





Composting

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Whether you live in an apartment building or on a 5 ha lot, you can benefit from composting. Composting is a way to recycle house and garden vegetable waste into a useful additive that will improve the texture and fertility of almost any soil. It is simple, the labor is minimal, and, providing you follow certain guidelines, there is no smell.

During composting, microorganisms in the soil break down vegetable matter into a form where the nutrients contained are made available again. For instance, in a deciduous wood successive layers of fallen leaves decompose and feed the growing trees. In theory, you could simply spread kitchen waste on the garden. This, of course, is both unsightly and impractical.

Composting can be done in a heap, a home-made box or a commercial composter. A heap is probably the least satisfactory (Figure 1). It is difficult to construct neatly, is slow to break down, and needs to be turned at least once to ensure that the outside decomposes. If properly made, home-made containers are cheap, durable and do a good job (Figure 2). Commercial composters (Figure 3), while expensive initially, are efficient, long lasting and very suited to apartment balconies where space may be limited.

Location

Ideally, a compost pile should be in semishade and protected from the coldest winds. Most important, it must be easily accessible. Not much household waste is going to be composted if you have to walk through wet grass or climb a snowbank.

Be sure the location is well drained. On a waterlogged site a different type of decomposition can take place that causes foul-smelling gases. Dig the area over well or pave it with patio slabs spaced to leave drainage channels. (Figure 2).

Building a container

A container of about 1 m³ will be large enough to hold the compostable waste from an average-sized city family. In rural areas, or if you have a large vegetable garden, increase the size somewhat. You can make the container in many forms and of almost any material that will withstand the weight of the compost. Use whatever is readily available at reasonable

cost. If you can get straight logs from a bush lot, you can notch these and build the sides log-cabin style. You may also use 5 x 15 cm lumber, 1 cm exterior-grade plywood, or a strong construction sheeting; make sure your choice is treated with a wood preservative.

If a solid material is used, drill holes to allow circulation of air. Holes about 3 cm in diameter and spaced 15-20 cm apart should be sufficient. Cracks between logs or rough boards will normally admit enough air.

Plywood panels can be held together with hooks and eyes bent round each corner (Figure 4a), while boards can be screwed to corner posts which project on one side, allowing the height to be increased in layers (Figure 4b). Alternatively, angle irons can be driven into the ground at each corner and the sides or boards fitted inside these (Figure 4c). Where possible, make the front in sections that you can add as the depth of the contents increases.

Yet another form of construction is to make a frame of lumber covered with heavy-duty wire netting (Figure 5). The disadvantage is that the outside of the heap dries out and does not decompose. If you line it with heavy-duty polyethylene sheeting (such as peat moss bags) you will overcome this problem.

While a single box is normally sufficient, a double container will let you use each side in turn (Figure 6). This allows you to leave the material for longer periods, ensuring a greater breakdown.

These are just a few examples of ways in which a container can be built. Use whatever is easily obtainable, and with a little ingenuity you will doubtless come up with a design suitable to you.

Materials to compost

Virtually any vegetable material can be added to the compost, although diseased plants and weeds in seed are best disposed of in the garbage.

Most kitchen wastes are easy to compost – cabbage leaves, potato peelings, tea bags, eggshells, etc. – but don't add meat and dairy products, as they will attract vermin. You can also put in hair, vacuum cleaner contents, pet litter and floor sweepings. From the garden, add grass clippings (except for two mowings after using a weed killer), weeds, flower heads and general garden refuse.

More difficult, in that they take longer to decompose, are clippings with woody stems, cabbage stems, wood shavings, etc. It may be necessary to put these back into a heap for a second season to complete the breakdown.

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Figure 1 A well-made compost pile

