Horsekeeping & Water Quality: Manure Management for Healthy Horses

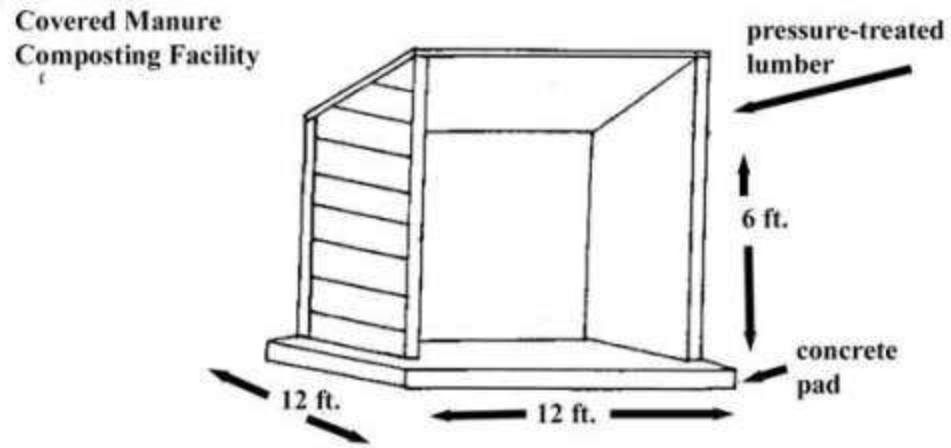
Proper manure management is an important consideration for everyone who owns horses. Containing, treating, and disposing of horse manure routinely has many benefits, from maintaining friendly relations with our neighbors, protecting water quality, and helping to keep our horses healthy and happy. Manure-related nuisances, such as flies, and debilitating conditions such as thrush, scratches, parasite infestation, and abscesses can be prevented by employing some simple best management practices (BMPs) around your property. Integrating BMPs into your horse operation is a proactive way to protect the environment and your horse's health.

What are the health risks from manure?

- Horses allowed to graze in manure-laden fields are constantly at risk from parasite infestation.
- Manure piles in heavily trafficked areas, sheds, and shade areas provide a breeding ground for flies and other insects. Insects at the very least harass your horse (and you), but also carry disease, bite, and can cause allergic reactions for you and your horse. The typical life cycle for stable flies is 21 to 25 days from egg to adult. During that time, a female can produce anywhere from 800 to 1,600 eggs!
- Horses forced to stand in manure and urine, either in soaked bedding in stalls, or paddocks and sheds, risk damaged and weakened hoofs, and are more susceptible to abscesses and thrush.
- Contaminants contained in manure, such as nutrients and pathogens (bacteria and viruses) can pollute your horse's drinking water supplies. Manure directly deposited in streams or lakes, or that runs off the surface of your pasture or paddock can end up in your horse's drinking water.
- Manure plus soil and water equals mud. Heavy organic-rich mud acts as a sponge, collecting and trapping water, creating a boggy mess in your paddock. Mud provides an excellent environment for bacteria and fungal organisms, which can cause thrush, abscesses, scratches and rain scald.

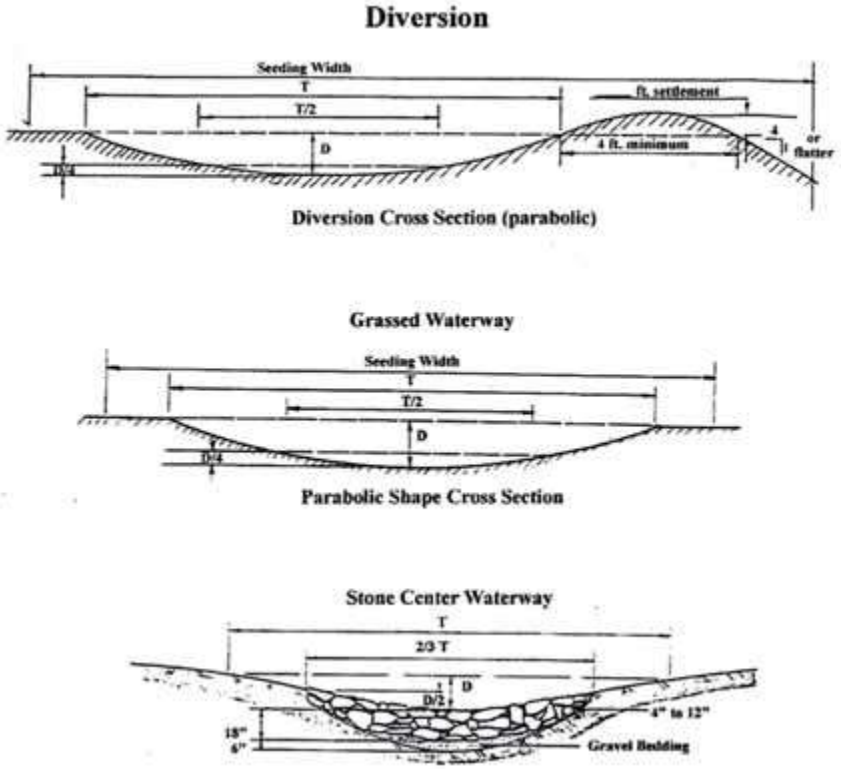
What Can I Do to Protect My Horse?

Routinely collect, treat, and dispose of manure from pastures, paddocks, stalls, and shed areas to protect your horse from the harmful effects of manure. Collecting and composting manure is one way to deal with horse waste in a relatively inexpensive way. Maintaining an internal temperature of 135 degrees to 160 degrees will kill most pathogens, parasites, and weed seeds in your compost. Composted manure is a valuable fertilizer that can be applied to pastures and gardens.

