

# Composting Guide

## KEEP YOUR ORGANICS OUT OF THE WASTE

Around half of the average household waste bin is organic waste – i.e. food scraps and garden waste which could be turned into nutrient rich composted

Organic waste sent to landfill takes up valuable space and creates a lot of expense and environmental problems including the production of methane gas

Sending organic waste to landfill is a loss of a great resource, its much better to keep those precious nutrients on site.

Composting is a natural fertilizer that increases the health and growth of your garden plants.

Adding compost to your soil greatly improves soil structure and moisture retention.

## WHAT IS COMPOST?

Compost is decomposed organic matter (such as food and plant matter) that is broken down by naturally occurring Microorganisms (bacteria and fungi).

When it is created in an air rich environment it makes new, nutrient rich soil.

**What is organic matter?** Anything that was once living eg; plant and animal matter

### **A healthy compost system won't smell bad if it is;**

1. ALIVE – a compost system is a living system.
2. DIVERSE – feed your compost a mix/variety of organic materials for best results.
3. AERATED – the good microorganisms in your compost need to breathe, so turn the compost regularly and create air spaces; use twigs or shredded cardboard and paper.
4. MOISTURE – the compost needs to be moist – but not wet; about the same as a wrung-out sponge.



# Lets make some compost

**WARNING:-** Soil products contain; bacteria and pathogens so always wear gloves and thoroughly wash hand after contact.

Decomposing grass and hay can contain mould dust so wear a dust mask and thoroughly wash your body and launder clothes after contact.

**There is a composting system and strategy to suit everybody, every budget and every space.**

**A few things to consider are;**

- The amount of organics produced at your residence.
- The space you have available for your new system.
- The system that will work best for your household, e.g. ease of care and access.
- Who you want to keep out e.g. vermin, cats and dogs.

## 1. Choosing your compost system

There are lots of different types of composting and worm farming options available from retailers or you can make your own. THEY ALL WORK (you can get creative and there are lots of second hand and recycling options).

If you search online for **COMPOST BIN PICTURES** you will be amazed and inspired by the simplicity, creativity and diversity of designs and innovations.

Heat promotes the maximum microbial activity to break down compost, the optimum size for good heat production is 1 to 1.5 cubic metres.

**Different compost systems**

- The most basic is a compost mound.
- Build a compost bay or bays.
- Compost bin, you can make or convert your own.
- Use a commercially made compost bin, there are many different designs, with various features.

## 2. Choose your compost site

**Whether you decide to build a heap or use a commercial compost bin, you should do the following:**

- choose a location that is well draining.
- place it on soil (not concrete or pavers) so that worms and microorganisms can enter.
- warm and sunny.
- choose a site that is easy to access, so that you are more likely to use it.
- Movable systems can have lots of different positions and can be used to remediate poor and degraded areas.

## 3. Prepare your composting system

- This will vary depending on the system you choose.
- To keep vermin out, put mesh underneath and around compost. For sealed upright bins you can dig down 3" or 8-10cm and place Bin in, then back fill around it.

## 4. Start making compost

### BASE LAYER

You need to build a thick bottom layer of coarse dry material, such as dry twigs, garden prunings, or torn up newspaper.

This will allow air to flow through the compost, giving microorganisms the air they need to survive and break down the materials and provide sufficient drainage.

1. **'Green' (wet) materials, high in NITROGEN:** food scraps and fresh garden clippings.
2. **'Brown' (dry) materials, high in CARBON:** dry leaves, dry grass clippings, twigs, shredded newspaper, vacuum cleaner dust, hair; human or animal.

**Keep alternating these 2 layers as you add to your Compost system.**

For every **"Green"** layer, cover it with a **"Brown"** layer; this will help balance moisture, nutrient and deter flies. Ensuring that your compost stays healthy and avoids any of those nasty smells!

Ratio of **"Green to "Brown" layers 50% to 50%** weight or roughly, 1 Bucket "Green" to 3 plus. Buckets "Brown".

3. **Add microorganisms** – regularly add a thin layer of soil, finished compost or natural mulch to introduce beneficial microorganisms. This will help your compost break down faster

Next time you clean out the gutters, add the contents to your compost, as it often consists of rotting leaves and soil.

4. **Cover**  
Put the lid on.

