

9 Tips to Support Soil Microbes

Supporting soil microbes is a gardener's #1 priority. Microbes break down organic matter, release nutrients, and improve soil structure, leading to healthier plants with stronger root systems.

- 1. Resist the urge to tidy up:** Keeping a garden clean of leaves and wilted plants may seem like a good idea, but by leaving organic debris in place, gardeners can promote microbial diversity (which leads to healthy soil and plant growth), while also supporting beneficial insects and wildlife.
- 2. Choose the right plants:** Some plants, such as legumes, are particularly good at promoting rhizophagy. These plants have a symbiotic relationship with nitrogen-fixing bacteria in the soil, which help to break down root secretions to bind with minerals and make nitrogen available to the plant.
- 3. Add organic matter to the soil:** Adding compost, food scraps, and other organic matter to the soil can help to stimulate microbial activity and promote rhizophagy. Organic matter also helps to improve soil structure (tilth) and regulate moisture, which can further support plant growth.
- 4. Avoid using chemical fertilizers:** Chemical or synthetic fertilizers inhibit microbial activity and disrupt the rhizophagy cycle. Instead, use slow-release organic fertilizers, compost, or using natural methods to improve soil fertility, such as growing cover crops.
- 5. Use mycorrhizal fungi:** These fungi form a symbiotic relationship with plant roots. They help break down root secretions and make nutrients available to the plant. Many potting soils include micorriza fungi or can be added directly to the soil.
- 6. Avoid over-tilling:** Over-tilling your soil disrupts soil structure (tilth) and damages the delicate microbial communities that promote rhizophagy. Consider using low-till or no-till methods to minimize soil disturbance and promote healthy soil.
- 7. Apply mulch:** Mulching helps to regulate soil temperature, moderate moisture, and provide habitat for beneficial microbes that promote rhizophagy. Organic mulches, such as shredded leaves or straw, also provide nutrients as they break down.
- 8. Use natural pest control:** Chemical pesticides harm beneficial soil microbes and kill microbes, which disrupts the rhizophagy cycle. Instead, consider using natural pest control methods, such as companion planting or introducing beneficial insects, to promote a healthy ecosystem.
- 9. Monitor soil pH:** Soil pH affects the availability of nutrients to plants and the microbes that promote rhizophagy. Pay attention to your soil pH and adjust it as needed to help promote a healthy balance of nutrients and microorganisms.