

## Forage Alternatives

- **Hay is hard to find in some areas.** Because of a scarcity of hay in many regions, can you just skip feeding hay this winter and make up the deficit by doubling your horse's grain ration? The answer is an emphatic NO. Hay, or some other source of fiber, is absolutely necessary to the health and function of the horse's digestive tract. Overconsumption of grain is characteristically followed by colic, gastric ulcers, or laminitis, so this is not an option to consider. Aim for an average of 1.5% of the horse's weight in hay or equivalent forage each day (approximately 15 pounds of hay for a 1000-pound horse), adjusting up or down depending on the horse's age, use, and metabolism.
- **Why is fiber so important in the equine diet?** Consumption of grass, hay, and other forage fulfills both physical and psychological needs. Horses have a strong desire to chew, and also to have the full-gut feeling that comes from eating a lot of fiber. Deprived of adequate forage, horses tend to chew on trees, fences, stalls, and anything else that is available. A steady supply of forage helps to maintain the optimum types and numbers of microorganisms in the hindgut. These bacteria and other organisms transform fiber into energy the horse can use for growth or performance. The proper balance of beneficial bacteria prevents an overgrowth of harmful organisms that may upset digestion. As well as aiding the passage of food through the digestive tract, adequate fiber provides bulk and weight in the intestines. This helps to keep them from twisting and looping around each other, possibly leading to tissue damage and colic.
- **Is there a particular need for forage during cold weather?** A near-constant supply of forage is an important factor in keeping horses warm in the winter. The vast fermentation vat of the horse's hindgut steadily produces heat that can't be supplied by an all-grain diet.
- **My local hay dealer doesn't have hay for sale this year. Should I buy hay from outside my region?** Obviously, not all hay is the same, but with some precautions, you should be able to use hay that is shipped in from other regions. Things to look for include:

  - *Blister beetles.* Alfalfa hay from southern regions may contain these small insects that are highly toxic to horses. Signs of ingestion may include colic, depression, loss of appetite, and straining to urinate.
  - *Unfamiliar weeds or plants.* Hoary alyssum, a pasture weed, has been found in alfalfa hay baled in Michigan. Horses consuming the plant showed diarrhea, swollen legs, fever, and signs of laminitis.
  - *Selenium levels.* The amount of selenium in hay is influenced by the level of the mineral in the soil where the hay was grown. Horses need a certain amount of selenium, but high levels are toxic. Hay from some western states may have this problem. Signs of selenium toxicity include laminitis and a loss of mane and tail hair.
  - *Vitamin content.* Levels of vitamin A and E drop slowly as hay ages. Hay baled last year, or even very early in the current year, may not contain enough vitamin E to keep horses in good health through the winter; signs of deficiency include muscle weakness, tremors, and weight loss. Vitamin E level depends less on the hay's place of origin than on how long it has been in storage.
  - *Quality.* Ask hay brokers for a nutrient analysis before making a purchase, and examine the hay before accept-

ing delivery. Good hay will smell fresh and clean without a moldy odor. Check the center of a few bales; hay that appears dry and yellow on the outside of the bales may still be green and fresh inside.

■ **I still don't have enough fresh hay to supply my horse all winter. What can I do?** If at all possible, some hay should continue to be fed. Owners can use alternative fiber sources to round out the diet if the amount of traditional hay must be reduced. Ideas for stretching your hay supply include:

- *Feeding chopped hay, available at some feed stores in 50-pound bags.* Palatability is an asset; expense and storage may be problems.
- *Adding some hay cubes to the horse's diet, soaking the cubes if necessary before feeding.* Alfalfa, timothy, and mixed cubes may be available, and in some parts of the country a hay cube fortified with vitamins and minerals is available. Many horses can get along well on mixed cubes, and selection should match the horse's needs. Because there is less waste with cubes than with loose hay, you often do not need to feed an equivalent weight. Don't put all the cubes out at one feeding, as the horse will probably gobble them up quickly and then have nothing to eat for hours.
- *Adding beet pulp to the ration.* This "super-fiber" can make up a maximum of 20% to 30% of the diet, is easily digested, and can be bought in bulk at feed stores. Many people advocate soaking beet pulp before feeding, so use of this fiber takes a little more time and management than some other choices. Beet pulp is low in phosphorus and some other minerals and vitamins.
- *Feeding a "complete" or "fiber-included" feed that incorporates both the forage and grain portions of the diet.* Be sure that the feed actually includes forage; some companies use the "complete" designation to indicate a fortified grain mix, not a product that offers forage. This type of feed should be offered in several small feedings throughout the day rather than as one large meal.
- *Using clean older hay.* Even if last year's hay doesn't have optimum levels of some vitamins, it gives the horse something to chew on. Older hay that is clean but very dry can be moistened before feeding to make it more palatable, and the nutritional shortfall can be made up by adding a vitamin-mineral supplement.
- *Feeding straw, either baled or chopped.* Clean, non-moldy straw is palatable to many horses and contains nearly as many calories as some grass hays, although it is lower in protein and phosphorus.
- *Allowing horses more access to pasture.* If non-grazed fields are available, horses will continue to eat grass all winter even though it is not actively growing. In fields that have been grazed all summer and fall, horses may be forced to eat brushy or toxic plants as the only choice. Before counting on this source of forage, owners should walk the fields to make sure there is something to eat.

■ **What else is involved in feeding alternative forage sources?** Provide plenty of ice-free drinking water at all times through the winter. Horses may drink more water if it is slightly warm.

Monitor your horse's weight every few weeks through the winter, and modify the diet as necessary.

Watch your horse carefully as you change his diet. Variations in appetite, water consumption, mood, performance, and manure consistency can help owners detect problems with a new feed. Don't hesitate to check with a veterinarian if your horse shows signs of colic, laminitis, or any other condition that could be related to changes in feed.

As with any dietary modification, make changes gradually over a period of seven to ten days.

No single answer is right for every horse in every situation. Owners will need to consider availability, cost, and practicality when choosing ways to provide adequate fiber. Check with your feed supplier if you have questions about the available choices for meeting your horse's forage requirement.



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