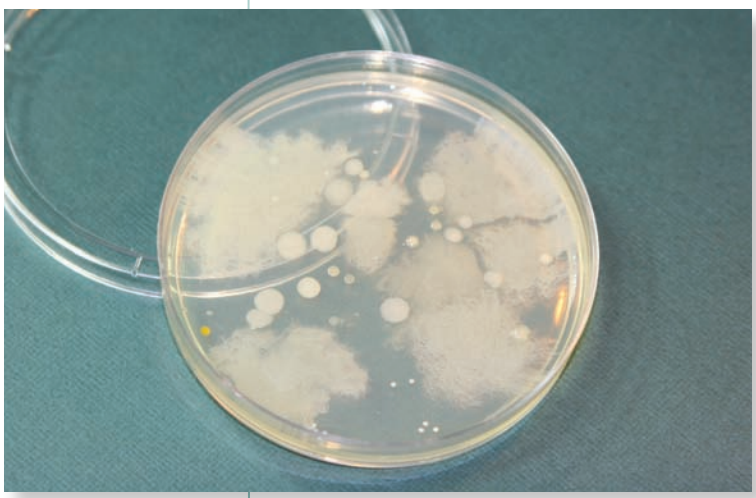

Photo by R. Turco and M. Heller

Soil physical and biological diversity of Wisconsin lawns

Urbanization is causing the conversion of farmland and native ecosystems to managed turfgrass ecosystems. Microorganisms play important roles in biogeochemical cycling and organic matter decomposition; they also influence soil physical and chemical properties. Little is known about soil microbial response after farmland or native ecosystems are converted to turfgrass. In summer 2005, soil samples were taken from 43 lawns in Dane County, Wis. The soils were found to vary greatly in soil physiochemical properties such as organic matter content, bulk density, sand content, clay content and pH. Unlike corn or prairie microbial communities, the lawns were dominated by stress-tolerating (gram-positive) bacteria. The biomass of saprophytic fungi also increased with soil organic matter content. Contrary to the popular belief that turfgrass monocultures inhibit soil biological diversity, our results indicate lawn microbial communities are diverse and complex. **—Daniel Lloyd and Doug Soldat, Ph.D. (djsoldat@wisc.edu), University of Wisconsin-Madison**

Photo by G. Henry

Zoysiagrass establishment with fertilizers and biostimulants

Major limitations to zoysiagrass are its slow growth and establishment rate. Establishment by plugs or sprigs may take several years to reach adequate coverage. Fertilizers and biostimulants may help enhance establishment and reduce desiccation, weed encroachment and maintenance costs. Field studies were conducted in 2008 at Texas Tech University in Lubbock to evaluate the establishment of Shadow Turf zoysiagrass using fertilizers and biostimulants. Nine 1-inch plugs of zoysiagrass were transplanted equidistantly in each plot on May 30, 2008. The treatments included a standard zoysiagrass fertility program and four treatments containing combinations of fertilizers and biostimulants (seaweed extract and humic acid). Sequential applications were made on July 15 and September 1, 2008. Establishment rates and percent turfgrass cover were similar among all treatments throughout the study. However, treatments that received a biostimulant application exhibited a 23% to 37% increase in root biomass four months after the initiation of the trial. **— Aaron Holbrook, Travis Williams, Tyler Cooper and Gerald Henry, Ph.D. (gerald.henry@ttu.edu), Texas Tech University**

Photo by A. Patton

Bermudagrass cultivars differ in traffic tolerance

Bermudagrass is the most widely used turfgrass species for golf courses in the southern U.S. and transition zone. Continuous trafficking from play or equipment can reduce bermudagrass cover and turfgrass quality. This study evaluated 42 bermudagrass cultivars (30 commercially available cultivars, 12 experimental genotypes) for their traffic tolerance. Traffic was applied in Fayetteville, Ark., for four- or five-week periods in summer and fall 2007 and summer 2008 using a Cady traffic simulator to determine differences in traffic tolerance. Fifteen commercially available cultivars (Barbados, Celebration, Contessa, Patriot, Premier, Princess-77, Riviera, Southern Star, Sovereign, Sundevil II, Sunsport, Tifsport, Tifway, Veracruz, Yukon) were rated highest in traffic tolerance on at least 12 of the 14 evaluation dates. Arizona Common and Ashmore had poor traffic tolerance. This study demonstrates that a range of traffic tolerance exists among currently available bermudagrass cultivars. **— Jon Trappe and Aaron Patton, Ph.D. (ajpatton@uark.edu), University of Arkansas**

GCM

Clark Throssell is GCSAA's director of research.

Clark Throssell, Ph.D.