13 Ways to Compost

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With insightful contributions from Donna Balzer, <u>Blogs & Blooms</u>, author of No Guff Vegetable Gardening (No Nonsense Vegetable Gardening in the USA)

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I often get asked about various ways of composting household waste. The following is my take on some of the methods, in order of preference. Some systems are for kitchen scraps only, some for yard waste and some for both. A few don't actually produce compost. The message is that there are many ways of composting, and any system is better than letting this useful resource end up in a landfill.

(Disclosure: the author has been an enthusiastic composter for decades and in 2012 founded Fresh Earth Products, which produces the Speedibin.)

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1 Bury it

Against my accountant's advice, this is actually my favourite way to compost. It gets organic material directly into the soil and is free. Use the "chop and drop" method for yard waste, imitating the forest floor.

How it works

Dig a hole in your garden, toss in the organic material, cover over with soil. Mark the spot with



a stake and rotate around the garden. Over time, the soil will be become surprisingly rich.

For yard waste, I like the "chop and drop" method. Chop up the garden waste in place and leave as mulch. If the garden waste is still green, you can tuck it under a layer of straw to retain more of the nitrogen in the soil. Your soil will build vibrant health so that eventually even broccoli stumps will almost melt into the earth.

You can start new gardens this way by putting down a layer of cardboard or six layers of newspaper right on your lawn or yard, add as much yard waste as you can gather and as much manure as you can scrounge, top with old compost and soil and you've just started a bed, or <u>lasagne garden</u> as the trendy gardeners call it.

Use the same "chop and drop" principle for grass clippings: rather than bag and compost them, leave them in place as lawn feed. Cut the grass at least three inches so as not to damage the growing meristem. The clippings are the ideal lawn fertilizer.

Materials composted

All kitchen scraps. All yard waste. In fact pretty much anything that was once living can be composted this way, even shredded cardboard and paper once a tree.

Vermin resistance

If you are adding meat or other smelly attractants, bury at least 20 cm (eight inches) deep in soil with no drippings around. If properly buried, pests won't smell it.

Cost

Free. Maybe buy a shovel. Maybe buy a machete to chop thick stalks in the garden.

Pros and cons

Pros: Free, zero carbon footprint, worms and soil microbes thrive. Burying can kill weed seeds if buried at least 20 cm (8 inches) deep.



Cons: Some labour in digging holes. Chop and drop may be a bit disorderly for showpiece gardens. And Donna points out, "No finished compost that can be used separately for seedlings. As in all composters, weed seeds are not killed."

An example

My cousin's grandmother buried her kitchen scraps in her garden for 60 years, and had a spectacular garden that fed the family.

2 Speedibin metal composter

Our favourite composter! The all metal <u>Speedibin</u> composter is designed to be an easy-to-use backyard compost bin that keeps pests out. The 405 litre volume holds all the organic waste of a typical household. It makes excellent compost with little effort and keeps the garden tidy. It takes all kinds of kitchen and yard waste, including meat if done properly.



How it works

Add materials with a mix of nitrogen-rich greens

like kitchen scraps and grass clippings, and carbon-rich browns like leaves and shredded paper. Keep it damp. Composting microbes and worms find their way in through the wire screen on the bottom. The more finely the material is chopped, the faster it will compost. Although based on the classic <u>Indore</u> passive composting method, it also works well for hot composting.

Materials composted

Kitchen scraps, yard waste, grass clippings, shredded paper, pretty much any organic material. You can even compost materials usually excluded from home compost bins such as dairy, bread, leftovers and even meat and fish. Meat needs to be dug at least 20 cm (eight inches) deep into the compost and covered over so as not to smell, then left to decompose for several months.

Vermin resistance

All metal so animals can't chew through. Latching handle impedes raccoons and dogs.

Cost

\$359 to 399 free shipping

Pros and cons

Pros: Composts all materials – kitchen scraps including meat, yard waste, etc. Large



volume, animal resistant, and makes excellent compost. Easily accessible lid and front door for filling and removing finished compost. It looks tidy in the garden. Lasts about 25 years and then can be recycled with metals.

