

Q Why is Johne's Disease important to herd health?

A. Johne's disease leads to weight loss, reduced milk yields and chronic diarrhoea in clinically affected animals. This can lead to premature culling of animals from the herd.

Q What is Johne's Disease?

A. Johne's is an infectious bacterial disease caused by the organism *Mycobacterium avium* subspecies *paratuberculosis* (*Map*). The intestine becomes thickened as a result of the cow's immune response to this bacteria. This makes the gut less efficient at absorbing fluid and nutrients and leads eventually to the chronic diarrhoea classically associated with this disease.

Q Which animals are likely to be affected?

A. Young animals (under 6 months) are most susceptible to infection with *Map*. However, the disease will have most clinical and financial impact on adult animals as it takes a number of years from infection until clinical signs are seen.

Q How does a herd become infected and how does the disease spread?

A. The likely source of infection is from buying in infected, clinically normal animals (see table below). This animal will then go on to shed the bacterium and transmit infection to young animals on the farm. The young animals will not show signs of disease for a number of years, by which time they too are further sources of infection to young animals.

The bacteria are shed in faeces and colostrum/milk from infected animals.

Disease stage	Clinical Condition	Antibody status	Bacterial shedding
Initial Infection	Healthy	-	-
Developing antibodies	Healthy	+	+/-
Bacterial shedding	Some weight loss or reduced milk yeild	+	+ (intermittent)
Clinical Disease	Chronic diarrhoea & weight loss	+	+ (frequently)

2-6 years

Johne's disease can affect all ruminants, including sheep and wild deer and this should be considered when attempting to maintain disease free status.

Q How can infection be prevented from entering a clean herd?

A. Purchasing animals from herds Accredited free from Johne's is the best way of preventing this disease from being introduced to the herd. Otherwise, an infected animal could be clinically well and have no antibodies at the time of purchase, but then later go on to shed the bacteria and cause disease in other animals

Q What can be done if the disease is confirmed in the herd?

A. Management: It is important to prevent further exposure of young animals to the bacteria. Management, particularly around calving time plays a key role in this. DEFRA have produced a series of guidelines for dairy farmers which are available from their website (<http://www.defra.gov.uk>). They are in the process of compiling a similar guideline for beef farmers.

Cull reactors: Culling animals which are either antibody positive or are known to be shedding the organism in their faeces, will help reduce the risk of calves becoming exposed. Removal of the offspring from infected animals will also aid eradication of the disease. It can take many years to fully eradicate Johne's from an infected herd due to the long incubation period of the disease which means that all infected animals may not be detectable at any one time.

Vaccination: In heavily infected herds, vaccination may be considered to aid in control of the disease.

Q Can targeted testing be used to assess the risk of Johne's in a herd, without the expense involved in gaining Accreditation

A. Yes, a risk assessment can be carried out as a three way collaboration between **Biobest**, the farmer and his vet. The risk is assessed through targeted testing of higher risk animals and veterinary assessment of the likelihood of disease being present based on purchasing policy and clinical and laboratory history. For this, the following samples are analysed:

- Blood samples from 10 "high risk" animals - cows 4-8 years old which are thin, have poor milk yields or have signs of scour or weight loss and/or cull cows and purchased breeding bulls.
- A bulk milk sample to test for Johne's antibody (Dairy herds only)
- An environmental faeces sample for Johne's PCR

Q How can my herd become Johne's Accredited?

A. By testing all animals through a Cattle Health Certification Standards (CHeCS) registered cattle health scheme, such as **HiHealth Herdcare**. This requires two clear

herd tests, performed between 12 and 24 months apart, on all cattle over 2 years of age. Accreditation status can then be maintained by annual testing of all animals over 2 years, which must remain free from antibody to *Map*.

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