



# VERMICOMPOSTING

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## WHAT IS COMPOSTING

- Composting is the biological reduction of organic matter into humus.
- Humus is the relatively stable end-product of composting. It is the dark brown organic component of soil.

- Composting can be done outdoors or indoors.
- We will concentrate on composting indoors.

## WHY USE INDOOR ALTERNATIVES

- Convenient
- Efficient
- Year round use
- Less physical effort
- Could be pricey or very inexpensive
- Types: Aerobic, Anaerobic, or....WORMS



This is an example of an automatic composter found on Amazon.com at a cost of **\$256**.

Is there another way to compost indoors without spending that much money? Yes, there is and it is called.....

# VERMICOMPOSTING

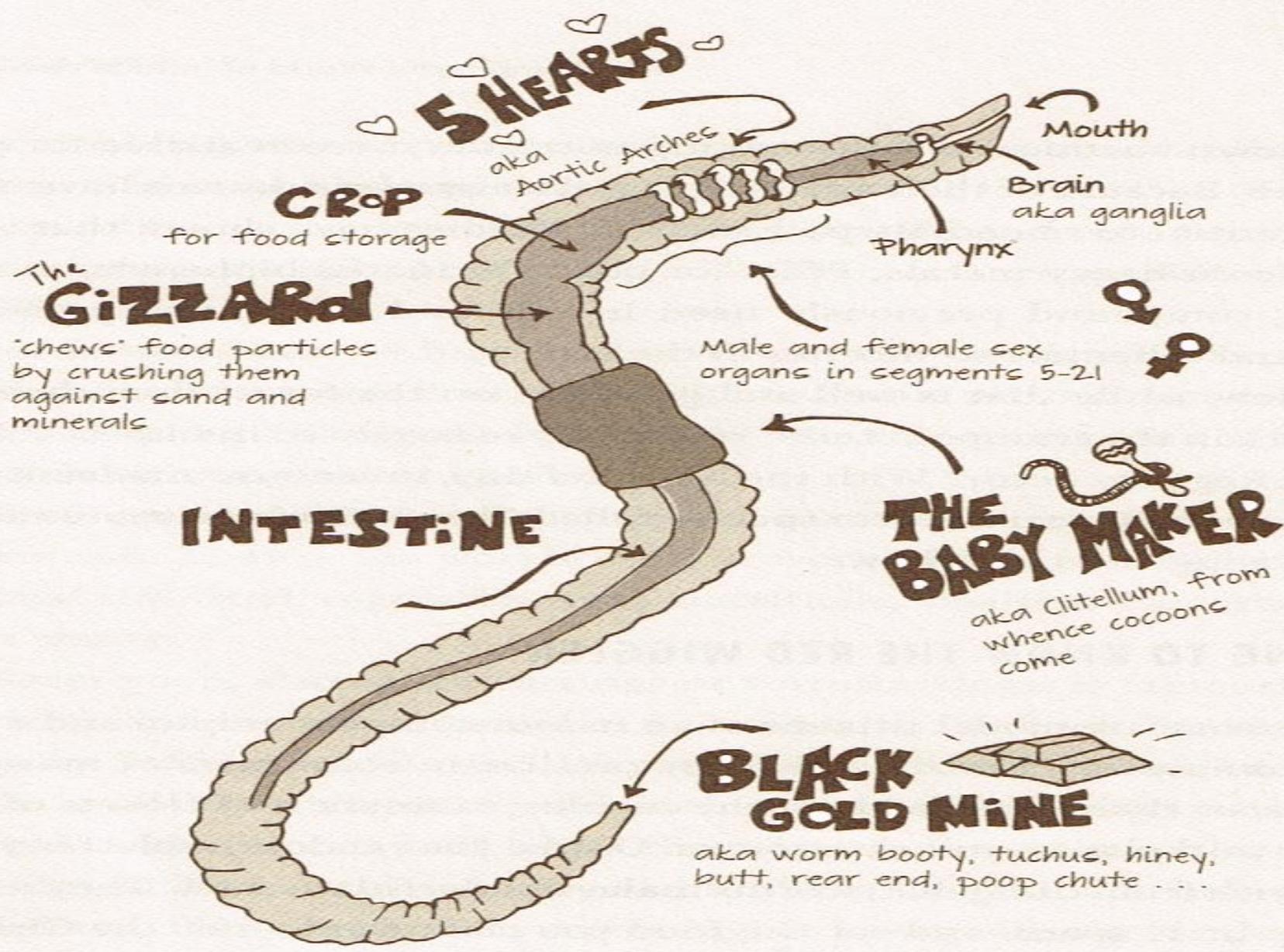


K. Reed, VCE-Roanoke

Vermicomposting is the practice of composting organic waste with worms and can be done indoors. This is a great way for people who lack outdoor space to compost indoors, because the worms, *Eisenia fetida*, also known as Red Wrigglers, love their nice cozy worm bin and will be the perfect houseguest. You will be rewarded with what some call, **Black Gold!** Red Wrigglers will produce dark compost (worm castings) rich in useful bacteria, fungi, nematodes, enzymes, and plant nutrients. This compost is a great soil additive.

## WHAT ARE USES OF VERMICOMPOST

- Add to potting soil
- Sprinkle it on seed beds
- Put a small amount in the planting hole when transplanting
- Use it as a top dressing in your garden



The Anatomy of a Worm

## HOW TO MAKE A WORM BIN

There are many types of worm bins that can be purchased, but it's easier and less expensive to make your own. The bin should be deep enough to cover food scraps, but no deeper than 15". Since worms require good air circulation inside their bin, you will need to drill a few rows of 1/8<sup>th</sup> inch holes on the top of the lid and on the sides.

Some people drill holes in the bottom and either set the bin up on blocks, bricks, or a makeshift stand to allow air to reach the bottom. A tray is then put underneath to catch any liquid that comes out. This liquid is called Leachate, and can be used to fertilize plants in a 1:10 solution. Some incorrectly say it's simple worm tea, which is made from worm castings and water.



