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A Quick & Quiet Killer

New emerging pathogen can cause havoc in cow herds.

by **Kindra Gordon**, field editor

“I hope you never see it,” says Victor Cortese as he talks to cattle producers about a new, emerging bacterium called *Bibersteinia trehalosi*.

Cortese, a veterinarian and director of cattle and equine immunology for Zoetis, explains that this pathogen causes severe pneumonia in cattle and can quickly kill an animal within 12-18 hours.

To illustrate the severity, Cortese tells producers when this bacterium hits a herd, “You’re on the front end of a hurricane.” He cites a Minnesota herd that lost 60 cows in 14 days and a Montana herd that lost 140 cows in five weeks.

“It can kill 5% to 15% of a herd, but the two worst cases I’ve seen lost 50% and 100% of their herds,” says Cortese.

Wildlife origin

B. trehalosi was initially seen in domestic herds of small ruminants like sheep and goats, but has been isolated from bighorn sheep, white-tailed deer and elk populations. The disease was then identified in dairy calves for the first time about 15 years ago in California, and four years ago began to be observed in adult cattle on pasture.

Cortese says the pathogen is difficult to identify because many labs aren’t familiar with it and don’t have the ability to test for it. Also, the pathogen has similarities to *Mannheimia haemolytica*, so occurrences can

be misdiagnosed as that more common disease. However, he shares, within the past five to six years, diagnosis of *B. trehalosi* across domestic livestock populations has been increasing. He has seen cases from Montana to Ohio.

Cortese says adult cows appear to be most susceptible; however, the pathogen has affected calves, stockers and feedlot animals. He adds that once affected, “the heavier cattle go fastest.”

He also notes that the pathogen is typically most prevalent during fall and winter — because it is carried by wildlife populations that may be moving around the herd. Additionally, he says it’s a bacterium that often affects cattle even if they are not stressed or if they don’t have a compromised immune system.

Once infected, cattle succumb quickly. Cortese says the first sign cattle are sick is a high fever. When the fever drops (within about 12-18 hours), he says, “I can’t save them; they die.”

In postmortems done on dead animals affected by *B. trehalosi*, Cortese says telltale signs are full rumens, but lungs that are hemorrhaged — or in his words, “shot.” He explains, “This shows the animals die so fast

after being infected they don’t even go off feed.”

Unlike most respiratory illnesses which travel from the nose to the lungs, he says this pathogen comes from the bloodstream to the lungs, which explains why it affects animals so quickly.

Act fast

Cortese reports there are currently no vaccines on the market labeled for *B. trehalosi*. He says

autogenous vaccines haven’t shown to be effective toward the disease either.

In the herds Cortese has helped treat, he reports that Zoetis’s One Shot® vaccine, a bacterin-toxoid to aid in preventing bovine pneumonia caused by *M. haemolytica* type A1, has had some success in stopping the pathogen; however, Cortese says, “You have to vaccinate right away.”

He says, “If you necropsy the first few deads and see full rumens and lungs shot, vaccinate.”

To purebred producers who show cattle, Cortese advises vaccinating the herd annually. He explains that small ruminants at fairs can easily transfer the disease; thus, he says, “If you are an open herd, vaccinate for this routinely.”



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Editor’s Note: Kindra Gordon is a freelance writer and cattlewoman from Whitewood, S.D.