



ECO BIN

India's First Indoor Bokashi Composter

User's Guide



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INTRODUCTION TO COMPOSTING

WHAT IS COMPOSTING

Composting is a natural and normal process where organic material is broken down by bacteria and microorganisms. The compost is then added to the soil as an amendment or mulch so that the soil improves and benefits the plant material.

You can do this with no fear whatsoever because compost is not a fertilizer. In fact compost is very low in nutrient value. The structure of compost is what is most valuable. The goal of any soil composition is to be as near loam as possible. This is ideal. Every soil can use some degree of improvement, and compost will do it.

WHY COMPOST?

By composting, we can recycle kitchen waste into a very beneficial material, and not fill up the land-fills. Compost will enhance the ability of the soil to hold water. By using compost as a mulch and amendment, you will warm up the soil quicker.

Compost helps keep soil "alive"! All those microorganisms will continue to assist in soil preparation. It is a "miracle material" in many ways.

It seems that everyone has their own methods of composting. They all work.

WHY MOST OF THEM FEAR COMPOSTING?

The perceived inconvenience, the dogged concerns about odors, maggot infestation, flies, and rodents. And the fact that we are a little grossed out by food gone bad and would rather not see it again after we throw it out.

Or, is it because people are unsure how to compost? Don't they realize the benefits? Or maybe they don't know the negatives? Or are they just too lazy? Or maybe they think they don't have the space?

There are several methods and techniques that have been devised to allay all such fears about composting. There are some composting methods that are less complex and very effective, with bare minimum effort. Something that is

as simple as - "Fill it and Shut it". Let us find out how we are here to make composting super easy for you.

BOKASHI COMPOSTING

What is Bokashi?

Bokashi is wheat-bran inoculated with a mix of probiotic bacteria, yeast and fungi. Bokashi is safe, natural and 100% biodegradable. Bokashi breaks down food waste through an odorless fermentation process.

Why should you opt for Bokashi Composting

The world is increasingly getting aware of the need to protect the planet and the environment. Hence, there is a surge in the demand for a natural, easy to use ways to manage the phenomenal growing rate of household, agricultural and commercial waste.

In Bokashi composting, kitchen scraps of all kinds — including meat and dairy products banned from aerobic systems — are mixed with some of the inoculated bran, pressed into the Bokashi bin, covered with another handful of bran, and tightly covered. When the bin is full, it is sealed shut and set aside for ten to twelve days. Every other day during that time, the leachate, that is an inevitable by-product of anaerobic composting, needs to be drained off. That's the only care required. (This is very easy with a commercial Bokashi bin, which has a tap for this purpose.) When the bin is opened, the contents, though recognizable, are thoroughly pickled.

ECO BIN

Eco Bin is a unique "All Season" indoor Bokashi composter kit. This composter bin is a one stop solution for all your kitchen waste. Eco Bin recycles your kitchen scraps into an organic compost 'soil conditioner'.

Why Eco Bin

The most effective method of fermenting is through anaerobic (without oxygen) fermentation. This process ferments and pickles your food waste in less than half the time of conventional composting methods, without any unpleasant odors.

Wondering how? The three main protagonists, a drain tap, the strainer, and our Magic Microbes Bokashi bran.

The strainer and the drain tap work in tandem by allowing the moisture released by the food waste to be drained out to prevent spoiling the composting process. And this liquid (termed as leachate), can be used fertilizer for your plants (1:100 dilution) or to clean your kitchen and bathroom drains (undiluted).

Our Eco Bin, is custom made to be implemented in an indoor environment, making it easy-to-use in an apartment, school, household, restaurant, business or wilderness!.

Each Eco Bin composter kit, comes along with complete instructions and magic microbes. As you feed your kitchen waste into our bin and release our magic microbes, they get on with their job of activating anaerobic fermentation that accelerates the composting process, while eliminating odors and deterring pests.

India's first at home Bokashi composter in your hands, ready to weave its magic and revive your garden. A truly cost effective product, worth every penny!!

