

Deworming Program Helps Horse Owners and Their Vets Keep Horses Healthy

Get Rotation Right helps reduce parasites in horses while aiming to prevent drug resistance.

Edited Press Release

January 4, 2009

The evolution of resistant parasites necessitates a new approach to deworming; one that helps determine the right horses to deworm, the right dewormer to use and the right time of the year for treatment. That is why Intervet/Schering-Plough Animal Health is pleased to introduce the Get Rotation Right Strategic Deworming program that offers free resources and tools that make it easier for veterinarians to help horse owners manage effective, evidence-based deworming strategies, combat resistance and control parasite populations safely and effectively.

There are only three major classes of broad spectrum dewormers, and there has not been a new class of dewormer introduced for the horse in more than 25 years. With reports rising of parasites developing anthelmintic resistance to multiple drugs, veterinarian expertise is needed now more than ever.

“Many horse owners are making deworming decisions without consulting a veterinarian,” explains Wendy Vaala, V.M.D., Senior Equine Technical Services Veterinarian for Intervet/Schering Plough Animal Health. “Consequently, there is a greater risk of deworming products being misused. Overtreating, underdosing or using the wrong chemical class at the wrong time and in the wrong horse jeopardizes equine health and selects for anthelmintic resistant parasites. Resistance is a real issue, and it is spreading. The good news is we can help identify and control the problem by implementing effective deworming programs that are guided by the expertise of veterinarians and rely on routine monitoring.”

Right product. Right time. Right horse.

Intervet/Schering-Plough Animal Health's Get Rotation Right Strategic Deworming program promotes deworming strategies guided and managed by veterinarians as part of a comprehensive health-management program to slow or prevent anthelmintic resistance while reducing parasite burdens in horses. Through the campaign, veterinarians have free access to the tools they need to customize a strategic deworming program for their clients that involves using the right deworming products at the right time in the right horses.

“No one drug can do it all for every horse every time,” Dr. Vaala says. “Therefore, the right rotation between drug classes is key to an effective program; that rotation scheme may not be the same for every farm or every horse on the same farm. Veterinarians are needed to help horse owners identify which horses are in need of deworming and which drugs are still working on their farm.”

Deworming strategies supported through the Get Rotation Right approach incorporate all the major drug classes of dewormers. This evidence-based approach is founded on proven research that demonstrates that responsible use of all chemical classes of anthelmintics helps preserve their efficacy.

Dr. Vaala says there are many factors – often overlooked by horse owners working without veterinary guidance – that must be considered to develop an effective deworming strategy for each horse. Among them are age of the horse being treated, risk of parasite exposure and infection, seasonal and geographic considerations and an understanding of parasite life cycles.

“Many deworming strategies don't take into account the life cycle of the parasite, efficacy of the various chemical classes of dewormers, fecal egg count results and pasture management,” Dr. Vaala says. “The Get Rotation Right program recognizes that the expert direction and diagnostic tools provided by a veterinarian are needed to analyze each of these areas so that an effective, evidence-based deworming strategy can be determined.”

Veterinarians must regain control of deworming strategies

Dr. Vaala says a comprehensive evaluation to determine a strategic deworming program includes four critical considerations: Identification of the parasite(s) of interest, identification of the horses that require deworming, selection of an effective dewormer and proper timing of treatments.

Identification of the parasites of interest

Identifying and understanding key features of the most common equine parasites is a critical step in the process. Some

parasites are of more concern in young horses while others commonly are seen in all horses. The following provides a brief overview of the parasites of interest:

Ascarids (roundworms): Transmitted in stalls and on pastures and paddocks, this parasite is most commonly found in foals, weanlings and yearlings. Larvae migrate through the liver and lungs and complete development in the small intestine. Common signs include weight loss, diarrhea, impaction colic and bowel rupture. Prepatent period is 10 to 15 weeks. Eggs can persist in the environment for as long as 10 years.

Cyathostomes (small strongyles): The most common nematode problem in horses due to their ability to encyst and burrow into the intestinal lining for up to three years. Transmission predominantly occurs on pasture. Clinical signs may include poor performance, dull hair coat, recurring colic, diarrhea, weight loss and, in severe cases, death. Prepatent period ranges from 6 weeks to greater than 2 years.

Gastrophilus sp. (botflies): Eggs are laid on the horse's leg by Gastrophilus flies and then licked off, penetrating the oral mucosa and traveling to the stomach where they can cause irritation and may disturb gastric emptying.

Large strongyles (bloodworms): Larvae migrate into the wall of blood vessels that supply the horse's intestines. Signs include thromboembolic colic. Transmission occurs mainly on pasture. Prepatent period is 6 to 11 months.

Tapeworms: Horses ingest mites (containing infective stages of developing tapeworms) while they graze. Adult tapeworms attach to the intestinal lining, in the region of the ileocecal junction, where they absorb nutrients and can cause colic.

Pinworms: Adults lay eggs around the rectum under the tail. The most common signs include tail rubbing. Transmission can occur in stalls or on pasture.

Threadworms: Generally the first internal parasites to affect foals; larvae can be passed in the mare's milk within a few days of foaling and can cause diarrhea in heavily infected foals.

