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About the Author

Maggie Norris had parents who shared their love and knowledge of gardening with her.

She didn't have space for a garden when she started working but always had a few pot plants to brighten her home. Maggie said, "I always had some mini tomatoes and herbs because I loved being able to pick a few to add to meals or just for a snack."

When she got a place with some space, she started a garden. Her first results were disappointing.

"I put in the time and money but got little in return except some exercise. It was cheaper than the gym!"

Instead of giving up, Maggie looked for ways to get better results.

"I didn't want to give up my garden but wasn't getting great results."

"I knew about compost and worm farms but thought both would be too time-consuming, expensive and probably not work any better for me."

"But, the idea of using some worms for fishing as well got an enthusiastic response from my partner, who promised to help set everything up."

"I decided to give it a try. And I am very glad I did!"

Maggie said it was much easier than they expected. "It's not heavy or smelly work. I was worried about the neighbors' reaction but they are supportive now after being a bit concerned when I started."

"Two of them have already started their own composting from my instructions, so I know the information is good and easy to follow."

Introduction

I inherited my parents' love for gardening but not their "green thumb gene".

I really wanted to have a small garden and looked for ways to improve it.

I heard that almost anyone could get better results from whatever type of garden they had with little extra effort and expense by composting and/or using worms.

It seemed to be worth trying.

But, it sounded complicated and hard work. I'd heard compost could be smelly and more manual labor than I might be able to handle.

The idea of breeding worms sounded a bit strange and probably messy.

With a little encouragement from the fisherman in the family, I started some compost and also bought some worms and a small worm farm.

He could use them all for fishing if my worm farm failed!

The family produced a bit of waste paper and there were always vegetable scraps and some other things which I'd rather see recycled than in the landfill.

I got a lot of questions from friends and neighbors which I've used in this book because the answers will help many other people.

If, like some people I know, you have tried to set up a compost system and had poor results, I understand your disappointment and hope that my book will inspire you to give it another go.

These methods are easy for most people.

I believe that gardening is one of the best forms of exercise available. But, like anything else, you must limit your efforts to what is safe for you to do.

Check with your doctor before starting so that you can avoid problems.

My garden helps me relax and kids love getting involved.

We can depend on having better vegetables and herbs than those from the

supermarket. Apart from the taste, we know everything which has been put on our plants.

Kids enjoy doing gardening. Young girls can handle a worm farm as well as the boys. It’s great exercise and a confidence building activity for everyone in the family.

It’s even more fun when you have thousands or even millions of willing worms working for you!

There is no great learning curve and the work is not as demanding as I expected either.

I hope that this ebook will help you enjoy your garden more and become fitter and healthier.

Maggie Norris

Why use Compost?

Over the years, we have been taking a lot more goodness from the soil than we put in.

A lot of valuable nutrients have been wasted because they were tossed into trash cans and stored out of sight in the landfill.

Current estimates are that at least fifty percent of household waste could be used in compost production!

We try to repair the damage by adding fertilizers and other mixtures but many are deficient in some of the trace elements which your soil needs.

Compost is produced in nature through the decomposition of dead plants and other materials which are converted by the action of worms and a variety of organisms.

We imitate that process to produce compost for gardens and farms.

These are some of the benefits which using compost gives us.

- The processed compost will return nutrients which are missing in our soils.
- Compost will improve the structure of your soil.
- Water will move better through heavy soils instead of running off and taking some of the thin topsoil with it.
- Sandy soils will be able to retain more water. This improves plant production and the number of worms and micro-organisms which live in the soil.
- The organic content of the compost will improve the quality of the soil.
- The pH of the soil will be balanced in a range which your plants prefer.
- Using kitchen scraps, waste paper and other materials for compost reduces the amount of land which is used to store useless landfill. We all pay toward the cost of rubbish dumps and whatever good material ends up there is wasted because it is contaminated by other trash.
- Compost does not produce much methane - a big problem with landfill.

- The cost of your own compost is very low once you have your tools and any other equipment you decide to use.
- You will not need as much fertilizer or pest sprays.
- Your plants will be more resistant to many problems.
- You get peace-of-mind when you know what was used on your plants.
- All the produce will be fresh and better tasting.
- You will find adding compost to your soil will mean it is easier to manage because it will not clump like it did before.

