CUTT

Golf Turf Management With Reduced Chemical Pesticides

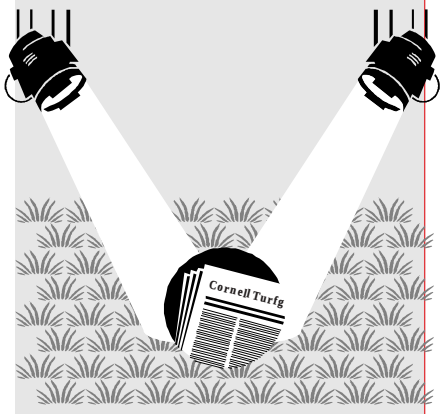
Program Spotlight

This project is providing information on the feasibility and performance of golf course turf managed with few or no chemical pesticides. Using all 18 greens on Bethpage's Green Course, we are comparing three ways to manage pests:

1) Unrestricted Practices: includes the safe use of legal chemical pesticides.

2) IPM (Integrated Pest Management): reduced, judicious use of pesticides.

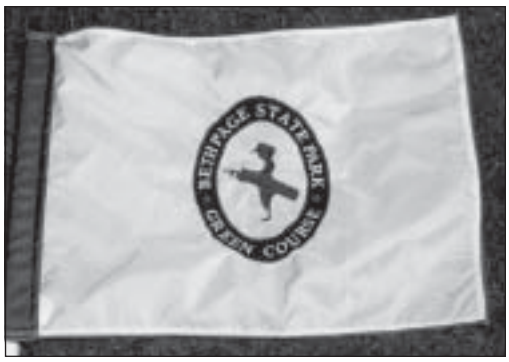
3) Non-chemical: biological controls and cultural practices.



Bethpage State Park on Long Island is hosting groundbreaking research on reduced-chemical and non-chemical management of golf course greens. The project is a partnership between Bethpage State Park, Cornell University and the USGA.

Why This Project?

Golf courses throughout the United States are being challenged to reduce or eliminate the use of chemical pesticides. In New York State, many public golf courses have been affected by legislation that phases out or eliminates chemical pesticide use. Those advocating this type of legislation are often unaware of the impact of implementing the policies and the resulting impacts on golf turf performance. In addition, golf course superintendents faced with operating their facilities under constraints on the use of chemical technology need better information on how to maintain acceptable, playable golf course turf with few or no chemical pesticides.



What Are We Doing?

This project is providing information on the feasibility and performance of golf course turf managed with few or no chemical pesticides. Using all 18 greens on Bethpage's Green Course, we are comparing three ways to manage pests:

1) Unrestricted Practices: includes the safe use of legal chemical pesticides.
2) IPM (Integrated Pest Management): reduced, judicious use of pesticides.
3) Non-chemical: biological controls and cultural practices.

An important addition to this project is the comparison of standard and alternative cultural

Kathe Wegman scouting for pests while the intense play on the Green Course continues.

Kathe Wegman, Andrew Wilson (Green Course supervisor) and Frank Rossi view significant damage from fungal diusease.

practices. Cultural practices include mowing, core cultivation, irrigation, topdressing, and numerous other practices to maintain turfgrass at the high level of performance required for the game of golf. The alternative cultural practices in this project were selected to reduce stress on the plants, while keeping the same level of performance quality and playability of the turf. We believe that if golf courses are to be maintained with very few or no chemical pesticides, the use of cultural practices to prevent and minimize problems will be essential.

What Have We Learned?

In 2001, the first year of a three-year project, we learned many things including:

- IPM greens could be maintained with almost a third fewer pesticides than the unrestricted greens that simulate normal maintenance practices—while keeping acceptable quality. However, these greens require a great deal more labor and attention than greens managed in a standard fashion.
- Alternative cultural practices improved green quality slightly. Next year, these practices will need to be more aggressive to get better results.
- We were unable to maintain acceptable playing quality on the non-chemical greens, under the high traffic conditions on the Green Course. Next season, we will be making substantial changes to alleviate these problems to the best of our abilities, within the confines of a non-chemical system.
- Old problems didn't go away. Small and shaded greens still take a beating, and these problems are often worse without chemicals to treat resulting stress symptoms such as diseases and weeds.

Plans For 2002

Most notably, we are installing velvet bentgrass on three of the non-chemical greens. This grass has been under development for many years. It is not susceptible to most of the turfgrass diseases that plague creeping bentgrass greens. You can be among the first golfers in the Northeast to putt on this new grass. We will be making other changes in the cultural and pest management practices on the Green Course that will not be as obvious as the velvet surfaces, but should work together to improve the overall quality of many of the greens.

The Bottom Line

The project is a systems-based approach to putting greens management that integrates both cultural and pest management practices. Bethpage is leading the way nationally to show how golf courses can best be managed with minimal impact on the environment.

Jennifer Grant

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