## **Biological factors affecting spatial structuring of dollar spot epidemics: Implications for disease management? (C05-horvath090314-Oral)**

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## Abstract:

Dollar spot, caused by Sclerotinia homoeocarpa, is the major turfgrass pathogen on cool season turfgrasses in Michigan. As fungicides become more restricted in use and resistance problems increase, it is critical that we understand the epidemiology of this disease. Our objective was to observe the dollar spot epidemic and determine if dollar spot incidence has a spatial structure that is associated with biological factors. Our study was conducted in 2000 and 2001 on a 9.14 m X 18.28 m area of untreated turf at the Robert Hancock Turfgrass Research Center at MSU. Dollar spot was allowed to develop and infection centers were counted 3x/wk on a grid overlaying the site. Dollar spot isolates were collected from the study area and mycelial compatibility groups (MCG) and fungicide resistance markers were scored for each collected isolate. Geostatistical analyses were conducted on the counts of infection centers, MCGs, and fungicide resistance. The analysis indicates that dollar spot does display a nested spatial structure with both large and small scale components.

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