



Management of Dollar Spot with Frequent Applications of an Antagonistic Bacteria

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One of the most persistent problems faced in the use of bacterial biological control agents is the ability to maintain high population levels in the environment. To circumvent this problem, research has focused on isolating bacterial antagonists which are proficient at colonizing a specific environment (soil, thatch, leaf surface, etc...). The problem with this approach has been that there are considerable differences within any given environment, such as soil types.

A second strategy to maintain high populations of antagonistic bacteria has been to make frequent applications. This could be accomplished by frequent spray applications of bacteria purchased from a supplier. A newer approach has been to grow the bacteria in an on-site fermenter which is coupled to the irrigation system. The bacteria are then applied with the daily irrigation.

The purpose of this study is to assess the ability of a bacterial antagonist to provide dollar spot management when applied three times a week. The bacteria used in this study was chosen based on its ability to inhibit the growth of *Sclerotinia homoeocarpa* in laboratory tests. For field application, the bacteria were prepared in three different manners. One treatment consisted of bacteria which were applied following 24 hours of growth. Two other treatments consisted of bacteria which were cultured in mass and stored in refrigeration until application. One of these treatments was modified by the addition of formulating agents to help improve the stability of the bacteria upon application. For all treatments the bacteria were applied at rates of 2×10^5 and 2×10^7 colony forming units (a term used to approximate the number of bacteria present) per cm^2 (roughly equal to 1.3 million and 130 million bacteria per in^2).