



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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Research Update: Hay Soaking and Nitrates

The practice of soaking long stem hay before feeding is used to reduce breathable dust and mold particles and has been shown to leach nutrients from hay, including non-structural carbohydrates. In addition to mold, dust and non-structural carbohydrates, soaking could be used to reduce the amount of nitrates in forage. Ideally, high-nitrate forages (>0.5%) should be avoided in equine feeding programs as high levels of nitrates can cause death. However, horse owners may not realize they have acquired a forage with high-nitrate concentrations until the forage is analyzed, which could be several months after purchase and delivery.

Therefore, the objective of this research, conducted at the University of Kentucky, was to evaluate the effects of soaking on teff hay, a warm season annual grass, that contained high concentrations of nitrate (>2.0%).

Six bales of teff hay were used for the study. Six 1 pound samples were taken from each bale and assigned to one of six soaking treatments: no soaking (control), cold water immersion for 10 seconds, warm water immersion for 10 seconds, cold water soaking for 1 hour, warm water soaking for 1 hour, and cold water

soaking for 8 hours. After soaking, hay was dried, ground, and submitted to a commercial laboratory for analysis.

Nitrate concentrations were reduced to safe levels for horses ($\leq 0.5\%$) by soaking hay for 1 hour or longer. The brief immersion of hay (10 seconds) in either warm or cold water did not affect any of the variables measured in this study, including nitrate. However, soaking also reduced the concentrations of some nutrients in the hay. Soaking for 1 or 8 hours decreased water-soluble carbohydrate, phosphorus, potassium, sodium, and zinc. Minimal differences were observed between cold and warm soaking temperatures.

Therefore, soaking could be used by horse owners to reduce nitrate levels when high-nitrate hay is the only forage. Soaking should be used when it is necessary to reduce specific components of the hay (such as nitrates) but may not be desirable for hays with low nitrate concentrations that are intended for healthy horses or horses with high nutrient needs.

For more information on this research, click [here](#). Summarized by *Krishona Martinson, PhD, University of Minnesota*.

Ask the Expert: Large Round-Bales

Question: We are having a hard time finding small-square bales and as a results, are going to start feeding round-bales. How many small square-bales are in a round-bale?

Response: It depends on the weight of both the large and small-square bales. For example, if the round-bale weighs 1,000 pounds, then 20 50-pound small-square bales would be equivalent to 1 round-bale. If the large round-bale weighs 1,200 pounds and the small-square bales

weigh 40 pounds, then 30 small-square bales would be equivalent to 1 round-bale. It important to know the weight of hay bales both for feeding and economic purposes.

Also keep in mind storage and feeding losses associated with round-bales are usually higher compared to small-square bales. Especially if the round-bales are stored outside and fed without a hay feeder. *Author: K. Martinson, PhD, Univ. of MN*

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Upcoming Events

Equine Pasture Management Program
One farm visit and a customized pasture and grazing management plan
April 1 - August 1, 2018
\$650 per farm
Registration opens
4/1/2018

Minnesota Horse Expo
April 27-29, 2018
MN State Fairgrounds
St. Paul, MN

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

Visit (and share) our [Webinar Library](#) for recorded lectures on over 20 horse-related topics.

Check out our latest horse-related videos on our [YouTube Channel!](#)

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Limiting Your Equine Liability Under Minnesota Law

This is the second part of a series on protecting against the potential risks associated with equine liability under Minnesota law. Last month, we discussed the protection provided by Minnesota's equine liability statute, Minn. Stat. § 604A.12, and the limits of those protections. This month, we provide guidance and practical tips as to how you can further limit your liability beyond the statutory immunity.

You've heard it before and you're going to hear it again – one of the best ways to limit your liability (and protect your rights generally) is to put your intent in writing. That means foregoing the "handshake" deal and using **written** documents for releases of liability, sales and leases, boarding, employment, training, etc. Ensuring your written agreements accurately reflect your intentions, and are enforceable under the law, is critical to limiting your liability exposure.

Under Minnesota law, an agreement that intends to release, limit, or waive the liability of a party resulting from conduct that constitutes "greater than ordinary negligence" is against public policy, void and unenforceable. Minn. Stat. 604.055, Subd. 1. However, a party can still agree to release, limit or waive liability for damage, injury, or death resulting from "ordinary negligence or for risks that are inherent in a particular activity" and those involved in equine related activities are legally permitted and therefore should always use releases to protect themselves from these risks.

In using written documents to limit your liability, consider these

practical tips:

- Clearly state what the document is providing (e.g., waiver/release, lease agreement, purchase agreement, boarding contract, etc.).
- Identify the parties to the document, including every individual and entity being released.
- State the effective date or term of the agreement (except for liability waivers and releases as they should not contain an expiration date).
- Precisely define the scope of the release, the inherent risks of the activity and which specific risks are being released.
- Confirm that the signor has read the document in full before signing it and has "legal capacity" to sign it (e.g., is not a minor).
- Require all visitors and guests to sign a release, not just participants or riders.
- Maintain copies of your executed documents.

To ensure your release language is enforceable under Minnesota law, you should consult with an experienced attorney. In addition to drafting effective agreements and releases, lawyers can advise you as to other effective risk management tools, such as determining whether you should set up and operate under a separate legal business entity (e.g., a limited liability corporation or corporation), and whether you are properly insured for your equine activities.

It is important to remember that even if you have implemented "best practices" to limit your liability,

there is nothing to stop someone from filing suit against you. If you are ever sued for an equine-related incident, having the appropriate insurance can help protect you and your assets.

Most liability insurance policies provide defense and indemnity coverage. Defense coverage means the insurer will provide you with an attorney to defend you against a lawsuit covered by the policy. Indemnity coverage means the insurer will pay any judgment or settlement you are required to pay, and that is covered by the policy, up to the applicable limit of insurance.

Equine business owners should consult with an attorney and insurance professional to ensure they are adequately protected. Personal horse owners should purchase liability insurance that will provide defense and indemnity coverage in the event of a lawsuit.

Next month, we will discuss ways to transfer your potential risk to another party through indemnification agreements under Minnesota law.

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Suzanne Jones and Yvonne Ocrant are partners with the law firm Hinshaw & Culbertson LLP. The information in this article is intended for informational purposes only and is not for the purpose of providing legal advice.