Table 1: Eco Bin Bokashi versus traditional composting

	Eco Bin Bokashi composting	Traditional composting
Process	Fermentation	Heat/Oxidation
Metabolism	Anaerobic	Aerobic
Time	30 - 90 days	180 - 365 days
Biomass limits	None	Meat, diary, fats
Produces greenhouse gases	No	Yes
Maintenance	Low (no turning, no watering)	High (must turn and water)
Nutrient value of end product	High	Low to moderate

What's in the box?

The kit includes:

- Eco Bin-Indoor Bokashi Composter (2 nos.)
- Drain taps (2 nos.)
- Lids (2 nos.)
- Inner drain tray/strainer (2 nos.)
- A pair of imported latex hand gloves
- 3 packets of Magic Microbes (Bokashi bran), of 500gms each

Tip

We recommend you to store the Magic Microbes mix in an airtight container, at ambient temperature.

- User Instructions

Note:

The Eco Bin Composter holds on average 2 weeks worth of food waste, which will take approximately 3 weeks to break down. Therefore, we recommend you make use of the 2 bins in rotation.

SETTING UP ECO BIN

HOW TO SETUP YOUR ECO BIN

The Eco Bin is so easy to set up and use. It really adds very little extra time to your daily routine and it's so satisfying to know that all those food scraps are going to such good use.

To set up the Eco Bin Composter, you must:

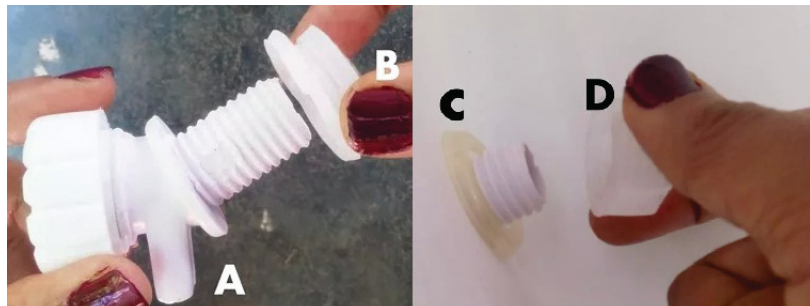
1. Place the bin on a flat solid surface.



2. Now, arrange the following:
 - a. Plastic tap
 - b. Rubber washer
 - c. Plastic washer
 - d. Plastic bolt



3. Place the plastic tap and one rubber washer from the outside of the bin. Then, place the another plastic washer and the plastic bolt on the inside of the bin and then tighten, just enough to create a water tight seal.



Note:

DO NOT tighten the bolt holding the tap. The washer may stretch and the seal may break. You must first place the rubber washer and then, tighten. Later, place the plastic washer and the bolt and then tighten.

4. Once the tap is in position, you must now do the water leak test. To check if your Eco Bin is still airtight, pour in enough water to cover the

tap, make sure there is no leakage around the tap area. If you find any leaks, tighten the nut or refit the washer.



5. First, layer the strainer with a newspaper and then place the strainer, inside the bin.



Note:

If you DO NOT wish to drain the leachate often, you can add a spoonful of Jaggery into the Eco Bin and then place the strainer. Avoid adding sugar instead of Jaggery as the refined sugar does not serve any purpose.

Jaggery is added as food for microbes present in the leachate that collects at the bottom of the bin. You can drain the leachate at your convenience, while the microbes make merry by gorging on the Jaggery.

6. Add a tsp of Magic Microbes mix on the news paper layer.
7. Close the lid tightly and your Eco Bin is ready to use.

Now, Eco Bin will replace your wet waste bin.

HOW TO USE YOUR ECO BIN

OVERVIEW

From a six year old to sixty year old, using Eco Bin is very simple.

All the kitchen scrap goes through two unique stages, as it transforms from waste to wonder!

- a. [Stage I](#)
- b. [Stage II](#)

HOW TO USE THE ECO BIN COMPOSTER

Stage 1

The following procedure explains the process in Stage I:

- I. To get started, you must keep the assembled Eco Bin Composter and the Magic Microbes mix ready.



