



# LEPTOSPIROSIS: Working with sheep



This fact sheet provides information about the risk of leptospirosis infection in people working with sheep.

## KEY POINTS

- > Leptospirosis is easy to catch from an infected animal and its environment.
- > Infection can occur through breaks in the skin or through mucous membranes of the eyes, nose or mouth.
- > Protect yourself, your family and staff by vaccinating your animals, controlling rodents, practicing good personal hygiene, using protective equipment, and seeking help early if you feel unwell.

## WHAT IS LEPTOSPIROSIS?

Leptospirosis is an infectious disease transmitted from animals to humans (a zoonosis), and from animal to animal, through cuts or cracks in the skin or through the mucous membranes of the eyes, nose or mouth. It is present in almost all warm-blooded mammals, including farm, domestic and feral animals.

Leptospirosis spreads easily, and is caused by bacteria known as leptospires that multiply in the kidneys of animals and are shed in the urine. The bacteria thrive in moist or wet conditions and can survive for months.

## HOW ARE PEOPLE INFECTED?

People can catch leptospirosis from infected animal urine. Even a splash or fine spray of urine or indirect contact with urine-contaminated water can spread large numbers of leptospires.

Cuts, sores and skin grazes increase the risk of infection, as does licking your lips and eating or smoking before washing and drying your hands.

## WHAT ARE THE SYMPTOMS IN PEOPLE?

People affected by leptospirosis, either mildly or severely, may not show symptoms.

Infection may just feel like a bad case of the flu, with headaches and fever. Severe cases can result in permanent complications, usually kidney or liver damage. Some people may be unable to work for months and in severe cases, be unable to return to running their farm. The disease can keep coming back.

Pregnant women can miscarry. Death from infection is rare.

## WHO IS AT RISK OF INFECTION?

Anyone working near enough to sheep to be splashed or sprayed with urine or urine-contaminated water is at risk, particularly vets and people involved in:

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- > tailing, docking, dagging, crutching
- > shearing
- > handling urine-soaked belly wool
- > loading sheep for transport
- > washing down the woolshed
- > lambing
- > drenching
- > sheep dipping.

Family members, including children, are at risk if they go barefoot or paddle in contaminated water.

### HOW ARE SHEEP INFECTED?

Like other livestock, sheep are infected by grazing pasture or drinking water contaminated with infected animal urine. Introducing new breeding stock or dairy grazers may also bring infection.

Leptospirosis in sheep most likely comes from other sheep, and the result of wet weather (floods) which helps leptospires survive and spread<sup>1</sup>. Cross-grazing is not a risk factor for sheep.

### WHAT ARE THE SYMPTOMS IN SHEEP

Hardjo is the most common serovar (strain) in sheep – more than 90% of flocks and more than 50% of sheep within a flock show signs of infection when tested.

Pomona is present in over 70% of sheep flocks and 14% of individual sheep. Sheep can be hosts for Pomona, but are most likely to be a maintenance population. It is uncommon for individual flocks to be infected by more than one serovar. Serovars like Copenhageni are thought to cause sporadic infections.

Symptoms include:

- > fever
- > anorexia (loss of appetite)
- > jaundice



- > hemoglobinuria (red water from abnormally high concentrations of haemoglobin in the urine)
- > anaemia.

Adult symptoms (with or without other clinical signs) include:

- > reproductive loss (abortion, stillbirth, weak lambs, infertility)
- > decreased milk production.

### HOW DO YOU MANAGE THE RISK AND PROTECT AGAINST INFECTION?

Minimisation is the best option for managing risk, as leptospirosis is difficult to eliminate. This is done through antibiotic treatment, vaccination programmes, awareness, PPE, hygiene and other procedures.

#### ANTIBIOTICS

Antibiotics can be used to stop shedding in the short-term.

#### VACCINATION

Farmers should work with their vet to carry out a risk analysis, and then decide whether to vaccinate or not.

**Vaccination is a long-term strategy – it will take time to reduce or eliminate the risk for an infected herd first starting on a vaccination programme. Stopping vaccination will result in herds becoming MORE susceptible to infection and outbreaks.**

<sup>1</sup> Thornton, R. (1994). Leptospirosis in New Zealand sheep. *Surveillance* 21 (2)13-14

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- > Give two vaccination doses 4-6 weeks apart, before the high risk season (autumn to early summer), with an annual single booster dose.
- > Vaccinate all breeding stock annually, during pregnancy if possible. One month before lambing is recommended to increase antibodies in colostrum for protecting newborn lambs against infection.
- > Lambs should complete a full vaccination course (sensitiser and booster) by three months old.
- > Assume all purchased or transferred-in stock is unvaccinated, unless accompanied by a current veterinary certificate or ASD form<sup>2</sup>.
- > Vaccinate all purchased replacement and breeding stock at least six weeks before they enter the property. If this isn't possible, keep new stock on a separate run-off that won't be grazed by the resident flock for at least 12 weeks.

