

**American Association  
of Equine Practitioners**

**Horse Health Education**

# **INTERNAL PARASITES**

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**Strategies For Effective Parasite Control**

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# HORSE HEALTH EDUCATION: PARASITES

## OVERVIEW

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Internal parasites, or worms, can cause extensive internal damage without the owner even realizing the horse is heavily infected.

Effects of internal parasites range from a dull hair coat and unthriftiness to colic and death.



# HORSE HEALTH EDUCATION: PARASITES

## OVERVIEW

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Internal parasites can:

- Lower the horse's resistance to infection
- Rob the horse of valuable nutrients
- Cause permanent damage to internal organs



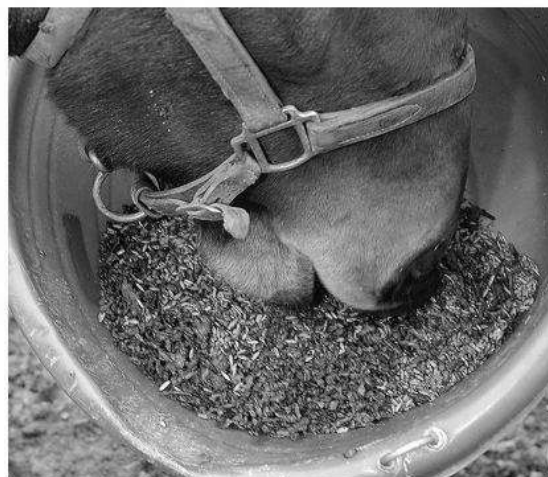
# HORSE HEALTH EDUCATION: PARASITES

## OVERVIEW

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Establishing an effective parasite control program is second only to supplying the horse with clean, plentiful water and high-quality feed.

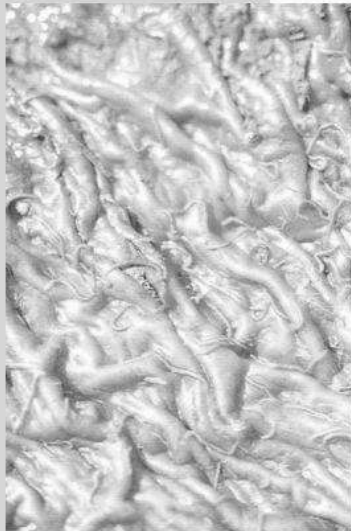




# HORSE HEALTH EDUCATION: PARASITES

## TYPES OF INTERNAL PARASITES

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*Strongyles*

There are more than 150 species of parasites that can affect the horse. The following are the most common and troublesome:

- Large strongyle (bloodworms or redworms)
- Small strongyle
- Ascarids (roundworms)
- Tapeworms



*Ascarids (roundworms)*



# HORSE HEALTH EDUCATION: PARASITES

## TYPES OF INTERNAL PARASITES

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*Bots*

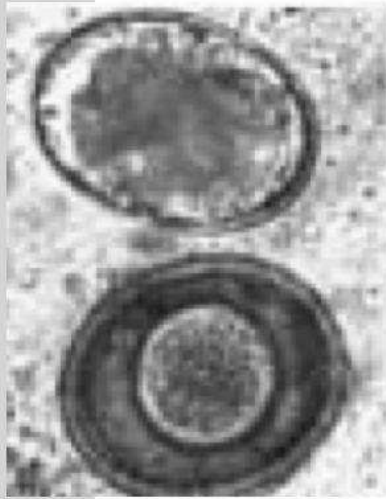
- Lungworms
- Pinworms
- Bots
- Threadworms



# HORSE HEALTH EDUCATION: PARASITES

## LIFE CYCLE OF THE PARASITE

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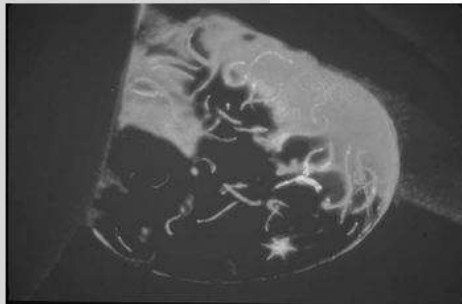
*Strongyle egg*

- Eggs
- Larve (immature worms)
- Adults (mature worms)



# HORSE HEALTH EDUCATION: PARASITES

*Water droplet on blade of grass containing parasites that will be consumed by a grazing horse.*



## LIFE CYCLE OF THE PARASITE

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- Eggs or larvae are deposited on the ground in the manure of an infected horse.
- They then develop in the environment, eventually being swallowed while the horse is grazing.
- Larvae then mature within the horse's digestive tract, with some parasites migrating into other tissues or organs before returning to the intestines to mature into egg-laying adults.

