Prevent the Spread of JD

The Basics of Prevention

The spread of Johne’s Disease (JD) in herds should be minimized if the following points are recognized:

• The bacteria causing JD is mainly spread through manure.
• Calves are the most easily infected.
• Tests for JD do not accurately detect animals in the early stages of infection.
• The infection of out-of-your herd is always cheaper than trying to control the disease once it is present.
• Eliminating JD from a herd takes a long-term commitment (at least 5 to maybe 15 years).

Management changes implemented to decrease the risk of JD will also reduce the risk of other calf diseases and improve overall health.

• An infected cow can shed billions of organisms into the environment for years prior to showing any clinical signs of the disease.
• A small amount of manure is all it takes to infect a calf.
• Only a small percentage of infected cows in a herd will show clinical signs of the disease (signs of illness). The rest of the infected animals will appear healthy.

Prevent JD from entering the herd:

✓ Buy from herds that are part of the National Program:
  • pick herds that have a health status similar or better than your herd,
  • segregate and prevent contact with young animals.

Prevent the spread of JD to calves

Note: these management recommendations will also help to reduce the risk of calf scour due to rotavirus and coronavirus, E. coli, Salmonella, Cryptosporidia, Giardia and Campylobacter.

✓ Decrease the exposure of newborns to contaminated manure—keep calving areas clean and dry.
✓ Since calves are the most susceptible to Johne’s infection, primary focus should be given to the calving period to prevent the transmission to newborn calves:
  • have one-way movement through calving pens pre-calving, calving, mothering up and turn out.
✓ Do not house sick animals in the calving area, or use hospital pens for calves;
  • have an adequate supply of clean, dry bedding.
✓ Remove manure and wet bedding from calving pens and maternity chutes after each use.
✓ Avoid overcrowding and manure buildup in calving areas.
✓ Clean udders after assisted births if necessary.
✓ Ensure newborn calves receive high quality colostrum from their dams. Do not use colostrum from cows or herds of uncertain Johne’s status.
✓ Consider moving the calving area to a clean location every 14 days.
✓ Remove manure from the calving area as soon as possible after the calving season ends.

Prevent the spread of JD among replacement animals

Note: many of these recommendations will also help ensure that the higher nutritional needs of growing replacement heifers are met.

✓ Raise uninfected replacements:
  • do not keep replacement heifers from dams showing clinical signs of JD.
✓ Avoid exposure to infected animals and manure:
  • separate weaned calves and yearlings from mature animals and from their manure;
  • raise replacements in separate pastures and/or separate pens;
  • avoid using common feeding and water sources when possible;
  • pay attention to manure drainage between barns, corrals and yards.
✓ Prevent manure drainage from cows to weaned calves and yearlings.
✓ Fence off manure and ditches to prevent access to manure contaminated run-off.

Prevent the spread of JD due to infected mature animals

✓ Eliminate high risk animals:
  • separate and cull clinical animals immediately (do not sell to another producer unless they are told of your concern),
  • thin, weak, late-stage cases should be humanely euthanized on farm— they are unfit for transport and should not be loaded or hauled for any purpose,
  • cull offspring and test dams of confirmed cases.
✓ Use homegrown embryo transfer recipients—do not purchase embryos from unknown sources or auction barns.
✓ Avoid exposure to other JD susceptible species with unknown status (e.g., sheep, goats, farmed deer or wildlife).

Prevent contamination of feed and water with the JD bacteria (MAP)

✓ Minimize vehicle and people traffic to areas containing young animals.
✓ Do not allow weaned calves and yearlings to graze on pastures used by cows within the last year.
✓ If there are many infected animals, consider segregating the herd into infected and non-infected areas.
✓ Scrape pens as needed to remove cow manure.
✓ Haul cattle in clean trailers.

Prevent contamination of feed and water with the JD bacteria (MAP)

Note: keeping cattle clean and providing access to clean water also improves performance.

✓ Use separate equipment for feeding and manure handling.
✓ Avoid feeding on the ground—use raised feed bunk and waters.
✓ Prevent manure build-up around waterers.
✓ Do not use common mangers/bunks for replacements and mature animals.
✓ Do not walk through feed areas/mangers with dirty boots.
✓ Quickly remove and clean manure out of mangers and bunk.
✓ Keep animals out of mangers and bunk.
✓ Do not feed refused feed from cows to young-stock or replacement heifers.
✓ Do not allow young-stock or replacement heifers to graze a pasture the same season after manure application.

