Blackleg May Be a Concern in Drought Conditions

Jeremy Powell

With the drought conditions that cattlemen are currently dealing, one should remain mindful of potential herd health problems with blackleg. As cattle graze on shorter and shorter forage, the chances of picking up soil-borne pathogens that cause blackleg will increase. Blackleg is a disease that affects cattle worldwide and is caused by the infectious bacteria \textit{Clostridium chauvoei}.

Cattle may become exposed to blackleg from contact with bacterial endospores in the soil. Although blackleg can occur in very young calves, the disease typically affects animals between six months and two years of age. Rarely, losses may also be seen in adult cattle. Blackleg generally affects calves that are in good condition and growing rapidly. Animals infected with this disease die rapidly without any outward signs of illness. However, clinical signs that may be noted very early in the disease include lameness, loss of appetite, fever and depression. Animals quickly die within 12 to 48 hours after contracting the disease. Although treatment usually fails, if attempted, appropriate doses of penicillin may prove helpful. If an animal does survive, it will likely suffer from a permanent deformity.

Blackleg may be more prevalent on farms where excavation has recently occurred or in areas that have been either drought-stressed or flooded. (This allows the spores to rise to the surface of the ground.) Post-mortem lesions associated with blackleg include characteristic swelling at the area of the affected muscle tissue (legs, neck, hip, chest, shoulder, back or elsewhere). The swelling is due to fluid accumulation as well as gas buildup, which are produced by the infectious bacteria. When pressure is applied to the affected areas, gas can often be felt moving while producing a crackling sound under the skin. Affected muscle tissue will contain dark areas of dead tissue, hence the name blackleg. This affected tissue may also have a foul odor (usually described as rancid butter).

It is virtually impossible to prevent contact with the infectious agent, so vaccination becomes the only way to effectively control this disease. It is generally recommended that calves be vaccinated between two and three months of age. Before this period, calves should be protected through passive transfer of antibodies in the dam’s colostrum. A regular vaccination protocol should be followed around weaning. Calves should receive two doses of the vaccine during this period. The second dose should be administered three to six weeks following the first dose. Two vaccinations given in this manner provide the best protection. If an outbreak of the disease has occurred, a producer should contact his/her local veterinarian so that a proper diagnosis is reached. The veterinarian will probably
recommend that all animals receive immediate vaccination and follow-up boosters. Further losses may occur for a two-week period until the animals develop ample immunity against the disease.

Always be sure to read and follow the instructions on the label when using a vaccine.

Blackleg vaccine should be administered subcutaneously (under the skin) in the neck area. The common blackleg vaccines are referred to as “7-way” because they protect against other clostridial diseases such as malignant edema, black disease, enterotoxemia, etc. Carcass disposal should be done carefully after an outbreak of the disease occurs. If possible, bury carcasses deeply where they lie, so they will not be dragged across the pastures contaminate more ground.

For more information about blackleg and other diseases that affect cattle, contact your county Extension office.

The Things I Know

DR. TOM R. TROXEL

With the creation of new knowledge in an always-changing world, the things we know or thought we knew often are challenged or even proven to be incorrect. At this point in time anyway, these are the things I know:

• There is a lot of volatility in the cattle business. This volatility exists on the selling price and input cost side. From 1990 to 2010, the average selling price for a 500-pound Arkansas steer calf was $100 to $110 per hundredweight. That average increased to $112 to $120 during 2000 to 2010. Selling price average continued to increase from 2005 – 2010 ($115 to $125). In 2011 prices reached topped out in March at $160 and have dropped to $133 in July. Input cost for feed, fertilizer and fuel continue to increase, which affects the producer's bottom line. Often, when selling prices decrease, input costs do not.

• It costs money selling calves one head at a time. The Department of Animal Science conducted a research study to determine the factors affecting selling price of calves sold at Arkansas livestock auctions in 2000, 2005 and 2010. Calves one head at a time received selling prices $0.12 to $0.77/hundredweight below the average selling price. Meanwhile calves sold in groups of two to five head received a selling price $1.94 to $2.74/hundredweight above the average selling price and producers who sold calves in groups of six or greater received a selling price of $4.02 to $5.32/hundredweight above the average selling price.

• Buyers discount bulls compared to steers. In the sale barn study bulls were discounted by $4.34, $6.18, $6.31 per pound in 2000, 2005 and 2010, respectively, compared to steers. It appears the discount for bulls increased over time.

• Horned cattle are discounted. Horned cattle were discounted by $0.99, $3.69, and $8.03/hundredweight in 2000, 2005 and 2010, respectively, in comparison to dehorned or polled calves. Over the last ten years, it appears buyers want horned cattle less and less.

• Small framed cattle are heavily discounted. Small framed cattle were discounted by $18.52, $20.96 and $21.87 in 2000, 2005 and 2010, respectively, compared to the average prices. Buyers simply don’t want small framed calves.

• No. 1 muscled calf is desirable. There are four classifications of muscle scores (1, 2, 3 and 4). Only muscle score 1 received a selling price above the average selling price. All of the other muscle scores (2, 3, and 4) were discounted. This was true in 2000, 2005 and 2010.

• A short defined breeding and calving season is the most cost effective practice a cow/calf producer can implement. The reason is because a short defined calving season opens the door that allows a producer to improve efficiencies in so many other areas (forage management, record keeping, herd health, heifer development, etc.). Demonstrations show that herd breakeven and specific cost per animal unit was decreased and income over specific cost per animal unit was increased by shifting from a long to short breeding season.

• It’s important to protect your herd from Trichomoniasis. Producers do not want to accidentally introduce Trichomoniasis into their herd. Therefore, they should implement biosecurity precautions to protect their herd.

• It’s expensive to keep open cows. The cow/calf budget from the 300 day grazing demonstration herd illustrates that it takes the net returns from two calves to pay the expenses of one open cow. A cow should be associated with a calf every day of her life; either nursing a calf or pregnant with a
calf - if not, she should be culled.

- You can graze cattle 300 days a year in Arkansas. The 300 day grazing herd at the Livestock and Forestry Branch Station at Batesville grazed cattle 347, 312 and 327 days in 2008 – 2009, 2009 – 2010 and 2010 – 2011, respectively. This was accomplished with a good ratio of warm and cool season forages, optimum soil fertility, electric fence and water placement, proper stocking rate, targeted fertilization, short calving season, and planning for one or more grazing seasons ahead.

- Ranch records can help make management decisions. Keeping records (soil test, forage testing, cow herd performance records, financial records, etc.) is important to make management decisions. The more objective information available the less subjective guessing is necessary. Remember this is your ranch we’re talking about – your livelihood. As time goes on, timely decisions will become more and more important. Making the right decision will be critically to the success of your ranch.

Jeremy Powell, DVM
Assistant Professor and Veterinarian

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Arkansas Cooperative Extension Service is implied.

Printed by the University of Arkansas Cooperative Extension Service Printing Services.