Seeing into the Future: Prediction of Dollar Spot

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Dollar spot is the most important turfgrass disease worldwide and often causes damage in the form of small, straw-colored spots about the diameter of a silver dollar, which is where the disease derives its name. Currently, our preferred method of control is to apply the fungicide chlorothalonil to eliminate the disease. However, chlorothalonil has come under scrutiny by the U.S. EPA and the amount of chlorothalonil available for application is going to be regulated in the future. For this reason, the study of how dollar spot populations spread over time and space is important. Also, very little is understood about the biology of dollar spot. By observing the dollar spot epidemic over time and space, we will gain insight into what factors influence dollar spot severity and what size area to use to study how temperature and relative humidity affect dollar spot outbreaks. The information generated by this project will help superintendents in two ways: 1) recommendations about cultural practices that may help dollar spot control will be identified, and 2) predictive models that will integrate with the new variable rate spray technology and GPS spray rigs. This tool will also enable superintendents to eventually forecast the risk for dollar spot over their own golf course, or even over an entire region. Ultimately, the future of disease control will reside with these technologies. They will allow superintendents to make focused applications of pest controls while delivering the high quality playing surfaces golfers have come to expect.