



Managing Your Household Septic System

Safeguarding Your System

Your septic tank is the first step of the wastewater treatment process and must be properly maintained to work correctly. The best designed and operated septic tank system/disposal field eventually fails unless sludge is periodically removed from the septic tank. Inadequate maintenance can cause sewage to back up into the house and solids to overflow to the drain field. Often, the drain field must be abandoned and a new one constructed when solids clog the soil. This fact sheet is one in a series developed to help septic system owners maintain their septic systems.

Maintaining Your Septic System

Onsite/septic system owners need information on how septic systems work, how to maintain them, and precautions to take to decrease the potential for the septic system to contaminate groundwater or surface water. Operation and maintenance of the system are the owner's responsibility. This fact sheet discusses steps you can take to manage your septic system.

Both the septic tank and the soil treatment area (also known as a leach field or absorption field) must be properly maintained to protect human health and the environment. A properly maintained system should work correctly for many years. The effectiveness of a septic system depends on how the homeowner uses and operates the system. Managing a household septic system requires that you control the volume and quality of wastewater and maintain the septic tank and soil treatment area.

Controlling Volume of Wastewater

Sending wastewater to the tank too fast can cause solid materials to pass into the drain field without undergoing the gradual anaerobic digestion that occurs in the septic tank. You should conserve water use in the house to ensure:

- Slow movement of wastewater into the tank.
- reasonably complete digestion of solids, and
- Slow trickling of wastewater from the tank to the soil treatment area.

No more than two loads of laundry (one in the morning and one in the evening) should be done a day. Avoid marathon showers and other excessive uses that may send big surges of wastewater into the system.

The brine solution and excess water from the backwash of a water softener probably will not harm most septic systems, although they could dictate the need for a slightly larger tank and soil treatment area. Consider using water-saving devices available for toilets and shower heads.

Do not connect sump pump outlets or roof gutters to the system. Be sure that any runoff from the roof, driveway, and other impermeable surfaces is directed away from the soil treatment area.

In doing so, you will prevent accumulating water in the soil treatment area.

Controlling Quality of Wastewater

The quality of your wastewater — not just its quantity — is also important in ensuring that your septic system functions properly. Fats and grease should never be poured down the drain. They can solidify in the lines and cause failure; they can cause excessive buildup of the floating scum layer in the septic tank; and they can get into the soil treatment area and surrounding soil and seal the system off altogether.

Limit your use of garbage disposals or don't use them at all. Septic systems are intended to be used for the treatment and disposal of human wastes and wash waters that come from the home. Only household cleansers, disinfectants, and bleaches should be allowed into the septic tank and only in moderation. Anything else does not belong in a septic system. Consider using biodegradable alternatives for routine cleaning chores. Oxidized bleaches, borax, vinegar, and baking soda are less hazardous alternatives to common household cleaning products. Do not put any toxic or hazardous materials, such as paints, thinners, waste oils, photographic solutions, or poisons into a septic system; they will not be treated sufficiently to prevent contamination of water that returns to your local groundwater and or surface water.

Other materials that cannot be decomposed in a septic system include coffee grounds, dental floss, disposable diapers, cat box litter, cigarette butts, sanitary napkins, tampons, plastics, facial tissue, and paper towels. Such materials merely increase the risk of plugging and necessitate more frequent cleaning. Drains should be equipped with strainers or other filtration devices to reduce the amount of food particles, hair, and lint entering the system.

Maintaining the Septic Tank

Slow accumulations of sludge and scum are normal. You should remove these materials through periodic pumping and appropriate disposal. This will protect the soil treatment area from materials that will damage its effectiveness.

Annual or semi-annual inspection of the septic tank is advisable to determine the thickness of the sludge and scum layers. A probe may be put into the tank from one of its access ports to make this determination. If you have any doubts about inspecting the septic tank, a private contractor who specializes in septic system cleaning and pumping can be found in your telephone directory. This service will cost you some money, but it is less expensive than digging up a fouled soil treatment area.

Additives that are marketed as septic tank cleaners, rejuvenators, or primers are not needed. Most of these additives won't harm your system, but they don't help them either. Some of these additives are chemicals that can harm a septic system.

Most tanks need to be pumped every 3 to 5 years, depending on the size of the tank, daily flow of wastewater into the tank, and use of a garbage disposal. A table at the end of this fact sheet gives guidelines for estimating the number of years between pumpings. You can either pump your tank on a regular schedule (every 3 to 5 years) or based on the accumulated sludge and scum layers. Septic tanks need to be pumped out when the sludge layer exceeds 24 inches in depth or when the bottom of the scum layer is less than 3 inches above the

lower end of the submerged outlet. If you cannot locate the submerged outlet, clean the tank if the scum layer is more than 12 inches thick.