First Steps

Composting is easy, environmentally friendly and rewarding.

But, please review this chapter before you start your first heap.

Plan Your Compost Location

You might just want a small unit by your backdoor or even under a kitchen bench. But, if you are looking at something larger, you should plan where you will locate it for your convenience and to avoid any problems for your neighbors.

You also need to be careful that it won't interfere with your neighbors. Open piles are the most likely to cause concern if no-one has previous experience with them.

Check the Regulations

Most regulators are aware of the advantages which composting can bring with it.

But, check with your local authorities whether there are any regulations which you need to be aware of.

If your compost pushes out bad smells or brings vermin into the area, that would interfere with the ability of people in nearby properties to enjoy being outdoors.

They might complain. Some might complain before any problems arise, simply to ensure that problems are not allowed to develop.

Check with your council about the rules and talk with your neighbors as well.

Safety Tips

Every gardener needs to protect themselves from a variety of potential risks in every garden.

Gloves: Always wear quality gloves when you are gardening. Look for gloves which can be tied around the wrists so that no dirt or other material can get inside.

Handling manures, especially horse manure, without gloves is risky.

Good gloves will help you to hold tools securely so they don't slip from your hand or cut you.

If you get a hole in a glove, replace it as soon as possible because it cannot protect you.

Many things used in the garden are poisonous or can harm you in other ways.

Potting mixes and animal manures can be contaminated with harmful organisms. They may not affect the crop but can cause illness for people who come into direct contact with them.

Get a dust mask with replaceable filters to keep pollen and contaminants out of your mouth and nose. Replace your filters regularly – they're cheap protection.

You may not notice any problem until days later when the contaminants may be harder to deal with.

Always clean your gear before you put it away to ensure you don't transfer any contaminants between areas of your garden.

A hat, sunscreen and sunglasses are important for protection from the sun.

What to Compost

Some of the items you can put into your compost bin or pile include:

Don't include anything with has any sort of harmful residue on it.

Nitrogenous Materials:

Tea bags, coffee grounds. These items are spread on worm farms as well. I wouldn't overdo them – we don't want your worms becoming hyperactive!

Plant clippings. Woody material needs to be chipped into very small pieces and may take more than one trip through your compost system to be processed.

Pasta

Rice.

Eggshells. These are another item which is popular with worms. But, the shells need to be finely ground before the worms can process them easily.

Some animal manure is okay, particularly rabbit poo.

Never put cat or dog waste in your compost process.

Carboniferous Materials:

Paper napkins, paper towels. Tear them into small pieces for more rapid processing.

Thin cardboard boxes. Rip into small pieces.

Thin corrugated cardboard. Put small pieces of this in your worm farm if you have one.

Egg cartons. This is much better than putting these cartons in your recycling collection because this soft fiber is useless for paper manufacture – there is no strength left in it.

Making Your Compost

This section covers the basic steps to set up a compost pile, from the simplest options without a container to some of the more elaborate ways of producing your own "brown gold".

Compost Piles

Making your compost without a container may be done by piling your ingredients above ground or by burying everything in either a trench or a pit below ground.

This type of composting can keep your expenses down. You might want to use this method if you are not sure whether you want to get serious about composting.

You will need space for your composting pile or piles.

The piles need shade for proper operation and should be some distance from your living area and from any neighbors.

The soil should have good drainage.

Piles are easier to make but are more likely to be attacked by pests.

Using a trench makes this less of a problem but you won't have as much oxygen in and around the decomposing material. That means your compost will take longer.

The soil where you put your trench should not be too hard for you to dig.

Piles work better and more quickly than trenches because the flow of oxygen through the pile encourages more activity from the organisms.

In a trench, anaerobic organisms do the work. They are not as efficient as the aerobic organisms which need a good supply of oxygen.

The aerobic organisms take some oxygen from the pile as they work, so the rate of processing will decrease unless you ensure that your pile is set up to keep bringing in more oxygen.

You might set up your pile on wooden slats or a pallet which will allow more air to flow into the base of the pile.

