

Lay Down Some Rubber

Using crumb rubber topdressing can reduce turf injury in high-traffic areas.

by CHRISTOPHER E. HARTWIGER

YOU HAVE probably seen them on your golf course: worn areas between bunkers, dirt paths on a tee slope, or damage from carts leaving the cart path. These high-traffic areas are characterized by a lack of turf, unsightly appearance, and a negative effect on playability. While the traditional remedy for these problems has been time consuming and labor intensive, research conducted at Michigan State University on crumb rubber topdressing may show the way for super-

intendents to become proactive and protect the turfgrass in these high-traffic areas. This turf tip will review this new technology and will focus on Mark Hoban's program at The Standard Club to effectively manage high-traffic areas.

Old Tires, New Topdressing

Dr. Trey Rogers and Tim Vanini from Michigan State University identified crumb rubber (recycled tires) as a potential topdressing material to protect turfgrass plants from traffic stress

commonly found on athletic fields. In their research, Rogers and Vanini discovered that certain amounts of crumb rubber will improve turfgrass wear tolerance, decrease soil compaction, and decrease turf system inputs.

The physical properties of crumb rubber differ from those of soil particles and provide the basis for improving turfgrass in high-traffic areas. Typical particle sizes for crumb rubber are $\frac{1}{4}$ inch in diameter or smaller, with rounded edges that are less abrasive

Areas prone to heavy cart traffic are ideal candidates for crumb rubber topdressing.





Crumb rubber topdressing protects the crown of the plant and decreases the potential for compaction.

than sand. Additionally, crumb rubber has a particle density approximately one half of a typical soil particle, and the crumb rubber does not migrate down into the soil profile. When a proper layer of crumb rubber topdressing accumulates on the soil surface, the crown of the plant is protected from traffic and abrasion, and the underlying soil becomes less susceptible to soil compaction.

A common concern with crumb rubber topdressing is the potential for toxicity to the plant or threat to the environment. To date, Rogers and Vanini have not reported any harmful effects to the plant or environment. Soil samples from the crumb rubber test plots have been taken since 1990 with no elements reaching levels of concern or posing a threat to water quality.

Rogers and Vanini reported that best results were obtained with a topdressing of 0.75 inches deep on cool-season turfgrasses mowed higher than 0.63 inches. Not more than 0.25 inches of the material should be applied at one time. Typical costs for the material alone when applied to a depth of 0.75 inches is \$270 per 1,000 square feet.

Mark Hoban's Program

As superintendent at The Standard Club, Mark Hoban, CGCS, battles high-traffic areas around greens, tees, and cart paths. Upon hearing about crumb rubber topdressing, Hoban decided to do some experimenting with

the material on some of his problem areas. Mark has taken two approaches with the crumb rubber, and both have achieved positive results.

Although crumb rubber topdressing has been shown to improve wear tolerance, it is not a means to help stimulate the recovery of a worn or injured turf area. Hoban had a number of worn areas on his golf course, and he found that adding crumb rubber topdressing to these areas can be unsightly and would not help regenerate the turf. Instead, Hoban made repeat topdressing applications of crumb rubber to an area of sod in his nursery. After the topdressing settled properly, he stripped the worn areas and resodded with the prepared sod from the nursery.

This approach provided Hoban with several advantages over direct application to the injured area. First, Hoban did not have to rope off the injured area and wait for it to recover. He could experiment with different application rates in the nursery to determine which would be most effective at his location. If the topdressing did not settle properly or if it was moved by water, the crumb rubber was so well integrated into the turf canopy that the material was only slightly visible to the golfer.

Hoban's second idea for the crumb rubber topdressing was to apply it directly to several shaded tees at The Standard Club. Typically, shaded ber-

mudagrass lacks vigor and is more susceptible to stresses such as traffic. By applying the crumb rubber to the shaded tees, Mark hopes to improve the wear tolerance of these areas and improve the turf quality. Since resodding is not practical for these areas, Hoban is topdressing directly onto the tee surface and is dragging the material to incorporate it into the turf.

To date, Hoban has been pleased with the results of the crumb rubber topdressing and has seen dramatic improvement. Areas that typically receive a beating in the summer have never looked better going into the fall. Furthermore, Hoban is hoping the dark color of the material will increase soil temperatures in the spring and provide an earlier green-up. Based upon the results at The Standard Club, Mark Hoban's success at laying down some rubber is an idea that is sure to catch on.

References:

Rogers, J. N., and J. T. Vanini. 1994. Topdressing with Crumb Rubber from Used Tires on Athletic Fields and Other High-Traffic Turf Areas. *In: 65th Annual Michigan Turfgrass Conference Proceedings.* p. 234-240.

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