



# Equine Deworming Recommendations Spring 2020

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# AAEP Parasite Control Guidelines 2019 Update



**American Association  
of Equine Practitioners**

## Parasite Control Guidelines

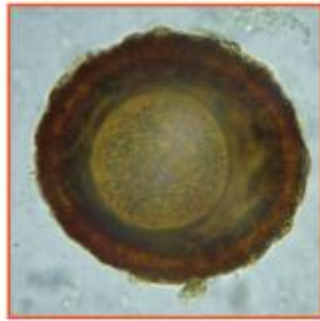
**Developed by the AAEP Parasite Control Subcommittee of the AAEP Infectious Disease Committee in 2013.** Original subcommittee members included: *Martin K. Nielsen, DVM, Ph.D., Dipl. EVPC (chair), Linda Mittel, MSPH, DVM, Amy Grice, VMD, Michael Erskine, DVM, Dipl. ABVP, Emily Graves, VMD, Dipl. ACVIM, Wendy Vaala, VMD, Dipl. ACVIM, Richard C. Tully, DVM, Dennis D. French, DVM, Ph.D, Dip. ABVP, Richard Bowman, DVM, Ray M. Kaplan, DVM, Ph.D, Dipl. ACVM, Dipl. EVPC.*

**Reviewed and updated in 2019 by the AAEP Infectious Disease Committee with additional review by the original subcommittee above.**



# AAEP Parasite Control Guidelines: Key Take-Aways

- Fecal Egg Count Testing (FECT) should continue to be used to:
  - Determine the shedding status of the adult horse at the time of sampling
  - Evaluate anthelmintic efficacy using the Fecal Egg Count Reduction Test (FECRT)
  - Monitor strongyle egg reappearance period of the most recently administered dewormer
  - Determine when to transition treatment focus from ascarids to small strongyles in foals/young horses



Parascaris - Roundworm



Strongyloides westeri

# AAEP Parasite Control Guidelines: Key Take-Aways

- **Baseline recommendation for all adult horses is twice annual deworming:**
  - **Spring:** target small strongyles
  - **Fall:** target small strongyles + tapeworms
- Effective treatment of **encysted** small strongyles is imperative
- High shedders (identified via FECT) may need additional deworming during the year
- Ascarids are still the parasite of primary concern in foals/young horses
- **There is clear loss of larvicidal efficacy against small strongyles in five-day double-dose fenbendazole (Panacur<sup>®</sup> Powerpac)**
- AAEP says moxidectin is the **treatment of choice** against small strongyles.



## QUEST® meets the AAEP Guidelines for adult horses this Spring.

- Effectively treats **encysted small strongyles**, large strongyles, ascarids, bots, pinworms, hairworms, stomach worms in a **single dose**
- Safe for use in breeding mares and stallions
- One syringe treats **up to 1,500 lb horse**
- Unique **gel format** dissolves quickly on the tongue for easy administration
- Recommended for **Spring**



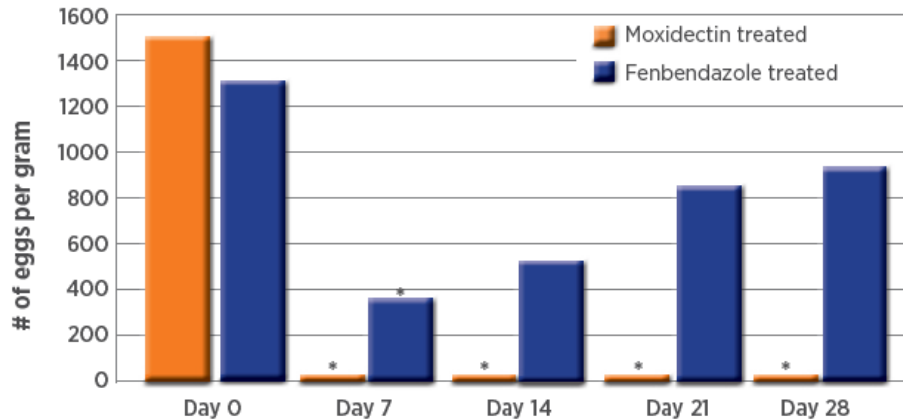
# QUEST<sup>®</sup> vs. Panacur<sup>®</sup> PowerPac