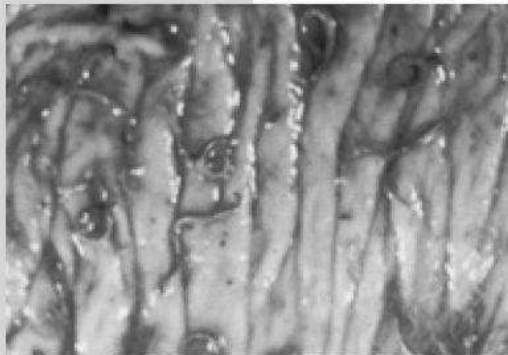




# HORSE HEALTH EDUCATION: PARASITES

## LARGE STRONGYLE

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*Large strongyle*

As larvae, large strongyles penetrate the lining of the bowel and migrate along the blood vessels that supply the intestines.



# HORSE HEALTH EDUCATION: PARASITES

## LARGE STRONGYLE

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Infection of large strongyles can cause:

- Unthriftiness
- Weight loss
- Poor growth in young horses
- Anemia
- Colic



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## CAN THEY BE CONTROLLED?

Large strongyles can be controlled effectively using macrocyclic lactones and related dewormers.



# HORSE HEALTH EDUCATION: PARASITES

## SMALL STRONGYLE

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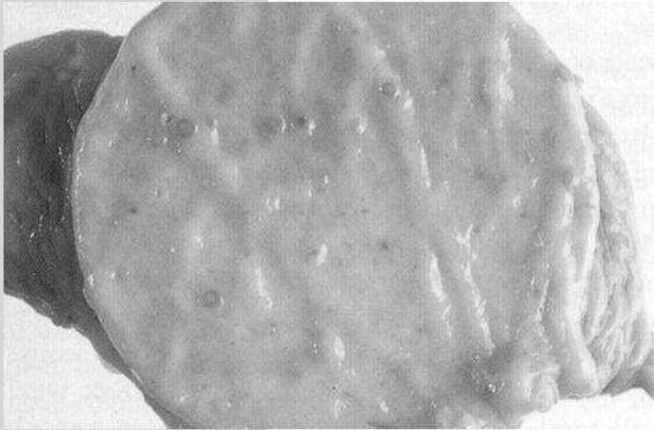
Small strongyle larvae do not migrate through the tissues, but burrow into the lining of the intestines where they remain dormant, or “encysted,” for several months before completing their life cycle.

During this time, most dewormers do not affect larvae.



# HORSE HEALTH EDUCATION: PARASITES

## SMALL STRONGYLE



*Encysted small strongyle*

Infection of small strongyles can cause:

- Severe damage to the lining of the intestines, especially when large numbers of larvae emerge from the dormant stage
- Colic and diarrhea
- Weight loss



# HORSE HEALTH EDUCATION: PARASITES

## SMALL STRONGYLE

- Slow growth in young horses
- Poor coat condition
- Lethargy



# HORSE HEALTH EDUCATION: PARASITES

## CAN THEY BE CONTROLLED?

Early and late larval stages as well as the adult parasites are susceptible to several dewormers.

There are only a few dewormers against the encysted larval stage, which causes the most damage.

Moxidectin and fenbendazole can be used to treat encysted stages of small strongyles.

*Check with your equine veterinarian for product and dosing information.*



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## ASCARIDS (ROUND WORMS)



These parasites are most often a problem in young horses (especially foals, weanlings and yearlings).

Recent research indicates that resistance to many of the dewormers has become a big problem in controlling ascarid infections in foals.







# HORSE HEALTH EDUCATION: PARASITES

## ASCARIDS (ROUND WORMS)

Infection of adult ascarids in large numbers can cause blockage (impaction) of the intestines.



