



Suppression of Take-all Patch by Fungicides on a Chicago Fairway

Researchers: CDGA collaborating with Luke Strojny, Prairie Bluff Public Golf Club

Goal: Evaluate for suppression of take-all and dollar spot in a bentgrass fairway.

Location: PBGC's number 15 fairway in play – Lockport, Illinois [see photos](#)

Background: Take-all patch is a root disease of bentgrass. The causal organism *Gaeumannomyces graminis* var. *avenae* infects roots during the cool weather of spring. About June, the first drought stress of the season triggers aboveground patch symptoms. Patch diameter can range from 6 inches to 3 feet. Take-all symptoms can last for 10 or more years in certain native soil locations. A few golf courses in Chicago report take-all on fairways. Damage peaks June-July. Dollar spot, *Sclerotinia homoeocarpa*, typically begins at that time. Therefore we investigated IPM (integrated pest management) of 2 diseases in early summer.

Brief Material and Methods: A 'Pennlinks' creeping bentgrass fairway in play. Maintained at 0.44 inches, the number 15 fairway has a history of take-all. The disease was diagnostically confirmed by isolating *G. graminis* in pure culture during 2006 by the CDGA. In an effort to change fairway playability less water input occurred in 2008. By midsummer that year take-all patch became visually objectionable. We investigated 12 fungicides in 2009. Applications were 18 May and 10 June when soil was 60 and 68 degrees. Replicated plots were 4 ft x 6 ft.

Results: Take-all, dollar spot, and visual quality [see figures](#)

- Take-all peaked in late June, but cool/wet conditions moderated disease.
- Best suppression of take-all by QoI fungicides (e.g., Insignia and Heritage).
- Suppression of both take-all and dollar spot was by certain DMIs.
- Rubigan, a DMI fungicide, did not adequately suppress dollar spot.
- Banner Maxx, a DMI fungicide, did not adequately suppress take-all.
- Best visual quality was observed with QoI fungicides, indicating take-all is visually more objectionable than dollar spot in early summer.
- More research is needed to determine fungicide efficacy on Chicago fairways. Early summer drought stress is necessary for full development.