Cons: Some labour in shoveling out compost and if you aerate it.

An example

I have used Speedibins for over 25 years now. Invariably, the decomposing material in the active bin becomes almost pink with worms. We have done hot composting in three weeks but usually make passive compost in several months. I have composted turkey carcasses in a few months and all that remains are some brown bones. I think Speedibins are awesome, which is why we founded the company!

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3 Three bin compost system

The three bin compost system is a brilliant, do-ityourself method for making compost, taking advantage of the stages of decomposition.

How it works

Add fresh material to the first compartment with a good mix of nitrogen and carbon-rich material, the second compartment is full and decomposing and



the third compartment has finished the active stage and is being used in the garden. Rotate when the last compartment has been mostly emptied and the first compartment is full.

Materials composted

Yard waste chopped up, manure, grass clippings, shredded paper. Limited non-smelly kitchen waste, unless vermin don't scare you.

Vermin resistance

The structure can be made vermin resistant by wrapping it in ¼ inch hardware cloth and having a well-fitted lid. Mice can't get through a ¼ inch hole. Some people build them on concrete bases to allow loaders to scoop the finished product.

Cost

Free to over \$1,000 depending on how elaborate a structure you want to build. Some creative people make them by upcycling old free pallets.

Pros and cons

Pros: Keeps the compost organized. Holds a lot of material. You can make hot



compost with the right mix. Straight-forward to manage, especially for organizations.

Cons: Not suitable for smelly kitchen scraps unless buried deep into a full pile. You may need to find a carpenter to build a structure to your liking. Takes some space. Donna points out, "Handling all the material can be a workout. For large systems, you may need a tractor to remove the finished compost."

An example

Community gardens and forward-thinking condominium associations love the three bin compost system as they hold a lot of material and take little training.

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4 Bear proof composters

If your precious compost is threatened by bears, there are two bear-proof composters that I am aware of. One is the Critter-Proof Composter. It is made of rock and concrete, probably bomb-proof and will outlast your great-grandchildren. The other is a converted chest freezer which uses plumbing to incorporate aeration.



How it works

Both the concrete and freezer systems use the proven composting method whereby nitrogen-rich and carbon-rich

materials are mixed in the chamber, kept moist and aerated to let the microbes do their magic.

Materials composted

Virtually anything organic can be composted in these structures, limited only by volume. The converted freezer tends to get surprisingly hot so would be suitable for destroying many weed seeds.

Vermin resistance

Both systems are pretty invincible. The freezer may need a lock if you have clever bears.

Cost

The Critter-Proof Composting system is \$39 for the instruction manual and anywhere from \$300 to \$1500 to build. The converted freezer could be free if you are good at scrounging an old freezer and some plumbing parts.

Pros and cons

Pros: The Critter-Proof Composter is virtually outdoor art. Both should keep out any



pests, small and huge. The converted freezer can essentially toast weed seeds.

Cons: The Critter-Proof Composter is a one location investment. The converted freezer will need managing as it is enclosed and can get over 77 C (170 F), which unfortunately also kills the good bacteria.

An example

A YMCA camp in New Jersey built the Critter-Proof Composter. It dissuaded bears from frequenting the camp while establishing a composting program to reduce waste.

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5 Plastic composters: Earth Machine [™], Soil Saver [™], Garden Gourmet [™], Earthmaker [™], etc.

These are all good composters that will accept most of a household's kitchen scraps and often the yard waste.

How it works

As with a Speedibin, add materials in a good balance of carbon and nitrogen. Keep it damp.

Materials composted

Kitchen scraps and yard waste. Do not add animal attractants like meat, fish, bread or dairy as an eager rat can chew through plastic.

Vermin resistance

If no smelly attractants are added, animals shouldn't chew through. It can be wrapped in ¼ inch metal hardware cloth, including underneath, if rodents are a problem.