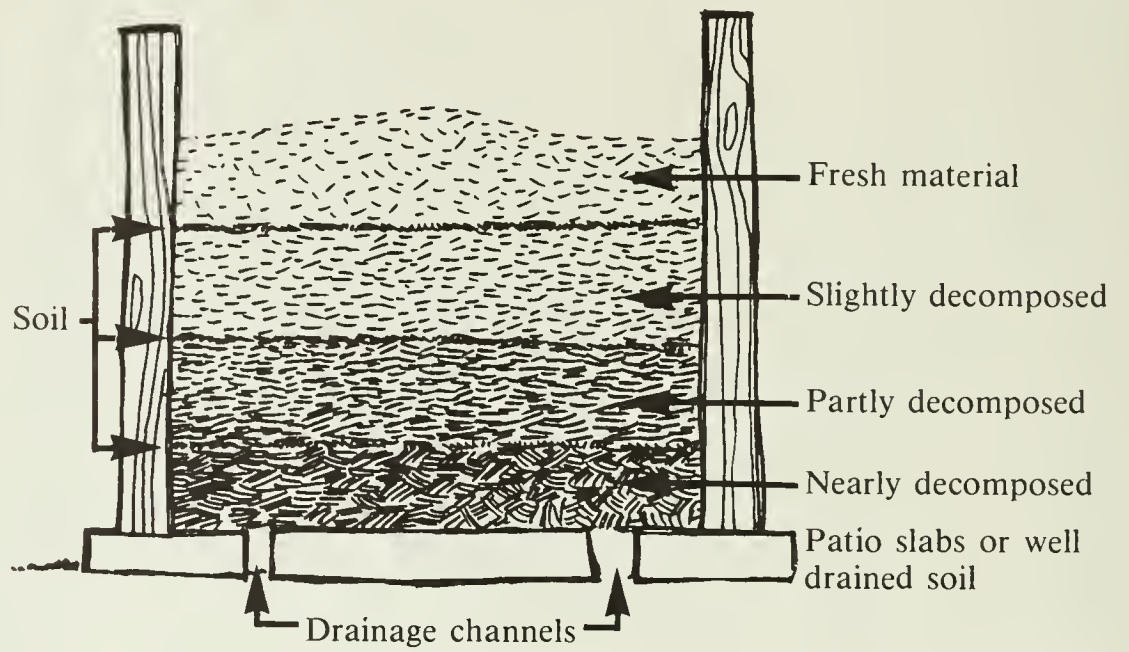


Figure 2 Cross section of a container

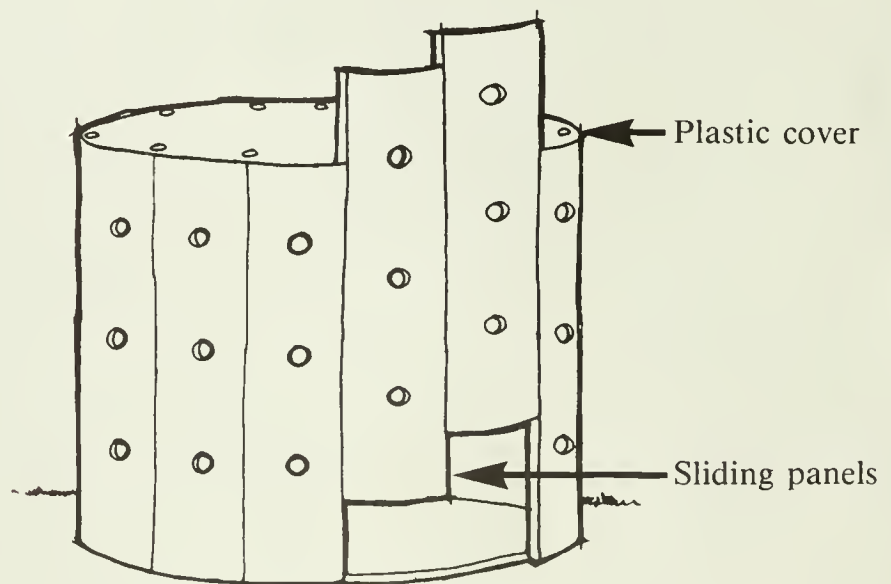


Figure 3 A commercial composter

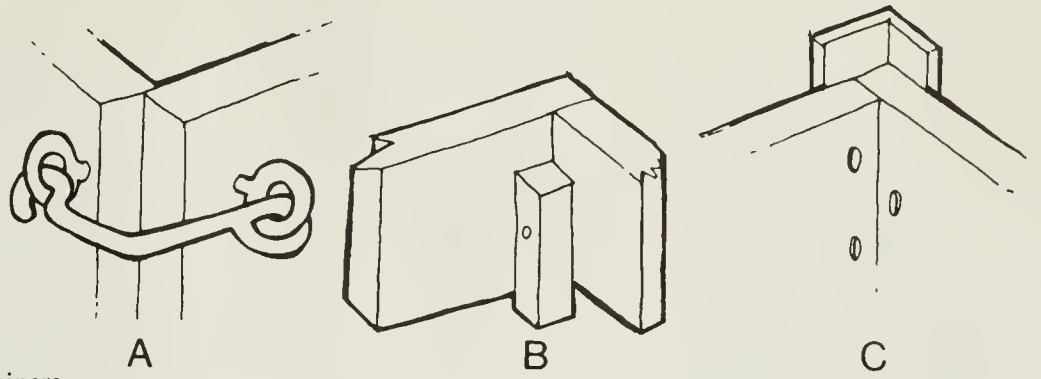


Figure 4 Three ways to join the corners of home-made containers

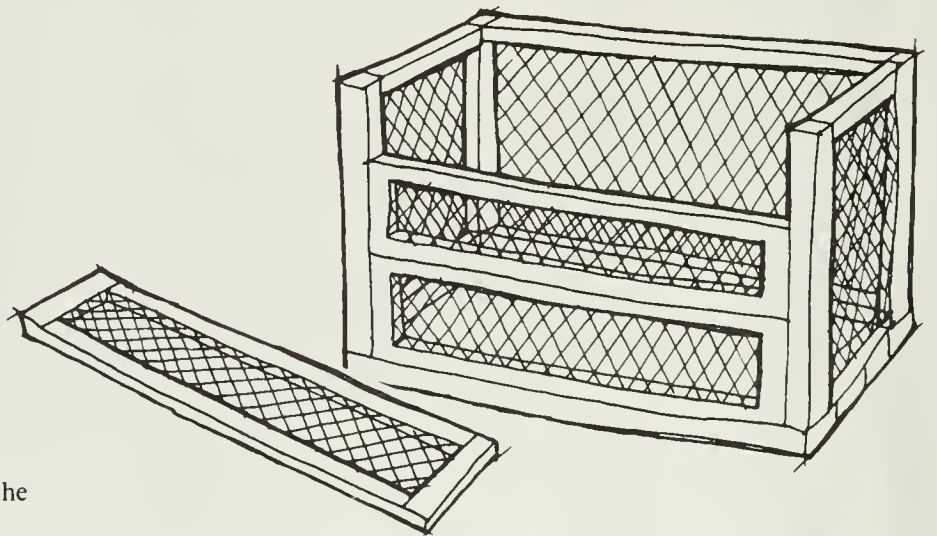


Figure 5 A container made of wood framing covered with wire mesh. The front is in sections, which can be added as the contents increase.

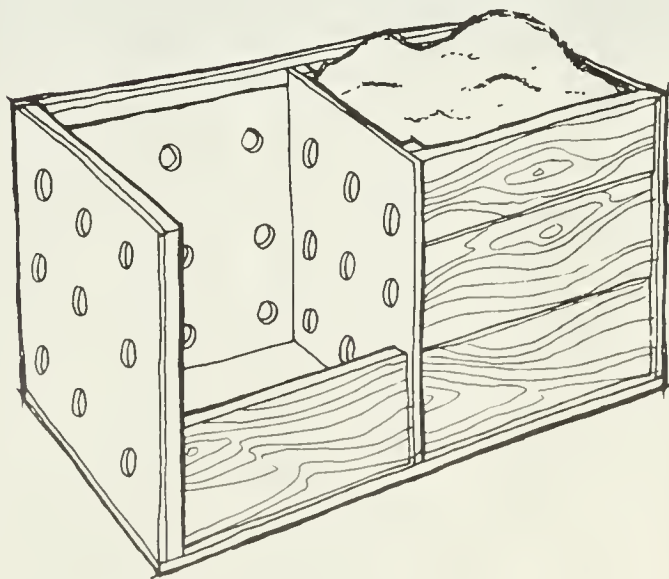


Figure 6 A double container, with one side full

Leaves are also compostable, and are usually given their own separate container. A wood frame covered with mesh and lined with plastic is ideal. Because their treatment is slightly different, we will deal with them later.

Method

Place the material on the pile or in the container in even layers. Do not make layers more than 5 cm thick of any material that packs down (such as grass clippings), without putting more open material between them to let air circulate. About every 15 to 20 cm, sprinkle a few shovelfuls of soil over the surface. If the soil is reasonably fertile, this provides the microorganisms necessary for decomposition. If very poor soil has to be used, or to speed up the process, incorporate a commercial compost accelerator, following the directions given on the packet.

Continue to build the pile in 15-20 cm layers. Remember to spread the material evenly; do not mound it in the center (Figure 1). Water well during dry periods, and about every 4 weeks during growing season sprinkle on a couple of handfuls of a high-nitrogen formula (first number on the formula) such as 10-6-4 or 16-8-8. This fertilizer is not essential but hastens the process by supplying readily available nitrogen to the microorganisms.

As the heap builds up, the bottom layers decompose. During warm weather the action is rapid, and the overall height changes very little. In winter and early spring, while the temperature is low, little or no decomposition takes place. However, frost is still breaking down the cellular structure of much of the fresh material, so it will decompose much more rapidly when warm weather returns. Where a container is used there is no need to turn the contents, although if you do it speeds up decomposition. If a heap is built without walls, turn the outsides to the center at least twice during the summer, to ensure even breakdown of the material. With commercial units, follow the directions that come with it.

