

SAND TOPDRESSING APPLICATION AND EQUIPMENT

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Golfer demands for near perfect golf course playing conditions has increased over the years. While tees, fairways and rough receive a large share of consideration in a turf manager's maintenance program, the greens require most of our attention.

Golfers desire fast greens that putt true and smooth, and are firm, yet resilient enough to hold a well played shot. Cultural practices such as mowing schedules, fertilization, irrigation, coring, vertical mowing and topdressing require judicious planning to accomplish the desired results. This has to be done during the season with little interference to play and playing conditions, not an easy task. Add the factor of dealing with climatic conditions and the job is even more difficult.

Topdressing greens is a practice that most of us use today. Some managers use soil, some use peat and sand mix, and others use straight sand. The benefits of topdressing are well documented. Increased green speed, smoother putting surfaces, a reduction in thatch and less compaction are some of the results of a sound topdressing program. Knowing what material to use and when and how to apply it is the key to any successful topdressing program.

The application of straight sand as a topdressing is a controversial subject in the management of golf course greens. Once you begin on a sand topdressing program there is no turning back. Altering or disrupting the program can cause major green management problems. The difficulty in finding the same topsoil mix every year is why many turf managers explored alternatives for topdressing material. Managers used straight sand because of the consistency and availability of the product.

Applying the same material for every application is a key factor in a sound topdressing program. Alternating topdressing material will cause soil layering that results in long range green management problems. Also, the frequency and amount of topdressing applied is important. It has to coincide with the growth rate of the turf. Too much material can smother the grass. Too little can result in a thatch layer.

Golf course managers in Scotland sand topdressed greens during the early stages of golf course management in the 1800's. In the early 1970's, Madison and Davis from the University of California-Davis advocated the use of straight sand for hard to manage greens. Then no one knew for sure what long range effects that light, frequent sand topdressing would have on greens. Even today, after years of monitoring this widely used management practice, all the questions have yet to be answered.

All we can do as Golf Course Managers is use the technology and equipment available to us. Then provide satisfactory playing conditions that have a positive impact on the quality and health of the turf, at a reasonable cost.

We need to determine what sand to use. One that has an acceptable range of particle sizes and a suitable shape. We need to know when to put it on and how often. Many factors determine this. The length of the growing season. Weather conditions. Fertilization practices. Tournament schedules. The amount of play a golf course receives. These are some of the key factors that dictate when and how much sand to apply on a green.

The storage of sand is a necessary concern. Keeping the sand dry in a protected environment is important when using certain topdressing machines. Indoor storage is ideal but not always possible. Covering the sand with a high quality tarp can provide adequate protection from wind and rain. Also worth noting, dry sand is available at an additional cost for those who use broadcast type spreaders.

The original equipment used to topdress was small and required many labor hours to apply. Up until 20 years ago topdressing greens occurred maybe two or three times a year. Since light sand topdressing required frequent applications,

the need for more efficient machinery evolved. Applying sand 10 to 20 times a year required equipment that could apply topdressing in a matter of a few hours.

The turf equipment industry developed practical machinery to apply topdressing with quickness and efficiency. There are several types of spreaders. Commonly used are the rotary broadcast spreaders. They can apply sand as well as fertilizer. These machines can effectively spread sand in 8-20 foot swaths with a capacity of up to 1 1/2 cubic yards of material.

Another broadcast spreader commonly used throws sand out of the hopper with a pendulum action through a short tube. They also can spread fertilizer as well as sand. The hopper capacities are in the range of 1 cubic yard with a spreading width of 12-15 feet. I found the older models have difficulty passing wet sand through the hopper due to inadequate agitation and hopper design. Using another employee to stir the sand in the hopper during the topdressing operation negates the efficiency and labor savings of the machine. Also, employee safety is compromised when a worker rides on the machine not designed for another passenger. The improved agitation and hopper design on the newer model will allow wet sand to pass through the hopper more efficiently.

Broadcast spreaders using a rotary spinner or a pendulum action have large capacity hoppers with broad spreading widths that save time and labor. Still, dry sand is the preferred product for these spreaders.

Tom Walker, Golf Course Superintendent at Inverness Club in Toledo, Ohio uses a walking rotary broadcast fertilizer spreader to apply a sand/peat topdressing mix. He purchases his material dry and in 50# bags. He applies 5-10 bags per green every 7-10 days during the growing season.

Drop type spreaders have a spreading width ranging from 3 to 5 feet with hopper capacities anywhere from 10 cubic feet to one cubic yard. While the spreading swath is less than a broadcast type spreader, they can apply wet sand as well as dry sand.

Just before topdressing is an excellent time to groom the greens with vertical mowers. Experience has shown that grooming 1-2 weeks after topdressing will disturb the sand in the upper layer of the green surface. This causes premature dullness of the green cutting units when mowing after grooming. I have groomed the greens 15-20 times a year by vertical mowing before topdressing.

Working sand into the turf is an important step in the sand topdressing program. Light sand application on greens requires integrating the material into, and below the grass surface without damaging the turf. There are a variety of brush systems available. These include brushes, carpets and metal mats pulled behind utility vehicles. There is equipment available that connects to Tri-plex green mowers. Many turf managers have developed their own efficient brush systems that get the job done quick, with little expense to build. Check with your fellow turf managers for possible construction plans. Or contact your local equipment representatives for product availability.

After completing the application and dispersement of the sand, I recommend irrigating the greens. This reduces heat and wear stress caused by the sand and topdressing equipment. It is especially important on hot, sunny days with low humidity.

Mowing greens after topdressing is a problem that everyone must contend with. The abrasive effect of the sand dulls reel blades and bedknives, which reduces cutting quality for a 2-3 day period. The cutting units require constant sharpening and bedknife replacement, which increases mower expense. Purchasing a set of reels specifically for mowing immediately after topdressing will save on wear of your regular cutting units.

Localized dry spots brought on by years of sand topdressing may develop. The upper 2 inches of the surface of a sand green dries out faster than a soil green. To promote proper water infiltration through the soil profile, regular applications of wetting agents may be necessary.

Sand topdressing was controversial 10 years ago, and it is still a highly debated topic today. Many of us who started on the program have had second thoughts. As we all know, once you start sand topdressing, you must continue. As stated earlier, use the technology available to you to make this practice benefit the playing conditions and general health of the turf.