

our first house toilet



We moved onto our land and used toilet 1 for the first couple of years – while we were putting up the other buildings/running the Market Garden/expanding the campsite etc. Later, we built a toilet for our house. We knew we'd want to keep it for a long time and for it to be nice to use and easy to maintain.

I dug down a little way for two IBC containers for the poo and connected up the urine to another, deeper IBC container to avoid anyone having to carry 25 litre containers of pee around. As the height of the floor was already a bit above the ground, I was able to put in just two steps up to get into the toilet.

An issue with burying containers that are sometimes empty is that if the water table rises too much, they will float! Fortunately I already knew this so I put in a drain to carry away any water that might collect around the urine container. It isn't an issue for the poo containers because they aren't buried.



In the first chamber we used a Separett separator – although with a lot of use I have found that struvite builds up in inaccessible places, (there’s a grille kind of thing to stop solids going down the urine hole). The struvite creates a rough surface where old urine can’t easily be cleaned off (to be fair, we’re rubbish at cleaning the toilet regularly), so that caused some smells. I experimented with a sheet metal separator à la Natsol toilets, which would also be unblockable for the campsite toilets if it worked. See description above.

Because I hadn’t designed the toilet with this in mind I had to fit the urine pipe into quite a constrained area and this meant that it didn’t have as much of a drop as I would have liked so sometimes the urine pools a bit and smells bad. Otherwise, it has worked really well. Not much goes into the IBC.

One negative aspect of the sheet metal separator is that the exit point for the urine is lower, which reduces how high the poo pile can get before the separator is getting in the way, so I had to start knocking the top off much sooner and it limits how high the heap can get. This could be solved by having a custom made chamber (like Natsol do), which extends under the floor as well and by having a chamber that extends further back too (again, like Natsol), so the pile can be dragged further out of the way. Another possibility is to have a shallower metal sheet.

It took about 2 years to fill the first container with an average of 5 people using the toilet year round. One challenging feature of having only compost toilets

and having a chamber you can't pick up and empty is that you have to manage any issues that arise - you're committed! We had some interesting issues ...

Chiggers: We had one weekend when harvest mites (chiggers) were a problem in one of our campsites. A few weeks later I noticed lots of specks gathering on the top of the open toilet seat, which was white (aside: we always used to leave the lid open at that point - it didn't seem to be a problem). I put the specks under the microscope and they seemed to be mites of some kind - we were also getting bitten by something that seemed like it could have been chiggers. I found out a bit about them and I think that's what they were. Ours were not red spider mites - they looked different and they behaved like parasites - walking to the highest place to get picked up by a passing creature.

The IBCs are not rat proof and I suspect that a rat carrying chiggers may have got in.

I sorted the problem out by dismantling the toilet until I could reach the hole I had cut into the IBC under the toilet seat. I smeared fruit tree grease around the inside of the hole in a thick band as they can only walk and they couldn't cross a barrier like that. Thank goodness it worked!

Rats: Rats had never been a problem with any of the other toilets - other than seeing the one that got stuck in toilet 2. This one was a little more sheltered and when the weather closed in, rats started using the poo chambers, which was very disgusting. There was never any sign that they went into the toilet room, but you can see when things in the chamber have moved and that is definitely not ideal. If you didn't know what to look for you might not know they were there, so it's not as obvious a problem as you'd think. They also turn the heap a bit with their digging. My next toilet will definitely be rat proof!!!!

No urinals: At this point I had always been rushing to do the barest minimum to get the job done because there was too much else backed up so I hadn't put in any separate urinals, just notices telling blokes to sit down when they peed. I'm pretty sure most did as the chamber seemed fine, but having a separate urinal would be an improvement, particularly in the campsite toilets, where men are more likely to stand to pee.

Flies: Again, we haven't had much of a problem with flies, in spite of putting compost in at the start and then occasionally at other times, eg if I have too many worms in the wormeries I'll add a load of worms along with a load of vegetable matter to start them off on. There was about a month at the end of

2016 when it looked like we were developing a fly problem. I raked the poo flatish (access is tricky) and spread sheets of newspaper over the poo pile and then chucked loads of sawdust on top. I also covered the top of the stink pipe with net so flies couldn't get in there and draped material over any holes. I think I did it twice and either that sorted it or the weather got colder and sorted it. I was a bit worried that they would then be a problem the next year, but they weren't.

Hot composting: Some of the time (like now) the heap is clearly getting quite hot, so when you open the lid of the toilet seat you get a blast of hot air - I sometimes wonder whether that would be a bit unnerving for someone new to composting toilets.

A note here: When they are emptied, the compost in the IBC containers is quite dry on top, well composted in the middle and a little wet at the bottom. I let them sit for at least a year with no new additions and then empty them into 220 litre containers with drainage holes in the bottom to finish composting. I think any liquid will be safe by then - most of them will 'rest' for considerably longer than a year.