For open composts, place a cover of; thick wet newspaper, carpet underfelt (use natural fibers) or a hessian sack.

This will keep moisture in and unwanted visitors out.

## 5. Maintenance of your compost

- **Turning** To add air and mix all the layers.

You should turn the compost regularly – every two to five weeks.

Continue to add a variety of "Green" and "Brown" layers as you add to your compost.

- **Observe** if your compost is;

**Too wet;** add more dry material and turn.

If it smells like stinky mud and has been taken over by maggot like creatures, it's too wet.

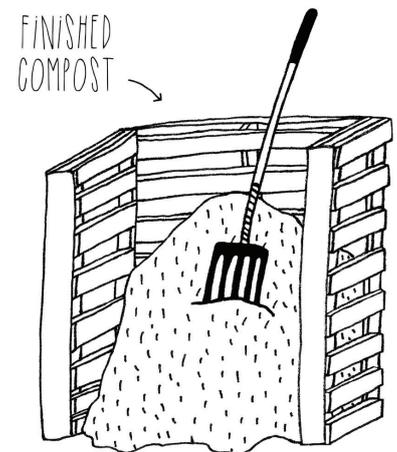
**Too dry;** add a sprinkle of water and turn.

If it is not breaking down and has been taken over by ants and cockroaches, it's too dry.

The compost is a living system, so there will be some unexpected visitors. Remember, if they are not taking over the compost, they are helping the system to work properly.

## 6. How do I use my compost?

- Compost can take as little as 2-3 months to mature, depending on the size of the compost pile (the bigger the faster), season, how often its turned, the size and type of organics materials you put in.
- **Ready to use compost** will be black in color and have a pleasant earthy smell. Once you can no longer identify the different types of organics in your mix you can use it as a **Coarse Compost**.  
Or continue to compost to achieve a **Finer Compost**, the consistency of soft fluffy soil.
- **Coarse compost** is great to use as a mulch. Excellent for holding moisture in the soil and replacing nutrients. Use it around the drip line of plants and trees in the garden – an 8cm layer is great for weed suppression. Do not mulch too close to stems or trunks. (this could cause rot or infection).
- **Fine compost** is a great soil conditioner that will replenish nutrients and retain moisture. Scatter or dig into established graded beds  
Dig into established garden beds. – to a depth of 15cm no deeper.  
In potted plants as a fertilizer.  
Well-aged compost makes a great potting mix (add sand for drainage).  
Top dress lawns to replenish nutrients, improve compaction and moisture holding capacity.



## Handy tips

### MAKE IT EASY

- Keep a kitchen tidy in your kitchen to store food scraps on a daily/two-day basis. An ice cream container is perfect – just make sure the lid seals.
- Take out the compost materials when you take out your garbage and recycling, so that it becomes routine.
- Build the compost in a site where you can get to it easily.
- Keep all the tools you will need (gloves, garden fork, watering can) together in one place for easy access.

### POTENTIAL PROBLEMS

#### What about meat, seafood, weeds and other problem materials?

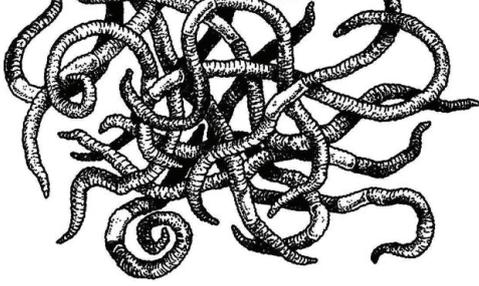
- Meat, seafood and dairy will break down if the temperature in the compost is high. For beginners it is best to leave these out.
- Manure – can contain active weed seeds (horse manure etc.), cat and dog feces can be a source of disease.
- Weeds – can contain active seeds. Place in a sealed plastic bag and leave in the sun for a couple of weeks before adding, or consider making liquid fertilizer with them

#### What about rats and mice?

- They will be attracted to the food.
- Place a thick wire mesh under the compost before building.
- Wrap food scraps in newspaper before placing in the center of the compost, then cover with grass clippings.

#### What about excess materials?

- Grass clippings and other garden material can be left in a heap to dry out and be added to the compost later as “Brown” dry layers.
- Food scraps can be placed in a deep hole in your garden or fed to a worm farm.



