



Johne's disease in beef cattle – what does it look like, how do they get it, and where does it come from?

Johne's disease is a chronic, fatal infectious disease of cattle and other ruminants. It is an unusual disease in that cattle are infected as calves but do not show disease until adults. Understanding the transmission of the disease is the key to keeping Johne's out of your herd or managing it if your herd is already infected.

Transmission of Johne's disease

- Most cattle are infected before or soon after birth
- Although infected early in life, cattle do not usually develop signs of disease or shed bacteria until they are adults
- Calves can be infected in utero
- Calves can be infected by ingesting contaminated colostrum or milk
- A dime sized piece of manure contains enough Johne's disease bacteria to infect a calf
- A infected bull is much more likely to spread disease through manure than natural breeding
- The risk of an infected cow having Johne's disease bacteria in her milk or manure increases as she develops clinical disease – the sicker she is the more likely there are lots of bacteria
- Cows that look perfectly normal (cows without clinical signs of disease) can also shed bacteria in their milk and manure
- Most calves are infected pre-weaning by ingestion of manure
- The risk of spreading John's disease through artificial insemination is a very low.
- If the recipient cow is Johne's disease test negative, the risk of spreading Johne's disease to a calf using embryo transfer from an infected donor cow is very low.
- If the embryo transfer recipient is Johne's test positive, the risk to the ET calf is substantial

Clinical Johne's disease

- Most cows infected with Johne's disease appear healthy and clinically normal
 - This is because of the long incubation period (time from infection to expression of disease)
- As the infection progresses, cows exhibit clinical signs of disease - diarrhea and weight loss
 - Bacteria multiply in the intestine resulting in thickening of the intestinal wall until it looks like corrugated cardboard
 - The intestine cannot absorb nutrients and water, so the cow develops diarrhea and loses weight
 - The diarrhea has been called "pipe stream" diarrhea because it looks like water coming out of a hose
 - The diarrhea is watery, doesn't smell bad, and does not contain blood
 - Initially the diarrhea may be intermittent, but eventually it becomes constant and unrelenting
 - The cow does not look ill, does not have a fever, and is bright and alert
 - The cow's appetite remains very good
 - The cow may drink a great deal of water
 - Some cows show a condition called "bottle jaw" which is fluid swelling under the jaw
- Infected cows often develop clinical disease following stress, especially the stress of calving



First calf Angus heifer that lost condition and developed profuse diarrhea after calving. Fecal culture was positive for MAP.



Cross bred cow tested positive for MAP. Note the loss of condition.



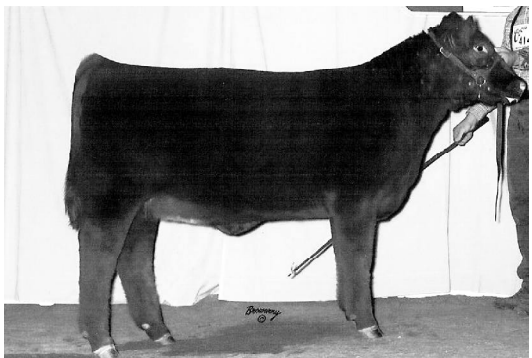
Holstein cow with clinical Johne's disease and "bottle jaw". Note the fluid filled swelling under the jaw, resulting from loss of protein secondary to profuse diarrhea.



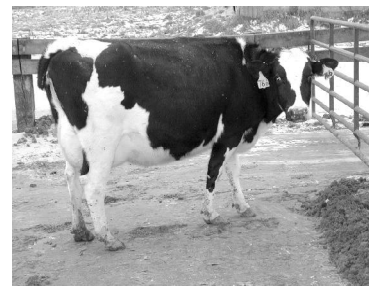
Guernsey cow with end stage Johne's disease. Note severe emaciation.

The many faces of Johne's Disease

Johne's disease is an equal opportunity infection. Cattle of all breeds are susceptible. Rare breeds and common breeds can become infected. Beef cattle, dairy cattle, working oxen, miniature cattle, show heifers, rodeo stock and pet cows can become infected. Every animal on this page was infected with *Mycobacterium avium paratuberculosis*, the bacteria that causes Johne's disease. Every animal on this page died, was euthanatized, or sent to slaughter because of Johne's disease.



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No picture available of the Famous Bucking Bull, deceased.