



Beneficial fungi in the landscape

So, why is the mushroom so popular? Because he's a fungi. When people think about fungi, what typically comes to mind is the white toadstool that popped up in your yard, or perhaps the sliced variety you buy at the grocery store that when sautéed with onions, make a great topping for steak. There are lots of culinary uses for fungi.

Fungi are an incredible, diverse kingdom of organisms. As gardeners, we're familiar with the edible forms of fungi that we try growing ourselves. You may have done a little hiking in an effort to find the popular morel variety. While there are many beneficial fungi that live in the soil and benefit the plants we grow, gardeners regularly deal with fungi that produce plant diseases in the landscape.

The two main types of beneficial fungi below ground are saprophytes and mycorrhizae. Saprophytic fungi grow on decaying matter such as leaf litter, fallen trees and even dead animals. They help break down these materials into organic matter, thus replenishing the soil.

Mycorrhizae are fungi that develop a partnership or symbiosis with living plants, such as trees and grasses. Their presence increases the effectiveness of the plant's roots. The fungi deliver minerals and nutrients from the soil to the plant roots, which in turn supply the mycorrhizae with water and carbohydrates. Two types of mycorrhizae are ectomycorrhizae, which grow outside of roots, and endomycorrhizae, also called arbuscular mycorrhizae, which have highly branched hyphae that penetrate root cells.

As much as 90% of all plant species have mycorrhizal associations. Some plants, like pine trees, are highly dependent upon mycorrhizal for growth. The prairie ecosystem also is dependent upon mycorrhizae.

Mycorrhizae are an important component of soil. The long, threadlike hyphae help hold soil particles together. With all of the fungi in the soil it must have an impact on soil structure. They help support soil structure and healthy soils. We can protect these beneficial fungi in our garden soils through a number of practices, including limiting fertilizer applications, utilizing organic fertilizers, practicing low-till or no-till gardening and avoiding fungicide use.

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