Discovering a 'Green' Mine

BAYER ENVIRONMENTAL SCIENCE'S PLANT HEALTH SYMPOSIUM FOCUSES ON KEY ROLE OF TURFGRASS, TREES AND PLANTS IN SUSTAINABILITY

By Marty Whitford

Bayer and North Carolina State University are collaborating on a plethora of plant health research projects. One look in the mirror behind NCSU doctoral student Shannon Sermons reflects the pack of trade media reporters who toured NCSU's phytotron during Bayer Environmental Science's inaugural Plant Health Symposium, held in November.

Bayer Environmental Science is planting the seeds for sustainability.

"Sustainability has long been a way of life for us at Bayer — but now we're sharing more, regarding our key role in environmental stewardship, through endeavors such as this symposium," said Nick Hamon, Bayer Environmental Science's vice president of product development and sustainable development, during a beverage break at Bayer Environmental Science's inaugural Plant Health Symposium, held in Raleigh and Clayton, N.C., in November.

A group of about 25 golf course superintendents, landscapers, North Carolina State University (NCSU) "turf doctors," trade magazine editors and Bayer Environmental Science team members comprised the symposium's participant mix.

Healthy, well-maintained green spaces with turfgrass, trees and plants can work wonders to decrease erosion, buffer noise, reuse water, promote biodiversity, sequester carbon and cool outdoor temperatures, noted Tom Rufty, Ph.D., director of the Center for Turfgrass Environmental Research and Education and professor of environmental plant physiology, NCSU's Department of Crop Science. Rufty noted the world already is grappling with limited oil and water resources and significant climate shifts — and he, Hamon and company suspect carbon output caps and credits similar to those already adopted by the European Union soon might be *mandated* in the United States. Further demanding more-sustainable practices across the globe, the world's population is projected to mushroom from about 6.9 billion today to 9.2 billion people by 2050.

"As countries like China and India continue to industrialize and grow, resources are going to become more costly and less available," said Rufty, recently named the first Bayer Environmental Science Professor of Sustainable Development, a chair endowed by the Bayer CropScience LP business unit. "Ready or not, like it or not, we are challenged with using our resources much more efficiently and better protecting our environment — while maintaining the quality of life we have come to value so much."

Rufty noted 1 hectare (2.47 acres) of healthy turfgrass can sequester 1 ton of carbon emissions annually. The United States is home to up to 60 million acres of turf, capable of storing a combined 24 million tons of carbon each year. Healthy trees reportedly store another 3,200 pounds of carbon per acre annually.

Turfgrass chemicals help combat turf weeds, diseases, pest insects, and heat and water stress. They are part of the solution — not the problem, Rufty said. These green industry innovations help protect our turf and, in turn, our ability to sequester carbon and keep temperatures from rising higher and faster than the 6- to 7-degree climb already projected for the decades ahead.

"There are a lot of misperceptions about lawn care chemicals," Rufty explained. "For instance, our research shows very little leaching with pesticides on turfgrass. Pesticides last five to 10 times longer in agricultural settings."

In addition to carbon sequestration, turfgrass is rapidly becoming a key effluent dispersal solution. As populations bloom and fresh water supplies dwindle across the globe, intelligent irrigation on green spaces increasingly will incorporate the reuse of gray water. ■

Marty Whitford is editor in chief of Golfdom's sister publication, Landscape Management.

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