Water Quality & Horsekeeping: Mud and Pasture Management

Mud, like manure, is a problem that every horse owner must contend with. Mud is unhealthy, unsightly, annoying, and difficult to avoid or control. Mud can cause very serious environmental impacts when it is near surface waters or drinking water supplies. Rainfall and runoff can carry contaminants from the mud into your favorite swimming hole or trout creek, making the water unpleasant and unhealthy for people and animals. Horses, like people, need clean, fresh water to drink. Horses that drink from streams and farm ponds that are not properly managed to avoid mud and contaminated runoff will be forced to stand in mud while they drink dirty water.

Mud harbors bacteria and fungi, which cause diseases such as thrush, scratches, rain scald, rot, and abscesses. It creates slippery footing, which will result in added wear and tear on shoes and hooves and can cause injuries from slips and slides. Horses who are fed on muddy ground can ingest dirt and sand particles, causing a serious digestive disorder known as sand colic. Mud is a breeding ground for certain kinds of insects that will bite both you and your horse.

Mud is also inconvenient for horse owners. It makes chores difficult and unpleasant. Walking around in slippery mud makes it difficult to move from place to place, and treacherous when handling an unruly or energetic animal. Grooming becomes a nasty job when the horse is covered in mud.

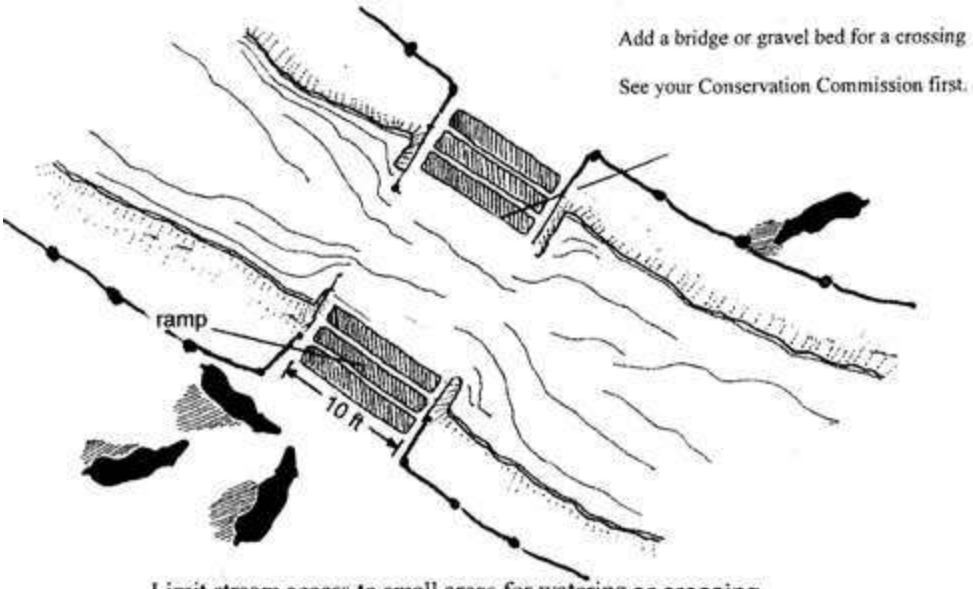
What causes mud?

Some of the characteristics that make manure such a wonderful garden additive are also the reason why it contributes to spectacular mud. In order to make really good mud, we need a high organic content. If we start with a regular soil, or even pure sand; add plenty of organic material in the form of manure; pour on water from rainfall or downspouts; maybe add some hay for good measure; and mush it all together by stomping and chopping it with hard hooves, we'll have mud in no time. The organics from the manure will retain moisture for a long period of time, which is great for the garden but bad for making the mud go away.

What can I do?

Here are a few tips to help you minimize or eliminate mud problems on your small farm.

Fence horses out of streams, ponds, and wetlands. If the animals must cross these areas to get to pasture, build water crossings to limit their access to the resources. (Contact your Conservation Commission to discuss permit requirements first.) Ideally, you can provide access to drinking water from a clean groundwater source, with a garden hose filling a stock tank or an automatic watering system. Put these watering spots in dry areas away from surface water, so that the traffic will not create new mud.



Limit stream access to small areas for watering or crossing

Practice good pasture management. Re-seed bare areas and keep horses off until healthy growth reappears. In the spring, restrict horses onto the higher, dry pasture ground until lower pastures have dried up. Confine your horses to a sacrifice area during the winter and spring to avoid hoof impacts on frozen or soggy pastureland. Avoid over grazing - manage pasture for healthy plant growth, with roots that will help hold soil in place.

Regularly pick up manure and hay. If you can do nothing else, do this. This is also important for your horse's health, eliminating disease-causing bacteria and fungi, parasites, and insect breeding grounds.

Reduce rainwater impacts. Check out where your barn's roof runoff, drains and downspouts empty onto the ground. Where needed, mud is the construct or rearrange them to divert rainwater and runoff from dumping onto the ground in high traffic areas near barn doors and feeding areas. Once you have done this, keep the gutters and downspouts clean to ensure that they can function properly. If storm runoff spills into your paddock, construct swales or diversions to redirect the water where it can be absorbed somewhere else.

Add suitable footing. You can remove existing mud with a tractor or backhoe, and replenish the area with suitable footing such as sand or small gravel. In high traffic areas it may be necessary to do this every few years, but it is very effective and well worth the trouble. In addition, implementing the suggestions above will greatly extend the mud-free life of the new footing. If you are planning to do this work near a wetland or surface water, be sure to check with your local conservation commission first.

By reducing the amount of mud on your farm, you will be creating a healthier, more secure home for your horses, a more attractive place for yourself and your family to live, and a cleaner, safer environment for everyone.

Additional resources:

http://www.extension.umn.edu/agriculture/horse/care/horse-manure/
"Manure and Pasture Management for Recreational Horse Owners", a 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.

Agency Resources:
Natural Resource Conservation Service (NRCS) works with farmers on issues relating to the best use of our natural resources. This includes pasture, manure and mud management for horse owners. You can find the number for your NRCS office listed in the phone book under federal government, US Department of Agriculture, Natural Resource Conservation Service.

Conservation Districts also work with farmers and livestock owners, often for smaller, non-commercial places, on similar land management assistance. To find out about their services and get on their mailing list contact your local Conservation District by calling the NRCS office. The NRCS will be able to tell you the name, location and phone number of your Conservation District.

Massachusetts Department of Environmental Protection
319 Program Coordinator: Malcolm Harper, 508-767-2795
or malcolm.harper@state.ma.us.