

How to recycle food waste with bokashi? Questions.

Please [EMAIL](mailto:info@earthprobiotic.com) us if you have additional questions or need more clarification:
info@earthprobiotic.com

What is Bokashi?

[Bokashi](#) is wheat bran brewed with a combination of naturally occurring beneficial bacteria, yeasts and fungi. During the brewing process the wheat bran is inoculated with these beneficial micro-organisms.

Bokashi is used around the world to manage food-waste through an [anaerobic](#) fermentation system.

When added to food-waste in an anaerobic digester these microbes work in symbiosis to ferment the waste thus preventing rotting and ridding it of pathogenic bacteria.

Bokashi was invented in 1980 by Prof. Teruo Higa a soil scientist from Japan.

Bokashi is safe for human and animal consumption (but not registered for use as such).

I have "worms" in my bucket!

These are fly larvae.

There are two reasons for this:

1/ Flies work very quickly and lay eggs in your food waste collection container. They then hatch in the bin but if it is kept closed they die from lack of oxygen - while adding a little more protein to your bin. So if they're dead and not moving then you don't have a problem.

2/ The flies get into the bin through an opening as the bin is not closed properly. Always make sure your bin is closed and only opened once a day when you add your food waste into the bin.

3/ The tap is not closed properly. Make sure that after you have drained the bokashi juice you close the tap properly. If it is opened then it lets in oxygen and flies. Not a good thing.

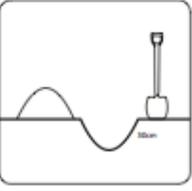
If the bin still has a fermenting/beer (not rotting) smell then everything is working fine. If it is a bad "off" smell then it's caused by the bin not being sealed properly before use.

There are only two fundamental rules for effective bokashi composting: keep the bin closed, and add bokashi.

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This sounds very technical, is it easy to use?

Bokashi is an extremely easy system to use. All you do is follow a few simple steps and you'll enjoy great success in recycling your food-scrap.

	<p>STEP 1: Sprinkle a little Bokashi on the strainer. Add food waste. Chop/break into small pieces as this speeds up the fermentation process.</p>		<p>STEP 4: During fermentation tap off the Bokashi liquid and use as plant food. Dilute 1:300, or pour undiluted down your drains to eliminate odours and keep sludge free.</p>
	<p>STEP 2: Sprinkle a handful of Bokashi over each layer of food waste. Add more Bokashi if adding naturally smelly foods such as onions, fish and meat.</p>		<p>STEP 5: When full seal, tap off liquid and leave out of sunlight. Ferment for an additional two weeks.</p>
	<p>STEP 3: Press out the air with a masher and seal the lid tight (the less you open your digester the better).</p>		<p>STEP 6: After fermentation place in the middle of your compost heap, or bury under 30cm of soil. Wait for 4-6 weeks and then add to your garden beds. Compost is ready when it has turned black and food waste is no longer visible.</p>

Will my food-scrap smell in the anaerobic digester?

Because of the unique combination of microbes in bokashi the scraps ferment (pickle) and don't rot. So there is no malodor only a pickling smell (which some people say smells like cider).

I have mold in my bucket! What should I do?

White mould is good. The white mould is a beneficial fungus which helps suppress pathogens. If you have white mold it shows that your fermentation is going well. When added to soil this beneficial fungus helps with soil water retention.

Black/blue/green mould is bad. It shows that the fermentation has not worked properly. This is a rare occurrence and is the result of the bin not being closed properly (not anaerobic), not enough bokashi has been used, and/or rotten food has been added to the bin.

If you have bad mold the scraps should be discarded. Dig a hole twice as deep as your digester. Add bokashi to the bottom of the hole. Add the waste. Cover with more bokashi. Then cover with soil. Leave for at least 4 weeks before attempting to plant over.

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What do I do with the Bokashi juice that I have drained off?

The liquid removed is loaded with microbes and nutrients and makes an extremely effective natural fertilizer. Bokashi juice is acidic and should be diluted at a rate of 1:300 parts water which can be used to fertilize your pot plants or garden.

A dilution of 1:500 is ideal for spraying onto foliage, do not spray directly onto blooms. Your plants will benefit from these nutrients and microbes with faster growth and bountiful blooms.

Remember to use the juice within 24 hours as it contains living bacteria, after this period the Bokashi juice loses its effectiveness.

What else can I do with the Bokashi juice?

Use undiluted and pour down your drains. It will help keep the drains clean and odour free. It is very useful in preventing sludge from building up and blocking drainage in septic systems and is a good way to minimize problems in your septic system.

How do I dilute the Bokashi Juice?

1:100 for lawns.

1:300 for gardens and pot plants.

1:500 for succulents.

1:1000 for any sensitive plants.

DO NOT USE THE BOKASHI JUICE TO FERTILISE FYNBOS.

Fynbos does not like to be fertilised and the Bokashi Juice is too acidic.

What can't I add to my bin?

Large bones as these take a long time to break down - but they're OK if you want to bury them deeply and forget about them.

Lots of liquid as this can spoil your bin and you may not be able to revive the bin with extra Bokashi bran.