Stirring the pile will introduce more air. Don't do this too often or you will interfere with the organisms which are trying to make compost.

Pushing garden forks or even plastic tubes down into the pile will create temporary channels for more air to enter through. This should not interfere much with the composting process.

If you have the space and the energy, you may want to set out areas for two, or even four, piles together. Just start one pile and, when it has grown to a reasonable size, turn it over into the next space.

The thorough aeration should get the organisms up to full speed and you can start a second pile in the area which you just emptied.

Warning: You will probably get some areas in your above-ground pile where the material is not breaking down because it's mainly one type of material instead of a mixture or because there is too much moisture in it.

This can cause smells and cause problems with neighbors.

You will have to turn the pile and mix in more carbon-rich material to reduce the problem.

A good compost pile will have an earthy smell which is not unpleasant and will probably generate some warmth which may kill any weed seeds in the pile.

Even if you have some problems with your first open compost pile, that experience should help you to be more confident with that method if you decide to continue using it.

In the Trenches

Putting your composting material in a hole or trench gets it mostly out of site and the layer of soils on top of it should seal in the smell.

There will be smells with this method, so avoid disturbing the covering layer as much as possible.

The underground process will take longer than when you have an above-ground pile.

The trench method is useful if:

- You don't want a visible compost pile in your back yard
- You have a large quantity of material such as dead flowering plants or other residues.
- You can't turn over or maintain an above-ground pile easily.
- You want to improve the soil structure so that you can use the area for a garden plot after the compost has matured.

If your ground is very hard, you should use above ground piles and bins to save yourself a lot of effort.

Trench Tips

Check the area you want to use for your trench or pit does not have any underground cables.

It should be reasonably well-drained or there could be a build-up of moisture which would affect the composting process.

The dimensions of your trench will depend on the amount of material to be composted and the available land.

If you want to use the compost in other areas when it has been converted, keep your pits fairly shallow. If you will leave the compost in place to improve that piece of ground, you can dig your holes a bit deeper.

Add layers of green and brown material and lightly water each layer when it is in place.

Add a thin layer of soil after every few composting layers.

A thicker layer of soil on the top will discourage pests from digging down to get the kitchen scraps and ensure that the composting process gets off to a good start.

It is not easy to work out how long the conversion process will take. There are too many factors including the ratio of each type of material in the mix,

Usually, it should be ready within twelve months or less.

Best Choice for Your First Compost

The most common types of composting set-ups are:

- Piles
- Pits or Trenches
- Bins, either home-made or commercial products.

Any of these will be fine.

But, I suggest you choose something which will not demand a lot of time and effort for your first composting.

If you were hoping for a single answer, I apologize. It's not that easy because my readers' needs and desires are likely to differ a lot.

I can't say definitely that my suggestion will be best for all of you.

But, starting with a simple bin from your favorite garden store would be a good choice.

You may prefer to make something yourself to keep costs down. That's fine too.

This chapter will have some useful tips for whatever way you decide to start.

The main reason for suggesting a bin rather than starting a compost pile is that you will get results with less stress. A pile may take about the same time as a bin, but will require more effort and time from you.

You could become a bit jaded about the process over that period if you have never done it before.

Choosing the Right Unit

You will save yourself some stress and possibly some money as well if you work out in advance how much material you will be composting.

You don't want to pay for a big unit which you never fill or find that the unit you get won't take all of your flowering plants at the end of the season.

Choose any type of bin you like. Ask your gardener friends for recommendations based on their experience in your area. Most sales people

in garden stores are reliable as they are usually keen gardeners themselves.

You might want to use a tumbler which could give you faster results and require less effort from you to mix the materials.

Some bins have a hatch near the bottom where you can remove some compost without disturbing the other contents very much or having to empty the whole bin. That might be worth a few extra dollars on the price.

Preparing a Pile

The advantage of setting up a pile instead of buying a bin or series of bins is the lower cost and freedom to use whatever size area is available to you. Make sure that your pile is at least the minimum size below.

Mark out the area for your compost pile. Have your materials, tools and your hose close by to avoid delays when building the pile.

Your heap should be at least three feet square (approximately one square meter). Smaller piles will probably not generate enough warmth and aerobic activity.

