



THE EARTH TUB™ FREQUENTLY ASKED QUESTIONS

What is the Earth Tub™? - The Earth Tub™ is a small scale, in-vessel composting system for recycling organic waste materials at the site where they are generated. Complete with a bio-filter for odor processing and control, this system provides a neighborhood friendly efficient composting technology. The Earth Tub™ has been developed specifically to meet the composting needs of universities/schools, restaurants/cafeterias, commercial food processors, hospitals, multi-unit residential dwellings, camps and other institutional organic waste generators.

What is unique about the Earth Tub™? - The Earth Tub offers the sophistication of large in-vessel composting systems to the small institutional generator at an affordable price.

What are the key features of the Earth Tub™?

- Modular and expandable design allows flexibility in application
- Bio-filter processes odors and accelerates the compost process
- High rate composting reduces volume and stabilizes material quickly
- Powered auger is thoroughly effective for mixing and shredding most foods
- Insulated design allows for operation under winter conditions
- Durable, heavy duty plastic construction (double walled rotomolded polyethylene)
- Finished potting soil mixes can be blended within the Earth Tub by adding peat moss etc to compost

How much organic waste must an institution generate to use the Earth Tub™? - For on-site composting, the Earth Tub™ is capable of processing as little as 40 lbs (20 kg) per day or as much as 500 lbs (250 kg) per day. The modular design of the system allows it to be adapted to a wide variety of applications and configurations.

How long will it take to fill the Earth Tub™? - Assuming a 5-6 day per week operation, it will take 13 weeks to fill an Earth Tub at 40 pounds per day, 5 weeks to fill at 50 pounds per day, and 3.5 weeks to fill at 150 pounds per day. Each unit has a total of 3200 lbs (1500 kg) biomass capacity when full. This data was collected at University of North Carolina, Charlotte installation.

What if your organic waste stream increases? - Expansion capability is one of the key features of the Earth Tub System™. By virtue of its modular design, the system is ideally suited to incremental capacity increases. This system is a perfect application for gradually introducing composting to the institutional organic waste generators.

What are acceptable Materials for Composting? - The system is designed to process Kitchen prep waste and plate scrapings. Green garden waste and manures will easily compost in the system. Meats, cheese, and other fatty foods should be kept below 10% of total waste input. Avoid adding large pieces of meat, fats or oils to the system.

How cold can it be and still maintain compost temperatures in the Earth Tub? - The Earth Tub has been installed in some very cold locations. It may need supplemental heat if the temperature remains below 10F for more than 7 days. The aeration system should be shut down during cold weather.

Do I need two Earth Tubs to compost? - If you are composting less than 50 pounds of food per day, a single Earth Tub will provide continuous composting by adding food on one side and removing compost from the opposite side when the unit is full.

EARTH TUB™ DESCRIPTION OF OPERATIONS

Below is a summary of the 4 basic steps to the Operation of the Earth Tub.

1. An organic “recipe” (i.e., a mixture of food waste and wood chips) is loaded into the Earth Tub™ through the loading hatch in the lid.
2. The operator turns on the internal auger mixer, which thoroughly mixes and shreds the material as the operator rotates the lid.
3. Once the active composting cycle is complete (approximately 3-4 weeks), the auger discharges the compost through a side door of the vessel. In order to remove all the compost, shoveling will be required.
4. This compost can be used directly as mulch or can be cured (stand in a pile) for 30 days before being used as a soil amendment. Screening will make the finished product even finer!

1. Food Scrap Loading - The first step is to make sure that the kitchen waste is collected for composting with as little contamination from plastics, etc. as possible. Hard foods such as pineapples, stale loaves of bread, etc., should be chopped up prior to disposing in the Earth Tub™. Because food scraps are wet, a dry bulking agent such as wood shavings must be added to create a balanced compost recipe.

2. Mixing and Shredding

Once the new material has been added, you are ready to begin mixing. The powered auger system has been designed to take the work out of turning over your compost pile. The mixing process is accomplished by slowly turning the powered auger/lid assembly in a counter-clockwise direction for one complete rotation, then moving the auger to the center and rotating clockwise. A complete mix should take approximately 10 minutes, and should be performed at least two times per week.

3. The Active Composting “Baking” Phase

Thermophilic composting at temperatures above 115 F occurs rapidly in the insulated Tub. The food waste becomes soft or “baked” at this temperature and is easily shredded by the notched auger. Continue adding material until the tub is full to the top of the auger screw. When the Earth Tub™ has been loaded to its capacity, no additional food waste should be added for approximately 14 days. During this time, the operator should mix the material at least once per week.

4. Unloading and Curing the Compost

Once the compost has finished active composting, it is ready to be unloaded. The Earth Tub™ should not be completely emptied, a small amount of compost remains and serves as a bulking agent and microbial starter for the next cycle. Here is a list of the steps for unloading the Earth Tub.

- Place a tarp or low wheelbarrow on the ground below the outside of the two discharge doors.
- Turn on the auger and push the compost out of the side doors. This will remove about ½ of the compost. Shoveling will be required to completely empty the Earth Tub.
- The compost could be used directly as thin mulch on the surface of the soil.
- To cure the compost, it should be placed outside in a pile for approximately 30 days.
- The compost can be screened to produce a finer compost product and remove any coarse-bulking agent.