

BVA policy position on Responsible Use of Parasiticides in Grazing Animals

Introduction

Parasiticide products are commonly used in livestock to prevent and treat for various parasites, such as gastrointestinal nematodes, lungworm, and liver fluke. They are classified as POM -VPS¹, which means they are available only on prescription, either from a vet, a pharmacist, or an SQP (Suitably Qualified Person²). There is increasing concern from multiple sources that overuse of these medicines leads to target species developing resistance, which can reduce the efficacy of the treatment, and also generate health issues through delaying immunity. Furthermore, there is increasing evidence, again from multiple sources, that parasiticides are contaminating the environment, harming soil health, and potentially reaching rivers through wastewater. As parasiticides are damaging to a wide range of non-target species, and with even small doses potentially impacting large numbers of invertebrates, this contamination could be detrimental to wildlife and ecosystems and, in turn, public health and food security.

In the farm animal and equine sectors, there is widespread concern over high levels of resistance to parasiticide products as a result of misuse and overuse. Maintaining the safety and efficacy of these products in the future is important for animal health and welfare. It is also important for human health and the safety and security of the human food chain.

This is a true One-Health problem of immense complexity, with potential conflict between the needs of animal health, human health, food security and the health of the wider ecosystem. There are important lessons to learn from the changes in antibiotic use in animal agriculture over the last decade, as the issue of resistance, and the threat to human health, became more acute. The threat from parasiticide overuse affects food quality and safety through resistant parasites, and also crop productivity through loss of pollinators. The link between parasiticide resistance and human health is less immediate than with antibiotics, but it is nonetheless essential that we tackle it with the same urgency.

Background

In previous statements, BVA has said that “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 nematodes 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” Since that statement was published, there is now also evidence of resistance in lungworm³.

Species specific best practice guidance and principles for managing parasiticide use have been produced for sheep, cattle, and horses through the Sustainable Control of Parasites in Sheep (SCOPS)⁴, Control of Worms

¹ Veterinary medicines are classified as POM-V, POM-VPS, NFA-VPS, or AVS-GSL. Definitions of these categories are given on the Veterinary Medicines Directorate website: <https://www.gov.uk/guidance/retail-of-veterinary-medicines>

² An SQP or “Suitably Qualified Person” is a professionally qualified animal medicines advisor, registered to prescribe and supply medicines classified as POM-VPS or NFA-VPS. Sometimes known as a RAMA.

³ Campbell, Paul, Andrew Forbes, Jennifer McIntyre, Taylor Bartoschek, Kayleigh Devine, Kerry O'Neill, Roz Laing, and Kathryn Ellis. "The first report of macrocyclic lactone resistant *Dictyocaulus viviparus* in the UK." *agRxiv* 2023 (2023): 20230508348.

⁴ <https://www.scops.org.uk/>

Sustainably (COWS)⁵ and Controlling Antiparasitic Resistance in Equines Responsibly (CANTER)⁶ groups. However, the problem is growing and there is a need for a more comprehensive approach ensuring consistency across the sector.

This policy position is intended to update and expand on our previous statement. It was developed through the BVA Anthelmintics working group, which was made up of vets from across the large animal and equine sectors with particular expertise in parasites and sustainability. The initial question was whether BVA should be calling for the reclassification of anthelmintics so that they can only be prescribed by a vet (POM-V) to reduce usage. The group felt this remit was too narrow, and it agreed to look more widely at responsible use, as well as considering reclassification. It also agreed for practical reasons to include all parasiticides, rather than solely anthelmintics, because ectoparasiticides also have a significant effect on non-target organisms. The effects when co-administering these products with anthelmintics are additive, therefore, parasiticides should be considered as a whole, to include ectoparasiticides.

The group spoke to representatives of the pharmaceutical industry, farming, and SQP organisations to understand how they might reduce their use of parasiticides. The group also considered the experience of the Republic of Ireland, where parasiticides are in the process of being reclassified to comply with EU regulations.

The group agreed that there was substantial evidence⁷ that parasiticide overuse in grazing animals is contributing to increasing resistance, and environmental damage, and that usage should be appropriate, evidence-based, and monitored. In addition to the previous anthelmintics statement quoted above, this aligns with BVA's more recent position on small animal parasiticides⁸ which took the view that these medicines need to be used more responsibly to tackle resistance and limit their environmental impact. This position therefore focusses on how best to manage use of parasiticides in grazing animals without affecting health and welfare, and what we would consider to be best practice, rather than on whether such a reduction is necessary.