Cost

Roughly \$100. Often municipalities will subsidize the purchase to encourage backyard composting and consequently have less organics taken to the landfill.

Pros and cons

Pros: Easy to set up and light to carry. Tidy in the garden. Various sizes are available.

Cons: Animals will chew through if smelly food is added. Difficult to shovel the compost out from the bottom trap door. The plastic cannot usually be further recycled so itself becomes garbage. Usually too small for hot composting.

An example

Plastic compost bins are the most common backyard composter. Most compost





6 Worm composting (vermi-culture)

A worm bin is an easy and fun way to use veggie scraps in the house and produce precious worm castings. After the tote is set up, just add scraps and bedding (typically shredded paper) as needed. In several weeks the worms will have built up rich fine black compost for harvest.



How it works

In a tote with air holes, add bedding for the worms, a handful of sand for digestive grit and red wiggler worms. Put in kitchen scraps. Maybe give them a handful of cornmeal to get them rocking. Keep it damp and room temperature.

Materials composted

Vegetable and fruit scraps but not meat, citrus, onions, garlic, salty food or dairy. No yard waste.

Vermin resistance

Used indoors so hopefully no vermin!

Cost

Free to \$369 depending whether you drill holes in a tote or buy a deluxe worm condo.

Pros and cons

Pros: Can use inside, no smell, makes rich fine compost suitable for starting seedlings. Works all winter. Donna adds, "Screened compost will be free of E. coli. Worm castings have the highest nitrogen content of all compost so use with caution. I use at 10% with soil."

Cons: Requires regular attention. Not all scraps are suitable. No yard waste. Donna says, "This compost is not weed free. Tomatoes and squash will thrive. Fruit flies can become a problem over time unless scraps are frozen first or beneficial insects added. Burying fresh scraps into the bedding may help."

An example

A fun way to use scraps for apartment dwellers and classrooms. Donna advises, "Layered or flow-through systems, such as the Worm Factory, are easier to manage and require less worm wrangling."

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7 Open piles

In a pile or <u>windrow</u>, simply add layers of yard scraps, grass clippings, wood chips and other organic material. Keep it damp. It composts faster if aerated and pieces are small.

How it works

Add a good balance of carbon-rich and nitrogen-rich organic waste. Do not make piles much higher than one meter (about 4 feet) as the weight may squish the needed air pockets out of the center. Or poke a perforated pipe through the pile to incorporate air. When the pile is about one meter high and two meters across (about 3 by 6 feet), it's best to



start a second pile and let the first pile decompose. It would make a luscious spot to start a garden.

Materials composted

Yard waste, grass clippings, manure, leaves. You can add kitchen scraps if they are buried deep (8" or more) into the pile so as not to attract pests.

Vermin resistance

Piles or windrows are not vermin resistant so do not add smelly attractants like meat, dairy bread, etc., unless they are buried deep or you don't mind vermin.

Cost

Free unless you build a structure around it.

Pros and cons

Pros: low maintenance. Usually you just heap on more material. It can be an excellent start for a future raised bed. It can produce hot compost if the pile is large enough.

Cons: can't add smelly kitchen scraps without pests, unless scraps are buried deep. Requires equipment to aerate or turn. Not so attractive for a small yard unless you create some clever landscaping around it.

An example

<u>Hugelkultur</u> is a variation of windrow composting whereby old logs and branches are piled up and covered with yard waste, manure, grass clippings, whatever is available. It is topped with soil or compost and then planted. It's a smart start for fruit trees or bushes because they can feed off the old logs as they break down over the decades.

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8 Wire mesh enclosures

Typically intended for yard waste like leaves, a wire mesh enclosure will hold a lot of organic debris. Add a variety of material in layers such as manure, shredded paper and cardboard, grass clippings, soil, seaweed, and even not-too-smelly kitchen scraps like coffee grounds buried in the centre. You will have rich compost after a summer or a year. It will probably need watering.



How it works

Ubiquitous micro-organisms and bugs will decompose the organic material. The edges will probably dry out and require watering for proper composting. Even if you only add leaves, the ensuing leaf mould will be lovely mulch for your garden.

