

Making Compost Tea



Compost tea is a living solution teeming with microorganisms that will help your plants thrive. These microorganisms, which occur naturally in healthy soil, provide protection against diseases, especially root diseases; improve soil structure by increasing aeration and water retention; and improve nutrient uptake.

The process of making compost tea greatly multiplies the number of microbes present and puts them in a soluble form for easy application. Using compost tea is an inexpensive way to quickly multiply microbes: one teaspoon of soil contains about a billion bacteria, but one teaspoon of compost tea contains about four billion!

You'll want to brew this tea out of direct sunlight, and ideally, in a location where the temperature is 65°F–75°F (but anywhere from 55°F–85°F is okay). Follow these steps:

1. Gather your equipment and supplies:

- 5-gallon bucket
- Porous fabric bag, such as a nylon stocking or vegetable bag (optional if you're making a small batch)
- Sprayer or plastic watering can
- Air pump (80–100 pounds per square inch) with tubing—these are commonly sold as fish-tank pumps
- Weight, such as a stone or sinker, to weigh down the end of the tubing
- Either 8 cups of compost or 4 cups of worm castings
- 2 TB of liquid fish emulsion or kelp/seaweed mix
- 1 TB unsulfured blackstrap molasses

2. Tie the weight(s) to the end of the tubing so it stays at the bottom of the bucket.

3. In the porous bag, which you'll place in the bucket, put in the ingredients:

- Compost or worm castings (the ratio is 2 cups of compost per gallon of water, or half that amount, 1 cup per gallon of water, if you're using worm castings)
- 2 TB of liquid fish emulsion or kelp/seaweed mix
- 1 TB unsulfured blackstrap molasses

Then put the bag in the bucket. Optionally, you can put the ingredients right in the bucket instead of the bag and pour through a filter later.

4. Add 4 gallons of chlorine-free water to the bucket.

(To release chlorine, you can let the water sit for 24 hours or bubble it with a pump for two hours.)

5. **Fire up the air pump and let the whole mix sit for 24 hours.** It shouldn't smell bad! By pumping air into the water, you're encouraging aerobic organisms (and not anerobic, which include some of the bacteria that are not good for us and that smell bad). Aerobic organisms are the most beneficial, as they promote the processes that break nutrients into the component parts needed for plants to grow without stress and promote greater resistance to disease.

6. **Remove the solids from the liquid.** Remove the bag of solids so you can pour off and use the liquid. (If you skipped using the bag, filter the mix if you'll be pouring it into a sprayer.) You can spread the solids around plants or put them in your compost pile.

7. **Use the compost tea within 24 hours.** Microorganisms will start to die off about 5 hours after shutting off the pump. You can pour the tea or spray it:

- As a soil drench: Dilute 1:3, tea to water, and apply to the soil around the base of your plants.
- As foliar feeding: Dilute 1:4, tea to water, and spray leaves' undersides for best uptake by the plant. (Leaves have stomata on their undersides, where they take in nutrients.) If a plant is diseased, use straight compost tea and foliar feed weekly until it recovers.

Apply at least every 3 weeks. Go ahead and keep using it throughout the growing season.

8. **Clean your bucket well** with baking soda, because it can accumulate a biofilm that can actually kill microorganisms.



Benefits of Compost Tea

Practices such as turning over the soil (thus exposing it to sunlight and oxygen) and using pesticides, herbicides, and insecticides kill microorganisms naturally occurring in the ground. By adding compost tea to the soil or directly to plants, we increase the number and diversity of beneficial microorganisms, which provide these benefits:

- Helps control plant diseases. Plants have openings called *stomata* on the undersides of their leaves that exchange O₂ and CO₂. These openings are vulnerable to bacterial and fungal infections. Spraying leaves' undersides with compost tea protects these vulnerable areas. Spraying the leaves also suppresses powdery mildew and gray mold.
- Improves a plant's uptake of nutrients. The microorganisms increase the time the stomata stay open while at the same time reducing evaporative loss from the leaf surface. Better absorption of nutrients means healthier plants!
- Reduces water loss and improves water retention of the soil, thereby reducing the amount of watering required.
- Gives seedlings a boost as they get established.
- Improves nutrient retention of the soil.