The question of whether to consider pigs, particularly outdoor pigs and poultry was considered. However it was decided to focus on grazing animals at this time in order to keep the policy focussed. Many of the principles of responsible prescribing will apply to all sectors in any case.

Best Practice for Responsible Prescribing

BVA consider that responsible prescribing needs to go hand-in-hand with all aspects of herd and pasture management. Parasiticides can solve an immediate problem, but in the long-term they have a detrimental impact on the quality of the pasture, compounding the risk of parasitic infection, and contributing to resistance, reducing the efficacy of the available treatments. This means increased use of diagnostics is necessary, to target prescribing, enabling us to use parasiticides as little as possible but as much as necessary.

The aim of any treatment should be to protect the health and welfare of the animals whilst also prescribing responsibly, avoiding unnecessary overuse. The key principles of responsible prescribing, whether by SQP, pharmacist, or vet should be:

- Approach parasiticide use with the similar care to antibiotic use, taking a holistic approach to parasite control rather than using them as a routine preventative.
- Know the farm, including past and present pasture management; profile and history of patients; previous test results; and the ability to interpret this information.
- Use the method of targeted prescribing rather than treating seasonally or metaphylactically.

⁵ <https://www.cattleparasites.org.uk/>

⁶ <https://canterforhorses.org.uk/>

⁷ Fissiha, W., & Kinde, M. Z. (2021). Anthelmintic Resistance and Its Mechanism: A Review. *Infection and Drug Resistance*, 14, 5403–5410. <https://doi.org/10.2147/IDR.S332378>

⁸ <https://www.bva.co.uk/media/4352/bva-bsava-and-bvzs-policy-position-on-responsible-use-of-parasiticides-for-cats-and-dogs.pdf>

- Prescribe in a way that balances the risk to an individual animal's health and welfare, against the risk to future population health and welfare; the environment; and human health.
- Ensure the client understands the importance of correct administration and disposal and the environmental risks of not doing so.
- Have a system of logging all parasiticides prescribed and identity of animal/group of animals and ensure this is communicated to the registered vet practice.
- Ensure that development of parasiticide resistance is monitored and traceable, including the obligation to follow up on outcomes of treatment.
- Ensure regular open communication between the primary vet, the SQP, and the farmer.
- Be committed to reporting adverse events, including lack of efficacy and suspected environmental impacts.
- Have a system which records reasons for not prescribing a parasiticide, and any alternative or additional management advice given, alongside prescribing decisions.
- Have a consistent and holistic approach to parasite management, avoiding focus on the prescribing aspect alone and making use of the communication triangle between SQP, primary vet and farmer.
- SQPs should ask about other species present on the farm and refer to the vet where necessary for specific advice, or for prescriptions on the cascade.

Vets have the necessary overview of the farm, the animals, and the medical history to be positioned as the trusted advisor to the farmer on all aspects of husbandry. However, they should collaborate with other professionals, notably SQPs. It is important to establish a clear relationship and open communication between farmer, vet and SQP to ensure full oversight of what has been prescribed for an epidemiological unit, when, and by whom. In their policy on responsible use of anthelmintics⁹, which BVA supports, the British Cattle Veterinary Association (BCVA) “*considers the current system allows for confusion and lack of communication, relying on bulk sales of medicines rather than bespoke advice to limit their use to only when evidence suggests requirement. It is a missed opportunity to introduce real change, using the concept of a ‘parasiticide ambassador’. This should be done through training and CPD for the vets, enabling them to better advise their clients, along with open dialogue with the Suitably Qualified Person (SQP), to ensure that products dispensed to farmers are communicated back to their primary practice. Improved communication between vets and SQPs will ensure that the same message is being reinforced to the farmer via both parties.*”

It may be helpful for all practices to have a designated parasite control champion, who has completed additional CPD in this area, and can act as a point of contact for farmers, SQPs, and other members of the vet team. This model has been used to embed responsible prescribing for antibiotics, through initiatives such as the Arwain DGC Prescribing Champions Network¹⁰ in Wales. BCVA's National Johnes Disease Action Plan¹¹ also recruits and trains veterinary advisors to work with farms and practices. Appropriate structured training is key to both schemes and would need to be funded either by government or by industry. The Five Point Plan to reduce foot rot in sheep is another good example of this model in action¹². The champion should be a vet, rather than an SQP, as oversight of the farm and husbandry model is essential, and SQPs are not always in a position to achieve this.

