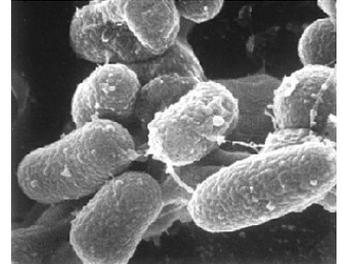


Johne's Disease

What causes Johne's disease?

It is a disease caused by a bacterium named *Mycobacterium avium paratuberculosis* often the name is abbreviated *M. paratuberculosis* or *MAP*.

MAP is a relative of the bacterium that causes tuberculosis in humans (*Mycobacterium tuberculosis*), cattle (*Mycobacterium bovis*), and birds (*Mycobacterium avium*). *MAP* can only grow when it is in animals: it cannot multiply in nature, outside the animal. However, if soil or water is contaminated with this bacteria, it can survive there for over a year because of its resistance to heat, cold and drying.

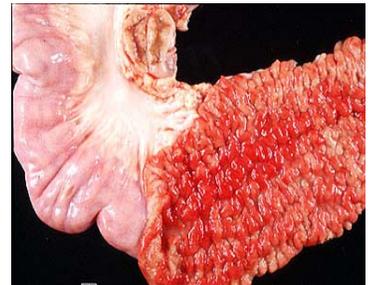


How common is Johne's disease?

Johne's disease occurs worldwide. In the U.S. it is estimated that 7.8% of the beef herds and 22% of the dairy herds are infected with Johne's disease. Infection rates in cattle in other countries are generally similar. The disease has been reported in sheep, goats, elk, deer, bison, llamas and wild ruminants in zoos but accurate estimates of the number of infected animals are not available.

What causes the signs of Johne's disease?

MAP infects part of the small intestine and causes a certain kind of inflammation called granulomatous inflammation. This inflammation damages the intestinal wall causing diarrhea and does not allow the animal to absorb the nutrients from the food. As a result, even though animals will seem to be feeling and eating well, they will rapidly lose weight. Young animals are the most susceptible to getting the infection but do not show signs of the disease until they are 3 to 5 years old. The conditions results in death of the animal, there is no treatment or cure.



What are the signs of Johne's disease?



Primarily, there are only two signs of *MAP* infection: diarrhea, weight loss and poor body condition. In some animal species, like sheep and goats, diarrhea is less common. In general, animals with Johne's disease "waste away" despite their continuing to eat well. Infected animals maintain a normal temperature but may appear unthrifty, have a poor hair coat and can become weak in later stages of the infection. Because of the slowly progressive nature of the infection, signs of Johne's disease are usually not seen until animals are adults. Since the

signs of Johne's disease can be confused with the signs of several other diseases, a diagnosis can be confirmed only by use of laboratory tests. Generally when a herd is affected only a few animals may show signs of the disease but many will be infected. For every one animal diagnosed with the disease there are usually 10 to 15 animals infected but will test negative for the disease.

Can humans get Johne's disease?

So far scientists do not think that humans can get Johne's disease. There is a human disease called Crohn's disease (chronic colitis) that causes chronic diarrhea in people. Crohn's disease most commonly affects people 15 to 35 years old. However, no connection has been shown between contact with animals with Johne's disease or milk consumption and Crohn's disease.

How do you test animals for Johne's disease?

There are ways to test animals for Johne's disease: fecal tests for the bacteria and blood tests for antibodies to *MAP*.

How do animals get Johne's disease?

Johne's disease typically enters a herd or flock of animals when an infected, but healthy-looking, animal enters the herd or is purchased. The infection then spreads to other animals, often without the owner's being aware of it. Eventually, perhaps after several years, the owner may recognize signs of the disease in some animals. Infected animals shed the disease in their manure. Most often, the infection is acquired by an animal eating material (grass, hay or feed) contaminated with *MAP* when animals are very young. Young animals are far more susceptible to infection than are adults. Ingestion of the bacterium occurs when the newborn's environment is contaminated with manure from an infected adult animal, or by drinking milk from an infected animal. The bacteria can be shed directly into the milk. This has been shown to occur in dairy cattle and is presumed to occur in other species as well. After infection, many months or years go by until the infected animals shows signs of Johne's disease

Prevention and Eradication

Prevention is based on maintaining a closed herd. Do not buy or lease livestock unless they are known to be from clean herds.

Management changes that prevent *MAP* transmission to noninfected cattle are necessary. Establish a good sanitation program in all areas of production. Specific actions include:

1. Identify and eliminate known *MAP*-infected animals by testing. Talk to your veterinarian you may be able to participate in the State's surveillance program.

2. Be aware that *MAP* may be transmitted from an infected pregnant cow to the calf (fetus) in utero.
3. Raise baby calves separately, using only colostrum and/or milk from non-infected cows.
4. Establish an infectious disease Management Plan and maintain good sanitation practices.
5. Consider artificial insemination to minimize disease spread.
6. Supply water only from clean tanks, and fence off ponds.
7. Do not spread manure on pastures used for grazing.
8. Buy livestock only from herds known to be free of *MAP* and other diseases.
9. Call your veterinarian early if an animal develops persistent diarrhea. Rule out other diseases and discuss available diagnostic tests.
10. Evaluate other on-farm animal species; and maintain good fences to avoid exposure to wildlife and stray animals

For more information on Johne's disease, go to <http://www.johnes.org/>

