

Purpose of the SepAerator™

The purposes for adding a SepAerator™ to an existing septic tank with secondary treatment is three-fold:

1) BETTER QUALITY OF EFFLUENT

The SepAerator™ introduces sufficient oxygen into the existing septic tank to change the dynamic of how a septic tank works. The wastewater process changes from anaerobic bacteria to aerobic bacteria. A normal septic tank is designed to retain the solids discharged from a residence until such a time as anaerobic bacteria break them down. The septic tank then discharges 70 to 80% raw sewage into the secondary treatment system. Anaerobic bacterium grows in an environment without oxygen. When wastewater is discharged from the home, a certain amount of aerobic bacterium is discharged with it. Aerobic bacteria are rapid growing bacteria that need oxygen to survive. Once this aerobic bacterium enters into the septic tank it quickly dies due to a lack of oxygen. After discharge from the septic tank into the secondary treatment system, aerobic bacteria once again is growing due to a limited amount of oxygen in the soils, helping to break down the 70 to 80% raw sewage that passed through the septic tank. There is a multitude of documented evidence that supports the fact that a sufficient amount of aerobic bacteria will clean this raw sewage and transform it into 90% or better clear and odorless effluent. Mother nature can sometimes use a little help. With aerobic bacterium growing both before and after a septic tank, it is helpful to support and promote aerobic bacteria growth in the septic tank as well. The SepAerator™, through the use of an air pump process, combined with a diffuser that distributes a combination of both fine air and course air diffusion, will produce a sufficient amount of oxygen into the septic tank to promote the rapid growth of aerobic bacteria. These aerobic bacteria will thrive on and devour the waste coming into the septic tank and through this process discharge up to 90% clear and odorless effluent into the secondary treatment system. A secondary advantage of the SepAerator™ forcing air into the septic tank is a constant circulating movement of the sewage in the tank. This movement almost immediately tears the solids and toilet paper apart. It further causes the solids and particles to continually move about in the tank making it much easier for the aerobic bacterium to attach to those particles. Once attached to the smaller particles the aerobic bacteria will rapidly devour those particles vastly improving the effluent before discharge occurs. This process happens very quickly with noticeable visible improvements to the effluent quality happening within the first two weeks to a month.

2) EXTEND THE LIFE AND REJUVENATE THE EXISTING SECONDARY TREATMENT SYSTEM

Once the process of promoting the rapid growth of aerobic bacteria in the existing septic tank has begun the benefits to the secondary treatment system will follow. When up to 90% clear effluent is discharged into a secondary treatment system, in lieu of the 70 to

80% raw sewage normally leaving a septic tank, even poor soils will more adequately handle the absorption process. Clear water will absorb into soils much faster and easier than raw sewage. The benefits of this alone are enormous. The true benefits of the **SepAerator™** can be seen when added to the additional bonus of a surplus of aerobic bacteria that is being generated by the **SepAerator™**, flows out of the septic tank and into the secondary treatment system. This surplus aerobic bacterium will assist Mother Nature's natural promotion of aerobic bacteria and will begin devouring the sewage that originally passed through the septic tank and is now plugging or clogging the pores in the soil. This clogging greatly reduces the ability of the soil to complete the absorption process, which will eventually cause a system failure. By eliminating the soil clogging material the life of the existing secondary treatment system will be prolonged and in many cases pre-mature failure will be eliminated. This process happens very quickly, with noticeable visible improvements in the soil absorption capacity of the secondary treatment system to be expected within the first few months.

3) PROTECT OUR GROUNDWATER AND ENVIRONMENT

There is a growing concern across the nation that septic tanks discharging raw sewage into a secondary treatment system, such as a subsurface seepage system or field absorption system, are mixing with and contaminating our ground water. Raw sewage discharging from a septic tank is full of dangerous and harmful pathogens, if ingested by humans can cause serious health problems. There is an estimated 1 million failed septic tank and secondary treatment systems in the United States. Even those systems which have not failed, but have been installed incorrectly, by not maintaining the required separation distances from the bottom of the subsurface seepage trenches and seasonal high water tables or just groundwater, have created health concerns for many. The **SepAerator™** is an effective tool that reduces the chances of contaminating our drinking water and environment. The **SepAerator™** does most of the work in processing and cleaning the wastewater before it discharges from the septic tank. When the quality of the effluent discharged has improved from 70% raw sewage to as much as 90% clear water the potential for groundwater contamination is drastically reduced. Many states allow a much larger reduction in the required separation distances with the utilization of an aerobic system. The same basic principles apply.

In summary the **SepAerator™** is a simple tool that is easy to install in an existing septic tank that will change the dynamic of how a septic tank works from anaerobic to aerobic bacterium. Aerobic bacteria are amazing hungry little animals that love to devour raw sewage with results that produce a clear and odorless discharge. Mother Nature, like all of us, can sometimes use a little help.