



# U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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UNIVERSITY OF MINNESOTA  
**EXTENSION**

## Research Update: Rotational Grazing

Rotational grazing is often recommended but not widely adopted by horse farms. The objective of this research, conducted at Rutgers University, was to compare the effects of rotational and continuous grazing systems on horse health and pasture performance.

Two continuous and two rotational grazing systems were established. Rotational systems were divided into four paddocks and a drylot. Twelve mature mares were used with 3 horses in each system for a stocking rate of 1.3 acres per horse. Horse condition was assessed by monthly bodyweight and body condition score. Pasture performance was assessed monthly by estimating vegetative cover and pasture height. When housed in the drylot or during the winter months, horses were fed grass hay and a concentrate to meet nutritional

requirements.

Out of 184 days, horses in the rotational systems grazed 97 days. Grazing system had no effect on horse condition; however body condition score was highest in September and November and lowest in January. Pasture height differed between months and grazing system. Except for one month (November), the rotational system had higher pasture heights than the continuous system. Ground cover consisted of a higher percent of grasses and lower percent of bare ground in the rotational system compared to the continuous system. Researchers expect to see more differences between grazing systems during future grazing season. For more information, click [here](#).

*Summarized by Michelle DeBoer, University of Minnesota*

## Ask the Expert: Dandelion Control in Pastures

Questions: Is it harmful to have dandelions taking over my pasture? Should I spray and try to control them?

Response: Dandelions are not poisonous to horses. Therefore, from a horse health perspective there is not an urgent need to control them.

However, from a pasture health perspective, dandelions tend to indicate a pasture that is over-grazed, lacking fertility and in need of weed control. Dandelions, and other non-poisonous weeds, are not a desirable forage for horses because they yield less and are less nutrient dense compared to traditional pasture forages like Kentucky bluegrass, clover, fescue or orchardgrass.

If your pasture is less than 25% weeds (including dandelions), then we recommend using a broadleaf herbicide to control the dandelions and other

weeds. When using a herbicide, make sure to read the herbicide label before application, ensure the product is labeled for a pasture (vs. a lawn) and follow any recommended grazing restrictions. Mowing is an alternative to herbicide use, but many not be effective on all weeds and can take many years of consistent mowing to control weeds.

If your pasture is greater than 25% weeds and bare ground, then we recommend over-seeding or re-seeding.

Along with weed control, we recommend setting up a rotational grazing systems, resting your pasture to allow for re-growth, fertilizing according to a soil sample, and dragging during hot and dry periods to help distribute manure and kill parasites.

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

### Inside This Issue

Research Update: Rotational Grazing	1
Ask the Expert: Dandelion Control in Pastures	1
Plants That Cause Photosensitivity in Horses	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.

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

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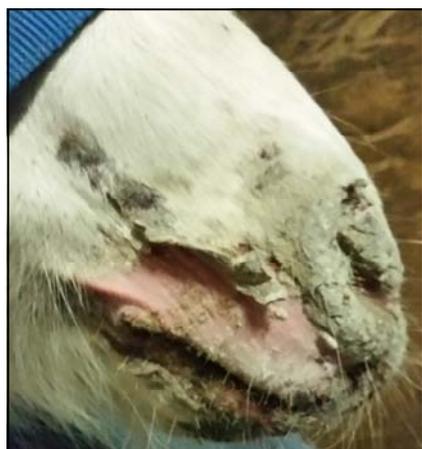


## Plants That Cause Photosensitivity in Horses

By: K. Martinson, PhD, Univ. of MN

We have received numerous reports of horses exhibiting signs of photosensitivity (Figure 1). There are three commonly found plants in Minnesota that can cause photosensitivity in horses, including wild parsnip, clover infected with Black Blotch Disease and buttercup.

Figure 1. Photosensitivity exhibited on a horse's muzzle



Wild parsnip (Figure 2) is commonly found in fields, roadsides and pastures throughout Minnesota. Wild parsnip may contain chemicals called furanocoumarins. Severe sunburn (photosensitivity) occurs in people when they come into contact with the plant and in animals when they ingest the plant, especially after exposure to UV light. Severe sunburn occurs on the white or other light skinned areas, but not the black, brown, or other dark skinned areas, because melanin in the dark skin absorbs the UV light and prevents it from reacting with the furanocoumarins. Severe sunburn is reduced if the livestock are shaded from the ultraviolet sunlight after ingestion.

All growth stages of the plant, when eaten fresh or dried in hay, are toxic. The toxic dose of wild parsnip is not known. Treatment

includes removing the plant source and moving animals to an area where shade is available. Topical treatments can also be used for skin lesions. Several herbicides exist that provide control of wild parsnip. However, repeated applications may be necessary.

A second plant that can cause photosensitivity is clover infected with Black Blotch Disease. Black Blotch Disease is not well characterized but has been reported in Minnesota. Black Blotch Disease of clovers is caused by an infestation with *Cymodothea trifolii* mold. The mold causes black blotches to occur on the underside of the clover leaves, usually closer to the ground where the humidity is highest. Horses ingesting clover with Black Blotch Disease have been known to develop photosensitivity. Research has shown that photosensitive reactions can also occur in horses grazing pastures planted with high alfalfa that are infected with the mold.

In very wet years, or periods of high humidity, fencing horses out of clover rich pastures is the best control strategy. To decrease the chance of mold development, horse owners can increase air movement by mowing, thinning clover stands, or improving drainage. If horse owners wish to remove clover from pastures, there are several effective herbicides available.

Finally, buttercup is found throughout most of the United States in lowland pastures and fields and tends to prefer moist soil conditions. Most buttercup toxicity is associated with gastrointestinal tract irritation effects of protoanemonin when eaten fresh in pasture. The dried plant (i.e. when in hay) is not normally toxic. Toxicity is

highly variable with the protoanemonin concentration of the plant. This concentration varies widely with the species of buttercup and plant growth stage. Protoanemonin concentrations are likely to be highest in the flowering plant.

Clinical signs of toxicity include blistering of the mouth, skin, and digestive system. Swelling of the nose, lips, face, and skin may be observed after contact with the plant. Diarrhea and colic may occur if the plant is ingested.

Treatment includes removing animals from pastures containing buttercup species. Buttercup species are often found in overgrazed pastures. Proper pasture management including rotational grazing, weed control and proper soil fertility will help control or eliminate the weed. Supportive care for colic and diarrhea may include fluid therapy, and analgesics.

As a reminder, when using a herbicide to control weeds, be sure to carefully follow all grazing and harvesting restrictions and other pertinent information stated on the herbicide label.

Figure 2. Wild parsnip

