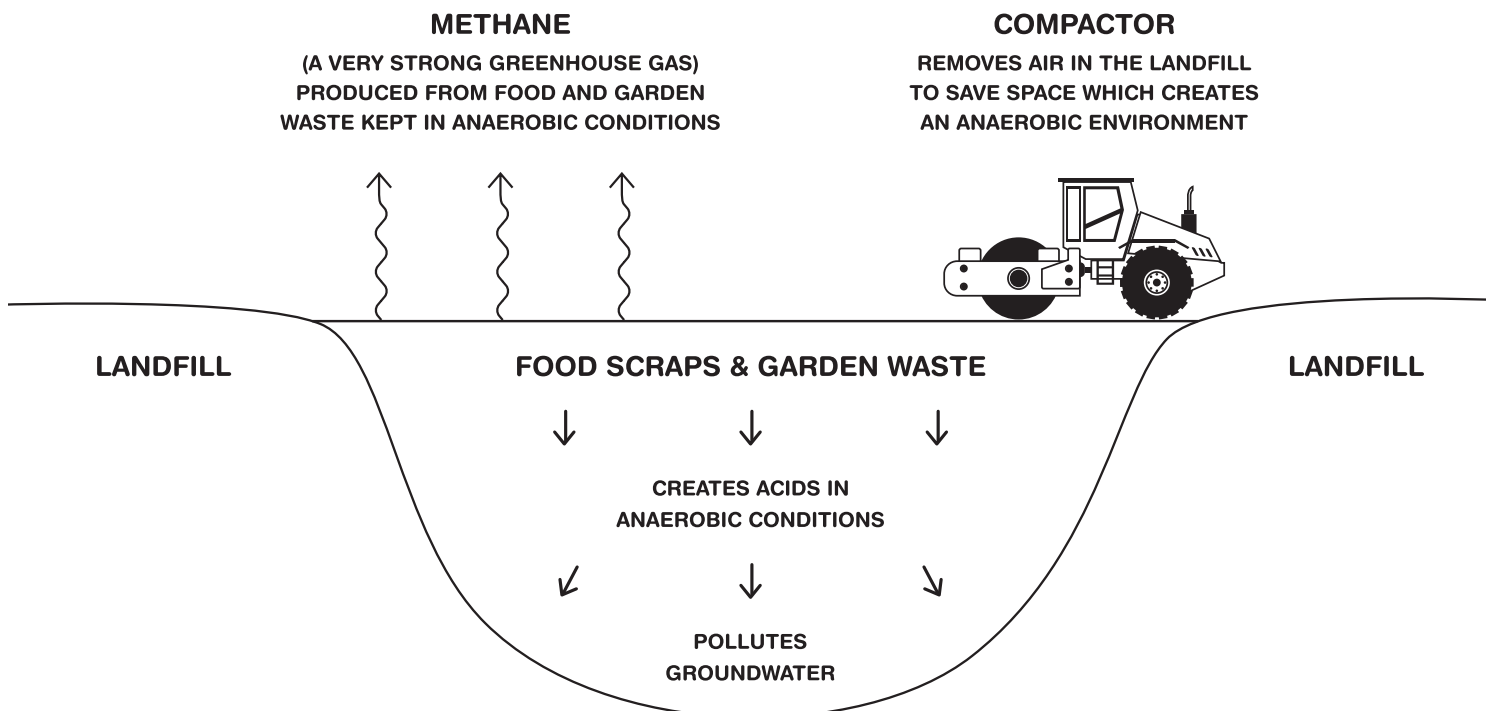


Introduction

Worms are Mother Nature's unique natural recyclers. By putting worms to work in your very own, easy-care farm, you will be converting your food waste into nutrient rich, 100% organic fertiliser that your potted plants, garden and vegetables will love. These generic instructions will allow you to harvest the power of composting worms. You can personally become a part of the revolution to reduce landfill and Greenhouse Gases by recycling your food scraps.

Tumbleweed Worm Farms are user-friendly and can be left on a balcony or in a laundry for apartment dwellers, in a shed or in a shaded location for those with a yard. It is important that you place them somewhere that avoids afternoon sun. Put yours somewhere convenient so that it makes it easy for you to use.

What happens to food & Garden Scraps in Landfill?



Which Worms Are For You?

There are thousands of species of earthworms worldwide, all of which feed on some form of organic matter but their preferences and habitats differ. Worms can be divided into two broad categories depending on those preferences:

Composters: There are less species of these, mainly 'Tigers', 'Reds' and 'Dendras'. These earthworms live and breed happily in an organic rich environment like a Tumbleweed Worm Farm or in a heavily mulched garden where moisture and food is maintained. Use these in your Tumbleweed Worm Farm to ensure successful composting.



Earthworkers: These are the many other earthworms which prefer to live in a less controlled environment. They will not thrive on food scraps but prefer soil and humus as their basic diet. They are usually much larger than composters.

