



TM-3 Fairy Ring

Key Points

- Fairy Ring is very difficult to control or eradicate.
- Preventative maintenance is the key.
- There is limited success in control by using chemicals and wetting agents.
- The fungus creates a hydrophobic situation that prevents water infiltration into the turf roots.
- Aeration and deep root watering can be helpful in control.

Fairy Ring fungus appears in spring or early summer. These circular or arc-shaped rings may reveal themselves as either rings of brown, dead-appearing grass or circles of fast-growing, dark green blades of grass. The rings can range from 4 to 12 inches in width and 5 to 60 feet in diameter with most of them producing mushrooms.

There are three types of Fairy Ring. Type 1 exhibits a zone of dead grass with one or two zones of stunted turf and mushrooms. Type 2 shows itself as a single ring of stimulated grass with some new evidence of mushrooms. Type 3 exhibits only mushrooms with no visible effect on grass. In all three types, mushrooms will show up for a short period of time when the soil conditions are just right, usually in the spring or fall, or following a good rain. Unless you are an expert at identifying edible varieties of mushrooms, don't attempt to eat them; they may be toxic to humans and should be hand picked or mowed as soon as they appear.

How Fairy Ring Begins

The rings begin as a growth of fungus which starts at a central point and grows outward at a rate of 1 to 2 feet per year. Eventually, they will grow right out of the lawn. In addition to being unsightly, they can also cause serious damage to the lawn. It is not known if Fairy Ring is started by the white, hair-like fungal mass known as fungal mycelium or by germination of the fungal spores produced in mushrooms. Researchers have attempted to produce Fairy Ring under experimental conditions but have been unsuccessful. They have found, however, that the fungus begins to grow in either the soil itself or in the thatch layer above the soil. Thatch is the accumulation of dead roots and shoots produced by the lawn.

The fungus lives by decomposing organic matter and moves deeply into the soil, forming a dense, thread-like network of white mycelium that penetrates the soil to a depth of 10 to 20 inches. Some reports indicate that the fungal mass reaches as much as three feet. The lush, dark green grass forming around the ring is caused by nitrogen released by the fungus as it decomposes the organic matter in the soil. The dark green is more pronounced if the surrounding lawn needs fertilizing. By contrast, the dead dry zone is the result of insufficient moisture. The network of mycelium growing through the pores of the soil prevents water from reaching the plants roots.

Treatment is Difficult

Unfortunately, there has been limited success treating Fairy Ring with fungicides and chemical wetting agents. This is partially the result of the difficulty in distributing the fungicide uniformly through the infected area. If the Fairy Ring has recently appeared, there is a chance of controlling it by drenching the area with a fungicide with or without a wetting agent. Some spotty success has also been achieved by drilling 1/4 inch to 1-1/2 inch diameter holes, 18 to 24 inches deep and spaced 6 to 10 inches apart. The fungicide is then applied directly into the holes. Special watering techniques can also be helpful. Try using a deep root feeder or drill holes in the soil surface. Use a wetting agent to help distribute water through the infected area. The goal of this approach is to stimulate micro-organism populations that are antagonistic or parasitic to the Fairy Ring fungus. This also helps overcome the water repellent nature of the Fairy Ring.

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Other methods of eradication include soil fumigation, soil replacement and soil mixing. Fumigation is an expensive process and involves the use of highly toxic materials. For these reasons it is recommended that a licensed professional be used. Soil mixing and cultivation have also proved effective in getting rid of the fungus. Turf should be removed from the site and the soil tilled or cultivated repeatedly in different directions using a rototiller if possible. Simply digging or plowing the soil is not adequate. The area should be thoroughly soaked to encourage microbial antagonism. Keep the soil bare for a month or two or an entire winter if possible. The ground can then be reseeded. Seeding is preferred over sod because seed poses less of a risk of reintroducing the Fairy Ring fungi.

While total removal of Fairy Ring is usually not warranted due to the expense, some visual relief can be gained by masking. This is a process of applying fertilizer and watering deeply so that neglected or nutrient-deficient lawns will prosper.

Preventative Maintenance

Good turf grass management practices can reduce the incidence of Fairy Ring and other diseases occurring in lawns. To help lawns withstand the onslaught of summer's heat, follow these suggestions:

MOW LAWN 2 ½ to 3 INCHES HIGH - Research shows that mowing high produces a denser grass with a greater volume of roots. Mowing close reduces root mass and weakens turf.

APPLY WATER EVENLY- Clean sprinkler heads and adjust coverage patterns to get best watering results.

FERTILIZE LAWNS - Apply 4 to 6 pounds of actual nitrogen per 1,000 square feet per year. During a drought year, reduce the amount of fertilizer.

CONTROL WEEDS - Spot treat lawns with a broadleaf weed herbicide. Use weed and feed products carefully and keep weed killers away from trees and shrubs.

AERATE LAWNS - Aerate lawns in early spring or in the fall. If there are spots with severe run off, an impermeable thatch layer or a mound that prevents water from penetrating, core aeration should be performed as soon as possible.

WATER PROPERLY - A lawn's need for water can change from approximately less than 1 inch per week in April to almost 2 inches per week in the heat of July and August. The water may be applied more than once on the day(s) the lawn is watered allowing time for the water to soak into the soil between watering times.

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