

MAINTAINING YOUR SEPTIC TANK

Kitt Farrell-Poe

Safeguarding Your System

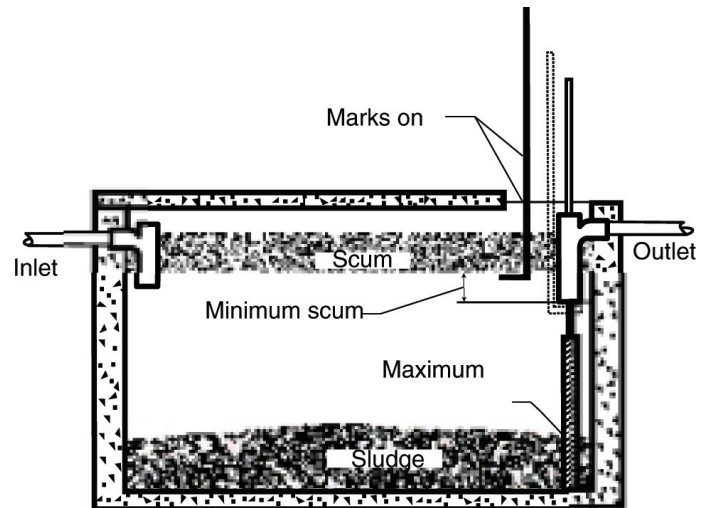
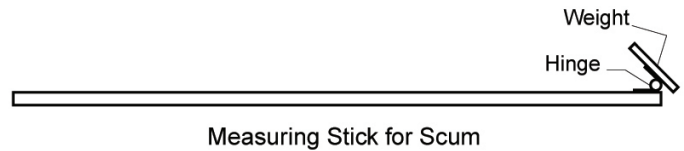
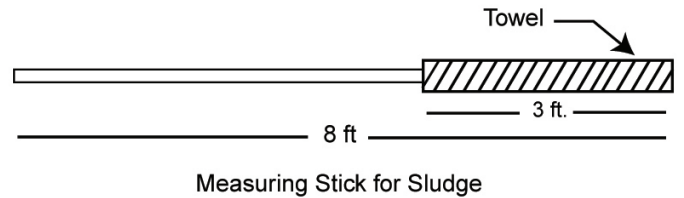
Your septic tank is the first step of an onsite domestic wastewater treatment process and must be properly maintained to work correctly. The best designed and operated septic tank and soil treatment area eventually fails unless sludge is periodically removed from the septic tank. Inadequate maintenance can cause sewage to back up into the house and solids to overflow to the soil treatment area. Often, the soil treatment area 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.

Tank Maintenance

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.



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 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.

Septic Tank Additives

There are many septic tank additives on the market today that claim to improve the performance of your septic system: starters, feeders, and cleaners. To date, there is no conclusive evidence that these products will prevent septic system failure or will improve performance. **Adding compounds to a septic tank will not eliminate the need for regular cleaning.** Enzymes and yeast products will not harm your system, but there are plenty of bacteria already in the tank that will break down waste products. Other additives however, particularly degreasers, may contain cancer-causing agents that can end up in groundwater or surface water supplies.

Other Additions to the Tank

Special additives are one thing, but what about the use of every day cleaning products? Most experts agree that the normal use of household cleaning products will not harm the system by stopping the action of bacteria in the tank. Large amounts of certain chemicals, however, may interfere with the breakdown of wastes in the tank or could clog the soil treatment area. You also need to keep in mind that the products you use may eventually find their way into local groundwater systems. Consider using biodegradable alternatives for routine cleaning chores. Oxidized bleaches, borax, vinegar, and baking soda are less hazardous alternatives to common household cleaning products.

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 soil treatment area and clog soil pores, reducing the soil's ability to treat wastes.

It is also important to not overload your system. The septic tank is designed to hold incoming wastewater for a certain time period so that solids have time to settle and lighter portions can rise to the top. Try to space out wash loads over the course of a week instead of running many loads in one day. Water-conserving devices such as low-flow toilets and faucets can also reduce the amount of wastewater that flows into your system. With some care and consideration for your septic tank, it should serve your household well for many years.

Estimated Number of Years Between Septic Tank Pumpings*

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	4.5	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.

For more information on household septic systems, visit the Arizona Extension publications web page at ag.arizona.edu/pubs.

Adapted in part from: Septic Tank Maintenance. OSU Extension Facts No. 1657. Delbert Schwab, J. H. Armstrong, S. Harp. Oklahoma State University Extension.

This material is based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under special project number 99-EWQI-1-0613.



THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE AND LIFE SCIENCES
TUCSON, ARIZONA 85721

KITT FARRELL-POE
Water Resources Specialist

ELAINE HASSINGER
Former Assistant in Extension Water Quality Education

CONTACT:
KITT FARRELL-POE
kittfp@ag.arizona.edu

This information has been reviewed by University faculty.
cals.arizona.edu/pubs/water/az1160.pdf

Originally published: 2000

Other titles from Arizona Cooperative Extension can be found at:
cals.arizona.edu/pubs

Any products, services or organizations that are mentioned, shown or indirectly implied in this publication do not imply endorsement by The University of Arizona.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, James A. Christenson, Director, Cooperative Extension, College of Agriculture & Life Sciences, The University of Arizona.

The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, or sexual orientation in its programs and activities.