

## **TAB F SECTION 6**

### **PREPARING THE FARM AND FARM ANIMALS FOR DISASTERS**

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#### **Introduction**

Disasters such as hurricanes, tornadoes, floods, earthquakes, severe winter weather, hazardous material spills, or nuclear power plant accidents can occur any time. The event may occur suddenly or be anticipated for several days, such as an approaching hurricane or flood. The time to prepare for these events is long before they occur. Even at the farm level, procedures should be written. They should be kept in a safe, fireproof, quickly accessible place with other important documents. (These and any other important documents should be taken along if it becomes necessary to evacuate the farm.) Each member of the farm family and herd personnel should know of, and practice the plan so that action may be taken even in the absence of key management personnel.

The first step in planning for a disaster is to determine what type of disaster could occur on the farm and how often. It would be useless to spend time and money, for example, to plan for severe winter weather if the farm is located in a tropical environment. If the premises are near a nuclear power plant, even though the risk of an accident occurring is slim, the owners would want to consider how to protect their animals from radioactive fallout. If the farm is near a major highway, one might want to consider a hazardous material spill from a road accident in their planning. Living next to a river or stream would put planning for flooding or a barge accident in the forefront.

Only after each individual farm owner has considered their risks can they decide what priority of planning, money, and resources they wish to allocate to each. An all hazards plan is most desirable, however, plans should also be customized for specific situations. Once the risks are known, decisions can be made about what actions can be done in advance, and what actions would be required when the disaster occurs. Generally avoiding the disaster, mitigating its effect if it cannot be avoided, and sheltering the animals lessens the effects of a disaster on livestock. The approach taken would depend upon the type of disaster anticipated. Sometimes only one approach may be appropriate such as sheltering. In some instances combined approaches such as mitigation and sheltering may be required. In other events such as floods or firestorms sheltering may be the wrong thing to do.

#### **Mitigation**

Hazard mitigation is defined as any action taken to eliminate or reduce the long-term risk to life and property from natural or technological hazards. Some examples of hazard mitigation might be hurricane seeding to reduce the intensity of a storm, tying down homes or barns with ground anchors to withstand wind damage, redirecting the impact away from a vulnerable location by the digging of water channels or planting vegetation to absorb water, the establishment of setback regulations so building is not allowed close to the water's edge, and the construction of levees or permanent barriers to control flooding.

The farm and farm buildings should be surveyed to figure out what mitigation procedures should be followed based on the hazard risk. Barns and buildings can be built or repaired so they exceed building codes. Construction or moving of the buildings to higher ground could be done. Glass windows and doors could be replaced or boarded with sturdier material. Drainage furrows could be kept sodded. Trash piles and burial sites could be cleaned and moved. (Many farms contain burial sites contaminated with lead based paints, machinery grease, motor oil, lead lined tanks, batteries, roofing nails, asphalt, shingles, caulking compounds, linoleum, and plumbing lead. During flooding this material may leech into the crops or feed supply or be moved to a more accessible area where animals could consume them.) Toxic chemicals, pesticides, herbicides, and rodenticides could be moved or stored in secured areas to prevent their washing onto pastures where animals may be exposed. Loose items could be secured. Ponds that could cause flooding could be drained or have levees constructed around their perimeter.

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A list of resources and people should be developed by the farmer and kept with important papers. This list should contain emergency phone numbers, suppliers, truckers, and people that can help with the animals especially if normal working conditions are disrupted.

Suppliers that may be needed during or after the disaster should be obtained. Many of these items may not be obtainable after the disaster. Also, by obtaining them in advance more reasonable prices will be paid. Unfortunately disasters attract individuals who gouge and prey on the misfortunes of victims. Items that could be obtained are portable radios and TV's, extra batteries, flashlights, candles, portable generators, salt, gravel, litter, fuel, antifreeze, stored feed such as hay (The amount to store would depend on the hazard. After the Washington state flood most producers vowed never to inventory large amounts of hay due to excessive flood damage and spoilage.), ropes, halters, animal restraint equipment, and medical supplies. Once obtained, they should be stored in such a manner so that they will be usable after the disaster. While in storage they should be checked at regular intervals – i.e.: Once a week to assure that they do not spoil and that electrical or mechanical appliances are still working. They should also be rechecked and evaluated after the event to assure they are still usable. A log should be kept to remember when and how often the items were monitored. Animals should be kept current on all appropriate vaccinations and booster shots before the disaster. Keep a written record of the products given and the date of injection. The stress of the event and the disruption of the environment could cause an increase in infectious disease spread. Proper vaccination could protect the animals.

