



Welcome to the world of vermicomposting

A clean, odourless way to turn food waste into a rich soil fertilizer!

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Vermicomposting

It's simple. All you have to do is put red worms into a plastic or wood bin with moist shredded newspaper, peat moss, brown leaves or straw. Then, add food scraps like apple cores and vegetable peelings. The worms eat the scraps and produce compost for your house plants, gardens and flowerbeds.



Vermicomposting:

- Reduces household waste.
- Can be done indoors or out (during warmer months).
- Produces rich compost for your houseplants and garden.

Red worms... not brown worms

Vermicomposting is done by red worms, also known as red wigglers. They thrive on organic materials like vegetable scraps. They are not the same as common brown earthworms, which prefer to live and burrow in soil. Red worms are smaller and more reddish in colour, preferring a dark, warm, very moist environment. The worms work quickly at temperatures ranging from 15 – 25 degrees Celsius, consuming half their weight every day.

But worms? In my house?

Don't worry. They don't smell and they don't roam out of their bin. Red worms are happy to stay in their bin, eating your vegetable and fruit scraps. Remember, they will not survive below freezing temperatures, so they must stay inside during the winter.

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TIP

For a list of where to buy worms, visit edmonton.ca/compost.

The bin

Plastic storage bins are ideal for vermicomposting. They have lids, are moisture-proof, inexpensive and come in several sizes. Your container should have air holes in the top or the sides, and be no more than 46 cm (18 inches) deep.

The size of the bin depends on the amount of waste food being produced. The following guide shows recommended bin sizes:

| Amount of waste (per week) | Size of bin |
|-------------------------------|-----------------------------|
| A big handful (½ kg) | A shoe box sized bin |
| A yogurt container (1 kg) | A toaster oven sized bin |
| An ice cream bucket (2 kg) | A microwave sized bin |
| Lots more... | Two or more bins |



The bedding

Proper bedding for your worms is very important. Like the forest floor, it gives them a damp place to live, a balanced diet and prevents odour problems.

You can use shredded newspaper or cardboard, potting soil (with no chemical additives), garden soil, peat moss, fall leaves, straw, or a combination of any of these. Simply fill the bin almost to the top with loose bedding. As you do that, wet the bedding with water until it's as wet as a wrung out sponge. It should form a ball when a handful is squeezed.

Feeding the worms

Bury your food scraps in a different part of the bedding each time to evenly distribute the food for the worms and to discourage flies. Worms should be fed at least every few days. Try to give them a variety of foods, and only a small amount of citrus fruits (which are high in acid) so that the pH stays fairly neutral. The smaller you cut up your food scraps, the faster they will disappear. Here's what the worms like and what they dislike.



Yummy!

Vegetable scraps

Fruit peels

Tea bags

Bread, plain cooked pasta or rice }
Coffee grounds, filters } small
Grains (stale oatmeal) } amounts

Yuck!

Meat, fish

Oily foods

Lots of mayo or butter

Dairy products

Spicy foods (e.g. hot peppers)

Harvesting worm compost

Three to six months after starting a new bin, the worms will have digested the food you gave them and most of their bedding as well. When there is little original bedding left, and a high amount of black worm castings, or vermicompost, it is time to harvest the worm compost. Vermicompost makes an excellent additive to your houseplants or flower beds. You must “harvest” the castings to maintain a healthy environment for your worms. Any unfinished food scraps should go back in the bin.

There are several ways to harvest worm compost:

The side to side method

1. Move finished compost to one side of the bin and fill the empty side with fresh bedding. Elevate the container so the finished side is raised a bit higher.
2. For the next six weeks or so, bury food waste only in the newly bedded side of the bin.



3. The worms will eventually seek out the fresh food and migrate over to the new bedding and “fresh” food. When they have done so, you can scoop out the castings from the “old” side.

The bright light and scoop method

1. Shine a bright light on the worms. They will avoid the light and burrow down through the vermicompost.
2. Scoop off the top layer of vermicompost until you see the worms again.
3. Repeat the process. As the worms dig down to avoid the light, they will eventually concentrate at the bottom of the bin. When most of the vermicompost has been removed, add new, moist bedding to the bin.

The sun dried method

This is a fairly fast, easy way of harvesting the worms but it requires a second bin and some plastic mesh.

1. Put fresh moistened bedding in a second bin and cover the fresh bedding with 7 – 10 mm (1/4 inch) plastic mesh.
2. Dump the castings and worms from the first bin on top of the plastic mesh and place out in the sun.
3. The sun will dry the castings. As it does, the worms will move down through the mesh into the moist bedding below.
4. The worm compost on top of the mesh is now ready for use.

Using vermicompost

In soil

Use one part vermicompost to three parts potting or garden soil.

For houseplants

Sprinkle one cm of castings at the base of the plant every one-and-a-half to two months.

As starter mix

Sprinkle castings along bottom of seed row, or into the hole when you are transplanting.



Troubleshooting

Fruit flies

One of the most common problems with worm bins is fruit flies. Fortunately, they don't bite and are easy to deal with:

- Keep fresh food scraps covered with bedding or castings.
- Freeze the fruit scraps overnight, thaw the next day then add them to the worm bin. Freezing kills any eggs or critters on the food.

Fungus gnats

These are similar to flies, but are black, a bit smaller, and have long wings and legs. They live outside, but their young live in moist compost, so drying out the bin a bit and releasing the adults outside every day will help. Prevention is easiest – keep the bin indoors and screen your windows.

Other creatures

Your worm bin is a living environment that many small creatures may share with your red wigglers. Most of them are helpful and rarely cause a problem. Only centipedes, which will eat your worms, pose any threat to your bin.

Odours

If the worm bin smells bad, it may have too much food, too much water, or the wrong types of food. Your worm bin should smell like fresh dirt or a forest floor.

TIP

To eliminate bad odours:

- Remove excess or inappropriate food and add fresh bedding.
- Put a layer of leaves, newspaper or dirt on top to soak up excess water and to cover any exposed food that might be causing the smell.
- If the bin is too wet, remove the lid for a while to allow for some evaporation.
- Stir up the contents to add air.

For more information

Visit edmonton.ca/compost

Need help?

Call the compost hotline at 780.496.5526 or request a personal visit from a compost doctor at MCRP@edmonton.ca

See a working worm composter on display

Visit the John Janzen Backyard Composting Education Centre, located at Fort Edmonton Park. A working composter is on display and an attendant is there who can answer any questions you might have. Victoria Day to Labour Day.

7000–143 Street
Whitemud Drive & Fox Drive

Three excellent books on worm composting are:

Worms Eat My Garbage
by Mary Appelhof

The Worm Book
by Loren Nancarrow
and Janet Hogan Taylor

Composting for Canada
by Suzanne Lewis