Veterinary Medicines Directorate

SUMMARY NOTES

EQUINE ANTHELMINTIC RESISTANCE STAKEHOLDER WORKSHOP

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Equine Anthelmintic Resistance Stakeholder Workshop Summary Notes

The VMD hosted an online Equine Anthelmintic Resistance Stakeholder Workshop on Thursday 11 November 2021. The aims of the Workshop were: to define the challenges associated with anthelmintic resistance in equine endoparasites, to highlight the current evidence gaps and to determine how sector stakeholders can collectively identify solutions. Delegates attended from a broad range of stakeholder groups including prescribers (vets, pharmacists, SQPs), parasitologists, horse owners, charities/levy boards, guidance/policy makers, retailers, diagnostics, and pharmaceutical industries.

The Workshop comprised a series of short presentations from external and internal experts, followed by small group breakout sessions to encourage associated discussion amongst delegates. The presentations included an update on the current status of anthelmintic resistance in equine parasites from a global perspective, followed by an update on the UK situation with a focus on the availability and use of anthelmintics and diagnostic tools. An overview of the history, composition and achievements of the UK pan-industry group for the sustainable control of parasites in sheep (SCOPS) was provided, alongside an update on how UK antimicrobial resistance (AMR) activities have promoted awareness and behaviour change through coordinated approaches, to stimulate consideration of whether similar approaches could benefit the equine sector.

The three breakout sessions focused on the current status of the problem, best practice guidelines, data and research gaps, and prioritisation of future activities. The Workshop stimulated lively discussion regarding the core problems associated with anthelmintic resistance in the equine sector, ways to optimise existing resources and opportunities for action. Summary notes of the discussion and points collectively identified for potential development are provided below and these will provide the framework for future advancement of activities.

Highlights

There was significant interest in this Workshop, with 45 external delegates attending from over 30 different organisations. Delegates expressed concern regarding the current status of anthelmintic resistance in equine parasites, and welcomed the opportunity for discussion.

There was consensus and enthusiasm amongst delegates to adopt a pro-active joined up approach to address the problems associated with anthelmintic resistance in the equine sector. There was agreement on the key principles that underpin best practice for sustainable control of equine parasites. The difficulties in facilitating change in anthelmintic use practices were acknowledged, particularly for a fragmented sector with the associated complexities of differing equine yard set ups. A coordinated approach through the formation of a pan-industry and co-owned equine anthelmintic resistance working group was considered essential to provide a single source of truth to develop and agree best practice guidelines and communication messages. The benefits of introducing standardisation of faecal egg count (FEC) techniques to improve consistency in reporting and confidence in the results were explored. The group agreed the importance of facilitating better utilisation of existing data and diagnostic tools, alongside requirements to pursue further surveillance, monitoring and clinical research. The VMD agreed to assimilate key themes for further exploration and subsequently liaise with delegates to understand their interest in involvement in future activities.

Session 1 – Where are we now?

Core problems to addressing anthelmintic resistance in equine parasites

Lack of coordinated activities across a fragmented sector:

- The equine sector is fragmented due to the complexity of horse management – there are different yard types (individually owned vs herd management), different risk factors (youngstock vs adult stock) and horse owners often have different levels of involvement or influence.
- There is currently a lack of coordination and consistency in messaging issued by prescribers and educators which can lead to lack of trust.
    - Messaging on best practice has changed over time with the transition from interval dosing of anthelmintics to targeted approaches.
    - Social media is considered a significant contributing source of misinformation.
- Consequently, it is difficult to reach horse owners with consistent information and as such it is challenging for horse owners to know what best practice is.

Attitudes/interest and awareness:

- There are disparate levels of awareness of anthelmintic resistance among horse owners.
- Knowledge and implementation of best practice guidance for control of equine parasites is disparate among prescriber groups (vets, pharmacists & SQPs).
- Horse owners often do not view anthelmintic resistance as a problem that directly affects their horse. The age of the horse was identified as a contributing factor for differing levels of perceived risk– for example owners of youngstock generally perceive the risk of parasite infestation as greater than owners of adult stock.
- Horse owners usually do not see the extent of the problem (i.e., ongoing parasitic infestation due to treatment failure) as it is not as visible as other clinical problems e.g., lameness.
- It was felt by some delegates that there is an attitude of complacency among horse owners ("*we are already doing a good enough job*") which may stem from a lack of awareness of the current status of anthelmintic resistance.
- In the field there is a very low uptake of faecal egg count reduction tests (FECRT) by horse owners, and therefore there is very limited understanding of the current anthelmintic resistance status on most yards.
- It is sometimes difficult to distinguish whether lack of efficacy is due to treatment failure or inaccurate dosing/administration – for example many owners guess their horse's weight rather than using a weigh tape or bridge.

Reliance on anthelmintics:

- Pasture management practices such as poo picking are underutilised by horse owners as sustainable practices for reducing parasite challenge.
- Many horse owners report they do not have the time or capacity to collect faecal samples for FEC testing and use anthelmintics because it is easier.
- There is a need to improve the link between prescribing of anthelmintics with performing diagnostic tests to encourage responsible use of anthelmintics.

