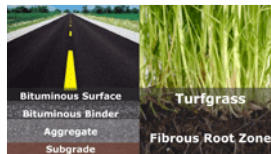


Athletic Turf

The vital (and sometimes misunderstood) role of turfgrass in controlling storm water runoff

8 Apr, 2010
By: [Jim Novak](#), Turfgrass Producers International
Athletic Turf News

If you are responsible for maintaining or managing any outdoor sports facility, it might interest you to know that some influential people in high places think you oversee nothing more than an asphalt-covered highway, driveway or parking lot.



During a recent homeowner's association meeting in a relatively new development outside of Chicago, a representative from the county was scheduled to appear before the group. She was there to propose that turfgrass lawns be partially removed and replaced with native plants. Her explanation for what would be a costly endeavor had nothing to do with water use but, as she put it, to help prevent soil erosion problems caused by the turfgrass. She went on to add that "turfgrass lawns are just like asphalt when it comes to water runoff, and they are a major cause of erosion." She made these persuasive comments with authority and conviction.

Those in attendance listened attentively and were somewhat surprised at what they didn't know or thought they knew. As she continued her presentation, she informed the audience that turfgrass lawns only have roots that are a little more than an inch deep, whereas some of the native plants she was proposing have roots that can go down as much as 15 ft. — and that's why they are much better at preventing erosion.

When she finished her presentation, she invited questions from the audience. One individual in attendance thanked her for her time, but questioned the facts she presented regarding turfgrass. He specifically questioned two areas: the root depth and composition of turfgrass, and her statement that turfgrass causes erosion and it's no better than asphalt when it comes to storm water runoff. She advised him that her source was the Environmental Protection Agency (EPA)*.

He proceeded to point out that warm-season grasses such as Bermudagrass can have roots that can grow to a depth of 6 ft. or substantially more, depending on the soil profile characteristics. He added that cool-season grasses, such as those common in the Midwest, depending on the variety, have roots that can go down anywhere from 1 to 6 ft. or more, depending on the soil conditions and the particular species and cultivar. He added that the root system of warm- and cool-season turfgrasses is extremely fibrous and consists of many thin, branched roots that occupy a large volume of soil around the plant's base, and because they grow relatively close to the soil surface, they are effective at controlling soil erosion. He also cited research that suggested that although the roots of turfgrasses generally aren't as deep as the roots of prairie plants, their higher plant density affects infiltration, decreases water runoff and increases water percolation.

He concluded by stating that research shows that turfgrass is one of the best, if not *the* best, method of preventing storm water runoff and controlling erosion. As for any proposed native plants, he suggested there be some sensitivity on the part of the homeowners and the governing board to ensure any modifications in the landscaping take into consideration both the environmental and cosmetic consequences of their decision. Native grasses will not resolve the erosion issue, but proper slopping and sufficient topsoil covered with turfgrass would certainly help.

After concluding his remarks, the guest speaker said she would like to see his sources. Much to her surprise, he proceeded to distribute numerous turfgrass and erosion-related research reports from various scientific studies. These were then distributed to the guest speaker, the board of directors and those homeowners in attendance. Soon thereafter, the guest speaker departed.

The "he" in this story happened to be me. Because I knew she was scheduled to speak about "soil erosion" issues, I had prepared handouts to support her presentation — never thinking they would be used to clarify misinformation and provide facts.

This story illustrates how individuals in positions of considerable influence, such as a county, city or village representative, can unintentionally present misleading information that can influence the decisions of others. So for the record . . .

"A thick, healthy turfgrass expanse of lawn can help reduce runoff losses from the vegetative portion of a developed watershed to almost nothing." — Dr. Thomas L. Watschke, Penn State University, State College, PA

"Although the roots of turfgrass generally aren't as deep as the roots of prairie plants, they have a higher plant density, which affects infiltration and decreases water runoff and increases percolation." — Dr. John Stier, University of Wisconsin, Madison, WI, June 2007

"One of the key mechanisms by which turfgrasses preserve water is their superior capability to trap and hold runoff, which results in more water infiltrating and filtering through the soil-turfgrass ecosystem . . . Turfgrasses are relatively inexpensive, durable groundcovers that protect our valuable, nonrenewable soil resource from water and wind erosion." — Dr. James B. Beard, Professor Emeritus, Texas A&M University, Council for Agricultural Science & Technology (CAST), College Station, TX, January 2006

* TPI could not find any documentation that suggests anyone associated with the EPA has ever stated that turfgrass is a contributor to storm water runoff, causes soil erosion or only has a root depth of an inch or less. — J.N.

About the Author: Jim Novak

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