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# THE ROTTER'S GUIDE TO HOME COMPOSTING

## Turning spoil into soil

### A Guide for Composting Garden and Food Waste



South Dublin  
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# WELCOME TO COMPOSTING!

About one third of your household waste is compostable kitchen and garden rubbish. Composting is an easy way to return the nutrients of organic material to the soil. Compost may be used as a soil conditioner, surface mulch or as a fertiliser. It not only adds nutrients to the soil but it also improves soil structure and increases its water-holding capacity and aeration.

Composting is a convenient and inexpensive way to handle your organic waste. You will be helping the environment by reducing the waste going to landfill disposal, saving money on waste charges and lessening the demand for peat products (helping to conserve Ireland's boglands) and using a natural process to improve your garden.

For people concerned about pollution and the environment, composting provides a simple 'recycling depot' for kitchen and garden wastes, yet many people think there is some mystique about compost-making. In fact it is going on around us all the time in nature. Fallen leaves on the forest floor are a good example. Composting only speeds up the process by rotting down organic waste under controlled conditions. Composting is a cheap and hygienic method of converting waste into clean-smelling and very useful garden material.

## WHAT IS COMPOSTING?

Composting is a controlled process of decomposition of organic material. Naturally occurring soil organisms recycle nitrogen, phosphorus, potash and other plant nutrients as they convert the material into humus.

When suitable materials are collected together, naturally occurring micro-organisms - such as bacteria, algae, etc. start to



# NOTES



## BUILDING YOUR OWN COMPOSTING BIN

Composting is not a complicated business. We are really just using what happens naturally to our own benefit. Similarly, the container does not have to be complex either! In fact you might want to just make an old-fashioned compost heap!

- If you do want to make your own, any container made of wood or wire mesh at least one metre wide by one metre high will do. The simplest one is to drive four wooden posts into the ground at metre distances and attach metre high chicken wire to the posts all around. Use an old piece of carpet or similar for the lid.
- A simple compost box may be made using a pallet.
- An old rubbish bin or 200 litre drum with the bottom removed and holes drilled in the sides will make an ideal composter. This is very simple and inexpensive.
- Containers with two or more sections have a clear advantage over a single unit in a large garden. They allow material in one section to compost when full, while you add fresh material to another one.

If you are interested in obtaining more patterns for composters, contact the Environmental Awareness Office of South Dublin County Council. We also have information on VERMI-COMPOSTING (using worm farming technique) and different types of large-scale composting.



feed on the softer, succulent ingredients. As a result of this activity, heat is produced which speeds up the rate of breakdown and helps to kill plant diseases and weed seeds. (Temperatures may be as high as 60°C)

Once all the tender material is consumed, the rate of activity slows down as the organisms get to work on the tougher materials. As this stage, as the temperature cools down, larger decomposers move in - such as worms and beetles. By the end of the process most of the original ingredients have been broken down, mixed together and resemble soil.

In order for this process to take place the aim should be to provide air, moisture and suitable ingredients in the right proportions. If there is too much water or insufficient air, then different types of organisms take over which produce airless or 'anaerobic' decomposition - this is slower, cooler and very smelly. On the other hand, if the materials are too dry, the organisms cannot work and decomposition will slow down.

## A MIXTURE IS THE KEY

Compost materials vary in the rate at which they will break down. Grass cuttings for example, rot down in a few days but on their own they make a black sludge rather than compost. Straw on the other hand may take months to break down.

The CHEMICAL ANALYSIS of compost varies with the ingredients you use in the first place. However, the average analysis, by % of dry weight is:

Organic Matter (humus) .....	80.0% of the total
Carbon.....	50.0%
Nitrogen.....	3.5%
Phosphate (P <sub>2</sub> O <sub>2</sub> ).....	3.5%
Potash (K <sub>2</sub> O).....	1.8%
Plus the full range of trace elements.	

(Figures: The Henry Doubleday Research Association Home Composting Manual)

To make successful compost you need a mixture of soft, juicy material and tougher ones. The soft green materials are rich in nitrogen and get the process started (they work as activators) while the tougher older material is rich in carbon and will give body to the compost.

