

Anthelmintic resistance and responsible use in livestock

Anthelmintic resistance

Anthelmintic resistance is a serious and increasing threat to the health and welfare of livestock. If unchecked, it could lead to existing anthelmintics becoming ineffective with a potentially catastrophic impact on animal welfare and production.

In the UK, resistance is reported mainly in gastrointestinal nematodes¹ and, increasingly, in liver fluke. Currently resistance significantly impacts the efficacy of the three older classes of anthelmintics (Group 1 Benzimidazoles, Group 2 Acetylcholine receptor agonists, and Group 3 Macrocyclic lactones) but is also a threat against the efficacy of all anthelmintic groups.

Responsible use of anthelmintics

The use of anthelmintics must be judicious and incorporated within a farm specific strategic anthelmintic plan based on sound scientific principles, recognising that every application will increase the risk of possible development of resistance to anthelmintics.

Parasitology is an extremely complex and specialised area. All prescribers of anthelmintics should be appropriately trained in parasitology, demonstrate commitment to continuous improvement through CPD and refresher training, and should:

- Use diagnostic information for each parasite risk period, such as clinical data, faecal worm egg counts, and abattoir submission data, to ensure treatment of only those animals that need it
- Target the drug used to the parasite to be treated²
- Ensure that body weight is carefully calculated, ideally using a weigh crate, and that dosing devices are correctly calibrated to avoid under dosing. Group treatments should be based on doses reflecting the heaviest animal in the group. Care should be taken when using products with a narrow toxicity range
- Understand the interplay of other host species and intermediate host species
- Advise that newly treated animals should not necessarily be moved immediately onto clean pasture
- Explain and emphasise the importance of quarantining incoming animals, assessing their parasite burden, faecal worm egg counts, and response to treatment
- Investigate suspected cases of resistance and advise on the selection of alternatives from other classes
- Report suspected cases of lack of efficacy to the Veterinary Medicines Directorate
- Encourage holistic and integrated preventative strategies including enhanced biosecurity, and husbandry practice to encourage protective immunity, such as pasture management, nutrition and vaccination for lungworm as appropriate.

¹ Widespread anthelmintic resistance in European farmed ruminants: a systematic review H. Rose, L. Rinaldi, A. Bosco, F. Mavrot, T. de Waal, P. Skuce, J. Charlier, P. R. Torgerson, H. Hertzberg, G. Hendrickx, J. Vercruyse, E. R. Morgan <http://veterinaryrecord.bmj.com/content/early/2015/03/11/vr.102982>

² BVA is working to resolve the current disparity between good clinical practice and current medicines legislation in relation to minor use minor species (MUMS)

We recognise the role of suitably qualified persons (SQPs) in prescribing anthelmintics in the UK system in collaboration with farm health planning advice from the farm's veterinary surgeon. Veterinary surgeons and farmers should work together on the development of farm health planning and grazing management programmes, to ensure integrated and sustainable control strategies. SQPs should work with vets to follow the farm health plan. Farm health plans should be reviewed with the veterinary surgeon on at least an annual basis and include assessment of the herd/flock and diagnostic test results.

Supplementary guidance can be found at:

- Control of Worms Sustainably ([COWS](#))
- National Office of Animal Health ([NOAH](#))
- Responsible Use of Medicines in Agriculture ([RUMA](#))
- Sustainable Control of Sheep Parasites ([SCOPS](#))
- Parasite Control in Horses ([MOREDUN](#))