



Turfgrass Diagnostic Training Serve to Reduce Negative Environmental Impacts

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Urban turfgrass management can be challenging, especially under pest and rainy season pressures and client expectations of perfect monocultures. As a result, many landscape maintenance professionals struggle to manage declining turfgrass in urban settings. A lack of knowledge of general turfgrass culture, biotic vs. abiotic causes of decline, as well as not utilizing a systematic approach to problem identification can result in unnecessary or incorrect applications of fertilizers, pesticides, and supplemental irrigation. The consequences of misdiagnosis, unneeded chemical applications, and poor turfgrass quality can have adverse effects on water quality—including nutrient loading in aquatic systems. By completing the Turfgrass Diagnostics Training Program, attendees gain a broader understanding of the impact of management strategies on Florida's water supply, how to assess turfgrass health, determine causes of decline, and implement appropriate corrective actions that have a lower impact on water quality. Pre- and post-training program evaluation reveals that attendees have an overall gain in knowledge, an improved level of confidence regarding recognizing and diagnosing turfgrass problems, and have a greater understanding of how management practices can impact the environment. Six month post training surveys reveal that attendees employ the systematic approach to diagnostics taught in the training, recommend alternative courses of action to clients, and have reduced reliance on chemical applications to improve turfgrass quality. Attendees also report improved professional client interactions when discussing turfgrass problems and making recommendations.

The objective of the Turfgrass Diagnostic Training Program is to provide turfgrass managers with the knowledge needed to properly manage turfgrass, and diagnose and correct turfgrass problems using environmentally sound practices. Principles taught include:

- the impact of maintenance practices on Florida's water supply;
- identification of the most utilized urban turfgrass species and cultivars;
- how the warm season turfgrass growth curve relates to maintenance practices;
- the agents of biotic and abiotic disease as contributors to turfgrass problems;
- how soils in urban environments influence turfgrass health;
- the five-step process to diagnose turfgrass problems;
- identification of weeds, disease, insects, and/or environmental stresses that may lead to turfgrass problems;
- proper fertilization and irrigation practices; and
- diagnostic equipment and resources that are available to turfgrass managers.

Methods

The Turfgrass Diagnostic Training Program is delivered through a variety of teaching methods using both formal and

non-formal structure. Educational methods include: classroom instruction, classroom demonstration and displays, field demonstration, hands-on activities and supplemental factsheets. The six-hour curriculum consists of eight training modules, pre- and post-evaluations measuring knowledge gain, and post-surveys measuring behavior change. The training offers a Certificate of Completion if the attendee opts to take a post-training exam and scores a minimum of 70%. The training modules are: Turfgrass Basics; Contributors to Turfgrass Disease; Understanding Soil in Urban Environments; Steps to Diagnosing Turfgrass Problems; Tools of the Trade; Managing Fertilization, Irrigation, and Environmental Stress; Weeds, Disease, and Insects; and Photo Quiz. Each of the modules contain a component that relates management practices to current issues of water conservation and water quality. Additionally, turfgrass managers are given the opportunity to discuss case specific challenges and solve problems in light of information presented in the training

Results

One-hundred sixty-five individuals attended two workshops. One-hundred fifty-seven completed pre- and post-evaluations. Twenty-one successfully completed the Certificate post-test.

Knowledge gain was measured in six key areas relating to environmental impacts: water usage, cultural practices, fertilization recommendations, weed control, recognizing turf problems, and the logical process to diagnose turfgrass decline. Figure 1 shows the knowledge gain in these six key areas.

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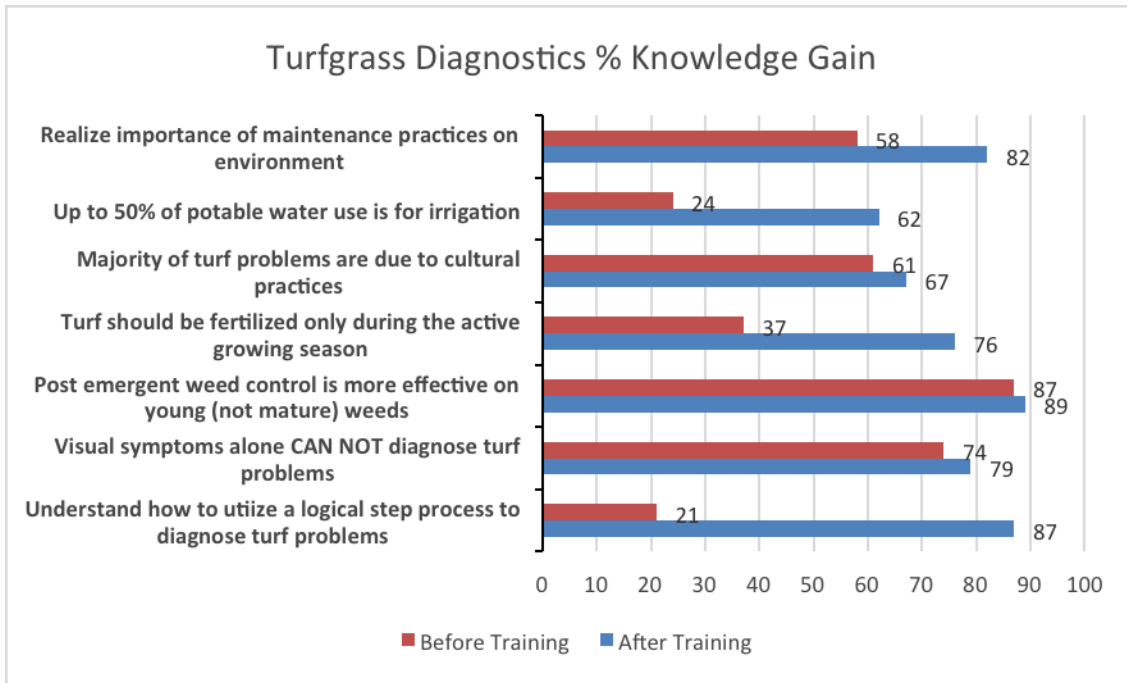


Fig. 1. Knowledge gain expressed by participants in the Turfgrass Diagnostic Training Program in Hillsborough County, FL.

Attendees were asked before and after the training if they felt confident diagnosing turf problems and explaining causes and remedies to clients. Thirty-one percent responded that they felt confident prior to training compared to 82% after training. Landscape maintenance professionals

indicated verbally and demonstrated by knowledge gain on pre- and post-tests that advanced turfgrass training is valuable to improve diagnostic skills and promote positive client interactions.