

## Best Management Practices: Fairy Ring Management and Control

### Description

Fairy ring is a disease that can infest both cool and warm-season turfgrass. Fairy ring is caused by a group of fungi classified as Basidiomycetes. These are soil-borne fungi that colonize soil particles in the root zone as well as thatch layer. There are more than 50 species of fairy ring capable of infesting areas such as sand-based golf course putting greens or tees and native soil areas. It is also commonly found on athletic fields, in lawns and parks.



## Environmental Conditions Favoring Disease Development



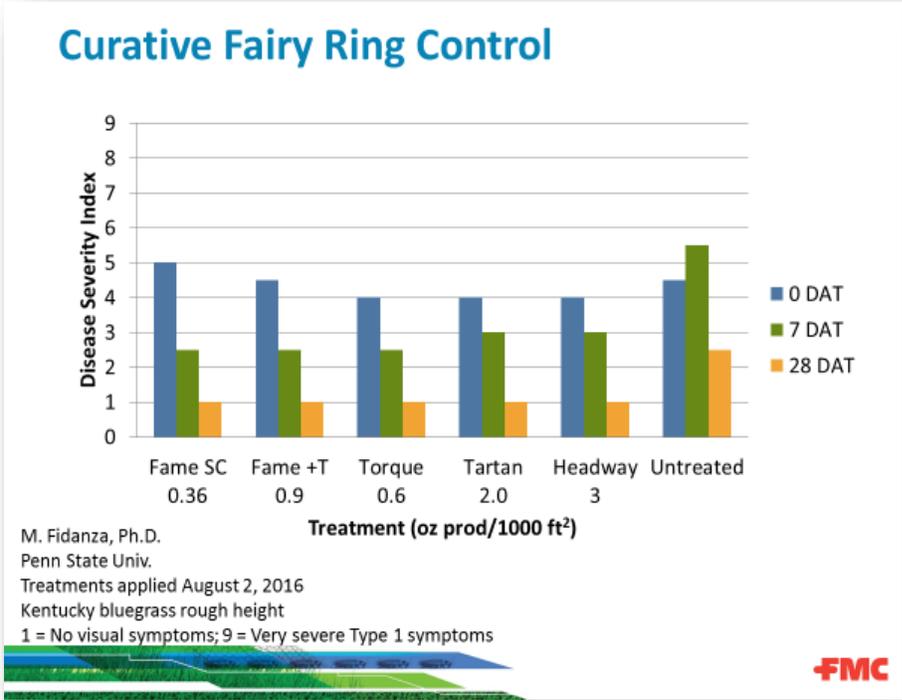
Fairy ring symptoms become more visible particularly on nutrient and/or moisture deficient turfgrass sites. They can develop throughout the calendar year depending on geographic location. For example, in warm-season turfgrass environments fairy ring symptoms can develop as early as late winter or early spring. In cool-season turfgrass geographies symptoms can often be seen late spring to summer.

## Symptom and Identification

This disease is most recognized for the mushroom rings produced (Type III). Type III typically develops when dry conditions are followed by heavy rainfall. Type II causes a stimulation in turfgrass growth producing a dark green ring of turfgrass. This is due to microbial breakdown of ammonia produced as the fungi decompose organic matter. With Type I fairy ring mycelium coat soil particles thus resulting in hydrophobic conditions. The infected areas are not able to absorb water through the roots, which causes a necrotic (brown) arc or ring leading to dead turfgrass.

## Management

**Cultural:** Fairy ring can be difficult to control as there are some species that produce mycelium 2 to 3 ft deep into the soil profile. Reducing turfgrass stress by applying correct rates of fertilizer and using adequate irrigation will strengthen turfgrass competition. In infested areas core aeration and localized irrigation can help reduce localized dry areas associated with fairy ring symptomology.

