

Nematodirus Forecast 2024

Executive Summary

2024 *Nematodirus* forecast enables prevention of disease in lambs

Nematodirus worms may cause severe diarrhoea in young lambs in spring, caused by the tendency of the worm eggs on pasture to hatch over a short period of time, leading to a surge in the numbers of infective larvae on the pasture, which the lambs ingest.

The analysis of March soil temperatures allows the period of disease risk to be accurately forecast. This can be used to gauge the optimal time to administer anthelmintic (wormer) treatment to prevent disease.

In 2024, this forecast shows that peak *Nematodirus* egg hatching will occur generally at the end of March in much of Munster and south Leinster, while much of the midlands and northern half of the country will see peak egg hatching in the early days of April.

At-risk lambs (i.e. typically 6 to 12 weeks of age and grazing on contaminated pasture) should be treated approximately two weeks after the peak of *Nematodirus* egg hatching.

Benzimidazoles (white drenches) are the treatment of choice for *Nematodirus* infections.

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Introduction

Each spring, the Department of Agriculture, Food and the Marine (DAFM), in collaboration with Met Éireann, UCD and Teagasc advises farmers of the predicted risk of disease, chiefly in lambs, caused by the roundworm *Nematodirus battus*.

The disease

Nematodirosis is a severe parasitic disease of lambs six to twelve weeks of age which become infected by ingesting large numbers of infective larvae from grazing on contaminated pasture. The life cycle of *N. battus* is unlike that of other roundworms in that eggs deposited on pasture do not hatch until the following year to release the infective larvae. This happens during a mass hatching event in spring when soil temperatures increase after a period of cold weather. Disease typically occurs in April, May and June.

After ingestion by lambs, *Nematodirus* larvae invade the wall of the intestine. Disease is characterised by profuse diarrhoea, dehydration and weight loss. Calves may also be similarly affected. In outbreak scenarios, lambs can be seen congregating around water troughs due to the severe thirst that develops. Adult sheep are unaffected by the parasite.

How to prevent disease?

This disease is best prevented by keeping the current year's lambs off any pasture that was grazed by lambs or young calves (which can be carriers of infection) in the previous year. Enterprises with high stocking rates are particularly vulnerable.

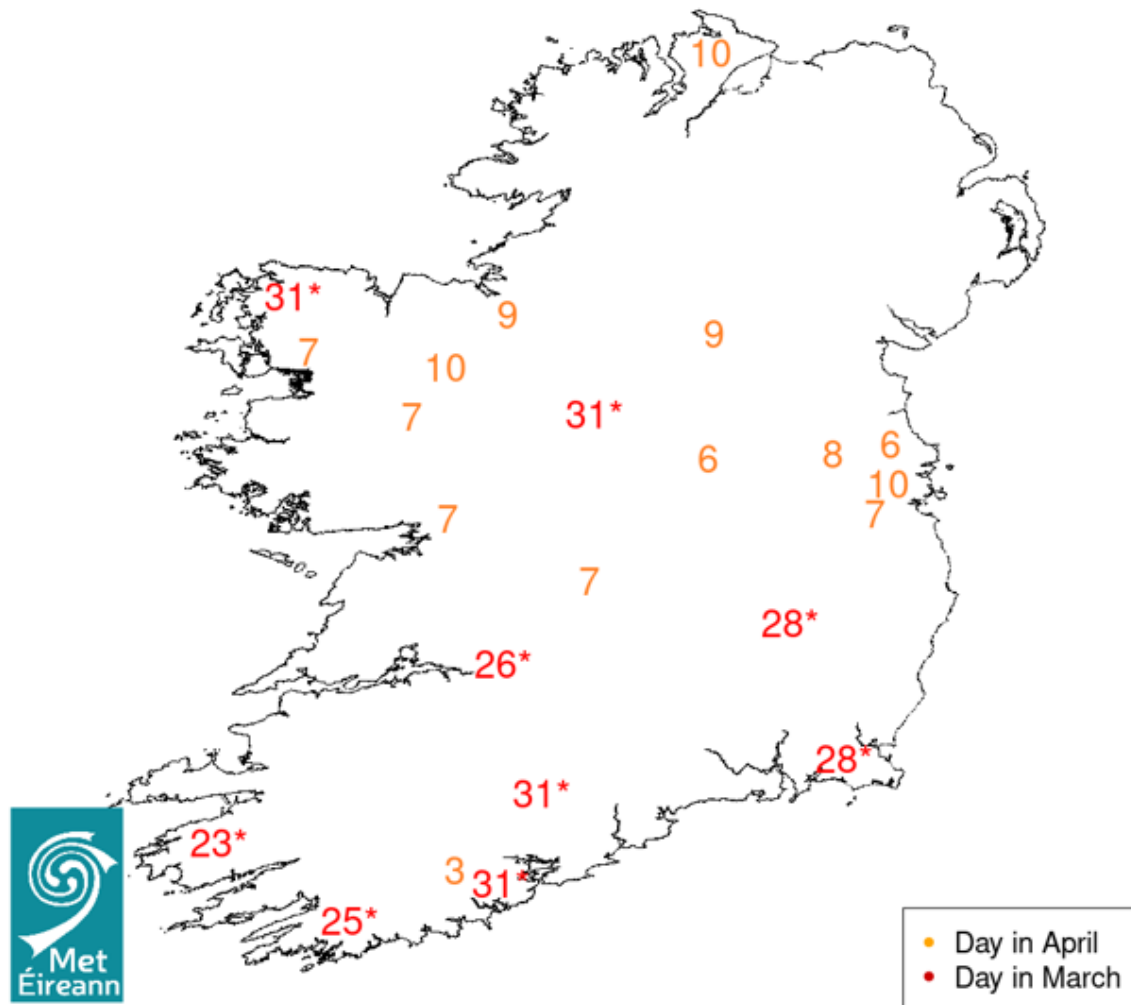
Please note that twin lambs, or single lambs born to ewes of poor milking ability may be at a greater risk of developing the disease as they begin consuming greater amounts of grass earlier in life. If 'clean' pasture is available, preference should be given to moving these lambs first.