Measuring Sludge Accumulation

Sludge depth can be measured by securing a towel around the bottom 3 feet of an 8-foot piece of lumber. Lower the pole into the tank until it touches bottom and hold it for several minutes. **BE CAREFUL! Never lean into or enter a septic tank. You could be poisoned or asphyxiated. Never use matches or flames when inspecting a septic tank. The gases generated in a septic tank are explosive and deadly.** Slowly raise the pole and observe the towel. The discolored portion indicates the depth of the sludge layer. Have the tank cleaned if it is more than 24 inches deep. A septic plumbing contractor should be hired to pump out and inspect the tank. If your tank has been recently installed, check the sludge and scum levels every year to determine how rapidly solids are accumulating in the tank.

is under the bottom of the submerged outlet. Again, mark the stick where it meets the top of the tank. Remove the stick and note the distance between the two marks. Have the tank cleaned if the distance is 3 inches or less. If you choose to do these, remember that the liquid and solid contents of the septic system are capable of causing infectious diseases. After working on any part of the septic system, always wash hands thoroughly before eating, drinking, or smoking. Change clothes before coming into contact with food or other people.

Estimated No. Years Between Septic Tank Pumping*						
Tank Size (gallons)	Number of people in your household					
	1	2	3	4	5	6
1,000	12.4	5.9	3.7	2.6	2.0	1.5
1,500	18.9	9.1	5.9	4.2	3.3	2.6
2,000	25.4	12.4	8.0	5.9	4.3	3.7

*More frequent pumping is needed if a garbage disposal is used. Source: Karen Mancl, *Septic Tank Maintenance*, Publication AEX-740, Ohio Cooperative Extension Service, 1988.

The use of a garbage disposal can also affect your septic system by adding to the amount of suspended solids entering the tank. Suspended solids can enter the drain field and clog soil pores, reducing the soil's ability to treat wastes.

Maintaining the Soil Treatment Area

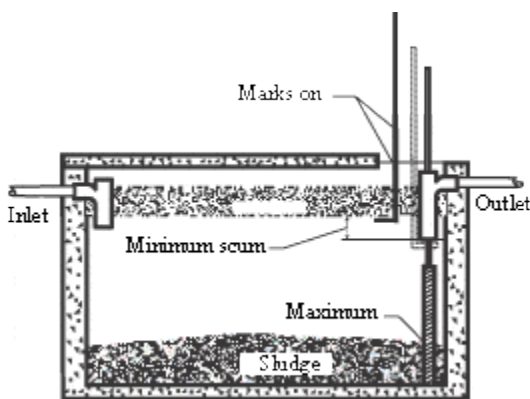
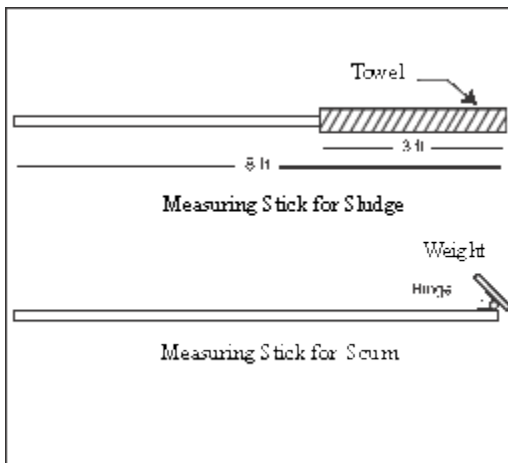
- Activities that help to maintain the septic tank will also maintain the soil treatment area:
- keep tank free of excessive sludge,
- Ensure that tank is used within its designed capacity, and
- Ensure proper quality of wastewater.

All this assumes that the wet-season water table is at least 2 feet below the bottom of the drain field and that the soil is adequately permeable.

Additional measures that you can take include:

- keep vehicular traffic off of the soil treatment area because they can compact the soil and possibly break drain lines
- try to position trees so that their roots will not enter the drain lines and plug them
- keep a healthy grass cover over the system to prevent exposure of the soil and possible erosion around the drain lines.

Properly sited, designed, constructed, and maintained septic systems can provide an efficient and economical wastewater treatment alternative to public sewer systems. While septic systems are designed and installed by licensed professionals to meet the needs of individual sites, homeowners are responsible for the system's operation and maintenance.



Procedures for measuring the accumulation of sludge and scum layers in a septic tank. Source: *Septic Tank Maintenance*. OSU Extension Facts No. 1657. Delbert Schwab, J. H. Armstrong, S. Harp. Oklahoma State University Extension.

Measuring Scum Accumulation

The scum layer can be measured by using a stick to which a weighted flap has been attached with a hinge. When the flap-end of the stick is forced through the scum layer, the weighted flap will fall into the horizontal position. Raise the stick until resistance is felt from contact with the bottom of the scum layer. Place a mark on the stick where it meets the top of the inspection port. Then position the flap so that it