



# U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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## Research Update: Aged Horse Nutrition

In species other than horses, such as humans, rats, and dogs, altered nutritional requirements associated with aging include a decrease in energy requirement. However, there is little published work comparing digestibility in healthy adult versus healthy aged horses. Researchers at Michigan State University hypothesized that there would be no differences in macronutrient digestibility between eight adult (5 to 12 years) and nine aged (19 to 28 years) horses fed three diets.

Seventeen stock-type mares were randomly assigned for a 5-week period to one of three diets: hay only, hay plus a starch- and sugar-rich concentrate, or hay plus a fat- and fiber-rich concentrate. Each diet period comprised 3 weeks of outdoor group drylot feeding, 2 weeks of indoor stalled individual feeding, followed by a 72-hour digestibility trial including total urine and fecal collection. All horses were clinically healthy for the duration of the experiment. Feed, fecal, and/or urine samples were analyzed to determine dry matter, crude protein, fat, energy, calcium, phosphorus, apparent retention

and apparent digestibility. Neutral detergent fiber digestibility was also determined.

Mean body weight was lower in aged than in adult horses (1,003 pounds vs. 1,102 pounds), but body condition score (BCS) did not differ between groups (aged horses: 4.8 BCS and adult horses: 5.1 BCS). No age differences in digestibility, apparent digestibility, or apparent retention were seen for any of the variables measured.

Based on the results of this study, total tract macronutrient digestibility appears to be similar between healthy adult and aged horses. Data from this study support the hypothesis that older horses in good health and body condition do not automatically require changes to their core diet. However, owners should monitor changes in body condition and muscle mass as horses age. It is also important to note that the nutrient digestibilities of diseased aged horses and those with dental disorders may differ. For more information, click [here](#).

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

## Ask the Expert: Dentistry

By: Sara Wefel, DVM, Univ. of Minn.

**Question:** It is time for my horse to have his teeth done. Our barn has a pretty even split of pro-power float and pro-manual float members. My horse has had both done. There is a lot of information on the web and it really seems to boil down to personal preference of the vet and owner. What method is best?

**Response:** Both handfloats and mechanized floats can be safely used for routine dentistry (aka floating or occlusal adjustment), and in fact, a combination of both is often needed to address all areas of the horse's mouth. One method is not necessarily better than the other.

More importantly, you have already identified a key consideration that all adult horses should have a minimum of an annual sedated oral exam so your veterinarian can look for and address common findings such as hooks, ramps, and the sharp enamel points that form on their cheek teeth.

Overzealous work using either hand or motorized tools can cause damage to the teeth and result in pain for the horse. A conservative approach is best when floating, whether doing routine work or reducing hooks, ramps and/or waves.

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### 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: [www.regonline.com/EquinePastureManag2015](http://www.regonline.com/EquinePastureManag2015)

**Minnesota Horse Expo**  
April 24-26, 2015  
St. Paul, MN  
<http://www.mnhorseexpo.org/>

**Equine Castration Clinic**  
Saturday, May 9 2015  
Cambridge, MN  
Appointments required  
612-625-6776

**Lunch and Learn Webinar**  
Wednesday, June 17, 2015  
Noon to 1 pm (central)  
"Managing Marish Behavior" presented by Dr. Scott Madill, Univ. of Minn.  
To join, click [here](#).

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

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### Univ. of Minnesota Speakers and Topics at the MN Horse Expo

Date and Time	Topic	Speaker(s)	Location
Friday, April 24 1:00 pm	Body Condition Scoring and Bodyweight Estimation	Abby Neu and Michelle Schultz	Outdoor Round-pen
Friday, April 24 2:00 pm	Chunky Monkey: How To Tell if Your Horse is Overweight	Krishona Martinson, PhD	DNR Building
Friday, April 24 3:00 pm	Establishing a Horse Pasture	Craig Sheaffer, PhD	DNR Building
Saturday, April 25 Noon	Estimating Bodyweight in Draft and Warmblood Horse Breeds	Devan Catalano	DNR Building
Saturday, April 25 1:00 pm	Body Condition Scoring and Bodyweight Estimation	Devan Catalano and Abby Neu	Outdoor Round-pen
Saturday, April 25 3:00 pm	Establishing a Horse Pasture	Krishona Martinson, PhD	DNR Building
Sunday, April 26 11:00 am	Body Condition Scoring and Bodyweight Estimation	Amanda Grev and Michelle Schultz	Outdoor Round-pen
Sunday, April 26 1:00 pm	Feeding Horses: How to Keep It Simple	Amanda Grev	DNR Building

### Transitioning Horses to Spring Pasture

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

It is tempting to turn horses out into spring pastures at the first sight of green grass, especially after a long winter. 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 for 15 minutes, 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 resume.

It is also recommended to feed horses their normal hay diet before turning them out to pasture during the first several grazing events of the year (along with the time restrictions). This strategy should help avoid rapid intake of pasture grasses.

**Horse Health.** Even though hay and pasture are both forms of forages, there are significant differences. Dried hay is approximately 15% moisture compared to fresh pasture that is 85% moisture. The horse is a hind-gut, fermenting herbivore that relies extensively on the microbes present in its gastrointestinal tract to be able to process forages. A gradual change from one feedstuff to another provides enough time for the microbial populations to adjust.

**Pasture Health.** Pasture grasses need sufficient growth before grazing is allowed. Photosynthesis (the process of converting solar energy to chemical energy) occurs mainly within the leaves of plants. If the leaves are grazed too early (prior to 6" tall) or too often, plants can lose vigor, competitiveness, and root structure due to the lack of

photosynthetic ability. This will lead to eventual die back and overgrazed areas being replaced by undesirable plant species or weeds.

Grazing should cease when forages have been grazed down to 3 to 4 inches. At this time, move horses to another paddock or a dry lot. Grazing can resume when grasses regrow to 6 to 8". On average, 2 to 3 acres of well-managed pasture can provide the forage needs for one horse from spring to fall.

**Conclusion.** It is critical to slowly introduce horses to spring pastures. When horse pastures reach 6 to 8", begin grazing for 15 minutes, increasing the grazing time by 15 minutes each day until 4 to 5 hours of consecutive grazing is reached. Following this recommendation will help ensure both horse and pasture health.