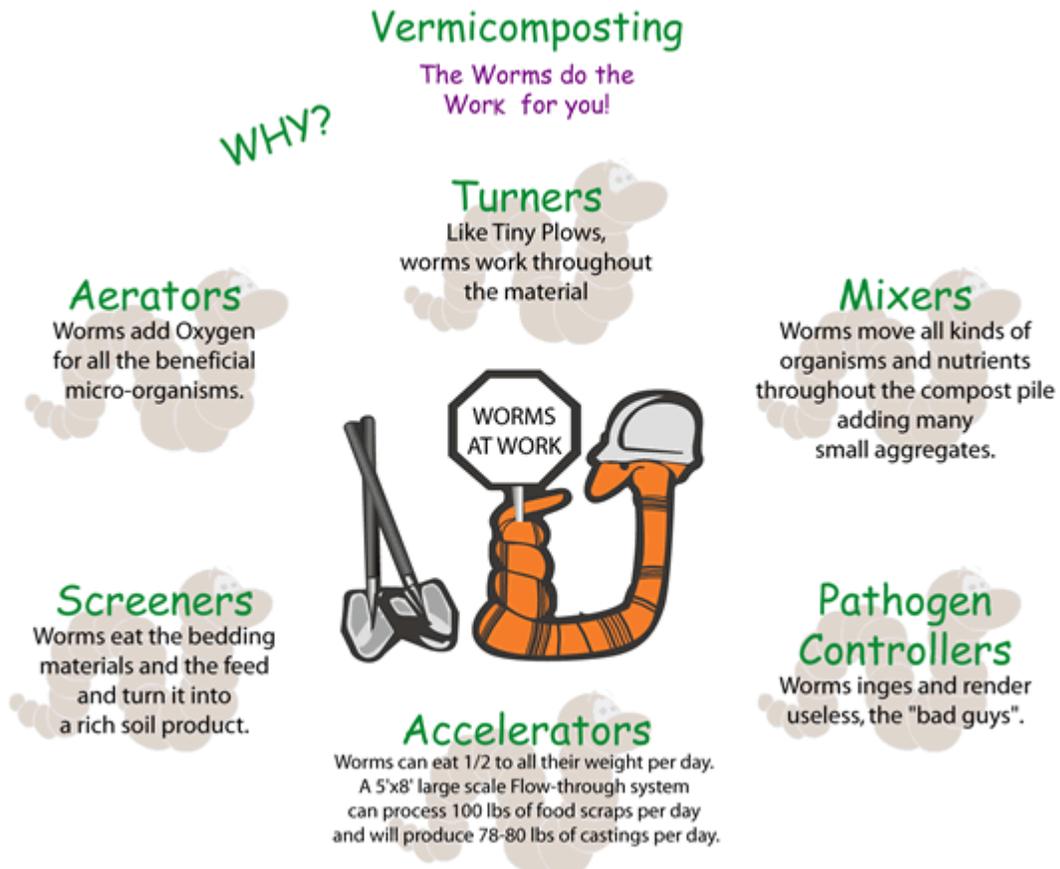


Worm Composting (Vermicomposting)

WORM COMPOSTING:

Why compost with worms? Why not just use a regular composter? Worm composting is a way to turn organic plant waste into rich fertile material. In a way it is better than recycling because what goes into the worms mouth is less valuable than what comes out of the worm. You can think of it as "Worms eat organic garbage, and they poop rich black fertilizer." So not only are you reducing what goes into landfills, you are taking that and adding it back to the soil to enrich and nourish the earth.

Worms are also fun and cool. They make great pets. They don't take up a lot of space. You don't have to take them for a walk. You don't have to buy special worm food; you can just feed them the things that you were going to throw away in the garbage anyway.



WORMS:

There are many species of worms, and you can find many of them in your back yard. Most of us are familiar with Night Crawlers (*Lumbricus terrestris*).



Lumbricus terrestris the common Night Crawler

While these are commonly available for free, they are not suitable for worm composting. Night Crawlers live deep within the soil, and they come to the surface to eat. Most worm composting systems are shallow and soilless. The worms that are most suitable for worm composting are Red Wiggler worms (*Eisenia fetida*). They are smaller in length and diameter than Night Crawlers and live and eat in the top 4 inches of decaying organic plant material.



Eisenia fetida Red Wiggler worm

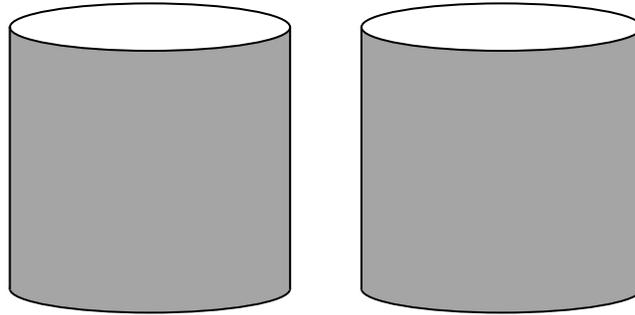
Worms can be purchased on-line, or you can get some worms from someone who has an established bin. There are some on-line resources where you can buy your worms listed in the RESOURCES section.

