

Pythium Patch

Overview

Pythium patch, caused by *Pythium arrhenomanes*, is a relatively new disease that primarily attacks annual bluegrass putting greens and sometimes collars and approaches. Credit to Dr. John Kaminski at Penn State University who first observed symptoms on a Connecticut golf course in 2005 and has since documented Pythium patch on golf courses across the mid-Atlantic and northeast United States. The optimal temperature for disease activity is 77-95°F with symptoms generally appearing around the same time as summer patch activity, which adds to the confusion in identification.

Symptoms

- Initial symptoms appear as chlorotic patches ranging in size from 4-24 inches and can exhibit an orange/yellow halo on the periphery of patches (Figure 1).
- While the patches are slow to grow, as the disease progresses, annual bluegrass turf may collapse and become necrotic.
- In mixed stands with creeping bentgrass, the bentgrass can encroach and/or take over affected patches.



Figure 1. Evolution of Pythium patch symptoms leading to eventual annual bluegrass death and take over by bentgrass. Photos credit: John Kaminski, Penn State University.

Cultural Management Strategies

Pythium patch tends to be a problem on soil-based greens with poor drainage. Like other Pythium diseases, contributing factors include hot and humid weather and afternoon thunderstorms. Target best management practices that assist with moisture management.

- Improve water penetration with regular aerification and/or frequent topdressing.
- When possible, install internal drainage on older soil-based greens.
- Use moisture meter to determine water amount needed and hand water to avoid overwatering.
- Prune trees and install fans to aid in air movement.

Fungicide Solutions

- Penn State research suggests that fungicidal control is achievable with Pythium patch on a preventive 14-21-day spray program with Pythium-specialist fungicides like cyazofamid (Celoxid™ SC) and propamocarb.
- For curative control, apply foliar applications of propamocarb followed by cyazofamid 3-5 days later. Do not water in fungicides.
- While fosetyl-al is effective against other Pythium diseases, it does not appear to suppress this disease. Tank-mix fosetyl-al with a fungicide listed above for Pythium patch control.

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