

OVINE JOHNE'S DISEASE

Ovine Johne's Disease (OJD) is an incurable, infectious wasting disease of sheep that can result in significant economic losses on infected farms due to sheep deaths and lost production in meat, lambs and wool.

In Australia, Johne's disease has been found in cattle, sheep, goats and camelids.

In some states, Johne's disease is a notifiable disease.

The strain that affects sheep and goats is known as Ovine Johne's Disease. OJD in sheep is caused by a strain of bacterium called *Mycobacterium paratuberculosis*. The bacterium causes thickening of the intestinal wall, which leads to reduced absorption of nutrients from the intestine. The condition continues until such severe condition is lost, and infected sheep will eventually waste away and die.

Contamination of OJD occurs through the manure of infected animals. Pastures and water sources can become sources of contamination which spread infection from contaminated to susceptible sheep. In-utero transmission is an issue if the ewes are clinically infected. Once a flock is endemically infected with OJD, it is very difficult to eradicate.

The prevalence of Johne's disease varies in different regions of Australia. Information on the prevalence can be found on the [Animal health Australia](#) website. Bovine Johne's Disease (BJD) is most common in dairy cattle in south-eastern Australia, however it can also be found in beef cattle herds. Western Australia is a BJD free area. There are no OJD free zones in Australia.

OJD is often not diagnosed in a flock until a significant proportion of the flock is already infected and deaths are occurring. Infected sheep can be shedding the bacteria in their manure for years, while the flock looks healthy.

The classic tell-tail sign of the disease in a mob is a distinct 'tail', with sheep ranging in condition from good to very poor. Eventually the 'tail' animals will begin to die. Infected sheep will continue to eat and drink normally until they are eventually too weak to do so and die.

TIPS TO PREVENT OJD

- Only buy or agist sheep from areas with high assurance provided by either [SheepMAP](#) or recent testing of a closed flock
- When buying sheep, insist on a signed Sheep Health Statement before you purchase and only do so from reputable vendors
- Where there is a risk of OJD, vaccinate your flock
- Improve your flocks resistance to disease through good nutrition and worm control
- Make use of abattoir monitoring results to monitor your infection
- Upon suspicion of OJD, begin a vaccination program immediately
- Work with neighbours to minimise potential spread between properties and consider joining a [Regional Biosecurity Group](#).

IF YOUR FLOCK IS ALREADY INFECTED

OJD has proved very difficult to eradicate from infected properties. Producers of affected animals need to manage their properties and flocks to reduce the overall on-farm impact. Some tips for the management of infected stock include:

- Vaccinate all animals as lambs with approved vaccines such as Gudair
- Animals that show clinical symptoms of OJD should be humanely euthanased. This is important for:
 - The welfare of infected animals
 - Reducing further contamination on property and reduce further infection within animals
- Make use of faecal tests to identify and cull heavily shedding mobs
- When possible, make use of abattoir testing facilities to monitor and control your disease status
- Improve your flocks resistance to disease through good nutrition and worm control
- Wean lambs earlier to avoid contamination within young animals
- Place young or new sheep on 'clean' pastures to reduce exposure to the disease. Wherever possible, avoid placing young, naïve stock on pastures recently grazed by unvaccinated adult animals
- Clean up pastures by using the following routines:
 - Grazing pastures with cattle
 - Rotating crops
 - Re-sowing pasture
 - Grazing pastures with terminal lambs and sell them directly to slaughter
 - Feed via troughs or self feeders; avoid feeding from the ground
 - Fence off possibly contaminated water sources
 - Consider diversifying your enterprise mix, therefore running fewer susceptible sheep.

VACCINATION

Protection for OJD is available through the use of vaccination. Gudair is the only vaccination available for OJD in Australia. It contains an inactivated strain of *M. paratuberculosis* along with a new adjuvant which offers protection against the development of clinical OJD and a reduction in faecal shedding of the organism in sheep.

FEATURES OF THE VACCINATION

- Following vaccination, producers should observe;
 - Significant decrease in the number of clinically effected animals
 - Decrease in the number of mortalities associated with OJD
 - Gradual decrease in the prevalence of infection within the flock
 - Notable decrease in faecal *M. paratuberculosis* shedding
- The inactivated vaccine will not introduce disease into the flock
- A single 1mL dose will provide life long immunity.

DOSAGE, ADMINISTRATION AND SIDE EFFECTS

- Sterilize all injection instruments by using sterile equipment or boiling equipment in water for 10 minutes (avoid the use of strong disinfectants).
- Use the shortest possible needle – not exceeding 15mm.
- Maintain cleanliness at all times and avoid injecting animals in wet or dusty conditions.
- Inject subcutaneously high on the neck, below the base of the ear. Do not inject at any other site to reduce carcase damage.
- Following vaccination, a firm swelling will develop at the site of infection. Swelling should decrease after 7 – 15 days.
- A small percentage of animals (5%) may develop an abscess and burst. Care should be taken in these cases to monitor fly strike and treat where necessary.

SAFETY

- Accidental injection with Gudair vaccine in humans can result in severe, intense and persistent reaction at the site of the injury
- The reaction may be mild or severe and can last for a prolonged period (reports have stated up to 24 months)
- Surgical intervention including amputation has also been reported
- Further information on safe use of the [Gudair](#) vaccine.