

EVENTS

CALENDAR

JUNE

23

North Texas Golf Course Superintendents Turf Seminar, Arlington-Sheraton, Arlington, TX. Contact: John Anderson, P.O. Box 619014, North Fort Worth Airport, TX 75261.

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Midwest Sports Turf Institute, College of Du Page, Glen Ellyn, IL. Contact Susan Glasgow, College of Du Page, (312) 858-2800, Ext. 2770.

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Massachusetts Turfgrass Field Day, University of Massachusetts Turfgrass Research Center, S. Deerfield, MA. Contact: R. J. Cooper, Department of Plant and Soil Sciences, Stockbridge Hall, University of Massachusetts, Amherst, MA 01003, (413) 545-2353.

JULY

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Kansas Turfgrass Field Day, Kansas State University, Manhattan, KS. Contact: Larry Leuthold, Horticulture Dept., Waters Hall, KSU, Manhattan, KS 66506. (913) 532-6173.

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Missouri Turfgrass Field Day, South Farm, University of Missouri, Columbia. Contact: Dr. David Minner, Dept. of Horticulture, 1-40 Agriculture Bldg., Columbia, MO 65211.

AUGUST

9-12

Park Planning and Maintenance School, Clarion Hotel, Colorado Springs, CO. Contact: Frank Cosgrove, P.O. Box 6900, Colorado Springs, CO, 80934, (303) 632-7031.

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University of Rhode Island Turf Field Day, Turf Research Farm, Kingston, RI. Contact: C.R. Skogley, URI, Plant Sciences Dept., Woodward Hall, Kingston, RI 02881, (401) 792-2570.

THE FRONT OFFICE

OPINION PAGE

THE BLACK LAYER: NATURE'S REVENGE?



For every action in nature there is a reaction. It's called the balance of nature and it applies to everything man touches on this earth, including sports turf.

The so-called "black layer" is a perfect example. This slimy, dark layer that smells like rotten eggs is becoming a significant concern to many managers of improved sports turf. The black layer appears to stunt root growth during damp weather or in heavily-irrigated sites, and gives off gases potentially toxic to the turf. Recent publicity has caused some turf managers to look for the layer, located usually in the top

few inches of soil. From the feedback it appears that turf managers are finding the layer serious enough to warrant in-depth investigation into its causes and cures.

Research has begun, but it is hampered by a lack of funds. Studies at Michigan State University and Iowa State University are beginning to turn up some important connections between typical maintenance practices and development of the layer. But, as yet, there is no general consensus among researchers on how to eliminate the layer.

Ironically, the problem occurs primarily in soils that have been amended with sand to enable turf to withstand heavy play. The addition of sand to native soils, either during construction or by topdressing, has tremendously improved the durability and condition of greens and sports fields. It would be absolutely foolish to turn our backs on the techniques that have allowed the turf manager to provide the high-quality natural surfaces expected by the sporting public.

Preliminary findings have shown that Mother Nature is fighting back against man-made conditions in the soil. By varying the types and sizes of sand used to amend soils, sports turf managers have created layers below the surface that trap water as well as many surface-applied fertilizers and nutrients. During periods of heavy rainfall or heavy irrigation, the waterlogged soil in this layer lacks enough oxygen for soil organisms to do their job of decomposition properly.

Instead, bacteria produce the foul-smelling layer that further complicates drainage and serves as a barrier to roots. To make matters worse, it appears these bacteria are causing sulfur and iron, possibly applied by the turf manager, to react together to form part of this black, slimy material.

I'm not a soil scientist by any stretch of the imagination, but the evidence presented so far could cause some turf managers to stop using products that have been shown to provide turf with the strength necessary to withstand today's heavy levels of play. To give up so quickly on gains that have brought the industry this far would be a terrible mistake.

Don't jump the gun. Researchers agree that once the soil has had a chance to drain properly, nature reverts back to standard decomposition—even breaking down black layers that became established during wet periods. The turf manager has the knowledge and tools to correct drainage problems by breaking through subsurface layers with aerators and by restricting surface-applied water. He can also prevent the formation of soil layers in the future—by carefully selecting the sand he uses during topdressing to match that already in the soil.

The whole black layer affair has made one thing very clear—we need to keep a closer eye on what's below the surface and constantly consider the impact of management practices on the soil. If it is necessary to venture away from "organic or natural maintenance" to get the job done, we must be prepared for the consequences of nature fighting back to keep in balance.

Bruce Shank