

EFFECTIVE USE OF PASTURES FOR HORSES

Bob Coleman, Ph.D.

Extension Horse Specialist
University of Kentucky

Pastures can serve two very necessary functions for the care and maintenance of horses. Not only do these areas of grasses and legumes provide a place for the horse to exercise, they can provide a significant portion of the horse's nutrient requirement. Horses evolved as a grazing animal, so it is reasonable that many classes of horse can be adequately maintained on well-managed pastures.

Horses allowed free access to pasture will spend 60-70% of each day grazing. The actual time may vary with the availability of forage. Horses on pasture with large amounts of forage do not spend as much time grazing to meet their requirements as horses kept on poorer pastures where more time is required to find enough to eat. For those horse owners who limit the time on pasture, the percentage of the horse's time spent grazing is not changed. When horses are turned out only at night, they will still spend about 70% of their time grazing. While horses turned out during daylight hours spend slightly more than 10% of their turn out time grazing. As a management practice, if you want to limit the horse's access to pasture, you need to limit the total time they are on a grass or turn them out at night. Another management practice that can be used is to feed hay prior to turning the horses out so they are full as this may reduce the amount of pasture forage consumed. Feeding hay on pasture does not always have the same effect as the horse will selectively graze the available pasture and selectively eat the hay provided.

How many acres of pasture do you need for your horses? This is a common question for horse owners and one which does not have an exact answer. Factors such as age and size of the horse, forages being grazed, growing conditions and expectations of the horse owner all come into play. If you are prepared to provide the largest percentage of your horse's nutrient needs from supplemental feed, your acreage requirement will be less. However, providing 2-4 acres per horse should provide ample forage. If at all possible, have more acreage than you need for the horses you own. In many situations, horse owners have too many horses for the land base they have and the result is over an used pasture.

All forage diets can be used for mature horses at maintenance. Table 1 shows the percentage of the daily nutrient requirements pasture can supply and what additional feed may be required for a mature horse at maintenance.

Pasture is generally available for 5-7 months of each year. Depending on weather conditions, the reliance on pasture as a major source of nutrients for your horses can be increased through good pasture management. This includes the regular fertilization, weed control and grazing practices such as rotational grazing.

For most horse owners, the use of grazing management will be the most practical means of maximizing the use of pasture. By planning your pasture use to allow for rotational grazing, the grazing period can be increased. In order to use rotational grazing, the available pasture needs to be divided into smaller pastures that can be alternately grazed then rested. Horses can be placed on the pasture when it is 6-8 inches in height and then removed when the forage has been grazed down to 2-3 inches in height. The time required for pastures to regrow will be determined by weather, but horse owners need to consider a 3 week rest period in their rotation.

Table 1. Feed Requirements for a mature horse (body weight 1100 lbs) at maintenance on pasture of differing quality.

| Pasture Quality | Percentage of Nutrients Supplied | Additional Feed Required |
|----------------------------|---|---|
| Excellent (spring pasture) | over 150% | Salt, minerals and water. Caution as horses may become obese with founder and colic potential problems. |
| Very Good | 100% plus | salt, minerals and water |
| Good | 70 - 100% | 6 - 7 lbs of hay per day |
| Fair | 25-50% | 9 - 13 lbs of hay per day |
| Poor = dry lot | 0 | 20 -25 lbs pf hay. This is an exercise area only. |

Table 2 shows the difference in grazing days with yearlings under a rotational or continuous grazing system.

Table 2. Rotational vs. Continuous Grazing Effects on Yearling Horses

| <u>Grazing Method</u> | <u>Daily Gain (kg)</u> | <u>Days of Grazing</u> |
|-----------------------|------------------------|------------------------|
| Continuous | 0.23 | 25 |
| Rotational | 0.60 | 37 |

Adapted from Lewis 1995

By using a rotational system, the yearlings gained more per day, but more importantly, an additional 12 days of grazing were available. When horse owners

are looking after mature horses, the gain in weight is not as important as the opportunity to extend the grazing period and reduce the need for supplemental feed.

While limited, pasture research with horses indicate what most horse owners have recognized for years. Properly managed pastures will provide the nutrients needed for horses to maintain weight, grow and be reproductively efficient. In fact, most horse owners are often concerned about their horses getting too much out of the pasture, becoming obese and possibly foundering.

To effectively use pastures, horse owners need to consider:

- 1) **Avoid over grazing.** This is due to more horses than available acres. While 2 acres of highly productive pasture may be enough, consider allowing 4 acres per horse. In addition to enough pasture, pasture should be divided to allow for rotational management. When horses over graze, they not only reduce the vigor of the plants, but in many situations, they will remove plant material all together. This results in a very unproductive pasture, usually full of weeds or other undesirable plants.
- 2) **Traffic.** Excessive traffic can also reduce the quality of your pastures. For many horse owners, the concern is their horses over graze, but in some areas of the pasture, damage occurs due to excessive traffic or hoof damage. Areas around watering devices, shade, and the gate may be damaged due to hoof action in addition to over grazing. Protecting these areas is a challenge and may require the use of porous material such as crushed stone and geo textile fabric and not try to maintain grass in those areas.
- 3) **Spot Grazing.** Horses are noted as spot grazers because they are selective in what they eat. In situations where there is an abundant supply of forage, horses generally select the most immature plants or portion of the plant. This selectivity can hurt the regrowth of plants and also allow other plants to become mature and less palatable. Horse owners can avoid some of this by having enough grazing pressure on the pasture such that all plant material is consumed somewhat equally, or by regular clipping or mowing of the pasture to have all the forage at a similar stage of maturity. In addition to selecting the immature plants, some horses will also selectively graze particular species of plants so much that they may remove that species from the pasture.
- 4) **Supplemental feed on pasture.** When the forage in the pasture no longer meets the horse's requirements, horse owners need to supply hay and or concentrate. As previously discussed, the use of supplemental feed, such as hay, may not stop grazing and horse owners may find that areas of the pasture are still being over grazed due to horses selecting the

regrowing plant material. How supplemental feed is provided can also impact the pasture. Hay, when fed on pasture, should be provided in a suitable feeder not on the ground. Feeding on the ground will result in a waste of hay in the range of 20-25%. As well as the waste, the hay on the ground can reduce the grass in that area leaving bare ground and an excellent opportunity for weeds to grow. Feeding concentrate can also cause damage to the pasture. This occurs generally on the fence line where the buckets are hung as horses mill around and damage the turf. The more horses are fed on the pasture, the greater the damage can be. If feeding on pasture is part of your management program, use suitable feeders and develop an area that will not have grass on it. Using geo textile fabric and crushed stone to make a feeding pad can be a reasonable investment and protect your pasture.

- 5) **Dividing the pasture.** Horse owners need to manage their pastures so that they are not using all the pasture at one time. In table 2, data was shown that indicated the length of time a pasture could be used was extended by rotational grazing. In order to divide pasture, horse owners may be reluctant to invest in more fence, however, with the availability of electric fence materials, horse owners have an economical option. At the University of Kentucky, we have used electric fence for mature horses on grazing studies with excellent results. As long as the electricity is flowing, the horses stay where they are supposed to be. Researchers in North Carolina found similar results with mature horses, however, when yearlings were kept behind electric fences, more management and time fixing fence was required. Use of electric fence means taking the time to let your horses learn about the fence and making sure the electricity is always on.

Pastures need to be managed as any other crop. Not only do you need to fertilize, but also consider how you will graze the forage to optimize its use in feeding your horses.