



Compost Tumbler Systems

Tumblers can be single or “dual” (double) chamber, made from rigid plastic or metal. The most effective tumblers for colder climates are insulated; and tumblers that have tension latches or can be locked are best for deterring wildlife.

These factors, along with the size of the tumbler (volume), how high it sits off the ground, and how well it’s engineered (for easy turning, durability over time, and rapid composting), should be considered when purchasing or making a do-it-yourself tumbler.

Well-constructed, double chamber tumblers are very effective for rapid composting of food scraps, with little odor (when managed correctly), and are well-suited for sites concerned about rodent or wildlife intrusion. While typically more expensive than other systems, tumblers are durable and the benefits provided make the added expense worth considering.

Choosing the best system, or combination of systems, will be guided by your community’s composting goals, resources, needs and constraints, including:

- ✓ Size of the site
- ✓ Human capacity — # of people involved & amount of time they can devote to composting
- ✓ Resources & budget

Using the Compost Tumbler System

- Add food scraps, cover lightly with wood shavings or animal bedding (e.g., chicken, horse, hamster – with or without manure) & a little soil.
- Continue to add feedstocks to the chamber, until completely full. As the material decomposes it will reduce in volume. The chamber can be “topped off” a few times before locking it down.
- ✓ If using a dual-chamber tumbler, start using the second chamber. Knowing when to switch chambers takes a little practice and depends somewhat on the volume of material managed in the tumbler.



Food scraps and wood shavings in a Hot Frog compost

Carbon Sources for Tumblers

While any carbon (“brown”) material can be used in tumblers, most users have the best success when using wood shavings or animal bedding.

The high C:N of wood shavings, as well as the high surface area, means that less is needed – about a 1:1 ratio (with food scraps) seems to work just fine.

Once the Compost Team has more experience using compost tumblers and achieving consistently hot temperatures, experimenting with other sources of carbon can be done.

- Monitor the “active” chamber (the one in which fresh materials are being added) & ensure decomposition is happening:
 - ✓ Check temperatures at least weekly.
 - ✓ Check moisture levels after adding food scraps and turning the tumbler. Add additional wood shavings if materials are too wet; add water or more food scraps if too dry. The material should be uniformly moist, like a damp sponge.

- When checking on the locked down chamber: If the food scraps are no longer recognizable and temperatures have risen to at least 90°F (131°F preferred), there are two options:

1. If space is needed in the tumbler for fresh scraps, empty contents into a wheelbarrow or bucket (or onto a tarp) and move the materials into a bin, pile, or windrow.

If you have manure or other (non-food scrap) feedstocks, you can mix them in at this point.

The material is still actively composting and there will be another thermophilic (hot) stage. Continue to monitor temperature and moisture in the new system. Keep the material covered with a lid, tarp, or soil.

2. If the chamber doesn't need to be emptied, do not add any more food scraps. Continue to monitor temperature and moisture.

When materials look like compost and temperatures have risen to at least 90°F (131°F preferred), but have been consistently lower over the last several weeks, then compost is ready to cure.

This can be done in the tumbler chamber, or move materials to a bin, pile, or windrow. Cover with a lid, tarp or soil and let sit for at least one month before use.

- Once the chamber is emptied, the process can be started again.

Pro Tip: Combining tumblers with bins or piles can be an effective way of maximizing the volume of material that can be processed on a small footprint.



Examples of compost tumblers. Top: 2-chamber Hot Frog; middle: insulated 2-chamber Jora; Bottom: DIY tumbler.



Photo Cr.: NERC; Tivoli, NY Community Compost Team

Other Community Composting Tip Sheets to consult: [Compost Systems & Operation](#); [Feedstocks & Overview of Compost Recipe Development](#); and [Record Keeping Essentials](#).

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