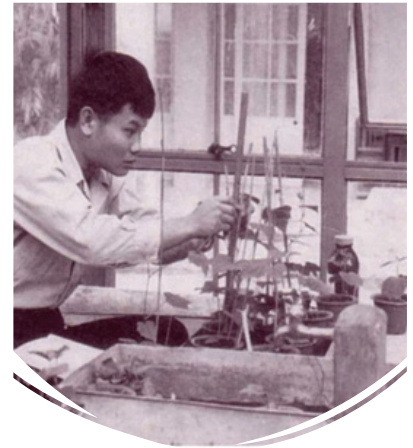


The Bokashi Handbook

Welcome to the world of Bokashi Composting

The Bokashi composting technique was founded by Dr. Teruo Higa, a professor at the University of the Ryukyus in 1982. Based on the concept of effective microorganisms (EM), the Bokashi method utilizes fermentation to break down organic matter. Its methods are derived from traditional Japanese fermentation techniques and were initially used for soil improvement in agriculture. Since then, it has expanded beyond agriculture into household composting, and adopted worldwide for its simplicity and effectiveness.



What is composting and why should you do it?

Composting is the natural process of decomposing organic materials by microorganisms to create a nutrient-rich soil amendment. Composting reduces landfill waste, diverts food waste, improves soil fertility and structure, and aids water retention and nutrient uptake. It promotes soil life, enhancing plant health and resilience. The 3 main composting methods: Aerobic composting: Requires mixing and aeration for faster decomposition. Anaerobic composting: Slower process in sealed containers, producing nutrient-rich liquid fertilizer. Bokashi composting: Uses fermentation to quickly create compost suitable for potted plants. Bokashi is anaerobic composting that you can do both indoors and outdoors. It's a great way to turn your kitchen scraps into rich liquid and semi-solid fertilizer. Your garden and pot plants will love you for it.

BOKASHI IS BEST!

Advantages:

- Convenient
- Fast (5 weeks vs. months)
- 10x lower greenhouse gas emissions compared to traditional composting
- Improved microflora, more earthworms, and better conditions for plant growth
- Addresses indoor odour concerns - sealed containers
- Effective Microorganisms (EM)
- Fermentation
- Space efficient
- Nutrient-Rich Soil
- All-Year-Round

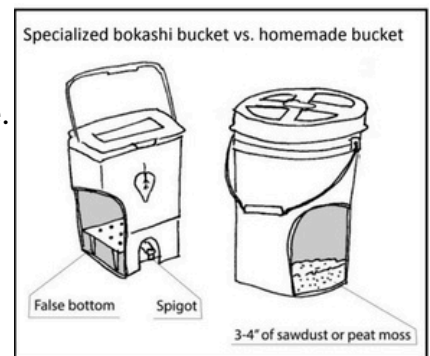


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HOW TO BOKASHI?

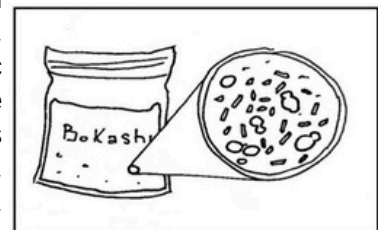
Bokashi Buckets

You can either buy Bokashi buckets or make them yourself by repurposing old 3.5-5 gallon buckets or pails that are food-safe. They have to be airtight and have some way to deal with the Bokashi liquid or tea that will be produced in the fermenting process. Adding 3-4 inches of dry, absorbent material to the bottom of the bucket, such as sawdust, shredded newspaper, shredded cardboard, or crunched dry leaves will help absorb this. You can also build in a 'spigot' or tap into your bucket to drain the water.



Bokashi Bran

Sounds like breakfast right? Well it is, for bacteria. Bokashi bran has been inoculated with Effective Microorganisms (EM), which are a mix of lactic acid bacteria, photosynthetic bacteria, and yeast, which are critical to ferment food waste safely and quickly. It is completely non-toxic unless one is allergic to wheat bran. While it is easy to buy Bokashi bran, you can also make your own. This must be stored in a cool, dry place, out of sunlight.



Bokashi composting step by step



Step-1

1. Prep your food waste

- Cut food waste into 1-2-inch pieces.
- Do not add liquids, oils, rotten or mouldy food.
- You can either keep food waste in the fridge until you have enough or add these to the bucket over time.



Step-2

2. Layering

- Keep layering your food waste and small handfuls of Bokashi bran.
- Compress the layers to get rid of the air inside the bucket.
- Keep adding layers and compressing until the bucket is full.
- Make sure your lid is airtight.



Step-3

3. Bokashi tea

- Once the bucket is full and the lid is closed, leave it for 2 weeks to ferment.
- Bokashi liquid or tea can be collected every 3-4 days.
- You can dilute this with water and use it to water your plants.



Step-4

4. Leave to ferment

- After 2 weeks, open the lid.
- You may see white fungal blooms, don't worry, this is normal.
- Your pre-compost is now ready to go into the ground.



Step-5

5. Use it

- Add this to a compost bin, worm bin, bury it in the ground, or layer this in a pot with soil to break down into compost.



