

# Anthrax Alert

Consider annual anthrax vaccinations for your herd.

by *Kindra Gordon*

Last year, cattlemen in North and South Dakota endured cattle death losses of more than 800 head. The culprit was anthrax — a bacterial disease caused by spores that lurk in the soil.

The dormant spores can get stirred up after flooding or drought conditions, and then can be ingested when animals are grazing. Once consumed, anthrax spores poison the animal's bloodstream, rapidly causing a fatal infection.

But it's not just cattlemen in the Dakotas who need to be concerned about anthrax. The bacterium prefers alkaline soils and alternating periods of flooding and drought — conditions that are common in California (such as the Delta) and southern Oregon, as well as parts of Texas, Louisiana, Arkansas, Missouri, Minnesota and Iowa. Thus, these states also report outbreaks of anthrax from time to time.

## Be prepared

Because of the extensive death loss that can occur, South Dakota State University Extension veterinarian Russ Daly encourages producers in areas known to have anthrax cases to vaccinate annually for the disease.

"You can't predict from year to year where it will hit," Daly says, "except that those pastures hit in years past are areas of high concern."

Even with that knowledge, the disease is unpredictable. For instance, Daly reports that many of the cases in South Dakota last year were found in the central and northeastern part of the state — areas where the disease had not historically been known to appear.

If anthrax does surface, it often happens in late July, August or September, when grasses are short and animals are grazing close to the soil.

What are signs of anthrax? Because the disease progresses rapidly, cattle infected by anthrax tend to appear normal one day and are found dead the next. Daly says bloody fluid seeping out of the nose or rectum of

dead carcasses should raise suspicion of anthrax.

## Vaccination protocol

Daly suggests cattle producers in areas with a history of anthrax annually vaccinate their herds before turning cow-calf pairs and bulls out to summer pasture. He says the vaccine is highly effective and protects for at least six months. It typically costs about \$1 per head.

Ideally, he says, cows and calves should be vaccinated at least four weeks before the time the disease appears, but the vaccine can provide immunity in eight to 10 days.

North Dakota Deputy State Veterinarian Beth Carlson reports that in her state, they generally see an increased number of producers vaccinating the year following an outbreak. If no cases are reported for a few years, she adds, there tends to be a decrease in anthrax vaccinations.

"Even in a year with a large number of cases, some producers will wait until a case occurs nearby to vaccinate," Carlson says. "Unfortunately, the nature of the disease makes that a poor practice." Instead, she and Daly suggest livestock producers in states that have had anthrax outbreaks in recent years should vaccinate for the disease, period.

Carlson also suggests that in heavily contaminated areas, a second dose of the vaccine should be considered. "In most

cases, one dose does provide protective immunity," she says, "but a second dose given two to three weeks following initial immunization can help boost immunity."

In the months ahead, Carlson says she expects fewer anthrax cases due to the increased rate of vaccination she's seen, but she tempers that by adding, "Depending upon weather conditions, it is possible we may see a number of cases [in the Dakotas] again this year."

## In case of an outbreak

If anthrax is suspected, producers should immediately contact their veterinarian for proper diagnosis and advice.

Producers should not move the animal or disturb the carcass. It is important not to open the carcass. Anthrax organisms will die out in an unopened cattle carcass in a few days. However, if the carcass is opened to the air, many billions of spores will form, and these spores can survive in the environment for decades.

Live cattle at risk should be moved away from the suspected area of spore contamination and vaccinated with the anthrax vaccine. Carlson adds that administration of a broad-spectrum antibiotic such as penicillin is usually recommended in an affected herd to help stop death loss.

Cattle that die from anthrax should be burned and buried.

## Anthrax fast facts

Anthrax spores can survive for several decades in soil.

Although humans can contract anthrax, it is not known to be transmitted from animal to humans (unless humans handle tissues or fluids from those animals). The disease is also not normally spread from animal to animal. South Dakota State University Extension veterinarian Russ Daly clarifies that the anthrax associated with cattle is usually a skin form and not the more lethal respiratory form of anthrax associated with bioterrorism.

In addition to cattle, the disease can affect sheep, horses and pigs. North Dakota Deputy State Veterinarian Beth Carlson says that in 2005 she saw a large number of anthrax cases in bison, llamas, donkeys, farmed deer and farmed elk. She says carnivores such as dogs and cats are unlikely to contract the disease unless they consume an infected carcass.