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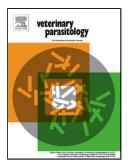
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Lack of efficacy of monepantel against trichostrongyle nematodes in a UK sheep flock.

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Highlights

Monepantel was found to be less than 80% effective

The predominant resistant nematode was *Trichostrongylus vitrinus*.

The first report of monepantel resistance in the United Kingdom

Resistance developed despite attempts to use monepantel responsibly

Concern for the sustainability of pharmaceutical control of ovine roundworms

Abstract

Monepantel resistance was diagnosed during routine monitoring of the effectiveness of a farm's

roundworm control strategy. Weaned lambs had become ill thrifty and developed diarrhoea,

despite the routine use of monepantel. This clinical presentation was caused by trichostrongylosis.

The faecal egg count reduction was 76.7% (95% CI: 55.1 – 82.2%) following treatment with 2.5

mg/kg monepantel. Predominantly Trichostrongylus vitrinus along with small proportions of

Oesophagostomum venulosum and Trichostrongylus vitrinus were identified by deep amplicon

sequencing of pools of larvae recovered from pre and post monepantel treatment coprocultures and

on postmortem examinations. The undifferentiated FECRT showed resistance to monepantel, but

not to levamisole, ivermectin, or moxidectin. Examination of farm anthelmintic treatment and

animal movement records suggested that treatments before movement onto silage aftermaths,

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