

A Contractor's Perspective on **AERIFICATION**

By Sean Connell

Aerification is a critical piece of the turf management puzzle. It is the one mechanical practice that is the staple in most turf programs. It alleviates compaction, removes thatch, and delivers air, nutrients and water to the roots very efficiently. Of course with anything in the turf business, the term 'aerification' can encompass a wide spectrum. It can mean using shoes with spikes on the bottom or a deep tine aerifier that could cost \$40,000. The choices are endless and options are maybe even greater. There are two basic forms of aerification: solid tines and coring tines.

Solid tines are used mostly for deep tine applications with tine sizes ranging from 6.0 to 14.0-inches long and can be over 1.0-inch diameter. Deep tine aerification penetrates the thatch, topsoil and potentially subsoil all in one motion. This is very effective and is considered one of the most economical forms of aerification because it does so much and penetrates so deep in one pass. The surface damage is minimal as well. There is usually only a tab of thatch and a hole visible from the operation of the machine. Considering how many options there are in equipment, I recommend using weight of the attachment as a determining factor for choosing equipment. Heavy usually means well built. Regular wear of an aerifier is incredibly harsh. Effective life spans

of equipment that perform aerification are usually short even when scheduled maintenance is performed. Make equipment decisions wisely.

Core aerification removes a core of thatch and soil ejecting the plug every time it strikes the ground. The main reason to use coring tines is to remove and reduce thatch build up from the organic layer. The cores sizes can range from 0.25 to 1.25-inch. The larger the tines, the more economical. Larger tines remove the most thatch and alleviate the most compaction. After aerifying, the cores can be unsightly and affect play of the particular sport. So planning the clean-up in advance is always a consideration. Core aerification followed by plug removal is also excellent way to make room for topdressing material. Sand and/or organic materials are very popular choices (together or separately) that can be topdressed to fill-in coring holes. This is excellent way to modify soil by adding organics for a better cation exchange capacity or sand for better drainage. Either way, if your goal is to amend the soil, a physical soil test on your native soil and the material you intend to use will help you in deciding on

Continued on page 18

Did you know . . .

The turfgrass disease 'triangle' pictorially illustrates that a turfgrass will only succumb to a fungal disease if

1. the turf is susceptible to the fungal pathogen;
2. a virulent fungal pathogen is present; and
3. environmental conditions are suitable for infection to occur.



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continued from page 9

materials needs. For example, concrete sand is called concrete sand for a reason: it compacts very tightly.

Aerification can be stressful to turf so some preliminary work is in order. Providing up to an inch of irrigation helps the aerification equipment penetrate the soil. Watering after aerification is just as important since the turf can dry-out very quickly following aerification. Daily inspection of turf and monitoring of wilt is critical the first week. Fertilizing before or after aerifying is a great idea as well since the turf is under stress nutrients will help the turf to heal and grow. Soil samples are always recommended for the most accurate and responsible results. Aerification increased the exchange of oxygen and carbon dioxide; the turf will grow deeper into the soil building stronger roots which, in turn, will provide better playing conditions. After core aerification, some sports turf managers break-up cores by dragging and mowing the thatch debris. This is great idea except in hot conditions. Excessive heat can intensify the bruising of the turf that is left behind to heal. This bruising can extend the time it takes the turf to heal. Spring and fall aerification seem to be the best time to aerify cool season grasses because of the vigorous growth. Summer is the best time to perform aerification on warm season grasses.

Deciding whether to purchase or lease aerification equipment or contract aerification services can be difficult considering the numerous options. Tough conditions such as rock, shallow topsoil and unknown debris below the turf areas are good reasons to use a contractor. Contractors usually have the latest equipment and operation of that equipment on your property can serve as a 'demo' to help you decide about purchasing. Regardless of the choice you make, the turf will be healthier and stronger as a result of this mechanical practice.

Sean Connell is Owner and Primary Project Manager, Georgia Golf Construction and member of the SFMANJ Board of Directors.



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