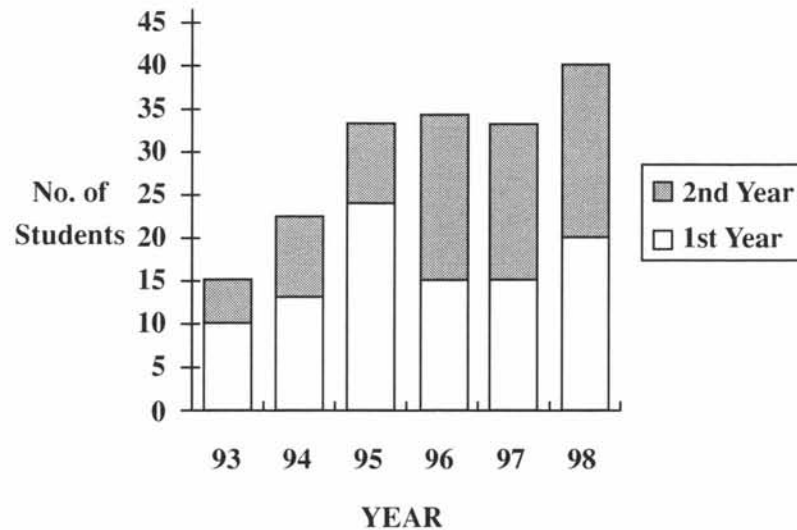


**PERENNIAL REPORT TO THE MICHIGAN TURFGRASS  
CONFERENCE GENERAL SESSION**

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**PROGRAM UPDATE**

Twenty-one incoming students helped boost total enrollment to 40 students, which has been my goal since arriving here in 1993. Here are the program's student numbers since 1993.



*Fig 1. Fall-semester enrollment for first and second year Sports and Commercial Turf Management students.*

Please note the number of first and second year students in this fall's class. I believe that it's important to maintain this balance as nearly as possible. Career interests for most of the students seem to be equally divided between athletic field related and commercial turf related jobs. However, more students are preparing themselves to become irrigation specialists.

**FIELD DAY SURVEY RESULTS**

Last spring I established height-of-cut plots on Kentucky bluegrass where mowing occurred according to the "one-third rule", which meant that each mowing removed no more than one-third of the leaf-blade height. For example, plots mowed at a 2-inch height were cut when the turf height was 3 inches, and a 4-inch cutting height necessitated mowing when the turf was 6 inches tall. This meant that different plots were often mown on different days. All plots received 1 lb. N per 1,000 ft<sup>2</sup> on or about Memorial Day, July 4th, Labor Day, and Halloween. Irrigation to a 0.5-inch depth occurred twice weekly.

On October 17 all plots were mown at their respective heights. Two days later during the 1998 Michigan Turfgrass Field Day, Sports and Commercial Turf Tour participants were asked the following:

"In your opinion is the mowing height of each plot too short, too tall, or OK for a Kentucky bluegrass lawn?"

The actual mowing heights and the number of replications (3) were not revealed. The written responses, 251, indicated an overall preference for the 3 and 3.5 inch cutting heights (Fig. 2).

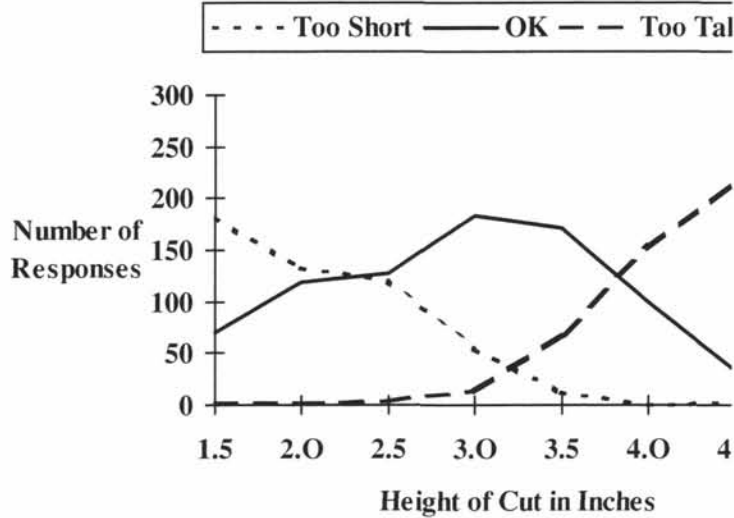


Fig. 2. Lawn height-of-cut survey responses of 251 attendees at 1998 Michigan Turfgrass Field Day.