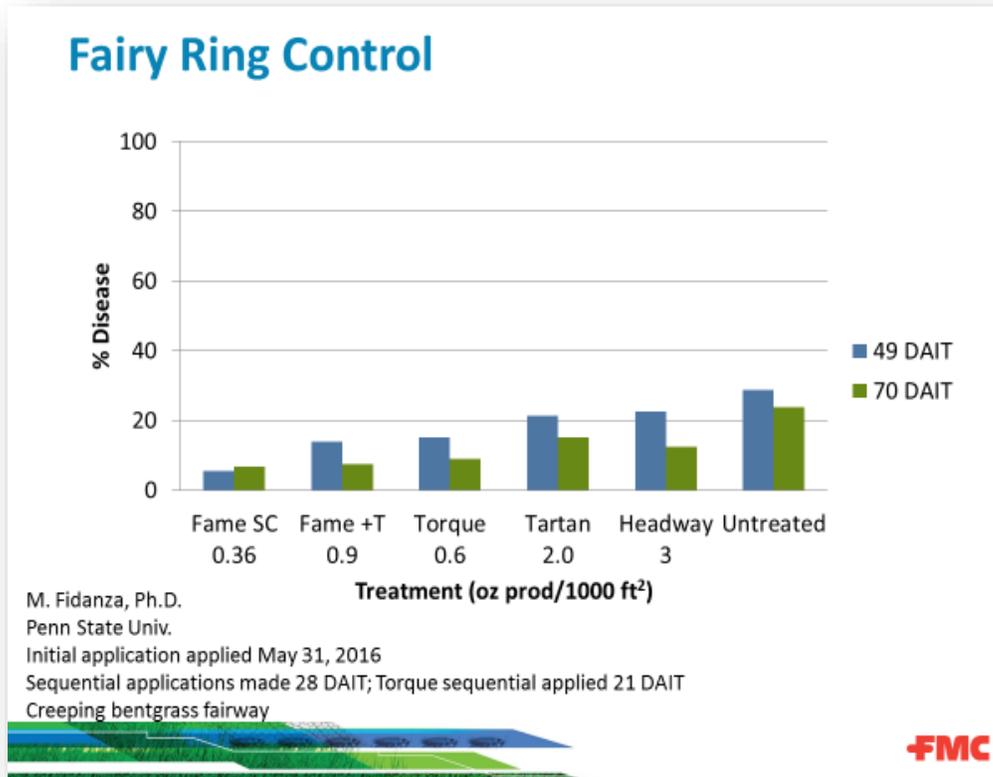


**Chemical:** Fungicides can be used for preventative fairy ring management. In general, preventative applications should begin once soil temperatures at 2 inches reach 55 F. Depending upon the season, it may require two to three applications for season-long management. FMC Professional Solutions offers a few Fame

fungicide options to protect your property from fairy ring. In cool-season turfgrass, apply 0.9 fl oz/1000 ft<sup>2</sup> Fame +T as a first application in spring followed by 0.36 fl oz/1000 ft<sup>2</sup> Fame SC 28 days later. In warm-season turfgrass, two applications of 0.36 fl oz/1000 ft<sup>2</sup> Fame SC 28 days apart can be a foundational part of your fairy ring program. Fame SC applied at 0.36 fl oz/1000 ft<sup>2</sup> has also demonstrated effective curative fairy ring control.

It is common to apply a

wetting agent with fungicides targeting fairy ring to aid in moving the active ingredient down into the soil profile where the pathogen is active. Additionally, it is important to use a high spray volume (4 gal/1000 ft<sup>2</sup>) to move fungicide through thatch layer.



**References**

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Miller, G.L., L. F. Grand, and L. P. Tredway. 2011. Identification and distribution of fungi associated with fairy rings on golf putting greens. Plant Disease. 95 (9) 1131-1138.  
Latin, R. 2011. A Practical Guide to Turfgrass Fungicides. The American Phytopathological Society. St. Paul, MN. pp. 193-195.  
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