

Composting Systems: Food Burial, Trenching and Food Digesters



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Burying plant-derived food scraps is an ancient practice and has been in use in Ireland for many years. The traditional methods used are food burial and trenching – both of which involve burying the food scraps into the ground within your school garden. Green Cones are modern versions that are buried in your garden and use bacteria, enzymes and worms to break food down. They also use heat from the sun to speed up the process. Regardless of which system you use you must have some garden space to incorporate the food scraps into the soil.

What kind of food scraps can be composted with these systems?

Due to potential problems with pests, such as dogs or rats, only plant-derived food scraps should be composted in this manner. The following chart lists the types of food scraps you can and should not bury in your school garden.

| Plant Derived Materials = YES | Animal Derived Materials = NO |
|-----------------------------------|---|
| Vegetable trimmings and skins | Fish or Meat of any kind – raw or cooked |
| Fruit peels, cores and rinds | Animal fat, bones, skins or guts |
| Spoiled fruit or vegetables | Cooking oils or grease |
| Coffee grounds and filter | Dairy products: cheese, yogurt, cream, butter, milk |
| Tea bags | Eggs or egg shells |
| Bread, crackers, biscuits, cakes | Sauces or soups with meat or fish |
| Cereals, pasta, rice, beans | |
| Cooked vegetable plate scrappings | |

The picture shows the type of food scraps that can be buried in the garden



Collecting Food Scraps at Home



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When collecting food scraps at home, always try and use a covered container – it keeps odours down and discourages flies. You can use any container with a tight fitting lid.



Food Burial and Trenching – how do I do it?

Burying vegetative food scraps in the garden is a safe and easy way to compost. You don't need a huge amount of space and this can often be done around trees and bushes at your school.

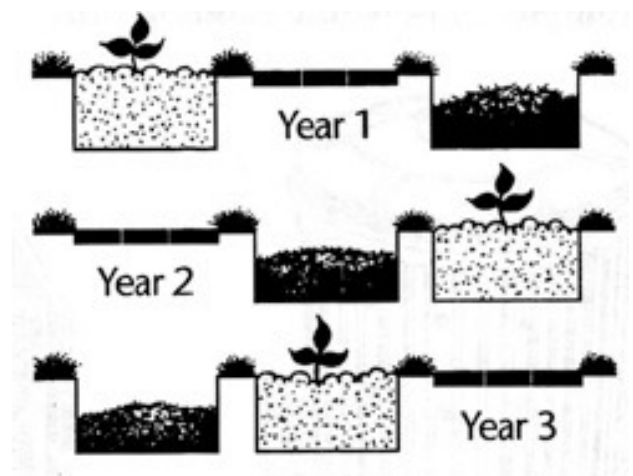
- Find a suitable area in your garden to bury food scraps. This could be in a fallow (unused) area or around the drip line of trees or shrubs.
- Dig a hole or trench 12" deep
- Place 3-4" of food scraps in the hole or trench
- Using a spade, chop and mix the food scraps into the soil at the bottom – this is a key part!
- Cover with at least 8" of soil
- Repeat as necessary, digging holes or trenches next to or in different locations



Depending on soil temperature, the supply of microorganisms in the soil and the content of the materials, decomposition will occur in 1-3 months.

Another method of food burial is called Trenching. This involves a three-year rotation of trenches – (1) food burial trench, (2) a growing trench and (3) an unused or fallow trench – this is usually used as a path for access.

To start with in the first year, set out a part of your garden that will include a trench in which to bury food scraps, a row for growing crops and a third "row" to use as a path. In the next season, the fertile soil of the former compost trench is used to grow crops, the former crop row is left fallow and used as a path, and the compacted path is loosened and dug up as a new trench for food scrap burial. The cycle is then continuous as shown here.



Food Digesters and Green Cones



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What is a Food Digester and how does it work?

A food digester is a specific type of composter for food scraps that is partially buried into the soil. It is a modern version of food burial that uses heat from the sun to help the composting process. While they look like a regular compost bin, digesters usually have a metal or plastic basket underneath and this must first be dug into the ground. You can also make your own out of a metal barrel.

