



Anthrax

Anthrax is a rapid, fatal disease caused by bacteria (*Bacillus anthracis*) that exist as inactive spores in the soil and can remain dormant for many years. Animals contract the disease when they consume infected soil, feed or water and spores become active within the animal, causing death within hours.

Anthrax is federally reportable and a provincially notifiable disease. Any suspected or known cases must be reported to Alberta's Chief Provincial Veterinarian within 24 hours. Initial symptoms include weakness, fever, and excitability, followed by depression, difficulty breathing, lack of coordination and convulsions. There may also be a bloody discharge, which can further contaminate the soil. However, due to the rapid progression of the disease, death is often the first sign.

A few isolated cases of anthrax occur almost every year in Western Canada. These usually appear during a period of hot, dry weather following a period of wet weather or flooding which brings the spores to the surface of the soil. Conditions that increase the risk of soil consumption by cattle (i.e. tillage, drought, close cut hay) increase the risk of anthrax.

Vaccination is an effective way to protect cattle from anthrax, but requires 7 to 10 days for immunity to develop. Anthrax can be treated with antibiotics that will kill the bacteria, but the treatment does not provide long-term protection. If antibiotics are used, vaccination must be postponed until the effect of the antibiotic wears off. Consult your veterinarian for proper use of antibiotics and vaccinations.

Anthrax is susceptible to most antibiotics, so prompt treatment of animals at the earliest sign of illness should be effective. However, antibiotics interfere with efficacy of the vaccine so consider this when discussing your management plan with your veterinarian. Do not treat animals with antibiotics if they have been vaccinated in the previous 2 weeks, and do not treat with antibiotics if you plan to vaccinate them within the next 2 weeks.

Proper disposal of carcasses is very important to limit the spread and further contamination of the pastures/pens and recurrence of anthrax. Natural disposal and deadstock pickup both increase the risk of future anthrax outbreaks by spreading the spores over a wider area. When disposing of anthrax carcasses, obtain and follow the advice of a provincial government veterinarian or your private veterinarian.

Incineration is the preferred disposal method, because this actually destroys anthrax spores. The goal with incineration is to completely reduce the carcass to ash to avoid attracting scavengers and flies, while not setting the surrounding countryside on fire. Please check the fire advisory in your area before starting a fire. Your veterinarian can help you find out if incineration is legal in your area, and help work out the best fuels to use and safest way to manage the incineration.

Burial is also an option, but the spores may still survive for decades. Early burial of an unopened carcass is a key disposal factor as it will decompose naturally and kill the vegetative bacteria. Do not bury carcasses in flood-prone areas. These areas will flood

again, and this will encourage spores to come to the surface. The bottom of the burial pit should also be three feet above the water line. Do not add lime to the pit, since this may protect anthrax spores.

Do not move the carcass unless absolutely necessary. Cover the carcass with a tarp or heavy plastic that is secured properly to reduce scavenging of the carcass and allow decomposition. Wear gloves and long sleeves if you need to handle or move the carcass, and thoroughly wash your hands and arms when you are done. Wash any exposed clothing and disinfect boots that may have contacted contaminated soil.

In rare cases, people can contract cutaneous (skin) anthrax if infected tissue or blood contacts an open wound. Producers or veterinarians handling infected cattle or cattle products could be infected through a cut or skin abrasion. Symptoms generally appear within 7 days of exposure. A raised itchy bump like an insect bite appears and develops into a painless ulcer (1-3 cm in diameter). A black spot appears in the centre within 2 days, and adjacent lymph glands may swell. Immediately contact your doctor if this occurs. The disease is not known to spread from person to person.

If a case of anthrax is suspected:

- Notify your veterinarian immediately
- Remove the surviving animals from the pasture/pen
- Limit scavenging if possible
- DO NOT move the dead animal or open the carcass
- DO NOT call for deadstock pickup

Effective April 1, 2013, CFIA **no longer**:

- investigates and quarantines anthrax infected premises
- collects and submits samples for testing
- performs anthrax testing
- provides an initial dose of anthrax vaccine for affected herds
- oversees carcass disposal, cleaning and disinfection
- pays an indemnity to help cover the cost of disposing of animal carcasses.

Following this change, Alberta Agriculture and Forestry developed a response plan for anthrax and can work with your veterinarian in diagnosing the disease and providing advice on management of the disease including disposal and cleaning and disinfection options.

Anthrax vaccine is available to your private veterinarian through drug distributors and does not require CFIA permission.

Concerned producers should consult with their veterinarian to determine whether vaccination is recommended, especially if their herd is in an area where the disease has been detected before.

For more information:

- [Anthrax information from the Canadian Food Inspection Agency \(CFIA\)](#)
- [Anthrax information from Alberta Agriculture and Forestry](#)