2. Add food waste (cooked or uncooked meat, veggies, coffee grounds, spicy, dairy etc) as and when they are generated. DO NOT add excessive liquids or plastics.



Tip

Your kitchen waste will compost more effectively if cut into small pieces.

Note:

It is advisable to use your Eco Bin as your wet waste dust bin. Keep adding your food waste as and when it is generated. At the end of the day, ensure to generously sprinkle Magic Microbes.

3. Sprinkle a small handful of Magic Microbes on top of the food scraps. Ideally, all the waste should be covered with Magic Microbes.



4. To remove air pockets, gently press the material down lightly using a plastic/wooden press or a small plate. The fermenting process is anaerobic and this will help extract air from the organic matter.
5. Keep the lid on tight at all times – the less air, the better.
6. Draw off any excess liquid produced using the tap at the base of the bin, approximately every 2 days. This allows the waste to break down at a quicker rate.

Note:

The amount of leachate produced depends on the moisture content in the scraps added.



Tip

Dilute the Bokashi juice at a rate of 1:100 parts water. The Bokashi juice is pretty strong as it contains live microbes. So, ensure proper dilution before you use. This can then be used as plant feed or poured undiluted down the sink to prevent algae build-up and control odors.

7. Repeat the process until the bin is full.
8. Once the bin is full, leave it with the lid on tight for 3 weeks, away from direct sun light. This allows the fermentation process to work its magic. Excess Bokashi juice should be drained off at regular intervals throughout fermentation.

9. Appearances of white growth on the surface and the presence of a sweet and sour pickle-like smell are good indicators that fermentation is in progress.



Tip

In the meantime, you can start filling your second bin. When the second bin is full, empty the first. Give the bin a good rinse before filling it again.

Stage II

Note:

Bokashi composting does not break things down the way traditional aerobic composting does. You will not get a pile of compost from your kitchen scraps, fish, or whatever you are composting this way. You will simply have the same material, looking a little more whitish, more easily broken/separated when you squeeze it, and smelling sour. BUT, this material, in the next stage of decomposition, will break down much faster and more completely than it would otherwise.

10. Once you have followed the Eco Bin Composting instructions and recycled your food waste, you will be left with a bin full of highly nutritious, fermented organic matter. We call this the “pre-compost”.

There are several ways in which you can put this Bokashi pre-compost to use. You can:

- Use it directly in the garden
- Add to a compost heap
- Add to a worm composting bin

OR

- You can use the pickle (pre-compost) to be layered and used with existing compost. To learn how to layer and compost, refer to “Layering and composting”.

Use it directly in the garden

1. Drain off any excess liquid from the Bokashi pre-compost.
2. Directly bury the Bokashi pre-compost with at least 4 inches of normal garden soil.
3. Leave for around 3 weeks to fully decompose.

Add to a compost heap

1. When adding Bokashi pre-compost, it is best to mix the fermented waste throughout the heap, as much as possible.

Add to a worm composting bin

1. Drain off any excess liquid from the Bokashi pre-compost.
2. Ensure to add the pre-compost little and often (a handful or two).
3. Now, stand back and let the worms get to work.

Tip

This approach is ideal for people short on space, or those who want to complement their existing worm composting systems.

Layering and composting

- a. You must first keep a big container ready to begin the layering process. Containers can be a plastic pot, a huge drum, cane basket, or a terracotta pot.



Tip

Feeling uneasy to handle the pickle or waste? You can probably wear the gloves provided along with the EB kit.

- b. In case you are using a cane basket, ensure to line your container with layers of newspaper.

Tip

Place a plastic sheet over the newspaper. This ensures the newspaper does not become soggy and tear apart.

- c. Now, add 2 - 3 inches of finely done compost over the plastic sheet (if using a cane basket). Else, add the compost directly into the pot.



Note

- *If you are using Eco Bin for the first time, you must purchase the compost for layering. Look through your local gardening groups to help you purchase compost.*

OR

- *Unable to find compost for layering? Not to worry, for you can use dry soil (fine and hammered to powder) for the layering process.*
-

d. Add one inch of pickle (pre-compost) over the compost.



e. Again, add 2 - 3 inches of finely done compost over the pickle.