Using the compost

If, when you dig down below the surface layer, you discover a dark-brown to black material that looks almost like soil, the compost is ready for use. In a commercial composter with sliding panels, it is easy to take small amounts

from the base whenever you need it. With a large heap or container, the most convenient time to use the compost is normally in the late fall. At this time the garden is usually being cleaned up, and the compost can be dug into the garden or used as a mulch round shrubs or perennials.

Lift off the top undecomposed layer with a garden fork and put it to one side. This layer will be about 15 cm deep and makes a base for the next pile. Separate any twiggy or undecomposed material that you find as you shovel out and spread the compost, and return it to the heap.

Compost can also be used as a basis for potting soil or as a soil mix for window boxes and hanging baskets.

Leaves

Since leaves fall within a very short time, it is usual to give them a separate container. This can be in a less convenient location. As mentioned, a wood frame with wire netting is ideal. Pile the leaves inside and tread them down well. Every now and again, add thin layers of soil to speed up decomposition. Cover the leaves with wire netting during the winter to stop them from blowing away.

In the spring when the snow has melted and the leaves are moist, remove the netting cover, sprinkle on a couple of handfuls of high-nitrogen fertilizer and add a few shovelfuls of soil. Cover the soil with a sheet of heavy-duty polyethylene and weigh it down.

During the summer check the heap from time to time and water if required. The leaves should be broken down enough to add to the garden by fall. If there is a high proportion of oak or chestnut leaves it may take up to 2 years to decompose.


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