



# U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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## Research Update: Interval Conditioning

Interval conditioning, commonly used in human athletes, alternates periods of work and rest to allow a greater range of fitness training and shorter recovery time. The objective of this study, conducted at the University of Georgia, was to determine if interval conditioning would yield better results than traditional continuous conditioning when working with nine unconditioned horses.

Horses underwent a conditioning program consisting of free lunging in a round pen at increasing workloads 3 times a week for 8 weeks. Horses were filmed in hand at the trot using a high-speed camera before beginning and at the end of the 8-week training program. An incremental standardized exercise test

was conducted before and after training to establish fitness levels for comparison.

After 8 weeks of training, horses conditioned with both methods showed better fitness levels. However, the interval conditioning horses appeared to exert less effort for the same workload, as evidenced by bloodwork results and better propulsion at the trot. This study suggests that interval conditioning may yield better results than continuous conditioning by improved physiological response to exercise as well as improved muscular propulsion.

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

*Summarized by Abby Hansen, University of Minnesota*

## Ask the Expert: Non-toxic Shrubs

**Question:** The barn I work for has recently redone the outdoor arena and wants to plant a hedge around some of it but we are having a hard time finding a shrub that isn't toxic to horses and doesn't have thorns. Any suggestions?

**Response:** Since there is a long lists of shrubs that could work around your arena, it might be easier to list shrubs that should be avoided.

Japanese Yew, rhododendron and oleander are toxic to horses and can result in sudden death. These shrubs should never be planted around horse facilities or within reach of horses. Toxic trees include cherry species, oaks with green acorns and wilted maples leaves. Because all cherry species contain cyanide, these trees (and related shrubs) should not be planted around horse facilities. Shrubs in the oak and maple families should be planted with caution since only green acorns (not brown acorns) of oaks and wilted (not fresh) maple leaves cause toxicity.

This leaves a long list of possible shrubs; however, please consider your site and desired aesthetics. Is the area shaded or in full sun, is the soil well-drained or does it tend to hold water, do you want evergreens or deciduous shrubs, how tall do you want the shrubs, how much maintenance are you willing to do?

Some possible evergreen shrub options include white spruce, black spruce, arborvitae and juniper. Deciduous shrub options include dogwoods, bush honeysuckle, forsythia, hydrangeas, mockorange, common ninebark, willows, spireas and lilac.

It is also worth noting that the base of the shrub should be shaped and maintained wider than the top to give as much exposure to sunlight as possible. Consider contacting your [County Master Gardner Program](#) for more information on shrub options ideal for your site.

*Authors: K. Martinson, PhD and K. Zuzek, MS, University of Minnesota*

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## Upcoming Events

### Minnesota Nutrition Conference

September 21-22, 2016  
Prior Lake, MN

For more information, visit the [website](#).

### Lunch and Learn Webinar

September 28th 2016  
Noon to 1:00 pm (central)  
"Human Diet Fads and their Effect on Horse Nutrition"

Presented by Carey Williams, PhD, Rutgers  
To join the free webinar, click [here](#).

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!](#)

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

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## 12 Cases of West Nile Virus Confirmed in Minnesota Horses

The Minnesota Board of Animal Health has confirmed 11 cases of West Nile Virus in Minnesota in 2016:

- Winthrop, Sibley County: Confirmed Aug. 2. A 1.5-year old Friesian stallion was euthanized; not vaccinated.
- Milaca, Mille Lacs County: Confirmed Aug. 3. A draft-cross stallion is receiving supportive care; not vaccinated.
- Bertha, Todd County: Confirmed Aug. 9. A 6-year old Standardbred gelding was euthanized; not vaccinated.
- McIntosh, Polk County: Confirmed Aug. 12. A 4-year old female draft is receiving supportive care; not vaccinated.
- Sacred Heart, Renville County: Confirmed Aug. 12. An 8-year old Quarter Horse gelding was euthanized; not vaccinated.
- Utica, Winona County: Confirmed Aug. 16. A Morgan mare is receiving supportive care; not vaccinated.
- Stanchfield, Chisago County: Confirmed Aug. 18. An 8-year

old Appaloosa gelding show horse is receiving supportive care; not vaccinated.

- Ogilvie, Kanabec County: Confirmed Aug. 24. A 7-year old Belgian mare is receiving supportive care; not vaccinated.
- Clearbrook, Clearwater County: Confirmed Aug. 26. A 7-year old Fjord mare died; vaccination status unknown.
- Austin, Mower County: Confirmed Aug. 26. A 10-year old Quarter Horse gelding has fully recovered; vaccinated in spring 2016.
- Verndale, Todd County: Confirmed Aug. 26. A 2-year old Appaloosa gelding died; he was vaccinated on Aug. 9, 2016.
- Grasston, Kanabec County: Confirmed Aug. 30. A 2-year old stallion is recovering after treatment; vaccination status unknown.

Birds serve as the primary hosts for the disease. The virus is transmitted from birds to horses or people through the bite of infected mosquitoes. The virus can cause

encephalitis, an inflammation of the brain and spinal cord. Infected horses may or may not show neurological symptoms and many recover completely from the disease.

Vaccines for horses are widely available and have been proven to be effective in preventing infection. Horse owners should consult with their veterinarian to determine an appropriate disease prevention plan for their horse. Steps can also be taken to reduce the risk of the disease by reducing mosquito populations. Practices such as changing water in drinking troughs every week, mowing long grass, draining stagnant water puddles and removing items such as old tires and tin cans may help to eliminate mosquito breeding grounds. Horses and people can also be protected from mosquitoes by using repellents and placing screens over windows and stable doors.

Positive test results for West Nile Virus must be reported to the Minnesota Board of Animal Health. For more information, click [here](#).  
*From the MN Board of Animal Health*

## Fall Pasture Management

By: Krishona Martinson, PhD, University of Minnesota

Fall provides an ideal time of year to improve horse pastures. August 1<sup>st</sup> to September 15<sup>th</sup> is an ideal time of year to seed or over-seed pastures and rid pastures of perennial weeds. Fall is the best time to seed or re-seed pastures due to the usually adequate moisture, less weed competition and cooler weather conditions. Fall 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; especially 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 on pastures over winter causes damage to plants and offers the horse little nutrition. Keeping the horses in a sacrifice paddock (dry lot) with access to hay, water and shelter is recommended.

Horse owners should use caution when grazing after the first killing

frost of the fall. Frost damaged pasture forages 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, especially in obese horses or horses diagnosed with laminitis and equine metabolic syndrome. To reduce the chance of adverse health effects, it is recommended that horse owners wait one week before turning all horses, including healthy horses, back onto a pasture after the first killing frost.