Working with others

As noted above, it is essential for responsible prescribing that there is open co-operation and communication between vet, farmer, and SQP. Neither a vet, nor an SQP, can be expected to advise the farmer or prescribe effectively if they are not fully aware of historical treatment and pasture management on the farm.

Although the pharmaceutical industry has only limited data, they estimate that around 85% of agricultural parasiticides are supplied through SQPs rather than veterinary practices. This is supported by data acquired by

⁹ https://www.bcva.org.uk/system/files/basic_page_files/BCVA%20Policy%20Parasiticides%20Updated%20April%202022.pdf

¹⁰ <https://rhaglenni.mentera.cymru/arwaindgc/en/vpcs/>

¹¹ <https://actionjohnesuk.org/bcva-johnes-training/>

¹² <https://ahdb.org.uk/knowledge-library/lameness-in-sheep-the-five-point-plan>

BVA through its Voice of the Veterinary Profession Survey in November 2024 in which large animal vets reported that 42% of their clients sourced parasiticides from feedstores and merchants, 9% from their practice, and around 41% from a mix of the two. Similarly, equine vets said that 41% of clients sourced parasiticides through SQPs, 43% from a mix of vets and SQPs, and only around 9% solely from practice. It is therefore clear that changing the prescribing model for SQPs will be central to any effort to reduce usage and implement responsible prescribing.

SQPs

SQPs provide an essential support for farmers, providing advice and treatment for routine issues, around the POM-VPS products they are qualified to provide. However, in many instances there is limited or no communication between the SQP and the vet, and they are not working together¹³. The same is true of vets prescribing remotely for online pharmacies, and there is no clear way to report or sanction inappropriate prescribing. This is a concern for SQPs employed in agricultural merchants for example, rather than those employed in vet practices, as they are at a disadvantage when it comes to knowledge and understanding of the animals needing treatment and the context in which they are kept. Vets are required by the RCVS to have regular oversight of the animals under their care, which is not the case with SQPs. They are also in a high volume, low margin retail environment where there is less scope to ask for more information about the problem and advise on the best possible solution. Implementing best practice principles may be more challenging in this situation. This is in contrast to the veterinary practice environment. Because the profit margin is minimal and the volume sold is significantly less than that of a merchant due to smaller client bases, the incentive of vets to sell parasiticides is for initial client engagement with testing, advice and discussion about appropriate use. This enables a “whole picture” approach and the opportunity to mentor the client on responsible use of parasiticides.

SQP representatives are keen to upskill SQPs and give them more autonomy to consider prescribing decisions in the round, which would support responsible prescribing. A system of logging prescriptions that is available to both vets and SQPs is necessary to ensure everyone has full oversight of what has been prescribed, and would mean that SQPs and vets are generally working independently of each other. There is scope for stores to offer additional advice, and services, such as faecal egg counts. This would allow SQPs to build a relationship with farmers and give them more ability to make responsible prescribing decisions. However, this would likely need some changes to business models, and to employers' and customers' expectations of the SQP's role. There would need to be clear guidelines on what is within the scope of the SQP's role to avoid contravention of the Veterinary Surgeon's Act. Currently, Schedule 3 of The Act very tightly controls what actions may be undertaken by allied professionals and what must be done by a veterinary surgeon. Any increase of responsibility for SQPs will also have to be codified into the SQP Code of Practice. Given the food security, animal health and welfare concerns of rapidly developing parasiticide resistance, as well as environmental concerns amid deteriorating river health and insect populations particularly, BVA believes it a necessity for the advertising and sales of parasiticides to mirror the regulations applied to antibiotics.

Farmers

A farmer's focus is obviously and rightly on the health and welfare of their animals, as well as productivity. Reducing the use of parasiticides increases the potential risk of parasitic infection, and therefore requires a significant change of approach for farmers in order to make it acceptable and manageable. Farming bodies state that access to, and affordability of, parasiticides is essential to maintaining the health and welfare of their stock. Both farming and SQP bodies raised access to parasiticides as a major concern around any changes to the way these are prescribed. However, increasing resistance is a greater barrier to parasiticide availability. Access to a medicine is only beneficial to health and welfare if the product is effective. Overuse is being shown to decrease efficacy as more parasites become resistant.