When is peak egg hatching predicted to occur this year?

This year the peak *Nematodirus* egg hatching is expected to occur generally at the end of March in much of Munster and south Leinster.

Much of the midlands and northern half of the country will see peak egg hatching in the early days of April. This slightly earlier hatching is due to the overall milder conditions during March.

Please see the map below (**Figure 1**) for expected timing of peaks in *Nematodirus* egg hatching on pasture.



Source: Met Éireann

Figure 1. Estimated dates in March and April 2024 when peak *Nematodirus* egg hatching is expected to occur on pasture

When should lambs be treated?

At-risk lambs (i.e. typically 6 to 12 weeks of age and grazing on contaminated pasture) **should be treated approximately two weeks after the peak of *Nematodirus* egg hatching.**

However, consideration should be given to dosing lambs earlier on individual farms where clinical signs consistent with *Nematodirus* are observed, as the above treatment guidelines are based on regional estimated peak hatching of eggs.

What wormer should be used?

Benzimidazoles (white drenches) are the treatment of choice for *Nematodirus* infections and are effective against both larval and adult stages. The use of this anthelmintic class as the first-choice treatment option will also help to reduce the exposure of other worms such as *Trichostrongylus* and *Teladorsagia* to other anthelmintic classes (e.g. macrocyclic lactones)

at a point in the grazing season when treatment for these may not be necessary. This will help to sustain the effectiveness of these drugs and is particularly important on farms with pre-existing issues of benzimidazole resistance in populations of the other common stomach/intestinal roundworms.

Please note that currently there are no drenches with effective residual activity against *Nematodirus*. This means that as lambs continue to graze, they can become re-infected with larvae, and as a result may require repeated treatments with the same or similar wormers at two to three-week intervals throughout the spring.

***Nematodirus* and coccidiosis in lambs**

It is important to stress that other parasites can also cause diarrhoea in young lambs which require different control measures and medication. ***Nematodirus* can be wrongly assumed to be the cause of severe diarrhoea in lambs when in fact the cause is a coccidial infection.** Rotation of pasture and frequent movement of feeding troughs to drier areas will help prevent coccidiosis in young lambs as localised poaching creates moist conditions suitable for the spread of coccidia. Raising feeding troughs will also help to reduce the contamination of feed with faeces and hence the transmission of coccidiosis. In some cases, nematodirois and coccidiosis can occur together, giving rise to severe disease.

Veterinary advice and laboratory diagnostic aids

It is advisable to consult a private veterinary practitioner for an accurate diagnosis and guidance on appropriate medication when lambs with severe diarrhoea and straining are observed. This is especially the case where there has been little or no improvement from an initial worming treatment. As both nematodirois and coccidiosis can occur at the same time, treatment may need to be directed against both pathogens.

It is recommended that any lambs that die unexpectedly are referred by your private veterinary practitioner to a regional veterinary laboratory for post-mortem examination as *Nematodirus* can cause death before clinical signs become apparent.