



# Victorian Farmers Federation Livestock Group

## Livestock Factsheet

### » Bovine Johne's Disease

Johne's disease is a fatal wasting disease of cattle, sheep, goats, alpaca and deer. It's caused by bacteria (*Mycobacterium paratuberculosis*) that mainly live in animal intestines. It has a long incubation period (years) and most infected animals appear healthy but are spreading the bacteria.

While Australian studies have shown the viability of the bacteria is reduced by sunlight and heat on pastures, it can survive for more than 12 months in favourable environments such as wet or swampy land and up to a year in water.

Cross-infection between species can occur, however different strains of the bacteria cause infection in different animals. The strain of bacteria that mainly affects cattle (and goats, alpaca and deer) is the Cattle (C) strain otherwise known as bovine Johne's disease (BJD).

BJD is a notifiable disease in all states and territories of Australia. While evidence indicates BJD is endemic in the dairy industry in south-eastern Australia, it is uncommon in beef herds but will establish and spread readily if the herd is exposed to infected animals or pastures.

### Why control bovine Johne's disease?

Australia has relatively little Johne's disease compared to most other developed countries, with large areas of Australia being disease-free. However, Australia needs to remain at the forefront of Johne's disease control in order to maintain international market access.

In 2010-11, Australia exported 65 per cent of its total beef and veal production which was worth \$4.5 billion to the industry.

A number of importing countries have regulations in place on imported livestock and meat products from countries where BJD occurs. For example, Japan is especially cautious about importing meat from countries with Johne's. In 2011, Australia exported 342,186 tonnes (shipped weight) of beef and veal to Japan, which is equivalent to 37 per cent of Australia's total beef exports for 2010-11.

### Why manage the disease at farm level?

There are a number of reasons why we should manage BJD on a national level for trade; however the disease also affects producers at farm level:

- If left uncontrolled the rate of infection in the herd can increase significantly.
- It can cause wasting and death in your herd, especially during times of stress (eg lactation, drought).
- Stud producers can be particularly affected by BJD due to loss of valuable stock, reputation and clients.
- Producers' ability to freely trade interstate is also limited due to the prevalence of BJD in Victoria.

### When do cattle become infected?

- Faecal contamination of udders, water and pastured are the main sources of infection.
- Cattle are most likely to become infected at the place of birth.
- Young calves are most susceptible to becoming infected.
- Cattle develop some resistance to infection as they age, however if the level of contamination is high in the local environment, adult cattle can become infected.
- Although it is uncommon, calves can be infected in-utero and can also become infected when drinking milk from an infected cow.

### How is BJD spread?

- BJD is spread by infected animals excreting the bacteria in large numbers in their faeces.
- Bacteria can be shed by cattle for years before they show symptoms of the disease.
- Calves can become infected by suckling on udders contaminated with bacteria and may also become infected from contaminated pasture or water.
- There is a very small risk of transmitting the disease through artificial insemination or embryo transfer (licensed centres test donors regularly).

### What are the signs?

Signs of BJD can appear after a period of stress, poor nutrition, heavy milk production or in joined bulls.

Johne's disease causes the intestinal wall to thicken in infected animals, which limits the ability of the animal to absorb nutrients. Animals showing signs of the disease will develop:

- Chronic diarrhea that will not respond to treatment.
- Cattle will maintain their appetite but will continue to lose weight and become emaciated.
- Cattle may become thirstier although no signs of fever are shown.
- Bottle jaw – or swelling under the jaw – is also a common sign in cattle.

The bacteria has a long incubation period, meaning symptoms of the disease in infected animals are usually not seen until they are three to five years old (or even up to 15 years old). However in heavily infected herds, symptoms can be seen in point of calving heifers and young cows and bulls.

### What diagnostic tests are available?

Cattle are tested in two stages – screening and follow up.

There are two main types of screening tests available for diagnosis of BJD in living cattle;

- Serological or blood test.
- Faecal culture.

The serological or blood test is what is referred to as the "absorbed ELISA test" and is the main test for detecting BJD antibodies in cattle.