WORM BIN:

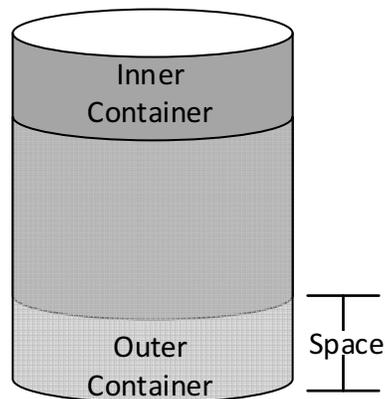
You are going to need a home for your worms. You can go out and buy a worm composting system consisting of several trays and a catch basin. But if you just want to try worm composting, you can make your own.

If you go to the bakery department at Jewel, you can ask for their used frosting containers for free. Sometimes they have some, and other times they don't. The frosting containers are food safe and they usually come with a lid. They have a large and small size. Most people will want the small sized bucket. You'll want two of them, and at least one lid. I've also gotten black buckets when the office caters to Jason's Deli. Some places just throw them away, but they're already black and opaque, so they're almost perfect. They're just missing lids, but you can make your own lid. You can even use smaller containers like plastic tubs that bulk yogurt and potato salad often comes in. Again, you just need two containers per "worm bin".

Once you have two buckets/containers that nestle together but have some space between the bottoms of the two containers, you can begin to assemble your worm bin.



Two identical containers



The containers stacked together with space between the bottoms

The inner container is where your worms will live. You will have to drill holes in the bottom of the container to allow liquid to drip out so the bedding doesn't get too wet. Do not drill holes in the bottom container so it can catch the excess liquid that leaks out of the inner one. The liquid that you get can be used as fertilizer for your garden or potted plants.

I've even seen 2 liter bottles used for mini bins. Cut the bottle in half, and use the top as your inner container and bottom as your outer container.

BEDDING:

There are several choices for bedding, but the most inexpensive and readily available is newspaper. You don't want any soil. I used to buy coconut coir which is a byproduct of the coconut industry and a great soil-less medium, but there is a cost versus the other options that I use now which are free. Instead of the coir, I've been using old coffee grounds which are free. I collect mine from work, but supposedly you can go to Starbucks and get fresh grounds daily. If the grounds are only a few days old, they still smell like coffee. If you wait a week or

more to use them, they can start to smell sour, and it's not all that pleasant. The worms don't care either way.

If you use newspaper, you'll want to shred it before you use it. I use a cross cut paper shredder to make that task easier. Once your newspaper is shredded, you need to wet it so the worms don't dry out. You want the bedding to be moist but not dripping wet. The food scraps that you add to the bin will have plenty of moisture. You can dunk your paper in water, but I find that it tends to get too wet, and it clumps together.

Now a days I mix the coffee grounds with the newspaper. The coffee grounds contain some moisture so you typically don't need to add much water to the bedding. It also helps to ensure that the newspaper doesn't clump together.

The worms will eat the bedding along with the food that you provide, so eventually, you'll need to add more bedding or replace it all together when you harvest your worm castings.

FEEDING:

You want to treat your worms like their Vegans: no meat, no dairy, no fats and that includes oils. Meat and other animal byproducts can harbor harmful bacteria while they rot. This could be harmful to you and the worms. So no animal products.

You can put just about any plant based kitchen scrap in your worm bin. I've heard that they don't like the pith of citrus, but who does. Banana peels, apple peels, apple cores, potato skins, any rotting fruit or vegetables that you never got around to eating are perfect for your worms. You will want to move some of the bedding aside, put the worm food into the hole and bury it. Burying the food will help keep fruit flies from growing in your bin.

Remember that the worms have mouths but no teeth. Pulverized egg shells can add some grit to help the worms grind up the food in the digestive systems. Along those lines, ground up or blended up food is easily eaten by the worms. I like to put all of my food scraps in an old blender and make a smoothie for my worms, but this is not necessary.

MAINTENANCE:

Every now and then, you'll want to pull out the inner container and pour off the liquid that has accumulated in the bottom container. You may find several stray worms that have wandered down to the bottom container. You can leaven them there or move them back to the inner container. You may notice other life taking residence in your worm bin, and other than fruit files (which are more of a nuisance) there's typically nothing wrong with these other inhabitants.

You'll notice as you keep feeding your worms that the newspaper will eventually disappear as the worms consume all of the material in the bin including the bedding. When it appears that there is no bedding left, it is time to harvest the worm poop and start with fresh bedding. The hardest part is separating the worms from the existing bedding.

You could get a second inner container with holes drilled into the bottom. Put some fresh bedding into it and bury some food. Put the new container in the bottom container, and then put your existing inner container inside the new inner container. The worms will naturally gravitate to the food. After a few days you can begin to harvest your black gold to use in your garden.

RESOURCES:

- Urban Worm Girl is a Chicago based site: <http://www.urbanwormgirl.com/> She has a lot of good information, and you can also order worms from her.
- The following is a link for a DIY mini worm bin: <http://www.kuraoka.org/mini-worm-composting-bins.html> They spray painted the yogurt containers to block out the light. This isn't entirely necessary, but the more opaque the better.