



Answers to questions about structures, ventilation, soil, water, waste, energy, machinery and safety.

Septic tank additives debated

I'm often asked whether something can be added to a septic tank to cure its problems or offer a measure of preventative maintenance. Additives suggested include yeasts, bacteria, raw hamburger and even frozen chickens. Environmental engineers and the makers of additives are often at odds over these products. This debate is fueled by the lack of any major, independent, standardized testing of the products in recent years.

Septic system additives generally fall into one of three categories: organic solvents, inorganic chemicals (acids, bases, flocculants), or biologicals (bacteria, yeasts, enzymes).

Organic solvents can be effective at degreasing internal house piping and the septic tank, but are strongly linked to contamination of groundwater as they seep into the soil from the absorption field piping. Inorganic chemicals can destroy the septic tank action through corrosion, sludge bulking and disruption of normal biological activity. They also destroy desired soil permeability by breaking down the soil structure.

The majority of additives are biological and thus are unlikely to pollute groundwater. The central question with biologicals is whether a septic tank with billions of bacteria in it will benefit from adding a few thousand (or even million) more. Tests performed at the Arkansas Water Resources Research Center (AWRRC) show that large amounts of liquid bleach, disinfectants, and drain cleaners can kill all the bacteria in the septic tank. Any introduced additive is likely to be killed too until the toxicity level drops. The tank will recover, however, in 30-60 hours, depending on the product and dose used. AWRRC researchers think additives may cut that recovery time by an hour or so--not a significant improvement.

What is certain is that no additive will compensate for poor design and maintenance. Even well-designed septic systems have a finite life of about 20 years. Additives claiming to eliminate septic tank pumping are usually just moving the problem to the soil absorption field where it's more expensive to fix.

Given the lack of common ground or recent unbiased testing, our best advice remains to monitor sludge and scum levels annually and have the septic tank pumped at least every 2-5 years at a \$200-\$300 cost. We know that works. Be suspicious of product claims for quick cures. Also consider how the \$50-\$100 annual cost of using additives might be more productively used elsewhere.