

## Core Aeration and Power Raking of Lawns

By: Kelly Feehan, Extension Educator

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Two lawn care practices used in spring are core aeration and power raking. While September is considered an ideal time for both, they can be done in spring if soils are not too wet.

Power raking is damaging to lawns but may be needed to remove excess thatch from turf. Power raking is often not needed on lawns that are aerated on a regular basis.

Thatch is the reddish brown mat found between soil and grass. It is made up of dead roots and rhizomes. Grass clippings do not contribute to thatch. Thatch cannot be seen from the surface so a plug needs to be removed from turf to measure thatch.

Power raking, because it can be so damaging to lawns, is only recommended if this thatch layer exceeds one-half inch. A one-half inch layer is beneficial in protecting the plant crown, or growing point, from extremes in temperature and from foot and mower traffic.

If you cut a plug out of your lawn and find a thatch layer much thicker than one-half inch, power raking may be beneficial. This practice needs to be done in April or September to allow turfgrass to recover before the stresses of summer and winter.

A much better practice for lawns is core aeration or plugging. If this is done on a regular basis, the damaging practice of power raking is often not needed.

Lawn aeration speeds thatch decomposition, relieves soil compaction, increases the movement of water, nutrients and oxygen into the soil and promotes root growth. We all know roots need water but oxygen is just as critical. Roots will not grow without adequate levels of soil oxygen.

Soil compaction is a common issue with turf. Lawn soils are often wet with automatic irrigation systems and foot and lawn mower traffic then cause compaction. Only core aeration relieves compaction.

Soils that are compacted can be 10 degrees F hotter in summer and 10 degrees F cooler in winter resulting in increased winter kill and drought injury. Infiltration of water, fertilizer and oxygen into soil are much reduced in compacted soils. Runoff of nutrients into water resources are increased from compacted soils.

Lawns could be aerated once a year and should be aerated at least once every three years. If you have sandy soil and little traffic on your lawn, this would work pretty well. If you have a clay soil and much traffic on the lawn, more frequent aeration is needed.

Unlike power raking, core aeration can be done most anytime during the growing season. It is helpful to aerate when turfgrass is actively growing which is spring and fall when temperatures are cooler.

Pay attention to soil moisture when aerating. The soil should crumble easily when worked with your fingers. If it is too wet, the machine's tines will plug and only punch holes in the soil instead of removing a plug, which increases compaction. If soil is too dry, the tines will not be able to penetrate deep enough.

For homeowners, aeration services are available from most lawn care operators or equipment can be rented from multiple sources. If renting equipment, make sure it is working properly before you leave the store. Make sure it starts and the coring tines are not excessively worn or broken.

Also check that the tines do not have soil cores in them from the previous lawn it was used on. If so, weed seeds and other troublesome plants, like zoysiagrass, can be introduced into the lawn.