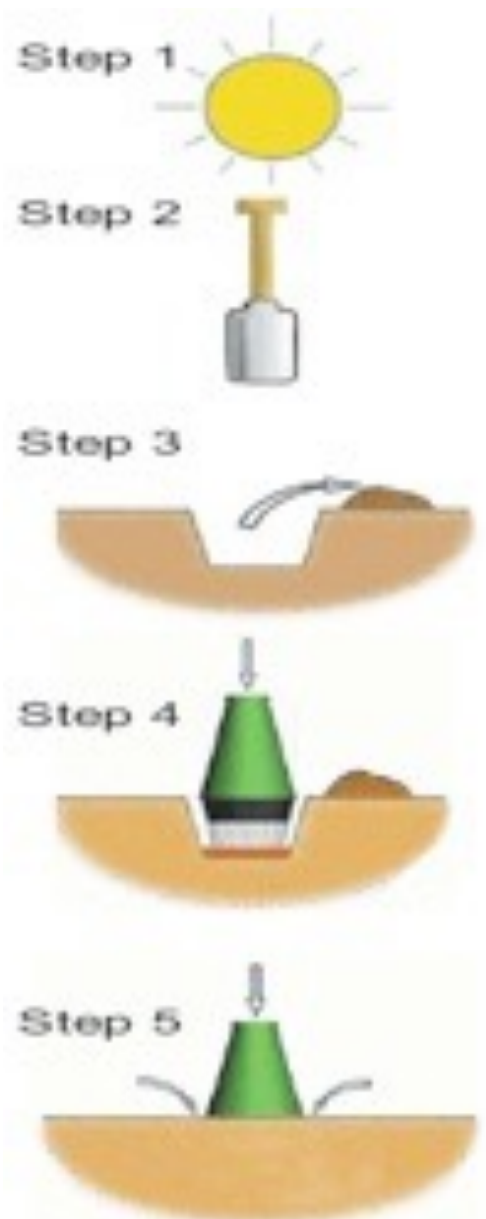


For these systems, food scraps should be added either every day or every second day. It is not recommended that you store up your food scraps to add every now and then.

How do I install and use the Food Digesters?

Because food digesters use the heat from the sun to help power them, you should always try and put them in a sunny place. When you have chosen the spot for it, the following are the main steps involved in using it:

- Pick a sunny location and dig a hole 50cm deep and 65cm wide.
- Loosen up the soil in the bottom of the hole and mix in some gravel, compost and/or sandy soil to provide good drainage.
- Place the assembled digester and stainless steel mesh into the hole so that the top of the basket comes level with the soil.
- Backfill the sides with a mixture of gravel, compost and/or sandy soil to improve soil ventilation. Then cover with 6-9" of soil so that the top of the basket is not exposed.
- Then, collect all food scraps in your kitchen caddy each day.
- Before emptying the caddy into the digester, shake some accelerator powder over the food scraps. Once the system gets going, you can cut back on the accelerator powder, especially in summer months.
- Open the lid of the digester and empty the contents of the caddy in through the top of the cone. Food scraps should be added on a daily or every-other-day basis. It is important not to overload the digester with too much material at once.
- The accelerator powder provides the bacteria and enzymes needed to quickly break down materials. As food scraps are mostly water, they break down quickly and the excess water evaporates and drains into the soil.



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And then what?

- Over time, the digester will fill up and will need to be emptied. If the level of materials in the lower basket rises and remains above ground level without dropping, this is an indicator that it is time to empty the basket. Usually this should take place every year or two.
- To empty, remove the soil from around the base so that the lower basket is level with the ground. Take off the upper cone and shovel the contents into two piles: the fresh material that has not yet composted fully and the dark finished compost material underneath.
- Put the fresher material back into the basket as it has all of the right bacteria to start the digestion process again. Put the upper cone back on, cover the base and basket with soil and continue to add materials as before.



Are there homemade versions?

If you don't want to spend the money on a commercial version like the Green Cone, you can make your own. One example is made from a metal rubbish bin with forty 1cm holes in the bottom and sides. These holes encourage worms from the soil to come in and help break down food.

Some Additional Tips:

- Digesters will work all year around, but be aware that the level of food scraps may rise into the upper cone during winter (when it is cold), but should drop down again once the weather gets warmer.
- If flies or smells ever become a problem, simply add a thin layer of sawdust, leaves or shredded paper on top.
- What about pests? If the basket is buried properly, rats and other scavengers will not be attracted to it. The stainless steel mesh around the basket prevents rodents from getting in.

