

## **PREVENTIVE CONTROL OF DOLLAR SPOT**

**Philip J. Dwyer, Jr. and Joseph M. Vargas, Jr.**

**Michigan State University**

If superintendents were surveyed with the question of when they first spray fungicides to manage dollar spot, many would answer: “after we first see it”. Historically dollar spot has been treated for after it is first seen because there is no sure way of predicting it. Depending on the year, the first outbreaks of dollar spot may appear at any time from June to early July and are treated for on an as needed basis. Regularly applied consecutive sprays at some courses may not begin until August when the most severe outbreaks are likely to occur. It seems that each year once dollar spot begins it tends to persist and usually worsen throughout the season until it naturally subsides near the end of September. So what would happen if one were to apply fungicides well before disease was expected on a preventive basis, near the time of turfgrass green-up? What if a fungicide was applied so early in the spring that one might not consider such an application to have a chance at controlling disease that was not expected for two or more months later?

The objective of our study was to determine the effect of fungicides when applied prior to any disease activity. We believe that in late April and early May the dollar spot fungus is likely active yet it exists in a harmless saprophytic state residing in the turfgrass thatch and soil. Although active in early spring the fungus is not yet in a pathogenic state thus no disease is seen. Our control strategy was to apply a single application of different fungicides early enough so that the pathogen population would be knocked back and thus mid-summer disease suppression could be seen. In 2002 the strategy of applying fungicides early proved to be an effective means of managing dollar spot through the end of July. By August when the heaviest disease pressure was observed we detected no significant suppression of dollar spot from the earlier spring fungicide applications. In 2003 again significant control of dollar spot was observed throughout the season until mid August. The most effective treatment was a single application of Bayleton applied in early May at 1oz/1000 ft<sup>2</sup>.

The exact mechanisms for the long-term control witnessed are still unknown. One explanation is that the fungicide is suppressing the pathogen population early enough in the season so that a delayed effect is occurring later in the summer. By controlling the disease early in the season it may be easier to stay ahead of throughout the summer and into the fall when the largest outbreaks traditionally occur. It is possible that by reducing total inoculum early enough in the spring can provide reduced disease later in the summer. A second explanation for long-term control is that the fungicide persists in the turfgrass system and maintains activity that continually suppresses disease. Even without a complete understanding of how dollar spot is being suppressed we believe that single fungicide applications made early enough appear to offer an exciting new strategy for managing early to mid-season outbreaks of dollar spot. No data is presented at this time because it is required for more extensive upcoming future publications.