



compost toilets



what are they?

Compost toilets are dry or waterless toilets, i.e. they don't use water to take the waste somewhere else. They allow natural processes to produce useful compost, after a resting period depending on the type of toilet.

DIY compost loos: there are usually two chambers – one in use, one resting. A typical toilet would use one chamber for a year, then change to the second chamber and allow the first to decompose for a year before emptying. They don't smell, as long as there is a vent pipe, and a drain to take away excess liquid.

A handful of a soak (straw or sawdust etc.) is dropped into the toilet after each use. This is because bacteria like to eat a balanced diet of carbon and nitrogen, and as human waste contains a lot of nitrogen, if they don't get enough carboniferous material (like sawdust, straw, hay, shredded paper) they will give off excess nitrogen in the form of ammonia, which makes the loo smelly. The soak allows oxygen into the pile, and absorbs liquid, which allows aerobic decomposition to produce nitrates, phosphates and sulphates. Without a soak, the pile will decompose anaerobically and produce methane, ammonia and hydrogen sulphide – all smelly and not very useful.

Human pathogens don't like conditions outside the human body, so almost all will be dead after a few hours. Only one type of roundworm egg can survive a year-long decomposition period, but to cause problems for humans, it has to survive decomposition and being outside in the soil, after which it has to get onto the food plant, and stay there after washing and cooking. You're taking much more of a risk every time you get into a car. But even so, you could use the compost on fruit trees and bushes rather than in the vegetable garden if you like.

A tree bog is a type of outdoor compost loo with nutrient-hungry trees planted around it. Solid and liquid wastes drop into a hole in the ground and the tree roots absorb the nutrients.

Another, simpler compost loo system is based on Joe Jenkins' 'humanure' idea. It's low-cost, extremely simple and it works. The downside is that there are buckets to be emptied. We know several people who've used the humanure system successfully for many years.

Off-the-shelf compost loos: you can also buy off-the-shelf toilets with one chamber - for inside or outside use.

what are the benefits?

Main benefits

- The solid waste is dealt with on site, and doesn't have to be treated with chemicals in sewage farms, or end up in waterways, where it causes pollution and algal blooms.
- Saves water – you don't have to use one resource (pure drinking water) to flush away another (fertiliser).
- Organic matter is allowed to go back to the soil where it belongs, improving soil structure and nutrition.

Other benefits

- No chemical cleaners or bleaches are used in the toilet.
- They don't contribute to the sewage sludge that is often dumped in landfill, or more controversially, put on to agricultural land uncomposted.
- As long as the decomposition is aerobic, there will be no greenhouse gas emissions.
- No electricity needed.
- Very low resource use – no pipes are needed to transport waste to a sewage farm, and no truck needed to remove solid waste.



Compost loos don't have to be outdoors; if done properly, there will be no smells, and an indoor toilet will be more convenient in the winter.

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what can I do?

Installing a compost toilet

There are many different types that you can buy. Distributors will change – search online for:

- Separett: looks like an conventional toilet.
- Air Head: small enough for a van or boat.
- Rota-loo: several chambers on a turntable.
- Biolet: small toilets, some models electric.
- Clivus multrum: 1 large chamber, vent & fan.
- Sun-mar: small, electricity evaporates liquids.
- Natsol: twin-vault with urine separator.

Research to find which model might suit you best. Alternatively, you can build your own. This will work out cheaper, and there is no need for electricity. The components of a basic unit are: two chambers, platform, vent, hatch, and removable seat. Our book explains how to do it. Going on a course might be a good idea too.

Using a compost toilet

A compost loo is not a flush-and-forget system. A DIY compost loo needs to be checked every day to see that no problems are developing. If necessary, an ingenious fly-catcher can be made from a glass jar and a little cone made from perspex. Ensure that there's a bucket with 'soak' (e.g. sawdust) next to the loo. To stop a peak developing, it may have to be 'knocked' every couple of months with a rake or hoe either via the hatch or seat - this may not be necessary though.



Funky outdoor compost loo at a summer party.



The Separett toilet is small enough to be used in a camper van or on a boat.

Waterless urinals work well with compost loos; urine is a pathogen-free fertiliser, and it stops the toilet becoming too wet. Waterless urinals can be adapted for female use too. Some compost toilets separate urine from solids.

If your toilet is going to be used by people unfamiliar with compost loos, you might want to put up a notice explaining how to use it.

After the toilet has been used for a year, remove the seat and blank off the hole. Attach the seat to the second chamber. One year later, empty the first chamber and move the seat back. The material from the chamber will be indistinguishable from bag compost bought from a garden centre if it's done properly. We've taken compost from a compost loo and from a garden centre to events around the country, and people couldn't tell the difference.

The procedure is different for various kinds of manufactured toilets. See our online course for more detailed info and videos.

resources

- lowimpact.org/compost-toilets for more info, courses, online course, links & books, inc:
- D Darby, *Compost Toilets: a practical guide*.
- Mandy Burton, *the Loveliest Loo*
- G & A Baird, *Essential Composting Toilets*
- humanurehandbook.com - 'humanure'
- lowimpact.org/online-course/compost-toilets – online course
- jldr.com/henrymoule.htm: Moule's earth closet

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