



# compost toilets



## what are they?

A compost toilet is a dry or waterless toilet, i.e. one that doesn't use water to take the waste somewhere else; it also allows natural processes to produce useful compost, after a resting period depending on the type of toilet. There are usually two chambers – one in use and 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. Also, the soak allows oxygen into the pile, and absorbs liquid. This allows the pile to decompose aerobically 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 even though it is a tiny risk, we recommend using the compost on fruit trees and bushes, not the vegetable garden.

## 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
- saves water – you don't have to use one resource (pure drinking water) to flush away another (fertilizer)
- 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
- 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



*indoors or outdoors? many people imagine that a compost toilet must be situated outdoors, but a vent and a lid closer will ensure that there are no smells, and an indoor toilet will be much more comfortable.*



## what can I do?

**installing a compost loo:** there are many different types that you can buy:

- **rota-loo** - *rotaloo.com*: plastic; several chambers on a turntable; fan
- **WEB** (01803 732878): good for small spaces; a small motor turns the waste; uses powdered coconut shell as a soak
- **clivus multrum** (01703 615680): one large chamber; vent with fan
- **sun-mar** (01502 478165): small; electricity used to evaporate liquids
- **aquatron** - *elementalsolutions.co.uk*: urine separator; ultra-violet unit to kill pathogens

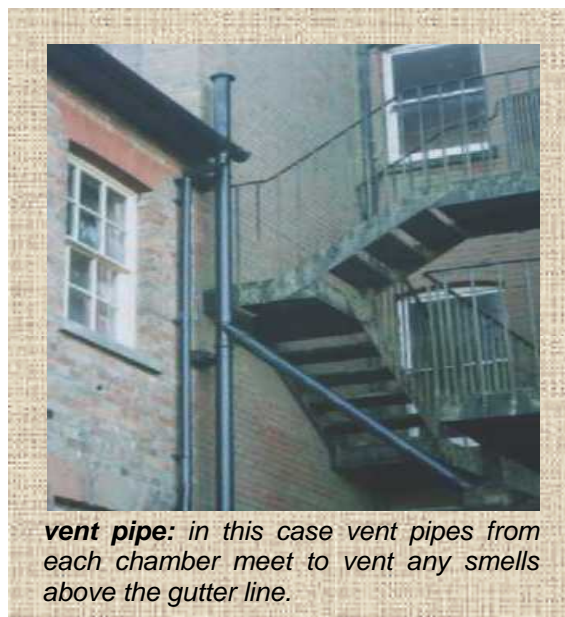
or you can build your own. This will work out cheaper, and there is no need for electricity in a basic unit. The components of a basic unit are two chambers, platform, vent, hatch, and removable seat.

Go on a course – at either *LILI* or the *Centre for Alternative Technology* in Wales.

**using a compost loo:** a compost loo is not a flush-and-forget system, it needs to be checked every day to see that no problems are



**emptying the chamber:** after using the chamber for a year, then allowing it to rest for a further year, it can be emptied via a hatch. The texture and smell is the same as bag compost bought from a garden centre.



**vent pipe:** in this case vent pipes from each chamber meet to vent any smells above the gutter line.

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. 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.

## resources

- LILI's compost toilets manual - £6 from LILI (see below); plus other books
- Peter Harper and Louise Halestrap, 1999, *Lifting the Lid*. £10 from CAT (see below)
- J C Jenkins, 1994, *The Humanure Handbook*, Jenkins Publishing, Grove City, PA, USA
- [compostingtoilet.org](http://compostingtoilet.org) - world of composting toilets

## courses

- LILI: sustainable water and sewage course
- Centre for Alternative Technology (CAT): (01654) 702400, [cat.org.uk](http://cat.org.uk)

Contact us or visit our website to find out more about our factsheets, books, courses, online shop, links, forum, events and volunteering on organic farms. You can also become a 'Friend of LILI', and receive our e-newsletter, discounts on our courses, and help us to make a difference.

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