

# Research Report



## Companion® Biological Fungicide Goes Above and Beyond Chemical Fungicides

Companion® was the first ever EPA registered liquid bio-fungicide on the U.S. market.

Over 15 years of university testing

Researched at over 30 accredited institutions across the country and around the globe

Registered and approved for use in over 25 countries

### What is Companion®?

A broad-spectrum biological fungicide for soil-borne and foliar diseases

Companion's GB03 strain of *Bacillus subtilis* has multiple modes of action to prevent and control plant diseases. It produces a broad-spectrum Iturin antibiotic that disrupts the cell-wall formation of pathogens, and it triggers an advantageous Induced Systemic Resistance (ISR) in plants, whereby a plant's natural immune system is activated to fight plant diseases. Companion's fast-colonizing beneficial rhizobacteria stimulate root growth and promote turf vigor while also crowding out plant pathogens. Easy to use and handle, Companion is an environmentally-friendly fungicide with an unsurpassed safety profile and a low 0-4 hours REI. Because its modes of action circumvent the development of pathogen resistance and since it can be used alone or in combination with traditional chemical fungicides, Companion is the ideal foundation for an effective integrated pest management and disease management program.



The greens at this prestigious golf course in Hawaii were devastated by Pythium Root Rot. In large areas, over 50% of the turf was brown and dead.



The roots were largely killed off as well, with less than 1/2" of root growth. It was so bad, the turfgrass could be peeled up like paper.



One month after the first application of Companion®, the turf in its recovery period. Most dramatic is the 3" of new root growth that developed after 30 days.



The "Happy Ending": The beautiful and healthy golf course as it is today.

### Turfgrass Cultivars

For use on all cool and warm season turf grass varieties such as Bentgrass, Bermudagrass, Bluegrass (common and hybrid), all types of Fescues, Paspalum, Poa Annua, Ryegrass, St. Augustine, and Zoysia. Use on Greens, Tees, Fairways and Roughs, Sports Turf, Parks, Lawns, Sod Farms, Seed Production Grasses and all ornamental grass varieties.

### Turf & Ornamental Disease List:

Anthrachnose (*Colletotrichum graminicola*)  
Brown Patch (*Rhizoctonia* spp.)  
Dollar Spot (*Sclerotinia*)  
Summer Patch (*Magnaporthe poae*)  
Fusarium Patch (*Fusarium nivale*)  
Pythium Blight

Pythium Root Rot  
Pythium Crown Rot (*Pythium* spp.)  
Stem & Root Rot

