

# PASTURES FOR HORSES

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The horse evolved as a grazing animal. In order to consume enough forage to meet the horses' nutritional needs a significant amount of time would be spent each day grazing. The pattern of selecting forage-moving to the next area starting to graze again can easily translate into 14 to 16 hours of grazing activity each day. The level of grazing activity will also be affected by the available forage and the daily access to pasture.

If that is the normal grazing activity for a horse, turning your horses out on pasture should not be an issue and will give them ample opportunity to consume enough forage to meet most of their nutrient needs. It is evident in today's horse industry that access to pasture, while a readily available source of nutrients for the horse can also be a source of headaches for the horse owner.

The often asked question is how much pasture is needed for my horse. This is easily answered by "it depends". There are many factors that can influence the use of pasture as a nutrient source for horses. Certainly the amount of forage that is available is the major concern. With today's better agricultural practices including new varieties of grasses and legumes, better weed control, fertilizer applications and a cooperative Mother Nature horse owner can provide an abundant supply of forage. While it is easy to supply the forage, from a nutrient supply basis how much actual forage does the horse consume and over what period of time are critical pieces to the puzzle.

The general suggestion of forage intakes on pasture have been 1.5-3.0% of the horse's body weight in forage dry matter per day. From a management perspective do horse owners need to manage the pasture, their horses or both when providing enough forage to meet their horses nutrient needs? The answer is of both.

Recently equine researchers have targeted the question of intake. If horse owners are going to manage their horses and let the pasture be a significant nutrient source, an estimate of daily dry matter intake is critical.

Current intake data has noted that horses will change intake rates over time. Research in North Carolina reported that horses in the second four hour grazing bout reduced the intake rate to half of what it had been in the previous four hours. What this tells us is horses will consume a significant amount of feed when first put out on pasture. If you based intake on this shorter time period and extrapolated over more hours you could over estimate intake. Using the same logic if you used a 24 hour rate and calculated for a 2-3 hour grazing period you would under estimate intake. This

study noted that for light horses the total Dry Matter intake was about 1.3% of body weight and the horses consumed almost 55% of their daily energy requirement in an eight hour grazing period. If it is possible to provide that level of energy intake it is most important for horse owners be aware of what the pasture is providing and regulate intakes of all feeds accordingly.

If limiting time on pasture is a management practice to reduce forage intake what else does a horse owner need to do? It is apparent from the North Carolina study that horses that did not have access to any source of feed prior to grazing will consume more forage than you might want when first turned out to graze.

A reasonable plan might be to reduce time on pasture and feed hay before turning the horses out to graze. If you restrict access to pasture and supplement with hay, pasture intake will decline in relation to time on pasture and hay intake. Using palatable hay with a reduced nutrient content can help to control total daily intake. The hay needs to be palatable or the horses may not consume enough of it to reduce their hunger, thereby not reduce pasture forage consumption.

In research from England it was noted that overtime horses adapted to the supplemental feed source provided prior to grazing. At the onset horses consumed about 2% of body weight in dry matter with the largest portion of that dry matter coming from stored feed. Over time the animals changed to consume more pasture reducing the hay intake but maintaining the same daily dry matter intake of 2%.

It appears that using an alternative nutrient source such as hay will reduce pasture intake but horses will adapt and select what they prefer to eat.

The other alternative is to restrict access to pasture forage by using a grazing muzzle. English workers have reported reductions of as much as 85% when grazing muzzles are used. As many horse owners already know the muzzles do work at restricting intakes but allow the horse to practice grazing behaviors which can be beneficial to the horse's overall well being.

While there are some horses that need to have restricted access there are those who can be turned out with basically free access to pasture. For that situation the focus is moved slightly from the horse to the pasture.

A common recommendation for horse owners is to provide 2-4 acres of pasture per horse. When looking at this it is easy to agree, but it also depends on other factors. Growing conditions, forage species, number of horses and management all have a great deal of impact on how pasture can be used and how much pasture acreage is really needed.

An ideal pasture for horses has a dense stand of forage, made up of forage species horses that will consume and adequate level of forage produced during the

growing season. Horse owners need to manage the pasture to ensure this happens. The management practices need to reflect the local conditions.

