

Feeding Horses During Drought Conditions

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Late 2005 and 2006 represent the third compromised hay crops in less than a decade. Horse owners who typically pay around \$3 to \$3.50 a bale for good grass hay during normal hay production years, have been faced with hay shortages and increased costs to secure good quality hay for horses. This has driven annual horse keeping costs upward by at least 25 %, with hay costs alone more than doubling in some cases.

In typical years of adequate rainfall and overall weather conducive to growing good Texas hay, horse owners have been able to be somewhat picky about hay and even ask for nutrient analyses prior to purchase. This summer of 2006, many owners are glad to just be able to find hay that is clean and free of mold, almost independent of nutrient content. This shortage of hay has prompted many questions about alternatives for meeting roughage requirements and keeping horses healthy in the midst of compromised hay supplies.

Research conducted at Texas A&M during previous dry periods has shown that change in type of hay is one of the single biggest dietary factors associated with digestive disturbance in horses. Horses do not tolerate dietary change well, and the shortage of hay has caused some horse owners to have to feed hay of different types, or from different batches. Even the same type of hay can vary a great deal in quality, depending on how it was managed, when it was cut and where it was grown. The drought conditions have forced some horse owners to have to switch hays much more often compared to more normal years of hay growth and hay supply. Transition to a new batch or type of hay should occur gradually, if at all possible. By slowly introducing small amounts of a new hay source, there should be less likelihood of digestive disturbance in horses being switched from one batch of hay to another.

One way to stretch your existing hay supply is to actually weigh each block or portion of hay prior to feeding, aiming for no less than .75 % of horse body weight per day in long stem roughage. To keep the digestive tract healthy, this is the minimum, and daily hay provided between .75 and 1.0 % of body weight will usually meet a horse's need for chewing and for gut fill. Although many horse owners just do not routinely weigh their hay prior to feeding, this is a simple management practice that can help stretch hay supply while meeting a horse's daily roughage needs.

Concentrate feeds that are higher in crude fiber than a horse owner might normally feed can be used to help decrease the need for long stem roughage. Feeds that are 14 % crude fiber or higher will help, allowing horse owners to cut back to as little as ½ % of body weight per day in long stem hay. Some of the senior feeds on the market are already being fed to old horses that have had a noticeable problem with chewing and processing

long-stem hay. These senior feeds are designed with enough fiber included so that older horses can eat the feed and actually do not have to be provided any long hay at all. Younger, mature horses fed these senior feeds can likely get by in the short term without any hay, however, a good recommendation is to still provide some roughage if at all possible.

There are even some feeds on the market that exceed 20 % crude fiber, and this is enough fiber to keep the horse's digestive tract healthy, particularly if the feed is extruded. These feeds will sometime be successful in also slowing intake, getting horses to take longer to complete a meal. So in the short term, these high fiber feeds can essentially remove the requirement for long-stem hay or grazing. However, it is always possible that some horses may show increased tendencies to chew wood or other horses' manes/tails, in the absence of any long stem hay being provided. This depends on several factors, and consequently, some companies will still recommend also providing a little long stem hay or grazing to the horse's daily diet if at all possible.

Horse owners who are able to get clean round bales can stretch the hay supply further by limit-feeding a round bale. This is easily accomplished by fencing or paneling off the round bale, allowing horses a limited amount of time to eat from the bale each day. Such a management approach can be successful in meeting a horse's daily roughage needs, but may not provide enough nutrients to maintain body weight. So, there will be instances where supplemental feed of some type may be necessary when roughage intake is limited.

Some processed forms of roughage can also be helpful during the hay shortage. Processed roughage can be found in pelleted, cubed and chopped/bagged forms. On a pound to pound comparison, these roughage sources are quite a bit more expensive than traditional square bales. However, the feeding value can be comparatively better because many of these alfalfa-based roughages have a guaranteed nutrient content.

One solution to getting through these tough times is to use both clean, dry grass hay and a processed roughage such as those mentioned above. This can help stretch existing hay supplies. Again, for horses that also get fed some concentrate feed, total roughage at .75% to 1 % of body weight will usually meet the roughage need and minimize vices such as wood chewing and chewing of manes and tails.

Prairie hay can be fed to horses, but the nutrient content of this hay is usually quite low. If it is overly mature, which can often be the case, horse owners will sometimes find that horses act disinterested in the hay and might not voluntarily consume it as readily as some other grass hays to which they are more accustomed. There is always some concern about low quality, coarse hay potentially contributing to impaction-type colic in horses. Even so, the drought in Texas has increased the number of inquiries about prairie hay. If prairie hay is clean and free of mold, one potential solution is to mix some prairie hay with a legume source such as alfalfa for horses. Particularly in those cases where prairie hay might be only 2 or 3 % crude protein, mixing it in with a high quality legume source may be helpful to gut function.

If a horse that normally eats hay quite well, refuses a new batch of hay, that should be a warning sign to the owner. Horses that are accustomed to good quality hay may refuse hay that is really mature and stemmy, or hay that contains mold. There are situations where square bales are being offered for sale that were actually made by re-baling big round bales. If the round bales were of good quality, there should not be a problem. However, if the original round bales were weathered and contained any mold, a batch of square bales made from one large round bale could vary a great deal in quality from bale to bale. Keep in mind that a 1000 pound round bale can be the equivalent to 16 or more small square bales. So, if these square bales were made from a round bale that was weathered, significant differences in quality would be expected to exist.

Avoid some types of hay completely as several have been associated with various types of sickness in horses. Kleingrass should not be fed if it can be avoided, as there are indications that it can cause liver problems in horses. Given a choice, horses will select other grass hays over kleingrass, and voluntarily consume smaller amounts of kleingrass over time. Also avoid johnsongrass, sorghum-sudan crosses (haygrazers), Russian, Foxtail and German millets if at all possible. Concerns over prussic acid and cystitis syndrome are the basis for this recommendation. Fescue is typically acceptable for most horses, except for broodmares during the breeding season. The last 90 days prior to foaling, mares should be kept away from fescue because of concerns over foal death at time of birth and the complete absence of milk production in some mares provided access to fescue. It is probably best to avoid Kochia hay as well. Although not well researched in horses, there are several known problems with Kochia, from nitrate toxicity to polio to liver damage to photosensitization to oxalate poisoning. Although that information applies to ruminants, it makes sense that Kochia would not be recommended for horses. These are just some of the hays that are known to be potentially harmful or unacceptable to horses.

Horse owners may want to log onto TexNat, the Texas Natural Resource Server that includes a toxic plant database. For more information on selection and use of hay and processed roughage in feeding horses, go to <http://animalscience.tamu.edu> and click on equine science or horse program. Then go to the publications section and find information related to hay for horses, as well as feeding broodmares, growing horses and performance horses.