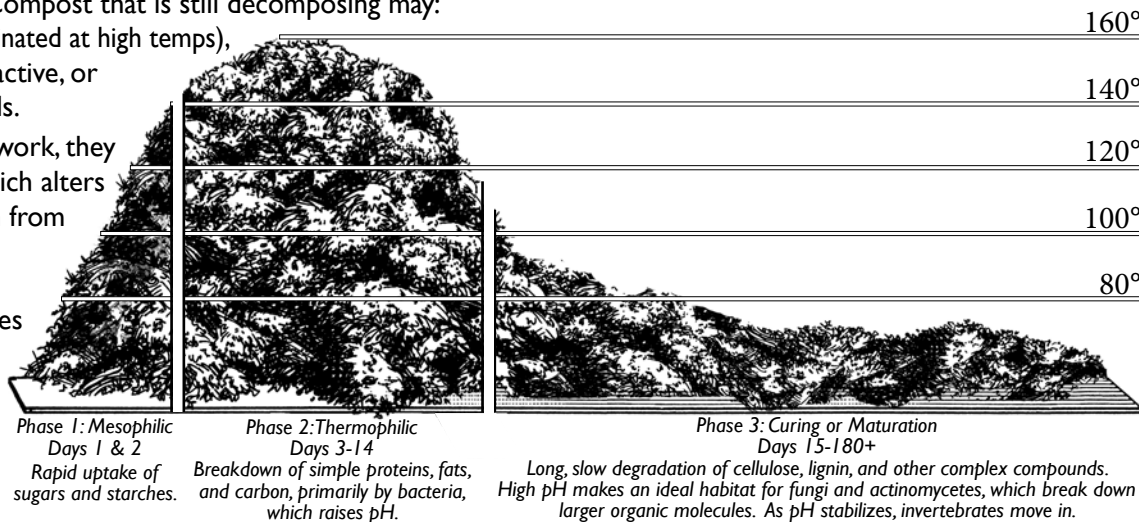


COMPOST Testing for Finished

After 6-12 months of composting, you might wonder if the material is ready to use. Compost that is still decomposing may:

1. harbor pathogens (eliminated at high temps),
2. still be too chemically active, or
3. have unsettled pH levels.

Why? As bacteria get to work, they produce organic acids, which alters pH. They also pull oxygen from the soil, which essentially suffocates plant roots. As carbon breaks down, it uses nitrogen. This leaves the soil temporarily nitrogen-poor. Understanding the stages of compost and doing the following tests can help you decide when your compost is ready.



Compost stages are indicated by the heat in your pile, which is directly related to the activity level of the many kinds of bacteria present. Different organisms that don't do well at high temperatures get to work as your pile cools. During the curing stage, you might see worms, millipedes, and sow bugs (roly poly bugs or pill bugs). At the end of this stage, the compost is ready.

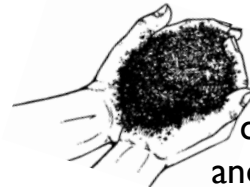
Quick Compost Check: Use Your Senses

This quick evaluation is fine if you're adding compost to soil as a top dressing away from sensitive living plant tissue, or if you are adding compost to the garden in late fall when plants are going dormant, allowing it to cure over the winter.

It should look uniformly dark with no recognizable food. (Though pits and eggshells may persist)



It should smell like rich soil, nothing more.



It should feel crumbly and moist, like a damp sponge.

Easy 1-Week Check: The Jar Test



If you want to use your compost in an area that you will plant soon, or know your compost will come into direct contact with roots, leaves, or seeds, take the extra time to make sure it's ready.

- ① Put a couple of inches of compost in a jar.
- ② Add enough water to make it soggy, and seal the jar tightly.
- ③ Leave it alone for one week.
- ④ Open the jar (carefully!) and immediately check for odor.

If it smells like nice wet earth, then the compost is done. If you notice bad odors, the materials in the compost were not sufficiently decomposed and anaerobic organisms have gone to work on the nutrients that remain. These anaerobes produce unpleasant odors as a by-product, so bad smells are the indicator.

Unleash Your Inner Scientist: The Germination Test

Starting seeds with up to 25% compost is an excellent idea! However, seeds are especially sensitive and may react badly to the compost that would work perfectly well for established plants. The following is a test to know for sure if your compost is ready for seed starting.

You'll need:

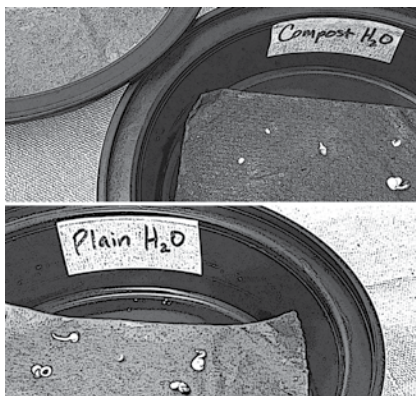
- | | | |
|-----------------|---------------------------------------|---|
| 10 seeds* | 3/4 cup water | 2 waterproof trays or shallow containers |
| 1/2 cup compost | Containers for mixing compost & water | 2 paper towels (ideally brown/unbleached) |



First, make a compost solution: Mix equal amounts of compost and water and let that sit for 5 minutes or so, stirring occasionally. Pour off the brownish liquid into another container. The remaining solids can be returned to your compost pile. You'll use the brownish liquid for the test.

*Many kinds of seeds will work, and testing the ones you will actually be planting would be a good strategy. For general testing, choose seeds with thin seed coats, which tends to correspond with their sensitivity. Radish and cress seeds are easy to obtain, quick to germinate, and are more likely to be sensitive to the chemicals for which you'll be testing. Tomato seeds are very resilient, so they are NOT particularly good as test seeds.

1. Label the containers or trays and set a folded paper towel on each.
2. Place 5 seeds on one half of each towel and fold the towel over the seeds.
3. Slowly water one set with your compost solution and one set with plain water, until the paper towels are fully wet. Save the excess compost liquid for watering later in the week.
4. Place a layer of light plastic over each tray, to hold in the moisture.
5. Keep the containers or trays in a warm spot for a few days until they start to sprout.
6. Keep moist as needed, using the appropriate liquid for each.



Check the seeds every couple of days for about a week. In general, if the water-treated seeds germinate better, then the compost has not aged enough.

More specifically, look for:

- differences in how long it takes for the radicle (the early root shoot) to emerge from the seeds
- differences, 3-4 days after the first seed has germinated, in the number of seeds in each set that have germinated
- differences in the length of the radicle 3-4 days after germination

Since you are only looking at a few seeds, small differences will not be significant. However if you see substantial delays, fewer seeds that germinate, or many shorter radicles in the compost-treated seeds, then it indicates that the compost is not yet ready to use for planting.

In this image, 4 seeds using plain H₂O have fully germinated, whereas only 1 compost-treated seed is at the same stage of germination. The compost in this experiment needs to mature longer before it can be used for seed starting.

It may be that the compost has too high a level of natural salts and it simply needs to sit and “cure” for longer, with exposure to the weather. If you are testing in the fall, you may wish to mix the compost into the soil and wait until spring to plant.