What are some of the considerations to have a good pasture? When selecting the forage species, consider what will grow in the area, what species are preferred by the horse, and what species will persist under typical grazing conditions. Work at the University of Kentucky has looked at forage preferences and the persistence of forages to identify those forages that could be used in a horse pasture. In grazing trials, it was noted that Kentucky bluegrass, Orchard grass and Festulolium were preferred over Tall Fescue. The preference was also noted in how much of the plant material was consumed as the Tall Fescue had the lowest forage reduction scores. When coupled with the grazing score and height reduction, it was concluded that the Kentucky bluegrass and the Festulolium were preferred slightly over the Orchard grass and were much preferred over the Tall Fescue. When evaluating the forage species it was noted that the Tall Fescue had the greatest persistence in the stand. In a similar project in Minnesota using cool season grasses, the researchers noted that the species with the greater preference scores had the lowest persistence scores. What this means to the horse owner is those species that will be readily consumed by the horse may require more management to prevent overgrazing and loss of the species in the stand. The Kentucky work suggested that lower grazing pressure on the tall fescue may have resulted in that forage type having greater persistence because it was not grazed as hard and had more reserves for re-grow. For the horse owner, the other consideration is when using a mixture of species in their pasture, be aware of those areas being preferentially grazed because if a forage species is being selected preferentially there is a need to manage the horses in a way to limit or prevent overgrazing.

To manage the pasture and the horse's desire to select preferred plant material, horse owners should consider a rotational grazing program.

The benefits of using a rotational system are: 1) maximum yield of forage equals more feed for your horses; 2) reduction in spot grazing as you can control to some extent preferential grazing of specific forage species; 3) extension of days the pasture is used resulting in reduced hay feeding. While all of these benefits are useful to the horse owner, they come at a cost. Horse owners will need a system of fences to divide their pastures to form the grazing areas, need a water supply to all grazing areas, and most importantly, the time to evaluate the pasture and move horses relative to available forage.

Limited work has been done on the benefits of rotational grazing for horse production. An early study in Oklahoma grazing yearling Quarter Horses on alfalfa pasture reported significant differences in daily gain, forage dry matter production and days on pasture, with the rotational system being better than the traditional continuous system. The significant take home message is the extended grazing days under the rotational system; the horses were on pasture for 12 more days. This may not seem to be a great increase, but even a few days of extra grazing and less days feeding hay can add to significant feed savings.

Missouri researchers have compared a cool season pasture system based on Tall Fescue by looking at the value of the rotational system. By maintaining forage production and stand vigor, horse owners have the opportunity to make greater use of the available forage as pasture and reduce their dependence on hay. This group noted horses maintained body weight on either system but the forage production was greater on the rotational system. Their research had a fixed time frame but more forage remained on the rotational system giving the option to graze longer.

In Kentucky work has been done with mature horses maintained on a Bermuda grass (Warm season grass) pasture under a rotational system. On a five acre pasture, a range of 9-15 mature horses have maintained body weights over 90-120 day grazing periods. Of interest with the increase grazing pressure and a single forage pasture, the incidence of spot grazing was greatly reduced during the different years studied.

For the horse owner developing a horse pasture, consider the following:

1. Select forage species adapted to your area as growing conditions and ease of establishment need to be considered.
2. Look at grazing tolerance—as the preferred species will be selected by the horse and will require more management to prevent overgrazing and reduced forage availability.
3. Plan a rotational system. Remove horses when forage has been grazed to 3-4 inches in height and return when re-growth has reached 8 -10 inches. In most cases depending on number of horses per unit of area 7 -10 days of grazing followed by 21-28 days for re-growth should work. ***Note that areas of spot grazing could be shorter, making it important to move the horses before the entire area is 3-4 inches in height. Horses are more likely to graze the shorter areas leaving the more mature forage.***
4. Mow pasture after moving the horses. This will help to maintain similar maturity across the grazing area. This practice also helps to reduce spot grazing;
5. Manage the grass—it is a valuable crop that requires attention to both fertility and weed control.
6. Evaluate the horses as they graze. For those horses that are unable to maintain body weight and body condition score adjustments will be needed. Horses that are gaining weight and BCS need to be restricted from the pasture which means more work for the horse owner.

Pastures are a valuable resource to horse owners, but they must be managed and used wisely.