


Composting 101

Just rotting material or Something
More

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- 
- Organics such as food scraps, food preparation residuals, food soiled paper products, leaves, grass clippings, brush and tree trimmings comprise over 60% of our waste

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Why Compost ?

- Improves soil structure – it gives it a crumbly texture, beneficial for root growth.
- Improves water-retention in soils.
- Provides a source of slow-release, organic fertilizer for your plants
- Boosts the community of microorganisms and other creatures beneficial for enhancing nutrient uptake and fighting plant diseases

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How to use Compost

- For raised beds mix with 20% Top Soil
- Use as side dressing for plant rows.
- Mix directly in soil.
- Seed Starting Mix :
 - 4 parts screened compost
 - 1 part perlite
 - 1 part vermiculite
 - 2 parts sphagnum peat moss and/or coir

Composting Outdoors

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Simple Outdoor Piles or Bins

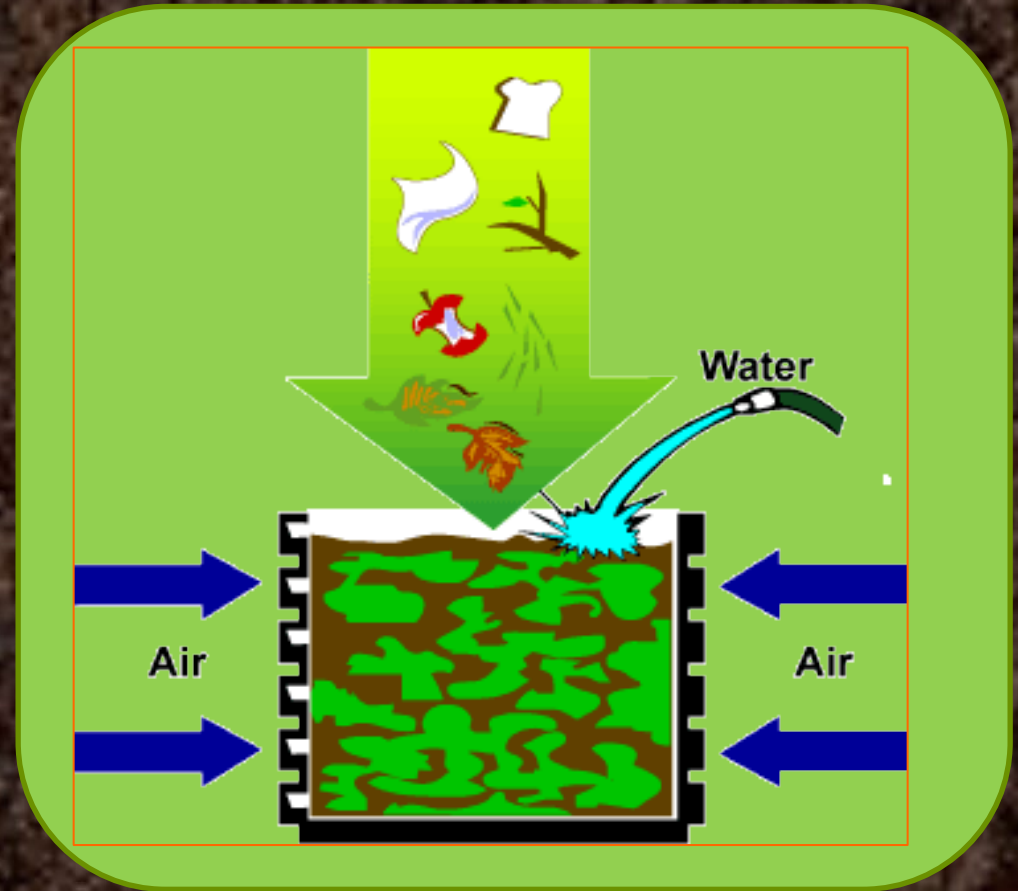




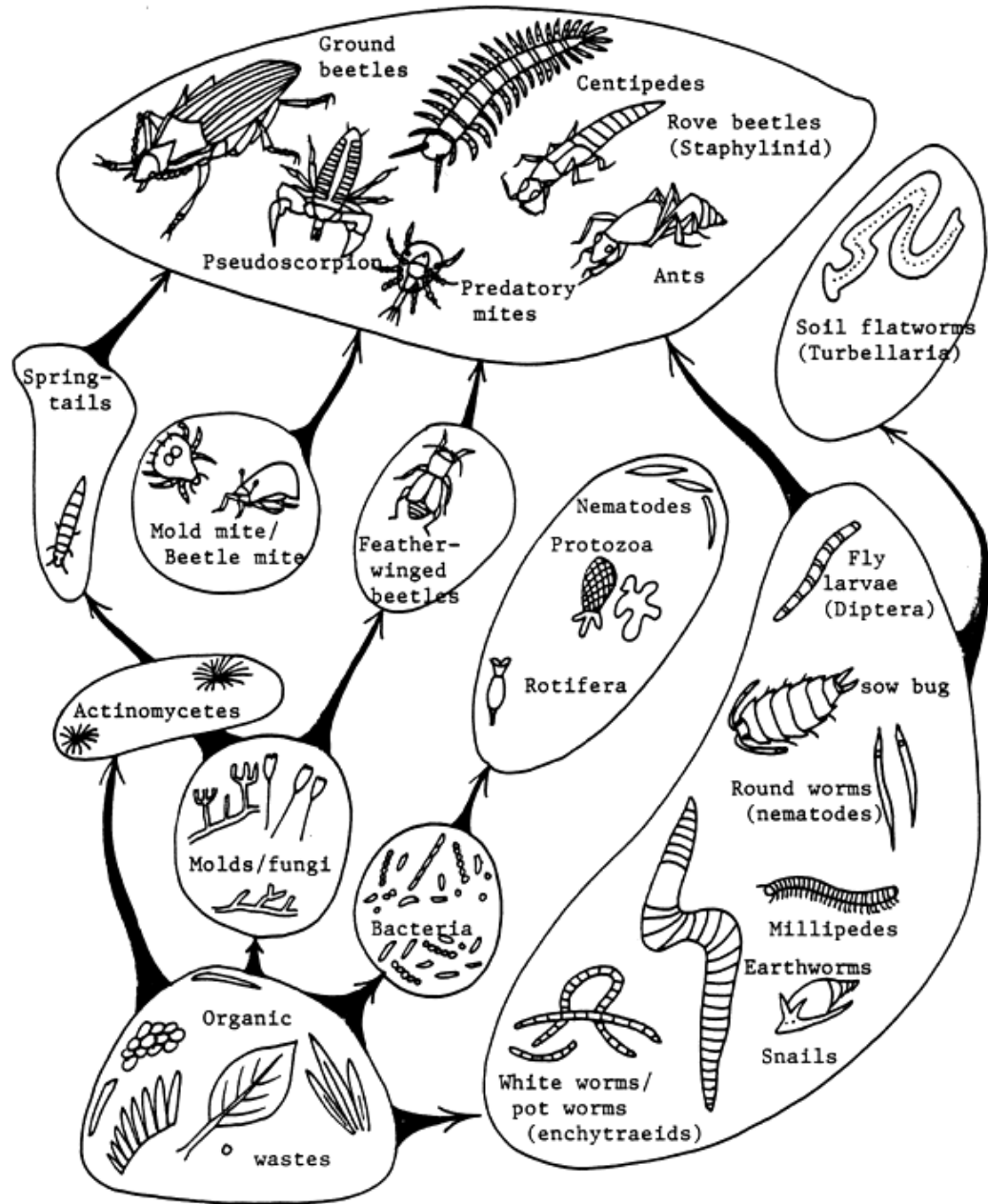
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Lets get started

