



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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Plan to Attend Fall Horse Owner Programs

The University of Minnesota Horse Team is offering four fall regional horse owner education programs throughout Minnesota in 2008. Each program offers researched based information and knowledgeable speakers identified specifically for that region by a committee of local horse experts and enthusiasts.

Speakers for these programs include University of Minnesota faculty and staff and local veterinarians. The dates, locations and topics include:

- Saturday, October 4th in Morris at the UM-Morris Science Building. The program begins at 1:00 pm. Topics include: Bits 101, First Aid and Emergency Management, Equine Behavior, Dentistry, Unwanted Horses Roundtable, and Lameness in the Performance Horse.
- Saturday, October 18th in Bemidji at the Northwest Technical College. The program begins at 1:00 pm. Topics include: Nutrition, Dermatology and Allergies, First Aid and Emergency Management, Unwanted Horses Roundtable, Elderly Horse Care, and Optimizing Your Hay Supply.
- Saturday, October 25th in Two Harbors

at Minnehaha Elementary School. The program begins at 1:00 pm. Topics include: Optimizing your Hay Supply, Lameness in the Performance Horse, Ask the Vet Roundtable, Nutrition, Unwanted Horses Roundtable, and First Aid and Wound Management.

- Saturday, November 22nd in Cambridge at Cambridge-Isanti High School. The program begins at 9:30 am. Topics include: Evaluating Difficult Lameness, Unwanted Horse Roundtable, Rehabilitation and Complementary Therapies, Optimizing Your Hay Supply, and Elderly Horse Care.

Participants can select three different topics at each location (two topics will presented simultaneously). The cost to attend each program is \$15/person and includes a printed proceeding. **Registration is required five days before each program** and doors open thirty minutes before the program begins. The program sponsor is ADM Alliance Nutrition. Secure online registration, program agendas, and additional information is available at www.extension.umn.edu/horse.

Ask the Expert

Q: Is there any danger in horses grazing frosted pastures in the fall? If so, how long would you wait?

A: Some deciduous leaves can be deadly after a frost or after they have wilted due to broken branches, fall leaf shed or storm damage. Leaves of greatest concern for horses are wilted maple and prunus species, including chokecherry, ornamental almond, and cherry trees. Horse owners should identify all such seasonally toxic trees on the property, and keep horses from their fallen or frost damaged leaves for at least 30 days. Even though these leaves are not commonly

By: Krishona Martinson PhD, U of M

eaten, horses can accidentally ingest them, especially if hungry or bored. Cyanide toxicity can also be an issue after frost.

There are no reports of toxicity of horses grazing frost damaged grass, alfalfa, or clover. However, frost damaged pasture forages can have higher concentrations of sugars, leading to an increase in potential for founder and colic. To reduce the chance of adverse health effects, it is recommend that horse owners wait up to a week before turning horses back onto a pasture after a killing frost.

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Upcoming Events FALL REGIONAL HORSE OWNER PROGRAMS

Online registration is open
www.extension.umn.edu/horse

Saturday, October 4th
UW-Morris Science Building
Morris, MN
1:00 pm to 4:00 pm

Saturday, October 18th
Northwest Technical College
Bemidji, MN
1:00 pm to 4:00 pm

Saturday, October 25th
Minnehaha Elementary School
Two Harbors, MN
1:00 pm to 4:00 pm

Saturday, November 22nd
Cambridge-Isanti High School
Cambridge, MN
9:30 am to 12:30 pm

Lakes Regional Horse Fest
September 20th and 21st
Morrison Co. Fairgrounds
Little Falls, MN
www.lakesregionhorsefest.com

MN Equifest
October 11th and 12th
St. Paul Fair Grounds
St. Paul, MN
Hear U of M Speakers
www.minnesotaequifest.com



Nutritional Value of Forage After a Frost

By: Paul Peterson, PhD, U of M

In fall, as plants mature, they lose overall nutritional value, but at a slower rate than during the summer due to cooler temperatures and shorter days.

During the fall season, grasses gradually accumulate non-structural carbohydrates (NCS) aboveground, especially in the basal part (lower stems/leaf bases) of the plant. NSC accumulation is a gradual process and is usually higher in more mature forage.

Quality of both legumes (i.e. alfalfa) and grasses begin to decline after a hard "killing" frost. Legume

quality deteriorates more rapidly than grass quality because legumes will lose their leaves and grasses do not (leaves contribute significantly to the overall quality of both grasses and legumes).

Grasses often become more palatable (preferred) because of the elevated NSC values. As discussed in the "Ask the Expert" article, legumes (i.e. alfalfa) and grasses tend to have elevated NSC values (an indicator of starch and sugar levels) after a frost, and it is recommend that horse owners wait up to a week before resuming

grazing after a killing frost in an effort to avoid some health problems (NSC values will eventually decrease over time). Also, forage protein, equine total digestible nutrients (TDN), and equine digestible energy decrease gradually after a hard frost. This decline is due to a combination of the forage plants leaching nutrients and continued plant respiration.

Bottom line: grass species tend to retain their nutritional value longer after a killing frost (compared to legumes), and horse owner should wait up to a week before resuming grazing after a killing frost.

By: Krishona Martinson PhD, U of M

Where to Get Equine Hay Tested

With the high price of hay, it is now more important than ever to have your hay tested, especially if you have questions regarding the quality of hay, or you have a horse with particular needs.

Hay can be analyzed or tested to determine the following: moisture, protein, minerals, energy, mold content, and more. Stearns Dairy Lab (www.stearnsdhiab.com/), and

Dairyland Labs (www.dairylandlabs.com/), both based in MN, can test hay for these qualities. Be sure to request an equine analysis and remember that the analysis is only as good as the sample you submit.

Contact the lab you choose for their recommendations on sample collection. The tests run around \$20/sample (for a basic analysis) and takes a few days to run, once

the samples are received.

Equi-analytical, based in New York, (www.equi-analytical.com/) can also test hay for nutritional quality as well as perform specialty tests.

Work with an equine nutritionist or your veterinarian to correctly interpret and use the results received from any lab. Next month, interpreting an equine hay analysis will be discussed.

Research Update: Abrupt Diet Change and Body Weight

The use of the horse as a recreational and competitive animal often necessitates management changes that are challenging to the normal behavior and physiological well-being of the horse. In some instances, it is necessary to remove a horse from a free-choice pasture diet and impose an all hay diet (i.e. seasonal changes in MN).

When such changes are made, a loss in body weight (BW) has been observed. It has been speculated that the BW loss is the result of a decrease in a full gut (digestive track), as pasture forage tend to have higher moisture contents related to hay.

However, dry matter intake is correlated to water intake, thus hay-fed animals should be able to maintain a full gut and BW as a result of increased water consumption. This study was undertaken at Michigan State University to examine the effect of an abrupt diet change from pasture to a hay diet on BW and abdominal circumference (AC).

BW decreased immediately following a change from pasture to a hay diet, yet BW was not significantly different than the starting value by day 5.

The immediate decrease was likely a result of decreased feed intake by the horse due to the

sudden diet change.

This data is not surprising, but supports that abrupt change from pasture to a hay diet results in a persistent decrease in BW, likely due to a decrease in gut fill.

The research also reinforces the need to change horse diets slowly. Horse owner are frequently reminded to gradually introduce horses to pasture (from hay) in the spring, but should also gradually remove horses from pasture (to hay) in the fall, especially if a reduction in body weight is a concern.

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