

FACTS ABOUT ANTHRAX

Anthrax, an acute, infectious disease of mammals and humans, is caused by a spore-forming bacterium called *Bacillus anthracis*. Anthrax has an almost worldwide distribution and may be spread from animals to humans. Ruminant animals such as cattle, sheep, goats, horses, swine, native and exotic deer species are the most susceptible and commonly affected. Although domestic livestock may be vaccinated against anthrax, there is no approved vaccine for free-ranging deer that cannot be run through chutes for vaccination.

Anthrax has been making news lately in the southwestern part of Texas, especially in Val Verde, Edwards, Kinney, Uvalde, and Maverick Counties. These and surrounding counties have a long history of harboring the disease, which is capable of laying dormant for many years until activated after periods of wet, cool weather followed by several weeks of hot and dry conditions. The outbreaks depend on the presence of the spores in the soil and suitable weather conditions and the outbreaks end when cooler weather arrives and the bacteria become dormant once more. Spores can be found at the soil surface and on low-level vegetation where they are readily available for ingestion by livestock and wildlife. Spores can be picked up directly from the soil through grazing or from feed grown on infected soil. When drought conditions cause ruminants to feed closer to the ground, animals may ingest the spores in soil they accidentally pick up while foraging. The anthrax organism may also be spread within an area by streams/ponds, biting insects, various bird species, predators/scavengers, and contamination from wastes of infected animals.

Disease occurs when spores enter the body, germinate, multiply, and release toxins. The incubation period of natural infection is typically one to ten days. Anthrax occurs in at least three forms that are determined by the length of clinical course of disease: (1) a peracute form (1-2 hours' duration), (2) acute form (24-48 hours' duration), or (3) subacute to chronic form. Ruminants are the most likely to manifest the peracute and acute forms. Sudden death in animals that appeared normal a few hours earlier is common. Clinical signs may include high fevers up to 107 degrees F, muscle tremors, respiratory distress, and convulsions. After death, there may be bloody discharges from the natural openings of the body, rapid bloating, a lack of rigor mortis, and the presence of unclotted blood. The failure of blood to clot is due to the toxin released by the spores.

Sudden death in an animal without prior symptoms should lead to a suspicion of anthrax. If anthrax is suspected as the cause of death, the affected carcass should not be opened because exposure of the vegetative anthrax bacteria to air induces spore formation, contaminating the environment and presenting a health risk to personnel and other nearby animals.

In humans, anthrax infection can occur in three forms: cutaneous (skin), inhalational, and gastrointestinal. Cutaneous anthrax, which results from exposure to spores or vegetative cells to broken skin (cuts, abrasions, insect bites), accounts for 95-98% of anthrax cases. This type of anthrax results in blister-like lesions at the site of infection that eventually turns black. Cutaneous anthrax is readily treatable with antibiotics. Inhalational anthrax may occur when a person inhales high numbers of aerosolized spores from infected animals. This form progresses very rapidly and without proper immediate treatment, can be fatal. Gastrointestinal anthrax results from consuming undercooked meat from an infected animal. This form of anthrax is extremely rare; in fact, there have never been a reported case in the United States.

If dead animals are found and suspected to be anthrax, do not move, handle, or touch the carcass. Report your findings immediately to Texas Animal Health Commission at 1-800-550-8242. Bones, skulls, and antlers cannot be salvaged or removed from the carcass as they too may be infected with the spores. Burn the animal carcass where it is found. Do not relocate the carcass or attempt to bury it. Burning the carcass completely is the only recommended method of disposal. Do not stand downwind or inhale the smoke from such carcass burnings. Bedding, manure, and the immediate soil should all be burned along with the carcass to ensure proper disposal.

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