Using Near Infrared Spectroscopy To Determine Turfgrass Health

Beau McSparin, G. Rinehart, R. Calhoun and James Baird
Department of Crop and Soil Sciences

A project was initiated in 1997 in cooperation with the Toro Company to develop an efficient, indirect, and reliable technique to sense turf health. This sensor could then be incorporated into site-specific management of turf using Global Positioning Systems (GPS), Geographic Information Systems (GIS), and Variable Rate Technology (VRT). Currently, we are evaluating near infrared spectroscopy (NIRS) on creeping bentgrass and annual bluegrass under field conditions to predict: 1) water status; 2) species identification; 3) leaf nitrogen content; and 4) occurrence of brown patch and dollar spot diseases.