Materials composted

Yard waste, manure, grass clippings, shredded paper waste, limited non-smelly kitchen waste.

Vermin resistance

Not usually vermin resistant. To make it vermin resistant, you would need to build it out of ¼ inch wire mesh, have a mesh floor, build structure for the sides and have a lid.

Cost

About \$20 of mesh unless you get ambitious and build a vermin resistant bastion.

Pros and cons

Pros: Cheap and simple to set up.

Cons: Not suitable for smelly kitchen scraps. Donna adds, "Or any long term sustainability as wind and birds add seeds. Mine was filled with weeds in two years."

An example

People with large properties have set up several wire mesh enclosures to manage garden waste and simultaneously produce next year's compost. If you set it up on a future garden, the soil beneath will become rich and the grass smothered.

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9 Tumblers

The compost materials are added to a drum that can be rotated to facilitate aeration and mixing. The theory is good. In practice, they are often quite heavy to turn, worms and/or activators may need to be added regularly, and the compost produced is often clumpy. If possible, get one with a gear mechanism for turning and an easy way to remove finished compost.



How it works

As with other composters, add the right mix of carbon and nitrogen materials. Add activator and worms at least initially and maybe regularly. The activator may be supplied with the unit; otherwise manure or old compost can be added. Keep it damp. Turn the handle to mix and aerate every few days. Some tumblers are spherical and designed to sit on the ground and be rolled.

Materials composted

Same as other plastic composters – kitchen scraps and yard waste. Meat and other smelly food are not suitable as they will not stay buried in the mix.

Vermin resistance

As a rule, animals can't access the bin off the ground.

Cost

Ranges from \$98 to over \$500. Tumblers can be homemade and usually feature an old plastic barrel.

Pros and cons

Pros: Animals can't access it. Looks tidy in the garden. Some limited compost may be ready after a month.

Cons: Heavy to rotate when full. Need to add worms and activator initially and maybe regularly. They can be awkward to remove finished compost. Less forgiving in moisture content as there is no ground underneath to absorb excess water. Compost is often clumpy. Mix ratios are more important: if too many greens are added, the results can be slimy and risk going anaerobic. Usually too small for making hot compost.

An example

The <u>Jora</u> is a well-made tumbler, and is insulated. Donna adds her <u>Bokashi</u> precompost mixture into their <u>Sun Mar</u> tumbler but needed to add worms. She found its two chamber system helpful.

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10 Green Cone

Built as a digester for kitchen organics, rather than a composter, the 200 litre plastic <u>Green Cone</u> is partially dug into the ground and will dispose of all kitchen organics including meat, dairy, bread, and even pet waste, but not yard waste.

How it works

Dig a hole in the ground 18 to 24 inches deep depending on the drainage and 32 inches wide and bury the basket. Microbes and worms digest all the scraps so that you can continually add material. When it eventually fills, you will need another one. But you do not make compost.



Materials composted

All kitchen scraps, including meat, fish, dairy, bread and other materials not usually put in a plastic composter. Do not add carbon-rich sources like yard scraps, straw or paper. Since you will not be using the resulting material, this is a good place for pet poop.

Vermin resistance

Enthusiastic rodents can chew through. Surround the bottom half with hardware cloth if vermin are a problem.

Cost

\$130 to \$179. Often subsidized by the municipality.

Pros and cons

Pros: can add meat and fish. Tidy in the garden. Can use for pet waste. No labour past digging a hole and maybe surrounding with hardware cloth.

Cons: can't add yard scraps or carbon-rich waste. Doesn't make compost.

An example

Useful for backyards where you don't want to make compost. Honestly, I can't think of a reason why you wouldn't want compost, but apparently some people can. Back to top

11 Bokashi

Using anaerobic bacteria, kitchen scraps are fermented. This juice and remaining solids are then added to the compost or soil. This is a precomposter, and doesn't make finished compost.





