



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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Feeding Orphaned Foals

By: Holly Bedford, DVM, Univ. of MN

Mare's colostrum (first milk) is a rich source of antibodies that protect the foal from infection until the foal's immune system is fully developed. Unlike humans, horses do not receive any antibodies through the placenta prior to birth and therefore are dependent on colostrum. Absorption of colostrum from the foal's gastro-intestinal tract peaks within 6 to 12 hours after birth. By 18 to 24 hours of age, absorption is minimal. In general a, 100 pound foal requires a minimum of 2 to 3 quarts of colostrum within the first 6 to 8 hours of age. Foals should have an IgG test performed within 24 hours of age in order to ensure that they have absorbed adequate antibodies. In the event that equine colostrum is unavailable, intravenous administration of hyperimmunized equine plasma by your veterinarian is the best alternative to provide adequate protective antibodies to foals. Other alternatives to mare's milk include milk replacers, goat's milk, and cow's milk.

The best and most economical alternative to mare's milk is equine milk replacers. These replacers are specially formulated to meet a foal's nutritional needs and are the closest in content to mare's milk. Acidified milk replacers are preferable because acidification enhances nutrient digestibility and allows the re-constituted milk to stay fresh longer.

Goat's milk is the next best alternative to mare's milk. While the fat content is higher than mare's milk, it is highly emulsified and easier to digest than the fat found in cow's milk. Disadvantages of feeding goat's milk include the small packaged volume, the expense, and the greater risk of constipation.

While cow's milk can be fed to foals, it is lower in sugar than mares' milk and has twice the fat content, which can lead to diarrhea due to poor digestibility. If cow's milk is fed, it is best to feed 2% milk (lower in fat) and add dextrose (easily digestible

type of sugar) to the milk to increase the carbohydrate content to match that of mare's milk. This can be accomplished by adding 40 millimeters of 50% dextrose solution to each quart of milk, or by adding a 2 ounce package of jam/jelly pectin to every 3 quarts of milk. Honey, corn syrup, or table sugar should not be used to increase the sugar content as these types of sweeteners contain sucrose which is poorly utilized by the foal and can cause diarrhea and colic. Non-pasteurized milk should be heated to 160 F for 15 seconds and allowed to cool prior to adding dextrose and feeding.

Calf milk replacers can be used for foals. When choosing a calf milk replacer, carefully read the ingredients list and only opt for products containing all milk proteins (skim milk, buttermilk, whey, casein) and avoid products containing soy protein, fish proteins, meat solubles, yeasts, or flours, and distiller's grain byproducts. Additionally, check the crude fiber, protein, and fat content. Appropriate levels for foals are: crude fiber < 0.2%, crude protein 20%, and fat 15%.

Foals should be feed 20 to 25% of their body weight per day (not per feeding). It is important to weigh the foal daily and adjust the daily feeding volume accordingly as the foal grows. Gradually, the volume of milk fed can be increased, while the frequency of feeding may be decreased. The average foal should gain approximately 2 pounds per day. If the foal fails to gain weight, the volume of milk or frequency should be increased. A general guideline for feeding normal healthy foals is to feed every 2 hours during the day and every 3 hours through the night for the first 2 weeks (make sure to divide the total amount needed—about 25% of body weight - by the feeding frequency). Once the foal is consuming the calculated milk volume readily, the feedings can be spaced out to every 3 to 4 hours during the day, and 4 hours at night for another 1 to 2 weeks. By 1 month of age, most foals can be fed every 6 hours.

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Upcoming Events

Winter Regional Horse Owner Program
Saturday, March 14th
 Thumper Pond Resort
 Ottertail, MN

POSTPONED UNTIL
Saturday, October 24th
 Red Horse Ranch Arena
 1:00 pm to 4:00 pm
Program agenda and registration available in August.

