



# Core Aeration

Question: We think we need to aerate our lawn and would like to know when and how it should be done.

Answer: It is best to aerate a lawn when the grass is actively growing, so spring or fall are better than summer or the dormant season. Aeration is called for when the soil is compacted and needs to be loosened. Compacted soil is hard to dig in and diagnosed by digging a hole and looking at the sidewalls to see if the soil is loosely clumped together or is smashed together.

Soil with a high organic matter content is usually loose, but if the soil is high in clay it is often compacted by construction machinery, too heavy of a mower on wet soil and even heavy foot traffic. Areas like ball fields are much more likely to be compacted than normal lawns. Only the ball field areas or lawn areas that are compacted need the aeration.

If you dig a hole and there are layers of different colored soil and the roots of the grass stop and do not go through the layers, it should be core aerated. The first spring or fall after you notice the need is when it should be done and it will probably need to be done two or three more times, to get the full effect. In the future after that, it may not need an aeration for many years.

The cores need to be long enough to break through the layers. If there are no visible layers, but the soil is just compacted, the cores need to go through the compacted portion down to the non-compacted area. Cores that are only two or three inches long will not help the grass roots very much, but are better than nothing. Grass roots need to grow eight inches to one foot deep to have enough soil to be able to get the water they need. Be careful of shallowly buried TV cables or other utilities if you use long tines on the aeration machine.

Soil scientists and turf grass experts recommend that the cores be pulled from the soil in a grid pattern every two to three inches in both directions. If the tines on the machine are farther apart, the machine needs to go over the same area multiple times. The companies bidding on doing a core aeration need to know what they are bidding on. They need to know in advance if they will need to have a machine with longer tines and how many times they will have to go over the property to do the job correctly and effectively.

If someone says the aeration needs to be done because of a thatch problem, have them show you the thatch. It should be easy to do. Thatch is a very distinct item in the lawn. It is not the gray or tan, dead leaf blades left after mowing or from grass that died over the

winter. Thatch is a part of a normal and healthy lawn, but a thick layer of it often is a sign of a compacted soil.

Thatch is a dark cinnamon brown colored layer of grass roots and above ground stems. They are very thin and like a thread in appearance. They need to form a half-inch thick layer to be a problem. This is a layer that would look a lot like a thick layer of felt on top of the soil and under the green grass blades. If you can cut a three-inch cube out of the soil and the middle layer is thatch, then you should core aerate, otherwise it is not needed. Some sales people say a lawn has a thatch problem when it doesn't.

The cores can be left to degrade naturally or they can be broken up a day or two after the aeration. Organic matter that is made up of fine particles can be spread on the lawn. The whole lawn then should be raked or otherwise loosened up so the organic matter and the cores can be broken and sifted back into the holes.

Do not do a power raking, especially to remove thatch, remember, the good grass plants are on top of the thatch and will be removed first. Power raking rips out the good organic matter of grass leaves. It is the organic matter in clay or sandy soil that helps keep the soil from compacting and adds to its moisture holding capacity.

It is best to leave the grass clippings on the lawn if they are cut at the proper length for the grass species being mowed. Long clippings that are left in clumps should be removed after a day or two of drying out. Clippings should be removed only if they will cause health problems to the grass plants trying to grow under them.

Do not try to do an aeration by sticking sharp objects into the soil that do not remove a core. These objects have to push soil aside to be able to get into the soil, in other words, they actually compact the soil more! Wearing spikes on your shoes while mowing the grass actually damages the grass plants, spreads disease and is absolutely no good at relieving compaction. Anyone who tells you to use golf shoes or spikes on your shoes while mowing the lawn is to be considered un reputable and none of their advice on any landscaping topic should be considered valuable.

Core aerations are a normal part of the turf manager's activities if there is a diagnosed need for it, otherwise you are just wasting your time and money to do it.