



# Community Composting Troubleshooting

Troubleshooting is an integral part to operating a community composting site. It doesn't mean you've done something wrong – it's an ongoing part of system management. While there are many tools that you can procure for your site, your most important tools for troubleshooting are your senses! What does the material look, feel and smell like? Trusting your senses comes with experience. As you're learning, be sure to reach out to experts who can help you! Build a network of other community, backyard, and master composters, extension workers, or other local knowledgeable individuals.

## 1. Use Your Eyes - Observation: What's your system doing? What does it look like?

- Are the tumblers, bins, piles, or windrows steaming?
- Are materials looking different than when they went in?
  - ✓ Is decomposition occurring? The volume of material should be noticeably reducing!
  - ✓ Is the pile uniformly composting? When you turn your composting material, are there pockets on less decomposed material, or overly wet or dry spots? If so, you may need to (1) better incorporate the material as you add it or (2) turn it more frequently.
  - ✓ Is it starting to look like soil? This is an indication that it might be getting ready to cure! Depending on your system, you may want to stop adding fresh material to let it finish.

## 2. Use Your Hands: How does your compost feel?

- Does the squeeze test indicate that there is an optimum amount of moisture in the material?
  - ✓ Does it feel like a damp sponge & stick together? Great job!
  - ✓ Is the material too wet, or slimy? Add some dry carbon material and mix the materials well.
  - ✓ Does it fall apart in your hand? Add some water and thoroughly mix the material.

| Squeeze Test Observation   | Implication  | Approximate Moisture % |
|--|--|------------------------|
| Water flows freely from your hand  | Too wet! Thoroughly integrate some dry carbon material and keep checking on your system.                                   | > 65%                  |
| A few drops of water show between your fingers.  | This is at the high side of the optimal range; keep an eye on it, especially if you add a large volume of wet food scraps. | 60-65%                 |
| Your fingers "glisten" a little bit with moisture or the compost stays in a ball shape after you squeeze it. | Great! This is right in the middle of the optimal moisture range!  | 50-60%                 |
| A ball forms when you squeeze the compost but it breaks apart easily.  | This is on the low end of the optimal range; keep an eye on it, & water your system if you're having dry weather.          | 40-50%                 |
| No ball forms when you squeeze the compost and a dry dust remains on your hand.                              | Too dry! Decomposition will be slow or stop all together if you don't add water, food scraps or other wet material.        | < 40%                  |

### 3. Use Your Nose: Smell is the best measure of properly aerated composting

- Unpleasant odor is indicative of anaerobic conditions! Look for wet spots, or do the squeeze test to check your moisture levels.
  - ✓ Turn you compost!
  - ✓ Add dry carbon if needed.
  - ✓ Be sure it is kept covered with wood chips, finished compost or soil.

### 4. Temperature monitoring

- Is the temperature rising appropriately for rapid composting?
  - ✓ You should be able to feel the heat (“too hot to comfortably touch”); if it’s cool enough outside you should see steam when you turn or dig into your system.
  - ✓ The volume should be noticeably decreasing.
  - ✓ There shouldn’t be much, if any unpleasant odors (you may get some odor when turning your system).

- If you’re using a compost thermometer:
  - ✓ Is the temperature rising to at least 90°F? Remember: the goal is around 120°F and 131°F or hotter is ideal for further reducing pathogens (PFRP) and ensuring weed seeds are killed.

### TYING IT ALL TOGETHER

RESOURCE 4-1

This graph illustrates how the science of composting and the management of a community compost site (see Chapter 4) fit together.

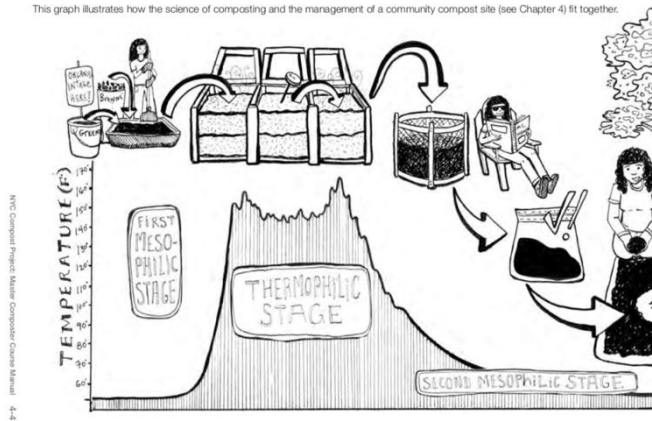


Photo credit: NYC Master Composter Manual, DSNY

**It’s a good idea to do a basic quality assurance test to be sure your compost is ready for use!**

### 1. The Smell (or “Ziplock”) Test

Place a handful of moist compost in a plastic bag, close and store in a dark place for three days. Smell immediately upon opening. If you smell an ammonia odor, the compost is not finished! Give it more time to cure before testing again. This is a good first step, but it’s also a subjective test, so train your nose and follow up with a bioassay test.

### 2. Bioassay: Grow something!

Use a relatively fast germinating seed, like tomato, pea, radish, or watercress. Fill a pot, an empty (paper) egg carton, or similar with some of your compost, plant the seeds, and water gently. Keep track of how many seeds you planted so you can compare the germination rate with the average germination rate for whatever you planted, (this should be printed on the seed packet or can be found online). If nothing grows, your compost is not providing a hospitable environment for plants. If you have a good growth rate, you likely have some mature, stable compost ready to use! To make this test more robust, test multiple samples of compost from the same batch under the same conditions (light, water, and seeds), or compare with a control, such as commercial germination soil mix.

## Tips for Vector Control:

- Remove all food sources (birdfeeders, trash cans) from the composting site
- Always cover food scraps with carbon (sawdust/shavings) or soil
  - Plan ahead so you always have an adequate amount on hand!
- Cover active compost with a light dusting of agricultural lime if you have issues with fruit flies or wildlife (rodents, bears)
- Line compost bins with wire mesh, such as ¼ inch hardware “cloth”
- Consider using repellents: noisemakers, owl decoys, ammonia or peppermint soaked rags or cotton balls.
- Enclose compost area if needed
- Stop incorporating food scraps in late spring, if necessary

## Keeping accurate management records can help save you headaches!

- ✓ Track feedstock sources & materials
- ✓ Track turning frequency, temperature & moisture
- ✓ Track odor and make note of any issues & what was done to rectify them
- ✓ Track compost phases (Active, Curing)
- ✓ Observe, monitor, sample, analyze, test
- ✓ Train your Compost Team!

*If you do need to reach out to experts for additional help – having accurate records to share will help them help you!*

Other Community Composting Tip Sheets to reference: [Process Management](#), [Recipe Development](#), [Systems & Operation](#).

Written with funding from a USDA Rural Utilities Solid Waste Management Grant. NERC is an equal opportunity employer and provider.