Bag of 600 Worms  
\$20



Worm Bin  
Kit  
\$106



8 quarts of Earthworm  
Castings  
\$14

## HOW TO MAKE A WORM BIN

Drill the air holes in the lid using 1/8<sup>th</sup> inch drill bit.



Drill the holes on all sides as well.



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Make bedding by shredding newspaper, either by hand or with a shredder.



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Wet the newspaper, and wring out excess water like you would a sponge.



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Sprinkle in a few handfuls of potting soil to aid in their digestion and put in your worms.



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Cover them up with moist bedding to a height of about 12". Put the lid back on and let them acclimate to their new home.



# WHAT DO YOU FEED THE WORMS AND WHEN

You can feed them a variety of kitchen scraps.

Don't feed them meat, fish, bones, oily or greasy foods.

Never use dog or cat feces since they can carry parasites.

Avoid citrus peels, onions and garlic.

Feed the worms around one pound per square foot of bin surface area per week.

My worms like water melon, cantaloupe, egg shells, and hominy.

## TROUBLESHOOTING WORM BIN ISSUES

- Bad odor? Bin could be too wet, too much food, or doesn't have enough air.
- Food on top smells or you notice flies? Bacteria or insect eggs are your problem.
- Bedding too dry? Bedding too wet?
- Worms crawling up sides?

# REFERENCES

## Books

Rebecca Louie, *Compost City: Practical Composting Know-How for Small-Space Living: From the Kitchen Counter to Community Composting and Beyond* (Roost Books, 2015).

Chris Peterson and Philip Schmidt, *Practical Projects for Self-Sufficiency: DIY Projects to Get Your Self-Reliant Lifestyle Started* (Cool Spring Press, 2014).

## Electronic Books

Crystal Stevens, *Worms at Work* (Urban Homesteader Hacks Series, 2017).

## Handouts/Publications

Hanover Master Gardener Land Stewards, *How to Make a Worm Bin* (Hanover Virginia Cooperative Extension)

Kathleen Reed, *Worming Your Way into Home Composting* (Roanoke Virginia Cooperative Extension)

Carol Bartram, *What is Composting* (York/Poquoson Master Gardener Class, Hampton Virginia Cooperative Extension, 2008)

Thank you so much for your time!

Any questions?