

Talking shite

Outline proposal: Steve Jones, Yossi Burland, Jay Bain

Cae Bodfach specifically for us here in Llanfyllin, but just about everywhere there is human habitation there is the issue of dog faeces.

They are toxic, contain various assortment of pathogens and parasites and are also unsightly and just out of place in our public spaces. The bag it and bin it response is very much a product of first world thinking, throw away culture. Put something that is biodegradable in a plastic bag, then put it in a bin for someone else to come along later and remove and landfill it. We are burning diesel and contributing to climate change by sending dog mess miles to be also permanently pickled in an anaerobic landfill hole. Our ancestors will think we had gone mad.

What is a permaculture alternative? We put this question to our PDC group in Llanrhaeadr in Jan -Mar 2020, a group which included the heroic local resident who is responsible for emptying said dog refuse bins. He assures it is an huge amount of heavy, wet nasty material, 10's ok KG's I tried not hear exactly how much unless it gave me nightmares.

Small and Slow Solutions is the name of our recently published book, so there is a hint there as to how we want to approach solving the problem. We are not going to change habits overnight, beside some folk have only just been trained properly to respect shared public spaces better and use bags, let's not make it harder for the late adapters.

We plan to form a secret society, the Llanfyllin Dog **** club, new members will be inducted trained and initiated into our secret rituals and slowly and surly the plastic bags of shite will magically lesson until hopefully they all but disappear and this is how we plan to do it.

Start small, start local and grow at a sustainable pace.

We are on MkII of the *Dragons* dog waste composter and already feeling happy with the results. We have much to learn yet, for example breakdown times, how much space we need per dog, but here is the principles.

- Keep it separate: its a dedicated compost bin only for dog waste
- Carbon/ Nitrogen balance + air.

The biology, the bio-breakdown we want to neutralise the waste is aerobic, that is microbes working hard that like us breath air. So it must not be compacted, wet, or overloaded so that the bacteria and fungi that break it down can do their work. Also toilet waste is high in nitrogen and that can be a very mobile element that ends up in water ways or escaping a ammonia, which smells bad and again contributes to climate change. To fix that the answer is to soak it into something high in carbon, sawdust is ideal, mixed with biochar even better.

Instead of off-gassing or leaching the nitrogen is taken up by the carbon molecules that literally bond it in place, no smell no leachate. 25:1 ration of C:N is the target,

the reality is cover every dog stool with a dusting of sawdust, no more else you over fill the bin, and not enough and there is danger it might start be smelly. These adjustments are very easy to make on a small scale. The permaculture rule is 'observe and interact', mindful experimentation.

- Step2 of the plan is when we are happy with the design will construct a slightly bigger version, our is made from a standard black bin. Behind the institute in the community garden, out of sight. Slowly we might give permission to hand full of trained people to start using it. Scoop with trowel drop it in the in, pinch of sawdust and job done.
- I am imagine a peer – peer induction. Dog walkers tend to be regulars, so they are familiar with each other. People can one by one indict, ie train new people to join the club. They will need to fully understand to never use plastic to know what to do when a bin is nearing full. That is about it. Instead of a plastic bag it's a scoop, a special trwol you pick it up and drop in the dog compost bin and sprinkle and little sawdust over it

How does it work?

Mk2 is a standard black bin with 2 inch holes drilled all over its lower 2/3, it is buried in the ground (well drained) right up to the lip. The purpose of this is that the compost inside is in contact with the soil and aerated so the microbes can their work and break down, neutralise and start of utilise the nutrients in the dog waste.



Dog composter Mk2 is a standard bin, drilled with 2 inch holes on its lower 2/3 and sunk into well drained ground. The wine bottle is a fly trap.



Inside the waste, covered by sawdust is largely in contact with the soil, but in an aerobic environment. There is no aroma, the nitrogen chemically bonds with the carbon. We have used shavings but saw dust would be better, smaller particles mean a larger surface area and more edhe.