Cover the area with dry woody material as a base for your pile. You could use a timber pallet or planks. This would provide some passages for air to reach the bottom of your pile and also some stability so the pile doesn't sag to one side and fall over.

Add a few inches of carbon material such as scrap paper (shredded confidential documents could be used) or dry leaves. Chop or shred the leaves to make them easier for the micro-organisms to convert. Whole, dry leaves will take a significant time to be processed. You may find some clumps in the compost which is produced even after months. But, you can break up the clumps and spread them on the top of the pile again.

Lightly water the layer. You want it moist to the touch and no more. Too much water will interfere with proper operation.

If you have a lot of vegetable or fruit waste which has a high water content, you need to put in more material which does not so that the pile is not too moist.

Spread a two inch (five centimeter) layer of green garden waste.

Lightly water each layer after you spread it on.

Add a little soil after every few layers.

You may want to add a small amount of dolomite occasionally to counter any acidity build-up in the pile.

Putting a cover over the pile can reduce the possibility of some material

blowing away before it settles. The cover will also prevent animals disturbing the pile and stop the pile becoming too wet or drying out, depending on your weather conditions.

You could use some damp newspaper (no colored sheets) or a slightly wet hessian bag on top to keep light off the pile and maintain a little moisture which encourages more activity from the working micro-organisms.

This bag is not essential if you already have a cover on your bin. The hessian will rot after a while and should be replaced when it shows the first signs because it will start to smell more as it decomposes.

Let your full pile mature for a few weeks before using any of the compost.

Bins and Boxes

I believe that composting in bins or boxes is the best way for most people.

Round plastic bins are probably what most people start with.

They are not always the best choice but they do give you a lot of usable space and better insulation than most square bins.

They are usually lighter than a square bin of similar dimensions.

You don't need a solid frame for your composter though I recommend it.

You can use a cylinder of wire mesh supported with one or more wooden stakes.

Or, you could set up a wooden frame and fit planks stacked vertically inside the frame to surround your composting material.

You can use scrap wood for all sections as long as it is not covered in paint.

This can provide reasonable security from pests.

When you want to remove the finished compost from the bottom of the pile, you can slide out one or two planks from the front and shovel out the compost.

Then, gather up any excess material which fell out when you got the compost and replace your planks.

This is a cheap option but you will eventually have to replace all of the wood.

Plastic Bins

These come in a great range of shapes and with various features that may or may not be useful to you.

Color of the bin you choose is not important except that a black bin will absorb warmth from the sun and possibly encourage more activity from the organisms in the cooler time of the year.

Tumblers are like a drum on a frame. You put the waste in the drum and then spin it to mix up the material.

That can improve the aeration of the material and reduce the time which the

process will take.

Tumblers need less effort than turning compost by hand.

Measure your need of the different features and make your choice. I believe in keeping things simple.

Composting Problems

Bad smells

Bad smells are most common with piles of composting material.

They are usually caused by an imbalance between the types of materials in the pile or by poor management of the process.

If you have more damp nitrogen-based material, you will get an ammonia smell. Uncover the pile and let the sun dry it out.

Add some more carbon-rich material too.

A sulphur smell suggests that meat, dairy or maybe fish scraps are in your mixture. These should never be put in compost.

Too Wet or Dry

Your pile should be damp but not showing a lot of water. This can happen when you are adding a lot of kitchen scraps which have a high water content and not enough shredded paper, leaves etc., to add some balancing carbon.

You can try using sunlight to reduce the amount of water from the pile but remember that the micro-organisms don't like bright light.

If you have too many dry materials, like leaves or paper, you could try a light watering.

Vermin

As well as mice and rats, this can include squirrels, rabbits and other wild creatures as well as straying pets.

Burying anything which might attract animals is the best defense. Putting it under a few inches of other material is usually enough. Otherwise, you may have to get or build a bin with a lid.

Pet Waste

No dog or cat feces should ever be used in compost or buried anywhere that edible drops might be grown. Also, be careful to dispose of it where the water

won't run off and connect with edible plants.

Experiments have shown that this waste may still have active contaminants more than a year after they were dropped.