In order to move away from routine parasiticide treatment, farmers need more access to diagnostics and the knowledge to assess the risk of infection more accurately. Improving farmers' access to and understanding of diagnostics, alongside stronger collaboration with vets and SQPs, has benefits for farm businesses of fewer,

¹³ Pass T.M. (2022) It's a lung story'' Analysing stakeholders' perceptions of Dictyocaulus viviparus: An exploration of attitudes towards lungworm and understanding of effective, sustainable control in dairy cattle

more targeted, inputs leading to better herd health at lower cost. This change will require significant co-operation between the veterinary and farming communities to develop a new ethos.

Minor Species and the Cascade

There is a long running concern regarding the lack of licensed products for the treatment of minor species¹⁴. In the context of grazing animals, this refers primarily to camelids and goats, both of which are more commonly farmed in the UK, although in small numbers compared to cattle and sheep¹⁵. Resistance can emerge in these species before cattle and sheep, but there is only one licensed parasiticide product for goats, which also happens to be one of those with the highest resistance profile, and none at all for camelids. As goats are classed as food producing animals, it is difficult to use unlicensed products under the cascade, as their meat and milk enter the human food chain and therefore residue levels must be considered. Expanding the scope for prescribing would allow more flexibility and mitigate the development of resistance.

Neither SQPs nor vets are commonly aware of specific issues relating to minor species, and SQPs are not able to prescribe on the cascade. If they are made aware of the presence of goats or camelids, they should refer the keeper to their vet for advice on parasiticides. However, it is not clear that this is well understood, or that keepers necessarily mention the presence of other species when requesting prescriptions. There also need to be more robust mechanisms for reporting inappropriate prescribing, or advising off licence treatment.

Vets working with these species find that keepers often assume that parasiticides prescribed for their sheep can be given to their goats or camelids at the same dosage. However, goats and camelids metabolise drugs much more quickly which has an impact on efficacy. Prescribing for these species can be difficult with combination products, where increasing to the appropriate dose of one active ingredient would deliver toxic levels of another. Specific knowledge is also required for diagnosis, as these species tend to remain asymptomatic at much higher parasite burdens than other species.

Co-grazing can be an issue in spreading resistance, and smallholders with small numbers of multiple species are less likely to have specialist knowledge or understand the specificities of prescribing effectively for their goats or camelids. Prescribers should be aware of this and enquire about the presence of other species when prescribing for small numbers of sheep or cattle.

Parasiticides are used to a limited extent in farmed deer. Deer farms supplying venison to Waitrose, and Marks and Spencer (representative of most of the farmed deer industry) all have a health plan in place reviewed by a vet annually to include an inspection of all animals on the farm and all farms are members of a farm assurance scheme. The health plan includes advice on parasiticides used, including details of the cascade and relevant withdrawal periods. Venison supplied to all other supermarkets and outlets is from wild or enclosed wild (parkland) deer. Such deer would generally have no, or extremely limited, veterinary intervention. Co-grazing is not commonly practiced with farmed deer due to specific disease risks and costs associated with fencing and maximising land suitable for deer grazing. Lungworm is a significant challenge on some deer farms and treatment on these farms based on history and clinical signs would be considered routine. Treatment late summer of their first grazing season would be expected to be sufficient and immunity should be well established for the second grazing season.

Environmental sustainability and soil health.

The impact of parasiticides on non-target invertebrates is well documented and profound, and warnings appear in many datasheets about the dangers of usage at pasture supporting this knowledge. However, the impact is less well understood at landscape scale. Studies tend to look at individual products, rather than the combination of different parasiticides likely to be present in the farm environment. While the focus of responsible use has been on maintaining product efficacy, there is a lot of overlap with reducing the environmental risk. Dosage, dispersal, timing, frequency, and method of administration all have an impact. Ensuring responsible use of parasiticides is critical for maintaining refugia of susceptible parasite populations. It is also very important for allowing abundant and diverse populations of non-target beneficial organisms such as dung beetles and other invertebrates. If the whole herd or flock is routinely treated for everything, this limits the available refugia for non-

¹⁴ <https://bvajournals.onlinelibrary.wiley.com/doi/full/10.1002/vetr.774>

¹⁵ *ibid*

target species to land that has not been grazed. Vets who do not specialise in this area may not have the necessary knowledge to advise in detail. Disposal of leftover product, particularly of used sheep dip, is also critical, and can have similar impacts if not done responsibly.