## RESEARCH CONFIRMS

Resistance to Panacur<sup>®</sup> PowerPac (*fenbendazole*) in the United States is widespread while QUEST<sup>®</sup> (*moxidectin*) remains effective for controlling the most common equine parasites.<sup>1</sup>

## GEOMETRIC MEAN FECAL EGG COUNTS

[Significance (\*) based on pre-treatment counts]



## RESULTS:

- Mean FEC reduction was 99.9% for moxidectin treated mares and 41.9% for fenbendazole treated mares 14 days post-treatment.
- By 45 days, fenbendazole group mean FEC exceeded pre-treatment levels and were 10x those of moxidectin.
- Moxidectin group mean FEC levels remained suppressed throughout the study. Statistically significant FEC differences were observed between groups 14, 45 and 90 days post-treatment.

## CONCLUSIONS:

- Failure of the 5-day regimen of fenbendazole to adequately reduce or suppress FEC suggested inadequate adulticidal and larvicidal effects.
- In contrast, a single dose of moxidectin effectively reduced and suppressed FEC for an extended period.
- Given the diverse geographic origins of study mares, these results are likely representative of cyathostomin-infected mares in much of the United States, confirming previous findings indicating that fenbendazole resistance in cyathostomins is widespread and that moxidectin remains an effective treatment for control of these important parasites.

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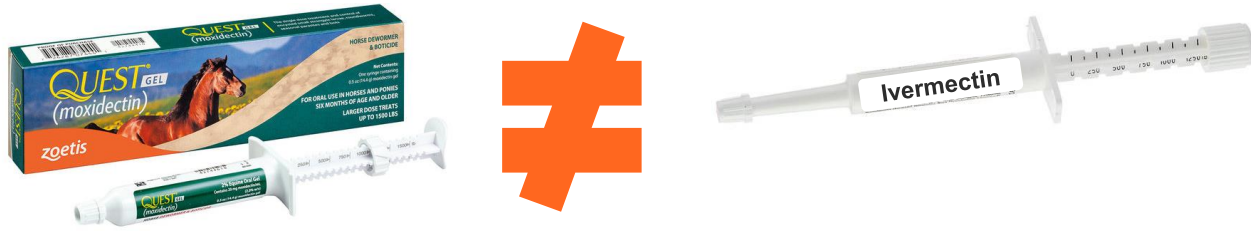
<sup>1</sup>Mason ME, Voris ND, Ortis HA, Geeding AA, Kaplan RM. Comparison of a single dose of moxidectin and a five-day course of fenbendazole to reduce and suppress cyathostomin fecal egg counts in a herd of embryo transfer-recipient mares. *J Am Vet Med Assoc.* 2014;245.

# Moxidectin vs. Ivermectin

→ Moxidectin & Ivermectin are NOT the same molecules

Chemical Class Macrocylic Lactones

- Sub-Family: Avermectin
  - **Ivermectin:** Zimecterin®, IverCare®, Bimectin®, Duramectin, generics
    - DOES NOT TREAT encysted form of small strongyles
- Sub-Family: Milbemycin
  - **Moxidectin:** Available ONLY as **QUEST® & QUEST PLUS**
    - DOES treat encysted form of small strongyles



Consult your veterinarian for assistance in the diagnosis, treatment, and control of parasitism.

Do not use QUEST Gel or QUEST PLUS Gel in foals less than 6 months of age or in sick, debilitated and underweight horses. Do not use in other animal species, as severe adverse reactions, including fatalities in dogs, may result.