It is not really possible to advise the beginner exactly how much of what to put into the bin, but it is something which is easily learned with practice. Most households produce a mixture of materials suitable for composting from garden waste to vegetable peelings, teabags, paper, etc. Most people tend to have too much of the soft green material and the woody dry materials tend to come seasonally. Too much of the soft sappy materials, like grass, result in a wet smelly mess! As a general rule you need to mix layers of soft **green** materials with older **brown** ingredients - such as mixing mowings with older tougher material such as shrub prunings or mature weeds and old bedding plants.

## WHAT CAN BE COMPOSTED?



Basically, anything, which once lived, may be composted! Nearly a third of your household rubbish can be composted, as well as garden waste such as fallen leaves, grass clippings, weeds, the remains of plants and prunings. Kitchen scraps such as vegetable and fruit peels and trimmings, egg shells, tea bags and coffee grounds are ideal for composting. Don't compost meat, bones, cheese, cooking oils, fish - these may attract unwanted pests and are very, very slow to break down.

**Leafmould:** If you have lots of trees and lots of leaves, stack the leaves in a pile in the corner of the garden and cover with an old piece of carpet or place them in black plastic sacks. Make sure they are damp and leave them for about a year to decompose. They turn into dark crumbly compost, perfect for all garden uses. The decomposition process is slower than the usual composting and is probably best done in a cool corner.

**Trenching Garden Waste:** If you have a garden big enough you may want to try digging a trench about 40-60cm wide and the same deep. Place garden waste into the trench in layers of green and brown materials and cover lightly with soil. Keep adding until you have built a 'lazy bed'. You can plant in this trench in a few months - this is particularly useful in the vegetable garden for planting marrows, courgettes and runner beans.

**Community Composting:** The Irish Peatland Conservation Council are encouraging neighbourhood composting. They have published a very good book on how to get started through your local community groups, schools and residents' association - 'IPCC Guide to Community Composting'.

- **Green Waste can be taken to  
Ballymount Civic Amenity Centre,  
Ballymount, Dublin 12  
Phone 01 4621251  
[www.southdublin.ie](http://www.southdublin.ie)**
- **Green Waste Recycling Centre,  
Esker Lane, Lucan, Co Dublin  
Phone 01 6283407 / 01 6280612.  
[www.southdublin.ie](http://www.southdublin.ie)**





Mulching reduces weeds (you probably use commercially bought mulches at the moment in the form of bark chippings); it moderates soil temperatures and prevents compaction by heavy rain. In the occasional dry summer, it even conserves moisture. It is safe to mulch any woody

plant such as shrubs and trees up to 8-10 cm deep. Leaves from all types of trees, grass clippings and shredded woody waste are ideal. Evergreen prunings and pine needles are especially good on acid-loving plants like azaleas and rhododendrons. Garden shredders are available to buy in garden centres or may be hired for the day. It might be a good idea to share the cost with neighbours or buy one through the residents association for everyone to borrow.

**Grass Cycling:** Grass cuttings may be used to mulch both the lawn and flower or vegetable beds. Contrary to popular belief, you may leave grass cuttings on the lawn. They will soon be 'consumed' by the lawn itself - feeding the nutrients back into the soil, helping to aerate the ground through the action of worms and preventing it from drying out in warm or very windy weather. For best results the grass should be cut regularly and never cut it less than 2.5 cm high. Recent research has shown that leaving grass on the lawn does not increase thatch, weeds or diseases. However, it is best to remove the first and last cuttings every year because in colder weather or when the grass is very long it takes too long to decompose. There are special mulching lawnmowers available that finely chop the cut grass for leaving on the lawn.

**Wildlife Habitat:** If you have a very large garden, you probably also have very large amounts of woody garden waste. This may be piled up in an out of the way part of the garden and left to decay. All sorts of wildlife will love this safe habitat including hedgehogs, foxes, badgers and birds.



Woody garden waste should be chopped up as they break down quicker if they are smaller. They should be added in small quantities in layers in the bin with other materials. Some paper, brown cardboard, paper tissues and napkins will also compost well but make sure you compost these with some green materials. If you have a lot of grass, compost lots of paper with it. Paper may be torn up and dampened before adding to the bin.