# Worm Farm

## WHAT IS WORM FARMING

Worm farming is a type of composting called vermicompost, where worms consume the organic matter being broken down by Microorganisms to produce worm casts (worm poo).

Worms can reduce the volume of organic waste by 95%.

## Starting a worm farm

### A FEW THINGS TO CONSIDER ARE;

- The amount of organics produced at your residence.
- The size of worm farm you will need to meet your needs.
- Who you want to keep out e.g. vermin, cats and dogs.

### MOST IMPORTANT

- **Position:** Worms need temperatures between 18 to 24 degrees to live. The average family of 4 can produce up to 1kg of food scraps a day so you will need a large, or multiple small worm farms.
- **Over-feeding:** will result in an unhealthy worm farm that smells, and your worms will leave home.
- **A healthy worm farm has no odor and lots of eggs**

## I. Choose your system

If you search online for **WORM FARMS** you will get lots of good ideas to create your system.

### DIFFERENT WORM FARM SYSTEMS

- Open bed.
- Enclosed unit.
- In ground.
- Above ground; these allow you to collect the draining nutrient rich liquid, called Worm Juice.

### DIFFERENT WORM FARM

- Tray layer style units.
- Raised garden bed style.
- In-ground worm farms are great in climates with extreme temperatures.
- Lots of types and ideas online.
- Build your own or buy a commercially made worm farm.

## 2. Choose your worm farm site

- Large systems can be built just about anywhere in the garden, as they are more temperature stable.
- Small above ground systems need; shade, a cool place in summer and protection from extreme cold.
- Movable systems can be relocated depending on seasonal temperatures.
- Small enclosed systems can be easily kept in sheds or on verandahs.
- Choose a site that is easy to access, so that you're more likely to use it.

## 3. Preparing your worms home

1. **The Base Layer** is called bedding  
Use moist; coconut fiber; shredded newspaper or aged manure and straw to create a layer with plenty of air spaces.  
This is an important layer for worms to retreat to when conditions aren't quite right, especially in small systems.
2. **Add your worms**  
Cover them with a layer of damp shredded news paper.
3. **Feed your worms**  
Add thin layers of food scraps, human or animal hair; paper; coffee grounds, teabags, etc.  
In bigger systems you can add garden waste; fresh grass clippings etc.  
Avoid over-feeding, only 1 or 2 times a week in a small system.  
Spread scraps, don't heap them, as you do not want them to ferment.  
Bury scraps if vinegar flies are hovering (a sign of fermenting).
4. **Add thin layers of;** shredded newspaper; dry leaves, dry grass clippings.
5. **Microorganisms** – Add a sprinkling of soil, finished compost or natural mulch to introduce beneficial microorganisms.
6. **Cover;** with sheets of damp newspaper and replace lid.  
For open worm farms, cover with carpet underfelt (use natural fibers) or hessian to keep moisture in, and unwanted visitors out.

## 4. Maintenance of your compost

- **Microorganisms** – regularly add a layer of finished compost or soil or natural mulch to maintain beneficial microorganisms and help break down food scraps.
- **Too wet** – Add more dry material and turn.  
If it smells like stinky mud and has been taken over by maggot like creatures, it's too wet.
- **Too dry** – Add a sprinkle of water and aerate.  
If it is not breaking down and has been taken over by ants and cockroaches' it's too dry.

## 5. How do I use worm castings?

- You can harvest worm castings about twice a year from large singular systems, more frequently in stacking systems.
- To harvest, remove cover and allow light in, vibrate the surface so that worms will move down and collect into large balls.
- Wait a while, then remove the top layer of castings and use.
- Worm castings are high in nutrients, so use sparingly like a fertilizer. You can also dissolve them in water and spread with a watering can.
- Worm juice can be diluted and used as a liquid fertilizer.

## Potential problems

- **What about meat, seafood, weeds and other problem materials?**
  - Most large worm farms can handle most organic waste in moderation; Meat, seafood, dairy and acidic foods like; onion, garlic, citrus. It is best to leave these out of small systems.
  - Manure – can contain active weed seeds (horse manure etc).
  - Do not add cat and dog feces, animals that have been worm treated will kill your worms, they can also be a source of disease.
- **What about rats and mice?**
  - They will be attracted to food in open systems.
  - Wrap food scraps in newspaper before burying in the center of the worm farm or use a cover.



This publication supported by –



Publication Date – 10th May 2018