What is the Optimum Mowing Height for Home Lawns? Appearance Ratings and Impact on Turf Insects

David Smitley and David Gilstrap
Michigan State University

Objectives:
1. Determine what mowing height gives home lawns the most favorable appearance to turf professionals.
2. Determine how mowing height affects the turf insect community.

Field plots established by David Gilstrap and crew were mowed at 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, and 5.0 inches for two years. At the 1998 Turf Field Day, visitors were asked to rank all of the mowing height plots from their appearance without knowing the actual mowing height. **Field plots mowed at 3.0 and 3.5 inches receiving the highest rankings.**

Recent research on Michigan golf courses has shown that Ataenius and Aphodius grub problems are much more severe in the fairway compared with the rough (irrigated rough). The cause of this problem appears to be a reduction in the activity of insect predators and the bacterium causing milky disease of Ataenius grubs. The low level of insect predators appears to be tied to the short mowing height of fairways. Even in the absence of pesticides fairways do not support nearly as many insects or the variety of insects that exist in the rough. The large and complex community of insects in the rough includes an abundance of predators that keep Ataenius and other turf pests under control. The lack of predators on fairways can be further aggravated by the use of insecticides. The mowing height plots at the Hancock Center were designed to determine how mowing height affects the insect community, particularly the abundance of predators.

Insects were collected weekly from all of the plots in 1998 and 1999 using glass vials as pitfall traps. In 1998 the numbers of ants and rove beetles were similar at all mowing heights. However, one important group of predators, the ground beetles, was more abundant in turf maintained at the highest mowing heights. Preliminary results from 1999 will be presented on Turf Field Day.