Air , Water ,
Food



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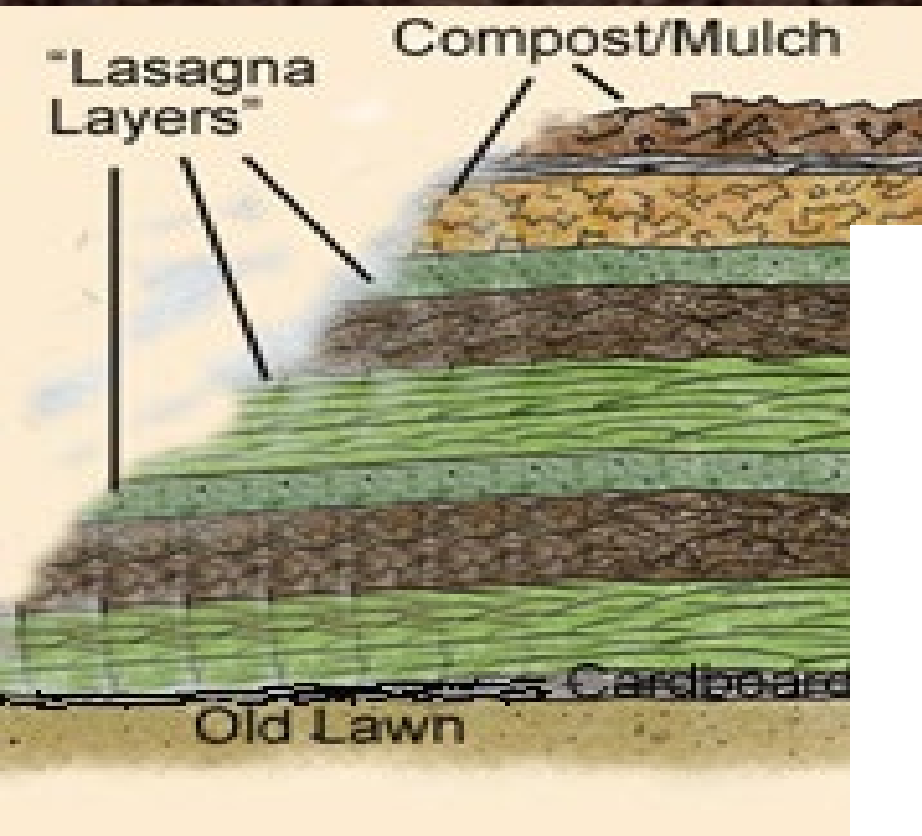
Composting

- Good composting is a matter of providing the proper environmental conditions for microbial life.
- Compost is made by billions of microbes (fungi, bacteria, etc.) that digest the yard and kitchen wastes (food) you provide for them.
- These living things need air, water, and food.