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# Summary

- Treat adult horses for the two key parasites of concern **2x/year**:
  - **Spring**: Encysted small strongyles – **QUEST® GEL**
  - **Fall**: Encysted small strongyles + tapeworms – **QUEST PLUS GEL**
- Horses identified as medium-high shedders through FECT may benefit from additional treatments throughout the year
  - Also consider **STRONGID® C 2X** daily dewormer for high shedders and horses with high risk factors for parasite exposure
- Timing of the seasons varies geographically, so the impact of climate/grazing season on parasite activity/infection risk should be factored in regionally
- The parasites of primary concern in foals/young horses are ascarids
  - Consider **ANTHELCIDE® EQ Paste** and **STRONGID Paste**
- **ANTHELCIDE EQ Paste** is also an excellent option for pinworms.

Consult your veterinarian for assistance in the diagnosis, treatment, and control of parasitism.

Anthelcide EQ is contraindicated in severely debilitated horses or horses suffering from infectious disease, toxemia, or colic.





# APPENDIX

# PARASITICIDES COMPARISON CHART

Chemical Class	Trade Name	Active Ingredient	# OF TUBES	LARGE STRONGYLES	SMALL STRONGYLES	ROUNDWORMS	PINWORMS	HAIRWORMS	STOMACH WORMS	BOTS	ENCYSTED FORM OF SMALL STRONGYLES	TAPEWORMS
Combined Macrocytic Lactones	QUEST® PLUS Gel†	<i>moxidectin/praziquantel</i>	1	•	•	•	•	•	•	•	•	•
	Equimax®	<i>ivermectin/praziquantel</i>	1	•	•	•	•	•	•	•		•
	Zimecterin® Gold	<i>ivermectin/praziquantel</i>	1	•	•	•	•	•	•	•		•
Macrocytic Lactones	QUEST Gel†	<i>moxidectin</i>	1	•	•	•	•	•	•	•	•	
	Eqvalan®	<i>ivermectin</i>	1	•	•	•	•	•	•	•		
	Zimecterin	<i>ivermectin</i>	1	•	•	•	•	•	•	•		
Benzimidazoles	ANTHELCIDE® EQ Paste	<i>oxibendazole</i>	1	•	•	•	•					
	Panacur®/Safe-Guard®	<i>fenbendazole</i>	1	•	•	•	•					
	Panacur/Safe-Guard	<i>fenbendazole</i>	10	•	•	•	•				•	
	Panacur Power Pac	<i>fenbendazole</i>	1	•	•	•	•					
	Panacur Power Pac	<i>fenbendazole</i>	5	•	•	•	•				•	
Tetrahydropyrimidines	STRONGID® C 2X	<i>pyrantel tartrate</i>	N/A*	•	•	•	•					
	STRONGID Paste	<i>pyrantel pamoate</i>	1	•	•	•	•					

†Do not use QUEST Gel or QUEST PLUS Gel in foals less than 6 months of age or in sick, debilitated and underweight horses. Do not use in other animal species, as severe adverse reactions, including fatalities in dogs, may result.

Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

\*This product is administered on a continuous basis as top dress or mixed into horse's daily grain ration at the rate of 1.2 mg per pound of body weight.



# QUEST® PLUS (Moxidectin + Praziquantel)

- Effectively treats **encysted small strongyles, tape worms, large strongyles, ascarids, bots, pinworms, hairworms, stomach worms** in a **single dose**
- Safe for use in breeding mares and stallions
- One syringe treats **up to 1,500 lb horse**
- Unique **gel format** dissolves quickly on the tongue for easy administration
- Recommended for **Fall**



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# QUEST® GEL & QUEST PLUS GEL: Effective *and* Easy Administration

- 1 Palatable, rapidly dissolving, clear deworming gel — not a paste that may end up on the ground, you and your horse's face!
- 2 Shorter and wider applicator tube fits better in your hand and allows for easier administration.
- 3 Easy-to-adjust ring ensures dosing accuracy.
- 4 Ergonomic curved finger grip at end of plunger offers steadier placement for your thumb.