# HORSE HEALTH EDUCATION: PARASITES

## ASCARIDS (ROUND WORMS)

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*Ascarids (roundworms)*

Ascarid infection in young horses can cause:

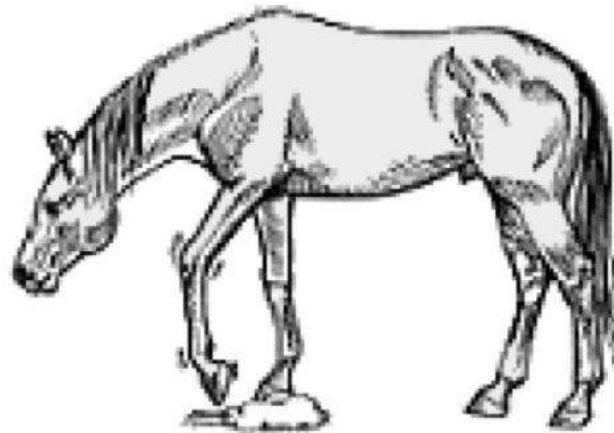
- Coughing
- Poor body condition and growth
- Rough hair coat
- Pot belly and colic



# HORSE HEALTH EDUCATION: PARASITES

## ASCARIDS (ROUND WORMS)

Colic is most often seen the first time older foals (over three months of age) that are heavily infested with ascarids are dewormed.





# HORSE HEALTH EDUCATION: PARASITES

## TAPEWORMS

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Tapeworms are now known to cause colic, ranging from mild cramping to severe symptoms.

The tapeworm life cycle consists of a tiny mite as an intermediate host, which is present within the food source of the horse.

Horses are at risk when they consume this mite in grass, hay or grain.



# HORSE HEALTH EDUCATION: PARASITES

## TAPEWORMS

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*Tapeworms in cecum*

Tapeworm infestations tend to occur where the small intestine enters the cecum, causing potential problems with impaction or intussusception. Horses should be dewormed for tapeworms one to two times a year.

Praziquantel and pyrantel can be used to treat tapeworms. *Check with your equine veterinarian for dosing and product information.*



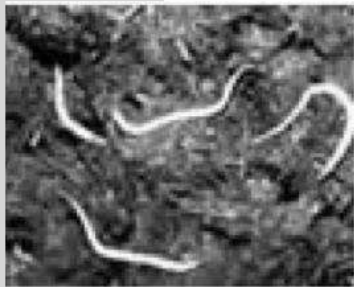
# HORSE HEALTH EDUCATION: PARASITES

## OTHER INTERNAL PARASITES

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*Lungworms* – cause chronic coughing in horses, ponies and mules. Donkeys are the natural host of this parasite.



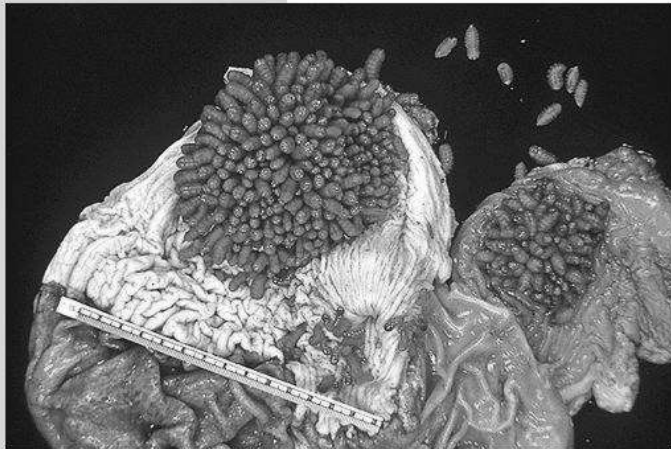
*Pinworms on manure.*

*Pinworms* – lay their eggs on the skin around the horse's anus, creating an irritation that causes the horse to repeatedly rub its tail.  
*Note: Pinworms in horses are not the same pinworms that children can get.*



# HORSE HEALTH EDUCATION: PARASITES

## OTHER INTERNAL PARASITES



*Stomach bots*

*Bots* – can damage the lining of the stomach where they attach. They can also cause ulcerations within the mouth where larvae burrow into the tissue after the eggs have been consumed.

*Threadworms* – are mostly a problem within young foals, in which they can cause diarrhea.