No Obvious Activity

You might start to worry if you can't see any activity in your compost heap over several days. But, gardeners need to learn to be patient. Sometimes, there is activity but it's slowed a little.

When you have waited several days, you may want to examine the pile. Lack of action may be caused by an oversupply of material which is slow to break down. That might be dry leaves or heaps of paper, for instance.

You might want to stir the pile and add some different material.

Shredding harder items such as dry leaves can also help the micro-organisms to continue their previous level of activity. Some gardeners put their vegetable and fruit scraps through their blender. It can't hurt the compost and may even help!

Fresh Compost has big pieces in it!

When you get your first clumps of brown compost in your hands, you may see some pieces of twigs and other solid items in it. This is because the harder materials need a lot more time to break down.

It's not really a problem. If there's just a few of these, it's okay to leave them in the compost when you use it. But, you could pick them out and put them back in the bin for more processing if you want to.

Value of Experience

This section has a few tips and tactics which I hope will be helpful for you as you progress with your improving garden.

Traditional gardens required a lot of effort and care. Smart gardeners look for any way to reduce effort and improve results.

[1] Keep a garden fork or probe near your bin or pile so you can give it a stir when you feel you should. If you have to retrieve the tool from your shed and return it afterwards, your compost might miss out.

[2] If your garden is far away from the house, you might want to have a large compost pile near the garden and a small one near the back door, or even inside. Put the garden waste in the big bin and any small lots of your kitchen scraps in the smaller unit.

[3] When your compost is covered by snow or even ice, you may think everything will stop. But, you will find that most will still maintain their internal temperature and some level of steady activity.

You can still add new material to your bin in chilly weather though it might not start to be processed until the weather gets a little warmer.

A Worm Farm for Your Garden

Using compost in your garden will cause it to have more worms which will be more active in the improved environment.

You might want to go a step further and set up a worm farm. This is a great way to improve your garden and you can use some for great fishing bait.

You should choose one of the various breeds which are recommended for use in these units.

Regular garden worms are not suited for them.

Worms are happy breeders. You can expand your worm farm empire or even share or sell your excess worms with other gardeners or fishermen (and women).

What are the Advantages of a Worm Farm?

A worm farm is not necessary but it will produce better compost more quickly than the other methods in this book.

Worm farms are usable in smaller areas than regular compost systems.

Some can be used indoors, so people with limited space can get the benefits of recycling the waste from their own kitchen and garden.

Children will be more enthusiastic about helping with the family (or school) worm farm than they ever will be about maintaining a compost pile.

You also will get other benefits from your worm farm:

- Worm casts (worm poo) are highly nutritious for most kinds of plants.
- Worm "tea" is their liquid output. It is very good fertilizer but you must heavily dilute the raw liquid or it may burn your plants.
- The output from your worm farm will not put methane into the

atmosphere.

- The compost, castings and worm tea all help reduce the cost and use of artificial fertilizers.
- That means better and healthier plants.
- The compost and castings make the garden easier for the regular garden worms to aerate.

Getting Ready for Your Worms

You need to prepare a suitable container for your worms before they arrive.

People have bred worms in everything from large margarine containers, small drums and even discarded baths.

I would not use anything which had previously contained a poisonous material. Any flakes might cause some of your worms to get sick.

Large plastic buckets might be used.

If you can get an old bath or half of a plastic barrel, make some drainage holes in it. Then, bury it to half the height of its side in some well-drained soil.

You need to provide good drainage across the bottom of the container. The holes can be up to a half-inch in diameter.

Don't worry about your worms escaping. If you provide plenty of suitable material and maintain it, your worms will mostly stick around and happily keep working for you.

Although I won't cover larger size worm farms in this book, I will mention one I saw which shows that simple methods can work well.

I saw a simple, commercial-sized set-up where someone bred their worms in raised beds.

They set up a tent which was about fifteen feet long and about seven foot high in the center.

They set up beds which were about three feet long along each side of the tent which left them a comfortable walk-way down the center for their maintenance and harvesting the worms.

Worm Breeds

You may wonder why so many people pay money to get special breeds of worms to use in their garden or fishing ventures?

The results suggest there are advantages using the specially bred worms.

Garden worms are not as hardworking or tolerant of such a wide variety of conditions as the recommended breeds.

