veterinary Medicine Animal Health Information
cvm.msu.edu/hinfo.htm