### **Representation to Governmental Agency Managing the Disaster Response**

As the disaster approaches or after it arrives the most important thing the farmer needs are truthful, accurate, and current information. A county, state, or federal emergency management agency coordinates government's response to most disasters. Representation to this agency for the farmer is critical. In most instances, a member of the division's Department of Agriculture competently does this. It is strongly suggested that farm organizations lobby for veterinary representation either through the Department of Agriculture or separately to this agency. Often, the needs of animals during disasters are given low priority. Veterinarians, who are aware of these needs and can also verify the validity of requests for help, are most suited to bring animal problems to the forefront. Often actions required protecting animals such as sheltering or evacuation must be done before a similar action is taken for people. (To move animals to shelter from pasture or evacuate them to other locations takes considerable time and many workers.) Governmental agencies will not issue such directives for animals before similar instructions are issued for people. They fear that a panic situation would occur and people might be critical about why the animals are being protected before them. (Animals can always be released from the shelter or returned from their point of evacuation if the disaster does not materialize.) What they do not consider is that it must be done while it is still safe for people to do the task since animals cannot shelter or evacuate themselves. After the disaster, government usually limits access to the disaster area. Animals will have to be fed, watered, and milked. Who is better suited to do this than the owner? Designation of farmers as emergency workers by government solves the problem of who will be responsible for this task. A veterinarian located in the emergency operating center can get these messages across.

### **Evacuation**

If evacuation of the animals is being considered (which may not be practical) to avoid the hazard then evacuation procedures, places, and routes should be planned. Since all animals may not be able to be evacuated, owners should decide ahead of time which are the most important ones to save. Various decision criteria can be used such as sale value, breeding quality, stage of pregnancy, stage of production, or simply sentimental preference. These animals should be identified ahead of time and a written list

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kept. If the owner were not home when the disaster threatens, others would then know which animals to save. Routes must not interfere with human evacuation routes. Alternate routes should be found in case the planned route is not accessible. Places where animals are to be taken should be decided in advance and arrangements made with the owners of these places to accept the animals. Trucks, trailers, and other vehicles should be obtained in advance. Acclimate the animals to them so they will not be frightened when they have to be used. Restraint equipment, food and water supplies should be available to use and move with the animals. Sufficient people should be on hand to help move the animals. The animals should be photographed and permanently identified by metal eartag, tattoo, brand, registration papers, or microchip. A permanent record of the identification must be kept. This information will be useful to resolve arguments of ownership in case the animal gets loose. Papers documenting the identification should be kept with other important papers. Ultimately the decision to evacuate will depend on the distance to be traveled, the amount of time available before the disaster is due to impact on the farm, and whether there is any advantage to moving the animals to the place selected. Sometimes, evacuation may be done after the disaster providing the roads are passable, and the equipment needed for travel usable. If this is the case, the accepting location must be contacted to find out its condition.

#### **Sheltering**

Whether to move farm animals to shelter or leave them outside will depend on the integrity and location of the shelter being used and the type of disaster. During Hurricane Andrew, some horses left outside suffered less injury than those placed in shelters. This was because some shelters selected did not withstand the high winds. Horses were injured by collapsing structures and flying objects that may have been avoided on the outside. Another reason for possibly leaving animals unsheltered is because floodwaters that inundate around a barn could trap animals inside causing their drowning. During severe winter weather shelter animals from icy wind, rain, and snow. Generally, if the structure is sound, the animal should be placed indoors. Once they are inside, secure all openings to the outside. As mentioned previously, the sheltering should be ordered and completed before similar action is taken for humans.

Farm cats and dogs should either be placed in a disaster proof place or turned loose, as they generally will stay close to their home in the immediate period following a disaster. If they are loose, however, attempts must be made to immediately catch them again after the threat is over, to prevent these animals from becoming feral and a public health hazard. Some farm dogs are dangerously aggressive, and under normal circumstances should be kept chained. These dogs cannot be kept chained or turned loose during a disaster. If an inside shelter cannot be found then the only safe and humane thing to do is to euthanize these dogs as a last measure before evacuation.

#### **Human evacuation**

What can be done with the animals if there is a need to evacuate the premises, and the animals have to be left unattended? There is always the risk that animals left unattended for extended periods could die or suffer injury. Sometimes, this may be the only option to protect human life. Protecting human life should always take priority in planning. Regardless, after the animals are secured in appropriate shelters food and water should be left for them, which they can obtain on their own. The amount necessary for survival is considerably less than for other purposes. If the animals survive, then the decision can be made after the disaster whether it is worth the time and expense to bring them back to their previous condition.

