



LEPTOSPIROSIS: FACTS FOR THE DEER INDUSTRY

Deer can be carriers of Leptospirosis and can pass it on to humans as well as other animals. Leptospirosis is an animal disease that can infect humans, also known as a zoonosis. Leptospirosis can infect all farm animals – beef and dairy cattle, sheep, pigs, goats, deer and dogs. Rats can also spread the disease.

What is Leptospirosis?

Leptospirosis is caused by bacteria known as leptospire. These multiply in the kidneys of animals and are shed in the urine. Reproductive tissues can also be infected. As in other animals, most deer infected with Leptospirosis will not show symptoms. Telltale signs, especially in weaners and young hinds, are:

- “redwater” or haemolytic anaemia (red urine caused by the rupture of red blood cells);
- jaundice, which is yellow colouration of tissues, particularly noticeable on the white of the eyes.

Kidney failure can also occur, and hinds may abort.

How does Leptospirosis affect people?

If you catch Leptospirosis, it may just feel like a bad case of flu, with headaches and fever. But it can cause death, and some people become seriously ill and need hospital intensive care. It can also be very costly. People may be unable to work for months and have lasting kidney or liver damage. In the worst cases, they are unable to go back to running their farm, and the disease keeps coming back. Pregnant women who catch Leptospirosis can miscarry.

How are deer infected with Leptospirosis?

Animals are infected by grazing pasture or by drinking water contaminated with the urine of infected animals. The infection enters through the membranes of the eyes, nose and mouth. Leptospirosis spreads easily. An infected animal sheds millions of leptospire in its urine. The bacteria thrive in moist or wet conditions and can survive for months. Any animals sharing pasture can be infected. The deer habit of wallowing may be an ideal way of spreading infection. Introducing new breeding stock or dairy grazers may bring infection.

Can deer be tested for Leptospirosis?

Your vet can take a blood test which will show (within 48 hours) whether your deer have antibodies to Leptospirosis. This indicates that the stock either have been exposed to Leptospirosis, or have been vaccinated against it.



How do you control Leptospirosis?

The aim is to stop animals from shedding infectious urine, and to prevent urine contamination, e.g. by fencing off waterways and keeping rodents out of feeds such as hay.

Antibiotics can be used to stop the shedding short-term. Vaccination provides a longer-term protection.

There is no vaccine yet for the leptospire type *ballum*, which is passed on by rats, mice and hedgehogs. The main control is to eradicate the rodents and keep feed supplies sealed.

Other strategies to reduce risk are also important.

- Quarantine all new animals until you can confirm their Leptospirosis status. Particularly avoid mixing young deer of unknown vaccination or infection status.
- Do not cross-graze deer with sheep or beef — this is a common cause of infection.
- Allow pastures time to dry out between grazings.
- Insist that cattle, e.g. dairy grazers, are fully vaccinated before they are introduced to the farm. In cattle, vaccination provides effective protection.

Who is at risk of being infected by deer?

Anyone who works close enough to the animals to be splashed or sprayed with their urine or contaminated water. For example:

- People handling hinds, which commonly “dribble” urine on to their hind legs.

- Workers in wet yards, where deer often kick up water spray.
- Vets or others assisting with artificial breeding, ultrasound scanning or fawning.
- People doing autopsies.
- Truck drivers and others loading deer for transport.
- Workers in a deer slaughter plant.

There is also a risk of infection from rat or mouse urine when handling hay or feed grains.

Farm staff, contract workers and others

Farm visitors, such as vets or artificial breeding technicians, carry out many of the higher risk tasks on a deer farm.

Family members including children can be at risk if they run about barefoot or paddle in contaminated water. Gardeners have been infected by contaminated soil.

Farm owners have a responsibility under the Health and Safety in Employment Act 1992 to ensure the safety of these people, as well as the people that they employ.

How can you protect against infection?

Humans are usually infected by the urine of an infected animal, or water contaminated with urine. The most common routes of infection are through the eyes, nose and mouth, or through cracks or cuts in the skin.

Anyone whose hands are split or grazed should wear gloves when working closely with deer. Use leather gardening gloves or similar when handling hay. Skin cuts should be covered with waterproof dressing, regularly changed.

Use personal protective equipment (PPE) e.g.

- Overalls, waterproof footwear;
- Goggles or a full-face mask;
- Veterinary gloves.

Have clean toilet and hand-washing facilities, with running water and disposable towels.

Display first aid advice

- Have a kit with waterproof coverings for any skin cuts.
- Remind people (e.g. with a poster notice) that Leptospirosis may be a risk, to avoid urine splash and spray, and to wash and dry hands before smoking or eating.

First aid if you have been exposed to urine

- Wash face well; flush out mouth and eyes with lots of running water.
- “Bleed” cuts, flush fresh or old cuts and grazes with water.
- See a doctor within 24 hours to get a blood sample and get treatment with antibiotics.
- IMPORTANT: The sample must be taken BEFORE you take any medication.
- Another sample will be needed in about three weeks’ time. Tell the doctor that you work with animals and may have been exposed to Leptospirosis.

Watch your health

Go to the doctor if you have:

- Headaches;
- Aching muscles;
- The light hurts your eyes;
- Fever or chills;
- Nausea or vomiting.

Do this if you feel ill, even if you don’t think you have been exposed to animal urine. Remind your doctor that you work with deer and that Leptospirosis may be a cause of your symptoms. Ask for the appropriate tests. The sooner treatment starts, the better.

Find out more:

You can download a copy of Guidelines for the Control of Occupationally Acquired Leptospirosis and other information from www.dol.govt.nz. See also the other bulletins in this series, e.g. for beef, sheep and wool farmers, and meat processing workers.

