



# Toxoplasmosis

## What are the causes and symptoms of toxoplasmosis?

Toxoplasmosis causes occasional abortions in goats and sheep. The coccidia-like organism (*toxoplasmosis gondii*) first infects cats when they eat uncooked meat scraps, placentas and small rodents, and the infection can be passed on to goats if their feed supply becomes contaminated by cat feces, because recently-infected cats will shed oocytes (toxoplasmosis eggs) in their feces from 3 to 19 days. Kittens younger than 6 months of age are far more apt to shed oocytes than are adult cats. Toxoplasma oocysts have a tough outer shell and can survive in the environment in moist temperate conditions for 12-18 months. Once ingested the parasite multiplies within the goats or sheep and persists in cysts within the brain, heart and muscle.

Goats typically become infected by eating grass, hay and grain contaminated by cat feces. Sometimes abortion is repeated in the next gestation, but previously-infected goats are usually resistant to abortion or other clinical signs when challenged by the toxoplasmosis organism.

In pregnant small ruminants, if the parasite infects the animal for the first time, toxoplasma can cause disease in the placenta and the developing fetus. Infection early in pregnancy may result in abortion, whereas infection later in pregnancy may cause still birth, mummified fetus or birth of a live but weak kid or lamb.

## How can toxoplasmosis be prevented?

The best prevention is by safeguarding feed supplies from cat feces, especially grain and mineral mixes that cats may use to defecate in, and to keep mangers clean by emptying them regularly.

When abortions caused by toxoplasmosis are diagnosed in goats or sheep, emphasis should be put on proper disposal of fetuses and placentas, the wearing of protective gloves when handling those items, and proper pasteurization of milk and cooking of meat.

## Is there any vaccine against toxoplasmosis?

There is an effective vaccine to prevent congenital toxoplasmosis in sheep which should be administered 3 weeks prior to mating. Unfortunately, the vaccine is not available in the US for small ruminants.

## Can toxoplasmosis be a human health concern?

Toxoplasmosis may also be transmitted to humans from the ingestion of oocysts or from eating undercooked meat containing parasite tissue cysts. **Pregnant women and immunocompromised individuals are major risk groups and should also avoid contact with ewes at lambing time.**

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### **Toxoplasmosis**

The main problem in goats affected by this organism is abortions. The organism is a protozoan called *Toxoplasma gondii*. Toxoplasma is a one-celled parasite. It is more of a problem in sheep and is a major cause of abortion, mummification, stillbirth, and weak kids. Cats are the carrier of the organism. They become infected by eating uncooked meat scraps, placentas, and small rodents. Recently infected cats then shed the eggs in their feces. Goats become infected by eating grass, hay, or grain contaminated by cat feces. It reaches the reproductive tract by the blood after invasion of the small intestine. If the goat is pregnant at the time of initial infection, Toxoplasma commonly invades the placenta and fetus approximately two weeks after initial infection of the doe. Fetuses infected in the first half of pregnancy are more apt to die than fetuses infected in the second half. Previously infected goats are usually resistant to abortion when challenged again by the organism. Symptoms are aborted fetuses, typically in the first half of pregnancy. The definitive diagnosis is made using laboratory analysis based on serology or histology. **There is**

**no effective treatment recognized for toxoplasmosis at this time.** Control is based on sound sanitation and best management practices. Steps should be taken to prevent exposure of susceptible goats to the eggs in cat feces during pregnancy. Store grain and feed in covered containers. Keep a closed herd of cats on the premises. Spay and neuter cat populations. Do not feed raw meat to cats. Dispose of aborted fetuses and placentas in acceptable manners. Wear protective gloves when handling infected material and pasteurize milk and properly cook meat fed to cats. This organism is contagious to humans, and pregnant women should be careful when handling cat feces and contaminated aborted material. **Vaccination is available.**

References cited: *Goat Medicine; Mary C. Smith and David Sherman*

<http://www.extension.org/pages/31070/goat-toxoplasmosis>