Identification of the horses

Fecal egg count (FEC) testing is extremely valuable because it identifies the horses shedding significant numbers of parasite eggs and helps identify the type of parasites that are present. For that reason, FEC tests should be performed on each horse. Using this information, veterinarians can identify a treatment regimen for each horse based on the level of parasite burden or shedding potential. For example, a FEC can be used to determine strongyle shedding potential. Dr. Vaala says the Wisconsin Sugar Flotation Method is one of the most reliable and sensitive methods used for determining eggs per gram (EPG).

"Research shows that 20 percent of horses on pasture shed 80 percent of the strongyle-type eggs," explains Dr. Vaala. "A targeted deworming approach ensures that each horse is treated as an individual based on its egg shedding potential, which is a reflection of the level of natural immunity to parasites. This approach ensures each horse is getting the right frequency of treatment, in contrast to the blanket approach of deworming the entire herd, a mistake that can select for anthelmintic-resistant parasites."

Dr. Vaala adds: "It also is important to note that a horse with a heavy parasite burden is not always easy to identify with the naked eye. A horse can look perfectly healthy on the outside – shiny coat, good body condition – and still have a high parasite burden."

Product selection

A combination of deworming treatments results in greater efficacy and improved herd health; however, any deworming program needs constant monitoring to make sure that all dewormers remain as effective as possible. Once horses have been treated with dewormers based on the initial FEC test, Dr. Vaala recommends returning to the farm 10 to 14 days after the treatment to perform a fecal egg count reduction test (FECRT). This will help determine if the dewormers being used are effective or are showing signs of resistance. Macrocytic lactones (e.g., ivermectin, moxidectin) should have a FECR of = 98%; pyrantel and benzimidazoles should have a FECR of = 90%.

Learn more about dewormer chemical classes >>

Drug selection should also be based on the parasite of interest. For example, foals and weanlings are particularly susceptible to ascarids. With increasing reports of macrocyclic lactone resistant ascarids, fenbendazole should be included as the cornerstone of a growing foal's deworming regimen. If encysted cyathostomes are the target, then larvicidal fenbendazole or moxidectin therapy should be considered.

“Follow up is critical to ensure that the best combination of products is used and to detect any early signs of resistance,” Dr. Vaala says. “Only veterinarians can diagnose anthelmintic resistance and identify horses that are genetically more or less resistant to parasitism.”

Timing

Each class of anthelmintics has a different mode of action and expected duration of efficacy (i.e. ERP = egg reappearance period), making it critically important to determine the timing of each product based upon which drug is being used. Drugs should not be used more frequently than their ERP. Dr. Vaala says veterinarians should work with horse owners to develop a customized schedule for each horse. During this discussion, other control strategies should be considered, such as pasture rotation, manure management, harrowing and cross grazing with other species.

Veterinarians make the difference

“Responsible deworming is critical to the overall health of the horse, helping to preserve the integrity of deworming drugs and reduce the risk of anthelmintic resistance,” says Dr. Vaala. “Controlling and slowing parasitic resistance won’t happen without the support of veterinarians. The tools and resources that are available through the Get Rotation Right Strategic Deworming program make it easier for veterinarians to get involved and – at the same time – add more value to their overall practice.”

Get rotation right

In addition to a detailed program for veterinarians, called “Resistance and Parasites,” clinic-support tools that are available through the Get Rotation Right Strategic Deworming program include: FEC collection bags; client brochures; strategic deworming prescription pads; weight tapes; as well as articles to include in client newsletters and other forms of client communications.

For more information about the Get Rotation Right Strategic Deworming program, visit www.HowToGetRotationRight.com

Overcoming Anthelmintic Resistance through Strategic Deworming

Texas Tech University conducted four studies (summarized below) performed in a sequential manner beginning in the fall of 2003 with a herd of Quarter Horses of mixed age and gender. These studies demonstrate that fenbendazole (FBZ), when used within a strategic deworming program that employs all of the chemical classes, can be effective in reducing parasite burden in horses that have previously been documented with FBZ-resistant parasites. (1)

STUDY 1 – FBZ-Resistance Confirmed at Labeled Dosages: The first study demonstrated cyathostome resistance to FBZ after the herd had been treated exclusively with FBZ at 5 mg/kg every 90 days for 18 months. Resistance to all doses of FBZ was evident as the FEC was < 22% in mature horses and < 0% in young horses given the following FBZ doses administered at 28-day intervals: single 5 mg/kg dose, single 10 mg/kg dose, or 10 mg/kg daily for five days.

STUDY 2 – FBZ-Resistance Continues in Young Horses: The second study performed in this herd confirmed moxidectin and ivermectin were more effective than the larvicidal dose of fenbendazole (10 mg/kg daily for five days) when assessed by fecal egg count reduction (FECR) testing. Moxidectin and ivermectin were nearly 100% efficacious, while the average FECR for larvicidal FBZ was only 84.3%.

STUDY 3 – Efficacy of Four-Way Rotation Program: The third study demonstrated improved efficacy of FBZ when used at the larvicidal dose in a quarterly rotation with pyrantel pamoate, ivermectin + praziquantel and moxidectin in a herd that previously had FBZ-resistant parasites.

STUDY 4 – Efficacy of Six-Way Rotation Program: The fourth study used a six-way rotation system including FBZ, which continued to be efficacious for over a year. After completing the fourth study, a quarterly rotation system identical to the system used in the third study was implemented. FBZ efficacy continues to be maintained in this ongoing study. This deworming program included the aggressive use of environmental management techniques.

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