The case of a recent cow-calf Johne's disease outbreak shows that dairy herds aren't the only ones who need to be concerned with the disease

Johne's likes cattle

by
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A RECENT CASE of Johne's in an Ontario cow-calf herd highlighted for me that beef producers think this disease is only a problem for dairy herds. This clearly is not true.

While it's true that the disease has been diagnosed most frequently in dairy cattle, there is nothing different about the basic susceptibility of beef cattle to the problem.

The herd affected was a pure bred herd calving about 55 cows each spring. This year three mature cows developed diarrhea within a month of calving, lost weight rapidly and ended up with poor doing calves.

The first two cows died on the farm. The third was euthanized, examined by the herd vet and samples were sent to the laboratory in Guelph. At the lab the pathologist found the typical cells and bacteria in the thickened lining of the gut and made a diagnosis of Johne's Disease.

When faced with the diagnosis and an explanation of what it was, the producer was surprised to find his cattle could be affected. There may be others with the same reaction.

Johne's Disease is a bacterial disease of cattle caused by Mycobacterium paratuberculosis. Cattle become infected when they are very young. The infection develops very slowly. Cattle usually don't become sick until after four years of age.

When they become sick they develop diarrhea that goes on for weeks. While they continue to eat, they have reduced vigour and appetites and lose condition. Testing of blood or manure at a veterinary laboratory can easily confirm the disease once cattle are sick. If cattle are tested before they are sick, their test results will sometimes be negative even though they are truly infected.

The disease takes a long time to develop. This means that by the time a sick cow is diagnosed, years will have elapsed since she first became infected. During this lag period, additional animals may have become infected. If the sick cow was home raised it's an important red flag to producers and they need to contact their vets to know what to do next.

Differences in management affect how important Johne's will be to the beef industry in comparison to dairy. In dairy herds in Ontario about half the herds seem to have evidence of infection but most have only a very low number of infected cows. A few herds develop widespread infection but fortunately this is very rare. This pattern of low infection occurs because generally when a Johne's infected dairy cow calves she only has the chance to pass her infection on to relatively few newborn calves at and shortly after calving. Once she is milking she moves to live only with her older herd mates. These older animals are unlikely to become infected.

In contrast, when a Johne's infected beef cow calves and sheds these bacteria in large numbers in her manure she is likely to be with groups of cows and susceptible calves. These groups of calves will be exposed to her manure and the environment she contaminates. Groups of beef calves in a herd, not just singletons, can be at risk of becoming infected. This situation becomes even riskier if calving is indoors.

In these situations, animal density is higher and manure contamination of the environment of the newborn calves can become a big problem. Herds that calve on pasture likely minimize the risk of infection of calves by spreading animals (and manure) out. This benefit can be negated however, if the herd congregates closely and frequently to drink or be fed.

If beef cattle get infected with Johne's the importance of the infection depends on the purpose the cattle will serve. If they are to be feedlot animals they likely will not live long enough to develop disease or to pass it on. If they are intended to be cows or breeding bulls, then they can develop disease,

pass infection on to future generations, spread it to new herds and die unexpectedly themselves.

In the producer's case described above, the cows affected were all about the same age, suggesting they had all been similarly exposed to Johne's when they themselves were newborn calves. This suggested the herd might have more infected animals than just the three that had become sick. Following the diagnosis of Johne's in the cows, the rest of the cow herd was tested by the vet.

Three additional cows had positive tests. These animals were culled to prevent their calving on the farm and infecting another generation. Unfortunately, of course, the positive tests turned out to be in some of the most valuable pedigreed cows in the herd.

Follow-up testing for the next several years will be done at the producer's expense to detect infected cattle if there are more. Cows early in the course of infection now may have negative tests until disease advances to levels that can be detected. The producer hopes to return his herd to a negative status and to be able to prove he has done this.

Changes to calving and the management of young calves are underway. Preventing infection of the new calf crop with Johne's in a cow-calf herd is not easy to do. This producer will attempt to group calving cows by cow age to help to reduce the exposure of calves born to young cows to the manure of older, possibly infected cows.

You can easily see that strategies like this will be very tricky to manage in a badly infected cow-calf herd.

Veterinarians familiar with the herd's health history over time, and who have an awareness of the risk factors for beef cow-calf herds, can often make a good estimate of the risk of Johne's occurring in a herd. Often careful questioning reveals cows that have died in previous years with signs, that in retrospect, could have been Johne's.

Additionally, they can advise on the necessity and methods of testing. Herd veterinarians can advise on the best means of diagnosing Johne's in a herd, should there be suspicion it is present, and the steps that should be taken should the disease be identified in a herd.

Johne's Disease likes cattle – it doesn't care whether they are beef or dairy. Give the bug an easy route into a young calve's mouth and infection can occur no matter what the type of calf.