



Victorian Farmers Federation Livestock Group

Livestock Factsheet

» Leptospirosis

What is Leptospirosis?

Leptospirosis or 'Lepto' is an infectious disease affecting cattle and less commonly sheep and goats. Lepto is caused by the bacterium *Leptospira*. There are many strains of the bacteria that infect cattle. The two predominant strains affecting Victorian cattle producers include *Leptospira hardjobovis* and *Leptospira pomona*. Both strains are contagious to cattle, causing economic losses through increased abortions and calf deaths.

Leptospirosis is a zoonotic disease (transmittable to humans) posing a risk to human health when working with infected stock. If the farmer or farm worker is infected with the disease, the economic burden of the disease is increased by medical expenses and recovery time away from work. If the farmer is infected this may mean extra labour has to be hired during the recovery period increasing production costs. It is also an occupational hazard for other stock handlers such as abattoir workers and veterinarians.

This is a notifiable disease in Victoria and Tasmania. Contact your local DPI office if you have a lepto infected herd.

How is it spread?

The disease can be spread between animals via a number of ways including:

- Infected stock contaminating the surrounding environment. The bacterium is excreted in the urine, contaminating pastures, water supplies and the soil.
- The bacterium can infect the body by entering through exposed flesh such as cuts or membranes including eyes, nose and mouth.
- If conditions are favourable the bacteria can live in the environment for several weeks, exposing the stock to infection for long periods of time. It prefers warm moist soil, the surface of fresh water supplies and muddy conditions.

The disease can spread from animals to humans by a few ways including:

- Via broken skin such as cuts and abrasions.
- Handling of aborted foetus and afterbirth or assisting during calving without gloves.
- Poor hygiene practices; not washing hands properly after contact with livestock.
- Indirectly via infected water or soil.
- Urine from infected stock reaching eyes, mouth or nasal passage.

What are the signs?

Common signs of leptospirosis in cattle include:

- Increase of abortions across the herd. This generally occurs in heavily

- pregnant cows (at least 5 months in calf).
- Transformation in udder appearance and milk production symptomatic of mastitis. Udder may appear slack, with milk becoming inconsistent and yellow in colour. Milk generally returns to normal in 10-14 days even without treatment.
- Development of 'redwater', usually in calves. Calves as young as two weeks can become infected, excreting reddish-brown discoloured urine.
- Rough, dry coat.
- Increased lethargy and rapid breathing.
- Discolouring of membranes in the mouth or vagina usually a pale yellow colour.
- High fever in calves.
- Death which may occur in severe cases.

Cattle may be infected for several weeks before displaying symptoms of the disease. In some cases cattle infected with the L.hardjo strain may not show any signs at all. Abortions due to leptospirosis may occur with or without displaying other symptoms. Redwater in calves is the most distinct indication that the disease may be present. The most accurate way of detecting leptospirosis is through blood testing or examination of freshly aborted foetuses or afterbirth, carried out by your local veterinarian. Veterinarian assistance is required if you think you may have an outbreak of leptospirosis.

Can cattle develop immunity to the disease?

Yes, animals can develop immunity to both strains of the disease. Immunity is developed when an unvaccinated animal is exposed to the disease. It is also important to note that infected cattle can shed the bacteria for at least 12 months and display no clinical signs of the disease.

If a majority of the herd develops immunity to leptospirosis, this reduces the exposure to the disease. Reducing the exposure causes the immune response to weaken, putting cattle at risk of re-infection if they are not vaccinated.

Cows that have been previously infected (or vaccinated) provide antibodies in the colostrum, offering their calves immunity against the disease for up to 6 months. After 6 months cows and calves may become susceptible to re-infection.

Management of Leptospirosis

Treatment of leptospirosis should involve veterinary consultation.

Management strategies for the control of leptospirosis include:

- Implementing a vaccination program.
- Purchasing vaccinated stock with an animal health statement to reduce the risk of introducing infection into your existing herd.
- Avoid running calves on poorly drained areas or paddocks which receive run off from neighbouring livestock businesses.

Vaccination

Introducing an effective vaccination program offers the best protection against the disease. It is advised to seek veterinary consultation before commencing a vaccination program. Vaccines such as Pfizer Animal Health's Ultravac® 7in1 and Leptosshield® are commercially available from Pfizer or your local rural supplier.

Points to consider with vaccination include:

- Handle and store the vaccine according to label recommendations
- Ensure needles are sharp and clean and equipment is calibrated to the correct dosage.
- Vaccine should always be administered sub-cutaneously (under the skin).



- When treating an unvaccinated herd, two doses of vaccine should be given, 4-6 weeks apart.
- All vaccinated cattle should receive an annual booster to sustain a high level of immunity.
- All breeding stock should be vaccinated during early pregnancy. This provides the best protection during late pregnancy and for calves that are born from vaccinated cows.
- Calves should be vaccinated before contracting the disease.
- Calves can be vaccinated from one month of age and should receive two doses of vaccine 4-6 weeks apart. This should be followed by an annual booster at 6-9 months of age if retaining stock for breeding purposes.
- New cattle purchased should be vaccinated on arrival if previously unvaccinated or if vaccination history is unknown. Stock should receive two doses of vaccine, 4-6 weeks apart, followed by an annual booster.
- High risk herds may need to be vaccinated more frequently than every 12 months. Vaccination may need to occur every 6 months.

There are numerous vaccines commercially available from various companies, most incorporating a 7 in 1 protection (protecting against leptospirosis as well as other diseases). It is important to consult with the product advisor or veterinarian on the best vaccination practice. Always read the product label before use. Different vaccines recommend different time frames for application and offer diverse lengths of protection against the disease.

Human Health

Leptospirosis in humans is a notifiable disease in Australia. Humans infected with the disease can exhibit symptoms such as:

- High fever for approximately 7-10 days
- Headache and an aversion to light
- Vomiting
- Muscular and abdominal pain

To prevent human illness from leptospirosis, the following measure should be taken:

- Regularly vaccinate stock on property.
- Wear gloves when examining infected stock and cover any
- Thoroughly wash hands after contact with cattle.
- Seek immediate medical attention if you think you may have contracted the disease.

For further information, please contact the VFF Livestock Group on 1300 882 833 or by email to Jacinta Pretty at jpretty@vff.org.au

Take Home Messages

- Leptospirosis or 'Lepto' is an infectious disease affecting cattle, causing economic losses through increased abortions and calf deaths.
- Introducing an effective vaccination program offers the best protection against the disease.
- Treatment of leptospirosis should involve veterinary consultation.
- Leptospirosis is a zoonotic disease (transmittable to humans) posing a risk to human health when working with infected stock. Seek immediate medical attention if you think you may have contracted the disease.

Further Links

Victorian Farmers Federation – Reproductive Diseases in Cattle

http://www.vff.org.au/policy_issues/reproductive_diseases.php

Department of Primary Industries Victoria

<http://www.dpi.vic.gov.au/agriculture/pests-diseases-and-weeds/animal-diseases/beef-and-dairy-cows/leptospirosis-in-cattle,-pigs,-sheep,goats,-horses-and-humans>

Department of Primary Industries Victoria- Notifiable Diseases

<http://www.dpi.vic.gov.au/agriculture/pests-diseases-and-weeds/animal-diseases/notifiable-diseases2/list>

Department of Primary Industries New South Wales

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

Pfizer Animal Health

<https://www.pfizeranimalhealth.com.au/diseases/210/leptospirosis.aspx>

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