Although new products coming to market are required to complete an environmental impact assessment as part of the authorisation process, this process could be strengthened to improve the information available. As with impact studies, these assessments focus on the product in question, rather than the cocktail that may be found in farmland. This is not something that can easily be changed, but does weaken the accuracy of the data. Furthermore, any environmental risks identified on the product literature are often not well enough understood and mitigated at farm level.

There is also a lack of understanding in the veterinary community as to what happens after licensing. Reports being submitted on environmental issues are rare. Post-market reporting of adverse side effects is well-understood, but market authorisation holders are also supposed to raise a safety concern for environmental issues in the same way. However, the system is little used to raise environmental concerns on the back of field studies, and these issues are harder to identify through normal interactions than a side effect might be. It is necessary to raise the profile of adverse event reporting for environmental purposes, and perhaps to oblige manufacturers to do their own monitoring once a product has been launched.

Lessons from other sources of antimicrobial resistance (AMR)

Antimicrobial resistance (AMR) occurs when microbes such as bacteria, viruses, fungi and parasites no longer respond to antimicrobial medicines as a result of drug resistance (WHO website). The term AMR is sometimes used to refer to antibiotic resistance specifically, probably as a result of the importance of these drugs in human and animal medicine. The term AMR however should refer to resistance concerns for all antimicrobial drugs. Efforts to reduce antibiotic usage and tackle resistance, preserving the effectiveness of these drugs for human and veterinary use, may provide a valuable model when tackling parasiticide resistance. The key is making it easy for people to do the right thing, and providing the information they need to make an informed choice.

The BVA Policy Position on responsible use of antimicrobials¹⁶ says:

“A One Health approach without a culture of blame is instrumental in addressing AMR across animals, humans, and the environment.

Our overall aim is responsible prescribing and responsible use across the profession, industry, and in the wider context of One Health.

In our position on the responsible use of antimicrobials in food producing animals we set out 15 recommendations. These call for responsible prescribing and stewardship across the veterinary profession, industry, and in the wider context of One Health.”

Key policy recommendations include:

- Vets should continue to be guided by the [7 principles of responsible antimicrobial use](#), (Note: although usually focused on antibiotic resistance, these could be focused as a parasiticides resource).
- In the interests of animal welfare, critically important antibiotics should remain available for veterinary use.
- Vets should work with farmers and stock-keepers to achieve the [RUMA Targets Taskforce antimicrobial reduction targets](#) for their sector.
- Farm assurance schemes should incorporate responsible use of antimicrobials as a requirement.
- Farmers and stock-keepers play a major role in ensuring the responsible use of medicines on farms. They should be empowered to work with their vets to achieve this.

¹⁶ <https://www.bva.co.uk/take-action/our-policies/responsible-use-of-antimicrobials/>

- Government should design a new post-Brexit system of agricultural support to improve husbandry and biosecurity measures on farm.

These principles have been successful in significantly reducing use of antibiotics¹⁷ across the sector, as well as significant improvements in the resistance and susceptibility profiles of cultured bacteria. These successes lead us to believe this approach could give a useful base for changing the way that parasiticides are used in the livestock industry. The main difficulty in doing so, is making the case to animal owners and the public at large. However, farmers are proud of their role as stewards of the countryside, and have an interest in maintaining the quality of their land. For antibiotics, the rise in resistant infections in human health is an obvious indicator of the urgency of the situation. In the case of parasiticides however, the harm has a less immediate and obvious impact on human health. The loss of biodiversity and key insect species is harder to demonstrate clearly. The impact on bees has so far had the most cut-through, and the recent study¹⁸ showing the potential damage to wild birds from fipronil and imidacloprid in animal fur is further raising the urgency of the need to reduce use of parasiticides.

The Case for/against Reclassification

Parasiticides are in the process of being reclassified to prescription only in the Republic of Ireland, to comply with EU regulations, providing a useful case study. The Irish system does not include SQPs, so the categorisations are general sale (GSL), which parasiticides were until now, or veterinary prescription only (POM-V). Electronic prescribing started in January 2025, with the changes coming fully into force in June 2025.

Under the changes, farmers will still be able to purchase parasiticides from agricultural merchants, but will need a prescription to do so. Many merchants are looking to contract a vet to provide remote prescriptions to remove the need for a consultation with the farmer's own practice. Even if the farmer does get a full consultation from their own vet, the prescription can be written for up to six months' supply, meaning they need only do so once per grazing season.