Make your own Bokashi Bran

Materials:

- 1.5 TB EM-1 store-bought liquid microbe solution.
- 3 lb. Flake material.
- You can use wheat bran, coffee chaff, leaves and untreated sawdust if you don't want to spend on store-bought Bokashi flakes.
- 1.5 TB Molasses.
- This serves as fuel for the microbes.
- 3 cups water.
- Container for mixing.
- Make sure it's big enough to hold your flake material and then some, as you'll be mixing the flakes around and you don't want to spill them all over your counter.
- Plastic bag.
- A reused grocery store bag or a trash bag will do. Make sure there are no holes in the plastic.

Instructions:

- 1) Dissolve the molasses in the water.
- 2) Add EM-1 to the water mix.
- 3) Pour dry flake material into the mixing container.
- 4) Add 2/3 of the water mixture to the flake material and mix it together. Use your hands! It not only feels good, but is vital to determining when you've achieved the ideal moisture level.
- 5) Squeeze a handful of flakes together. If it sticks together without dripping, it's perfect! Continue to the next section! If it crumbles apart like dust, it's too dry. Slowly add the remaining liquid to your flakes, pausing periodically to squeeze test it until it achieves the conditions described above. If liquid oozes from the flakes, it's too wet. Add more dry flake material until it achieves the conditions described above.
- 6) Once you've achieved the proper moisture level, put the dampened flakes into the plastic bag.
- 7) Compress the bag contents to squeeze out as much air as you can from between the flakes and throughout the bag.
- 8) Twist or tie the bag closed, sealing the flakes in a private, air-tight universe.
- 9) Keep the bag in a warm, out-of-the-way corner like a cupboard or cabinet for a minimum of two weeks. In this quiet, dark, airless space, the microbes will ferment the flakes.
- 10) After a few weeks have passed, open the bag. It should have a sweet, yeast-y smell to it. You may see white mould on it, which is totally fine. If you see green/blue/black mould, something went wrong and the wrong microbes cultivated. Compost the bad batch and start over.
- 11) Dry your flakes for long-term storage and use. Spread your Bokashi flakes out in a thin layer on the floor or on a table to air out. You can do this in a tray, on a plate, or any other surface you don't mind spreading flakes on. Heat and sunshine help speed things up.

[Bran recipe taken from: <https://thecompostess.com/2015/04/22/how-to-make-bokashi/>]



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In a Bokashi blur? Here's help:

What can I compost in a Bokashi bin?

Most food scraps, including fruits, vegetables, cooked food (meat and dairy included), coffee grounds, tea bags, and eggshells.

What shouldn't I put in a Bokashi bin?

Liquids (oil, milk, broth), yard waste, pet waste, and anything non-organic (plastic, metal).

What do I need to get started with Bokashi composting?

A Bokashi bin with a tight-fitting lid and a tap to drain liquid (Bokashi tea). Bokashi bran (inoculant containing beneficial microbes).

Do I need to drain the Bokashi tea?

Yes, draining the tea regularly prevents the bin from becoming overly saturated and creating odours.

How often should I add Bokashi bran?

Add a layer of bran with every addition of food scraps.

Can I use Bokashi indoors?

Yes, the airtight design of Bokashi bins minimizes odours, making them suitable for indoor use.

What happens to the Bokashi after the fermentation process?

There are two options:

- 1) Add it directly to your garden soil and let it continue composting there.
- 2) Mix it with soil in a ratio of 1:3 (Bokashi:soil) and use it as a potent soil amendment. Bokashi breaks down much faster than traditional compost due to the pre-fermentation process. It can take anywhere from 2-4 weeks to fully decompose in your garden.



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I see some mould growing in my Bokashi bin. Is this normal?

A small amount of white or grey mould is harmless. If you see excessive mould growth, it often indicates too much moisture. Add more Bokashi bran or adjust the amount of food scraps you add.

How long can I keep my Bokashi bucket before using the contents?

The minimum recommended fermentation time is 2 weeks. However, you can store your Bokashi bucket for much longer, even months. The fermentation process will simply slow down. Just remember to drain the Bokashi tea regularly to prevent overflow and odour.

What about temperature fluctuations? Does Bokashi composting work in Singapore's climate?

Bokashi composting thrives in moderate temperatures (around 20°C). While Singapore's climate is generally warm and suitable, extreme heat can slow down the fermentation process.

Here are some tips for managing your Bokashi bin in Singapore's weather:

Keep your bin indoors: This helps regulate temperature and minimizes exposure to direct sunlight.

Avoid placing the bin near heat sources: Ovens, stoves, and dishwashers can further elevate the temperature inside the bin.

Should I use the same bucket over and over?

Yes, you can definitely reuse your Bokashi bucket indefinitely as long as it's in good condition. Make sure to clean it thoroughly after emptying the fermented food scraps (Bokashi). Wash it with warm soapy water and allow it to dry completely before adding new food scraps and Bokashi bran.

When do you know your Bokashi is ready?

Your Bokashi is ready when it has fermented for at least 2 weeks. Signs your Bokashi is finished include: A pleasant, slightly acidic aroma (similar to pickles or vinegar). The food scraps have shrunk and softened. A brown or light brown liquid (Bokashi tea) has accumulated in the bottom tray.

Still lost in the bucket?

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