Nematodirus in Lambs

Nematodirus can be a crippling disease of lambs, and can result in enormous production losses, as well as deaths. *Nematodirus battus* is a roundworm that causes diarrhoea in young lambs during late spring and early summer, and has an interesting life cycle that is quite different to many other sheep worms.

The life cycle of Nematodirus starts when an adult worm within a lamb’s intestine lays eggs, which are then excreted in the faeces and contaminate the pasture on which the lamb is grazing. These eggs will remain on the pasture over winter, so if one year’s crop of lambs has had the disease, the pasture will remain contaminated to the next year. The eggs are triggered into developing into larvae under very specific temperature changes, when there is a cold snap of weather followed by a period of warmer weather, and the larvae can then infect any lamb which might pick them up during grazing. The larvae develop inside the lamb into adults, which then shed eggs back into the environment to contaminate it and start the cycle again.

Nematodirus can cause severe damage to lambs’ intestines, and affected groups can have signs of severe diarrhoea, depression and dehydration, as well as deaths. Because the development of the eggs into infective larvae depends on a very specific environmental temperature change, a huge number of eggs can all develop into infective larvae on the pasture at once when conditions are right, meaning lambs can be exposed to an enormous number of larvae at a specific time point. Because of this, there can be absolutely no delay in treatment if Nematodirus is suspected, and your regular vet should be contacted to discuss the best course of action before any more damage occurs.

There is, however, an advantage to this pattern of infection - as the parasite is so dependent on weather patterns in order to become infectious, it is possible to forecast the level of Nematodirus risk from year to year. The NADIS parasite forecast is an excellent service which is freely available online, and provides a monthly, weather-based estimate of risk levels for Nematodirus, as well as other parasites. This forecast is now complemented by a new interactive SCOPS map that allows greater precision in predicting risk by giving very localised data that is updated daily.

The main risk factors for lambs being affected by Nematodirus include:

- A sudden cold snap followed by a period of warm weather
- Young lambs which are eating a lot of grass (e.g. 6-12 weeks old. Adult sheep are very resistant to infection)
- Lambs grazing pasture that was used for lambs the previous year.
- Lambs under other stresses, or under challenge for coccidiosis (if a high-risk Nematodirus period coincides with a high-risk coccidiosis period, i.e. when lambs are 4-8 weeks old, very severe mixed infections can result).
The main method of preventing Nematodirus problems involves avoiding contaminated pastures which might have been grazed by infected lambs the previous season. Targeted treatments with a white drench can also be used, and are usually given three weeks apart during May in normal risk years, although as always with worming animals, it is vital that it is performed correctly in order to reduce the increasing levels of resistance in worms. The treatment plan is of course hugely dependent on the risk forecast, and higher risk years will require very different protocols to a low risk year. It is essential to keep up-to-date with the latest parasite forecasts to make sure animals get the correct treatments for each season, and ensure the disease is stopped in its tracks.

For monthly parasite forecasts, as well as lots of other information, visit www.nadis.org.uk. The interactive map is available at www.scops.org.uk