

EFFECTS OF TREATMENT AND LONGEVITY IN
AMERICAN SOIL TREATMENT SYSTEMS
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ABSTRACT

Historically, the dispersal of septic effluent to the environment has been by means of gravity-dosed trenches excavated into the surface of the ground. Trenches have been constructed at depths ranging from less than 0.3 m (1 ft) to 1.3 m (5 ft), with a width typically between 0.3 and 0.9 m (1 and 3 ft). Trenches are generally filled with an aggregate support material, although chamber systems and other alternate systems are becoming more common. The use of pressure dosed shallow gravelless and drip irrigation systems is now becoming more common, as it is now generally accepted that releasing untreated or treated septic tank effluent in the upper soil horizons (where soil carbon and gas exchange are available) results in more effective treatment than effluent release deeper in the soil environment. The longevity of soil dispersal systems depends on a number of factors including the degree of pretreatment; method used to dose the dispersal field; dosing frequency; organic, solids, and hydraulic loading rates; chloride content; and sulfide content. The impact of these and other factors is examined in this presentation.