

You'll never be able to fit a juke box in your shirt pocket, and likewise for rolling fairways to control dollar spot infection on turfgrass.

Thomas O. Green and Dr John N. Rogers, III

The days of those humongous Rockola and Wurlitzer juke boxes at the neighborhood soda fountain have suddenly given way to the minute MP3 player and the IPOD digital music machine. These devices are capable of containing more music than juke boxes of times past; all the while being able to fit in your shirt pocket. Thus, who is to say you'll never roll fairways to control disease on turfgrasses. Technological advancements in computers and electronics have progressed at an astronomical rate and the times are changing. And, there's no industry that changes more than the turf industry, particularly in the realm of pesticide usage, efficacy, and impact on the environment.

On March 1, 2011 the National Marine Fisheries Service stated that several pesticides pose an increased risk of contaminating and destroying the habitat of certain aquatic species, these pesticides even pose the risk of destroying the existence of the species. This is part of the continuing lawsuit filed by various Northwest Pacific environmental coalitions against the EPA in 2001. The lawsuit claims the EPA violated sections of the Endangered Species Act with its "continuing approval of 54 pesticide active ingredients" (MTF bulletin, 2011). One of these pesticides in question is Chlorothalonil; the most widely used contact fungicide for dollar spot suppression in turfgrass. It is only a matter of time before Chlorothalonil will be banned from use completely; thus, an alternative method must be developed quickly, for the days of applying chemical pesticides are coming to a close.

Lightweight rolling of putting greens to reduce dollar spot incidence has been studied intensively at Michigan State University by Dr. Thomas A. Nikolai and Mr. Paul R. Giordano, and proven to be effective in reducing dollar spot infection on putting greens. Could you have the same results on fairways and approaches? How can rolling suppress disease incidence in turfgrass? It is hypothesized that lightweight rolling induces biological control mechanisms within the soil that affect the vitality of *Rutstroemia floccosum* commonly known as dollar spot (1).

Does sand topdressing affect dollar spot incidence on various turfgrass? Studies have shown that sand topdressing by itself reduces infection in turfgrasses. Dr. Jason Henderson studied sand topdressing rates on fairways using several different sized sand mixes, and concluded that the heavy topdressing rates not only increased plant vigor, but also reduced dollar spot incidence as well (5). Therefore, this study in collaboration with Dr. John N. Rogers, III, Thomas A. Nikolai, Dr. Joseph M. Vargas, and Ms. Nancy Dykema will include lightweight rolling of fairways and approaches along with sand topdressing regimes to reduce incidence of dollar spot infection. Lightweight rolling frequency will be investigated in the hope of revealing a correlation between severities of infection in relation to rolling regimes of once, three times, and five times per week. Thus, identifying the minimum amount of rolling needed for dollar spot suppression. When is the best time to initiate lightweight rolling of fairways and approaches, and how could the timing of rolling relate to dollar spot suppression? Early spring rolling and mid-summer rolling effect on inhibiting dollars spot needs to be investigated. And, with increasing EPA pesticide regulations, lightweight rolling could enhance the efficacy of fungicides by extending the time interval between fungicide applications. Moreover, establishing a threshold, or level of turf injury that justifies chemical pesticide intervention.

Thomas O. Green, graduate research assistant under Dr. J.N. Rogers, III and recent graduate of the two year turfgrass management for golf course program at Michigan State University after 17 years in the golf course industry, the recipient of the 2011 Norman Kramer outstanding scholar award, and 1995 graduate of Indiana University South Bend.

Literature cited

1. Nikolai, T.A., Rieke, P.E., Rogers, J.N. III, and Vargas, J.M. Jr. 2001. Turfgrass and soil responses to lightweight rolling on putting green root zone mixes. *Int. Turf. Soc. Res. J.* 9(Part 2): 604-609.
2. Jim Skorulski, Dr. Jason Henderson, and Nathaniel A. Miller. 2010. Topdressing fairways: More is better. *USGA green section record*. March/April. 48(2): p. 15-17.