# HORSE HEALTH EDUCATION: PARASITES

## SIGNS OF PARASITISM



Signs of parasitism may include:

- Dull, rough hair coat
- Decreased stamina, lethargy or depression
- Unthriftiness or loss of condition
- Slowed growth in young horses
- Pot belly (especially in young horses)
- Colic and diarrhea

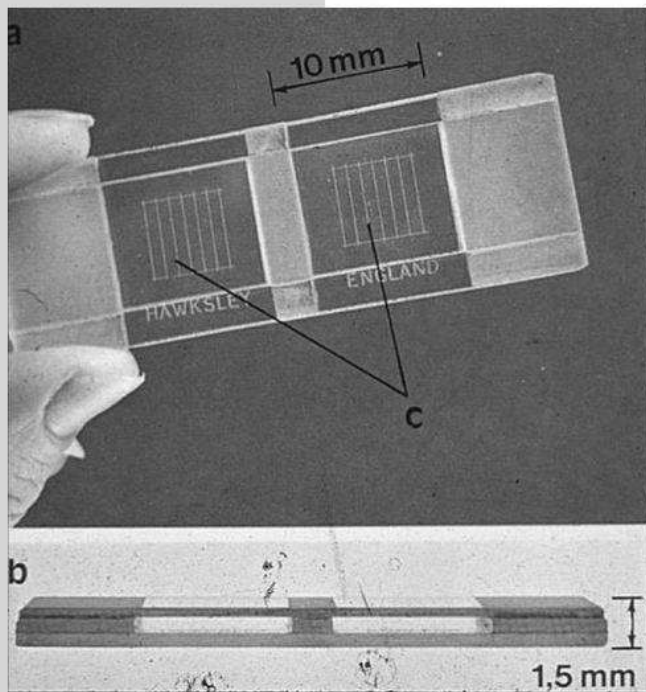




# HORSE HEALTH EDUCATION: PARASITES

## FECAL EGG COUNTS

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Fecal egg counts (FECs) are useful to determine:

1. Which drugs are effective on that farm.
2. Which horses tend to always have low FECs (require less deworming).
3. Which horses tend to always have high FECs (require more deworming).
4. The interval between treatments that is required for the different drugs (this will be different for each drug).



# HORSE HEALTH EDUCATION: PARASITES

## FECAL EGG COUNTS

5. Are FECs getting lower over time? This could indicate that worms are being controlled better than when the program was started.
6. After having positive results for a few years, are FECs starting to rise? This could indicate new resistance is developing.



# HORSE HEALTH EDUCATION: PARASITES

## FECAL EGG COUNTS

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A negative fecal result *does not mean* the horse is free of internal parasites.

Larvae do not produce eggs at all and may be present in large numbers in a horse with a fecal egg count of zero.



# HORSE HEALTH EDUCATION: PARASITES

## DEWORMERS

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It is best to use a broad-spectrum dewormer as the basis of your deworming program. Tapeworms or encysted small strongyle may require a more specific dewormer.



# HORSE HEALTH EDUCATION: PARASITES

## DEWORMERS

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**NO** deworming product is 100 percent effective in ridding the horse of all internal parasites.

However, it is not necessary for a product to kill every worm in order to improve the horse's health, minimize the risk of serious disease, improve feed efficiency and reduce pasture contamination with parasite eggs and larvae.



# HORSE HEALTH EDUCATION: PARASITES

## DESIGNING A DEWORMING PROGRAM

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There are two basic types of deworming programs:

1. Continuous – feeding a daily dewormer year-round or throughout the grazing season.
2. Strategic – deworming only at certain times of the year or when fecal egg counts rise.



# HORSE HEALTH EDUCATION: PARASITES

## DESIGNING A DEWORMING PROGRAM

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The various deworming compounds each have benefits and weaknesses against different parasites as well as a defined period of time when they are effective.

The ideal program for your horse depends on the type, number and ages of the horses on the farm, pasture management and your geographic location.



# HORSE HEALTH EDUCATION: PARASITES



## METHODS OF ADMINISTRATION

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There are three ways to administer dewormers:

1. Oral paste syringe  
*Note: Nasogastric tubing is no longer necessary, although many veterinarians still prefer this method. All products that were once in liquid and caustic form are now available in paste form.*
2. Feed additive (powder, liquid or pellets dressed over the grain)
3. Nasogastric (stomach) tube



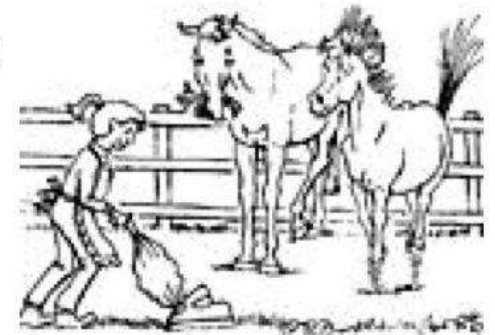


# HORSE HEALTH EDUCATION: PARASITES

## A COMPLETE MANAGEMENT PROGRAM

As parasites are primarily transferred via manure, good management is essential.

