



# U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

Visit our Website at: [www.extension.umn.edu/horse](http://www.extension.umn.edu/horse) for more information and to subscribe to the newsletter.

Volume 14, Issue 8

August 2016



## Research Update: Bedding and Horse Behavior

Bedding material used in stables is an important factor affecting the welfare of horses. One of the factors used for investigating the level of welfare of animals is behavior observations. The aim of the study, conducted in Poland, was to assess and analysis and impact of straw, peat moss with shavings and crushed wood pellets beddings used in the stables on the behavior of horses.

The observed behavioral events and behavioral states showing the comfort of horses included occupation with bedding, resting in sternal and lateral position, and laying down into sternal and lateral positions. Undesirable behavioral events were also recorded and included the behavior of demonstrating a lack of occupation including lignophagia (chewing or eating wood), walking around the boxstall and biting the bars. Aggressive behaviors including threatening neighboring horses, biting the neighbor,

and kicking the boxstall were also recorded.

Bedding the boxstalls with straw led to longer durations and higher frequencies of occupation with bedding and, in turn, shorter fractions of standing compared to the other beddings. The longest total time spent on laying down (recumbency) was observed when stalls were bedded with straw. Except for “neighbor threatening,” the undesired behaviors appeared the least frequently exhibited during usage of straw. In addition, the smallest percentage of horses manifested undesired behaviors when the straw bedding was used.

The research team concluded that straw bedding was ideal for fulfilling behavioral needs of horses housed in boxstalls. For more information on this research, click [here](#).

*Summarized by: Krishona Martinson, PhD, University of Minnesota*

## Outdoor Storage of Large Round-Bales

There are a number of storage techniques that minimize outdoor storage loss of round-bales, which can range between 5 and 35% depending on the amount of precipitation, location, and original condition of the bale..

Make/buy a dense bale as they will sag less and have less surface area in contact with the ground. A dense surface layer will shed more precipitation and protect the bale from weathering.

Use plastic wrap, net wrap or plastic twine. Net wrapped bales reduced grass hay dry matter losses by 32% compared with twine bales stored outside. Plastic twine will resist weathering, insects and rodents better than natural fiber twines. Twine should be wound tight and spaced 6 to 10 inches apart for best bale storage.

Store bales on a well drained location. Bales soak up moisture if placed on a wet or poorly-drained site. A well drained, four to six inch coarse rock base will minimize bottom spoilage, as well as using wooden pallets.

Finally, never store bales under trees. It is highly recommended that bales stacked outside have some type of temporary cover placed over them (i.e. a tarp) for the total duration of the storage period.

Storage losses are usually reduced by approximately two-thirds with indoor storage and by one-half with good plastic covering (i.e. a tarp) when stored outdoors.

*Author: Krishona Martinson, PhD, University of Minnesota*

### Inside This Issue

Research Update: Bedding and Horse Behavior	1
Outdoor Storage of Large Round-Bales	1
Ask the Expert: Legal Options During a Strangles Outbreak	2
Tips on Buying Horse Quality Hay	2

### Upcoming Events

#### **Equine Pasture**

**Management Program**  
One farm visit and a customized pasture and grazing management plan. April 1 through August 1. \$650 per farm. To register, click [here](#).

#### **Horse Forage Field Day**

August 9, 2016  
St. Paul Campus  
6:30 to 8:00 pm  
\$15 per person  
To register, click [here](#).

#### **Minnesota Nutrition Conference**

September 21-22, 2016  
Prior Lake, MN  
For more information, visit the [website](#).

Visit our [Facebook](#) page for “Ask the Expert Monday”, “Tip of the Week Wednesday”, “Friday Funny” and special events.

The University of Minnesota is an equal opportunity employer and educator.