Setting Up Your Worm Farm

1. Assemble your worm farm as per your unit's instructions on pages 4-6. You only need 1 Working Tray to start with, keep any others aside for later use.
2. Locate in a cool position in afternoon shade. Morning sun is OK.
3. Setting up Working Tray 1. Fill a bucket with about 7 litres of water and place your Tumbleweed Worm Farm Bedding Block in it. As the bedding block expands, begin to break it up into an even mix. It should take about 15 minutes. Use the paper wrapper too. All the paper and cardboard packaging has been designed to be worm friendly.

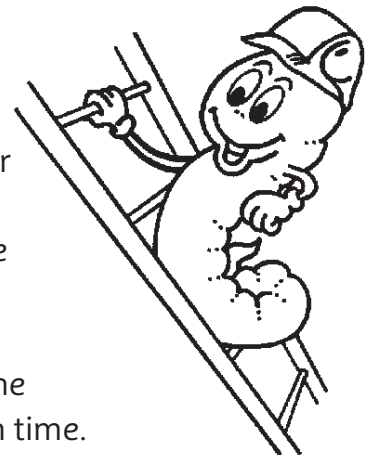


4. Fold and place your cardboard packaging into the base of Working Tray 1. Then spread the expanded worm bedding block on top of this. The worms will eventually eat all the bedding and cardboard.

Which Worms Are For You?

5. Spread your worms (minimum of 1000 composting worms) on top of the bedding, and cover with a Tumbleweed Worm Blanket. Now fit the lid and let the worms settle in for one or two days. This is the worms 'home' tray. Feed your worms in this tray first (refer to "Feeding Your Worm Farm" below).
6. It will take 3 - 6 months for this 1st working tray to become full. When the compost level in the 'home' tray is high enough to touch the base of the tray added above it, you may add Working Tray 2. Once again when Working Tray 2 is full you can add Working Tray 3. If ever a gap appears between the trays you must top up the lower Working Tray with some extra organic compost, bedding or coir. This allows the worms access to move up into the tray above.

Note: If you have a worm farm with only one working tray, when it is full, you will need to move the top 50-60mm of the surface material from one side, across to the other side, and then remove some of the rich black worm castings from lower down in the tray. Then level out the materials still left in the working tray, (should be only about half full now as you have removed some of the bottom worm castings). Now continue feeding the top of the tray. Alternatively, you may just feed one side of the Working Tray. This will allow you to harvest the worm castings from the side you are not feeding at any given time.



Or: You could purchase extra working trays to stack on top to make it a bit easier to manage.

Feeding Your Worm Farm

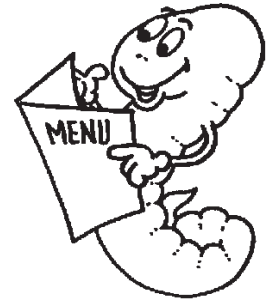
1. Feed your worms only as much as they can eat. Maintain no more than 2cm of food over half the surface of the Working Tray. If your worm farm goes smelly you are most likely overfeeding your worms. If smelly, stop feeding for a few days, and scratch and gently aerate the top 50 - 60 mm of materials with a small pointed tool or piece of wood.
2. Chop up food scraps as small as possible before feeding to worms.
3. Place food under the Tumbleweed Worm Blanket. Never cover the entire feeding surface of your worm farm at one time.
4. Feed your worms with your normal kitchen vegetable scraps. Avoid large quantities of meat, citrus, onion, and dairy foods.
5. Sprinkle a handful of garden soil (or organic potting mix) on top of the food scraps every time you feed your worms.
6. Once a week sprinkle a teaspoon of Tumbleweed Worm Farm and Compost Conditioner when feeding your worms.
7. Each week flush your worm farm with water – worms like a very moist environment. Flush your worm farm by tipping a $\frac{1}{2}$ - $\frac{3}{4}$ filled bucket of water (5 litres or more) under your Tumbleweed Worm Blanket in your top Working Tray. Ensure your tap is fully opened with a bucket underneath. Keep your tap turned on until the water stops dripping. Some people prefer to keep their tap open all the time, make sure you keep a bucket underneath to collect the worm tea. It is best to regularly drain water out of the worm farm, because water stored in the bottom tray will become stale and could begin to smell.
8. Drain your Collector Tray at least weekly. The worm tea can be further watered down (10:1) so that it looks like weak tea and used as a fertiliser on your pot plants and garden.



Worm Menu

As a guide worms will eat anything that was once living. This includes:

- Left over vegetable scraps, fruit and vegetable peelings
- Tea leaves/bags and coffee grounds
- Vacuum cleaner dust or hair clippings (also animal)
- Torn up newspapers, egg and milk or soaked pizza cartons
- Crushed egg shells (These will help with the pH balance)



The greater the variety of material you use, the better the castings will be. Sprinkle a handful of soil on top of the food scraps every time you feed your worms. Sprinkle a teaspoon full of Tumbleweed Worm Farm & Compost Conditioner on a weekly basis.