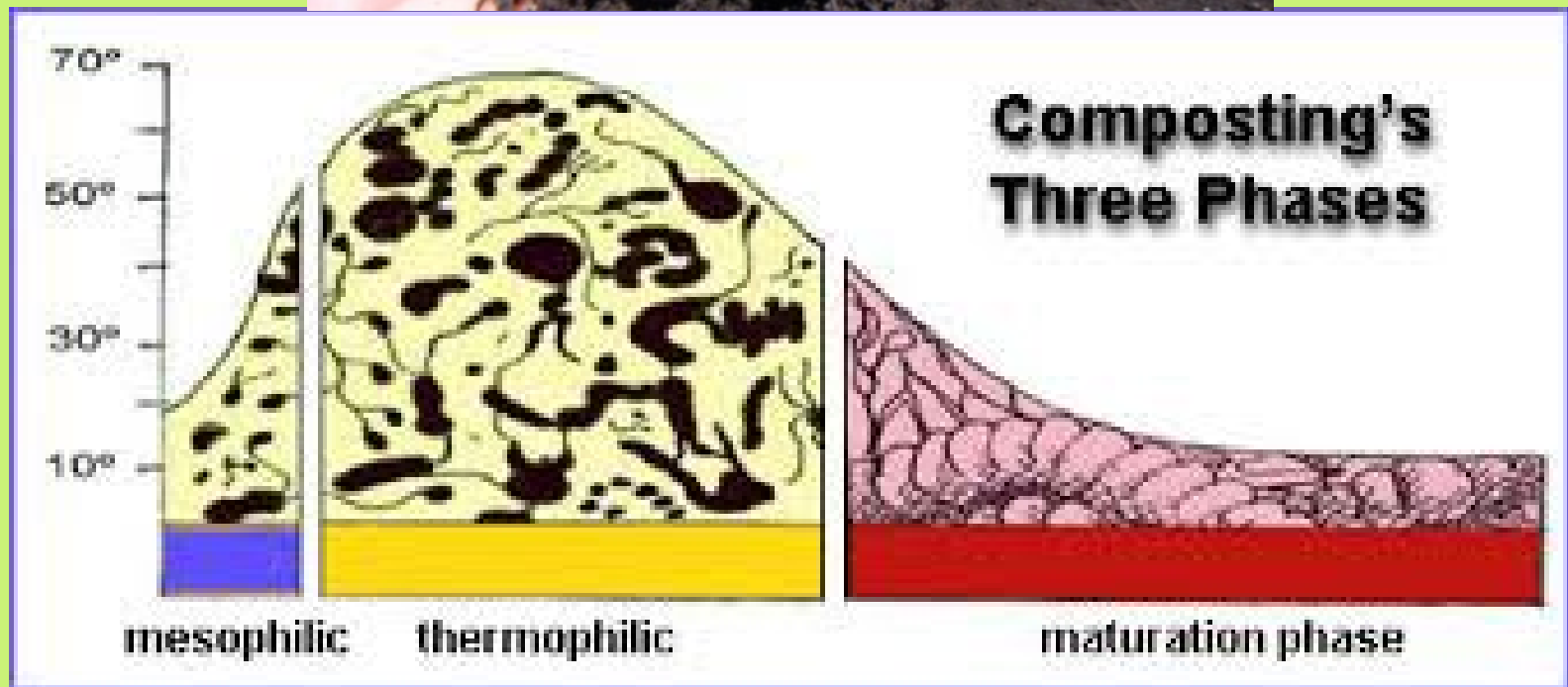
Constructing a Pile

- Hotter piles decompose a bit faster.
- Hotter = more microbes or conditions that allow the microbes to have faster metabolisms = faster composting
- For a pile to get hot and stay hot a minimum pile size is 3' x 3' x 3'
- Smaller piles just cannot insulate themselves well enough to remain hot for long.
- You can also provide additional insulation to a pile by stacking bales straw, or bags of dry autumn leaves, around your system.

Build in Layers Size Matters







- As the pile cools worms, insects, and their relatives will help out the microbes. All of these will slowly make compost out of your yard and kitchen wastes.



Cold Composting

- You can cold compost
- Mostly dead Material
- Does not get hot enough to kill weed seeds or disease
- Takes longer
- Some Studies show better nutrients

Food

browns

CARBON

brown bags
dried landscape
waste
fall leaves
sawdust
straw
wood chips

greens

NITROGEN

alfalfa meal
coffee grinds
crushed eggshell
hair
fresh landscape
waste
fruits & vegetables
tea bags

no
nos

fish bones
meat dairy

poop from
people &
meat eating
animals

diseased plants

- **'Browns'** (Carbon)are dry and dead plant materials such as straw, dry brown weeds, autumn leaves, and wood chips or sawdust. even newspaper, and cardboard
- A Because they tend to be dry, browns often need to be moistened before they are put into a compost system.

Think Outside The Box



Greens

- '**Greens**' are fresh (and often green) plant materials such as green weeds from the garden, kitchen fruit and vegetable scraps, green leaves, coffee grounds and tea bags, fresh horse manure, etc.
- Compared to browns, greens have more nitrogen in them..

Greens



Balance is Key

- **A good mix of browns and greens**

2/3 Browns 1/3 Greens

is the best nutritional balance for the microbes. This mix also helps out with the aeration and amount of water in the pile.

*Browns tend to be dry and help with aeration

*Greens add moisture

Air .. Let it Breathe

- Composting microbes are *aerobic* -- they can't do their work well unless they can breathe.
- Some ingredients, such as green grass clippings or wet leaves, mat down, keeping air out.
- Other ingredients, such as straw, don't mat down easily and are very helpful in allowing air into the pile..
- To make sure that you have adequate aeration for your pile thoroughly break up or mix in any ingredients that might mat down.
- You can also *turn* the pile to get air into it

Water...Keep It Moist

- Ideally, your pile should be as moist as a wrung-out sponge to fit the needs of compost microbes.
- If your pile is too wet, it will mat down and exclude air from the pile.
- If you are using dry ingredients, such as autumn leaves or straw, you'll need to moisten them as you add them to the pile.
- Kitchen fruit and vegetable wastes generally have plenty of moisture, as do fresh grass clippings.

Speed up your pile !!

- Size
- Don't let it get dry
- Turn it often
- Add small amounts manure
- Chop or shred material
- Add human or animal urine once a month ,
but not too often it's a little salty for worms

Freeze Scraps

Use a kitchen counter
composter to store
scraps

5 gal bucket
composter





Common issues

- Pile is too wet and smells rancid.



