



## Pythium Root Rot

### Overview

*Pythium* root rot (PRR) is problematic on putting greens across the United States and can be caused by 30+ *Pythium* root-infecting species that vary widely by geography. PRR is commonly diagnosed on greens in mid-summer with extended rainfall and high heat. Even in the driest parts of the country, irrigation, heavy rain, and poor internal drainage can incite PRR outbreaks.

### Symptoms

- Affected turf may appear as irregular chlorotic, yellow to orange patches or streaks, or thinned areas.
- Unlike *Pythium* blight, no foliar mycelium is associated with PRR.
- Roots typically are compromised and may appear water-soaked and rotted or show a significant reduction in root mass.
- Turf managers suspecting PRR should send sample(s) from the perimeter of infected areas to a university lab for accurate diagnosis.



### Cultural Management Strategies

- Saturated conditions are required for infection and damage by PRR so cultural practices should focus on moisture management.
- Improve water penetration with regular aerification and/or frequent topdressing.
- Use moisture meters to determine water amounts needed and hand water to avoid overwatering.
- Alleviate turf stress by using smooth rollers and raising the mowing height or skipping mowing in favor of lightweight rolling.

### Fungicide Solutions



- Cyazofamid, the active ingredient in Celoxid™ SC, has been the industry standard for a number of years when it comes to PRR control.
- Apply Celoxid SC at 0.45-0.9 fl oz/1000 sq ft every 14-21 days and water in with 0.1" following application.
- A maximum of three applications at the high rate can be made per year.
- Other *Pythium* specialists may be used in rotation with Celoxid SC for resistance management.