



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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Research Update: Small Square-Bale Feeders

Hay is commonly fed to horses and is usually the largest and most expensive dietary component for adult horses. The objectives of this study, conducted by the University of Minnesota, were to determine hay waste and economics of small square-bale feeders when used for outdoor feeding of adult horses.

Feeder designs included a hayrack (\$280; Horse Bunk Feeder and Hay Rack, Priefert Manufacturing), slat feeder (\$349; The Natural Feeder), and basket feeder (\$372; Equine Hay Basket, Tarter Farm and Ranch Equipment) (See below photo). A no-feeder control (hay fed on the ground) was also evaluated. Two feeders of each type were placed in separate, outdoor, dirt paddocks. Twelve adult horses were divided into four similar herds of three horses each and were rotated through the four paddocks, remaining in each paddock for a period of seven days. Grass hay was fed at 2.5% of the herd bodyweight split evenly between two feedings at 8:00 am and 4:00 pm. Waste hay (hay on the ground outside of the feeder) and orts (hay remaining inside the feeder) were collected before each feeding. Percent hay waste was calculated as the amount of hay waste divided by the amount of hay fed minus orts. The number of months to repay the feeder cost (payback) was calculated using hay valued at \$250/ton, and improved

efficiency over the no-feeder control.

No injuries were observed from any of the small square-bale feeders during the trial. Hay waste was different between small square-bale feeder designs. Mean hay waste was 1, 3, 5 and 13% for the slat, basket, hayrack and no-feeder control, respectively. All feeders resulted in less hay waste compared with the no-feeder control. All feeders provided a physical barrier between the horses and the forage, helping to contain the hay and limit waste associated with trampling and contamination from manure and urine. Feeder design also affected payback. The hayrack, basket, and slat feeders paid for themselves in 12, 11, and 9 months, respectively, with the slat feeder resulting in the shortest payback period compared to the other feeders.

These results demonstrate that small square-bale feeder design affected hay waste and payback when adult horses were fed in outdoor paddocks. This information will aid horse owners and professionals when purchasing small square-bale feeders and estimating hay needs.

This project was supported by a grant from the American Quarter Horse Foundation. For more information on this project, click [here](#).

Author: Amanda Grev, MS, University of Minnesota



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Upcoming Events

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](#).

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

Lunch and Learn Webinar

September 15, 2015
Noon to 1 pm (central)
“Preparing and Managing Arena Footing” presented by Dr. Ann Swinker, Penn State.

To join, click [here](#).

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

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Establishing a Horse Pasture

Author: Krishona Martinson, PhD, University of Minnesota

Establishing a horse pasture takes time, patience, and resources. When establishing a horse pasture, site planning is very important (along with soil fertility, seedbed preparation, species selection, weed control, and grazing management). Planning ahead is an important step to take to ensure your pasture is successful and productive for years to come.

Topography and Geography of Your Pasture. Individual pastures should not include steeply sloping hillsides, wet lands, soil types that vary greatly; or paddocks that are oriented up and down hillsides.

Environmental Concerns. Keep horses out of rivers, creeks, swamps, or wetlands. Horses can cause environmental damage, and wet areas are usually home to insects (biting flies and mosquitoes) and poisonous plants.

Pasture Size. Pastures should be

large enough to handle your stocking rate, acreage layout, and grazing system. Rectangular shaped pastures tend to better suit horses as they encourage exercise. The stocking rate (how many horses your pasture can handle) averages 2 acres per horse, however, soils type, grazing management, and weather conditions can influence the stocking rate.

Sacrifice Paddock. Dry lots, or sacrifice paddocks, provide an opportunity to move horses off the pasture during wet, dry, or times of needed pasture rest. Sacrifice paddocks can vary in size but should provide a minimum of 400 square feet per horse. The size should be increased proportionally as the number of horses increase. Sacrifice paddocks usually include a shelter/shed, water source, and ample area to feed hay free choice.

Gate Placement and Fencing.

Gates should be placed in corners closest to the direction of travel. Gates should be large enough to get equipment and several horses through at once. Avoid placing gates in low areas where water may pool. When selecting a fencing system(s), consider the BASIC rules; budget, appearance, safety, installation and containment.

Water. Clean, fresh water is a requirement for horses. Place waterers in areas where filling and cleaning is convenient, and if possible, where multiple pastures have access

Safety and Common Sense. Design pastures that are safe, work with your pasture size and shape, and make sense for you, your horses, and your farm .

For more information on establishing a horse pasture, view our [recorded webinar](#).

Biosecurity Recommendations for Horse Show Season

As we enter into horse show season and County Fairs, it is critical to practice biosecurity. Here are 8 biosecurity tips:

1. Work with your veterinarian to ensure horses are current with recommended vaccines.
2. Keep sick horses at home. Watch for signs of fever, nasal discharge and diarrhea.
3. Wash your hands frequently! Bring water, soap, hand sanitizer and paper towels with you.
4. Clean and disinfect stalls at fairgrounds and show facilities. Spray-on commercial disinfectants are readily available. Diluted

bleach (8 ounces bleach to 1 gallon of water) is an inexpensive disinfectant, but it works best on a surface that has been thoroughly cleaned.

5. Do not share feed and water buckets, hay bags, grooming tools, tacks, or manure forks. Disinfect these items frequently and after arriving home from an event. To learn how to clean and disinfect horse equipment visit this [website](#).
6. Limit exposure. Do not allow horses to have nose to nose contact. Limit the general public's contact with your horses and your contact with other horses.

7. Upon returning home from a show, wash your hands, shower, and change clothing and shoes before working with horses kept at home.

8. Isolate returning horses from resident horses for 14 days. Monitor horses daily for signs of fever, nasal discharge and diarrhea.

Remember, an ounce of prevention is worth a pound of cure. For more information on biosecurity, visit the United States Department of Agriculture [website](#).

Author: Krishona Martinson, PhD, University of Minnesota.