

Gibbs House: S.O.P. Composting

1—Purpose

Describes the general composting process: how to start a pile with organic waste, manage a pile, and harvest the final compost product. This SOP does not cover all the details about composting in the Aerated Static Pile or vermicomposting. More specifics for those piles will be covered in a separate SOP.

2—Scope

Applies to all WMU Office for Sustainability personnel including Land Stewards and volunteers.

3—Responsibility

The Land Stewards are responsible for following the SOPs to properly manage organic waste. The team is responsible for training others on proper technique, providing necessary resources and tools, and making sure the weights of the food waste are recorded and reported properly. The food scraps from the dining halls must be weighed, recorded, and reported properly to dining services and landscape services.

4—Materials

* Food scraps as the nitrogen (greens) source.
* Woodchips, paper products, leaves, straw, or other carbon (browns) source.
* A bin or area that the organic waste will sit during the composting process.
* A scale
* Wheel barrel
* Shovels
* 55-gallon bins from dining services or other containers of food scraps

5— Procedure for Weighing Food Scraps

1. About once a week, either landscape services or someone from our staff will pick up food waste from the dining centers participating in the composting program. This food waste should be brought to the Gibbs House. Sometimes food waste will be brought to us from other locations (for example, from the OfS, the INP, or community members may drop off waste), and this can be included in this process as well.
2. Get out the scale that is stored in the sink drawer of HH1. Set it on a sturdy surface such as wood or stone. Turn on the scale.
3. Lift the 55-gallon bins from dining services or other containers of food scraps onto the scale. If these containers are heavy, please have at 2 people lifting them onto the scale. Make sure no part of the container is touching the ground (sometimes the wheels of the 55-gallon bins touch the ground).
4. Record the weights in the notebook that is in the same drawer as scale. Currently, we are recording the weights in kilograms.
5. If the weight of the container is unknown, make sure to weigh the container once the food has been emptied. This can be subtracted from total weight, so you know the weight of just the food waste.
6. About once a month, record the weights from the notebook into the Excel document. Send the Excel document to the dining hall staff and landscape services staff that would like to report about the food waste that is being diverted.

**6— Procedure for Making a Composting Pile**

1. Mix together about an equal amount (by volume) of food scraps and carbon source. Usually, we use woodchips as our carbon source, but sometimes we use paper products, leaves, or straw as well.
2. Use a shovel or other tool to make sure they are mixed together well. You can use the shovel or other tool to chop up the food into smaller pieces as well. The better they are mixed and the more the food is chopped up, the quicker the pile will heat up and the faster the composting process will go. (Note: some of our composting bins are tumblers where you can turn the bin to mix together the food waste more easily. This means less pre-mixing is needed but can still be helpful).
3. Place this mixture of organic waste inside of a bin or in the area that the pile will sit during the composting process.
4. An extra ~3in layer of woodchips or straw may be needed on top of this pile especially if the pile is not in a contained bin. This is to prevent strong odor and pests.

**7— Tips for Upkeeping a Composting Pile**

* Check moisture level about once a week. It should be moist enough that if you were to take a handful of the partially broken-down compost and squeezed, about 2 drops of water would come out. If it’s too dry, you should add water. If it’s too wet, you can add some carbon source.
* Check temperatures about once a week. You want the pile to reach about 140°F (60°C) for fastest decomposition. You do not want the piles to get much warmer than 160°F (71°C), or it could kill the helpful microorganisms. Most of the time we struggle with getting hot enough temperatures, but if the piles do end up getting too hot, introducing oxygen by mixing can cool it down.
* Anything you chop up more should heat up faster, therefore breaking down faster.
* If it’s a tumbling bin, make sure to spin it at least once every other week. This will allow the organic waste to break down consistently.
* Covering a pie with a tarp can be helpful. This can help by both retaining moisture inside the pile during dry times and keeping out too much moisture during heavy rain and snow.
* The bigger the pile the faster the pile should heat up. Making the biggest piles that you can is usually the best practice. (This is called batch style composting).
* If the pile is decomposing too slowly, it could mean that there was too much carbon in the pile. You could try adding food waste if possible. You would need to make sure the food waste is properly mixed into the rest of the pile.
* If the pile is very stinky, it usually means that there was too much food waste. You usually want to mix in more of the carbon source.
* Oxygen is an important part of the composting process. The microorganisms in your compost pile need oxygen to live and thrive. This typically means you need to mix your pile once or twice throughout the composting process or introduce air in another way (like aerated static piles). This is especially important with very large piles.
* A well-made composting pile should be ready in 4-16 weeks depending on the size of the pile (the bigger your pile, the faster it will break down, in most cases), the season, and how hot you were able to get your pile. The end volume will be about ½ of the original size, and it will be dark and crumbly in texture.

**8— Curing and Harvesting Finished Compost**

1. Typically, large composting operations will have a curing stage for their pile of almost finished compost. This involves taking out the compost and placing it in a static pile (sometimes on top of a breathable cloth barrier and sometimes in a different container) for ~2 weeks covered by a tarp to maintain moisture. If there are large pieces of organic matter, this can be separated from the pile. Large pieces of organic matter also can tell you that your curing stage should last longer than 2 weeks. If you let the compost pile sit in the original pile for a long enough time, the curing step can be unnecessary.