Any food that is rotten or starting to go off.

Animal faeces, especially if you are going to add your bin to your vegetable garden. Animal faeces contain pathogens which are harmful to humans.

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What do I do with the contents of the bin once it's full?

You can add the contents to your worm farm. Get them used to it a little at a time. Cover the food waste with newspaper to prevent flies from laying eggs in the waste.

You can bury the contents of the bin directly into your garden. Dig a hole or trench and cover the fermented matter with about 15cm of soil. Add more soil if you have pets. Depending on the climate, it will break down into a rich fertiliser within 7 to 14 days. Decomposition of the Bokashi food waste only begins once the waste is buried in soil.

Allow the Bokashi food waste to settle for 10 - 14 days in your garden before planting as you may burn the roots of new plants.

For established gardens, dig the food waste into holes around shrubs or between rows of trees at the perimeter of the root line.

Make your own potting mix by filling 1/3 of a container with fermented food waste, then filling the container with organic soil. Mix it through, cover with a lid or a plastic bag. After 10-14 days your potting mix is ready.

How long will it take to fill the Kitchen Digester?

That depends on the size of your household. Cutting up food scraps into golf ball size will allow more room for other scraps. Compacting the contents with a masher will ensure any liquid content is pushed through which can be drained off. A typical family of 4 would normally fill the Digester in 2-3 weeks.

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For the last four days I forgot to add Bokashi bran to my bucket but continued to add kitchen scraps. Will the bin go bad?

Your nose is the best indicator to check all is well in your bucket. If it smells rancid then add two handfuls of Bokashi to try and reverse the process.

If the bucket continues to smell bad then you will have to get rid of it by digging a hole and adding the bucket contents to it. Mix with soil, add another handful of Bokashi bran and cover with the rest of soil. If you have nowhere to 'bury' it then you have to dispose of it in your weekly refuse bin.

Do I have to empty my Bokashi Kitchen Digester before taking a holiday?

No. It is okay to leave it sealed for weeks as the fermentation process will complete and then remain stable until you put it into the ground.

However, drain off any liquid before leaving the bin for any length of time. If you are planning an extended trip, we recommend you empty the bin into the garden or compost heap before you leave for your well deserved rest.

Does the compost drain from the tap?

No, the tap is used to drain off the bokashi juice.

Only once you have added the fermented food waste to a compost heap or into your garden soil will it turn back to compost or soil.

The fermentation process does produce bokashi juice (in addition to the fermented food waste). This is a highly beneficial liquid fertiliser.

Do I have to worry about gases being produced during my fermentation process?

No measurable methane and/or ammonia gases are being produced and you will not notice any bad odors. It is perfectly safe to use in the home.

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What do I do if my dog, cat, bird, or child has eaten some Bokashi bran?

Absolutely nothing! Please note that our Bokashi is all natural and made with a mix of probiotic bacteria microbes, molasses, salt and wheat bran. The microbes in Bokashi Bran are very common in nature and are not pathogenic. Each has a specialised function and they all work well together. These bacteria are found in our food (cheese, yoghurt, good bread) and our drink (beer and wine).

Bokashi has been used as a feed supplement for horses, cows and even dogs and cats. The idea is that the probiotic microbes will enhance gut health and therefore all over physical health.

You can find more information about this here:

http://www.emsustains.co.uk/EM_equine.htm (we have no affiliation with this company and this link is for information purposes only). There's also quite a lot of information on the Web and on Youtube about bokashi and animal health; including our discussion at Spier (<http://www.youtube.com/watch?v=C6s4QVFQPMQ>).

Can I add citrus to the bin?

Yes, you can add all citrus. While citrus is acidic, found mainly in the juice, the antiseptic properties of citrus oils, particularly orange oil, is the reason why citrus is usually not added to traditional compost heaps. These oils will be broken down through the fermentation process.

Can I add ice cream to the bin?

Yes, all dairy products can be added as long as you don't add too much in liquid form. High levels of moisture are not good for your bin.

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Can I feed my worm farm with Bokashi?

Yes indeed, and they love it!

It's very important that you don't add all the contents to your bin all at once. Worms, especially the Red Wiggler, are tolerant of low pH (acidic) environments. But you need to make sure they get used to the bokashi fermented food first.

Start off by adding a few spoons of the fermented food waste to a corner of the worm bin. The worms initially will not like it as the fermented food waste is acidic, however after about 5 days as the pH level rises, they will move in with gusto!

Once they've moved into that waste, add some more fermented food-waste to the opposite corner. Gradually the worms will get used to their new diet. And then you can add more bokashi fermented food.

When adding fermented food to a worm bin the food needs to be fully fermented so it doesn't rot. Also it should have a good quantity of bokashi - bokashi is full of beneficial microbes which are loved by worms.

The worm casings and tea are even more nutrient rich when the worms are fed a Bokashi diet.

The real benefit of feeding bokashi fermented food waste to your worms is that they are able to process it much much faster (one of our com posters indicated that this could be 10x faster).

The reason for this is that tyne bokashi fermented food waste is pre-digested. And thus easier for them to process.

