

Fairy Rings¹

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Causal Agents: *Chlorophyllum* spp., *Marasmius* spp., *Lepiota* spp., *Lycoperdon* spp., and other basidiomycete fungi

Turfgrasses Affected: All warm-season turfgrasses.

Occurrence: Fairy rings, especially the mushrooms, are most commonly observed during the summer months, when Florida receives the majority of its rainfall. Fairy rings occur when large quantities of organic matter, such as lumber, tree stumps, and logs, are naturally located or have been buried in a lawn. The fungi are nourished and develop on this material. The mushrooms, which are all sizes and shapes, are the fruiting stages of these fungi.

Symptoms/Signs: There are three types of fairy rings:

1. Type I rings have a zone of dead grass just inside a zone of dark green grass. Weeds often invade the dead zone.
2. Type II rings have only a band of dark green turf, with or without mushrooms present in the band (Figure 1).

3. Type III rings do not exhibit a dead zone or a dark green zone, but a ring of mushrooms is present (Figure 2).



Figure 1. Type II fairy ring with dark ring of turfgrass and mushrooms. Credits: M. L. Elliott



Figure 2. Type III fairy ring with only mushrooms present. Credits: M. L. Elliott

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Rings may be very small initially, perhaps less than 1 ft, but they normally expand each year. It is not uncommon for rings to be 6 ft or more in diameter. The size and completeness (circular, semicircular, quarter circles) of the bands varies considerably. Mushrooms are normally produced during rainy weather. Since some of the mushrooms (e.g., *Chlorophyllum* spp., Figure 3) are poisonous, mushrooms should be removed or destroyed. Chopping them up with the mower is adequate, but if children or pets are present, it is probably best to collect the mushrooms and place them in the garbage out of their reach.



Figure 3. The mushroom of the poisonous fairy ring fungus *Chlorophyllum*. Credits: M. L. Elliott

Cultural Controls: If necessary for appearance purposes, mask the dark green ring symptoms with nitrogen fertilizers. Although it is possible to excavate and fumigate the fairy ring sites, it is quite likely the rings will return if the food source for the fungi is still present underground. The rings will disappear naturally, but it may take up to five years.

In some situations, the fungi coat the soil particles and make the soil hydrophobic (meaning it repels water). This will result in rings of dead grass because the grass is being subjected to a very localized drought situation. If the soil under this dead grass is dry but the soil under healthy grass next to it is wet, then it is necessary to aerate or break up the soil under the dead grass (a pitchfork is a good tool to use). Then apply a soil-wetting agent and water the ring, and only the ring, daily to rewet the soil and encourage turfgrass recovery.

Chemical Controls: Azoxystrobin, flutolanil, metconazole, pyraclostrobin, and triticonazole

The fungicides inhibit the fungus only. They do not eliminate the dark green or dead rings of turfgrass, and they do not solve the dry soil problem.

For a homeowner's guide to turfgrass fungicides, see http://edis.ifas.ufl.edu/document_pp154. Check fungicide labels for site application restrictions, as some fungicides cannot be used on residential lawns. DMI (demethylation-inhibiting) fungicides have shown the potential to damage bermudagrass turf. Follow label directions and restrictions for all pesticides. The presence of a fungicide on this list does not constitute a recommendation.

Refer to the "Turfgrass Disease Management" section of the *Florida Lawn Handbook* (<http://edis.ifas.ufl.edu/lh040>) for explanations of cultural and chemical controls.