

Keep your soil healthy

Along with light and water, one of the most important things that we can provide for plants is good soil. Most people take this for granted.

Stan Rosenthal, UF/IFAS Extension Agent in Leon County, provides advice on how to keep your soil healthy in today's article.

Soil is where roots anchor to hold the plant up. Roots (often with the help of symbiotic mycorrhizae fungi) take in water and nutrients. Roots carry on respiration, which means they need to breathe in oxygen and give off carbon dioxide. Soils that have fine particle size (such as clay), or that are more compacted or water-logged, will have less oxygen. This is why plants need porous, uncompacted soil that allows good penetration of both air and water.

Avoid driving vehicles across soil, if possible. It takes only a few times of driving or parking a car on soil to compact the soil enough to have a negative impact on lawns, trees or other plants. Even repeated foot traffic will compact soil to the point of having an adverse effect on plant health. If you don't believe it, take a look around almost any school campus, where you will often see footpaths worn across lawns or landscape beds. Mulch, such as leaves, pine straw or wood chips can help, even against vehicle traffic. Mulch cushions soil from compaction by dissipating the weight of foot and vehicle traffic. Mulch also protects exposed and bare soil from erosive and compactive impact of rain drops.

A healthy, porous soil is alive with life. In a typical grass field there may be 15,000 pounds per acre of biomass (roots, worms, bacteria, etc.). Four hundred to four thousand pounds are bacteria. Five hundred to five thousand pounds are fungi. Four hundred to four thousand pounds are Actinomycetes (bacteria with growth form similar to fungi and functions similar to both). Nematodes, protozoa and various arthropods add 11 to 160 pounds. Earthworms add 10 to 40 pounds per acre.

All these organisms are like a giant factory, decaying organic matter (leaves and grass clippings) and recycling nutrients. Like plants, all these organisms benefit from a porous soil with an atmosphere rich in oxygen and good absorption and drainage of water.

If you want healthy plants, keep your soil healthy. Avoid soil compaction and keep organic matter like grass clippings, leaves and pine straw in your yard. This organic matter breaks down and is part of the natural cycle of replenishing the soil, providing a healthy soil environment for your plants to grow. Also, soil covered by healthy grass, groundcovers or mulch will stay where it belongs, in the garden.

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