

Fungicide Synergism Revisited

The management of fungal diseases is a primary concern for many turfgrass managers. For many years, conventional wisdom - mostly from data generated at Virginia Tech by the late Professor Houston Couch - suggested that low rates of fungicide could be tank mixed to produce a synergistic effect. (The two products work better at low rates combined than they would at the same rates applied individually.)

Experiments were designed to assess reports of synergism between propiconazole and other fungicides to control dollar spot in creeping bentgrass. In 2004 and 2006, two field experiments were conducted near Griffin, GA, and repeated near West Lafayette, IN. A third experiment was conducted at the Griffin site in 2007.

In each experiment, replicated treatments of commercial formulations of propiconazole, triadimefon, iprodione, vinclozolin, and chlorothalonil were applied to plots of creeping bentgrass at the sublabel rates of 0.12, 0.38, 0.57, 0.38, and 2.29 kg a.i. ha⁻¹, respectively. In addition, each of the latter four fungicides was tank mixed with propiconazole at the rates given, and applied as treatments.

No synergistic interactions were detected at Griffin or West Lafayette in experiments 1 or 2. In the first trial of experiment 3, synergism was observed between propiconazole and iprodione on one of five ratings dates and between propiconazole and vinclozolin on two of five rating dates. However, no synergistic interactions were detected in the second trial. Results suggest that there is a low probability for turfgrass managers to take advantage of fungicide synergism to control dollar spot with the products and rates tested. *From Burpee, L. and R. Latin. 2008. Reassessment of Fungicide Synergism for Control of Dollar Spot. Plant Disease, 92(4):601-606.*

Primo Effects Disease Control

Golf course superintendents are under regular pressure to reduce the use of fungicides for disease control. One aspect of reduction is simply treating less area. The largest area treated on golf courses are the fairways and therefore any methods that could be used to reduce overall reliance on fungicides in fairways would be welcome.

Research conducted at Purdue University investigated the effects of trinexapac ethyl on the development and control of dollar spot on creeping bentgrass fairways. In most cases trinexapac ethyl did not contribute to an increase or decrease in fungicide efficacy. There was an observed reduction in recovery from heavy infestations and the researchers question the continued use of trinexapac ethyl while disease levels remain high. Since we lack consistent evidence that trinexapac ethyl contributes to improved disease control, it may be prudent to suspend such treatments to fairways until turf has fully recovered from the disease-related damage.

Given that fungicide performance is influenced by numerous interacting factors including disease pressure, chemical deposition and depletion phenomena, and fungicide sensitivity of the pathogen population, neutral results associated with a single factor should not be unexpected. *From Stewart, J. M. and R. Latin, Z. Reicher, and S. G. Hallett. 2008. Influence of Trinexapac Ethyl on the Efficacy of Chlorothalonil and Propiconazole for Control of Dollar Spot on Creeping Bentgrass. Applied Turf. Sci. <http://www.plantmanagementnetwork.org/sub/ats/research/2008/dollar/>*

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