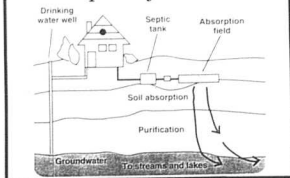


# Septic Systems... A guide for homeowners

## How Septic Systems Work



A septic system consists of a septic tank, a distribution box and a drainfield, all connected by pipes, called conveyance lines. Your septic system treats your household wastewater by temporary holding in the septic tank where heavy solids and lighter scum are allowed to separate from the wastewater. This separation process is known as primary treatment. The solids stored in the tank are decomposed by bacteria and later removed along with the lighter scum by a professional septic tank purifier.

4. Do you know the last time your septic tank was pumped?  
5. How do household cleaners affect your system?  
6. How can you tell if your septic system has failed?  
If you do not know the answers to these questions you should seriously consider finding out what they are.

### Introduction

Nearly 25 million homes encompassing almost 25 percent of the U.S. population dispose of wastewater through onsite disposal systems. Fifty percent of the population in North Carolina and 38 percent of the people living in Alaska use these systems. One of the major differences between owning an urban or suburban home and owning a rural home is that in a rural home you must become more self-sufficient and self-reliant. Waste disposal (trash and wastewater) is one of the primary concerns of a rural homeowner.

The most common way to dispose of wastewater in rural homes is through the use of a septic tank. About 95 percent of the onsite disposal systems in the U.S. are septic tank systems.

### Septic System Quiz

Can you answer the following questions?  
1. Where is your septic tank located?  
2. How often should you have your septic system inspected?  
3. Does it help to add yeast to your system?

## For the Potential Homeowner

Before purchasing a newly constructed home, you should contact the certified inspector at your local health department for information on the type of on-site sewage system which was installed (was the site suitable for a standard system or were modifications or alternative systems required). Before purchasing an existing older home, you should have the present owner verify the type, size and location of the system installed, and carefully examine the area for evidence of system malfunction.

## Garbage Disposal Systems

Billy Caldwell, Bourbon County Health Department, discourages the use of garbage disposal systems in kitchen sinks, particularly in newly constructed homes. The fine material generated by garbage disposal systems may have a tendency to clog a septic system and cause it to fail.

## The Care and Feeding of Your Septic Tank System

Septic tank systems need periodic use and proper care to remain healthy and function properly. They must have proper diet and cannot be over-indulged without the homeowner's knowledge.

Tank Size (gals.)	Household Size (number of people)					
	1	2	3	4	5	6
500	3.8	2.6	1.5	1.0	0.7	0.4
750	9.1	4.2	2.6	1.8	1.3	1.0
900	11.0	5.2	3.3	2.3	1.7	1.3
1000	12.4	5.9	3.7	2.6	2.0	1.5
1250	15.6	7.5	4.8	3.4	2.6	2.0
1500	18.9	9.1	5.9	4.2	3.3	2.6
1750	22.1	10.7	6.9	5.0	3.9	3.1
2000	25.4	12.4	8.0	5.9	4.5	3.7
2250	28.6	14.0	9.1	6.7	5.2	4.2
2500	31.9	15.6	10.2	7.5	5.9	4.8

Source: Pennsylvania State University Cooperative Extension Service.

## Why Maintain Your System?

There are three main reasons why septic system maintenance is so important. The first reason is money. Failing septic systems are expensive

to repair or replace. For example, it typically costs from \$200 to \$500 to replace a failing septic system with a new one, compared to approximately \$50 to \$150 to have a septic system inspected, and \$150 to \$250 to have it pumped.

## The Septic Tank

How often you need to pump the solids out of your septic tank depends on three major factors. First, the size or capacity of the tank itself. The second is the number of people in the household. Obviously the more people the more water will flow through the system. The third factor is the volume of solids in the wastewater. If you have a garbage disposal, for example, you will have to pump out your system more frequently than persons disposing of their food wastes through other means.

## Chart

This chart shows how often you need to pump out your septic tank on average, given the size of the tank and the number of persons living in the household. These figures assume there is no garbage disposal unit in the building tank by as much as 50 percent.

For example, this chart indicates that a household of four people that have a septic tank with a 1000 gallon capacity would do well to have it pumped out about every 2 1/2 years.

these properties until systems are repaired or replaced.

# SEPTIC SYSTEM DO's AND DON'Ts

- DO's**
- Do learn the location of your septic tank and drainfield. Keep a sketch of it handy with your maintenance record for service visits.
  - Do have your septic system inspected annually.
  - Do have your septic tank pumped out regularly by a licensed contractor.
  - Do keep your septic tank cover accessible for inspections and pumpings. Install risers if necessary.
  - Do call a professional whenever you experience problems with your system, or if there are any signs of system failure.
  - Do keep a detailed record of repairs, pumpings, inspections, permits issued, and other maintenance activities.
  - Do conserve water to avoid overloading the system. Be sure to repair any leaky faucets or toilets.
  - Do divert other sources of water, like roof drains, house footing drains, and sump pumps, away from the septic system. Excessive water keeps the soil in the drainfield from naturally cleansing the wastewater.

- DON'Ts**
- Don't go down into a septic tank. Toxic gases are produced by the natural treatment processes in septic tanks and can kill in minutes. Extreme care should be taken when inspecting a septic tank, even when just looking in.
  - Don't allow anyone to drive or park over any part of the system.
  - Don't plant anything over or near the drainfield except grass. Roots from nearby trees or shrubs may clog and damage the drain lines.
  - Don't dig in your drainfield or build anything over it, and don't cover the drainfield with a hard surface such as concrete or asphalt. The area over the drainfield should have only a grass cover. The grass will not only prevent erosion, but will help remove excess water.
  - Don't make or allow repairs to your septic system without obtaining the required health department permit. Use professional licensed septic contractors when needed.
  - Don't use septic tank additives. These products usually do not help and some may even be harmful to your system.
  - Don't use your toilet as a trash can or poison your septic system and the groundwater by pouring harmful chemicals and cleaners down the drain. Harsh chemicals can kill the beneficial bacteria that treat your wastewater.
  - Don't use a garbage disposal without checking with your local regulatory agency to make sure that your septic system can accommodate this additional waste.
  - Don't allow backwash from home water softeners to enter the septic system.



## Do not flush

- coffee grounds
- dental floss
- disposable diapers
- kitty litter
- cigarette butts
- fat, grease, or oil
- paper towels
- and hazardous chemicals, such as paints, varnishes, thinners, waste oils, photographic solutions, pesticides.

These items can overtax or destroy the biological digestion taking place within your system.

## New Poster

A new poster titled, "Groundwater Protection Begins at Home," is available free from the National Drinking Water Clearinghouse (NDWC). The poster lists sources of hazardous waste in the home and includes guidelines for their safe disposal in an easy-to-read format. The importance of groundwater pollution prevention is also explained. The poster is a great reference source for every home with a septic system.

To order "Groundwater Protection Begins at Home," call the NDWC at (800) 624-8301, and order Item #DWWL2540. A shipping and handling charge will apply.

## WARNING

Be sure to exercise appropriate caution when inspecting a septic tank. Never allow anyone to go down into a septic tank or go down into a septic tank. Toxic gases are produced by the natural treatment processes in septic tanks and can kill in minutes—even just looking in the tank can be dangerous.