

## Johne's Disease

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### THE DISEASE

Johne's disease (JD) - pronounced "yo-nees" - is a serious bacterial disease that affects ruminants. There are two strains of JD:

- Bovine JD (BJD) mainly affects cattle, but also occurs in goats, alpacas and deer.
- Ovine JD (OJD) mainly affects sheep, but also occurs in goats and deer.



The disease is caused by the bacterium *Mycobacterium avium subsp. paratuberculosis*. Bacteria multiply in the small intestine causing a thickening of the intestinal wall, which prevents normal absorption of food and water. The main symptoms are diarrhoea and wasting.

### DISEASE SPREAD

JD is spread by faeces of infected animals. Most infected cattle will not show signs of the disease until it is well advanced, but can spread infection. The disease has a long incubation period. Livestock are infected while young and usually do not show symptoms for years. Young calves are highly susceptible to infection and may become infected when suckling udders contaminated with infected faeces or when drinking water or grazing pasture that has been contaminated with faeces from an infected animal. Symptoms can be triggered by stress, such as feed shortages, calving, or when animals are affected by other diseases. There is no effective treatment for JD and infected animals are usually destroyed.

### DISEASE DETECTION

JD is a notifiable disease under the *Livestock Act*. Animals with persistent scouring and loss of condition should be reported to a veterinarian or a livestock biosecurity officer for investigation. It is particularly important to investigate livestock that originate from areas where JD is known to occur.

Samples for investigating suspect animals may include blood (serum), fresh faeces and/or intestinal tissues. There are three main tests in use to confirm or exclude JD infection:

## Blood test

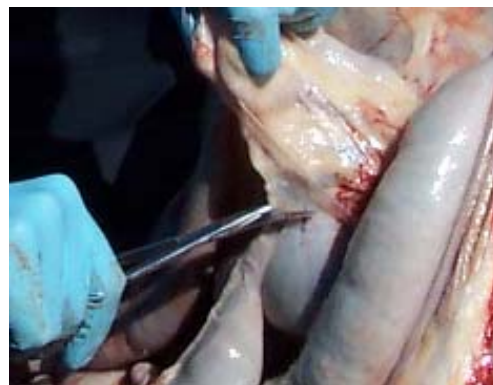
A blood test measures the body's response to the bacteria (presence of antibodies) and is used as an initial test to identify suspect animals for further investigation. A diagnosis of JD using this test is not conclusive as environmental mycobacteria can cause cross-reactions and lead to false-positive test results. A culture of faeces or intestinal tissues can distinguish between bacteria causing JD and other mycobacteria. A negative blood test does not exclude the disease.

## Culture

Culture relies on growing the disease organism from faeces or intestinal tissues in the laboratory. A positive culture provides a certain diagnosis of JD. However, the bacteria grow very slowly and it will take from six weeks to six months to get a negative result.

## Histopathology

Tissue examination relies on seeing and identifying JD organisms in fixed sections of tissue from the intestinal wall. This technique provides an immediate and certain diagnosis. However, a specimen for this purpose can only be obtained during a post mortem examination following the slaughter of a suspect animal.



**Collection of intestinal tissue during post mortem**

## NATIONAL JD CONTROL PROGRAMS

The national program aims to reduce the spread of JD from properties or areas of high risk to those of low risk and reduce the impact of disease in affected herds and flocks through:

- Voluntary [Market Assurance Programs \(MAPs\) for Cattle, Sheep, Goats and Alpaca](#)
- Risk based trading schemes
  - [Beef Only Scheme for beef cattle](#)
  - [Assurance Based Credit \(ABC\) Scheme for sheep](#)
- National Guidelines and [Standard Definitions and Rules for Bovine Johne's Disease](#)
- The Australian and New Zealand Standard Diagnostic Procedures for JD

## SITUATION IN THE NORTHERN TERRITORY (NT)

BJD infection is most prevalent in intensive production areas with high stocking rates and cool moist climates. The NT environment does not provide favourable conditions for the survival of disease causing bacteria. The disease is not known to exist in the NT. If infection is detected in a herd, it will be placed under strict movement controls and disease eradication will commence.

The NT is a Protected Zone for BJD. Queensland, most of New South Wales and the northern part of South Australia are also Protected Zones.

Western Australia is a Free Zone.

The southern parts of Australia are Control Zones (infection exists in both dairy and beef herds).

There are no movement restrictions for BJD in cattle travelling to other parts of Australia from the NT due to its Protected Zone status.

## IMPORTATION OF LIVESTOCK INTO THE NORTHERN TERRITORY

There are BJD and OJD restrictions for livestock entering the NT. The restrictions limit the risk of introducing JD into the NT, which may have a major impact on market access. All livestock entering the NT must be accompanied by an NT health certificate/waybill issued by an inspector in the state of origin to ensure the livestock meet the conditions of entry. *Sheep are prohibited from entering the NT except by permission of the Chief Inspector.*

Please contact your regional office to discuss Conditions for Entry of Stock to the NT.

Please visit us at our website:

**[www.nt.gov.au/d](http://www.nt.gov.au/d)**

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