

Fairy Rings



and Mushrooms in Lawns

We often see lawns with mushrooms or doughnut rings of dying or dark green grass. These are referred to as 'fairy rings.' The name has many mythological explanations - especially in northern European countries. One ring, more than 200 feet in diameter, is estimated to be at least 400 years old.

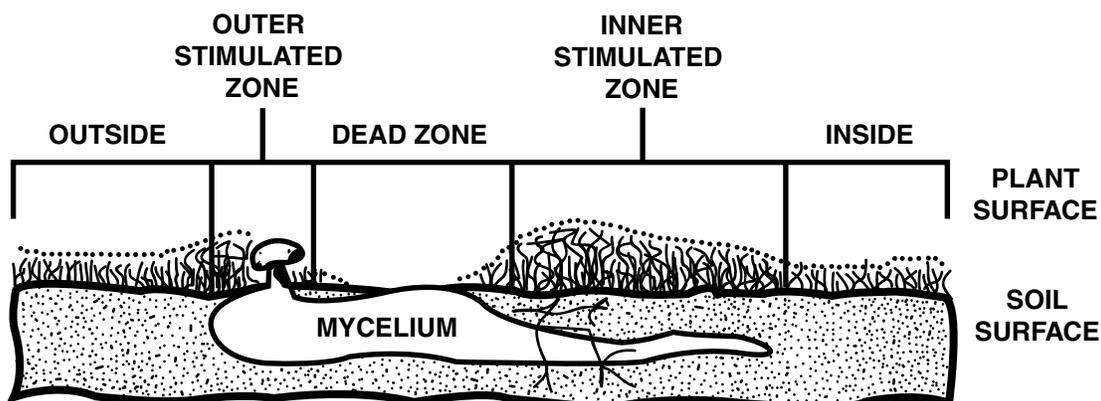
Whether a ring or part of a ring, these patterns are brought about by many genera in the Basidiomycetes class of true fungi. This includes at least 50 poisonous, edible and questionable fungi species.

These ring patterns form as the mycelial, web-like fungus body advances outward in search of organic food sources. At the inner and especially outer edges of the mycelial ring, the fungus is converting proteins of the thatch and soil organic matter into available nitrogen. This nitrogen then stimulates the grass plants to become greener and more vigorous in a doughnut-like pattern. Contact with a curb, sidewalk, planting bed or other soil barrier will disrupt the ring pattern. When two or more rings meet, they may continue to grow or disappear. Elaborate serpentine patterns often appear. The symptoma-

tology has been classified into three distinct types of fairy rings: Type I, II or III.

Types I and II have no toadstool fruiting structures readily visible. They form rings or arcs with either dying bands (I) or dark green bands (II). Type III fairy rings have the mushroom structures we see in our lawns. As environmental conditions get right for Type III fruiting (as they would with high moisture and warm days), the nutrient-packed mycelium quickly changes from vegetative growth to reproductive growth and develops the toadstool over several days. These toadstools then develop spores, which are its means of sexual reproduction. Rings may suddenly disappear and then reappear years later. The reappearance may be an even larger ring.

Although fairy ring damage is rarely serious, the disease is often unsightly, especially on a well-managed lawn, green or fairway. The typical ring patterns will develop over a wide range of soil types, fertility levels and climatic conditions. Poorly maintained, drought-stressed turf on light, sandy soils often suffers most. Heavily thatched lawns are particularly susceptible to injury by fairy ring.



Cross section of a fairy ring complex showing zones of plant stimulation, plant death and relative distribution of fungus mycelium in the soil.

Control of Type III fairy ring is not usually necessary except on a golf green where it would be more like bumper pool than golf. Pick off and discard toadstools, before they open fully. You may mow off the mushrooms, too. Keep children and pets from ingesting the mushrooms.

Type I rings can kill the grass; Type II rings are just unsightly. The white, waxy mycelia of some fairy ring fungi may penetrate the soil to a depth of 6 inches or more and impede the movement of water through the soil profile. Plant death may result from a lack of water, even though adequate moisture may be available for growth of the remaining turf. Excessive levels of nitrogen (ammonia form), other toxic chemicals or direct invasion of the turfgrass roots by fairy ring fungi also may kill turf.

For chemical control of fairy rings, select either ProStar or Heritage fungicides and apply as directed on the labels. Pay attention to the number of gallons of water used to wash these products into the zone of mycelium. Always include a nonphytotoxic surfactant and aerify for better penetration. A second application to the ring area may be needed after a wait of at least 30 days.

Symptom suppression may be most practical. Try masking a Type II ring with the addition of a reasonable amount of nitrogen. A healthy lawn is always the first defense of a pest problem. Suppression of Type I symptoms can be accomplished by giving extra attention to watering the drying area, using a surfactant and aerating through the waxy barrier.

If replacing infested soil, be sure to trench out 1 x 1 1/2 feet where Type I is observed. Be careful not to spill contaminated soil onto clean turf. Resod with healthy turf.



Type I Fairy Ring



Type III Fairy Ring

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Author:

Thomas J. Koske, Ph.D., Professor

**Louisiana State University Agricultural Center
William B. Richardson, Chancellor
L.J. Guedry, Executive Vice Chancellor
Louisiana Agricultural Experiment Station
William H. Brown, Vice Chancellor and Director
Louisiana Cooperative Extension Service
Paul D. Coreil, Vice Chancellor and Director**

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