

Soil Compaction in Our Lawns



Photo by David W. Marshall, UF-IFAS Leon County Extension: Areas of compacted soil in the lawn tend to dry out faster than the rest of the lawn.

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If you have a lawn, odds are that you have at least one section that doesn't grow as well as the rest of it. Even though all the lawn has equal amounts of sunshine and receives the same care, the grass just doesn't have the vigor in this one area that it has in the rest of the lawn.

One possible reason for grass to not grow well in an area is soil compaction. Soil compaction can occur from any of a number of causes. Often the soil compaction goes all the way back to the original site preparation, or more accurately, lack of site preparation. Before planting a lawn, the soil should be tilled up and smoothed out. Once the grass is planted, you will never again have such a chance to loosen the soil and increase the aeration in the soil. And aeration is important for the plant roots, because they need oxygen just as much as they need water and nutrients.

In other cases, you may start with a well-prepared planting site, but over the years it can become compacted by traffic. This traffic can be from vehicles or even from frequent foot traffic. Even dogs, going back and forth across the same area, can cause both grass wear and soil compaction.

Riding lawnmowers can weigh several hundred pounds. This weight is applied to your lawn on a regular basis during the mowing season. The weight of walk-behind mowers and their operators also contribute to compaction. When the soil is compacted, water and nutrients are not readily absorbed and may become part of the run-off and contribute to the pollution of our environment.

There are a number of things we can do to reduce compaction. Do not mow when the soil is wet. Wet soil compacts more readily than dry soil. If you mow your own lawn, consider a switch to a lighter weight lawn mower. My wife and I have moved up the

scale from the old reel mowers of our childhood to the heavy, wide tire riding mowers and back through light weight electric mowers, and in more recent years, to the old reel mowers with which we grew up. Pushing reel mowers is great exercise and the grass receives a much better cut from the scissors cutting action of the blades.

To deal with the compaction that already exists in your lawn, there are a number of options. The option you select will depend on the size of your lawn. If you use a walk behind mower, one very simple solution is to wear aerating lawn sandals. They fit over most any size boot or shoe and have 20 one and a quarter inch spikes. There are also lawn spikes that contain two to four spikes that are forced into the ground. They are inexpensive and are available through local hardware and gardening centers.

Lawn core aerators containing two to four tines actually lift plugs. I purchased one of the four tine core aerators several years ago and have used it only in areas of the lawn that were distressed rather than covering the entire lawn. It was more expensive than the two items listed above but the construction is very durable and the results have been very satisfactory. Although additional compaction is caused when the lawn spikes are forced into the ground, the tips of the tines of the core aerators are open and there is no compaction at the base of the tine.

The best aeration is accomplished with mechanical aerators and there are two types available. One is a hollow tine aerator that lifts plugs that are left on the lawn. The plugs can be dispersed by your lawn mower. The second mechanical aerator lifts loose plugs that are dispersed as loose soil and do not require further action. Mechanical aerators can be rented locally and delivered to your home. However, you may prefer to have the work done professionally by a landscape or lawn service. Although I have not tried using one of these machines, I think it is one task that for some of us would best be left to the professionals.

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