

Management of Dollar Spot with Biological Controls

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Dollar spot is a common turf disease which is caused by the fungus *Sclerotinia homeocarpa*. Conditions favoring the disease include warm humid days with cool nights with heavy dews as well as low nitrogen fertility. Symptoms of the disease appear as small, bleached, circular patches. Following a heavy dew active fungal growth may be seen as a white cobweb within the patches on diseased turf. Left untreated these patches may become numerous enough to cause severe turf damage.

Concerns related to the use of fungicides and the development of fungicide resistance has promoted the exploration for alternative means to manage fungal turfgrass pathogens. Two bacteria strains isolated from turf samples have been shown to produce compounds inhibitory to the growth of *Sclerotinia homeocarpa* on petri plates. These bacteria biocontrols were applied as spray treatments and as top-dressing applications in conjunction with the bio-organic carrier Compost Plus. Strains of these bacteria which do not produce the antifungal compounds were also applied in order to attribute disease management to antifungal compound production.

Research into new chemicals for the management of turf pathogens has been broadened by examining antifungal compounds that are produced by organisms in nature. The antifungal compound produced by these bacteria has been isolated and was applied to deliver active ingredients at rates equal to and double that of the fungicide Bayleton.

All treatments are applied to deliver 1 pound of nitrogen per month, or were fertilized with a formulation of 10-4-4 fertilizer. Treatment applications for this study were made on a bi-weekly basis.