- Not enough air, too wet, too much nitrogen (Greens)



- Turn Pile
- Add Dry Browns like straw or sawdust

- Pile does not heat up



- Pile is too Small
- Pile is too dry



- Bigger pile or insulate
- Add water while turning.

Common issues

- Pile is damp and sweet smelling , but will not heat up.



- Not enough nitrogen



- Add food scrapes or grass clippings.

- Pile is attracting Animals



- Meat or dairy scraps
- Fresh foods scraps are not covered



- Cover food scraps
- No Meat or dairy

Trench Composting

Make your Garden a Compost Pile



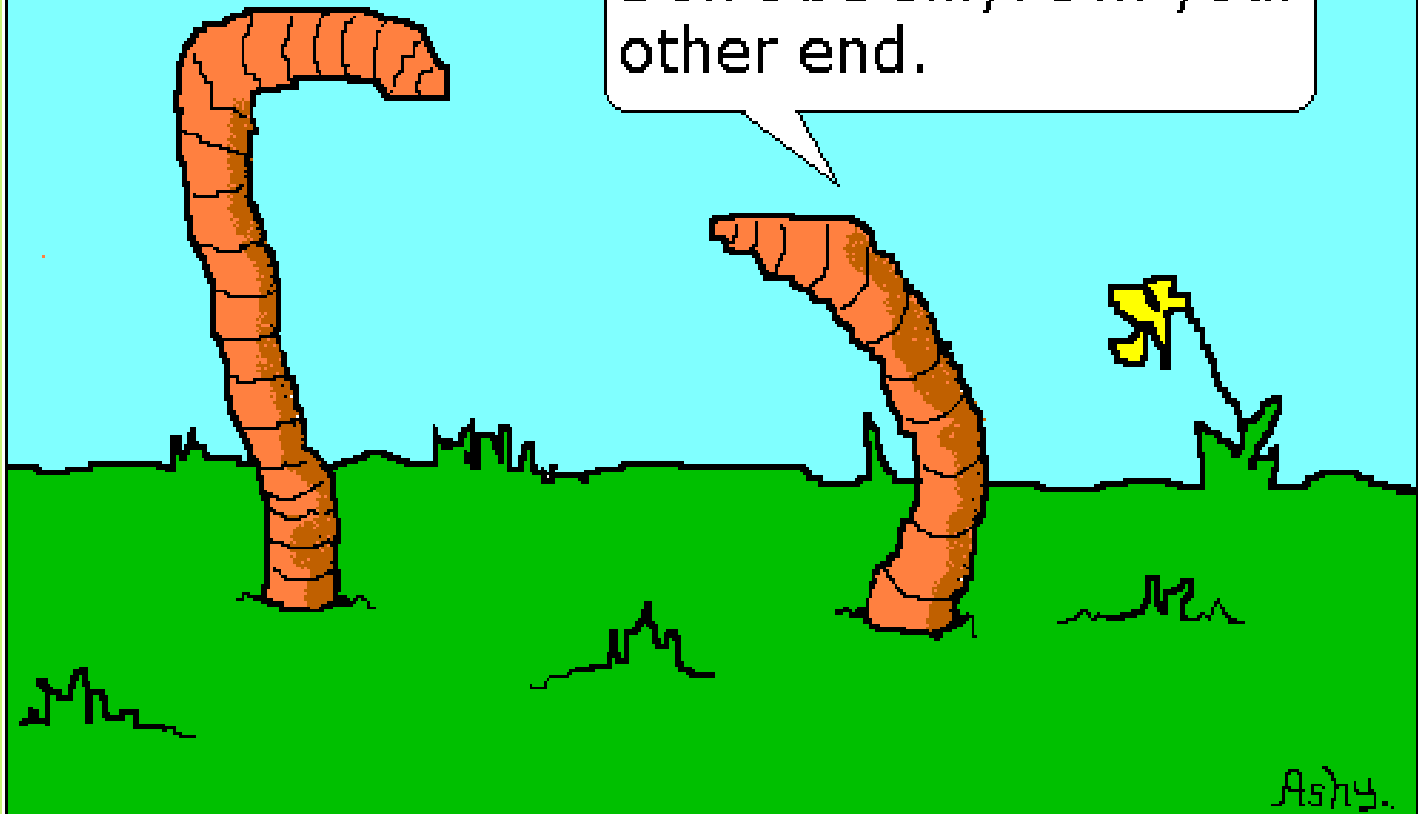
Compost Indoors



Worm Composting

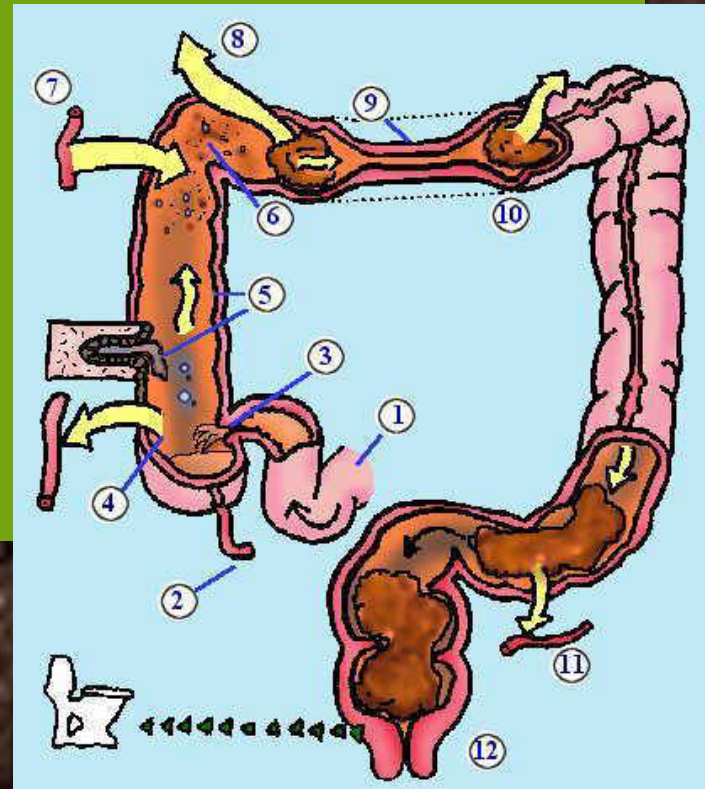
Haven't seen you around here before.

Don't be silly. I'm your other end.



What Worms Need

- Air
- Water – Moisture from fruits and veggies should do it, only add water if extremely dry.
- Darkness
- Well Balanced Diet



Worm Diet



- Worms can eat all of your vegetable kitchen scraps such as melon rinds, lettuce, banana peels, vegetable scraps, etc. They also eat coffee grounds and tea bags, crushed egg shells, cardboard egg cartons, newspaper and plain uncolored paper.
- Though worms can eat meat, I don't recommend this or dairy products in your worm bin due to the risk of attracting pests and developing smells

Climate

The worms need to be kept between 50 and 80 degrees to continue to feed on your garbage.

The worms may survive in the 40's but will not survive below freezing temperature.

The worms are also at risk of dying at temperatures above 86 degrees.

Obviously this means that your worm bin may need to be moved during different seasons.

A perfect place for the bin is in the basement, laundry room or in the kitchen during extreme temperatures.

What Type Of Worms ?

- The type of worms used in a worm bin are Red Wigglers or Red Worms.
- The scientific name is *Eisenia Fetida* or *Lumbricus rubellus*.
- These are a type of Earthworm, but not the type normally found in your garden.
- There are various species of Earthworms. Not all Earthworms are good composters.
- Not all composting worms will be able to survive deep in the dirt of your garden.

