



## Previous VET NOTES

- November 2008 - Periodontal Disease
- October 2008 - Interstitial pneumonia - a different kind of lung disease
- September 2008 - The yearling sales
- August 2008 - Eastern Equine Encephalitis—have you vaccinated
- July 2008 - Castration complications
- June 2008 - The use of acupuncture as a diagnostic aid in the equine lameness exam
- April 2008 - Current parasite control recommendations
- March 2008 - The use of Oxytocin in the post-partum mare
- January 2008 - Preparing your mares for the breeding season
- January 2008 - Proximal hind limb suspensory desmitis: (PSD): Part II: Treatment
- December 2007 - Pleuropneumonia - when shipping fever turns into a nightmare
- November 2007 - Proximal hind limb suspensory desmitis (PSD): Part I: Diagnosis
- August 2007 - Intramuscular injections
- June 2007 - A hard pill to swallow
- April 2007 - The advan-

## Resistance to anti-parastic drugs

Resistance to anti-parasitic drugs (anthelmintics) is a growing threat to parasite control and equine health. Since the advent of drugs like ivermectin and panacur internal parasites have been a minor consequence to equine health. Recently, however, parasite resistance to the drugs that have been effective for many years has become apparent and of increasing concern to both horse owners and veterinarians. Resistance, as it relates to parasites, is a change in the genetic makeup or structure of the parasite such that the ability to survive drug therapies is retained and passed on to the parasitic offspring. This occurs as a result of continuous exposure to anthelmintics (rotational deworming) and the result is the emergence of resistant parasites and subsequent clinical disease.

Prior to the development of anthelmintics horses have coexisted with parasites. Horses were able to do this through natural immunity. This occurs when horses ingest the infective parasites (worm larvae) and the body responds with the production of antibodies and certain anti-parasitic cells that will destroy the offending pathogen. Unfortunately, there are certain parasites for which horses develop only partial natural immunity against, thus necessitating the use of anthelmintics. The goal, however, should not be to completely eliminate all parasites to which horses are exposed. Instead, the idea is to maintain a low “worm-burden” (or a small number of worms) that a horse’s own immune system can keep under control and thus prevent clinical disease. Not every horse will be able to do this and these will be the individual animals that will be more susceptible to being sick or clinically affected by their exposure to parasites.

Before a treatment protocol can be implemented testing must be performed to identify the horses’ worm burden. The McMaster method is a testing protocol that has recently received attention. Briefly, this protocol identifies a horse’s worm infestation through fecal egg counts. Horses with egg counts less than or equal to 200 eggs per gram of feces are classified as low pasture contaminators. Those with greater than 500 eggs per gram are considered high pasture contaminators. By classifying the horses as low or high contaminators a specific treatment / testing protocol can be implemented which will minimize the risk of resistance by decreasing the use of anthelmintics and retain natural immunity to prevent clinical disease.

*(Continued on page 2)*

**Matt R. Nimmo, DVM.**

An example of a deworming protocol using the McMaster method is as follows:

October: All horses should be tested (fecal egg count) and treated – the treatment of choice would be moxidectin or ivermectin.

December: High pasture contaminators need to be tested and treated only if ivermectin was used in October. If moxidectin was used in October then treatment can be delayed until January. Low pasture contaminators do not need to be tested or treated.

January: All horses need to be tested and treated with either ivermectin + praziquantel or moxidectin + praziquantel.

April: High pasture contaminators need to be treated with oxibendazole and or pyrantel or a panacur power pack.

May – September: No treatments are necessary due to the inability of infective larvae to survive during our Florida summers.

The following table is a comparison between selective deworming and rotational deworming protocols on a theoretical farm of 10 horses.

Class of Pasture Contaminators	Number of Horses from a 10 Horse Herd	Number of Anthelmintics Administered Anually	Total	Grand Total Of Anthelmintics Needed in a Given Year
Low Pasture Contaminators	6	2	12	28
High Pasture Contaminators	4	4	16	
Rotational Deworming Protocol	10	6	60	60

Table redrawn from: Reinemeyer Craig R, DVM PhD  
 Equine Parasite Control: A Mandate For Change  
 East Tennessee Clinical Research, Inc  
 Rockwood, Tennessee

The above table shows that the McMaster method in combination with a selective deworming protocol can decrease the amount of anthelmintic medication needed to effectively treat a given farm. This will decrease parasite resistance and allow the horse to develop natural immunity.

More information can be obtained by contacting your farm veterinarian or the Peterson and Smith Equine Hospital.

## Chiropractic services

**Dr. Andrea Cogswell, Chiropractor, will be at Peterson & Smith on Monday and Tuesday, March 9 & 10th, 2009. If you would like an appointment please call the main office: (352) 237-6151**

tages of high fat/low carb diets

- March 2007 - Bandaging
- February 2007 - Single screw compression V. Screws and wire (Transphyseal bridging)
- January 2007 - The dental health of young performance horses
- December 2006 - Neonatal Isoerythrolysis in foals
- November 2006 - Upper respiratory infections of young Thoroughbreds in training
- October 2006 - Eastern equine encephalitis—time to vaccinate!!
- September 2006 - Gastroscopy
- August 2006 - Rhodococcal pneumonia
- July 2006 - Managing limb deformities in foal with dynasplints

We're on the web:  
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