

Blackleg outbreak shows vaccine's value

A herd stopped vaccinating for blackleg, but came to rue that decision

IT WAS THE END of a hot, humid day in August when John phoned.

The summer had been especially rainy, and with all the electrical storms in the area, John had just come in from checking his herd of 35 Charolais X cows and calves. He sounded panicky.

"They were all fine three days ago. Tonight there is one dead steer, and two other older calves down and looking like

they are heading the same direction. They are three of my best calves!"

When I arrived at the summer pasture where he kept the herd, one of the two down calves had already died, and the third one was very depressed, had a temperature of 40.8°C, and an elevated heart rate.

All three animals were approximately six months old, and were rapidly growing, Charolais X calves in excellent condition. On closer examination of the third down calf, the right hind leg and hip was swollen, and cold to the touch, with a fluidy, emphysematous feel to it.

The two dead calves were lying bloated on their side, blood stained froth from their nostrils, with similarly swollen limbs and varying degrees of edema and emphysema present under the skin. The skin and affected muscle tissue was dark and dry.

All the other cows and calves appeared to be fine. Based on the clinical exam and post mortem findings of the three affected calves, a diagnosis of Blackleg was made in this case.

Blackleg, a clostridial infection of skeletal muscles, is associated with *Clostridium chauvoei*, a bacterium, and is a soil-borne infection acquired by cattle probably by ingestion with the spores localizing in muscle and other sites.

The spores can persist in soil for many years, and are highly resistant to environmental changes. When the disease occurs, it is not uncommon for a number of animals to be affected within a few days. It mostly affects cattle five to six months to two years of age that are rapidly growing on a high plane of nutrition.

It has a seasonal occurrence in the warm months of the year, and there may be an increased prevalence in years of

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high rainfall. Outbreaks of blackleg in cattle have occurred following excavation of soil, suggesting that disturbance of the soil may expose and activate latent spores.

The case fatality rate in blackleg approaches 100 per cent in most cases, and for this reason it can be a cause of severe financial loss to cattle producers. For the most part major outbreaks are prevented by vaccination, although outbreaks can still occur occasionally in vaccinated herds or cattle improperly vaccinated.

In John's case, I knew he was a good manager, and we had just this spring discussed switching his herd from the traditional annual killed 9-way BVD/IBR vaccine, to a modified live vaccination program for both cows and calves.

Now, as we stood in the field looking at the dead calves, he admitted that they had stopped vaccinating for Blackleg two or three years ago as he and his father didn't feel it was in the area anymore. It had saved them an extra syringe of vaccine on processing day, but cost them dearly now.

Since the blackleg vaccine is relatively cheap compared to other vaccines, we decided that we would immediately vaccinate all cows and calves with the blackleg vaccine. In addition, all calves were given treatment doses of penicillin intramuscularly to try to minimize the chances of any new cases occurring.

The herd was moved immediately from the affected pasture, and the dead animals were buried deep to limit soil contamination.

John was at the clinic to pick up more blackleg vaccine to booster vaccinate his calves three weeks later. He reported that there had been no more deaths, and all the cattle were doing well. We discussed continuing to annually vaccinate all calves and yearling heifers going forward in an effort to prevent an occurrence of this past summer's problem.

This case illustrated the importance of not deviating from your herd's core vaccination program, however tempting, given the harsh economic conditions the industry has experienced over the past few years. ©