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## **Blackleg: A Preventable Disease**

Blackleg is a preventable, soilborne disease of both cattle and sheep. Caused by an anaerobic, soilborne bacterium, it's almost always lethal. It will infect sheep of any age, but it mainly affects cattle from six months to two years old, usually the fast-growing, high-performance animals.

Blackleg can kill within 12 hours of infection and usually does so within 48 hours. So, unfortunately, the most common first sign is a deceased animal. Sometimes the animal will appear lame on the affected leg before any other sign is noticed. The rear leg muscles typically turn a darkened or black color, lending the name Blackleg. The disease affects both skeletal and heart muscles, but the thigh is most commonly affected. Fatalities exhibit swelling under the skin which "crackles" when compressed.

Blackleg is not contagious. The source for transmission is the clostridia bacterium spores waiting in the soil for the opportunity to come in contact with an open wound or be ingested by a grazing animal. Ingested bacteria will invade the body through a small puncture in the digestive tract. Following ingestion, the organism may live in the gastrointestinal tract, spleen and liver without causing any problem.

Animals found alive can be given high doses of penicillin, but outcomes are poor, infections are very severe and of very short duration. Blackleg is a non-contagious but highly fatal disease, with nearly 100% death loss. Blackleg vaccines, usually 7- and 8-way products, are widely available, inexpensive and very effective at prevention. Producers should be sure to read the labels, most of these vaccines require a two-shot series. For example, for cattle, give the first vaccination at 60 to 90 days of age or when the calves are first processed. Then, administer a 7-way booster dose in four weeks or at weaning. Annual vaccination of adult cows will boost immune response and produce antibodies in colostrum, which can protect a calf for three to four months.

These bacteria can survive extreme environmental conditions by developing into highly resistant spores. As spores, the bacterium can live in soil for many years. If sheep or cattle have ever grazed the land you are currently pasturing, it is most likely you have blackleg spores. Certain environmental conditions may cause the disease to become accessible; tillage, erosion or flooding. In drought conditions, more soil is consumed, adhered to forage that goes into the

mouth due to weakened root systems. Livestock frolicking on mounds from pond clean-outs will also consume soil.

Fatalities need to be handled immediately. The entire carcass is a breeding ground and large shedding source for the bacteria. Proper disposal is critical, to prevent spread by scavengers or rainfall.

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