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Alternative Chemicals for Dollar Spot Suppression On Golf Course Turf

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Nationally, more dollars are spent on fungicides to control dollar spot (*Sclerotinia homoeocarpa*) than any other turf disease. Dollar spot historically was mostly a spring and early summer disease in Maryland. Today, dollar spot can be active from late April to early December and severe summer outbreaks are common in Maryland. The reason for this dramatic change in the incidence and severity of dollar spot is not clearly understood, but some reasons include: 1) lower mowing heights, more frequent mowing and the removal of clippings; 2) lower inputs of nitrogen; 3) more frequent night irrigation, which extends leaf wetness duration; 4) planting of very susceptible cultivars such as Crenshaw and SR 1020; and 5) lack of good thatch and soil compaction control programs for fairways and tees. A University of Maryland study also showed that a composted sewage sludge (i.e., ComPro), a product used on area fairways to improve soil properties, can greatly intensify dollar spot when applied routinely.

Fungicides are the primary means of providing effective dollar spot control. Fungicides are expensive and there are additional costs for handling and applying these materials. We do know of several cultural approaches that help to suppress, but not eliminate, the need for fungicides. The following cultural approaches that significantly reduce dollar spot pressure include: 1) mowing early in the morning to remove leaf surface exudates; 2) poling or dragging to disperse leaf surface exudates on mornings when turf is not mowed; 3) foliar or spoon-feeding with low rates of water soluble nitrogen (0.1 to 0.125 lb N/1000ft²) on 10 to 14 day intervals; 4) rolling (no more than

three times weekly); 5) avoiding light and frequent nighttime irrigation; 6) raising the mowing height and recycling clippings; 7) controlling thatch and soil compaction; and 8) avoiding planting of susceptible cultivars or planting them in blends with resistant cultivars. Furthermore, the plant growth regulators Trimit and Cutless, and the herbicide Prograss also suppress dollar spot significantly.

In a 2001 routine fungicide trial, we included Primer (wetting agent), Macrosorb and ammonium sulfate to assess their effects on dollar spot. The results of the trial are presented below, but several treatments and rating dates were deleted to conserve space. Turf was Crenshaw creeping bentgrass, which was mowed to fairway height. The plots were rated for percent of plot area blighted by *S. homoeocarpa* on a 0 to 100% scale. Blight ratings exceeding 0.5 and 1.0 % of plot area affected with dollar spot were considered commercially unacceptable for putting green and fairway turf, respectively. The application dates of all treatments are footnoted in the data table. Dollar spot first became active in late April. The disease, however, did not progress during the entire month of May. During May and early June, trace amounts of dollar spot were evident in most treated and untreated plots (data not shown). Dollar spot became more active about mid-June and remained moderately severe to severe in July and August.

It is important to note that all treatments were last applied on 2 July. During the low disease pressure period from 11 June to 15 July, all fungicide treatments provided acceptable control (all data not shown). Primer and Macrosorb reduced dollar spot on most

dates between 11 June and 23 July. Primer provided commercially acceptable dollar spot reduction from 11 June to 15 July and continued to reduce dollar spot significantly when compared to the untreated control as late as 13 August. Ammonium sulfate reduced dollar spot on 11 June, and 15 and 30 July when compared to the control, but dollar spot levels generally were unacceptable. Three chlorothalonil formulations (Echo 720F, Echo 90DF and Daconil Ultrex) were compared. All chlorothalonil formulations provided equivalent dollar spot control between 11 June and 23 July. On 20 July (18 days since last applied) the Echo 90DF lost its residual effectiveness and by 13 August there was more dollar spot in Echo 90DF-treated plots, when compared to plots treated with Echo 720F and Daconil Ultrex. Echo 720F and Daconil Ultrex provided an equivalent level of dollar spot control on all rating dates. Eagle and Manhandle (Eagle G) provided equivalent dollar spot control from 11 June to 15 July. By 27 July (25

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