# AAEP Parasite Control Guidelines – Key Points

- No fundamental changes
  - FEC surveillance continues to be core recommendation
  - Small Strongyles (cyathostomins) and tapeworms continue to be parasites of concern

“...all adult horses should benefit from a basic foundation of one or two treatments per year. Low strongyle egg shedding horses with naturally strong immunity to cyathostomins will need no other treatments because the two treatments have covered the needs of the other parasites and these horses are generally protected naturally from disease caused by cyathostomins by their immune state. In traditional deworming programs, repeated treatment of low shedder horses every 2-3 months accomplishes little to improve their health, but it does promote drug resistance. Moderate and high shedders will need a third and sometimes a fourth treatment for cyathostomins...”

“Any additional treatments would be given on an ‘as needed’ basis depending on whether a specific parasite infection or disease is diagnosed...”

Consider **Quest Gel**  
or **Quest Plus Gel**



# AAEP Parasite Control Guidelines – Key Points

- Consider treating most adult horses for 2 key parasites of concern 2x/year:
  - Small strongyles (Spring)
  - Small strongyles + tapeworms (Fall)
- Treating encysted small strongyles is another important consideration

“Considerations for mature horses: **Focus on control of cyathostomins [small strongyles].** Depending on climatic conditions, **one or two yearly treatments** are sufficient to prevent occurrence of large strongyles. **Consider including a treatment effective against encysted cyathostomins** at a time when the mucosal burden is at its peak. Typically, this is more likely to occur towards the end of the grazing season, *i.e.*, fall in northern climates, and spring in the more tropical and subtropical climates.”

Consider **Quest Gel**  
or **Quest Plus Gel**

**“Include a cestocide at least annually** if they are a problem in your region.”

Consider **Quest Plus Gel**



# AAEP Parasite Control Guidelines – Key Points

- Small Strongyles

- Moxidectin = treatment of choice vs. 5-day double-dose fenbendazole
- Moxidectin treats encysted form

“Two recent blinded anthelmintic efficacy studies performed in the U.S. with two different equine populations have documented a clear loss of larvicidal efficacy and the five-day double-dose fenbendazole regimen, whereas moxidectin had intact larvicidal efficacy in both studies... Given the widespread occurrence of benzimidazole resistance in cyathostomin parasites across the world moxidectin would be the treatment of choice in a large majority of locations.”

Consider **Quest Gel** or **Quest Plus Gel**





# AAEP Parasite Control Guidelines – Key Points

- Tapeworm treatment recommendation

“Because tapeworms are relatively common and widely distributed, have a strong seasonality of transmission, have potential to cause disease, and are difficult to diagnose, it is likely that a properly timed single annual tapeworm treatment would be beneficial for most horses. Even if this treatment is not needed for the health of an individual horse, a properly timed annual treatment given to all horses on a property should diminish transmission the following grazing season. However, there is no evidence that frequent tapeworm treatments throughout the year would provide any additional health benefit. Drug choices for treatment of tapeworms include praziquantel (licensed in the US for horses only in combination with ivermectin or moxidectin), or a cestocidal (double the nematode dose) of pyrantel pamoate. In most areas, this treatment should be given in the late fall or early winter after tapeworm transmission ends due to cold weather...”

Consider **Quest Plus Gel**



# AAEP Parasite Control Guidelines – Key Points

- Treatment considerations for foals/weanlings/yearlings

“During the first year of life foals should receive a minimum of four anthelmintic treatments. First deworming should be carried out at about 2-3 months of age, and a benzimidazole drug is recommended to ensure efficacy against ascarids. Second deworming is recommended just before weaning (approximately 4-6 months of age). An extra treatment can be justified before weaning if the time period between the two treatments exceeds 3 months. At weaning, FECs are recommended to determine whether worm burdens are primarily strongyles or ascarids, to facilitate the right choice of drug class. **Third and fourth treatments should be considered at about 9 and 12 months of age, respectively, and treatment should primarily be targeting strongyles. In areas, where tapeworms are present, a tapeworm-directed treatment should be included in the 9-month treatment, or before the end of the first calendar year.**”

Consider **Quest Plus Gel** for 9 month treatment



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Consult your veterinarian for assistance in the diagnosis, treatment, and control of parasitism.

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