



### VERMICOMPOSTING/WORM BINS

**Vermicomposting** can be a great way to compost on a small scale. This technique is great for simple room composting and provides students with the ability to reduce their waste stream in an interesting way! Red Wigglers are a great species of worm to use because they consume a lot of organic material and reproduce many worms in a short amount of time creating worm castings along the way!

**Materials:**

Two 10 gallon plastic tubs

One 10 gallon plastic tub lid

Drill and 3/16<sup>th</sup> drill bit

Brick/Soda Cans/3 small rocks

A few cups of soil – not bagged soil but rather soil from a garden or spot outside

Shredded paper

Red wigglers (30-100 worms) Do not use night crawlers! They smell!

Spray bottle

Trowel



**Building the Bin:**

We use a two bin system for vermicomposting. Begin with a small 10 gallon bin and drill a row of holes along the top edge of the bin and about then holes in the bottom. Also, drill several holes in one of the lids.

Take the second bin and put several rocks/cans/bricks inside. Then take the other bin that now has holes in it and place on top of the rocks in the second bin. The rocks will prop the inside bin up and allow any extra moisture to drain and collect at the bottom. Next take the soil, shredded paper, a few food scraps and put in the bin and arrange in a pile in the center of the bin. Cover any food with paper! This is very important to prevent fruit flies or the smell of food in contact with air. Then take the worms and put them in the bin. Right away you will notice that the worms will start disappearing into the paper and center pile. Leave the lid off until all the worms disappear into the center. Then spray with water until all the paper is moist, not wet! Check the bin every few days and add paper and water slowly as needed and add food sparingly. Food scraps can be added every couple weeks.

Now that your bin is ready you can begin adding food scraps:

<b>Food scraps to add:</b>	<b>DO NOT ADD:</b>
Banana peels	Citrus: oranges, lemons, etc.
Apple cores	Meat
Vegetable scraps	Milk
Egg shells	Fats/oil
Coffee grounds (paper filter too!)	

As time goes on you will find that the worms will make small brownish material called worm “castings”. Eventually these castings will need to be harvested. Once your bin is about half full of worm castings it is time to harvest!

### **Quick Harvest Method**

To harvest these castings, use a tarp and spread out the contents of the bin out (worms and all). Then separate the worms from the material and restart the bin using the worms and a small amount of worm castings. The separated castings are great to use mixed in existing soil at an outside garden or inside and outside planters too! Plus any liquid from the bottom of the second bin can be used on plants as well! This liquid is called “compost tea” and is packed with great nutrients that plants love. Dilute this with water and feed to any indoor plant.

### **Passive Harvest Method**

A slower, but easier, method is to allow the worms to harvest themselves. Move all material to one side of the bin. Add moistened paper to the now empty side of the bin. Begin placing food scraps in the paper. The worms will slowly move from the composted material to the new food source. This method can take two to three weeks. Once migration is complete, remove the composted material and mix in existing soil.

### **Trouble Shooting:**

Q: - What if my bins begin to stink?

A: Check to make sure any food put into the bin is covered with paper material. This may be an indication that it is too wet; check moisture level. Worms love it moist, not drenched. A worm will eat its own body weight in food each day, so it’s important to make sure you are not adding food too rapidly.

Q: - What if the worms start escaping?

A: Check to make sure the correct foods are being put into the bins. Check moisture level.

Q: - What if I find mold in my bin?

A: The moisture level is too high. Open the bins and expose the insides to sunlight or air to dry out the bin.

Q: - What if there are fruit flies present in the bin?

A: Fruit flies indicate that there is exposed food that has not been buried beneath shredded paper. Open bin and cover exposed compost. The bin can be set outside letting any remaining flies out. Be aware that extreme cold or heat can be detrimental to the health of your worms.

Q: - Where can I get worms?

A: Wal-Mart does have Red Wigglers most of the year in the fishing/hunting section as do bait and tackle shops. Or many sites online will send you worms in the mail, directly to your address. One pound of Red Wigglers should start your bin out great. Make sure the day you arrive you will be able to put them in the bin!

*Questions? Call us! 859-266-1572*