



Solution Sheet

Fairy Ring

The Problem

Fairy ring on cool-season turfgrass is difficult to control. It is caused by any of 60 or more soil-borne basidiomycete fungi. Fairy ring fungi do not directly attack plants but instead cause problems by stimulating turf and/or causing hydrophobic soils that lead to localized dry spot (LDS). Fairy ring fungi use lignin in thatch and organic matter as a food source. All turfgrass species and golf course locations can be affected by fairy ring. Greens are particularly vulnerable to fairy ring given their low mowing height and sand-based rootzone.

What To Look For

Fairy ring on cool-season turfgrass occurs in rings, arcs or patches that can vary greatly in size. The size often ranges from several inches to several feet in diameter, with large rings reaching 10 feet or more. Three types of fairy ring are used to help describe symptoms and associated turf damage; type 1 = brown rings of dead turf, type 2 = green rings of stimulated turf growth, and type 3 = the presence of mushrooms or puffballs.

Above-ground mushrooms or puffballs may not always be seen with fairy ring. Instead, a layer of white mycelia or a band of dry, brown-orange or yellowish material will be present in the thatch, mat or soil layers. Depth of fairy ring activity is important information to know for fungicide applications.

Aggressive turf management with minimal water and nitrogen, and low mowing heights can increase fairy ring symptom severity. During mid-summer heat stress, fairy ring can quickly progress from type 2 green rings to type 1 dead rings.

The Solution

Core aeration, vertical mowing and frequent sand topdressing reduce thatch and organic matter, minimizing fairy ring severity. Aeration by needle tining or spiking also improves overall drainage and gas exchange.

Water management, fertility and mowing height can influence symptoms of fairy ring. Fairy ring symptoms are enhanced on slow-growing and nitrogen-starved turf. Nitrogen levels (tissue testing) should be evaluated to help maintain optimal turf health.

Wetting agents are useful to address LDS associated with fairy ring activity. Apply wetting agents regularly, but space them two weeks apart from DMI fungicide applications. Wetting agents can be mixed with non-DMI fungicides, but tank-mixing is not recommended with DMIs because it risks turf injury.

Preventive fairy ring control is much more effective than curative control. Apply preventive fungicides when the 5-day average soil temperature (2-inch depth) reaches 55-60°F. Solutions for fairy ring include Densicor®, Tartan® Stressgard®, and Mirage® Stressgard. These can be applied alone or as part of a multi-application program with proven effectiveness.

Applications should be made at 2-4 gallons spray volume with flat fan nozzles and watered-in to the depth of the fairy ring immediately after application.

Fairy Ring Solutions

Solution ¹	Rate (per 1,000 sq. ft.)	Application Interval
Tartan® Stressgard ²	2.0 fl oz	28 days
Mirage® Stressgard ³	1.0 - 2.0 fl oz	28 days
Densicor ⁴	0.196 fl oz	14 - 28 days

¹See fungicide labels for complete details. Always read and carefully follow label instructions. ²Do not exceed 345 fl. oz. of Tartan Stressgard/acre/year. Do not apply more than 3 sequential applications. ³Do not exceed 6.5 fl. oz./1,000 sq. ft./year, except in New York state where the maximum of three 1.0 fl. oz. applications/year can be used. ⁴Do not exceed more than 0.588 fl oz/1000 sq. ft./yr or 25.6 fl oz/A and not yet labeled for use in California.



Type 2 fairy ring showing dark green circles of turf, which can often be masked with nitrogen applications. (Envu)



Type 1 fairy ring with dead turf in circles on creeping bentgrass/annual bluegrass greens. (Envu)



Organic mat buildup from fairy ring. (Envu)



Type 3 fairy ring in cool-season turf with typical mushrooms or puffballs. (Envu)