There is no diagnostic prerequisite for supply. The only requirement is for the vet to run the proper assessment protocol (PAP) before prescribing. This protocol is light touch, focussing on basic information about the farm, and does not support the concept of targeted, responsible, evidence-based prescribing. If the prescriber is the farmer's own vet, there is no requirement for them to visit the farm before prescribing, and the PAP is not required as the necessary information should be found in practice records.

The conclusion from this summary is that reclassification implemented in this way will change little in terms of reducing use of parasiticides. Vets are concerned about distance prescribing and the lack of emphasis on veterinary advice. Farmers and merchants are concerned about rising costs, and additional paperwork.

While reclassification could make it easier for the prescribers to abide by all the principles of responsible prescribing and best practice, it is clear, that reclassification is not the sole solution, and has the potential to cause frustration across the sector without achieving the hoped-for change.

The ideal scenario to reduce parasiticide use would be:

- Diagnostic led treatments; evidence-based treatment based on worm burden and epidemiological information.
- Targeted treatment rather than routine use, making management changes alongside diagnostics, rather than relying on treatments for groups at certain times of year.
- Correct dosage
- Integrated Parasite management and other preventions including vaccination
- Quality nutrition and appropriate exposure to parasites to focus on and build solid immunity where this is possible

¹⁷ <https://www.gov.uk/government/publications/veterinary-antimicrobial-resistance-and-sales-surveillance-2023>

¹⁸ de Montaigu, C. T., Glauser, G., Guinchard, S., & Goulson, D. (2025). High prevalence of veterinary drugs in bird's nests. *Science of The Total Environment*, 178439.

Achieving this does not necessarily require reclassification, provided SQPs are able to obtain the necessary information. The important point is to enable genuine engagement by the prescriber. Here, changes to the way SQPs work would need to be considered.

Conclusions

With the vast majority of large animal parasiticides being supplied through SQPs, it is clear that SQPs are important contributors to implementing responsible prescribing. Solely reclassifying parasiticides to POM-V might address this, but clumsily and without taking the bigger picture into account. Reliance on prescribing of these products by vets alone may alienate many of the stakeholders who are essential to changing the way these products are used. A more collaborative, and therefore likely a more effective route, is to improve the communications and oversight between vets and SQPs, and to empower SQPs to consider context in more detail when prescribing.

There should be an increased focus on diagnostics and targeted treatment. This will involve vets, SQPs and farmers, and may require pharmaceutical companies to consider how they produce their products to suit this more targeted approach. There are also changes that can be made to formulations and pack-sizes which will have a beneficial impact on the environment.

Finally, there is a need for more careful assessment of the environmental impact of a product, and for more post-market studies of environmental impact in real-world situations. The reporting system for such impacts must be strengthened, and its profile raised, with those gathering the relevant data.

Recommendations

Recommendation 1: Organisations representing vets, SQPs, horse owners and farmers should encourage and support their members to take the necessary steps to implement our recommended best practice for responsible prescribing of parasiticides. This should begin with the amendment of the SQP Code of Practice to increase emphasis on responsible, evidence-based prescribing. Re-classification should remain a long-term option, if necessary, to achieve this goal.

Recommendation 2: Industry should monitor annual baseline parasiticide sales data to enable them to measure success in implementing the more targeted approach to prescribing parasiticides. This should be comparable to the approach taken with antibiotic sales data.

Recommendation 3: VMD should work with NOAH to restrict advertising and sales incentives for parasiticides, as has been done successfully for antibiotics.

Recommendation 4: VMD should work with veterinary and SQP representatives to establish a mechanism for all prescribers to have access to what has previously been prescribed for an animal/group of animals and when, and facilitate the sharing of diagnostic results.

Recommendation 5: Organisations working to reduce antimicrobial use with a focus on antibiotics, such as RUMA, APHA, and VMD, should be encouraged to expand their remit to include parasiticides.

Recommendation 6: Environmental and veterinary organisations should work together to make the profession, equine and farming communities, and the general public aware of the risks of parasiticide use (including resistance, sustainability, safety, efficacy); the impact these medicines have on ecosystem health; and steps they can take to use these products responsibly.

Recommendation 7: Species organisations should work with members to include structured, bespoke detail in health plans as a standard part of a holistic parasite control plan, ideally funded through the Animal Health and Welfare Pathway in England and its equivalents in the Devolved Nations as they are implemented, or from SFI payments.

Recommendation 8: VMD should emphasise the importance of using adverse event reporting mechanisms to monitor and report environmental impacts to improve data collection and encourage marketing authorisation holders to act upon these to mitigate the impact.