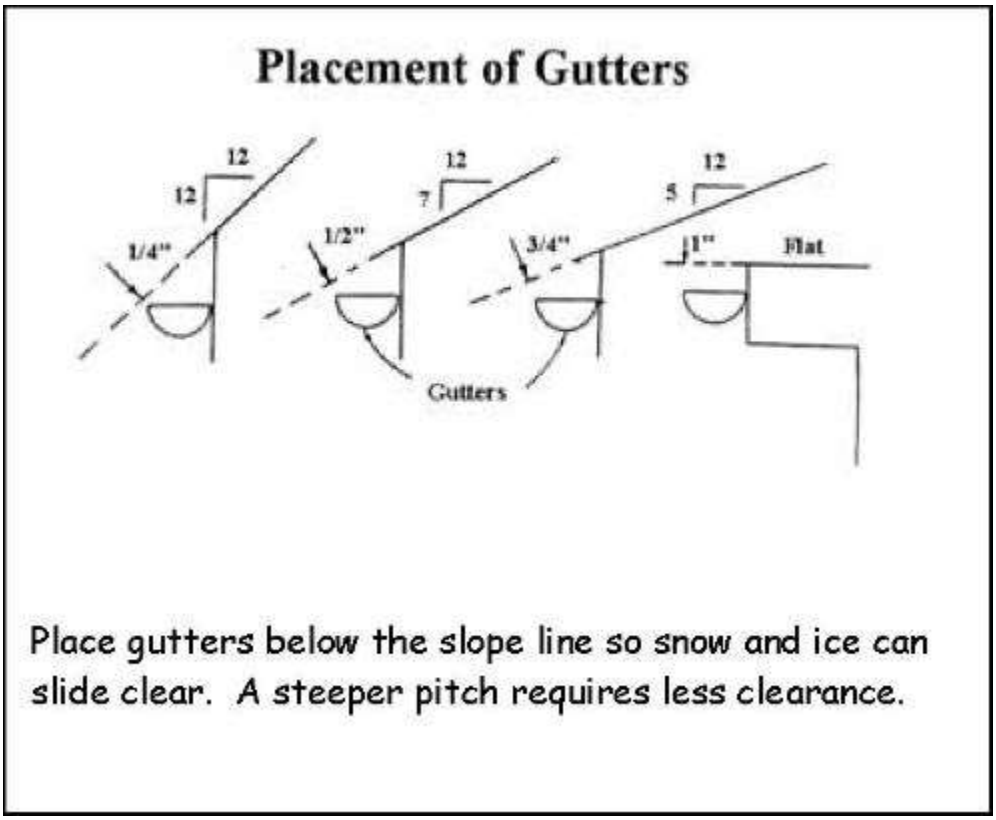


Keep your pasture and paddock clean and dry by capturing and diverting runoff (rainwater, snowmelt, and water from roofs and hoses) away from heavy traffic areas and manure storage areas.

Create a diversion ditch or swale: Diversions are generally constructed across a slope to intercept runoff and redirect or divert it away from sensitive resources or heavy use areas. Vegetation, such as grass, should be used to line the sides of the swale to prevent erosion and encourage pollutant removal.



Capture roof runoff: Roof runoff can be directly diverted to a drywell for complete water infiltration, captured in a rain barrel, or diverted away from your shed or barn. Connecting downspouts to underground pipes which outlet away from loafing and high traffic areas is another option to deal with roof runoff.



Additional Resources

http://www.extension.umn.edu/agriculture/horse/care/horse-manure/
"Manure and Pasture Management for Recreational Horse Owners", web site by the University of Minnesota Extension Service. Includes plans for building a composting bin, detailed discussion of the composting process, information on pasture management, and an extensive list of additional sources of information.

http://extension.unh.edu/resources/representation/Resource000002_Rep2.pdf
This link takes you to the online version of the Good Neighbor Guide for Horse-Keeping: Manure Management, an excellent publication developed by the University of New Hampshire Cooperative Extension Service, New Hampshire Department of Environmental Services, and Natural Resources Conservation Service.

http://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/5308/report/0
A short summary of a project by the National Center for Environmental research, demonstrating the beneficial effect of riparian poplar tree buffers on water quality.

http://www.carverma.org/sites/carverma/files/uploads/bohwestnilehorse.pdf
"West Nile Virus: A Risk to Horses in Massachusetts?" West Nile Virus is a mosquito-borne disease, and mosquitoes need water for breeding. The mosquito that carries this virus breeds in stagnant water, not in ponds and wetlands. This fact sheet from the Town of Carver discusses statistics, symptoms, ways to reduce risk, and provides links to other related sites.

http://www.epa.gov/agriculture/anafobmp.html
Agricultural best management practices (BMPs) from the US Environmental Protection Agency.

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Agricultural Environmental Enhancement Program (AEEP)
Massachusetts Department of Food & Agriculture

Natural Resource Conservation Service Centers:
Berkshire CD: 413-443-6867
Hampden-Hampshire CD: 413-586-5440
Essex-Middlesex-Suffolk CD: 978-692-1904
N.E.N.W., S. Worcester CD: 508-829-6628
Bristol-Plymouth-Norfolk CD: 508-295-5151
Cape Cod-Nantucket-Dukes CD: 508-771-6476
UMass Cooperative Extension Service: 413-545-4800