

A SHARP IDEA

How an old practice is helping to manage new turfgrass varieties.

by CHRISTOPHER E. HARTWIGER



Dethatching removes organic matter and improves oxygen flow to the rootzone.

SOMETIMES new challenges can be overcome with old solutions. The advent of high-density bentgrass and bermudagrass varieties is raising the level of putting quality on putting greens throughout the country. However, there is a price to be paid to meet this higher standard because many of these varieties require a more intensive maintenance program.

Paul Jett and Jeff Hill at Pinehurst Resort and C.C. (Pinehurst, N.C.) have found dethatching to be an extremely important part of the management program for the G-2 bentgrass greens on Courses #2 and #8. The G-2 bentgrass has an extremely fine texture and requires exceptionally low mowing for optimum playability. They have concerns about rapid accumulation of organic matter in the upper portion of the profile as well as the incorporation of sand topdressing into the canopy. They have found that routine dethatching of the greens successfully addresses both of these concerns.

Evolution of a Sand-Based Putting Green

From the moment that grass is established on a sand-based putting green, the physical properties of the soil in the upper portion of the profile begin to change. Organic matter in the form of old roots and other plant matter accumulates, which can alter the balance of pore space. Typically, more capillary pore space is created at the expense of larger macropores. Since the capillary pore space contains water virtually all the time, soil oxygen and infiltration rates decrease.

Managing the physical properties of the soil in the upper portion of the pro-

file is essential to maintaining healthy bentgrass through the summer months. Physical removal of accumulated organic matter and the incorporation of topdressing are the two primary means of accomplishing this goal. These practices are even more vital in managing the new high-density bentgrass and bermudagrass varieties.

The Dethatching Process at Pinehurst

At Pinehurst, Mr. Hill and Mr. Jett use the Graden Vertical Mower to dethatch the G-2 bentgrass greens on Course #2 and Course #8 every six to eight weeks. A deeper setting is used for organic matter removal and a shallower setting is used to create channels for topdressing incorporation. The unit is gentle on the turf and complete recovery occurs within a week, regardless of the depth used. Mr. Hill and Mr. Jett believe aggressive dethatching removes more organic matter than core aeration, with less recovery time.

Light, frequent topdressings are essential to help maintain good porosity, firmness, and dilute the accumulation of organic matter. However, sometimes the turf canopy on some of these varieties is so dense that the larger particles are not readily incorporated. If the mowers are removing the larger sand particles, the benefits associated with light topdressings are not realized. Mr. Jett and Mr. Hill have found a light dethatching can be used to open up the canopy for easier incorporation of sand topdressing.

The cleanup process requires two easy steps. First, snow shovels are used to push the removed material to the edge of the green for easy pickup. Next, crew members with backpack blowers blow any remaining material off the greens. After rolling and/or mowing the next day, the greens are back in play with minimal disruption.

Using This Tip at Your Golf Course

The physical removal of organic matter and frequent topdressings are more important than ever before when managing a new high-density bentgrass or bermudagrass variety. While some

organic matter is essential to provide wear tolerance, too much will place the greens at risk for problems during periods of high heat and humidity. Paul Jett and Jeff Hill have found dethatching to be a major key in addressing this concern and a means to help provide players with outstanding conditions throughout the year. However, dethatching is a process that can be beneficial to older golf courses with sand-based putting greens. This practice can help remediate situations where the excessive accumulation of organic matter is hindering the performance of the greens.

The first step in implementing a dethatching program is acquiring a piece of equipment that can handle the job. Ideally, select a unit that can cut two inches deep into the profile without any difficulty or major disruption to the canopy. Generally, verticutting reels on triplex mowers are not an option because they will not cut deep enough into the profile.

The next step is to set a dethatching schedule that is appropriate for your golf course. Keep in mind that optimum times for dethatching bentgrass and bermudagrass greens will vary. Identify whether your objective is to assist in the incorporation of topdressing or organic matter removal. Aggressive dethatching should be performed during the period of peak growth to avoid stress and minimize the recovery period of the turf. A shallower setting is more desirable for the incorporation of sand topdressing.

Golfers' expectations and superintendents' skills continue to raise the standard of putting quality. Using this sharp idea at your golf course will benefit the greens agronomically and will give you a head start in meeting those rising expectations.

CHRISTOPHER E. HARTWIGER uses his well-honed skills as an agronomist in the Southeast and Florida Regions. He makes Turf Advisory Service visits in Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, and Florida.