



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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UNIVERSITY OF MINNESOTA

EXTENSION

Equine Center Opening By: S. Valberg, DVM, PhD, U of M

October 15th 2007, beginning at 2:00 pm, the new Equine Center at the University of Minnesota will hold its long awaited grand opening on the St Paul Campus (1530 Fairview Avenue). Due to their generous lead gift, the center will be christened the Louise and Doug Leatherdale Equine Center. This state of the art 60,000 square foot facility will become a home for the equine community in Minnesota.

The Equine Center has a 100 by 200 foot indoor arena, and a similar sized outdoor arena. The Nutrena Conference Hall overlooks the arena and has room for approximately 80 people. The arenas and conference hall will be available for use by equine groups (call 612-624-5877 for more information).

The new Equine Center also contains the Piper Clinic, one of the most advanced equine hospitals in the country. The Piper Clinic will specialize in lameness and performance problems, as well as reproduction.

To help diagnose these problems, a high speed treadmill, rehabilitation therapy room, and Aquapacer treadmill are available, along with a state of the art ultrasound, bone scan and MRI unit.

Facilities are also available for researchers to continue their groundbreaking work in genetics, muscle disease, nutrition, skin diseases, infertility, and arthritis.

You truly have to see the new facility to comprehend the impact it will have on the horse community in MN.

Horse Hoof Care

By: Mary Boyce, DVM, U of M

Caring for your horse's feet and hooves will safeguard their long-term soundness. Following are some tips to keep your horse's feet healthy. Remember, no hooves, no horse.

Shoeing or Trimming Interval. In the summer, horses should be trimmed or shod every six to eight weeks. Performance horses may need more frequent trimming. Hooves generally grow more slowly in the winter. Because of the slower growth horses should be trimmed every six to twelve weeks. The trimming or shoeing interval depends on each horse, and the amount of hoof they grow.

Hoof Balance. A balanced hoof allows the horse to move better, and puts less stress and strain on bones, tendons, and ligaments. The ideal foot has the following characteristics: a straight hoof-pastern angle, easy break over, adequate heel support, and medial-lateral balance. *Straight Hoof-Pastern Angle.* There is a straight line from the pastern down through the front of the hoof wall. This allows the bones to be aligned properly from pastern to coffin bone. *Easy Break*

Over. The toe is not too long and is rounded or rolled. This allows easier movement with each step. *Adequate Heel Support.* The shoe extends back to the end of the hoof wall and supports the whole back of the leg. *Medial-Lateral Balance.* The foot lands evenly from side to side as the horse walks.

Hoof Wall Care. Weather conditions can cause damage to the hoof. During dry weather, horses are prone to having dry, brittle feet that may leads to hoof cracks. Also, constant change from wet to dry can cause hoof cracks. Prolonged trimming intervals can cause long toes, and the hoof wall often develops cracks. Unfortunately, some horses are born with poor hoof quality and are more susceptible to problems. *Treatment Tips.* Apply hoof moisturizers to the hoof wall and sole during dry weather or if the hoof is brittle or developing cracks, proper nutrition and commercially available hoof supplements can help improve hoof quality, and most importantly, trim your horse on a regular basis. Common hoof problems will be discussed in the November Newsletter.

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Up Coming Events

Equine Center Grand Opening

October 15th, 2007

2:00 pm

U of M St. Paul Campus

2007 MN EquiFest

U of M Faculty will be giving several presentations

October 27 and 28

Minneapolis Convention Center
Contact

nancyduggan@rtduggan.com for more information.

Horse Short Courses Elk River, MN

October 30: 6 to 8 pm

Poisonous Plants & Pastures

November 5: 6 to 8 pm

Barn Safety & Equine 1st Aid

November 13: 6 to 8 pm

Hay 101 and Tack Fitting

Contact 800-433-5236 with questions or to register.

