

# COMPOST Using

**CONGRATULATIONS!** You saved your food scraps and garden trimmings and turned them into beautiful, crumbly compost. Now what? No matter how you use your compost, it will benefit your yard or garden in the following ways:

## 1 Adds Nutrients

Unlike commercially made fertilizers, often formulated with just the macronutrients of Nitrogen, Phosphorus, and Potassium (NPK), compost made from a wide variety of garden trimmings and food scraps also contains many micronutrients like iron and manganese, which are essential to strong plant development. Compost holds and releases nutrients slowly, for more even uptake over the life of the plant.

Perform a soil test to find out which nutrients your soil needs.

## 2 Improves Soil Structure

Compost improves your soil's ability to hold and transport water and nutrients. No matter your soil type, compost will make it easier to cultivate.

Loose sandy soil may drain too easily. Compost helps bind sandy soil, acting like a sponge to retain water and nutrients.

In clay soils, compost breaks up tight particles, making room for air and water to flow. Roots can also more easily spread.



## 3 Boosts Moisture Retention

Compost acts like a sponge, containing many pockets that hold water and air. Studies have shown that as little as a 5% addition of compost in your garden soil quadruples your soil's ability to store water, which in turn makes your plants more resilient during dry periods.

Compost's ability to hold water also benefits our environment. More water being held in the soil means less runoff flowing into our watershed, mitigating the impacts of fast-moving storm water and sending fewer nutrients or pollutants into our waterways. An excess of nutrients can cause algae blooms.

## 4 Stabilizes pH

Compost raises pH in acid soils and lowers pH in alkaline soils. How can it possibly do both? Acidic soils have a preponderance of free hydrogen ( $H^+$ ) ions. Alkaline soils have more free hydroxide ( $OH^-$ ) ions. Compost particles provide more attachment sites for both kinds of free ions, allowing them to bond, bringing both acid and alkaline soils closer to neutral. The additional attachment sites also help soil resist changes in pH.

## 5 Builds Microbiome

Compost is a living thing, teeming with fungal and microbial life. Just as our human microbiome (gut bacteria) is essential to our health, the soil microbiome is essential to the health of our soil. Since your soil can't eat yogurt or enjoy some good kim-chee, adding compost is an essential way to support the soil microbiome.

When you add compost to the soil, you are adding decomposing organisms that help break down plant debris. Bacteria in compost make nutrients available to plants by processing bound nutrients in the soil. Plants take up these nutrients through their roots.

Research shows that a strong microbiome also suppresses harmful plant pathogens.

# 3 Ways to Use Compost



## Top Dressing

Top dressing is the simplest way to add compost to the garden. First, rake away any mulch over the root zone of your plant, so that the compost can be in direct contact with the soil. Then, sprinkle finished compost (sifted or not) lightly or up to 2" thick on the surface of the soil and lightly rake it in so that the compost and topmost layer of soil mixes slightly. Keep the compost away from the stalks or stems of plants (piling compost up around a plant's base will hold in moisture, which invites pests and diseases). Replace mulch.

There is no need to dig to mix in compost deeper. The bacteria, earthworms, fungi, and all the other organisms in your soil will help bring nutrients and organic matter through the different soil layers while improving the soil structure, not damaging it as happens with double digging or tilling.

Caveat: compost can contain seeds, whether from the weeds you pulled or the food you ate. Either cover the compost to suppress weeds or know that you might find volunteer plants growing in that area.

## When Planting

When digging a hole for a new plant (at least double the size of your root ball), set the soil aside and mix in up to 30% compost. Use that new mix to backfill around your plant – it's that simple!



**A Note About Tilling and Double Digging:** Up until the early 2000s, tilling or double digging soil to incorporate compost before planting was a recommended practice. Since then, soil scientists have learned that repeated tilling is extremely destructive to soil structure and the soil's essential microbial and fungal communities. Double digging can also alter soil structure; however, it is still beneficial in establishing a new garden bed where compacted soil, rocks, or tree roots are a problem. Luckily, double digging is a one-time only practice. Once your bed is established, you should never have to do it again.

**Tip:** First sift with 1/2" mesh, then use a finer sifter.



## Seed Starting and Potting Mix

This is truly a next level compost use. Screen compost for only the finest material by passing through a mesh screen to eliminate any large, uncomposted bits (1/4" mesh for potting mix, 1/8" mesh for seed starting). You can throw those bits back into your compost pile where they will continue to break down.

For **starting seeds** in flats or small containers, mix 1 part compost, 1 part perlite or sand, and 2 parts coir or peat moss. To balance pH, add 1/4 cup lime for every 4 gallons of mix. Some people prefer a sterile seed starting mix. This mix is not sterile, however it does introduce beneficial microbes.

For **transplants and houseplants:** After your seeds have germinated and grown a bit, they need to be transplanted into a larger pot. These small plants are hungry for nutrients - compost is perfect for them. Use 2 parts compost, 2 parts coir or peat moss, 1/2 part garden soil, and 1/2 part perlite. Add 1/4 cup of lime for every 4 gallons of mix to balance pH. The same mix is great for houseplants and other potted plants.