**RESEARCHUPDATE**

With the study above, cutting intervals from late spring through early fall showed that 1.5, 2, and 2.5 inch heights-of-cut required mowing less than once a week via the “one-third rule” (Fig. 3). This first season of observation suggested a 3-inch minimum cutting height if Kentucky bluegrass is to be mowed once a week, which is a normal schedule for most commercial lawn mowing businesses as well as many homeowners. The quadratic responses for both average and shortest mowing intervals are probably anomalies and will most likely linearize over time with future observations. In other words, peaks for both measurements will probably end up being at the highest height of cut after two or three years of study. However, at this point the early data does suggest possible growth spurts at different growing heights.

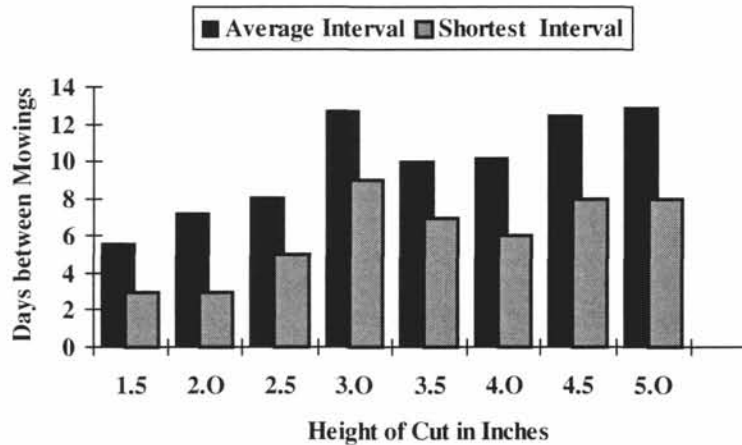


Fig. 3. Average and shortest intervals between mowings of Kentucky bluegrass mowed at 8 heights of cut between mid May and mid October of 1998.

This summer we will conclude the four-year study that deals with the effects of different nitrogen protocols on lawn turf research, as well as the three-year study of the effects of early season scalping of Kentucky bluegrass to improve visual appearance. On these two studies I have collaborated with Paul Rieke and Thom Nikolai. The three of us have also initiated an irrigation study with three watering regimes on three lawn species under nine fertility treatments. Excellent assistance on all of my research has been provided by turf student Keenan Amundsen who has now entered a masters program in molecular biology at MSU.

My doctoral research with Dr. Joe Vargas concerning dollar spot and its associated resistance to demethylation inhibitor (DMI) fungicides continues. Five seasons of treatments at the Hancock Turf Research Center have produced any differences among treatments, and the study may be abandoned this spring. In order for a population to shift toward systemic fungicide resistance, isolates resistant to those fungicides must be present or be introduced before or during selection with repeated applications of those fungicides. Our samplings did not detect any isolates that were nearly as DMI resistant as those found on the golf courses where DMI resistance has been a problem. Therefore, migration is a key factor both in spreading fungicide-resistant isolates across a turf area as well as between isolated properties. With golf courses this occurs via mowers, aerifiers, clubs, and shoes. Superintendents should be more aware of this phenomenon particularly if they are managing new courses. This spring, we will initiate a more well-designed study with plots inoculated with a mixture of benzimidazole fungicide sensitive and benzimidazole fungicide resistant strains. The purpose of this experiment will be to demonstrate whether or not tank mixing or alternating systemic and contact fungicides prevents or slows fungicide resistance.