2008 Regional Horse Owner Programs

St. Paul, MN

February 2

North Mankato, MN

February 9

Morris, MN

March 1

St. Paul, MN

March 15

Bemidji, MN

TBD



Ask the Expert

By: Hathaway, PhD & Valberg, DVM, U of M

Q: I have a question about brewers yeast for horses. Can it help the digestive system, hoof health, and improve fiber digestion?

A: Yeast appears to have an important role in the microbial digestion process, but the precise mode of action has not been identified. Yeast also appears to improve feed palatability, which helps horses maintain a more consistent feed intake. Therefore, yeast may help overcome the negative effects of less palatable feeds.

Feeding yeast to horses falls into 2 categories: dead and alive. Dead: brewer's yeast is one of the by-products derived from brewing. In the dry form, the brewer's yeast contains a relatively high concentration of high quality protein, and is also a good source of fat, water-soluble B vitamins (exception is B₁₂) and the mineral phosphorus. It is sometime fed to horses in poor condition at the rate of 30 - 50 g/day,

but is usually too expensive to feed regularly.

Live: yeast cultures of live yeast organisms are also used as a probiotics - live organisms that are fed daily and potentially have a positive role in the microorganism populations in the hind-gut. The most common strains of yeast fed as probiotics are *Saccharomyces cerevisiae*, *Aspergillus oryzae* and *Torulopsis*.

Based primarily on work with ruminants (cattle), live yeast cultures have been shown to synthesize a wide variety of enzymes that are able to break down fiber and proteins. Researchers have tested over 50 strains of *S. cerevisiae* and found only seven strains with the ability to stimulate growth of fiber-digesting bacteria. Consequently, these yeast cultures can aide in the digestion of forages, and to a limited extent, proteins and carbohydrates in

grains (limited because most of the digestion of cereal grains occurs in the foregut of the horse).

The effectiveness of probiotics in horses of various ages is somewhat questionable. Investigations have shown that the effect of time since manufacturing, temperature variations, and acidity in foregut can all have an impact on viability of probiotics microorganism. Many of the probiotics available have been isolated and cultured from species different from the horse, and therefore many not be compatible with the equine gastrointestinal tract environment.

There have been a few studies which indicate that feeding live yeast cultures to young growing horses may have some benefit, with no advantage for the mature, healthy horse.

Horses with some conditions do seem to benefit, but without further studies, these products fall into the "can't hurt, may help" category.

Splints and Bucked Shins

By: Annette McCoy, DVM, U of M

The second and fourth metacarpal and metatarsal bones are located on either side of the cannon bones and are commonly referred to as **splint bones**.

If these bones become inflamed or fractured, either through chronic stress (i.e. poor conformation) or a traumatic injury, the horse is said to have "popped a splint" (see photo). The area over the affected splint bone is initially painful when touched, and the horse may or may not become lame. A permanent hard swelling may remain in the location of the injury, but is usually not painful after the initial inflammation has subsided.

Treatment for this condition generally consists of rest and anti-inflammatory drugs. Horses with splints generally have a good prognosis to return to work, however, occasionally they can develop a callus around a splint bone fracture that

damages the suspensory ligament, which runs along the back of the cannon bone. If this occurs, surgery may be needed to remove part of the affected splint bone, and there is a greater risk of long-term lameness.

Bucked shins is the common name for stress microfractures of the dorsal cortex (front aspect) of the front cannon bones. This condition is most commonly seen in 2-year-old racehorses just entering race training. In fact, the incidence of this disease among this population is estimated at 70%.

Signs of this condition include pain when touching the front of the cannon bone, swelling (first soft, then hard), and sometimes lameness. Bucked shins occur when the stresses put on the legs by training at high speeds exceed the bone's ability to adapt to that stress.

Treatment for this condition

generally includes rest and anti-inflammatory drugs. Other treatments, such as blistering and pinfiring are common, but have not been shown to be more effective than rest. Once the pain and lameness have resolved, training can resume at a slower pace. A hard bony swelling may remain on the front of the affected bone(s). This condition does not seem to affect future race performance.

Lately, shockwave treatment has been advocated to provide pain relief and a l l o w c o n t i n u e d t r a i n i n g during bone remodeling.