- f. Repeat steps c through e until you have buried all the pickle.
- g. Seal the container with four layers of newspaper and cover it with a cloth.



- h. Store the containers in a cool dark place for 3 - 6 weeks and the compost is ready!!

TROUBLESHOOTING TIPS

OVERVIEW

Sometimes, you might have looked around for that one helpful hint or tip to ease your composting worries. There is always a problem and a possible solution. I have just listed few tips to help you overcome some of the problems. Feel free to pitch in!

TROUBLESHOOTING/HELPFUL TIPS

Table 1: Troubleshooting tips

Problem	Possible solution
Oops! I think I added too much of Magic Microbes Mix!	You can never add too much Magic Microbes Mix. It is absolutely okay if you have added too much mix.
Gosh! Too much of rotten or moldy wastes!	Even though it is advisable to add fresh waste to your Eco Bin, our Magic Microbes are so strong, they will work their magic on all kinds of waste!
Its so boring to keep pressing the lid back on Eco Bin	The less air that comes into contact with the compost, the better. So, please compact waste by pressing it down to remove air.
I just dumped large chunks of watermelon rind!	Its okay! It's just that the composting of those rinds will take a wee bit longer! Next time, don't forget to chop large waste into smaller pieces.

Table 1: Troubleshooting tips

Problem	Possible solution
I have too much of left over gravy!	A big NO to excessive fluids or water.
Placing my Eco Bin on the window sill looks aesthetically appealing!	It is absolutely okay to place your Eco Bin anywhere, but, ensure to keep the bin out of direct sunlight.
I think I am wasting water washing my bin!	You must wash the bin after each use. Use the nutrient filled water to water your plants!

FREQUENTLY ASKED QUESTIONS

OVERVIEW

Question on your mind? You are at the right place!

Many times, for all the questions you have in mind while composting, or for problems that you might encounter, we decided to compile a section listing down the various questions and probable solution.

In the following table, you will find short answers to many of the common issues faced by others. If you cannot find the answer you are looking for, be sure to let us know.

Table 1: Frequently asked questions

Questions	Solution
What goes into my Eco Bin Composter	You can compost most kitchen food waste including fresh fruit and vegetables, prepared foods, cooked and uncooked meats and fish, cheese, eggs, bread, coffee grinds, teabags, wilted flowers and tissues.
What can't I put in the Eco Bin Composter?	Do not put liquids (water, milk or fruit juice), paper and plastic wrap, or meat bones into the Eco Bin Composter.

Table 1: Frequently asked questions

Questions	Solution
What are the signs of success	<p>The Eco Bin Composter is easy to use and it is highly unlikely that you will strike problems. A good sign (which may or may not be present, don't worry if not) which you may notice when the lid is removed is:</p> <ul style="list-style-type: none"> • Smell: A subtle smell of pickles or cider vinegar. • Visual: Occasionally, particularly for longer fermentation periods, a white cotton-like fungi growth may appear on the surface. This is also a sign that the process is working well. • What next?: Continue with what you are doing:-)

Table 1: Frequently asked questions

Questions	Solution
What are the signs indicating all is not well	<ul style="list-style-type: none"> • Smell: A strong rancid or rotten smell indicates the process has failed. • Visual: The presence of maggots or black or blue-green fungi indicates that contamination has occurred and the process has not fermented but putrefied. • What next?: You can try any of the following: <ul style="list-style-type: none"> • Start adding enough Magic Microbes Mix • Ensure to replace the bin lid tightly after each use • Ensure to drain the Bokashi juice frequently from the bin • Avoid prolonged and direct exposure to sunlight and extreme temperatures
Eeks! Why maggots in my bin?	<p>Maggots are fly larvae and are lured by:</p> <ul style="list-style-type: none"> • Garbage • Leftover food • Animal dung • Manure • Moist rotting material

