



## Why your plants love Mycorrhizal fungi

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Fungi, along with bacteria, are the primary vehicles through which organic matter decomposes. Bread mold, mushrooms, yeast, and lichens are common examples of fungi that you can see with the naked eye. However, there are thousands more fungi that are too small to be seen, living in the air and soil, under rocks, on plants, on our skin, just about everywhere. They are probably the least understood, yet most valuable form of life on earth. Until recently, fungi were classified as part of the plant kingdom, but now fall into their own classification, as they have no stems, flowers, roots, or leaves, or the ability to manufacture chlorophyll.

**Mycorrhizal fungi** are microscopic cells that grow as long threads or strands. These strands are called [hyphae](#) [1] and measure only several thousandths of an inch in diameter, spanning in length from a few cells to many yards. They are a beneficial parasite which partners with plants to help them absorb nutrients from soil, resist pathogens, and survive drought.

In [organic gardening](#) [2], healthy, properly managed garden and lawn soil includes plenty of these interdependent, microscopic plant helpers. But in soil abused by years of chemical style gardening, rototilling, sterilization, and compacted soil, the population of these fungi may be so far reduced as to barely exist. In these latter examples, it's wise to add Mycorrhizal fungi around your existing plants and around the root ball of transplants.

Why Fungi are important to plant growth and garden soil

- Along with bacteria, fungi convert hard-to-digest organic material into forms that other organisms can use through decomposition.
- Fungi bind soil particles together with their sticky hyphae, which increases a soil's water holding capacity and infiltration.
- Like bacteria, fungi are important for immobilizing certain nutrients in soil, in some cases keeping those elements locked in the soil for hundreds of years, waiting for specific plants to absorb them.
- Fungi help to "purify" soil, as they are capable of breaking down certain pollutants.
- Mycorrhizal fungi belong to a class called "mutualists". In exchange for carbon from the host plant, these fungi help deliver soil nutrients to the plant. They may either grow on the surface layers of plant roots (typically with trees), or grow within the cells of roots (typical of grasses, row crops, vegetables, and shrubs).

How to create a hospitable environment for Mycorrhizal fungi

- If you need to sterilize your soil to get rid of a pest, be sure to add fungi back in after sterilization. Sterilizing your soil kills nearly every living creature in it, good and bad.
- Rototilling damages soil structure and literally tears up the fungi which are living there. The fungi may not be destroyed, but they sure will be beat up and take years to re-populate. Rototilling may mix

the fungi so deep in the soil that they prove useless, as they need to live in a plant's root zone to survive and to be beneficial.

- Mycorrhizal fungi networks grow quicker in undisturbed soil.
- Compost provides the food that encourages the colonization of fungi
- If your lawn or garden was flooded, or experiences heavy traffic, the soil may have become compacted. If so, aerate and then add Mycorrhizal fungi when you introduce new plants into the soil.

Mycorrhizal fungi help your plants, trees, shrubs and lawn thrive, so it's important to create a hospitable environment for them. While you may not need to add them in, it's important that you not create conditions which discourage their development.

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