

**DILULU FOUNDATION**

GROWING GREENER COMMUNITIES ACROSS AFRICA

GARDENING GUIDE

Bokashi Composting for Urban Homes

Learn about the Japanese method of fermenting kitchen waste, perfect for apartments and urban settings. This guide covers making bokashi bran, setting up a system, and using the fermented material.

COMPOSTING

ALL LEVELS

ENGLISH

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"Knowledge grows when it is shared."

DILULU FOUNDATION – ENVIRONMENTAL EDUCATION FOR AFRICA



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Bokashi is a Japanese method of composting that ferments kitchen waste — including meat, fish, dairy and cooked food that a normal compost pile cannot handle — inside a sealed bucket, right in your kitchen. In small apartments and busy urban homes across Africa, bokashi offers a fast, clean and odour-controlled way to keep every scrap of food out of the bin and return it to the soil.

This guide explains the science behind bokashi, how to set up and run a bokashi system, what to do with the fermented material, and how to use the nutrient-rich liquid by-product on your plants.

What Is Bokashi?

Bokashi means "fermented organic matter" in Japanese. Instead of decomposing waste with oxygen (as in regular composting), bokashi pickles it anaerobically using beneficial micro-organisms. The process is more like making sauerkraut than making compost — it preserves the waste, breaks down its structure, and prepares it for rapid breakdown in soil.

Bokashi vs. Traditional Composting

FEATURE	BOKASHI	TRADITIONAL COMPOSTING
Accepts all food waste	Yes — meat, dairy, cooked food	No — plant matter only
Space needed	A bucket under the sink	Outdoor bin or pile
Time to finish	2 weeks ferment + 2–4 weeks in soil	2–6 months
Odour	Mild pickled smell	Earthy smell
Direct plant use	No — must be buried first	Yes, once mature

The Science in Simple Words

Bokashi bran is inoculated with effective microorganisms (EM) — a mix of lactic acid bacteria, yeasts and photosynthetic bacteria. In the sealed, airless bucket these microbes ferment the food, producing acids that suppress rotting organisms. The waste does not decay in the bucket; it pickles. That is why a bokashi bucket, properly sealed, does not attract flies or produce the rotten smells of ordinary garbage.

"Bokashi turns the one thing we all produce every day — food waste — into a gift for the soil, without needing a single square metre of garden."



Why Bokashi Is Perfect for Urban Homes

- **Zero garden required:** the bucket lives indoors; the soil burial can happen in a planter, a community garden or a friend's plot.
- **Accepts everything:** cooked leftovers, bones, citrus, onion — foods worm bins and compost piles struggle with.
- **No pests:** the sealed lid keeps flies, ants and rodents out completely.
- **Fast and compact:** a 20-litre bucket handles a small household's waste for two to three weeks.
- **Liquid fertilizer:** the drained-off liquid feeds houseplants and balcony gardens.

Equipment You Need

1. **Two airtight buckets (20 litres):** one to fill, one to fill while the first ferments. A tight-sealing lid is essential.
2. **Drainage system:** either a purpose-made bokashi bucket with a tap, or a plain bucket with holes drilled in the base set inside a second bucket to catch liquid.
3. **Bokashi bran:** purchased from garden suppliers or made at home by fermenting bran or sawdust with EM solution.
4. **Masher or plate:** to press air out of the waste after each addition.

Making Your Own Bokashi Bran

Commercial bran is convenient, but homemade bran costs almost nothing and keeps you self-sufficient.

Ingredients

- 5 kg wheat or rice bran (or fine sawdust, husks, or a mix)
- EM solution (or a homemade culture of rice-wash serum and milk)
- 1 part molasses or sugar to 1 part EM, mixed in 2–3 litres of chlorine-free water

Method

1. Mix the molasses, EM and water well, then fold into the bran until it holds together when squeezed — like a damp sponge.
2. Pack the bran tightly into an airtight bag, squeezing out all air, and seal.
3. Ferment for two weeks in a warm, dark place. The bran should smell sweet and pickled, with a little white mould.
4. Spread it out to dry completely, then store in sealed containers. It keeps for a year or more.

Setting Up Your Bucket

1. **Base layer:** sprinkle a generous handful of bran across the bottom of the bucket.
2. **Add waste:** chop scraps into small pieces (2–3 cm) and add a day's worth at a time.
3. **Sprinkle:** dust each layer of waste with a tablespoon of bran per 3–4 cm of food.
4. **Press down:** compact the waste firmly with a masher or plate to squeeze out air.
5. **Seal:** close the lid tightly after every addition — air is the enemy.
6. **Drain:** every two to three days, drain off the liquid through the tap or from the bottom bucket.