Prevent the spread of JD to other animals

✓ Know the history of the herd you are buying from:
  • buyer beware applies to JD as not all herds are aware of their JD status;
  • ask about history or suspicion of JD.

Recommended Best Management Practices

The overall objective of a JD management plan is to reduce the prevalence of JD on the farm by preventing exposure to infected animals and a contaminated environment. The following is a list of best management practices from a disease control perspective. These will not be possible or cost-effective on all farms—producers will benefit from implementing procedures based on risk identified on their individual farms.

Prevent JD from entering the herd:

✓ Maintain a closed herd: introduce genetics by the use of frozen semen.

If it is necessary to purchase animals, you should:

✓ Know the history of the herd you are buying from:
  • buyer beware applies to JD as not all herds are aware of their JD status;
  • ask about history or suspicion of JD.
What Is Johne’s Disease?

Johne’s Disease (JD) is a contagious, progressive bacterial infection that causes abnormal thickening of the lining of the intestine and restricts the absorption of nutrients. Clinical signs of animals infected with JD are long-lasting diarrhea and extreme weight loss despite providing enough food. JD is caused by a bacterium (Mycobacterium avium subspecies paratuberculosis, MAP), a distant relative to the bacteria that cause tuberculosis.

Animals usually become infected with MAP as calves. No signs of disease are seen for years after infection and most infected cows never show signs. Infected animals may appear normal and spread the disease to other animals in the herd before showing signs themselves. During this time, infected animals may be sold, culled or die without owners being aware that these cows are infected.

How is it spread?

JD is spread through the contamination of udders, feed or water by manure from infected animals. Calves are the most susceptible to JD as they enter a herd through the purchase of an infected animal that sheds MAP in the manure from infected animals. Calves are the most susceptible to JD as they enter a herd through the purchase of an infected animal that sheds MAP in the manure. Occasionally calves can be born already infected. With increasing age, calves become resistant to infection and by about one year or more, depending on conditions.

Cows may also be infected through colostrum and milk from infected cattle. Occasionally, Johne’s disease are seen for years after infection and most infected cows never show signs. Infected animals may appear normal and spread the disease to other animals in the herd before showing signs themselves. During this time, infected animals may be sold, culled or die without owners being aware that these cows are infected.

Why should I be concerned?

JD can have a significant financial impact in a beef herd through reduced feed efficiency, difficulty maintaining body condition, increased or earlier culling, and reduced value of heifer sales. Management factors that contribute to JD may also be associated with an increased incidence of other calfhood diseases (particularly scouring).

There may be an association with milk and meat safety. JD may be linked with Crohne’s Disease, an incurable, chronic intestinal disorder in humans. If this link is proven, beef and milk may be viewed as a route of disease transmission to humans. The presence of JD in our herds may be linked with Crohn’s Disease, an incurable, chronic intestinal disorder in humans. If this link is proven, beef and milk may be viewed as a route of disease transmission to humans.

What Is the Canadian Johne’s Disease Initiative?

The Canadian Johne’s Disease Initiative (CJDI) was created to reduce the incidence of JD. CJDI is a collaborative activity of industry, governments and universities, led by Dairy Farmers of Canada (DFC), the Canadian Cattlemen’s Association (CCA), the Canadian Animal Health Coalition (CAHC). CJDI will address JD communications, education, national standards, data collection, and research. Provinces will implement their own JD control programs.

Initially CJDI will support provincial delivery of the JD program, called the Prevention Pathway. Alberta, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island have initiated JD programs. Other provinces have assigned government staff and are considering programs. Producers and veterinarians should communicate with their provincial contact for more information.

Prevention Pathway program on the farm

Producers should contact their veterinarian and ask about the provincial JD program. Many veterinarians, in all provinces, have received JD training. To initiate the JD Prevention Pathway program on the farm, the JD-trained veterinarian will ask the producer questions about general herd health and farm goals. Next, the veterinarian evaluates specific farm management practices and completes a herd assessment of relevant JD risks and associated scores. Finally the veterinarian recommends optimal, cost effective best management practices (BMPs) to minimize JD in the herd. Confidentiality of results is strictly maintained.

For more information, contact:

Visit the CJDI page on the Canadian Animal Health Coalition website: http://www.animalhealth.ca/CJDI/