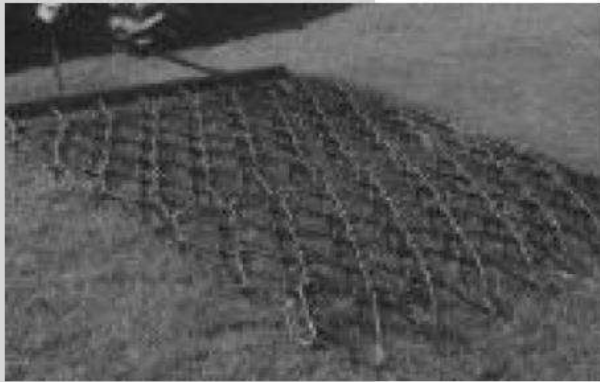
- Keep the number of horses per acre to a minimum to prevent overgrazing and pasture contamination with parasite eggs and larvae.
- Dispose of manure regularly (at least twice a week for both dirt or sand yards).





# HORSE HEALTH EDUCATION: PARASITES

## A COMPLETE MANAGEMENT PROGRAM

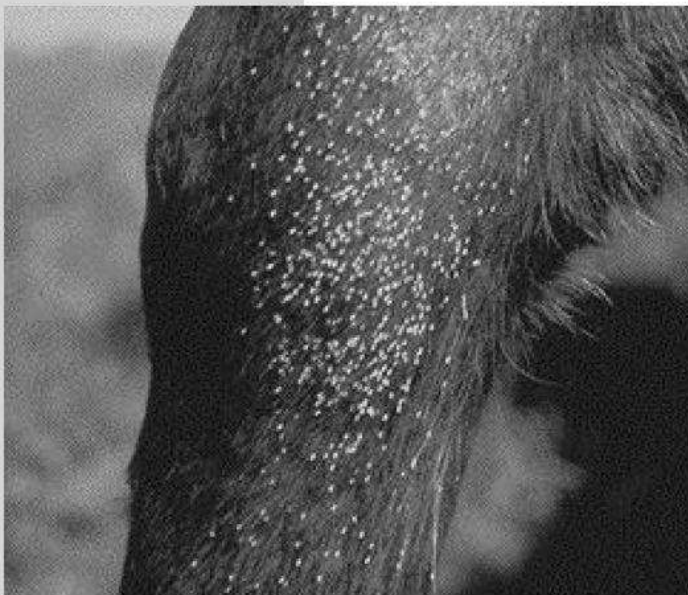


- Do not spread manure on fields that are to be grazed by horses; compost it in a pile away from the pasture.
- Mow and harrow pastures periodically.
- Larvae can survive freezing temperatures but cannot tolerate extreme heat and dryness.
- Keep foals and weanlings away from yearlings to reduce exposure to ascarids and other parasites.



# HORSE HEALTH EDUCATION: PARASITES

## A COMPLETE MANAGEMENT PROGRAM



*Visible bot eggs on the horse's legs.*

- Use a feeder for hay and grain rather than feeding on the ground.
- Remove bot eggs regularly from the horse's hair coat.



# HORSE HEALTH EDUCATION: PARASITES

## A COMPLETE MANAGEMENT PROGRAM



It is important to have your veterinarian perform fecal egg counts to determine the amount of eggs your horse is shedding.

Be sure to set up an effective deworming program with your veterinarian and monitor its effectiveness.



# HORSE HEALTH EDUCATION: PARASITES

Photos courtesy of

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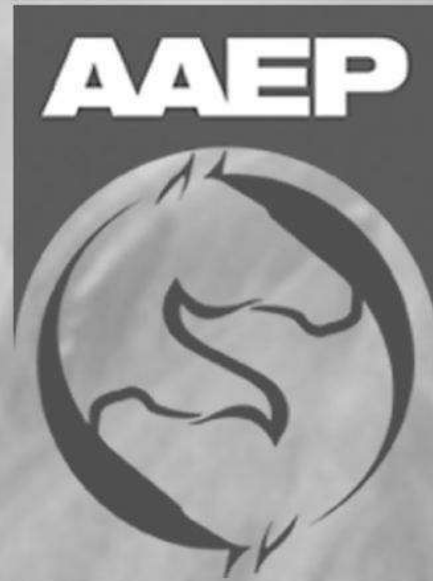
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