



## Worm Care & Feeding Instructions

Worms are one of nature's most important creatures. Aristotle Onassis called them "**the intestines of the earth**".

**DID YOU KNOW?** In one acre of land, there can be more than a million earthworms!, working, to create necessary water drainage, airways and breaking down organic matter so it can be assimilated and used by plants for healthy growth.

Though there are thousands of varieties of worms, red worms are surface dwellers that have evolved over millions of years to work in partnership with other micro and macro organisms to breakdown and turn organic material into plant food. Red worms are hardy and forgiving but you must still help them by keeping their environment as close to nature as possible.

Worm care is easy and for many, quite entertaining. Watching them do their recycling magic helps children and adults better understand our relationship to the planet and how we live our lives. Not only do they increase our awareness of how sensitive nature is, but it helps us understand the often negative impacts of an oil based, synthetically dependent society that we have become.

Worms breathe through their skin and need some moisture, but not too much, not too little. If too wet they will drown. This is why they come out of the ground when it rains. The raindrop vibration on the surface of the soil is a signal to crawl upwards.

Vermicomposting can be done indoors or out depending on what climatic range you live in. If you live in the northern latitudes you will need to insulate outdoor worm colonies from both extreme heat and frigid winter conditions. If you live in a hot climate you need to insure protection against extreme heat. If you are using worms in an outdoor compost bin, the most common problem is lack of moisture, keep it moist. For indoor bins the most common problem is excess moisture. Make sure it is or can be easily drained.

Relative to your new worm bin, the following tips and guidelines should help you achieve success.

To get started, let's assume you have your bin set up and you are ready to go. The first thing you'll need to do is get the bedding into the bin. There are two bedding options listed below.

## **Bedding Options:**

- Sphagnum Peat Moss (SPM) - This material is often used as bedding but must be thoroughly rinsed and squeezed out before use. The pH is generally acidic until washed.

Unbeknownst to most gardeners, SPM is an environmentally questionable material. It takes an average of 15,000 years to accumulate in the bogs from where it is harvested. Harvesting not only forces a change in the local ecosystem resulting from removal of billions of gallons of water, but it can release methane gas to the atmosphere which has been trapped under the peat bogs by the water.

- Compost- Any decent compost that has been through a thermophilic (heat phase) or is well aged will work. Just make sure it is damp, not too wet or dry. The same applies to all of these bedding materials.

- Cardboard- Use clean cardboard that is free of contaminants. Soak it in a tub, tear into small pieces and wring out, place in worm bin. **Worms love cardboard.**

- Newsprint- many people like to tear newsprint into long strips, moisten and use it as bedding. It works okay but is not great. It can become compacted and create a challenge for worms to migrate through.

**\*\*NEVER USE CEDAR OR BLACK WALNUT WOOD SHAVINGS AS BEDDING!**

They contain phenolic resins and will kill worms.

## **Introducing Worms to the Worm Bin**

When placing worms in a bin for the first time make sure that a good light is placed over the bin and shining on it. Worms will crawl all over and explore the limitations of their new habitat when first introduced. Worms are very sensitive to light so it is the best way to insure they do not crawl up and out. If you have some food residuals available for them, fantastic, they may be hungry after their travels and experiences with the Postal Service.

## **Collecting Food Residuals**

Keep a small pail or bucket in the kitchen and place you food prep residuals in the bucket. If it has a vented lid which allows air to get in, it will smell less than one that is sealed tight. Vents with screens are best. They keep potential flies out and fruit flies in.

Everyone's habits are different, but once every few days, drain any excess liquid from the bottom of the pail before placing material in the worm bin. Place food into the bin as described in the following section. Rinse out your collection container and repeat the process.

### **Please remember the following;**

Worms like to be kept between 13-25 degrees Celsius.

Worms cannot handle bones fats and oils.

Worms like to be in a moist environment, not too wet or dry.

Keep worms in an environment with minimal vibration.

White mold is normal in a worm bin and is safe.

## What should you feed your worms and quantity?

Worms will eat almost any pre-plated food that we eat.

### They especially like:

- Raw vegetable scraps
- Fruit scraps and pips
- Bread (Mouldy or not)
- Used tea leaves/bags
- Coffee grounds
- Crushed egg shells
- Shredded cardboard and newspaper

### They don't particularly like:

- Citrus
- Meat and fish
- Greasy foods
- Dairy products
- Dog/cat faeces

**The finer you chop your feed for the worms, the easier they can eat it.**

Quantity of feed will depend on how many worms you have and on the type of food you feed. On average Tiger worms can eat just over half their body weight in food everyday.

The best method to determine the quantity of food is just to be keeping a eye on your worms and as you see there is only a small amount of food left from the last feed, it is time to feed again.

Over feeding is the biggest mistake most people make. This can quickly turn anaerobic (no oxygen) and this will kill your worms unless there is enough space for them to get away from the food. It also turns your bin acidic with worms don't like, this is normally cured just by adding calcium carbonate (agricultural lime) to your bin.

Over feeding can cause a lot of heat (like a normal compost pile), which will also send your worms looking for a cooler spot.



One of my own bins, you will see that I never feed more than half the bin, the other half is shredded cardboard and newspaper to escape into if food turns sour

## **DO NOT PUT FATTY, OILY OR MEAT BASED PRODUCTS IN THE BIN.**

You'll be establishing a balance and within a few weeks be better in tune with your worm bin and its' internal activity.

Odor emanating from the bin is another sign that you need to back off on feeding until the worms can catch up.

### **Bin Cleaning & Worm sorting**

You have a few options for cleaning the bin and sorting worms. They are all based on two principles; Worms hate light and will travel downward to get away from it. Red worms migrate upward to seek new food on the surface.

#### **Option 1**

Empty contents of the bin into a suitable sized container. Horse stall muck buckets (round) are perfect. Tip part of bucket or worm bin contents onto a piece of flat cardboard and form the contents into "windrows", elongated piles 12" wide, 8-12" high. Do this in the sun or under a bright light. Form these piles that have a mix of worms and "Castings". The worms will begin to crawl down into the pile to get away from the light. Use a simple scrapper like a "paint stir stick" and shave away the side of the pile. Back off when you make contact with worms. If you do this in 15 minutes intervals, over an hour time, all the worms will amass in a concentrated ball at the bottom. You can then, put them back into your bin.

#### **Option 2**

Many worm systems are designed around the fact that worms will migrate up and into a new food source. If you want you can make a framed screen (1/4" mesh) and begin to feed on that. After a week or so of use the worms will be up in the new screened area and you can lift them off.

## **Bin cleaning**

The most important reason to clean the bin is to make sure the drain system is operational and unobstructed. Simply rinse off, place about 6" of old bedding back in the bin and put worms back into bin.

Castings should be kept moist and are best if used fresh, but can be easily stored in any plastic bag or pails. Put it in fancy bags for your gardening friends as gifts.

**Black Gold!**