By adding my bin to my compost heap, will it work as an activator?

Yes, the bokashi bran is rich in beneficial microbes which have grown on and in your food waste.

When you add the contents to your compost heap you are adding millions of beneficial microbes into your compost heap (as well as micronutrients and organic matter from your kitchen). These bacterial combine with naturally occurring bacteria and fungi and work together to accelerate your composting activity.

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I live in an apartment with no garden, what can I do with my fermented bin?

You can use a little of the fermented food waste as a fertilizer for your pot plants.

Or you can donate your fermented bucket to a neighbor, friend or family member who has a garden. If your apartment complex has a communal garden you can explain to the gardener/ landscaper how to use this nutrient rich fertilizer in the garden.

Another option is to add a spadeful of soil to an old-style dustbin, cover with bokashi fermented food scraps, and cover with another spadeful of soil. This method turns your food scraps into rich potting soil. There is no need to keep the bin sealed, just covered. The soil will be ready to use in pot-plants when the food-scrap have disappeared.

Remember that the Bokashi method is not only about making your own soil enriching fertilizer, but also about reducing your personal load on landfills.

We live in a townhouse complex and our garden is too small to use all the contents of the bucket. I do have a small compost heap. Can I add this to the heap?

Yes. You can add the contents to the middle of the compost heap, spread it around and mix with the clippings in your heap. Within 4 weeks your compost heap is ready to use in your garden as a fertiliser.

You can also use the “sealed-bottomless-bucket” system where you remove the bottom of the bucket, half bury in soil, fill with fermented organic matter and seal. Then you let nature do the work of converting this into soil. For more information on this please see:

Another option is to make your own soil in a bucket. The following video

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shows how this can be done:

Let us know how any of the above works for you!

What's the difference between my bokashi fermented bin and traditional compost heaps?

With bokashi you can compost all your food waste - including meat, dairy, small bones, cooked food, sea food - and not just your green waste.

Will animals find the buried fermented product attractive?

If you have properly fermented your organic waste and have buried it in the soil with at least 30cm of soil covering it, animals will not find the material attractive. Before you cover over the fermented product, mix some soil in with it to help accelerate the second and final conversion to nutrient rich soil.

Will vermin be attracted to my Bokashi Kitchen Digester?

No. This is a great advantage. Because the system is completely sealed, no mice, rats, cockroaches, flies or ants will be attracted to the fermenting organic waste.

Even when it's buried in your garden or put into a compost heap, vermin aren't attracted. Including flies!

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Why does my bin not produce much Bokashi juice?

The amount of juice will depend on the moisture content of the food you add. For instance, high moisture fruit such as watermelon will produce more juice than old toast.

In general, in winter your digester will produce less liquid than summer. This is for two reasons: (a) winter food tends to be more starchy and summer contains more green vegetables, fruit and salad which have higher moisture content, (b) the cold of winter makes the microbes less active than the warmth of summer.

Where should I put my Bokashi Kitchen Digester?

You should place the system where it is easy for you to use but out of direct sunlight and away from any heat source. The UV rays will kill microbes and can harm the plastic material making it brittle and shortening the life of your system.

It is going to work best if kept at ambient temperature. It can be in a cupboard, in the laundry room, or in the kitchen.

Remember that you are cultivating live cultures. So you should ensure that they are not too hot or cold.

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Why does my trenched waste smell when I dig it up?

The reason for trenched waste smelling is due to:

- 1/ Not enough bokashi being used in the fermentation process.
- 2/ Trenches being dug in wet and cold earth.
- 3/ Contents of the digester not being mixed properly with soil.
- 4/ Digester contents layered too thickly.

Trenched waste is a proven way to enrich soil. When fermented food-waste is dug into soil not only does it add valuable beneficial microbes to your soil, it also adds essential micro-nutrients (e.g. calcium). The other wonder of this method, is that there is a dramatic increase in earthworm populations in your soil - earthworms are an indicator species of healthy soil.

Also remember that microbes thrive in warmth. So summer tends to accelerate decomposition. Winter slows it down. Sunlight, for a trench, is a miracle worker (as it is for vegetables).

But the following methods should be strictly adhered to:

- 1/ Ensure that you are using enough bokashi in your fermentation process. You should use between 8-10% bokashi to waste weight.
- 2/ Rather create thinner 'slices' of food-waste than a big mass. Think of the trenching like a lasagna: thin layers of fermented contents fully mixed with soil and then covered with a layer of soil. Repeat until trench is full.
- 3/ Add biomass to the fermented food/soil mix. This will ensure friability, oxygen draw down and increased microbial life in the soil. Use more brown bio-mass (dried leaves, shredded stalks, straw) than green (flowers, grass).
- 4/ If you have pets cover with 30cm of soil/biomass or compost mix. If you have no pets then cover with 10cm soil.

Our partner in the Southern Cape has found that his waste when trenched into fermented food turns to soil in two weeks. This is because the microbial life in his soil is very rich. So the lesson: the richer and more 'alive' your soil, the quicker the fermented food will turn to soil. And this is where biomass helps in less fertile soil: it adds microbial life and attracts earthworms.
