



Columbia Nursery

The Benefits of Mycorrhizal Fungi in the Garden

Mycorrhizal fungi form a symbiotic relationship with plant roots, helping plants access nutrients and water more efficiently. These fungi are naturally found in healthy soil ecosystems and can significantly improve garden productivity, especially in nutrient-poor or disturbed soils.

What Are Mycorrhizal Fungi?

Mycorrhizal fungi are beneficial microorganisms that colonize plant roots. They form networks called hyphae that extend into the soil, effectively increasing the surface area available for nutrient and water absorption.

There are two main types important to gardeners:

- Endomycorrhizae – Penetrate root cells and are most beneficial to vegetables, fruits, flowers, and grasses.
- Ectomycorrhizae – Surround root cells and primarily support trees and shrubs.

Key Benefits in the Garden

1. Improved Nutrient Uptake

Mycorrhizae increase the availability of phosphorus, nitrogen, and trace minerals to plants.

2. Enhanced Water Absorption

The extended root network helps plants access moisture during dry conditions.

3. Reduced Fertilizer Needs

With more efficient nutrient uptake, plants require less synthetic fertilizer.

4. Increased Disease Resistance

Mycorrhizae stimulate plant immune responses and outcompete harmful soil pathogens.

5. Stronger Root Systems

The fungal network encourages robust root growth for better anchoring and overall vigor.

6. Better Soil Structure

Mycorrhizal fungi help bind soil particles together, improving aeration and reducing erosion.

How to Introduce Mycorrhizae to Your Garden

- Use commercial inoculants when transplanting seedlings or planting seeds.
- Mix powdered mycorrhizae directly into the root zone or water in with a spore solution.



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- Avoid overuse of high-phosphorus fertilizers, which can suppress mycorrhizal colonization.
- Practice no-till or low-disturbance gardening to preserve fungal networks.

Which Plants Benefit Most?

Most vegetables, herbs, flowers, and fruit crops benefit from mycorrhizal fungi, especially those in poor or compacted soils. Plants such as tomatoes, peppers, corn, onions, squash, and beans show particularly strong responses.