

Fall rains and cooler temperatures often bring mushrooms to lawns and gardens, but you don't need to be alarmed. Mushrooms are actually the reproductive structures of fungi. If your property has mushrooms, it may indicate that your soil is healthy and a good place for trees and other plants to grow.

Fungi and bacteria play an integral role on earth. They break down complex organic compounds including proteins, carbohydrates and fats into their most basic elements. These basic compounds of life can be used by other generations of organisms. Plants rely on soil fungi and bacteria to digest these nutrients for them. In return, they feed the soil organisms with the sugars they make via photosynthesis.

Underground, below the mushrooms popping up on your lawn, are thread-like networks called hyphae. Some of these hyphae attach to plant roots, creating thread-like extensions that reach far into the soil, increasing the surface area of the plant roots up to 1,000 times. The fungal hyphae and the plant roots working together are called mycorrhizae. These intricate webs of hyphal filaments capture water and minerals and deliver them to plant roots via the mycorrhizae.

Many of our native and landscape plants depend on fungi and mycorrhizal relationships for optimal health and growth. The extended reach of these fungal threads is astonishing. A thimbleful of soil can contain miles of mycorrhizal filaments. Fungi and mycorrhizal filaments produce organic compounds that glue soils together to improve soil structure and porosity to enhance root growth. In addition, the presence of mycorrhizae in the soil has been found to suppress soil-borne pathogens, protecting plants from root diseases.

It all adds up to a fundamental relationship between fungi and green plants. Most plants - from orchids, rhododendrons and madrone trees to most fruit and nut trees, turf grasses, annuals and perennials - depend on some type of fungal activity. A few kinds of plants don't have beneficial relationships with fungus, including plants that grow quickly following disturbance and plants that grow in saturated soils, such as cattails.

Mycorrhizal fungi are not fertilizers, although inoculating roots with the fungi can improve a plant's growth rate and tolerance to drought and disease. Landscapes that have been stripped of topsoil or otherwise degraded can be improved with the addition of mycorrhizae to the soil. Over-watering, over-fertilization and the use of fungicides can eliminate the usefulness of mycorrhizae or even kill the fungal portion. Mycorrhizal fungi can be purchased, and is often mixed with other beneficial organic matter.

If mushrooms and toadstools offend you, remove them with a rake and bury them in your compost pile. But be ready to see a new crop spring up, as they can sprout new fruiting bodies in a day or so. After a while, the mushrooms will stop forming and the mycelia will live unobtrusively in the soil for another year. Using fungicide chemicals to get rid of mushrooms is wasteful and ineffective because the fungus plant may be several feet below the soil surface. Don't let your children or pets eat the mushrooms, as some could be poisonous.

## **The truth about mushrooms in your lawn**

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