7 Ways to Efficiently Utilize Horse Hay during Winter Months

Krishona Martinson, Hannah Lochner, Jessica Prigge, Marcia Hathaway, University of Minnesota

The 2019 growing season was challenging! Weather woes, winter injury, a cool and wet spring, flooded hay fields, and frequent rainfall tightened already short hay supplies in the Midwest. Therefore, horse owners should consider these strategies to efficiently use hay supplies over the winter months.

1. **Purchase hay by weight (i.e., ton or average bale weight).** Density can make bale weight estimation difficult, especially for large round and square bales. Most truck stops and gravel pits have scales and will allow loads to be weighed for a fee. Bathroom or luggage scales can be used to weigh small square bales. For example, a 35-lb square bale sold for $5 is more expensive ($286/ton) than a 50-lb bale sold for $6 ($240/ton). Weighing can also help to accurately calculate annual hay needs.

2. **Buy a hay type that matches your horse's needs.** In general, less mature forages are more nutrient-dense than more mature forages. Likewise, legumes (e.g., alfalfa) tend to be more nutrient-dense than cool- (e.g., orchardgrass) and warm-season (e.g., teff) grasses. A mature grass hay will likely meet the needs of a pasture companion. However, feeding a pasture companion immature alfalfa hay may result in overspending and horse weight gain. Always buy good-quality hay with no mold, dust, or weeds. Buying hay with preservatives (e.g., propionic acid) is safe for horses and will help limit mold growth in hay.

3. **Have your hay tested for quality.** Testing hay will aid in feeding precision and costs ~$20 per sample. Results are usually available within a few days. Choose a lab that has an "equine package" and provides equine digestible energy (Equine DE). Use test results to calculate how much hay each horse needs to avoid over or under feeding. For example, an average grass hay may contain 0.91 mega calories (Mcals) per pound compared to a mixed grass-legume hay with an average of 1.06 Mcals/lb. If an adult horse requires 16 Mcals/day, an owner would feed 18 lbs of the grass hay compared to 15 lbs of the mixed hay to meet the horse's energy requirements. If these hays are the same price per ton, the mixed hay would be a better buy since less of it is needed to meet the horse's energy requirement. Of course other nutrients are important, but energy is the first nutrient used to balance a horse's ration.

4. **Do not over (or under) feed.** Most horses should eat 1.5-2.5% of their bodyweight (BW) in feed (forages plus grains) daily. For example, a 1,000-lb horse should eat 15-25 lbs of feed daily, with a majority (≥75% for most horses) of that being forage. Most horse owners should target 2% BW; however, owners with easy keepers or overweight horses should target 1.5% BW, while owners with hard keepers should target 2.5%. Overfeeding can result in excessive weight gain, related health issues, and wasteful spending. Using these values can also help owners accurately calculate annual hay needs.

5. **Always use a feeder or net to reduce hay waste.** Research found, when feeding small square bales indoors, 7% hay waste occurred without a feeder vs. only 1% with a feeder. When feeding small square bales outdoors, 13% waste occurred without a feeder vs. 1-5% waste with a feeder. When feeding round bales outdoors, 57% waste occurred without a feeder compared to 5-33% waste with a feeder. Although feeders can be an investment, all feeders paid for themselves within one year. Not using a feeder can result in thousands of dollars of wasted hay (and money) annually.

6. **Reduce hay waste with proper bale wrap and storage.** Research also found, when harvesting and storing round bales outdoors, dry matter (DM) losses were nearly 20% for bales wrapped with sisal twine, 11% for plastic twine, 7% for net wrap, and minimal losses with B-Wrap®. Hay stored indoors will always result in less DM loss compared to hay stored outdoors; however, not all owners have sufficient indoor storage. When round bales were stored outdoors without cover, DM loss was 7-49%, compared to only 2-6% when stored indoors. Outdoor storage tips include covering the bales with tarps, deterring wildlife from storage areas, storing bales on a well-drained surface or pallets, baling or buying a tightly-packed bale, and using older bales first. Consider building additional indoor hay storage to reduce losses and to help ride out market swings and the seasonality of hay production. Properly stored hay will keep for multiple years.

7. **Consider using alternative feedstuffs.** These can be economical compared to hay during times of high hay prices. Hay cubes, hay pellets, chopped alfalfa, and complete feeds can be used as total replacements for hay; however, horses tend to eat these products quickly. Other fiber sources include rice bran and beet pulp. These feeds cannot fully replace hay, but can be used as partial hay replacements. Whenever hay alternatives are used, owners should work with equine nutritionists (and their veterinarians if needed).