They don't tolerate the warmth of a compost heap as well.

They will often die or cluster in a corner of the bin and not process more than a small amount of your carefully gathered material.

There are a number of breeds which are used for worm farming.

Two of the breeds which are currently very popular for both fishing and gardening are the European Nightcrawler and the Red Worm.

Red Worms

This breed was considered for a long time to be the best all-round worm for both fishing and gardening.

It is easy to breed and fairly hardy.

Many people still prefer to use it.

The European Nightcrawler

This breed has become very popular recently.

It's larger than the Red Worm which many say is an advantage for use in fishing.

These larger worms will work deeper into the composting pile than the smaller red worms but the Red worms are still very efficient and a popular choice with fishermen and worm farmers alike.

It is claimed that the European nightcrawler is able to handle a wider temperature range. Some apparently have been used for fishing in icy conditions!

But, the African Nightcrawler is more sensitive to cold and thrives in the

range of 15 to 20 degrees Centigrade.

Feeding Your Worms

Red worms can be fed cow manure or composted horse manure as well as the items mentioned in the earlier section on compostable items.

Do not give meat of any kind to any worms in a worm farm. The worms will eat the meat but it will attract pests, including rodents and flies. The smallest traces will cause smells and could make your farm an unhealthy place for the worms.

Settling in Your Worms

You will usually get your first lot of worms through the post unless you find someone that can supply the type you decide to use locally.

Deciding which supplier to order from can be a challenge. Look around the Internet for reviews but be aware some may be by friends or affiliates of that supplier.

When you order, you will need to be sure that someone can be available to accept the package when it is delivered.

The supplier will send you instructions for handling and settling in your worms. Follow whatever they say in preference to my general suggestions below because they have experience of the particular worms you get.

After you get the package, check for any obvious problems.

If it looks okay, open it carefully and put the worms and the shipping material around them on the bedding you prepared.

The shipping medium will have some food and possibly some extra worms or eggs as well.

Do not feed your worms for a few days. They will absorb the nourishment in the material the supplier put with them. That will give them time to adjust to their new conditions.

Some worms will explore the edges of the enclosure they are in. You may lose a few who go too far and can't get back to their food and the other worms.

It's worth setting up your container and adding some aged manure, soft leaf litter or something similar so that there is some interesting material for them to explore when they start to get over the shock caused by travel.

Put a low wattage light over the bin to encourage your worms to burrow into the bedding.

If you put some dry bedding on top of the moist bedding, they will be less likely to roam.

Best Bedding for Your Worms

Many cheap or free materials are good for use as bedding for your worms. I'll also suggest some touches which can add extra appeal.

Shredded newspaper is good for bedding. Don't use sheets with colored ink because they may harm your worms.

Shred the paper and dampen it lightly.

You will find that some clumping will occur. Small clumps are no problem but you should break up any larger ones as the worms won't process them. Separate any small clumps you see in your finished compost and gently pull them apart. You will find small worms in there. Then put the remnants of the clumps back into the bin for further processing.

Add a variety of other types of paper. Include typing paper, pieces of paper towel rolls (these provide a little aeration within the pile) and other thin cardboard. Greeting cards should be okay but don't put any bits which are not paper-based into the bin.

Thin corrugated cardboard has an extra appeal to worms because they will get in the corrugations. You may want to check any pieces which you find in your completed compost as there might be small worms or eggs in them.

Most cheap shredders will stop or even break if you feed them corrugated cardboard. Either get a high-power machine or tear it into small pieces.

Shred or tear and lightly moisten all of it before putting it in your worm bin.

Some people use and recommend various materials as grit for the worms to use when digesting the material. But, it is not essential and some materials like vermiculite should not be used in worm farms.

Eggshells are good for your worms but you need to grind them into very fine pieces or your worms won't be able to process them properly.

Avoid using prepared soil mixes in your worm farm because they may contain materials or additives which could harm your worms.

A small amount of coffee grounds or tea leaves can be used in worm farms.

Avoiding Problems with Your Worms

Your New Worms

An important thing all worm farmers and gardeners develop is patience. We learn that nature has its own schedule and we make problems when we try to hurry things along.