The pooled or individual faecal culture is available for use in cattle, alpaca and deer and is also used as a definitive test to confirm infection in cattle that react to the ELISA. It is much slower to return results, taking at least 8 weeks to return a positive result and 12 weeks for a negative result.

### When are diagnostic tests used?

Diagnostic tests for BJD can be applied in a number of situations;

- Herd assurance testing as part of the Australian Johne's Disease Market Assurance Program for Cattle (CattleMAP).
- Check Testing or other herd testing for interstate movement.
- Herd control testing in an infected herds participating in the state Test and Control Program.
- Animals that are to be moved interstate or to shows will need to be tested in accordance with the movement requirements for the show society/jurisdiction.



## Where are tests available from?

Contact your local vet for further information regarding BJD testing.

## Is there a vaccination?

The BJD vaccine Silirum® will be available in 2013. Contact your Pfizer representative or visit the Pfizer website for more information.

## Treatment

There is no effective treatment for BJD in livestock. All suspect cases should be investigated.

## How do I minimise the risk of introducing and spreading BJD?

The most important step in reducing the risk of introducing or spreading BJD is to avoid buying in infected or low assurance cattle.

You can also minimise the risk of introducing BJD to your herd by;

- Securing boundary fences and gates to keep out stray stock.
- Only purchase cattle from owners who can demonstrate through herd testing and management (and industry programs) that their cattle are low-risk or will provide a signed Vendor Declaration stating a low-risk status.
- Avoid introducing BJD through agistment of cattle that have an unknown or very low status (seek the advice of your Veterinarian to determine the risk associated with agisting stock).
- Beef producers intending to buy dairy-cross cattle should only buy from herds where the dairy assurance score is 7 or higher.
- Never introducing cattle from herds of unknown BJD status.

## BJD zones and trading

Changes will be made to the BJD national zones and trading regulations for Victorian producers as of 1 July, 2012.

Victoria is currently classified as a Control zone and will change to what will be known as a Management Area from 1 July. Further information on the changes to National Bovine Johne's Disease Strategic Plan will be available soon on the Animal Health Australia website.

## Is there assistance for owners with infected beef herds?

The National BJD Financial and Non-Financial (FNF) Assistance Package provides assistance to owners of infected and suspect beef herds and aims to reduce the prevalence of Johne's disease and the stigma attached to infected herds.

For more information visit the Animal Health Australia website or contact David Allan, BJD Counsellor on 0427 572 879 or email [david.a.allan@bigpond.com](mailto:david.a.allan@bigpond.com)

## Take home BJD messages:

- Bovine Johne's disease is a notifiable infectious wasting disease
- There is no effective treatment for BJD infected cattle or commercially available vaccine
- The control of BJD is critical for key aspects of Australia's beef export markets

For further information, please contact the VFF Livestock Group on 1300 882 833 or by email to [Zoe Moroz on zmoroz@vff.org.au](mailto:zmoroz@vff.org.au)

## Links

### Animal Health Australia

<http://www.animalhealthaustralia.com.au/programs/johnes-disease/bovine-johnes-disease-in-australia/national-bjd-financial-and-non-financial-assistance-package/>

### Department of Primary Industries Victoria

<http://www.dpi.vic.gov.au/agriculture/pests-diseases-and-weeds/animal-diseases/beef-and-dairy-cows/bovine-johnes-disease>

### Department of Primary Industries NSW

<http://www.dpi.nsw.gov.au/agriculture/livestock/health/specific/cattle/bjd>

### Department of Primary Industries SA

[http://www.pir.sa.gov.au/biosecuritysa/animalhealth/disease\\_control/cattle/about\\_bjd](http://www.pir.sa.gov.au/biosecuritysa/animalhealth/disease_control/cattle/about_bjd)

### Department of Agriculture Fisheries and Forestry

<http://www.daff.gov.au/animal-plant-health/pests-diseases-weeds/animal/bjd>

### Notifiable diseases of cattle – DPI Vic

<http://www.dpi.vic.gov.au/agriculture/pests-diseases-and-weeds/animal-diseases/beef-and-dairy-cows/bovine-johnes-disease>

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