Build Your Own Worm Bin

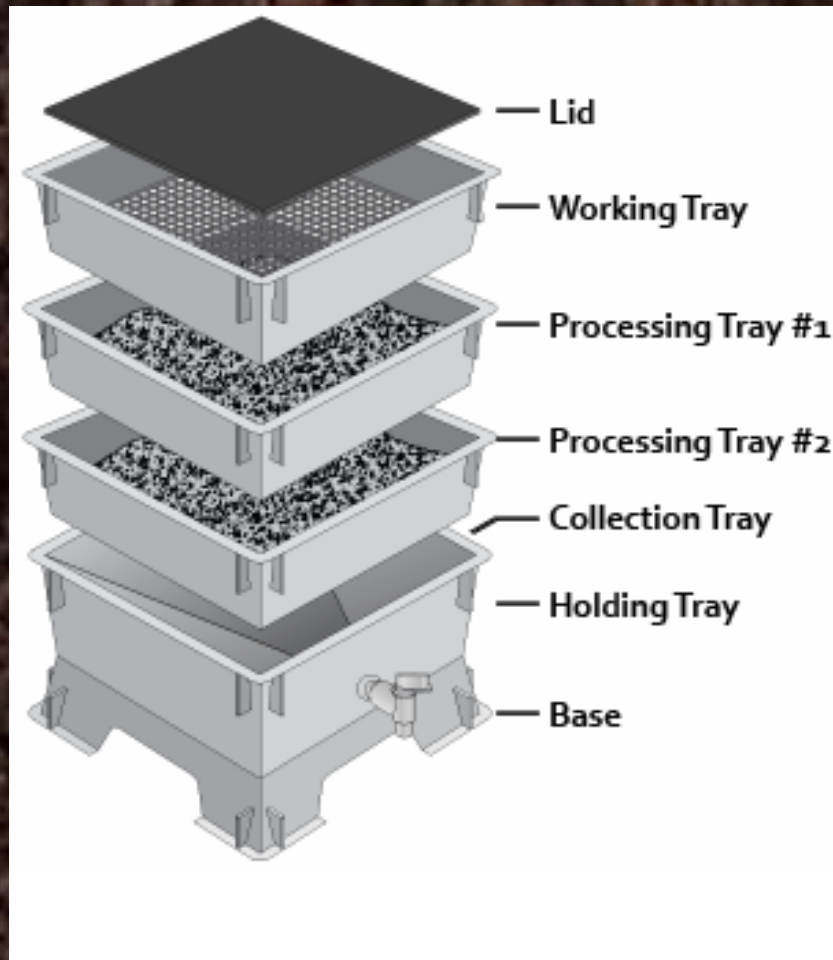


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Buy a Ready Made Bin



How it Works ?



Getting Started

- Good Drainage !
- Bedding
- Don't overfeed
- Start with Worms , Damp Bedding , and Very Little Food Scraps
- Keep Lights on for First Day

- It is a Japanese term meaning fermented organic material
- In addition to the typical fruit and veggie scraps, you can throw bones, meat, fat, and dairy products into the bokashi bucket.

What is Bokashi



Bokashi



Getting Started

1. Buy or make your bokashi bin. Some people use two bins so that one can be fermenting while the other one is being filled. Each bin will hold about 5 gallons and an average household will take about two weeks to fill it.

2. Since they do not smell, they can be kept indoors. If you want to place your bins outside, make sure they are in a shady spot. After the fermentation process is done, you'll have material left over that you'll be able to compost or work directly into your garden soil. Do not let bin freeze !

3. Look for bokashi bran, a dry product that comes in bags. You will need to store it at room temperature and avoid any possibility of it freezing.

4. Start adding food scraps to your bin. Consider chopping them up into 2-inch or smaller pieces, as this will help the chemical process move more quickly. You can add the food scraps as you produce them. When you open the bin, it will smell mostly like pickles or sauerkraut.

This a Oxygen free process, try not to let Oxygen in.



5. Add one or two tablespoons of bokashi bran for every inch of material you add to your bin. you can never add too much bran, though you can definitely add too little. Smoosh the top of your layer of food waste and bokashi bran down as flat as you can. When Full, Let Ferment

6. Once your 5-gallon bucket is full, keep it closed and untouched for at least two weeks.



7. Every 2-3 days during the 14-day fermentation period, drain the juice out of your bokashi fermentation system—this is where that spigot comes in handy.

8. You can store this liquid or use it right away. For most plants, dilute 2-3 ounces of the bokashi tea per gallon of water and add to the soil. You can use it on houseplants as well as outdoor spaces. It won't attract pests and might even deter them.

9. Bury or Compost Your Leftovers

Leftovers in bucket will decompose fast in your compost pile or buried in garden



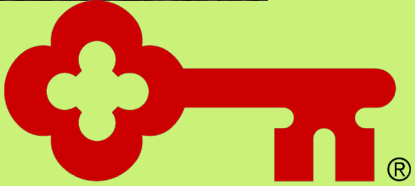
Make Your Own Bran

- Best to go online to find a good recipe
- <https://www.the-compost-gardener.com/bokashi.html>



Thank You



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