



Cesspools

**I have a cesspool-what is it?
How is it different from a septic
system? And what is a seepage pit?**

A cesspool is one of the earliest forms of onsite wastewater treatment, probably because it is so much like a latrine. In fact, many cesspools were created out of old latrines. Basically, a cesspool is a hole in the ground that collects sewage from the house. Solids settle to the bottom of the hole, and liquids seep out around the sides of the hole into the surrounding soil. Run a pipe from your indoor flush toilet to a latrine, and you have a cesspool.

“Modern” cesspools are usually reinforced with concrete or brick rings that form the walls of the hole. These rings have gaps that allow the effluent to seep out while strengthening the soil walls to prevent collapse. However, the basic concept remains the same. Cesspools work best in sandy soils, but sands have the least “strength” and are the easiest soil to collapse into a hole.

In contrast, a seepage pit is a separate hole just for effluent to seep into the soil. This would be a second pit after the first, where the first pit (probably lined with no chance for liquids to seep out) holds the solids. Effluent then passes into the second pit (unlined or lined with gaps for effluent to pass through) and then into the soil.

The problem is that there is a limited soil interface in a cesspool or a seepage pit. Typical pits are 6

feet deep and 2 feet in diameter (usually being round holes). The circumference of a circle is $C = \pi D$. So the circumference is 6.28 feet, and the area of the interface is $C \times \text{depth}$ or 6.28 feet x 6 feet or roughly 38 square feet. And this is before accumulating solids in a cesspool reduce the usable depth.

Now a septic system, by way of contrast, uses a septic tank to separate and store the solids, and then a system of perforated pipes to disburse the effluent into the soil. A typical drainfield will have three trenches, each 3 to 5 feet wide and about 100 feet long. This yields 3 x 3 feet x 100 feet = 900 square feet of infiltrative area. Using 5-foot wide trenches, this system would provide 1,500 square feet of infiltrative surface, quite a bit more than the cesspool or seepage pit.

This is important because soil can only accept so much water. Moreover, effluent passing through soil creates a biomat of growing bacteria that further reduces the ability of the water to pass through the soil pores. The whole strategy of keeping an onsite system from failing is to reduce the loading rate, or the amount of water per area of soil, to something the soil can accept.

That means septic systems are much better than seepage pits, which are somewhat better than cesspools. In fact, many states now forbid the construction of cesspools, and the U.S. Environmental Protection Agency is instituting a program to encourage the elimination of cesspools.

The general lesson here is that spreading the effluent out is the way to go with onsite treatment. How much it gets spread out depends on the soil and site conditions, but the rule of thumb is the more the better. What's the downside? Cost, for one, as bigger systems are more expensive than smaller ones. Available space is also a concern, since you can only use the land available to you.

Clogged cesspool in need of replacement.

Cesspool photos by Andrew Lake



Q&A

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Editor's Note:

This column is based on calls received over the National Environmental Services Center (NESC) technical assistance hotline. If you have further questions concerning cesspools, call (800) 624-8301 or (304) 293-4191 and ask to speak with a technical assistant.