

Toxoplasmosis

factsheet

Key messages

- Cats are the primary host of the disease-causing parasite *Toxoplasma gondii* in Tasmania.
- More than 80% of feral cats trapped in Tasmania have had toxoplasmosis — ‘toxo’ — at some time in their lives. All infected cats can spread toxo.
- Toxoplasmosis can infect humans — with the potential to cause abortion in pregnant women, foetal abnormalities and encephalitis in immune compromised people.
- Toxoplasmosis in sheep can cause abortion or stillbirth of lambs — particularly in maiden ewes that have not developed any immunity to *T. gondii*.
- Toxoplasmosis is fatal to a number of Australian herbivorous marsupials: including bandicoots, wombats, possums, wallabies, and also to birds including forest ravens.

What is toxo?

Toxoplasmosis is a disease caused by the parasite *Toxoplasma gondii*. Cats are the primary host in the life cycle of the parasite and they can carry the parasite indefinitely without any subsequent health impacts.

Other mammals and birds (including Australian marsupials) can become intermediate hosts by eating feed contaminated with *T. gondii* eggs (shed in cat faeces) or cyst-infested muscle tissue of other intermediate hosts (see Figure 1).

Economic impacts in sheep

Toxoplasmosis can cause early or late abortion in sheep and producers may only notice the disease impacts as a low lambing percentage.

Sometimes ewes will give birth to live lambs, but infected lambs will be small, weak and non-viable.

Step 3 Mammals and birds can be infected through exposure to cat faeces, feed or water that has been contaminated by cat faeces or by eating the flesh of another animal that contains the parasite encysted in its muscle tissue. *T. gondii* eggs are resistant and can survive for up to 18 months in the environment.

Step 2 Parasite development occurs in the cat's intestine and faecal shedding of eggs starts 1–3 weeks after infection and persists for about two weeks. Eggs contaminate pasture and stock feed.

Step 4 Eggs eaten by sheep (or other animals) replicate and become encysted in tissue. Tissue cysts are invisible to the human eye.

Step 1 Non-immune cats become infected by ingesting *T. gondii* eggs or cysts contained in the tissue of infected intermediate hosts (e.g. infected marsupials, rodents or birds).

Step 5 Cats continue the cycle when they feed on the carcass of an infected intermediate host. Kittens can be infected in-utero or when they feed from their mother.

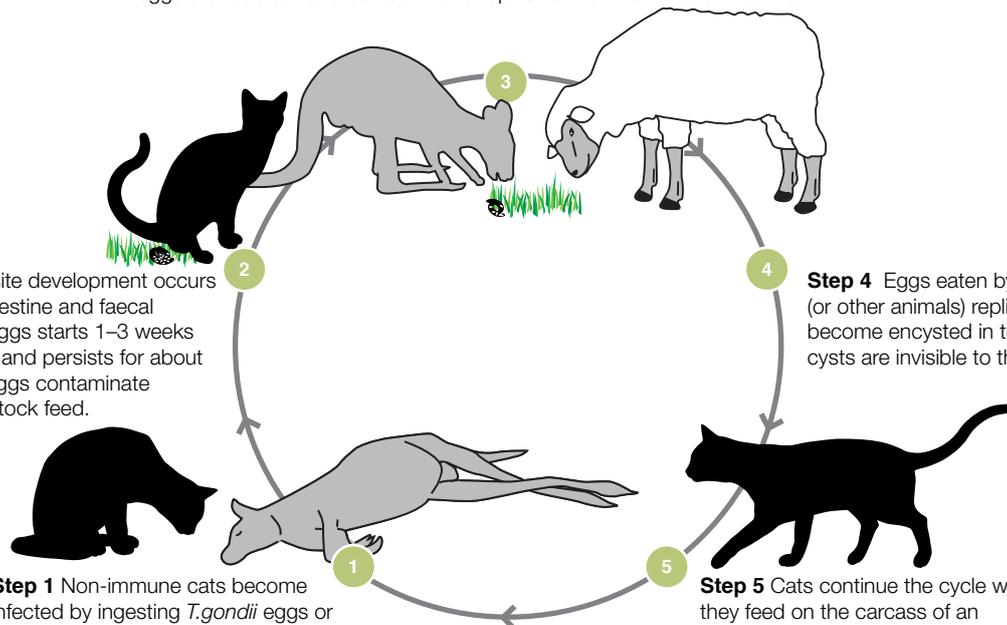


Figure 1: Lifecycle of toxoplasmosis

Toxoplasmosis infection resulting in abortion is most often seen among 'non-immune' sheep, including maiden ewes infected during their first pregnancy. Up to 50 % lamb losses in maidens have been recorded in Tasmania.

Parasite lifecycle

The lifecycle of toxoplasmosis is a bit like the chicken and the egg scenario — it's a bit difficult to see which comes first (see Figure 1). The important thing is to try and break the cycle.

Diagnosis in sheep

Tests can be carried out on dead lambs and placenta where toxoplasmosis is suspected. Blood samples can also be taken from ewes to test for an immune response to the parasite.

Treatment and prevention

Generally, after animals have been exposed to *T.gondii* once, immunity occurs and protects animals throughout their life.

There is no vaccine in Australia for *T.gondii*. Control is best achieved by excluding feral and domestic cats from contaminating stock feed where possible.

Other common causes for sheep abortions in Tasmania include listeriosis, salmonellosis and campylobacter. Dispose of livestock carcasses through burial or burning to reduce disease spread.

Prevention for infection in humans

Pregnant women and immune compromised people should avoid contact with cat faeces and wear gloves when handling any material that could be contaminated with *T.gondii* eggs.

Take care when handling uncooked meat from sheep or wild game animals. Cook all meat well to kill any *T.gondii* cysts. 🐾

Cat control options

From 1 July 2012, under the *Cat Management Act 2009*, land owners and managers can protect wildlife and livestock on their land. Under the Act cats found in a prohibited, rural or remote area may be trapped and humanely destroyed or returned to their owners.

Primary producers and people working on their behalf may carry out these measures on rural land where livestock graze. On other private land more than 1km from a place of residence, a person can trap, seize or humanely destroy a cat.

Be aware that cats from neighbouring territories may invade areas where a cat population has been removed. It is important to maintain the control pressure and ideally coordinate with neighbours to keep cat populations low across as large an area as possible.

For more information, download the *Feral Cats in Tasmania* fact sheet from the DPIPWE invasive species webpage: www.dpipwe.tas.gov.au/invasivespecies



Photo: Mick Davis

Feral cats pose a significant health threat to the Tasmanian sheep flock as a primary host of the toxoplasmosis parasite *T. gondii*

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