Table 1: Frequently asked questions

Questions	Solution
How do I fix my maggots issue?	Do nothing:-). Lets burst some myths about maggots. Do take some time off to read the document <i>“All about Maggots-Bursting myths”</i> at myecobin.in.
What can I use the Bokashi Juice for?	Bokashi Juice can be used: In the Garden -To fertilize an existing garden or pot plants use 1 teaspoon to 2-3 liters of water and apply directly to the soil. For trees and shrubs use 2 teaspoons to 2-3 liters of water. You can also do a foliar spray. Around the House - Pour the concentrated Bokashi Juice directly into your kitchen and bathroom drains, toilets or septic systems. The micro-organisms will help to prevent algae build-up and control odor. It will also help to clean up our waterways by competing with harmful bacteria. Bokashi Juice must be used within 24 hours after draining from the Eco Bin.
Help! I have drained the Bokashi juice and now short of time to use it immediately. Can I store it?	Oh yes! Store it in the refrigerator. In case of power cuts, just add jaggery and store it wherever you want.
How do I use Bokashi Compost?	Add your fermented Bokashi Compost in some soil.

Table 1: Frequently asked questions

Questions	Solution
Can I use Bokashi in planter boxes?	You can use your Bokashi Compost in planter boxes, tubs or pots by placing it directly into the container for further fermentation. Fill 1/3 of the container with potting mix (new or used) then add the Bokashi Compost and mix with soil. Fill the remaining 1/3 of the container with potting mix and cover with a plastic bag to maintain anaerobic conditions. Wait two weeks before planting you favorite veggies or flowers, or transfer potting mix into smaller pots for planting.
No Bokashi juice (leachate)	Moist foods produce more juice. Leachate is not essential.
Bokashi juice (leachate) is a different or odd color	The amount and color of the leachate depends on the type of foods fermented and can vary.
How should I store my Magic Mircobes	The best way to preserve the shelf life of dry Magic Mircobes is to keep it dry and to store it anaerobically out of direct sunlight and away from extreme heat. Stored this way, the Magic Mircobes should remain viable for up to one year.

Table 1: Frequently asked questions

Questions	Solution
What do I do if my animal or child has eaten some Magic Mircobes?	<i>Absolutely nothing!</i> Magic Mircobes is made with probiotics that is brewed with food grade mother culture EM. Humans probably will not like the taste but animals will. The microbes in Magic Mircobes are very common in nature and are not pathogenic. The probiotics are found in cheese, yogurt, breads and wines.
I've tried all the home remedies to get rid of ants in my vegetable garden with little success. Do you have any suggestions?	I also tried all the natural, home remedies from garlic and pepper spray to curry powder. No success. I then took a bag of Bokashi and sprinkled it down the ant holes. They really don't like the Bokashi and left my vegetable garden. In fact, whatever was eating my spinach also left.:-)

Table 1: Frequently asked questions

Questions	Solution
My Eco Bin tap is leaking!	<p>Four reasons for leak:</p> <ul style="list-style-type: none"> • Broken or cracked parts • Parts too tight, washers bulge outside rim • Loose back assembly (tap, nut and 2 washers (various causes) • Loose main aperture or assembly (that is, unscrewing too much when there is no apparent juice) <p>After removing the compost, the tap can be removed and reassembled, but you need to:</p> <ol style="list-style-type: none"> 1. Dismount the tap from the bin. 2. Take the dial face off the tap, and then unscrew the dial from the main assembly. 3. Thoroughly clean all parts. 4. Reassemble the main assembly. 5. Attach back to the bin.
Can I use Magic Microbes mix in any of my existing composter?	Oh yes! Please go ahead and use it.

Table 1: Frequently asked questions

Questions	Solution
It didn't turn into compost in the Eco Bin	<p>This is the most common misconception about this system, that the compost is created in the Eco Bin. The process is begun in the bin, but what you see is more of a pickling of the contents. You may also see some white fungus on the surface. That's good. The final composting process occurs once you have:</p> <ul style="list-style-type: none"> • Buried the contents into the ground. <p>Or</p> <ul style="list-style-type: none"> • Mixed the pre-compost with existing compost and set aside.
I have exhausted my Magic Microbes Bokashi mix. How do I order?	You can order for a refill pack from http://myecobin.in