



Management of Established Horse Pastures

High quality pasture can be the best and least expensive source of feed for horses. In addition, well-kept pastures provide the best place for horses to exercise, rest, and have access to fresh air and sunlight. Productive, high quality pastures are the result of applying good pasture management practices. But horse owners often do not manage pastures to maintain the desirable plant species and maximize forage output due to a lack of management awareness as well as proper equipment. Good pasture management practices are based upon knowledge of the soil resource available, how plants grow, the soil and climatic requirements of plants, and how plants respond to grazing. Horse owners need to understand the adaptation, growth and cultural requirements of the forages to be grown as much as they need to understand feeding and care of the animals.

Grass is the horse's natural feed. Productive, well-managed pasture can provide most of the nutritional requirements for horses during the growing season, including protein, vitamins and minerals. Good management can also greatly extend the period over which adequate pasture is available for horses without the need for additional hay. Horses grazing on well-managed pastures will be in better condition and have improved health compared to those grazing on poorly managed pastures. Poorly managed, abused, worn-out pastures not only supply little or no feed, but are frequently the source of many internal parasites found in horses. Poor pasture management results in feeding more supplemental feed, reduced plant vigor and productivity of the stand and increased weed problems. All of these increase the total cost of keeping horses.

Most permanent pastures are not producing up to their potential. In fact, unimproved pastures may yield only 2000 pounds or less of dry matter per acre per year. Thus it may require 2 acres or more to produce enough forage to feed one horse during the normal summer grazing months. Furthermore, unlimed, unfertilized, unclipped, weedy pastures fail to provide a balanced ration when grass is dry and weathered.

If you already have good stands of desirable grass and legume species, then lime and fertilizer together with proper grazing management practices should be sufficient to assure good horse pasture. Yields on many abused and worn-out pastures can be doubled simply by applying lime and fertilizer.

Liming and Fertilization

How much lime and fertilizer should you apply? That depends on the existing pH and soil fertility levels. A soil test (analysis) will determine the pH (acidity) and nutrient level of your soil. Tests should be made every 2-3 years to determine the fertility status of the soil. Soil tests can be obtained through commercial testing laboratories and some feed and farm supply centers. Local cooperative extension and soil conservation district offices can provide you information on testing laboratories.

Testing your soil won't guarantee top quality pastures, but an analysis of a soil sample properly taken will tell you how much lime and fertilizer you should apply. It will give you the best information available to bring your pasture to the desired, balanced fertility condition.

If you have not been routinely applying lime and fertilizer and the pH and fertility are low, the response is often slow when you apply lime and fertilizer on the surface of the ground. It may take 1 to 3 years, depending largely on the lime and fertilizer needs and the grass and legume (clovers, alfalfa, etc.) species present, before your pasture sod is thick and productive again. Pastures generally must be fertilized annually if they are to be productive and have the grasses and legumes persist, especially if the legume component of the stand is less than 25%. If the stand is less than 25% legume, then nitrogen (N) fertilizer needs to be applied each year. A total of 150-160 lbN/acre/year is recommended, split into 3 applications—50-60 lbN/acre in late February/March, 50 lb/acre in mid- to late May, and 50 lb in mid- to late August. Nitrogen is water soluble and can not be stored in the soil for use throughout the entire growing season. It must be applied in increments for efficient use.

A special program with tall fescue can provide low-cost winter grazing. Graze or mow tall fescue or tall fescue/legume pastures to a height of 2-3 inches in early August and remove horses to other pasture. If the pasture has less than 25% legumes, apply 50-60 lb N/acre. Allow the resulting growth to accumulate until several frosts have occurred. After all other pasture has been utilized, begin grazing the accumulated tall fescue. It is high quality, inexpensive winter feed that can be grazed through December and January or as long as it lasts.