How it works

Add kitchen scraps to a brew. Every few days draw off the rich <u>leachate</u> and use on your garden, compost or in compost tea for plants. After about two weeks, use the resulting rich mash on your garden or outdoor compost.

Materials composted

All kitchen scraps including meat. No yard scraps.

Vermin resistance

Done indoors, so presumably no vermin issues. Donna warns, "Be careful when adding Bokashi to compost as dogs are very attracted to the scent!"

Cost

Free to \$200 depending whether you use an old bucket or an attractive container. Recurring cost of Bokashi wheat bran and effective micro-organisms (EM) is very roughly \$10 per month.

Pros and cons

Pros: use indoors; takes meat and dairy; no smell except a little sour whiff when opened; little labour to set up and use. Donna notes, "Bokashi is very rich in nitrogen."

Cons: no compost produced other than the leachate and mash. Some recurring costs. Needs some regular attention. The resulting mix is quite acidic and should not be added directly to plants.

An example

Some school classrooms enjoy setting up a Bokashi system. Kids can ferment their lunch scraps.

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12 Nature Mill

A kitchen appliance, the Nature Mill digests some kitchen scraps.

How it works

Add kitchen scraps with sawdust pellets and effective microorganisms (supplied) and the electric motor adds heat, mixing and air.

Materials composted

All kitchen scraps including dairy, meat and fish. No yard waste.





Vermin resistance

Used in the kitchen.

Cost

\$249 to \$399 plus activator and chips regularly

Pros and cons

Pros: Tidy in the kitchen. Can make quality compost without getting your hands dirty.

Cons: Recurring costs, doesn't accept yard waste, lots of moving parts. Donna adds, "The material can clump up. The machine needs regular maintenance."

An example

Typically used by apartment dwellers.

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13 Municipal composting

Trucks haul away compostable material from residential curbsides to a central yard for processing.

How it works

The homeowner gathers organic material into an assigned green bin. On a specified day, leave the bin at the curbside for a truck to pick up. The material is taken to a central facility where it is composted, typically using an actively aerated



<u>windrow</u> process. Finished compost is sold back to resellers, landscapers or gardeners or just given to farmers. Tipping fees may cover expenses.

Materials composted

All kitchen and yard wastes. No pet waste or large branches.

Vermin resistance

Put your organics out just before the truck is scheduled to arrive to reduce vermin. Some green bins are not vermin resistant. Rinse the bin after use to remove fly attractants. Vermin can be a problem at the composting facility.

Cost

Adds roughly \$200 a year to taxes.



Pros and cons

Pros: Rescues organics from becoming landfill.

Cons: The most expensive option; the largest carbon foot-print; homeowners don't get the benefit of feeding their own soil with compost; increases traffic in neighbourhoods; public education and enforcement needed; groundwater contamination concerns; many machines and contractors to maintain. At the composting facility, smell, dust, <u>leachate</u>, litter, noise, birds and vermin can be a problem necessitating difficult location decisions.

An example

My Mum in Victoria, Canada, has a 120 litre green bin that accepts all kitchen and garden waste. Every two weeks, a big diesel truck picks it up, hauls the material to another town where big diesel machines move it around and then another big diesel truck brings it back for distribution. For an extra charge, they will drop off a 15 kg bag of woody compost. Clearly, I'm not a fan and prefer backyard composting. I suppose it is better than hauling the material to a landfill. But apparently in some towns that is where municipal compost ends up anyway when composting facilities fail. In the long run, this is the opposite of sustainable.

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Conclusion

So many ways to compost household organics! And we haven't even discussed anaerobic digestion, black soldier fly, biodynamic composting or community composting. I use a combination of methods: Speedibins for kitchen and some garden debris; chop and drop in the veggie garden; deep burial of scary things from the freezer; and hugelkultur windrows for windfalls and clippings from enthusiastic pruning days. No organics leave the property.

My hope is that every person who eats will also figure out the best way to put their scraps back into the soil where they belong. Whichever method works for you, the worms and I wish you success in your composting adventures!

