

Crumb Rubber

An Environmental Opportunity for Turf

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Rarely do we in the turf industry get the opportunity to do something that is highly visible and a top priority in benefiting most of your citizens. We are more often in the position of defending our work in providing high quality turf. Many people have a low appreciation for the positive impact the turfgrass industry has upon the environment and our civilization in the stabilization of soils, purification of water and air, provision of recreation and beauty, and reduction of noise, energy consumption, and allergens. It seems turf is most appreciated when it is being abused the most, during sports and recreational activities. Those are precisely the times when turfgrasses have the most difficulty growing. Historically, the bulk of improvements in the turf industry have come in the form of improved cultivars, machines, and chemicals. With the exception of sand-constructed rootzones, we have made very little progress improving turfgrass soils. Only recently are we learning that perhaps the greatest progress to be made in managing athletic turf is in properly managing its compacted soil.

So what does this have to do with crumb rubber? Discarded tires are a *big* environmental problem. One waste tire is produced per person each year in our country. For Illinois, that amounts to 12 million discarded tires per year. Small mountains of these tires are accumulating in the vicinities of our major cities. They

are not only an eyesore, but they tend to heat up during the summer, occasionally catching fire from spontaneous combustion. They are not allowed in landfills of most states. The smoke from burning rubber is a serious carcinogen. Once a fire starts, it is nearly impossible to extinguish because of inaccessibility to high internal temperatures. This sce-

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nario becomes tragic when we consider that the rubber from car tires is a highly durable, stable, and elastic synthetic compound. It is a valuable resource being discarded.

Enter the turfgrass industry. Turf is the only plant cultural system that gets walked on. We have a chronic problem of maintaining healthy turf in trafficked areas due to soil compaction. The problem is complex because it involves not only compression and torsion

(tearing) forces on the plant tissues but also the same forces upon the soil. Damaged plants have a hard enough time recovering without having to do it in a soil devoid of oxygen and poor in structure.

Dr. Trey Rogers and company in Michigan have documented the value of topdressing a trafficked turf with crumb rubber. It protects the crowns of the turfgrass, thereby reducing damage and allowing the grass more continuous growth. What you get is a significantly reduced area of poor quality turf. Research is presently under way at Southern Illinois University to determine the value of crumb rubber that is incorporated into the soil. It is being compared to topdressing alone and in combination with topdressing. We hope to find the right grade (crumb rubber particle size) and amount (percent volume in the soil) that will increase macroporosity. This would increase the amount of soil air space for oxygen to the roots and water infiltration and drainage. The result would be more vigorous turf capable of rapid recovery after traffic.

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So there you have it. This is a beautiful way of contributing to the quality of our environment. We can reduce a pollutant while improving the quality and safety of recreation and sports for our people. So please support this pro-

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A Hazard is Always a Hazard

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Occasionally, rules questions may arise when hazards on the golf course become unplayable for one reason or another. Here is some information that every superintendent may find useful with regard to hazards.

The rules of golf define a hazard as any bunker or water hazard on the course. Let's consider what would happen if a ball landed in a water hazard that was under construction with the installation of new bulkheads, or a ball landed in a bunker that was completely washed out and in the process of being restored to its original condition. Surely, you would think there is some relief under the rules for situations like these that temporarily alter the structure and playability of hazards.

Unfortunately, for the golfer, a hazard is always a hazard; and there is almost never free relief from a hazard regardless of its condition, with one exception.


In the first scenario, your greenkeeping staff is installing new bulkheads within the confines of a water hazard, and a ball enters the construction area. Rule 25-1b addresses this situation saying that the ball may be dropped without penalty in the hazard as near as possible to where it lay, in an area that provides *maximum available relief*. Take note that the ball must be dropped in the hazard, and the player is not afforded total relief from the construction, only *maximum available relief*, which by definition allows the player to drop on ground that is most nearly normal.

In order to gain total relief from the construction and/or hazard, the player must add a one-stroke penalty and drop the ball outside the hazard. Because it is usual for a ball in a water hazard to be unplayable, areas under repair should not normally be defined as ground-under-repair. A water hazard does not lose its status as a water hazard just because of the construction.

In the second scenario, your greenkeeping staff is pushing the sand back up in a bunker after heavy rains have washed it out, and a ball lands in the bunker.

The bunker does not lose its status as a hazard because of the rain washout or because the grounds crew is working in the bunker. Once again, rule 25-1b allows the player to drop in the bunker without penalty in an area affording *maximum available relief*, or he may drop the ball outside the bunker taking the one-stroke penalty.

Finally, let's look at a scenario where the greenkeeping staff is completely rebuilding a bunker with new drains, new sod, the works, and the entire bunker is undergoing construction. Decision 25/13 tells us that even this bunker does not lose its status as a hazard, and there is still no free relief. However, it is recommended that the committee should define the bunker as *ground-under-repair* and classify the bunker as *through-the-green*. Reclassifying the bunker as *through-the-green* is the one and only "loophole" that will finally get the player free relief from a hazard.

This article is available in Microsoft Word via e-mail (finney@imagix.net) 

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ject whenever you can. The Illinois Turfgrass Foundation is one avenue for support. Your tax dollars are presently supporting our project. Alan Justice, in the Illinois Department of Commerce and Community Affairs, has the sole responsibility of finding uses

for crumb and shredded rubber from waste tires. He and his people are the ones who approved and are supporting this project. Come visit the athletic field beside the football stadium of SIU in Edwardsville to get a first-hand look at all the treatments of crumb rubber with Lee Green-

berg of GreenEdge Enterprises (314-863-3444). He is the one who initially proposed the idea for the project to us. Mark Shaw, director of the grounds at SIU, Edwardsville (618-692-2719), has been a facilitator helping to make this happen. 