Worm Fattener

You can purchase a commercial Worm Fattener or Worm Treats or make up the following recipe to fatten and grow your worms;



- Chicken Layer Pellets 50%
- Wheat or Corn Flour 10%
- Powdered Whole Milk/Skim Milk 10%
- Bran or Wheat Meal 20%
- Agricultural lime or dolomite 10%

Mix the ingredients and sprinkle lightly on the food scraps about once a week.

After several months you will have fat, tough worms in ready supply who will eat more food, converting to compost quicker.

My Worm Farm Is Full

1. Lift off the top Working Trays.

Note: If you have a worm farm with only one working tray, when it is full, you will need to move the top 50-60mm of the surface material from one side, across to the other side, and then remove some of the rich black worm castings from lower down in the tray.

Then level out the materials still left in the working tray, (should be only about half full now as you have removed some of the bottom worm castings). Now continue feeding the top of the tray. Alternatively, you may just feed one side of the Working Tray. This will allow you to harvest the worm castings from the side you are not feeding at any given time.

Or: You could purchase extra working trays to stack on top to make it a bit easier to manage.

2. If your system has two or more working trays, lift the lowest Working Tray off the Collector Tray. Empty worm castings out of the lowest Working Tray, and use on your potted plants or in your herb and veggie garden. Now clean the empty Working Tray.
3. Put the now emptied Working Tray on top of the other Working Trays. This commences the cycle of rotating the trays. Make sure there are no gaps between the trays. The lowest Working Tray just emptied, becomes the new top Working Tray where you feed your worms.

Note: It is also a good idea to clean out the Collector Tray at this time. There can be a considerable amount of worm castings deposited down here over time, by the worms.

4. Worm castings are one of nature's best fertilisers. Used on your garden or potted plants, you will see exceptional results.

Worm Castings and Worm Tea

Worm castings and their accompanying liquid fertiliser (Worm Tea) are wonderful additives to any garden. You will see exceptional results in the color, quality and quantity of all your fruit, vegetables, flowers and ornamental plants. Castings are interesting in that they can be used pure as organic fertiliser or as an additive for your own favorite potting mix. You cannot harm any of your plants by using worm castings regularly in small amounts. The pH is mostly neutral (7) and therefore suitable for most types of plants from azaleas to orchids. Castings are extremely popular with vegetable gardens.

Worm Castings

Once your Worm Farm is established – Worm castings can be harvested from the 1st working tray – the Worm Castings are the black bits you see in the soil. They help your soil breathe and hold water, while encouraging more worms and microbes. The best times to add ‘worm castings’ to your soil is outlined below.

Spring

This is the main time for using worm castings.

Veggie Gardens - Add 2 – 5 litres of worm castings to each sq m of your veggie garden. Dig it in with a few handfuls of cow manure. Get Planting! Cover the bare soil with a high protein mulch such as lucerne, or pea straw. Sugar cane mulch is also ok for veggie gardens.

Trees & Shrubs - Add 2-5 litres of worm castings (dilute with water if easier to apply, or make some ‘worm tea’), around the drip line of any fruit trees or rainforest trees. Always cover the worm castings around trees, with a woody mulch.

Summer

Add a handful or two of fresh Worm Casting into the holes or furrows each time you plant a new lot of veggies.

Autumn

Use small amounts of worm castings in the veggie garden if plants are growing well. Any winter flowering plants could use a little extra worm casting.

Winter

This is a time of slower activity in the soil. Use this time to build up your supply of worm castings ready for spring. Worm activity slows down in the colder weather. Add some worm casting with any winter veggies and herbs you are planting.

Worm Tea

Worm Tea is a nutritious tonic at any time and its really helpful when your veggies and plants are flowering or fruit is ripening. Rich worm tea also supports diseased and stressed plants, protects them against insects and even helps establish young plants (over two weeks old).

Worm Tea should be drained from your collector tray at least weekly, it can then be diluted 10:1 and used in your garden or for best results aerate your tea using a 25-litre bucket, two airstones and an aquarium pump with two air outlets.

You can also collect Worm Tea when flushing your worm farm with water. This method is called leachate and can be used directly on mature plants. It is best to use your Worm Tea 'fresh'. As old or stored Worm Tea can become anaerobic.

When to use Worm Teas?

- At onset of flowering or fruit set
- For any stress or disease in plants
- Booster for young plants over two weeks old
- Regularly as a general 'tonic' for all plants

Worm Castings and Worm Tea are great ways to incorporate the beneficial effects that earthworms can bring to your garden in a convenient, cheap and easy manner.

