

# HOW TO SET UP A VERMICOMPOSTIN BIN?

If you have a small space you can compost indoors with worms (vermicomposting), converting materials such as food scraps, shredded paper, and coffee grounds into a high-quality plant food and soil enhancer. Below are some tips and tricks for starting your own vermicomposting operation:

## 1- BIN

You can vermicompost in any type of container you have on hand (plastic storage bin, wooden crate etc.). To set up the bin, drill holes on the bottom and put the bin on top of a metal or plastic tray (collects the leachate, the liquid that drains from the bin). Drill a few holes in the lid for improved air flow. It is important to consider how much food waste your household generates as this will correlate to the size of bin you will need. Generally, a household of two people produces about 1.5-2kg of food waste per week. The worm bin should be 60 centimeters by 60 centimeters and filled with about 4Kg of worms. The rule of thumb is worms are capable of eating half their body weight in food waste every day though in practice this depends on the bin conditions. The bin does not need to be very deep since the worms live and eat in the top 15-20 centimeters of material. If you have a larger household or produce more food waste (keep in mind not all food waste will be ideal for vermicomposting) than you can consider a stacked bin configuration.

## 2- BEDDING

Bedding is high-carbon material (known as browns), such as shredded paper, ripped paper egg cartons, cardboard, coconut coir, dried leaves, wood shavings, etc. Worms need bedding to live in – if there is nothing but “greens” (e.g., food scraps) in the bin they will be unhappy. Fill the bin to about 1/3 of its depth with moist bedding (not too wet). Bedding should be shredded into small pieces and added regularly, its good practice to cover new food waste with bedding also.

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## 3- FEEDING

Worms can eat a variety of organic materials but below are a few basic rules to follow.

### **What to feed the worms:**

- ✓ Crushed eggshells
- ✓ Coffee grounds (*in moderation due to acidity*)
- ✓ Loose tea (tea bags are not ideal for composting because they contain polypropylene, a type of plastic)
- ✓ Vegetable and fruit scraps (*avoid citrus*)
- ✓ Beans
- ✓ Rice, pasta grains, cereals, breads (*in moderation*)

### **Do NOT feed the worms:**

- × Citrus (peels or segments)- worms don't like an acidic environment
- × Meat product
- × Dairy products
- × Excessively oily items (e.g. fried foods)- food that is too greasy can suffocate the worms
- × Onions/Garlic- worms don't love these foods!

To feed dump the food waste in and spread it around (it is ideal to slightly bury the food waste below the surface) and add some bedding (see #2).

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## 4- HARVESTING

There are different methods for separating the vermicompost from the worms depending on your bin size and type.

- When the bin is getting close to full, stop adding new waste. Let the worms do their thing for five to six weeks, checking periodically to make sure that the bedding does not dry out (add some water if it is dry). When you no longer see any unfinished materials in the bin, you can start the harvesting process.
- Remove the bin lid and allow light to shine directly on the vermicompost surface for about 15 minutes. The worms don't like the light, so they will move deeper into the material.
- Using a garden trowel (or a spoon works) gently remove the top layer of the vermicompost (until you see the worms) and place in whatever container you can find for storage. Wait another 15 minutes and then repeat the process several times until you get to the point where the worms can't move any deeper.
- Add some new bedding on top of the worms and then start feeding again.

Alternatively, you can use the "migration method" to harvest the vermicompost:

- Wait until all the food waste and bedding has been converted into vermicompost then push the material to one side of the bin. Fill the open side with fresh bedding and begin feeding the worms on that side.
- Over several weeks most of the worms will move to the new side and you can harvest the finished compost from the other.

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## 5- COMMON PROBLEMS

### **Insect plagues**

If you find your bin infested with tiny white or red mites, you have a pH problem (that is your bin is too acidic). Adding ground eggshells will help to neutralize the pH. Problems with fruit flies can be reduced by washing fruit skins (where the eggs are laid) before the skins get added the bin.

### **The bin smells bad**

- A bad odour is caused by overfeeding the bin so as a result the food starts to rot faster than the worms can eat it. The rotting process will also deplete the oxygen in the bin and increase the amount of liquid (making the conditions too wet).
- To restore balance to the bin, stop feeding the worms until they have eaten the backlog of food. If you find that you have more food waste then the worms can get through, consider adding another worm bin.

### **The worms are escaping**

- If the worms are trying to escape the bin (they have left the bedding and are crawling up the sides), something is wrong with their living conditions. Ensure the food supply is enough but not excessive, the bedding is moist, and the bin is well-ventilated.

### **There is liquid at the bottom of the bin**

- Excess liquids should be able to leave the bin as wet conditions are hazardous for worms. Drill additional drainage holes on the bottom of the bin. You may find it useful to add a fine mesh screen so that the worms don't fall out of the bin but the liquids can still drain.

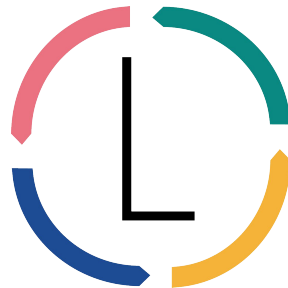
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## 6- WHERE DO I GET THE WORMS

The types of worms that are better for vermicomposting are Red Californian earthworms or African Nightcrawlers (preferable for sub-tropical and tropical climates). We are familiar with the below company in Colombia for purchasing worms.

**Lombricompost** (Bogota, Colombia)- Cell: +57 (300) 214-1503 or lombricompost@hotmail.com.

*Note: We are not affiliated nor are we endorsing this company. Only we want to provide useful information for people interested to compost in Colombia. If you know of any other companies that can supply worms and composting products, let us know!*



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