



Signs, symptoms & treatment of Anthrax in cattle

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Anthrax is an infectious bacteria bone disease of animals which is caused by the spore-forming bacteria *Bacillus anthracis*. It can affect humans and a wide range of animals group. Mostly all cases in Victoria have been seen in livestock basically in cattle and sheep. Anthrax is commonly occurring to intermittently in grazing livestock and there have been sporadic cases in Victoria, New South Wales and Queensland in last few decades. For Victoria, most of the recent cases have been in northern parts of the state and have largely cattle are involved in this. In the past, anthrax has also found in Gippsland and South-West Victoria & most commonly in agricultural regions of Central and South America, sub-Saharan Africa, central and southwestern Asia, southern and Eastern Europe and the Caribbean.

Anthrax is rarely found in the United States, but sporadic outbreaks do occur in wild and domestic grazing animals such as cattle or deer. Anthrax is most common disease in developing countries and countries that do not have proper veterinary public health programs which routinely vaccinate animals against anthrax. In the United States, yearly vaccination of livestock is preferred in areas where animals have had anthrax in the past.

Signs of anthrax

Domestic or wild animals such as cattle, sheep, goats, antelope, and deer may become infected when they breathe in or ingest spores in contaminated soil, plants, or water. In areas where domestic animals have had anthrax in the past generally routine vaccination can help to prevent outbreaks. Anthrax usually found in animal during the warmer months. However commonly cases of anthrax have occurred, and may occur, at any time of year in Victoria.

Animal with anthrax generally died suddenly. Just before death, animals may show some signs & symptoms of-

- High fever.
- In some cases blood present around the nose, mouth and anus of carcasses.
- In some cases may not see above sign, so it must not be relied on to diagnose anthrax.
- If livestock die suddenly and even when there is no history of anthrax on the property some time anthrax could potentially be the cause.

To avoid a large-scale anthrax incident, it is critically important that the dead body of cattle and sheep that died suddenly without any other obvious cause is tested for

anthrax before they are moved. This step may reduce the risk of human exposure and less the chance of contamination of the affected property if anthrax is confirmed.

Actions to take in case suspect of anthrax

It is essential that, if livestock died suddenly and without showing any obvious cause:

- Report the incident immediately to private animal doctor or Animal Health and Welfare (AHW) staff.
- Don't move the dead body by self.
- Then the dead body tested for anthrax by your private animal doctor or AHW staff.
- If suspect an animal may have died from anthrax then immediately contact private animal doctor or local AHW staff.
- Also call the animal Customer Call Centre of particular locality.

Testing for anthrax

Samples can be collected in proper manner and tested on farm using the hand-held immune chromatographic test (ICT) and results available within 15 minutes. Further confirmatory testing is usually undertaken at a laboratory which taking approximately 24 hours. If the case occurs on a dairy farm, the dairy processor should be advised. Relevant food safety and public health agencies should be also routinely notified. Movement of animals and animal products from the infected farm is suspended while anthrax testing procedure is carried out for safety concern.

If a case of anthrax is confirmed after veterinary examination of affected animals and laboratory testing of samples then the affected should be:

- Quarantined
- Potentially exposed stock by infected one are vaccinated
- Dead animals are safely disposed of usually by burning
- Contaminated sites disinfected process carried out.
- The quarantine is not released until and unless 20 days, have elapsed since the last anthrax case and at least 20 days have passed since the last round of vaccinations on the property whichever is later.

Most incidents of anthrax involve single isolated case, and 'quarantine, vaccination, disposal and decontamination measures taken to avoid further cases. Occasionally, larger-scale outbreaks occur in Victoria which happened in 1997 and 2007. Vaccination across a wider area is usually required to control larger outbreaks.

Risks to people from anthrax in animals

Sometimes people get infected with anthrax when spores get into the body. When anthrax spores get inside the body, they can be "activated." When they become active then the bacteria can multiply in body and spread out in the body which produce toxins and cause severe illness.

This may be happen when people breathe in spores, eat food or drink water that is contaminated with spores, or get spores in a cut or scrape in the skin. It is very uncommon for people in the United States to get infected with anthrax.

Very few human cases of anthrax have been reported in Victoria in last few decades. The greatest risk of anthrax is to those who handle dead body of infected livestock such as farmers, vets and knackery workers. The last registered case of human anthrax in Victoria was in 2007 when a knackery worker, who had contact with an infected dead body, developed the skin form of anthrax. He was treated with antibiotics and recovered.

Measures taken to prepare for an outbreak

The measures taken in Victoria to deal with occurrences of anthrax in farm animals are designed to:

- limited disease outbreaks
- Protected domestic and exported markets for livestock and their products

- Safeguard for public health
- All-hours Emergency Animal Disease Watch Hotline for the immediate reporting by farmers and veterinarians of suspected cases of anthrax

Comprehensive policy and operational procedures for the management of anthrax, which cover

- Notification procedure
- Quarantine procedure
- Disinfection procedure
- Disposal of dead body and animal products
- Action plan
- Vaccination procedure
- Keep a stock of anthrax vaccine for use in an outbreak. Vaccination carried out in response to a case of anthrax in the area is carried out free of charge.

Anthrax so dangerous because-

- It can be easily found in nature.
- It can be produced artificially in a lab.
- It can survive for a long time without stringent storage conditions.
- It's been used as a bioweapon before.
- It can be easily used in powder or spray form without seeking too much attention.
- Anthrax spores are microscopic in nature. They might not be noticeable by taste, smell, or sight.