VETERINARY COLUMN

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VALUABLE JOHNE'S COW

We recently had one of our best older cows diagnosed with Johne's, first by a blood test and then by a fecal test. She has been used for a flush cow, having given us seven really good embryos as recently as 10 months ago. Some of these heifers were sold.

McGuirk

The cow is due with a heifer in a couple of months. She still eats and drinks but is getting thinner. We don't know whether the calf will likely be infected and will make it to calving.

WISCONSIN L. N.

You ask a lot of really relevant (and hard!) questions.

The first thing to address is her future. Undoubtedly, cows that are significantly affected clinically with Johne's may survive for the time period that is left in her pregnancy. You always must make the ethically appropriate decision for her should her appetite and demeanor change and she become so weak that getting up and around is a problem for her. But clinical Johne's cases often can remain bright and eat well for quite some time.

A perhaps more relevant question would be whether it is appropriate to allow her to remain on the farm and finish the pregnancy. During the intervening weeks, she will be shedding billions of infectious Johne's disease organisms into the environment on your farm. This will increase the opportunity for new infections in your other cattle, particularly young stock.

Furthermore, there also is a risk that the calf will be infected in utero, and, unless the calf is delivered by Caesarean section, there is an added risk of the calf being infected during or right after calving. It also is possible that, if the cow's condition worsens at all, the calf may not develop normally.

I seriously would question the merit of keeping her until she calves in the hopes of obtaining "one last" heifer from her. She sounds as if she is in an advanced stage of Johne's disease, and the likelihood of the calf being infected already or at birth is too high.

A more difficult question to address pertains to her previous progeny. It sounds as if she was not so clinically obvious at the time of her last round of embryo transfer procedures. However, because of the natural history of the disease she almost certainly would have been infected at that time . . . just not shedding in such large numbers nor with such significant lesions in her intestines. Therefore, all of her prior progeny are at risk for having been infected, particularly those born at term by normal vaginal delivery.

Undoubtedly, the fact that these embryos would have been removed so early in pregnancy makes it less likely that she would have passed on the infection in utero, but that risk is not zero. I think you are ethically obliged to inform the owners of any recently purchased embryos what has transpired in the last few months. I should emphasize that the risk is small compared to the risk to the current fetus.

The risk of vertical transmission from dam to fetus at the stage of embryo transfer is greater than that occurring when oocytes are removed for in vitro manipulation. But even calves derived via in vitro fertilization from a clinically affected or proven Johne's infected dam probably should be screened for evidence of infection in early life.

Perhaps as important an issue for you to consider on a herd basis is whether or not this case should prompt you into a stepped-up Johne's surveillance program for all the cattle on your farm. Decisions as to which tests are best to use for screening and diagnosis and the accuracy of those tests in cattle of differing ages are questions you should work through with your veterinarian alongside any management changes that you collectively decide are appropriate.