

WHAT IS SHEEP MEASLES?

Sheep Measles (ovis) is a condition found in sheep (and goats) caused by the tapeworm *Taenia ovis*, which can be carried by dogs. It results in cysts forming in an infected sheep's muscle tissue. These may not be detected during meat inspection.

About Ovis Management Ltd (ML)

OML is a non-profit organisation promoting control of Sheep Measles. It is owned by the Meat Industry Association of New Zealand (MIA) and funded by meat processors. OML works to communicate with and provide resources to farmers and other dog owners and to work collaboratively with other individuals and organisations to raise awareness about causes and prevention of Sheep Measles.

Causes

Sheep Measles is caused by the *Taenia ovis* tapeworm which can be carried by dogs. The tapeworm produces eggs, which are transferred to pasture in dogs' faeces and then ingested by sheep. The eggs can survive for many months and be spread over large areas (estimated up to 10km, covering 30,000 hectares) by wind and flies. After ingestion, the eggs penetrate the sheep's intestinal tract, are moved around in the blood and form cysts in muscle tissues.

Dogs which eat raw or untreated meat or offal containing live ovis cysts develop intestinal tapeworms, which develop to maturity within about 35 days. Some dogs can carry three to four worms and each worm will produce up to 250,000 eggs a day. These are then deposited in pastures and the cycle continues.

Effects of Sheep Measles

Sheep Measles poses no risk to human health but it causes blemishes in sheep meat, which is undesirable to consumers and is of particular concern for the export market. It can result in downgrading or, in extreme cases, condemning of sheep or lamb carcasses - so there are real financial costs for the farmer.

Only 20% of Ovis-affected meat is detected during carcass inspections in processing plants. This means undetected meat containing Ovis cysts finds its way to valuable export markets, where it can be noticed in consumer kitchens and restaurants. New Zealand is highly regarded internationally for our pasture-based systems and largely disease-free status. Lamb exports alone are worth over \$3.1 billion (2016-17 figures) to New Zealand annually, and rising.

Protecting that reputation for quality, in the market and among consumers, is critical, and Ovis control plays an important part in that.

Prevalence of sheep measles in New Zealand

Currently New Zealand has relatively low levels of sheep measles. The rates in sheep and lambs decreased by a total of 66 per cent between 1994 and 2018, due to effective dosing of dogs. However, there is still a seasonal prevalence and an outbreak can cause a lot of damage in an otherwise healthy stock.

Analysis of processor data has found the prevalence of Sheep Measles cysts is lowest among lambs bred and finished by one supplier. This suggests farmers supplying their own lambs directly to processors apply more effective Sheep Measles controls than those breeding lambs to sell on for finishing.

How to reduce the risk of sheep measles infection

Dogs become infected with the ovis tapeworm through eating raw or untreated sheep meat or offal infected with live cysts. Farm dogs pose the biggest risk but infection can also result from visiting dogs belonging to neighbours, hunters, other farmers or town dogs.

Infection can be:

- Avoided by ensuring dogs do not have access to untreated sheep or goat meat, including meat scraps, offal or carcasses.
- Treated by dosing dogs on a monthly basis with cestocidal (tapeworm) drugs containing the ingredient Praziquantel. This is highly effective and monthly dosing will ensure any tapeworms that do form do not have time to mature and lay eggs.



Guidelines for feeding dogs to avoid T. ovis tapeworm infection

- ✓ Freeze sheep meat or offal intended for feeding dogs for at least ten days at temperatures of -10°C or below to kill the sheep measles cysts. This should apply to both bought or home-killed meat.
- ✓ If cooking the meat is the preferred treatment option, cut raw meat into pieces and cook thoroughly by heating to a core temperature of +72°C or more. The meat should be brown, any tinges of red indicate inadequate treatment.
- ✓ Boil offal for a minimum of 30 minutes.
- ✓ Don't allow dogs access to sheep heads or skins. Cheek and tongue muscles are common sites for the infection and scraps of meat on skins can contain live cysts.
- ✓ Ensure all home killing, meat storage facilities and offal pits are dog proof and that any effluent is drained into a dog-proof sump.
- ✓ Feed dogs alternative feeds, such as commercially-prepared dog foods.

Guidelines for worming dogs to prevent Sheep Measles infection

Dogs need to be dosed monthly with cestocidal (tapeworm) drugs containing the ingredient Praziquantel. This is a simple, affordable and effective way to ensure no sheep measles tapeworms reach maturity. Dosing only quarterly with an all-wormer allows time for tapeworms to mature and lay eggs.

The drugs, usually in tablet form, can be administered orally or given in dog food. There are a number of different brands on the market. For the best advice on tapeworm treatment and dosage for your dog, consult your vet or animal health advisor.

You should also require that any dogs visiting your farm have been treated with Praziquantel in the last month and at least 48hrs prior to entry.

Benefits of undertaking Sheep Measles controls

Many other countries have much less-effective sheep measles management. Effective Sheep Measles control, including further reducing the current prevalence of the infection, is an opportunity for New Zealand's "clean" sheep and lamb products to be seen as superior by the consumer.



For further information on control of Sheep Measles see:

www.sheepmeasles.co.nz, or contact OML on (06) 354 0451 or Freephone 0800 222011.