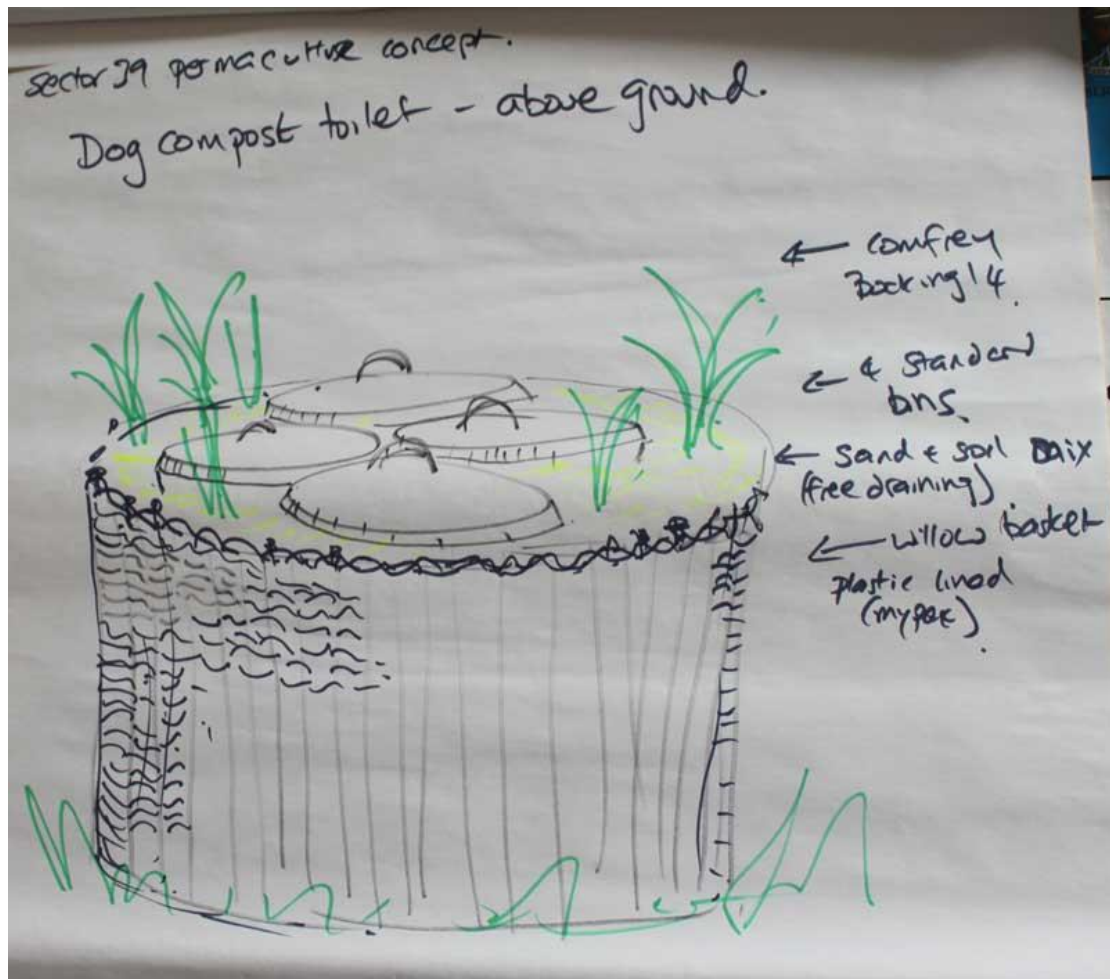
There is no route in or out for flies as the lid closes quite tightly but is not airtight.

We are observing the rate of decomposition and wondering what size digester we need per dog and ultimately how much could we process practically.

The Cae Bodfach field floods and is very close to the water table and river so that would be a major consideration for what we might eventually put in the field when we are happy with the design.

Consequently I would propose locating it above ground, in a dedicated raised bed. It might 4 or 5 composting units which can be used in rotation. On emptied when had a long time to rest and break down.

We have observed the field in full flood and if located in the centre of the orchard are it is about the flood line, nutrients leaching out will be absorbed by the trees themselves so there is a wonderful connection from the dogs to the trees. I suggest a willow basket, filled with sharp sand and soil, so it is free draining and also a great growing environment for a plant like comfrey which can be harvested as a compost plant.



Key points,

We will experiment with the digester in a controlled environment until we are totally happy with it

Users from public will be inducted by joining the club, visitors and un-inducted carry on using *bag it and bin*

Slowly we train the community to use the new system

The comfrey growing in it is a dynamic accumulator and can be harvest 5 times a year of more as a plant food/ mulch/ compost

The bins can be left for several month to moulder before they are emptied, and they might not need emptying very much as the material inside should largely break down and be utilised by plants and fungi. We can test samples for potential toxicity but should be totally safe once fully composted.