Home Organics Management
Bokashi

Bokashi is a Japanese term meaning “fermented organic matter”. It is different from composting, which requires oxygen. Bokashi systems rely on an anaerobic process (without oxygen) to break down a wide variety of food waste on site. Bokashi uses a dehydrated “starter” of effective microorganisms (EMs) to carry out the fermentation process.

It is best used to compliment another composting system, as the ‘spent’ material still needs to break down further once it has gone through the bokashi process. It is a great alternative to the digester (see Factsheet) as it breaks down the same types of materials but can be secured indoors, and doesn’t need sunlight or direct contact with soils to work. You can make your own system or purchase a ready-to-use unit.

How to Use a Bokashi System

All food scraps can go into this system including meat, dairy, grains, oils, cooked food, as well as raw fruit and vegetable scraps.

A bokashi system consists of a sealed plastic container such as a 5-gallon bucket with a lid and spigot and the dehydrated EM or ‘bokashi bran’ to get things started. The spigot allows you to drain the nutrient-rich liquid that is a byproduct of the fermentation process. This liquid can be diluted and used as a plant fertilizer or even poured down the sink to unclog the drain! Draining is optional however, as the liquid can be incorporated into your compost pile or soils when moving to secondary composting. Since you will need to stop adding fresh materials and let the system sit and ferment until it’s finished, you will need a minimum of 2 buckets. Here’s what the process looks like:

1. Add your food scraps to the bokashi bucket.
2. Add a handful of the bokashi bran. Use a plate tor similar to press down on the materials to squeeze out any air.
3. Unseal and add food scraps as needed in batches until the bucket is full.
4. Once the bucket is full, make sure the lid is sealed and set it aside for 1-2 weeks.
5. While your first bucket sits and ferments, start a second bucket and repeat steps 1-3.
6. Optional: Drain off liquid at any time to dilute and use as fertilizer.
7. After 1-2 weeks, open the first bucket and place the decomposed material into a compost pile or trench it into the ground. Do not plant on top of this material right away, as it is still full of volatile organic acids that can harm plant roots.
8. 8. Allow another 2 weeks before planting or using compost with this material in it.

Effort Scale

1 2 3 **4** 5

Easy — **Hard**

Requires timing your bokashi operation so you can accommodate a constant waste stream. Allocate a place to bury or finish processing the residual fermented material, like a backyard composter.

Cost Scale

1 2 3 4 5

Less $ — **More $$**

Since DIY options exist, Bokashi offers an affordable way to get started with organics diversion. Purchase a full kit from $50 - $200.

Bokashi and Wildlife

When properly added, the fermented byproduct from bokashi fermentation should not be attractive to animals. When it is added to a composter or dug into soil, it breaks down very quickly. Generally, properly managed bokashi systems are a safe option to reduce wildlife attractiveness of food waste.

Aerobic vs. Anaerobic Decomposition

Aerobic decomposition takes place in an oxygenated environment, like a compost pile or worm bin. It smells sweet and earthy and breeds beneficial microorganisms for your garden soils and plants.

Anaerobic decomposition takes place in the absence of oxygen, like when layers of organic material get too compacted or when you “drown” weeds in a bucket of water. This leads to putrefaction, which can have a sulfuric smell (or just a plain bad smell!) and breeds non-beneficial bacteria.

Fermentation is a form of anaerobic decomposition but differs from putrefaction due to the presence of specific strains of beneficial bacteria. The organic materials are inoculated, and the fermentation begins. This is what is happening in a bokashi system, resulting in the ’pickled’ smell and look of the output from this system.

Because fermentation doesn’t lead to complete breakdown of your organic waste, you need to transfer the spent material (or ‘ferment’) to a compost pile (don’t forget to add “browns”) or bury it in the ground for it to complete the decomposition process.

Making Your Own Bokashi Bucket

1. Obtain two 5-gallon buckets, one bucket lid and one spigot from your local hardware store.
2. Drill drainage holes in the bottom of one bucket. Insert this bucket into the second bucket.
3. Drill a hole in the side at the bottom of the second bucket that is just slightly smaller than the circumference of your spigot.
4. Twist the spigot into the hole. Presto!

Making Your Own Bokashi Bran

One disadvantage to using bokashi system can be that you have to keep purchasing the bran inoculated with effective microorganisms. It is possible to make your own, however, if you have a food dehydrator.

1. Purchase effective microorganisms (EM) from a supplier.
2. Mix 1 part EM to 1 part molasses to 100 parts water.
3. Add to dry bran and mix until moist, but not wet.
4. Pack firmly into an air tight container, tightly place lid on top.
5. Let sit in a warm place for 1-2 weeks.
6. Dehydrate the bran in a food dehydrator.