Dollar Spot Isolate Effects on Disease Progression and Inheritance of Resistance in Creeping Bentgrass. (C05bonos184923-Oral)

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Abstract:

Genetic resistance to dollar spot disease incited by Sclerotinia homoeocarpa F.T. Bennet would be a promising alternative to chemical and cultural control methods. It is unknown whether creeping bentgrass genotypes respond differently to different isolates or have major disease resistance genes. The objective of this study was to evaluate the response of creeping bentgrass crosses to three different isolates of S. homoeocarpa, evaluate disease progression and identify number of loci involved in resistance to individual fungal isolates. Four hundred plants of each of three reciprocal controlled crosses were established in a field trial in a randomized complete block design. One hundred progeny of each cross were inoculated with one of three isolates of the dollar spot fungus, and a mixture of the three isolates and evaluated for dollar spot disease. Minimum loci calculations differed depending on the cross and the isolate. This indicated that different genes may be associated with resistance and susceptibility depending on grass genotype and fungal isolate. Major gene determinations were not significant in this study. This data supports previous research that dollar spot disease resistance is most likely quantitatively inherited.

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