



# U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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## U of M Topics and Speakers at the MN Horse Expo

Friday, April 27 11:00 am	Hay Soaking: All Washed Up or Good Management?	Dr. Krishona Martinson	DNR Building
Friday, April 27 Noon	Lyme Disease in Horses	Dr. Christie Ward	DNR Building
Friday, April 27 1:00 pm	Body Condition Scoring and Weight Estimation	Drs. K. Martinson and J. Earing	Horse Barn Round Pen
Saturday, April 28 11:00 am	Carbohydrates: The Good, The Bad, and the Ugly	Dr. Marcia Hathaway	DNR Building
Saturday, April 28 1:00 pm	Body Condition Scoring and Weight Estimation	Drs. J. Earing and M. Hathaway	Horse Barn Round Pen
Saturday, April 28 3:00 pm	Hay Soaking: All Washed Up or Good Management?	Dr. Krishona Martinson	DNR Building
Sunday, April 29 1:00 pm	Carbohydrates: The Good, The Bad, and the Ugly	Dr. Marcia Hathaway	DNR Building

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## Upcoming Events

**MN Equine Research Day**  
April 6, 2012  
4:00 to 6:00pm  
Leatherdale Equine Center  
St. Paul, MN  
Registration is free, required, and available at:

[https://secure.ahc.umn.edu/vetmed/vce/ustar/index.cfm?event\\_id=5681](https://secure.ahc.umn.edu/vetmed/vce/ustar/index.cfm?event_id=5681)

**MN Horse Expo**  
April 27-29, 2012  
State Fairgrounds  
St. Paul, MN

**Free Equine Castration Clinic**  
Saturday, May 19, 2012  
Isanti County Fairgrounds  
Must have referral to participate.  
Contact Krishona at 612-625-6776 to register

**Equine Pasture Management Program**  
Customized pasture and grazing management plans.  
Contact Jennifer at 612-624-7455 or [jeearring@umn.edu](mailto:jeearring@umn.edu)

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## Ask the Expert: Off-Label Herbicide Application

**Q:** I made an application of Weed-B-Gone herbicide to my horse pasture. After application, I noticed it was labeled only for use on lawns (turf) and not horse pastures. When can my horse graze again?

**A:** It is extremely important to read the herbicide label prior to application; the label is the law. Herbicides are labeled for application to a specific site(s). Unfortunately, since Weed-B-Gone is not labeled for use in a pasture, there are two issues to consider, legality and safety.

You have made an "off-label" application, this is illegal. If the off-label application is reported to the Minnesota Department of Agriculture (MDA) (the agency charged with enforcing pesticide laws), an investigation would be opened, and there is the possibility of fines and penalties for the applicator. One benefit of involving the MDA is they take soil and plant samples to help determine when it is safe to graze. Because Weed-B-Gone is not labeled for pastures, the label does not include information on grazing restrictions.

The second issue is horse safety. If you choose not to report the off-label application, it is up to you to determine when it is safe to graze. To help determine this, look at the active and inert ingredients in the herbicide and see if they are found in any herbicides labeled for pasture use. Herbicides labeled for pasture use have information on grazing restrictions; this can be used to determine when to graze again, however, this will not ensure your pasture is safe to graze. You can also submit soil and plant samples to a laboratory for pesticide residue analysis. The herbicide manufacturer might also have information related to off-label applications; a phone number is usually listed on the label.

Before a herbicide is purchased, the label should be thoroughly read and the applicator should ensure the desired application site is listed. Most herbicide labels are available online.

*Author: Krishona Martinson, PhD; Univ. of Minn.*



## Horses on Pasture: Can Diseased Horses Graze?

In recent years, horse owners have been overwhelmed with warnings about carbohydrates, fructans, metabolic syndrome, laminitis, and a flood of other statistics related to grazing horses.

Horses have enjoyed unrestricted grazing for centuries, however, with over-grazing, newer varieties of pasture grasses, recently diagnosed metabolic complaints, and problems with equine obesity, grazing has come under closer scrutiny. While most horses can still graze day after day without developing problems, some classes of horses should have limited pasture access to avoid the serious metabolic upsets triggered by consumption of the carbohydrates (sugars) in fresh grass. These classes include horses with a history or current diagnosis of laminitis,

obesity, and/or equine metabolic syndrome.

Is there a “best time” to allow these susceptible horses to graze? Photosynthesis influences sugar levels in grass. During daylight hours, grasses manufacture and store sugars as they absorb water, sunlight, and carbon dioxide. These stored sugars are used to fuel plant growth during the night. Therefore, sugar levels are at their highest in late afternoon and at their lowest in the very early morning hours.

Horses that are sensitive to carbohydrate levels in pasture grass can graze with the least amount of risk from the predawn hours until around 10:00 a.m. This is a time period when stored sugars have been used and have not yet been replenished by photosynthesis.

Sensitive horses should not be allowed to graze when sugars are being built up and stored, usually during the sunlight hours and through the early hours of the night.

Time (season) of year, rainfall, temperature, frequency of mowing, plant types, and grazing pressure also influence the sugar levels in pasture plants.

Most horses can enjoy unrestricted access to pasture. For extremely sensitive horses, there is no completely safe time to graze. These horses are best managed on lower-carbohydrate hay (less than 12% non-structural carbohydrates) with access to a drylot for exercise and social contact.

*Edited then reprinted with permission from Kentucky Equine Research (KER)*

## Acclimating Your Horse to Spring Pasture

It is tempting to turn horses out into spring pastures at the first sight of green grass. However, spring grazing should be introduced slowly and delayed until grasses reach 6 to 8” in height to optimize both the health of the horse and pasture. When horse pastures reach 6 to 8”, begin grazing 15 minutes the first day, increasing the grazing time each day by 15 minutes until 4 to 5 hours

of consecutive grazing is reached. After that, unrestricted or continuous grazing can occur.

Even though hay and pasture are both forms of forages, there are significant differences between the two. A gradual change from one feedstuff to another provides enough time for the microbial populations to adjust, reducing the chance of colic and laminitis.

By: K. Martinson, PhD, Univ. of Minn.

If pasture grass leaves are grazed too early or too often, plants can lose vigor, competitiveness, and root structure due to the lack of photosynthetic ability. Grazing should cease when forages have been grazed down to 3 to 4”. Horses should then be moved to another paddock or a dry lot and the pasture should be allowed to regrow to 6-8”. Grazing can then resume.

## Research Update - AM vs. PM Grazing

Summarized By: Beth Allen, Univ. of Minn.

Forage composition fluctuates depending on the time of day. In theory, dry matter intake (DMI) should increase throughout the day as nonstructural carbohydrates (NSC) increase. Researchers at North Carolina State University set out to test this theory.

The experiment measured equine forage intake during morning (AM) and afternoon (PM) grazing periods.

Six light horse breed geldings were used and randomly allocated into one of two groups: an AM or a PM grazing treatment for 14 days. After the first 14 days, horses were switched to the opposite treatment for an additional 14 days. Morning treatment groups were grazed from 7:00 am to 1:00 pm and PM groups were fed from 12:30 pm to 8:30 pm. Horses were grazed on tall fescue

pastures.

Horses had higher intake rates in the PM grazing sessions compared to the AM sessions. These results confirm previous beliefs that horses increase their DMI throughout the day, likely in response to increases in NSC. However, caution should be taken when grazing horses, especially horses prone to laminitis, on grasses high in NSC in the afternoon hours.