Fairy Rings – Turf Tips
Michigan State University Extension Service
J. M. Vargas, Jr. and K. J. Kelly, Department of Botany and Plant Pathology
Issued November 1981
2 pages

Turf Tips for the homeowner

Extension Bulletin E-1544 File 27.3 November 1981

Fairy Ring

J. M. Vargas, Jr. and K. J. Kelly[1]

Fairy rings are caused by soil-inhabiting fungi which survive on dead organic matter. They can occur in any type of turf where conditions are suitable for fungal growth. Although the occurrence of fairy ring on a homeowner's lawn is generally of little concern, it can be a serious problem on golf course greens.

Symptoms

A circular fairy ring develops because the fungi starts out from a central point and grows equally in all directions. The fungi break down the organic matter as they grow, releasing nitrogen (ammonia) that eventually is changed by other microorganisms to nitrate nitrogen. The nitrate nitrogen stimulates turfgrass growth within the ring (known as the zone of stimulation or activity zone). Turf may first appear dark green, but will eventually die if stressed by heat or drought (Fig. 1). Sometimes the turf may simply turn yellow or be stunted (Fig. 2). If the turf is adequately watered it usually will recover from the yellowing, but the stunting may remain. The yellowing, stunting and turf death within the ring has been attributed to a number of causes. Mushrooms are often found in the

Figure 1: A characteristic fairy ring showing the stimulated growth area and deadened region at the outer edge.

Figure 2: Fairy ring may not kill turf, but can cause yellowing and stunting to occur.

[1]Associate Professor, Department of Botany and Plant Pathology, and Horticultural Agent, Washtenaw County Cooperative Extension Service, respectively.

fairy ring circle. Figure 3 is a depiction of fairy ring in a turfgrass profile.

Occurrence

Fairy rings are commonly seen in areas that were previously forested or where stumps or logs were used as fill. Many of the fungi that cause fairy ring are wood decaying fungi which survive in soils high in organic matter (example peat, muck). High nitrogen levels can also stimulate these fungi and cause the development of a fairy ring.

Management

Management or removal of fairy ring is difficult and expensive. If fairy rings are on a putting green they should be removed. Fairy ring on fairways generally can be ignored, unless there is a large concentration in a critical landing zone or on an approach to a green. Fairy rings in sod fields should be fumigated to prevent movement of the fungi with the sod. In athletic fields, commercial areas, or home lawns, they can be ignored unless a large area is covered or they are an irritant.

Cultural Management

Fertilization with nitrogen, to increase growth of surrounding grass, will help mask the dark green grass in the zone of stimulation. However, it must be remembered some fungi are stimulated by nitrogen and an application could cause more fairy rings to be produced.

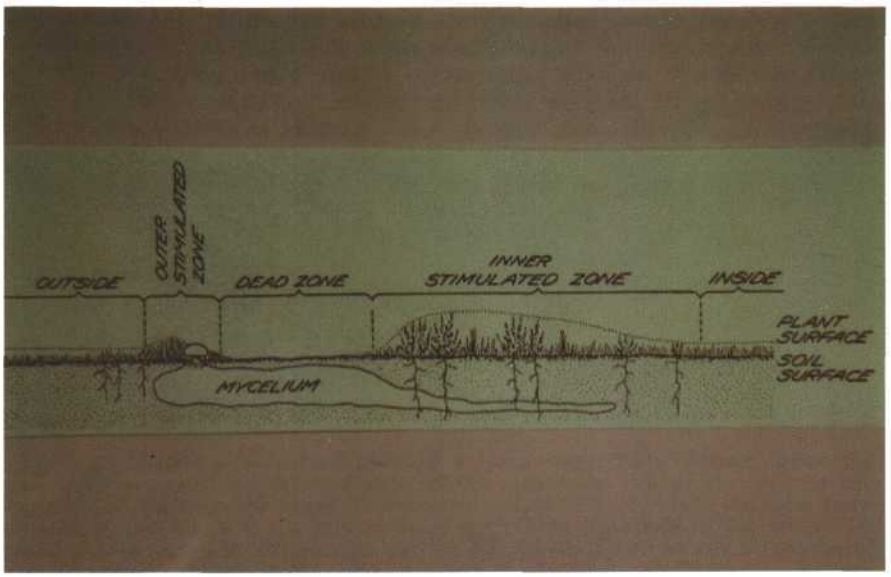

Figure 3: Cross sectional view of fairy ring development.

Another cultural method consists of drowning the fairy ring by supersaturating the area for 48 hours or more. This treatment is a temporary remedy and the fairy ring will normally recur later that season or next year.

The best way to manage fairy ring is to dig them out. Go a foot beyond the ring, square it off, remove the sod and then remove the soil within the square to a depth of one foot. Fill the hole with uninfested soil and reseed or resod.

Chemical Management

Fairy ring cannot be controlled by fungicides. Fumigating or digging them out is the only real means of eliminating them. Drilling holes and pouring fungicides down them is not effective in controlling fairy ring and may even aggravate the problem. Fumigants should only be applied by licensed professionals.

MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE

Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Gordon E. Guyer, Director, Cooperative Extension Service, Michigan State University, E. Lansing, MI 48824.

1P-20M-11:81. Price 15 cents. Single copy free to Michigan residents.