U of M Horse Team Quarterly "Lunch and Learn Webinar"

Wednesday April 22
note new date

Noon

"Equine Genetics"

To join go to:

www.extension.umn.edu/horse

Next webinar July 15
 Topic: Manure Management and Composting
 By Betsy Wieland

University of Minnesota Equine Faculty to Present at the MN Horse Expo
 April 24, 25, and 26
 St. Paul Fairgrounds



Caring for Horses on a Budget

By: J. Wilson, DVM and K. Martinson, PhD, Univ. of MN

Owning a horse is a major responsibility, and a significant investment of both time and money. Most owners do not generate income from their horse, but are intent on spending time with their equine companion. During tough economic times, horse owners need to explore and implement options to reduce costs.

There are several things horse owner can do to minimize costs associated with horse management.

Housing. Healthy horses thrive outdoors and only require shelter from adverse weather, including excessive heat or cold (below 18 F), and freezing rain. Keeping a horse outdoors with access to a loafing or run-in shed saves the cost of building and maintaining a barn as well as labor expenses associated with stall cleaning. It is usually more cost efficient to keep a horse on the owner's property/farm compared to boarding. Boarding is necessary for some horse owners, but can be expensive.

Cleanliness. Flies, mosquitoes, and ticks are responsible for a number of bacterial and viral diseases of horses. Reduce the risk (and expense) of these diseases by discouraging these insects and ticks in your horse's environment.

Safety. Improving barn safety can

prevent accidents and unnecessary injuries. **Bio-security.** To reduce the risk of some diseases, consider having visitors wash hands and change boots and clothing before and after handling horses. **Breeding.** Unless a mare or stallion has exceptional conformation and an outstanding performance record, planning a foal that realistically may be difficult to market is unwise and expensive.

Have a good working relationship with a veterinarian. It is important to determine the extent and financial commitment a horse owner can maintain. These decisions should be made prior to an emergency involving a horse. During an emergency, it is common for a horse owner to approve procedures one cannot really afford. Communicating the emergency plan to a veterinarian will help keep care and after-care affordable. There are many benefits of a yearly veterinary examination. Research has shown that taking an active interest, and being involved with the daily care of a horse results in a healthier horse and reduced veterinary care costs. Become familiar with horse vitals (temperature, heart rate, etc...) and normal behavior. Changes in baseline vitals and behavior are usually early indicators of illness.

Learn to give intramuscular shots, oral medications, and basic leg wrapping techniques. Work with a farrier to set a hoof care schedule based on how much hoof the horse typically grows.

With feed costs rising, it is important to utilize feed efficiently. Nutrient requirements for horses depend on their physiological status (age, metabolism, weight) and their level of production (maintenance, growth, exercise, reproduction, and lactation). Most horse owners over feed their horses, leading to wasted money and unhealthy, overweight horses. Removing unnecessary grain from diets can lead to substantial savings. Regardless of the horse, forage should be the backbone of a horse's nutrition program and should comprise at least 50% of their diet.

During summer months, utilize pasture as an affordable way to meet a horse's nutritional requirements. Reducing costs associated with horse ownership takes hard work and some creativity. Most cost reducing opportunities fall in the area of preventative medicine, education, and taking on the responsibilities of horse ownership.

These suggestions represent a sampling of recommendations. To view the entire factsheet, go to www.extension.umn.edu/horse.

Ask the Expert

By: J. Wilson, DVM and E. Malone, DVM, Univ. of MN

Q: I purchased a high frequency rodent controller (puts out high frequency sounds to deter mice, rats, etc...). I would like to know if it is safe to put in my horse barn? The box says it is safe for "pets", but does not mention horses. Will the high frequency harm my horses or "drive them crazy"?

A: We are not aware of any research that specifically addresses

this issue. Have you contacted the manufacture of this product with your question? Horses do hear better than we (humans) do at high frequencies, but so do dogs and cats. If the manufacture says the product is safe for use around horses, we recommend trying the product further away from the horses at first, and then gradually moving it closer if the horses do not

seem to react. We would encourage that while trying the product, someone is watching the horses and the horses have a way to evacuate the area.

Finally, watch for any behavior or eating changes while using this product and stop using it immediately if you observe any adverse reactions.