

## Focus on Aeration

By Linda Beattie

Studies have proven that maintaining green space is good for the ecosystem, the environment, and the disposition. In the U.S., nearly 80% of all homes have a lawn and American's spend about 40 billion dollars annually to maintain them – this amount is expected to rise as the population matures. Maintaining healthy grassy area has many benefits to the environment. Regular mowing of grassy area alone has proven to increase the carbon absorption of grass blades – cleaning the air, cooling surface level temperatures, and helping to filter out impurities in water run off.

The impact of global warming and carbon footprint statistics aside, there are practical reasons for the renewed interest in turf management. Well-maintained turfgrass commands higher property values, conserves water, and offers cooler surface temperatures (reducing interior cooling costs) – all of which are value-added reasons for the property owner to maintain healthy grass. Healthy grass requires aeration. Aeration alleviates soil compaction allowing air, water, and nutrients to reach the grass root system promoting thicker growth, but many times aeration is performed in conjunction with other turf care applications to combat a specific turf problem, soil condition, or to alleviate the effects of weather conditions. Turf care services tend to follow weather patterns and climate. In consistently dry areas, aeration plays an integral role in water conservation allowing the soil to retain and store water more effectively, reducing run-off and waste. In drought conditions, professionals use overseeding and aeration to maintain turf health. In moisture-rich areas, dethatching coupled with aeration would be used to remove dead, matted surface material (thatch) to better battle water run-off, reducing flooding in prone areas.



Professionals often perform aeration with other turf care applications, like overseeding and dethatching to improve lawn health.

All grass types benefit from aeration - regardless of soil type, even sandy soil grasses benefit from aeration. When you understand the many valuable benefits of aeration, the decision becomes less of 'if' and more of 'when' to perform aeration to be most beneficial.

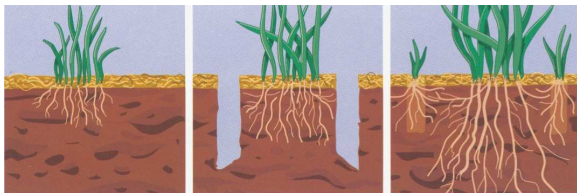
### Understanding Aeration

Technically speaking, aeration is the naturally occurring process of air exchange between the soil and its surrounding atmosphere. Practically speaking, aeration is the act of opening the soil/soil surface, either by slicing or coring, exposing root systems to water, air, and nutrients. Slicing is an unobtrusive cutting/knifing into the soil. Coring is the process of pulling small plugs of matter/thatch and soil from the lawn to improve natural soil aeration. Slicing is done to reduce crusting by increasing water and air penetration into the soil. Coring does the same but also extracts a plug of soil and organic buildup (thatch) that naturally decomposes providing beneficial nutrients to the grass and root system.



**Aeration** is the act of opening the soil/soil surface to allow for air, water and nutrients to penetrate the soil and root system effectively.

### Benefits of Aeration



**Soil Compaction** – Turfgrass in compacted soil (left) grows slowly, becoming thin and sparse or simply does not grow at all. Core aeration (center) removes small cores of soil. This increases water and air movement into the soil improving the depth and extent of turfgrass rooting (right).

Aeration maintains or improves turf health and reduces maintenance requirements through:

- ▶ Increased water and air movement into soil
- ▶ Reduced thatch buildup
- ▶ Better and deeper rooting
- ▶ More healthy turf resulting in:
  - Less water and fertilizer use
  - More aggressive growth
  - Better turfgrass performance during stressful periods
- ▶ Creating better soil conditions

### When to Aerate

While all turfgrass can benefit from aeration, understanding how often and the proper time to aerate will help achieve the best results. The number of aeration applications needed annually depends on the severity of soil compaction caused by weather or lawn traffic. Turfgrass with moderate traffic should be aerated at least twice per year. Heavy traffic turf used for sports, golf and other outdoor recreation, as well as turf that is exposed to heavy or prolonged rainfall, should be aerated more often – three to four times in a season would offer the best results. For cool season turfgrass, both spring and fall are ideal times to aerate. Spring aeration is best performed between March and May. Aeration before or at the time of late season fertilization enhances root growth and improves spring green-up and growth. As such, look for fall

aeration to be performed between August and November. Warm season turfgrasses will benefit best from aeration performed between June and September or after spring green-up and the first mowing of the season.

### **What to Expect After Aeration**

Immediately after core aeration, the lawn will be dotted with small plugs pulled from the soil. These cores can be removed, but if left atop the grass to naturally decompose (in about a week or two) the cores will act as a natural enhancer in breaking down harmful thatch buildup and provide the soil with beneficial nutrients. About 7 to 10 days after aeration, the aerification holes should be filling in nicely with white, actively growing roots – a sign that the turfgrass is receiving additional oxygen, moisture and nutrients from the soil and promoting growth. On compacted soils and on lawns with slopes, there should be an immediate reduction in water puddling and run-off after irrigation or rainfall. After aeration, the lawn should be able to go longer between watering without showing signs of wilt and with repeat aeration treatments over time will show enhanced heat and drought stress tolerance as well.

When you weigh the high level of benefit to the low cost of treatment, aeration is a very economical turf care regimen. And while no single turf care treatment is a fix-all and the severity of pre-existing conditions and level of traffic may require multiple aeration treatments to achieve optimal results, lawns that receive this turf care treatment are likely to be healthier (requiring less watering and fertilizing), easier to maintain, and have fewer pest and disease problems.



*Core aeration is the process of pulling small plugs of soil, thatch and surface matter to improve natural soil aeration. The plugs decompose providing vital nutrients to the grass and root system.*