Grazing Management

The goal of your grazing management should be to utilize as much of the available forage as possible but still maintain dense stands of the pasture grasses and legumes. During a normal growing season, two acres of well-managed pasture should provide adequate grazing and exercise for a mature horse. The total pasture acreage should be divided into 2 to 4 separate paddocks. This will permit rotating the horses among pastures to allow time for heavily grazed areas to recover and for liming, fertilizing, clipping, etc. when horses are not in the paddock. Letting the horses graze first in one paddock for about a week and then changing to another helps to keep the legumes and grasses growing more vigorously and increases the carrying capacity per acre. Furthermore, by rotating the grazing pattern you can break the life cycle of some parasites.

Avoid over or under grazing. Since horses are notorious spot grazers, they will seriously damage desired species by repeatedly grazing the same areas and avoiding other areas unless they are moved into new pastures frequently. Begin grazing when orchardgrass/clover and tall fescue/clover pastures are 6-8 inches tall. Horses should be removed when the shortest areas of the pasture have been grazed down to a height of 2-3 inches. Grazing of predominately Kentucky bluegrass pastures should begin when the pasture plants are 5-6 inches tall and the horses removed when the shortest areas of the pasture have been grazed to a height of 2 inches.

Do not allow areas of the pasture to be overgrazed. Before pasture plants are grazed into the ground, move the horses to another paddock. Keeping pastures grazed down below 2 inches weakens and thins stands, allowing weeds to invade. Grazing plants to the ground, typical in many horse pastures, is a

major reason for loss of the desirable grasses and legumes and encroachment of weeds. Undergrazed areas which have tall growth, especially mature growth with seed heads present, should be clipped.

Clipping Pastures

Clipping your pastures regularly during the growing season is also an important management practice. Clipping at a height of 2 to 3 inches after horses are moved to a new paddock helps to promote more uniform grazing, control weeds, prevent grasses from heading and in general keeps the vegetation in a more palatable condition. Pastures may need to be clipped 3 or more times per year.

Dragging Pastures

Manure droppings in the pasture contribute to uneven grazing since horses avoid grazing close to these droppings. Scattering the manure periodically during the grazing season will reduce this problem. It also helps to reduce the parasite populations by exposing them to air and sunlight. Chain or link harrows work well for this. A good time to do this is immediately after clipping the pasture. Dragging can also help to smooth over areas dug up by horses' hooves when the soil is wet or soft.

Weed Control

Weeds lower the forage yield of a pasture and compete with the desirable forage grasses and legumes for water, light and nutrients. In addition, some may be harmful to your horses. Proper fertilization and grazing management are the easiest weed control measures. If weeds do invade, clipping before the weeds form viable seeds or crowd out the desirable grasses and legumes is helpful. Spot spraying with selective chemicals such as 2, 4-D and dicamba or hoeing/digging out the weeds when first discovered can also be used as weed control measures.

Summary

It is often surprising how productive worn-out, poorly managed, weedy, overgrazed pastures can become with proper grazing management practices. Productive, high quality pastures are the result of applying good pasture management practices. Liming and fertilization, proper grazing management, clipping, dragging and weed control are the basic management practices for established horse pastures.

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Reviewed by members of the Maryland Horse Outreach Workgroup. The Horse Outreach Workgroup was established to provide information to horse owners on pasture and manure management issues. Technical assistance is available from local county Soil Conservation Districts/Natural Resource Conservation Service and the Maryland Cooperative Extension office. The workgroup consists of representatives from local Soil Conservation Districts, Maryland Department of Agriculture, Natural Resource Conservation Service, Cooperative Extension, University of Maryland, the Equiery, and the Maryland Horse Council. The Maryland Department of Agriculture's Office of Resource Conservation provides coordination for the workgroup

For more information on horse manure management and other soil conservation and water quality practices, contact your local Soil Conservation District. For more information contact your local Soil Conservation District/ Natural Resources Conservation Service/ (SCD/ NRCS) office or county Maryland Cooperative Extension (MCE) office. Addresses and phone numbers can be found at http://www.mda.state.md.us/resource_conservation/technical_assistance/index.php , <http://www.md.nrcs.usda.gov/contact/directory> or <http://extension.umd.edu> or check the listing County Government for SCD/MCE or US Government, Department of Agriculture for NRCS of the phone book blue pages. . January 2004, revised January 2007