

Fairy Ring Prevention and Control

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Fairy ring disease causes brown or dark green arcs or circles that appear in lawns, golf courses, athletic fields, and other turf areas. The symptoms are most likely to develop between spring and fall. They are caused by fungi that feed on decaying plant tissue.

Brown-colored drought symptoms from fairy rings develop when the fungus forms an almost impervious (hydrophobic) layer in the soil that prevents water from reaching the grass roots. Dark green and lush growth of turfgrass near infested areas by fairy ring is caused by the nitrogen that is released when the fungi decompose organic matter. The circular symptoms of fairy ring can range from a few inches wide and 5 to 10 yards in diameter.

Fairy rings are classified by their symptoms:

- Type I: Ring of brown, wilted, dead grass (Fig. 1)
- Type II: Ring of dark green grass (Fig. 2)
- Type III: Ring of mushrooms or puffballs (Fig. 3)

Fairy rings produce varying degrees of symptoms, making classification difficult. The symptoms may occur simultaneously. It is important to note that drought symptoms in turfgrass are associated with Types I and II, and scalping (mowing leaf blades too low) can be associated with Type II symptoms.

Fairy ring fungi are spread by wind or introduced into new areas when contaminated soil and organic matter are added to a site. Nearly



Figure 1. Type I fairy ring.



Figure 2. Type II fairy ring.



Figure 3. Type III fairy ring.

60 species of fungi are associated with fairy ring. According to a recent study at North Carolina State University, however, fairy ring fungi found in sand-based golf course putting greens belong to three species within the family *Lycoperdaceae*: *Arachnion album*, *Bovista dermoxantha*, and *Vascellum curtisii*.

Control and management

Take these steps to prevent and control fairy ring:

- Reduce thatch by mowing the grass with a vertical mower and by aerating—removing small soil plugs or cores from the lawn.
- Remove tree stumps and roots to reduce the amount of organic matter on which the fungus feeds.
- Topdress—add a fine layer of high-quality sand on top of the lawn. This dilutes the amount of organic matter and provides a substrate for turfgrass root growth.



Figure 4. Soil aeration.

Table 1. Common and trade names of fungicides for control of fairy ring for homeowners.

Common name	Trade name
propiconazole (DMI)	Ferti-lome Liquid Systemic Fungicide Monterey Fungi-Fighter, Bonide Fung-onil Lawn and Garden Disease Control Bonide Infuse Concentrate Systemic Disease Control Ortho Lawn Disease Control, Bonide Infuse concentrate, Bonide Infuse RTS Bayer Fungus Control for Lawns Ready-to-Spray Bayer Fungus Control for Lawns Ready-to-Spread Granules
azoxystrobin	Maxide Disease Killer, Heritage G
myclobutanil (DMI)	Spectracide Immunox Lawn Disease Control Concentrate Spectracide Immunox Lawn Disease Control Granules, Ferti-lome F-Stop Green Light Fung-Away Systemic Lawn Fungicide

Table 2. Common and trade names of fungicide to control fairy ring on commercial turf (golf courses and sod).

Common name	Trade name	
demethylation inhibitor (DMI)	metconazole	Tourney
	myclobutanil	Eagle, Golden Eagle
	propiconazole	Banner, Banner MAXX, Spectator, Propiconazole Pro
	triadimefon	Bayleton 25, Bayleton 50, Accost 1G
	tebuconazole	Torque
strobilurin (=QoI)	azoxystrobin	Heritage
	fluoaxystrobin	Disarm
	pyraclostrobin	Insignia
	trifloxystrobin	Compass
carboximide	flutolanil	ProStar 70WP
Polyoxin	Polyoxin-D	Endorse

- For dark green fairy ring symptoms (Type II), fertilize the grass with nitrogen to mask the rings by stimulating growth in the rest of the turfgrass.
- For brown-colored drought symptoms (Type I), aerate the soil (Fig. 4) and drench it with a wetting agent (a chemical that helps water penetrate and spread) to enable water to reach the grass roots.
- Apply extra water on the hydrophobic root zone.

Usually fungicide application is not recommended for home lawns, but it may be necessary for golf courses and other commercial

turf. Fungicide alone cannot control fairy ring because the soil in the area colonized by the fungi is almost impervious to water. Fungicides are most effective when they are used as a **preventive** measure (Tables 1 and 2). For best results, core-aerate the soil first and then drench the affected area with fungicide. Apply a wetting agent either after the fungicide application or mixed in the spray tank with the fungicide.

Caution: Warm-season turfgrass can be damaged severely by demethylation inhibitor (DMI) fungicides. Use them carefully.

For a more detailed disease management plan, contact a county AgriLife Extension agent or turfgrass pathologist.

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