Soluble Silicon Applications Stimulate Defense Reactions and Disease Resistance of Creeping Bentgrass. (C05-dionne163033-Poster)

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Abstract:

Soluble silicon application is known to reduce disease incidence in various crops. We assessed the influence of soluble silicon on disease incidence on creeping bentgrass (Agrostis palustris Huds.) in both greenhouse and golf green conditions. Soluble silicon was applied as a part of a complete nutrient solution to creeping bentgrass. In the greenhouse, inoculation with the fungus causing dollar spot (Sclerotinia homoeocarpa F.T. Bennett) was performed with one agar pellet containing the fungus placed in the middle of each pot. On the green, no inoculation was necessary since dollar spot occurs naturally under local climate conditions. Disease development was monitored daily in the greenhouse and weekly on the golf green. In addition, clippings were collected for further analysis of secondary metabolites. Creeping bentgrass grown with soluble silicon presented less disease damage throughout the experiments. Our results suggest that soluble silicon could help in a turfgrass management program with reduced pesticide.

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