- Purchasing a wormer is often less expensive than performing FEC/FECRT for owners and there is a lack of information on the cost-benefit of using diagnostic tests to inform treatment choices.
- Promoting diagnostic testing over anthelmintic sales to end-users is less economically viable for prescribers.
- More information is needed on the drivers for changing anthelmintic use and prescribing behaviours to address this reliance on anthelmintics.
- Point-of-sale interaction between prescribers and horse owners was considered particularly important to promote responsible use of anthelmintics. The increase in online sales where such interactions are limited has made changing anthelmintic use behaviour particularly challenging.

Positive changes observed by stakeholders over the last decade

- Increased availability and uptake of diagnostic tests – e.g., FEC and tapeworm saliva tests etc.
- Improved awareness of anthelmintic resistance as a problem (anecdotally more so amongst prescribers than in horse owners).
- Increasing responsible use messages from stakeholder groups, including pharmaceutical companies.
- Improved education and awareness of best practice among some stakeholder groups.
- Progress with best practice guideline development initiatives.
- Improving prescriber interface (education, CPD, use of diagnostics).

Session 2 – Anthelmintic use and prescribing behaviours

Best practice guidelines – do we have them?

Delegates all agreed on the key principles underlying best practice use of anthelmintics including optimising use of diagnostic tools and targeted approaches. It was considered that best practice guidelines should be evidence-based and provide the core principles of responsible use, that can then be adapted for individual situations to accommodate different horse management systems or risk profiles as required.

However, several barriers to uptake of best practice guidance were identified.

- There are currently multiple sources of best practice guidance for control of equine parasites recommended by different stakeholder groups (e.g., ESCCAP[1], UK-Vet Consensus Statement[2], company-based, peer-reviewed literature, etc). Whilst the principles underlying these different guidelines are inherently similar, delegates considered that the lack of a single guideline endorsed and recommended by multiple stakeholder groups (to act as a 'single source of truth') results in inconsistent delivery of messaging, that consequently lacks clarity and impact.
- Diagnostic tools such as FEC underpin best practice guidance. However, there is a lack of scientific consensus on the optimal FEC method (e.g., variations in technique, FEC cut off levels for treatment, sensitivity vs precision of counting methods) and lack of standardisation and regulation of this industry, leading to potential variability in the quality of the results and a growing lack of trust in FEC reliability amongst horse owners.
- Time, cost and labour related to best management practices were identified as barriers to uptake of best practice (e.g., pasture management and performing FEC).

How do we improve the uptake of best practice guidelines?

- Most delegates felt that a coordinated pan-industry approach (akin to SCOPS) is needed to develop and implement one agreed best practice guideline, so that all prescribers are adopting a consistent approach.
- Improve prescriber knowledge, education and capability by providing more anthelmintic CPD to ensure qualified prescribers are giving consistent, correct and up to date guidance.
- Educational material on best practice should also be targeted to the horse owner, not just prescribers.
- An equine spokesperson/public-facing ambassador to assist in providing messaging to horse owners about anthelmintic resistance would be beneficial

[1] European Scientific Counsel Companion Animal Parasites (ESCCAP). (2019) *A Guide to the Treatment and Control of Equine Gastrointestinal Parasite Infections*. Second Edition. Available at: Guidelines | GL8: A guide to the treatment and control of equine gastrointestinal parasite infections | ESCCAP

[2] Rendle, D., Austin, C., Bowen, M., Cameron, I., Furtado, T., Hodgkinson, J., McGorum, B. and Matthews, J., 2019. Equine de-worming: a consensus on current best practice. *UK-Vet Equine*, *3*(Sup1), pp.1-14, doi: 10.12968/ukve.2019.3.S.3

for encouraging uptake of best practice (similar to the hat safety campaign championed by Charlotte Dujardin).
- The implementation of written prescriptions to promote responsible prescribing was explored. For example, written templates would encourage prescribers to consider the appropriateness of treatment before prescribing anthelmintics.
- We need to clearly communicate that previous recommendations such as interval dosing are now considered to drive anthelmintic resistance, and dispel myths that horses must be parasite-free, before we can successfully promote new best practice guidance to owners.
- Use social media as part of the solution, particularly for disseminating information to horse owners.

How can we measure the success of implementation of such guidance?

Several suggestions for how we could measure the success of implementation of best practice guidance were considered. For example:

- Collecting baseline characteristics on the current situation to report against e.g., clinical cases of parasite infestation, levels of resistance.
- Collecting feedback on methods or strategies that have or haven't been successful e.g., through workshops, surveys, etc.
- Surveillance/monitoring:
    - Obtaining and collating FECRT data to provide information on anthelmintic efficacy and demographics of those performing efficacy testing. This would enable monitoring of any changes in efficacy profile alongside providing information on behaviour change and reach.
    - Further promote reporting and publishing of suspect lack of expected efficacy data.
    - Collating sales data could be useful to monitor anthelmintic use and behaviour change over time.
    - Assessing the impact of sustainable anthelmintic use strategies on horse health, where greater emphasis is given to husbandry and management techniques, and effective use of diagnostics, in conjunction with reduced use of anthelmintics.

