

## Flood-Related Diseases in Poultry and Livestock

If your fields or farm buildings have been flooded, take special precautions against flood-related diseases in poultry and livestock. If possible, move the poultry or livestock to a dry, clean environment. Give animals extra care, particularly if they have been stranded by floodwater and have been off regular feeding schedules (see Table 1 for minimal survival requirements for livestock). Be cautious about allowing livestock access to wet or contaminated feed. Feed only a few animals initially, watching them for several days before allowing other livestock access to questionable feed, hay or silage. In addition, watch for signs of flood-related diseases.

### Blackleg and Anthrax

Blackleg, caused by microorganisms spread over fields by standing water, is a potentially serious post-flood disease. It most commonly affects cattle 6 to 24 months old, but it also affects sheep, goats and infrequently occurs in swine.

Symptoms include acute lameness, depression, fever and swelling in the hip, shoulder, chest, back, neck or throat muscles. If untreated, blackleg is usually fatal within 24 hours after onset, and death may often be the first indication of disease. Treatment may be effective in the early disease stages. The best prevention against blackleg is inoculation of all unvaccinated young cattle before they are put out on pastures that have been flooded. Vaccines are available which also protect against malignant edema (gas edema) and other water-borne diseases.

Anthrax is another disease that may break out following flooding. All animals that die suddenly following flooding should be necropsied by a veterinarian.

### Malignant Edema

Hot, painful swelling at point of infection, high fever, loss of appetite, decreased milk production,

difficult breathing and convulsions followed by death are signs of malignant edema. This disease kills animals one or two days after symptoms appear. Treatment for blackleg and malignant edema is rarely effective. If massive doses of penicillin are given early in the course of disease, treatment may be successful. However, clinical signs are seldom detected early enough to allow effective treatment. The key to controlling these diseases is initiating a good immunization program. Both specific and combination vaccines are available.

### Tetanus (Lockjaw)

Tetanus is a problem whenever animals have puncture wounds. Symptoms include generalized stiffness caused by muscle contractions. Legs and tail are extended; the third eyelid hovers over the eye when its head is raised. Animals can be vaccinated for prevention, and the disease is treatable in its early stages.

### Foot Rot

Constant exposure to mud and water softens tissues around the hooves of cows and sheep, greatly increasing their susceptibility to foot rot. Lameness, a painful swelling of the hoof and foul-smelling dead tissue in the space between the claws are common symptoms of the disease.

To prevent foot rot and other foot infections, walk cows through a solution of copper sulfate (2 pounds of ordinary commercial bluestone in 5 gallons of water) as they leave the milking parlor or stable after they have been thoroughly milked. Put the solution in a 4- to 6-inch deep container, placed in an alleyway or doorway. As long as cows' feet are stained with the copper sulfate solution, they are reasonably protected against foot rot. A vaccine is now available to help producers control this disease.

**Table 1. Minimal Survival Requirements for Livestock**

<b>Animals</b>	<b>Feed per day</b>	<b>Water per day</b>	<b>Space required per head*</b>
<b>Dairy cow in production</b>	Large breeds: 20 lb hay Small breeds: 15 lb hay	7 1/2 gal in winter, preferably 15 gal or more 9 gal in summer, preferably 20 gal or more	20 cows or less – 30 sq ft 21 cows or more – 50 sq ft
<b>Dairy cow, dry</b>	Large breeds: 15 lb hay	7 1/2 gal in summer	5 dry cows or less – 20 sq ft
<b>Beef cow, dry</b>	12 lb hay or 8 lb ground ear corn, oats or barley	5 gal in winter 7 1/2 gal in summer	30 sq ft
<b>Beef cow with calf</b>	14 lb hay or 10 lb ground calf ear corn, oats or barley	7 1/2 gal in winter 9 gal in summer	150 sq ft
<b>Weaning calves</b>	8 – 12 lb hay or 5 lb ground ear corn, oats or barley	3 gal in winter 6 gal in summer	30 sq ft
<b>Brood sow with litter</b>	3 – 4 lb grain	3 – 4 gal	40 sq ft
<b>Brood sow, dry</b>	1 – 2 lb grain	1 gal	20 sq ft
<b>Weaning pigs to market weight</b>	1 – 4 lb grain	1 qt – 1 gal	4 – 12 sq ft
<b>Hens in production</b>	1/4 lb feed	5 gal for each 100 hens	1 1/4 sq ft
<b>Broilers</b>	0.1 – 0.2 lb per bird	5 gal for each 100 hens	1 sq ft
<b>Ewe with lamb</b>	4 lb hay or 3 lb grain	3 qts	32 sq ft
<b>Ewe, dry</b>	2 lb hay or 1 1/2 lb grain	2 qts	16 sq ft
<b>Weaning lamb</b>	1 1/2 – 2 lb grain	1 qt	16 sq ft

\* Close quarters increase water and ventilation requirements.

## **Mastitis**

Organisms in mud and muddy water can cause severe mastitis. Coliform organisms may be involved. They cause acute intoxication (septicemia) in the udder and death of udder tissue (gangrene).

To protect cows against mastitis, clean their teats thoroughly before milking. Wash teats and udders with a cleansing agent before applying the sanitizing solution. Dry teat ends carefully with clean paper towels before applying the milking machine. Milk the cows carefully; do not overmilk and be careful to avoid injury of teat ends. If possible, allow cows to lie down in a relatively dry, clean place. Cows are probably better off outside in a wet, muddy pasture than they are in wet, foul barns or confinement.

## **Botulism**

Botulism, the most common post-flood chicken ailment, is caused by toxins from organisms in spoiled vegetables or decaying animal carcasses. Botulism toxins form in spoiled or decaying materials, and birds are affected when they eat these materials. Paralysis, difficulty eating and swallowing and general weakness are symptoms. The best way to prevent this disease is to confine chickens well away from spoiled or decaying matter.

Horses are also very susceptible to botulism from drinking stagnant water and eating spoiled food.

## **Brooder Pneumonia**

This disease affects chickens and turkeys of all ages. It can affect poultry when they breathe in mold

spores from wet, moldy feed or from wet litter. Symptoms include fast breathing, coughing and gasping. To prevent brooder pneumonia, keep brooders sanitary, give the birds clean litter, clean all utensils and do not use moldy feed.

## **Erysipelas**

This disease commonly affects turkeys and swine following flooding. In swine the disease may be either acute (causing high fever and rapid death) or chronic (with development of characteristic skin lesions). Swine that have not been vaccinated against erysipelas should be vaccinated before they are allowed into flooded buildings or released onto flooded pastures. Prompt antibiotic treatment is effective against erysipelas in swine and turkeys. In turkeys, the disease frequently affects the snood of toms after even a slight injury.

## **Protecting Yourself and Your Family From Disease**

Since certain animal diseases can infect humans, protection is important. Puncture wounds can result in diseases such as tetanus or other serious diseases. Cuts, scrapes or other skin injuries can lead to local infections or more serious diseases such as dermal anthrax or erysipelas. Since floods and standing water can promote the growth of anaerobic pathogens, avoid contact. Very young, very old or persons with impaired immune function (e.g., AIDS patients or cancer patients) are likely most susceptible.

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