

Enterotoxemia in Lambs

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Enterotoxemia is one of the most common and costly disease problems in the U.S. sheep industry and worldwide. Preventative measures are generally recommended to prevent unnecessary losses.

Enterotoxemia, also known as "overeating disease" or "pulpy kidney" disease, is caused by the bacterium *Clostridium perfringens*, Type C and D. This bacterium is a normal inhabitant of the intestinal tract of sheep and other mammals, and normally, is not a problem. However, there are certain conditions which trigger excessive bacterial growth in which lethal amounts of toxin are produced, resulting in death of the animal.

Enterotoxemia type D is most commonly associated with heavy concentrate feeding or an abrupt change in the diet, usually to a better feed. It usually affects weaned lambs that are consuming at least 3/4 of a pound of grain per day. In contrast, enterotoxemia type C most often affects nursing lambs within the first few weeks of life, causing a bloody diarrhea.



Enterotoxemia is usually associated with grain feeding.

Animals with enterotoxemia are frequently found dead, without symptoms. The disease progresses rapidly and often strikes the best-doing lambs. When symptoms are observed, they are often confused with other diseases such as *e.coli* scours or polio. Affected lambs will appear depressed, may grind their teeth, twitch or convulse. Abdominal pain is common.

Treatment of affected animals is usually unrewarding.

Antitoxins can be given either orally or by injection and administration of antibiotics, such as penicillin, may help, but as with other disease problems, prevention is the better course of action. Fortunately, there is an effective, inexpensive vaccine to control the disease. The vaccine is given under the skin (subcutaneously). Since lambs can be affected early in life, it is advisable to vaccinate ewes 30 days prior to lambing. This way the lambs will obtain temporary immunity from the mother's colostrum. Previously unvaccinated animals should be given two doses of the vaccine one month apart, followed by an annual booster. Lambs should receive their first vaccination when they are about four weeks of age, followed by a second injection at six weeks. Some producers vaccinate again before putting lambs into a feedlot (if the lambs are 90 days or older). Purchased feeder lambs should receive their first vaccination prior to the feeding period and be boosted three weeks later. It takes from 10 days to two weeks to develop immunity.

If ewes were not vaccinated for type C enterotoxemia, lambs can be vaccinated with the type C toxoid at 2 to 3 days of age and again in 2 weeks or they can be given antiserum shortly after birth. It should be noted that colostrum antibodies will interfere with vaccinations at an early age, so it is always more advisable to vaccinate the ewe than the young lamb.

Management which will aid in prevention of the disease include avoiding sudden changes to the diet. There should be a gradual transition of two to three weeks when going from a roughage to a highly concentrated ration. Feeding at regular intervals, proper ration mixing and providing adequate feeder space will also help to prevent problems. The feeding of antibiotics will help to prevent enterotoxemia in feedlot lambs.

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