Consult the table on the next page as a guide to the amount of food and water to leave.

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<b>ANIMALS</b>	<b>WATER/DAY</b>	<b>FEED/DAY</b>
<b>DAIRY COWS</b>		
IN PRODUCTION	9 GALLONS SUMMER	20 POUNDS HAY
	7 GALLONS WINTER	
DRY COWS	9 GALLONS SUMMER	20 POUNDS HAY
	7 GALLONS WINTER	
WEANING COWS	6 GALLONS SUMMER	8-12 POUNDS HAY
	3 GALLONS WINTER	
COW (PREGNANT)	7 GALLONS SUMMER	10-15 POUNDS LEGUME
	6 GALLONS WINTER	
COW WITH CALF	9 GALLONS SUMMER	12-18 POUNDS LEGUME
	8 GALLONS WINTER	
CALF (400 POUNDS)	6 GALLONS SUMMER	8-12 POUNDS LEGUME HAY
	4 GALLONS WINTER	
<b>SWINE</b>		
BROOD SOW WITH LITTER	3-7 GALLONS	8 POUNDS GRAIN
BROOD SOW (PREGNANT)	3-6 GALLONS	2 POUNDS GRAIN
150 POUND GILT OR BOAR	3-5 GALLONS	3 POUNDS GRAIN
<b>SHEEP</b>		
EWE WITH LAMB	4 QUARTS	5 POUNDS HAY
EWE, DRY	3 QUARTS	3 POUNDS HAY
WEANING LAMB	2 QUARTS	3 POUNDS HAY
<b>POULTRY</b>		
LAYERS	5 GALLONS/100 BIRDS	17 LB./100 BIRDS
BOILERS	5 GALLONS/100 BIRDS	10 LB./100 BIRDS
TURKEYS	12 GALLONS/100 BIRDS	40 LB./100 BIRDS
<b>HORSES</b>		
ALL BREEDS	5 GALLONS/1000 LB.	20 LB. HAY/1000 LB.
<b>DOGS AND CATS</b>		
LEAVE 1-QUART WATER/DAY/ANIMAL. LEAVE DRY FOOD FREE CHOICE		

Every practical effort should be made to leave animals with sufficient food and water for their survival. Enough for 48 hours should be left. Usually within that time the initial effects of the disaster will be over. During the recovery phase the decision can then be made as to the best way to mount a rescue effort.

**Special Considerations**

Some practices that may be followed in planning for disasters especially during the winter require a special alert. During winter weather it is common to use portable heaters, gritty substances on the floor to prevent slipping, and antifreeze. When using these heaters, be sure they are working properly in an area where there is adequate ventilation. Heaters not working correctly could be a source of carbon monoxide, a deadly odorless colorless poison. Antifreeze used in vehicles is a deadly poison. Animals seem attracted to it and will readily consume it because of its sweet taste. Take care to properly label all containers. Do not use containers previously filled with antifreeze for other purposes especially feed and water. Promptly clean up all leaks and spills. Water supplies should be checked for freezing. Many animals have died of thirst during the winter even with abundant water sources, because they could not

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drink the water as it was frozen solid. If gritty material is spread on floors to prevent slipping, use only approved non-toxic materials. Recently a farmer mistakenly used Furadan, a fungicide for this purpose by mistake. Several cows that had licked it off the floor died.

Farms can be insured against catastrophic events. Insurance policies are available for replacement of materials damaged, repair work for recovery, boarding of occupants and animals if evacuated, lost production, and relocation. These should be investigated and purchased before the disaster threatens. For a farmer to claim compensation for lost production, which in many cases is the largest economic cost during a disaster, the farmer must have substantial records that document the level of production his/her herd has achieved in previous years. This is generally only successful in herds with recognized herd monitoring programs, such as Dairy Herd Improvement or other programs that are available for various species. To verify the validity of these records a herd health program should be in place, which is based on a valid veterinarian-client-animal relationship. A copy of all production records should be kept in a secure place that the details are not lost during the disaster. Many veterinarians are willing to keep copies of their clients' production records, if these are computerized and space efficient.

#### **Conclusion**

Depending upon the event, disaster preparation may or may not be successful. It is known that proper planning lessens effects of disasters. Economically it is cheaper to prevent the problem or lessen its effect than to pay the costs of recovery. The time to do this is **NOW**, before the disaster occurs.