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Virginia's Horse Pastures: Grazing Management

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Sound grazing management can decrease feeding expenses and stable cleaning and other chores, leaving more time for the recreational enjoyment of horses. In addition, pastures also help to maintain healthy horses by providing exercise and fresh air. Although properly managed pastures can be beneficial to both the horse and owner; improperly managed pastures can be a serious environmental concern. Poor grazing management results in the loss of groundcover that can lead to soil erosion, the degradation of water quality in neighboring streams and ponds, and increased weed pressure in pastures.

Proper grazing management includes allowing adequate time for the plants to establish themselves, providing adequate land area per horse, utilizing rotation and rest periods, confining horses to a "sacrifice area" or exercise lot during periods of drought or wet soil conditions, managing manure, maintaining soil fertility, and clipping the pasture to even out under-grazed areas and control weed populations.

Let the pasture become established. Do not allow new seedlings to be grazed until the plants have become well established. The root systems should be well developed to prevent the seedlings from being pulled out of the soil by grazing animals and to reduce damage by the hooves of running horses. This rule applies not only to newly seeded pastures but also perennial pastures that have been renovated. New forage stands require 18 to 24 months to become fully established. Overgrazing during this period can severely damage developing sods. On the other hand, light and infrequent grazing can be beneficial for sod formation. During the establishment period do not graze sods closer than four to six inches and allow at least 30 days rest for actively growing pastures and longer for slow growing pastures during the summer months.

Provide adequate land area. Proper pasture management begins with providing adequate area for each horse. Overstocking pasture areas will lead to the rapid loss of desirable forage species due to overgrazing and trampling. It also will encourage the growth of unpalatable and in some cases poisonous weeds. In Virginia, two to three acres of well-managed pasture should provide adequate grazing and exercise for a mature horse. However, with careful, sustainable pasture management a horse may be adequately kept on less acreage. Regardless of acreage, both the large equine business and the small hobbyist will benefit from sustainable grazing management, which is critical to a healthy sod that benefits the horse, the owner, and the environment.

Rotate and rest pastures. Even the best pasture needs rest after grazing to allow plants time to regrow and replenish food reserves. The length of the rest period will depend on the time of the year and weather conditions. It should ultimately be based on the height of the regrowing plant (Table 1). Optimally, pasture acreage should be divided into at least four to six pastures. Continuous grazing weakens and thins stands and allows weeds and poisonous plants to invade pastures. Horses should be rotated from pasture to pasture based on the height of the forage. Never allow pastures or portions of pastures to become overgrazed. *Since horses are spot grazers, rotate to a new pasture when the grazed areas reach the minimum height rather than waiting for the entire pasture area to be grazed to the minimum height.* Target heights for starting and stopping grazing of commonly used forage species are shown in Table 1. Some forage species are more tolerant of grazing than others. For more information on forage species, see *Virginia's Horse Pastures: Forage Species for Horse Pastures*, Virginia Cooperative Extension publication 418-102.

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Table 1. Starting and stopping grazing heights for forage species commonly used in horse pastures.

Forage Species	Start Grazing (inches)	Stop Grazing (inches)	Usual Rest Period[1] (weeks)
Kentucky Bluegrass + Clover	8-10	2-4	2-3
Orchardgrass + Clover	8-12	4-6	2-4
Tall Fescue + Clover	6-8	2-4	2-4
Bermudagrass	4-8	1-2	1-2

[1] Usual rest period is based on optimal growing conditions. Temperature and rainfall can dramatically impact regrowth and either shorten or lengthen the rest period significantly.

Rotating livestock in pastures. There are advantages to grazing different types of livestock in horse pastures, primarily because it allows more efficient use of the pasture. Although all livestock are selective grazers, compared to horses, cattle and sheep are less selective. Rotating different livestock through the pastures keeps them grazed more uniformly and helps maintain the high-quality leafy stage of growth. Cows and sheep will also graze around manure piles left by horses. Cattle or sheep and horses may be stocked together in the same field or alternately, cattle or sheep may follow horses in the pasture rotation system.

Utilizing a "sacrifice" or "exercise area." In cases where land is limited to less than two acres per horse, it is nearly impossible to maintain pasture sod with continuous grazing. Maintaining an exercise area, that is, an exercise lot where no plants will grow is a practical solution. Permit grazing only when the pasture has reached the target height. Proper fertilization and timely irrigation of the pasture area can significantly increase forage growth and reduce the time period between grazing events. The exercise area should be used during periods of wet soil conditions and drought—and during winter/nongrowing season. Hoof action can seriously damage even well-established pasture sods when soil conditions are wet. Do not graze pastures during periods of drought stress and slowed growth. Overgrazing during these periods will significantly weaken and eventually kill even well -established stands. Footing in exercise areas may become unsafe due to mud, so a base comprised of a geotextile (available at many agricultural or landscape supply stores) covered with six to eight inches of one- to two-inch rock capped with two to three inches ground stone dust or sand should be constructed to improve the footing and prevent soil loss. Removing and composting manure and other organic materials such as hay and bedding every three days will also improve footing, and reduce parasite and fly exposure.

Provide hay as alternate forage. During times of the year when adequate pasture is not available (e.g. winter or drought conditions), provide hay as a forage alternative to pasture. Hay fed at a rate of 1 to 2 percent of body weight will provide adequate roughage to maintain digestive tract health. Horses will graze pasture during periods of nongrowth if they have no alternative. However, limited forage availability and poor quality of nongrowing pasture do not provide adequate nutrition for horses. Also, the grazing will weaken and kill desirable pasture plants. Since horses will tend to graze even if hay is provided, hay should be fed in the sacrifice area. Hay feeders should be utilized rather than feeding hay on the ground to avoid the ingestion of soil, sand, or stone dust that can lead to colic, and impaction.

Mowing maintenance. The tendency of horses to spot graze pastures leaves some areas ungrazed. These areas need to be clipped to approximately four inches to remove mature growth and seed heads, promote new growth, increase forage quality, and encourage grazing. Mowing will also slow weed propagation by removing seed heads. Many grasses (ryegrass, fescue, bluegrass, small grains, etc.) may be susceptible to infection with an ergot mold, which may cause equine ergotism. Normally the ergot is only a problem when the forage is allowed to produce a seed head. Therefore, pastures should be clipped to avoid seed head formation.

Grazing Management at a Glance

- Allow pastures to become established before grazing.
- Do not graze pastures closer than two to four inches.
- Allow pastures to rest between grazing events.
- Graze pastures only after regrowth has reached a height of six to 12 inches.
- Do not graze pastures that are not actively growing.
- Feed hay when pasture growth is slowed or stopped.
- Do not graze pastures when soil conditions are wet.
- Mow pastures to remove mature forage and encourage grazing.
- Harrow pastures to spread manure.
- Create and utilize an "exercise area" to feed hay when pastures are not ready to be grazed.

Removing or harrowing manure. Piles of manure droppings contribute to under-grazed areas of the pasture, because horses will avoid these areas and the nutrients contained in the manure will promote rapid plant growth. Manure piles in the pasture should be scattered periodically, by dragging a chain harrow, spiketooth harrow, or other similar implement across the pasture. Harrowing the manure will promote uniform grazing. Additionally, breaking up and spreading the manure piles may also help to reduce parasite populations. A good time to harrow the manure piles is shortly after the horses have been rotated to a fresh pasture and the resting pasture has been mowed.

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