



## 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 has been diagnosed on greens throughout the year especially in areas with extended rainfall. 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.