## Ask the Expert: Legal Options During a Strangles Outbreak

**Question:** I am boarding my horses at a facility and they've had two outbreaks of strangles on the property. In my opinion, the facility had done a very poor job of biosecurity and isolation and as a result, the disease has spread. The barn has also continued to host clinics; however, the veterinarian recently quarantined the barn. Now I can't move my horse. From a legal standpoint, what can I do about

this?

**Response:** While I can't provide legal advice without entering into an attorney client relationship, I will provide general thoughts. I would first want to know if you had signed a boarding contract and release and what the provisions of the contract(s) stated about the barn's duty to provide care to your horse as well as what you waived for claims against the barn in the release.

Second, I would have you consult with your veterinarian to see if he or she thinks the barn acted in a negligent manner. If you had a legal basis for a claim then I would suggest that you discuss it with the barn and see if the barn would be willing to refund board or other costs that were lost or incurred due to their failure to fulfill their duty of care.

*By: Katy Bloomquist, Esq.  
Bloomquist Law Firm, LLC.*

## Tips on Buying Horse Quality Hay By: Krishona Martinson, PhD, University of Minnesota

Summer is a prime time to purchase hay. Although submitting a hay analysis for forage nutritive value is always recommended, in some situations horse owners need to purchase hay before a hay sample can be submitted. Listed below are some of the characteristics that should be used to physically evaluate horse hay.

**Hay maturity** has the greatest impact on forage quality. Forage plants have more fiber and less crude protein as they become more mature. Indicators of maturity are flowers for legumes and seed heads for grasses. Thick stems in both cases are indicators of maturity. Hay that is more mature is better suited for horses with less caloric needs including adult horses at maintenance or over-weight horses.

**Hay content** is the percent of grass (i.e. orchardgrass, bromegrass) and legumes (i.e. alfalfa or clover) in the hay. When baled at a similar maturity, legumes have higher amounts of digestible energy, crude protein and calcium and lower amount of nonstructural carbohydrates compared to grasses. For most horses, pure alfalfa hay has more digestible energy and crude protein than the horse needs.

Although excessive crude protein will not affect the horse's health, it may increase water requirements and cause more urination. Excessive digestible energy can lead to bodyweight gain, which can contribute to laminitis, issues with thermal regulation, poor reproduction and metabolic syndrome. Therefore, pure alfalfa hay is ideal for horses with higher caloric needs including performance horses and broodmares.

**Softness of hay.** A horse's mouth, lips and tongue are very sensitive. Therefore, softer hays will be consumed more readily and there will be less waste compared to more coarse hays. If the hay feels rough or coarse against your skin, it may be consumed slowly and less efficiently by the horse. Hay with thistles, foxtail seed heads, burs and other sharp or coarse plant material should not be fed to horses.

**Hay smell.** A sweet smell is attractive to people and horses, and can be a good indicator of forage quality. Much like soft hay, a sweet smell is an incentive for the horse to consume the hay. Reject any hay that smells or appears moldy. Mold is detrimental if the horse inhales it and has the potential to be toxic

and/or upset the digestive system. Before purchasing hay, be sure to inspect the inside of at least one bale. If the hay has been stored inside for more than 14 days and is not moldy, then the risk of it becoming moldy is very low. The use of propionic acid is safe for horses and can be used to prevent molding of hay at the time of baling.

**Hay color.** Green hay is very appealing and a good indicator of quality; however, never make a decision based on color alone. Bleached color indicates exposure to sunlight or rain and likely oxidation of vitamins. Horses on a primarily hay diet should always be fed a ration balancer (vitamin and mineral mix) and many weeds are also green when baled. Hay that is bleached in color may have lower amounts of nonstructural carbohydrates.

**Cutting.** Hay cutting (1st, 2nd, 3rd, etc..) has little impact on forage quality. Just knowing the cutting does not predict forage quality. Maturity is the foundation of quality. Keep in mind that 60% of the annual yield is harvested during first cutting. Horse owners should purchase some hay from each cutting to spread-out the risk of weather-related issues (i.e. rain and drought).