



Managing Pastures for Ground Cover

Keeping a pasture in good grass is the healthiest way to manage horses. But a healthy grass cover on your pasture or exercise area also tells the neighborhood that you care about the environment. Most soils in Maryland with little or no ground cover on sloping pastures lose more than 15 tons of topsoil per acre per year. Often that soil - as well as nutrients from manure and urine - winds up in the nearest creek and eventually the Chesapeake Bay.

Know Your Soil and Its Characteristics

Your local Soil Conservation District has soil maps and can help you determine what kind of soil you have. Soils can be lumped into one of three major management groups:

Soil Texture Groups	Limitations	Suitable Grasses (and grazing limits to promote long term persistence)
Sandy Soil (Sand or Sandy in the name)	Soil dries out fairly fast. Less moisture stored in soil where plant roots are. Plants undergo drought stress very early in these soils. Likely to have an acidic pH (needing lime). Difficult to maintain pH due to leaching.	Endophyte-free tall fescue (2 in.) Low alkaloid reed canary grass (4 in.) Orchardgrass (3 in.)
Clay Soil (Clay in the name)	Soil stay wet. Plant rooting depth may be limited. Compaction can be a problem, limiting plant vigor. Water runs off rather than penetrating the soil. It is more difficult for plants to extract moisture from these soils. Plants undergo drought stress earlier as more of these problems are evident. May tend toward acidic (needing lime).	Endophyte-free tall fescue (2 in.) Kentucky bluegrass (2 in.) Orchardgrass (3 in.)
Loam Soil (Loam in the name)	Best all around soils. Good ability to hold moisture for plants. Good texture for plant root growth. Least likely to need lime.	Endophyte-free tall fescue (2 in.) Kentucky bluegrass (2 in.) Orchardgrass (3 in.) Perennial ryegrass (2 in.)

Seasonal Management Considerations

The key to keeping good ground cover in pastures is keeping horses off them when they are wet or in danger of becoming overgrazed. To do this, you'll need to establish a "sacrifice lot" or "heavy use area." Usually this is a pasture or paddock that you sacrifice to protect your other pastures. The surface can be bare earth (grass probably won't last), or you can put down an artificial surface such as bluestone dust or wood chips. Remove manure from this area regularly.

Spring

Young grass is particularly vulnerable to trampling, so let grass get about 4 inches tall before you allow animals to graze. Remove animals during very wet conditions to prevent damage to the plants and soil compaction.

If you have enough separate pastures to allow each a regrowth period, you can move the horses quickly through each pasture during this period of rapid regrowth. Clip and drag pastures when vegetation gets ahead of you to discourage weed seed production, distribute manure, and initiate new grass growth.

Summer

As grass growth slows, pastures will need longer regrowth periods. In a drought, remove your animals to the sacrifice area, since they will kill the grass stand if left there. Clip pasture as needed to prevent weed seed production.

Fall

Have your soil tested to determine how much lime and fertilizer your pastures need; for information on this, contact the Maryland Cooperative Extension office. Follow the recommendations on the soil analysis to prevent overfertilization, which can cause grass to be too lush for your horses. Allow your grass to grow to 5 inches before a hard frost. Reseed bare or thin spots.

Winter

Keep horses out of pastures when soil is very wet.

Late Winter

Lime and fertilize based on soil test. Reseed thin areas.

Alternative Forages

Many horse owners are concerned that lush pastures will cause laminitis and other problems with their horses. In that case, you can manage your pastures to have vegetation that holds soil in place but that horses won't eat. Most people call them weeds. As long as they aren't poisonous to horses or considered to be "noxious" species, weeds are better than bare ground. If provided enough grass or free-choice hay, horses usually won't touch weeds. If you worry about your horses eating weeds, the following list provides the forage values of some local species (common grasses and legumes have been included to provide perspective).

Relative ranking of cool season forages by German grassland scientists.*

Bluegrass, Kentucky (8) G	Fescue, tall (4) G
Ryegrass, perennial (8) G	Dock, sour Rumex acetosa (4) W
Timothy (8) G	Parsnip, wild (4) W
Alfalfa, variegated (8) L	Sowthistle, common (4) W
Clover, white (8) L	Carrot, wild (Queen Anne's Lace) (3) W
Foxtail, meadow (7) G	Chickweed, field (3) W
Orchardgrass (7) G	Chickweed, mouse-ear (3) W
Redtop (7) G	Cinquefoil (2) W
Clover, red (7) L	Plantain, broadleaf (2) W
Trefoil, big and birdsfoot (7)	Dock, broad-leaved (1) W
Quackgrass (6)	Dock, curled R. crispus (1) W
Alfalfa, yellow (6) L	Sorrel, red or sheep (1) W
Clover, alsike (6) L	Smartweed, common (0) W

Plantain, buckhorn (ribgrass) (6) W
Bluegrass, annual (5) G
Canarygrass, reed (5) G
Dandelion (5) W
Yarrow, common (5) W

Thistle, bull (0) N
Thistle, Canada (0) N
Buttercup, bulbous and creeping (-1) P
Garlic, wild (-1) W

Key: G=Grass P=poisonous
L=legume N=noxious weed (required by law to be destroyed)
W=weed

*Ranked from -1 to 8, with 8 having the highest agricultural (forage) value, 0 having no value, and -1 having anti-quality factors that can poison grazing livestock. System includes forbs and legumes. This is an abridged, translated list from a list of more than 300 plant species. Klapp, E. "Grünland Vegetation und Standort nach Beispielen aus West-, Mittel- und Süddeutschland." P. Parey. Berlin, Germany. 384 p. 1965.

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. 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. January 2001 revised January 2007