Rubber as top dressing

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improved some infiltration rates and some aeration. But it didn't protect the turf surface. Top dressing did, though, at layers that could be from 1/4 inch up to 3/4 inch of rubber."

The idea is that the rubber itself absorbs the shock from traffic and the soil beneath it doesn't become compacted. Also, the rubber particles are much softer edged and don't have the abrasive action of sand, Rogers said in introducing the research results at a Lofts Seed Co. field day here in June.

"We're very impressed and encouraged by this. We're very confident [about using it] on athletic fields but cautious about golf courses," he added, suggesting that for now it be applied at the end of cart paths and exits off greens. "We have tested it on high-traffic pathways and have been very pleased. It doesn't do a great job of regenerating turfgrass. It keeps turfgrass from wearing out. So you have to get the grass into good shape before you put the rubber down.

"It's not a cure-all. You still have to do everything else you normally do. But it's got some real potential. It protects the heartbeat of the course."

From studies performed by graduate student Tim Vinini, MSU researchers have settled on a recommendation that on traffic areas, if the turfgrass is mowed above 5/8 inch, use 1/2 to 3/4 inch of rubber. That amounts to 1,200 to 1,500 pounds of crumb rubber per 1,000 square feet. The cost is 14 to 20 cents per pound, the smaller size costing the higher rate.

"The smaller size works quicker, because it naturally works its way down to the bottom of the turf-soil interface. But once the larger size works its way down, we don't see any difference," Rogers said.

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Regarding possible toxicity from the rubber, Rogers said: "We haven't looked at all the compounds that come off the rubber. But as far as zinc, iron, manganese and copper are concerned, we've seen some increase in zinc and manganese but not in iron and copper. Even when we tilled rubber six inches into the soil, the soil levels were well below drinking standards, even after four years."

He said he was surprised to find the rubber does not cause heat problems. "In April, when the grass is low, it warms up the soil a little quicker. Later, when the turfgrass canopy is higher, it covers up the crumb rubber."

Asked about aerating and core-cultivating the rubber into the soil, Rogers said: "I think if you had an area that you couldn't grow grass in, and you wanted to seed it, you should core-cultivate it before seeding it anyway. I would do that, but still concentrate in having the majority of the rubber at the top. Don't put the rubber down until you are almost ready to put traffic on it."

Rogers dispelled any concern that too much rubber would work its way into the soil profile over a period of time.

"We have not seen the rubber migrate down into the soil profile," he said. "Its particle density is around 1.1 — much less than the soil density, which is around 2.6."

Finally, and most important for golfers, he said, the rubber doesn't affect hitting a golf ball.

MSU is receiving a use patent on crumb rubber. The university has granted licensing rights to a company which is calling the product Rebound Top Dressing. It can be reached at telephone 800-795-TIRE.

Wood-fiber mats may answer range problems

By MARK LESLIE

WILMINGTON, Ohio — Wood-fiber mats may be a surefire medium for superintendents interested in growing sod, according to Dr. John "Trey" Rogers of Michigan State University.

Speaking at a Lofts Seed Co. field day here in June, Rogers said MSU research on four- by 50-foot Ecomat proved viable for seeding.

"You can lay this mat out, seed it and mulch it, and grow it on your property," he said. "The results are very promising so far. As long as you have the irrigation and fertility, you don't have to have a soil base for any of these wood fibers. You can do it right on a parking lot and transfer it.

"Two people can pick up a sheet of this mat, even after it is watered," he added, and "you can sod an area very quickly."

In research done to determine the minimal amount of light needed to grow grass, MSU researchers have "discovered that plant growth regulators [PGRs] did a phenomenal job under absolute lowest light conditions," Rogers added.

Done over the last 2-1/2 years in a dome with the same type of cover and floor as the Pontiac Silverdome, the research showed that PGRs proved to be a key for the best growth results.

"We've not only seen good color retention and quality, but some recovery and wear tolerance from using PGRs," Rogers said. "The growth regulator is absolutely instrumental in providing higher quality turf under these lower light conditions. PGRs slow the plant's cell elongation, which is the natural thing for a plant to do under reduced light conditions."