



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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Research Update: Deworming Young Horses

Parasites are capable of causing ill-thrift, clinical disease and death. Although young horses are the most susceptible to parasitic disease and are the most intensively treated group, deworming regimens are rarely evaluated within this age group. A study conducted in Kentucky evaluated the impact of deworming regimen on fecal egg counts (FECs), growth rates, and body-condition scores in young Thoroughbreds.

Forty-eight Thoroughbred foals from three central Kentucky farms were randomly assigned to two treatment groups: an interval dose group receiving bi-monthly rotations of pyrantel pamoate and ivermectin and a daily deworming group receiving daily rations of pyrantel tartrate feed additive throughout the study, oxbendazole at two months of age, and moxidectin treatments at 9.5 and 16.5 months of age.

Ascarid and strongyle FECs were not

different between groups but were influenced by horse age with strongyle counts continually increasing and ascarid counts peaking at 4.5 months of age. Reduced strongyle efficacies of ivermectin and moxidectin were observed on two farms with consistently low pyrantel pamoate efficacies on all three farms. Ivermectin also exhibited reduced ascarid efficacy. Average daily gain did not differ between groups and was only influenced by age. Body condition scores also did not differ between groups, remaining in the optimal range for the duration of the study.

Management practices resulting in optimal growth rates and body condition scores compensated for the negative impacts of parasitism even in cases of reduced drug efficacy. For more information on this research, click [here](#).

Summarized by: Krishona Martinson, PhD, University of Minnesota

Ask the Expert: Buying Horse Hay

Question: I'm purchasing my winter hay supply, what questions should I ask when buying horse hay?

Response: Here are some questions owners should ask when purchasing hay:

1. What is the average weight of the bales? This is very important if buying hay by the bale.
2. How mature is the hay? Maturity is the key to forage quality.
3. What species are present in the hay? Legumes and grasses have different nutrient values.
4. Where was the hay harvested? Rule out ditch hay and potential for blister beetles (common in Western U.S.).
5. Was the hay rained on? Rained on hay can be a good choice for horses with metabolic problems; it tends to be lower in nonstructural

carbohydrates.

6. Was the hay stored inside or under cover after baling?
7. What are the payment options? Is there a price break for volume or cash?
8. Is delivery available? Cost of delivery?
9. Is assistance available with onsite stacking of hay? Cost of this service?
10. Moisture content of the hay when baled? Moisture content at the time of baling influences mold formation. Hay should be baled at $\leq 15\%$ moisture to limit the chance of mold.
11. Was a preservative used during baling? Preservatives are commonly used to limit mold formation; they are safe for use in horse and livestock hay.

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Upcoming Events

UMN Equine Center 10th Anniversary Horse Owner Education Program

October 21, 2017
10:00 am to 3:00 pm
UMN Equine Center
St. Paul, MN

\$25 per person

Registration required by October 18

Online registration available [here](#).

UMN Equine Center 10th Anniversary Youth Horse Owner Extravaganza

November 4, 2017
10:00 am to 3:00 pm
UMN Equine Center
St. Paul, MN

\$25 per person

Registration required by November 1

Online registration available [here](#).

Visit our [Facebook page](#) for "Research Update Monday", "Tip of the Week Wednesday", "Friday Funny" and special events.

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Geriatric Horse Care: Pars Pituitary Intermedia Dysfunction (PPID)

This is the final article dedicated to the topic of veterinary care and management of the geriatric horse. This article is dedicated to the diagnosis and management of PPID.

Previously termed “Equine Cushing’s disease,” PPID is a disease of the pituitary gland that may affect more than 20% of geriatric horses based on recent epidemiological survey. The pituitary gland is a small organ on the underside of the brain that plays an important role in endocrine (hormonal) regulation of the body. One section of the pituitary, the pars intermedia, produces several substances that play key roles in the regulation of the body’s stress hormones through interaction with the adrenal gland. One of the substances produced is adrenocorticotrophin (ACTH), a hormone that signals the adrenal cortex to produce glucocorticoid hormones, such as cortisol.

Evolutionarily, a horse’s ACTH should increase in the fall in order to boost the body’s stress response. This hormonal signaling helps the horse prepare for the upcoming winter by promoting energy storage (fat). This allows the horse to survive with decreased availability of feed throughout the winter. The increase in ACTH also promotes the development of a winter hair coat.

In horses with PPID, the pars intermedia develops one or more adenomas, or non-cancerous multiplication of cells (hyperplasia). It is unknown what instigates this growth, but the resulting increase in size causes dysregulation of the normal hormone production. Normally, the hormone dopamine helps to regulate the amount of ACTH produced by the pars intermedia. However, this regulation is decreased with PPID,

which typically results in an overproduction of ACTH. The most detrimental outcomes of the disease are a decreased immune system (immunosuppression) and an exaggerated insulin resistance that may result in laminitis.

Who is affected by PPID? As a rule, PPID is a disease that only affects geriatric horses, with only rare cases reported in horses ≤ 10 years of age. The disease is progressive due to the continued growth of the pituitary adenoma, so clinical signs may go unnoticed early in the course of disease.

How do I know if my horse has PPID? One of the most reliable signs of PPID is an increase in or delayed shedding of a thick, winter hair coat. Horses with PPID may also show signs of increased urination (polyuria) and thirst (polydipsia). Another sign may be intolerance of heat, which may manifest as an increase in sweating. Horses with PPID tend to have a loss of muscle mass and may develop a “pot-belly.” Horses with PPID are not typically overweight, though they may have fat deposits over their eyes, tail head, and neck. Unfortunately, laminitis may be the first sign noted in some horses with PPID. Since PPID also causes immunosuppression, horses may experience recurrent bacterial infections such as dermatitis (“rain rot”), hoof abscesses and tooth root infections.

If you or your veterinarian suspects your horse has PPID, it can be confirmed with additional hormonal testing. The current first test of choice is the endogenous ACTH test, a measurement of ACTH in the blood compared to a normal range. There are different normal ranges if testing in the fall. However, any current illness, such as a laminitis episode, can affect the

results of this test. If your veterinarian strongly suspects PPID but the test comes back as normal, they may suggest additional testing such as a TRH-Stimulation Test.

My horse was diagnosed with PPID, now what? Fortunately, there is an effective treatment for PPID that allows many horses with PPID to live relatively normal lives. Pergolide is a drug originally developed for humans with Parkinson’s Disease that works by helping dopamine control the amount of ACTH released by the pars intermedia. The only FDA-approved product for horses is Prascend®. Horses may experience mild side effects such as decreased appetite when first starting the medication, so your veterinarian may gradually start the medication. Because PPID is an incurable, progressive disease, your horse will need periodic reassessment and measurement of ACTH to ensure the disease is well regulated. Reappearance of clinical signs (e.g. thick hair coat) is an indication that the disease is not well-regulated and needs to be reassessed. Horses with PPID must stay on daily medication for life.

Another important aspect of treatment is dietary management for insulin resistance (IR). Your veterinarian and/or nutritionist should help you develop a dietary plan to decrease the amount of non-structural carbohydrates in your horse’s diet.

Are PPID and Equine Metabolic Syndrome (EMS) the same thing? Some horses may have both diseases, but PPID and EMS are not the same condition. However, both diseases can cause IR and laminitis.

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