Session 3 – Moving Forwards: what do we need to know/have/do?

Identified data, research and action gaps and opportunities

Data:

- Improved monitoring/surveillance is required to better understand the magnitude of the problem and to assess behaviour change over time
    - Further information is required on the uptake, demographic and results of FEC and FECRT.
- Existing data could be better utilised:
    - Knowledge of the sales split between prescribers could help inform the communication strategy – e.g., focus educational material on the prescriber groups that sell the most anthelmintics.
    - Diagnostics companies hold large amounts of FEC data that could be better utilised for national surveillance/awareness.
- Collation of anthelmintic sales and/or usage data would be useful to help monitor behaviour change.

Research:

- Further research should be undertaken to inform evidence-led solutions to the problems associated with anthelmintic resistance in the equine sector.
- Evidence gaps highlighted by the BEVA review (publication expected in 2022) should be addressed.
- Further clinical/field research suggestions included:
    - Investigating the benefits of holistic approaches (pasture management, nematophagus fungi, etc)
    - Demonstrating tolerable levels of parasite infestation
    - Monitoring resistance in larval cyathostomin stages and exploring the value of larvicidal treatments
- Behavioural/social science research is necessary to understand prescribing behaviours, horse owner behaviours, and how best to communicate messages.

Other actions:

- Written prescriptions could be made mandatory to formalise the prescribing process.
- Prescriptions could include a requirement to record the rationale for product choice which could subsequently be audited.
- A coordinated communication strategy should be developed to engage stakeholders at every level. Activities could include:
    - Highlighting good news stories to facilitate behaviour change – e.g., the benefits of diagnostic-led approaches to parasite control.
    - Providing balanced messaging – horse owners are likely to engage with messaging that promotes health, performance or sustainability benefits.
    - Organising an ‘Anthelmintic Resistance Week’ to promote awareness and increase interest amongst all stakeholders.

- Engaging Anthelmintic Resistance ‘ambassadors’ to increase awareness of anthelmintic resistance in horses and promote the importance of FEC by calling horse owners to action to help sustain anthelmintic drugs through responsible use.
- Diagnostic approaches should be standardised/accredited to increase understanding, improve interpretation and promote the importance of diagnostic tools – for example quality assurance for FEC testing.
- Clearer labelling of anthelmintic classes on product packaging (akin to the colour coding of actives promoted by SCOPS for sheep drenches) would be beneficial for horse owners to increase their awareness of the products they are using.

Conclusions and next steps

There was widespread enthusiasm amongst delegates for involvement in follow on initiatives. Delegates considered that a coordinated approach to tackling anthelmintic resistance in horse parasites was needed via the formation of a pan-industry equine stakeholder group (akin to SCOPS). This pan-industry group could act as the 'single source of truth' by developing and agreeing best practice guidelines and communication messages. It could also guide related activities such as development of communication and education strategies, exploration of research priorities, identifying and supporting sustainability models, facilitating better utilisation of existing data and improving uptake and standardisation of diagnostics. Many delegates volunteered for involvement in such future activities, expressing a need to capitalise on the broadscale expertise and knowledge already present within the UK equine sector and the requirement for the adoption of a fully joined up approach.

These Workshop summary notes will also be shared with wider stakeholders to raise awareness and gain valuable input from those stakeholders who were unable to attend the Workshop but have expressed an interest in this work.

To move forwards, more work is now required from across the sector to transform this collective enthusiasm and positivity into coordinated action and improve awareness of this initiative. It will be essential to capitalise on the valuable contribution from all who have engaged to date, to enable advancement to the next step. Following the agreement and consensus on these summary notes, the VMD will assimilate this feedback and synthesise key themes for further exploration. These key themes and workstreams information will be shared with all interested stakeholders and disseminated to wider industry via updates at relevant meetings. Identified themes could form the framework and structure of a tangible pan-industry working group.

The VMD will then contact delegates to understand their interest in involvement in future activities. A second Workshop will be convened by the VMD to permit discussion and engagement on the identified key themes. At this time, we hope that ownership of future activities will be agreed, the VMD will move to a facilitation role and the cross-industry ownership, that is so essential for the success of this initiative, will commence.

Workshop attendees from the following organisations and professional bodies

- AHDA
- AMTRA
- APHA
- Austin Davis Biologics Ltd
- BEVA
- BHA
- BHS
- Boehringer Ingelheim
- CVS
- DAERA
- Elanco
- GPhC
- HBLB
- Independent Parasitologist
- Intelligent Worming
- James M. Wishart and Associates
- Murray Farmcare
- NOAH
- RAU
- RCVS Knowledge
- RUMA
- SCOPS
- SQP
- Techion
- The Donkey Sanctuary
- University of Bristol
- University of Edinburgh
- University of Kentucky
- University of Liverpool
- Vet Pharmacist
- VetPartners
- Vetpol
- VetSkill
- VMD
- Welsh Government
- Westgate Labs
- Willow Vet Group
- Zoetis UK Limited