Although you will be excited and curious about what's developing in your new worm farm, keep your probing to a minimum for the first few days.

That reduces the stress on the worms who have had to endure the collection process, being packed in the posting parcel, bumpy travel and then being dumped into their new environment.

You probably won't have to feed your worms for the first several days. More worms are killed by kind owners overfeeding the new arrivals than by almost anything else.

Let them settle in.

Although worms produce compost faster than other systems, you'll have plenty of time to look at what they're doing after they've acclimatized a bit more.

Food Problems

If you feed your worms too much food, you could make them sick. Watch how much of the previous lot of scraps they consume and make sure you give them about that amount.

Extra, unprocessed food could go bad and make the worm farm toxic to your worms.

All food for your worms should be chopped finely before you put it in the farm. According to some reports, lumpy food is the major cause of problems in worm farms.

Avoid these items: No part of an onion or shallot should be put in a worm farm. Any citrus skins will cause problems too.

Fruit juice and vegetable juices can cause problems. Many commercial ones

have various types of salts in them. Many humans are addicted to having salt in almost everything they drink or eat but the salts are very bad for your worms.

Sometimes, worms die without any obvious reason. But, following the tips in this book will help avoid the most common problems.

Harvesting Your Worms

Always wear gloves when you handle soil, manure or other similar materials. They may be inconvenient but the risks are very real!

When your worms have been working hard for a few months, you can make your first withdrawal.

You need to set up some fresh bedding and let it settle for about a week before you disturb your worms.

Then, your remove the first few top layers from your bin and put it aside. This will contain most of your worms and be the basis of your next crop.

You will see a distinct change between the upper layers and the compost which the worms have produced. That will be dark brown and crumbly.

The worms cannot live in this material so you are not depriving them of anything.

You will get a quantity of worm casts.

The worm liquid is also a very potent fertilizer. It is far too strong to use until you delete it to the point where it looks like weak tea.

Put the new bedding and the upper layers or mostly organic material back into your bin after you've cleaned it.

To separate the worm casts and worms from the other material, you can:

1] Screen Them:

Use a large cylinder open at both ends with a coarse screen near the bottom to separate the worms and casts from the other material.

Gently move the worms onto the new bedding.

2] Separate with Light:

This takes longer but is gentler on the worms.

Put a clean heavy plastic sheet over your work table and then gently pour the compost material on to it. You will get best results by starting with several smaller piles instead of one large pile.

Point a light (not too strong) at the pile and wait a few minutes. The worms in the pile will move down to the bottom and you can scoop away the material at the top of the pile.

Repeat the same process with that pile until you are getting very few worms in the layer you remove.

Put the worms in the new bedding and repeat the process with the next pile.

Removing Worm Compost (Vermiculture)

In some stacked systems, you add scraps to the tops and remove vermiculture and worms from the bottom.

Be careful not to remove too much of the processed material at any one time. You should only take out a quantity which is less than ten percent of the quantity of scraps you have previously added.

The scraps and other added material will be reduced in size by about ninety percent when the worms and microbes have finished with it.

Resources

U.S.A.

The National Gardening Association

Information for getting kids into compost at their site for children and educators, Kidsgardening.org Use the search tool on that page to look for compost articles because they move them around from time to time.

Environmental Protection Agency

www.epa.gov./compost/

Composting and compost application information for business, industry and local governments and legal information for compost facilities.

United Kingdom

Department for Environment, Food and Rural Affairs

http://www.defra.gov.uk/

Type compost into the Search box for links to information.

Australia

Victorian Department of Primary Industry

www.dpi.vic.gov.au/agriculture/farming-management/soil-water/soil/compost Information mainly for farmers about compost.

Compost Australia

http://compostaustralia.com/

Industry organization for those in Organic waste management and recycling.

Clean Up Australia

www.cleanup.org.au/au/LivingGreener/composting.html

How to make your own compost and why you should.

Maggie's Wish!

I wish you many great experiences in your garden and when you use the more abundant and flavorsome produce you will soon be getting.

Like me, I expect that you will also enjoy sharing your tips with your friends so that they can also help to make our world and our gardens happier and healthier.

Maggie Norris