#### **AWARENESS**

- > Clearly display information that leptospirosis may be a risk in the work area. Make sure new workers and anyone else who will be in close contact with animals, are aware of the risks and what to do before entering the work area.
- > Watch for abnormalities or warning signs of infection, eg a high number of abortions. Consult a vet.

#### **PPE**

- > Wear suitable, clean PPE, particularly when working in wet conditions or assisting with lambing.
- > Suitable PPE includes overalls; sturdy, closed-toe, water-proof footwear; face protection; rubber gloves for urine-stained wool.

- > Change gloves or boots immediately if they split or leak.

#### **HYGIENE**

Personal hygiene is good additional protection.

- > Wash your hands regularly, using water, soap, and disinfectant – especially after using the toilet or handling livestock, and before eating, drinking, smoking, or taking a break. Wash your face if you have facial hair.
- > Use disposable towels only.
- > Don't scrub your hands harshly as it may cause breaks in the skin.
- > Don't touch your eyes, nose or mouth before washing your hands.
- > Cover cuts, grazes, blisters and skin breaks with waterproof coverings, and change coverings regularly.
- > Make sure deeper wounds are fully healed before working closely with livestock.
- > Don't smoke, drink or eat when handling livestock, as this can introduce bacteria into the mouth. Keep coffee mugs away from the work area.
- > Wash your clothes after handling stock.
- > Keep toilets and hand-washing facilities clean.

#### **FURTHER CONTROLS**

- > Make sure all introduced animals have a current veterinary certificate of vaccination or ASD form<sup>3</sup>. If not certain, then isolate, medicate and vaccinate.
- > Control rodents and possums, keeping them away from stored food and other crops – make sure no excess feed is lying around, eg calf meal.

<sup>2</sup> Ministry of Primary Industries (2007). Animal Products Act 1999 Information Pamphlet. Retrieved 18 March 2015 from: [www.foodsafety.govt.nz/elibrary/industry/Animal\\_Status-Outlines\\_Purpose.pdf](http://www.foodsafety.govt.nz/elibrary/industry/Animal_Status-Outlines_Purpose.pdf)

<sup>3</sup> Ministry of Primary Industries (2007). Animal Products Act 1999 Information Pamphlet. Retrieved 18 March 2015 from: [www.foodsafety.govt.nz/elibrary/industry/Animal\\_Status-Outlines\\_Purpose.pdf](http://www.foodsafety.govt.nz/elibrary/industry/Animal_Status-Outlines_Purpose.pdf)

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## ANIMAL STATUS DECLARATION (ASD) FORM

The Animal Status Declaration (ASD) form is a standardised form used to transfer key information about animals to the next person in charge of them, and eventually to the processor.

An ASD form must be completed for:

- > all sheep sent for processing
- > the movement of all sheep from one property or saleyard to another, or a property where there is a different person in charge of the animals.

The ASD form must actually go with the sheep being moved. If a form isn't supplied and received, sheep must be either held separately till an ASD is supplied, or be returned to the supplier<sup>4</sup>.

## WATCHING YOUR HEALTH

The sooner treatment starts, the better.

### FIRST AID

A readily available supply of clean water is important.

Look after your health. As soon as there is exposure to urine or infection is suspected:

- > dry off urine splash immediately (leptospires dry out easily), then wash the area
- > wash your hands and face well, taking particular care with facial hair
- > use soap and water, and dry well
- > flush out your mouth and eyes, and any exposed skin with lots of running water
- > wash out fresh or old cuts and grazes with water and disinfectant, and dry well
- > tell a supervisor.

## PRIMARY CARE TREATMENT

- > See a doctor within 24 hours of suspected exposure or if flu-like symptoms develop, to get antibiotic treatment and have a blood sample taken.
- > Tell the doctor that leptospirosis may be the cause of your illness – some doctors may not be familiar with the symptoms.
- > The blood sample MUST be taken before medication is taken, and a subsequent sample may be needed 3-4 weeks later.
- > Treatment options will depend on the severity and duration of the symptoms. Antibiotic treatment should be given if leptospirosis infection is strongly suspected.
- > All patients with severe infection or signs of meningitis should be sent to hospital immediately.

## FINDING OUT MORE

[Good Practice Guide: Prevention and Control of Leptospirosis](#)

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<sup>4</sup> Ministry of Primary Industries (2007). Animal Products Act 1999: Information Pamphlet. Retrieved 18 March 2015 from: [www.foodsafety.govt.nz/elibrary/industry/Animal\\_Status-Outlines\\_Purpose.pdf](http://www.foodsafety.govt.nz/elibrary/industry/Animal_Status-Outlines_Purpose.pdf)

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