



# U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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## Research Update: Food Allergy Testing in Horses

Commercial immunoglobulin E (IgE)-based tests are available for diagnosis of food allergies and are commonly used in equine practice. However, these tests have been proven unreliable as a screening method in man and other species, but not critically evaluated in horses. Therefore, the goal of this project, conducted in Belgium, was to evaluate a commercially available IgE-based test for horses.

To evaluate the consistency of the results obtained with a commercially available IgE-based test for food allergy diagnosis in ponies, blood samples of 17 healthy Shetland ponies were taken at 2 different time points and sent to a commercial laboratory for screening of common food allergens. Ponies that were positive for food allergens were

consecutively challenged orally with each allergen separately for 14 days. A washout period of one week was applied in ponies with multiple positive results. Clinical parameters were monitored during the allergy challenge trial period.

Only 7 of the 17 ponies were negative on the IgE-based test at the 2 time points. Three ponies had positive results twice, but only one tested positive twice for the same food allergen. No abnormalities were noted during the allergy challenge trial, which demonstrated that the IgE-based test was not a reliable screening tool for food allergy in healthy ponies.

For more information on this research click [here](#).

*Summarized by: Krishona Martinson, PhD, University of Minn.*

## Fall Pasture Management By: K. Martinson, PhD, Univ. of Minn.

Fall provides an ideal time of year to improve horse pastures. August 1st to September 15th is an ideal time of year to seed or over-seed pastures and rid pastures of perennial weeds (including thistles). Fall is the best time to seed or re-seed pasture due to the usually adequate moisture, less weed competition, and cooler weather conditions. This time of year is also best for perennial weed control since perennial plants are storing carbohydrates in their roots allowing the herbicide to be translocated into the root for effective control.

Make sure to check fences and pay special attention to posts. Fix broken posts before they are frozen into the ground. Finally, make sure the pasture grasses have 3 to 4 inches of re-growth going into winter. This will help with winter survival and a quicker spring

growth. Keeping horses over winter on pastures causes damage to plants and offers the horse little nutrition. Keeping the horses in a sacrifice paddock (or dry lot) with access to hay, water and shelter is recommended.

However, horse owners should use caution when grazing during the first killing frost of the fall. Frost damaged pasture forages (grasses and legumes) can have higher concentrations of non-structural carbohydrates following the first killing frost of the season. This can lead to an increase in the potential for laminitis and colic in obese horses or horses diagnosed with laminitis and/or equine metabolic syndrome. To reduce the chance of adverse health effects, it is recommended that horse owners wait up to a week before turning all horses, including healthy horses, back onto a pasture after a killing frost.

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### Upcoming Events

#### Lunch and Learn Webinar

September 15, 2015

Noon to 1 pm (central)  
"Preparing and Managing Arena Footing" presented by Dr. Ann Swinker, Penn State Univ.

To join, click [here](#).

#### Lunch and Learn Webinar

December 1, 2015

Noon to 1 pm (central)  
"Feeding Whole Grains" presented by Dr. Marcia Hathaway, Univ. of Min.

To join, click [here](#).

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

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

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## Ask the Expert: Herbicide Application to Horse Pastures

Question: Our horse pasture was accidentally sprayed with a herbicide contacting 2,4-D, fluroxypyr and dicamba (Escalade 2) on May 19, 2015. It was also fertilized with urea and potash. Since this date, we have not allowed the horse to graze in this pasture nor has this area been retreated. We have had many conflicting answers as to when the grass can be grazed. I would appreciate your insights as to what would be the safest resolution for this situation.

Response: When it comes to herbicide applications, the herbicide label is the law and should be read prior to application. Herbicides are labeled to be applied to a specific site, for example a pasture, corn field, or lawn. Escalade 2 is labeled for applications to turf grass areas (and not pastures); the label (and most all herbicide labels) can be found online. Therefore, no grazing restrictions are listed on the label. Grazing restrictions listed on herbicide labels are included to avoid herbicide residues that exceed established tolerances in products derived from the animal (mostly meat and milk), to prevent injury to the animal, and to prevent injury to other plants (from herbicide residues that can pass

through in manure or urine from grazing animals). If listed on the herbicide label, restrictions on grazing, haying, and movement of livestock from herbicide treated areas must be followed for specified livestock, including horses.

In this case, all of the active ingredients in Escalade 2 (2,4-D, dicamba and fluroxypyr) are found in other herbicides labeled for pastures. 2,4-D and dicamba are commonly applied to grass pastures to control broadleaf weeds, and most herbicides containing these active ingredients have a 0 day grazing restriction. However, we recommend waiting 7 days after application to resume grazing as a precaution. Fluroxypyr is less commonly used; however, there are herbicides labeled for use in pastures and range lands that include this active ingredient. These herbicide labels state anywhere from a 0 to 45 day livestock grazing restriction following application.

Using this information, your best solution would be to follow the most restrictive grazing restriction, in this case 45 days. All of the active ingredients found in the herbicide are labeled for pasture or range land use in other herbicides. However, Escalade 2 is not intended for use on pastures

and therefore, the risks for grazing pastures treated with this product are less clear. The inert ingredients used to formulate Escalade 2 may differ from other products with the same active ingredients labeled for use in pasture and rangelands. Herbicide manufacturers can provide additional information about herbicide persistence and potential risks (a phone number will be listed on the herbicide label). It is a good practice to control weeds (with mowing and/or a herbicide) in horse pastures. Just make sure to read the herbicide label and ensure the herbicide you select is labeled for use in a pasture or rangeland prior to future applications.

There is no issue with the fertilizer. With granular fertilizer, we recommend restricting horses from the pasture until the fertilizer pellets are no longer visible to avoid accidental ingestion (horses can graze very close to the ground). This can occur as quickly as 1 day if the fertilizer is applied before a rainfall event. In the absence of rainfall, it can take 2 to 3 weeks for the fertilizer to dissolve.

*By: Krishona Martinson, PhD, Roger Becker, PhD, University of Minnesota and Matt Sunseri, MN Department of Ag*

## Wilted Maple Leaf Toxicity

By: Krishona Martinson, PhD, University of Minnesota

Maples are native to the United States, and include the commonly found sugar maple, red maple, silver maple and boxelder.

Ingestion of dried or wilted (**but not fresh**) maple leaves is associated with horse toxicity. Red blood cell damage has been reproduced in horses ingesting 1.5 to 3 pounds of dried leaves per

1,000 pounds of body weight. Although dried leaves may remain toxic for up to 4 weeks, they are not generally believed to retain toxicity the following spring. Toxicity normally occurs in the autumn when normal leaf fall occurs.

Horses are the only species for which maple leaf toxicity has been

reported. Horses are often depressed, lethargic, and anorexic with dark red/brown urine after the first day of ingestion.

Maple trees in horse pastures should not be cut down. Horses should be fenced out of areas where wilted maple leaves are plentiful.

For more information on wilted maple leaves, click [here](#).