What Can Go In — and What Cannot

Great for Bokashi

- Fruit and vegetable scraps, peels and cores
- Cooked food, rice, bread, pasta and leftovers
- Meat, fish, small bones and eggshells
- Tea bags, coffee grounds, wilted flowers

Leave These Out

- Large amounts of liquid (soup, oil, milk) — drain food before adding
- Already rotten or mouldy food — fermenting works best with fresh waste
- Large bones, shells and hard seeds — they will not break down
- Plastic, glass, metal and other non-food items

The Fermentation Stage

Once the bucket is full, close it and let it ferment undisturbed for two weeks in a spot out of direct sun. During this time the pickling process completes. A good batch smells like vinegar and pickles — slightly sharp but never rotten. White mould on top is healthy; green or black mould means air got in.

While the first bucket ferments, start filling the second. With two buckets rotating, the system never stops.

The Bokashi Liquid

The liquid that drains from a bokashi bucket is a potent, living fertilizer — but it is also strongly acidic and must always be diluted.

- **Houseplants and garden:** dilute 1:100 (one tablespoon per litre of water) and apply weekly.
- **Drains:** pour undiluted liquid down sinks and toilets; the microbes help keep drains clean.
- **Timing:** use the liquid within 24 hours of draining — it loses potency quickly.

Finishing the Cycle — Soil Burial

Fermented bokashi waste is acidic and concentrated; plants cannot use it directly. It must be buried in soil, where earthworms and soil life finish the job, turning it into rich humus within two to four weeks.

Burial Options for Urban Homes

- **Large planter or grow bag:** dig a trench in the centre, empty the bucket, cover with 20 cm of soil, and plant into it four weeks later.
- **Soil factory:** a bin of soil or old potting mix in which you bury batches in rotation — a permanent indoor-to-soil converter.
- **Community garden or school plot:** coordinate with the garden team for a dedicated bokashi trench.
- **Neighbour's garden:** fermented bokashi is a sought-after soil amendment — share it proudly.

Never leave fermented waste exposed: cover it completely with soil to avoid attracting flies, and keep it away from plant roots until it has broken down.

Troubleshooting

PROBLEM	LIKELY CAUSE	SOLUTION
Rotten, sewage-like smell	Air entered, or too much liquid	Add more bran, drain well, press out air, reseal tightly
Green or black mould	Not enough bran, or lid not sealed	Add extra bran, discard badly mouldy material, seal firmly
White mould	Healthy fermentation	None — this is a good sign
Very little liquid	Dry waste or warm climate	Normal for dry scraps — no action needed
Maggots or flies inside	Lid left open or waste exposed to air	Reseal, add bran, keep lid closed between additions

Bokashi at Community Scale

Neighbourhoods, restaurants and markets can run bokashi at scale using 200-litre drums fitted with lids and taps. The pattern is identical — layer, sprinkle, press, seal — and the output is valuable: within a month, a barrel of food waste becomes soil-building material and litres of liquid fertilizer. Community bokashi projects pair beautifully with shared gardens, school feeding programmes and market clean-up initiatives.

Frequently Asked Questions

Does bokashi smell bad in the kitchen?

No. When the lid is sealed and the bran balance is right, the only smell is a mild pickled aroma when you open the bucket.

What if I have no soil to bury it in?

Use a soil factory bin on a balcony, or donate your fermented waste to a community garden, school or urban farm — they will welcome it.

Can bokashi waste go into a normal compost pile?

Yes. Fermented waste breaks down very quickly in a compost heap and actually helps activate it.



How long does a batch of bran last?

A 5 kg batch can last a small household three to six months when stored dry and sealed.

Glossary of Terms

- **EM (effective microorganisms):** the blend of fermenting microbes used to make bokashi bran.
- **Anaerobic:** without oxygen — the condition inside a sealed bokashi bucket.
- **Soil factory:** a container of soil used to finish bokashi waste into plant-ready humus.
- **Leachate:** the nutrient-rich liquid drained from the bucket.

Further Learning

Practice is the best teacher: start with one bucket, keep a simple log of what you add, and taste-test the smell each week — a healthy bucket is unmistakable. Local urban farming networks and permaculture groups often run bokashi workshops worth joining.