Details of what material do well in the composter and whether materials are **green** or **brown**, are listed in our Compost Chart which you might like to hang in the kitchen as a convenient reference.

There is no need to add soil to the compost bin as a source of organisms - there are plenty of them available naturally. However, an occasional sprinkling of clay soil is an advantage as it helps to prevent nitrogen loss - but don't overdo it as the colder soil may set back the heating up process. Usually you'll get enough soil as you deposit weeds and old plants from the garden.

Commercial compost activators are not necessary. There are two kinds - nitrogen or urea and soil bacterial suspensions. Nitrogen is usually provided by green materials and grass and soil will provide the bacteria.

Compost material may be chopped up with a shears or a sharp spade, smashed up using a mallet or you may put it through a compost shredder, which may be bought or hired. (This might be a good idea for the annual pruning and hedge trimming).



## GETTING STARTED

Start off by placing the bin as close to the house as will be practical for ease of use from the kitchen to the bin in winter rain!

Place it in an area of bare soil or grass, so that the micro-organisms and worms can get access to the bin and excess water can drain away. If there is grass on the site, break up the sod by digging over lightly. (If you don't have time to do this, the bin may go down on grass but broken soil is much better.) The bin needs to be in partial shade - not under direct south facing sun all day, but not in the shadiest, coldest part of the garden. Don't put the bin on top of paving or concrete - it won't work!

Put in a layer of coarse garden waste such as leaves or weeds, a little loose soil and some broken pieces of cardboard and maybe some vegetable peels - a good mixture to start off and let nature take it away! Don't be surprised if the contents of the bin heat up or if you see worms or insects - it's all part of the process.

## HOW LONG DOES IT TAKE?

That's the question everyone wants to know and is almost impossible to say as it will depend on the individual composition of your bin, what the weather conditions are like and where the bin is placed.

Well-rotted compost may take as little as two months - or it can take a year. As long as the contents of the bin are no longer recognisable and it looks like damp soil - the compost is ready for use. It will be a brownish/ black colour and might still contain some recognisable pieces such as tiny twigs or egg shell (which take longer to rot). Sometimes compost may look very sludgy and wet, just let it dry out in the fresh air for a while.



## GETTING RID OF GARDEN WASTE

Garden waste such as leaves, grass, hedge cuttings, old plants is a valuable resource - not something to be readily discarded. It may be used in environmentally friendly ways to enhance your garden and is a useful source of nutrients that should be returned to the soil.



Many gardeners already take advantage of their garden waste by composting it with kitchen vegetable waste and using it as an effective soil conditioner. Thirty years ago, most households did the same, but we have got used to just placing all our rubbish into the bin and watching it drive away. But why? Garden and kitchen waste, if used properly will enrich the garden, save on landfill space, conserve the use of peat from our boglands and helps to attract more birds and wildlife.

There are many alternative ways of dealing with garden waste, but the most effective is composting.

**Composting:** takes advantage of the natural decomposition of organic matter in a controlled manner. It is easy, hygienic and most of all, a natural way of taking care of waste. It also tends to attract small birds to the garden such as finches and blackbirds. Composting may be done in a commercially bought composter bin available from South Dublin County Council and most large hardware or garden centres or you can very simply make your own. Most good gardening books will explain the details or contact the County Council for more information. If you don't fancy composting here are some other ideas for getting rid of garden waste without putting it into the bin.

**Mulching:** is a simple process of placing organic matter such as grass clippings, leaves and pruning material in thin layers on the surface of the ground and leaving it to decompose - in much the same way as nature takes care of autumn leaves on a woodland floor. Humus is gradually created over time and the nutrients go back into the soil.

### ***The composting material is damp and soggy***

You're not adding enough material or it is too wet and in a cool place. First try mixing in a large batch of new materials and mix well - you might need to get a batch of material such as weeds or hedge trimmings from a friend to feed up the compost. If you think the area it is in is too cold - move it, carefully. Most home made compost is damper than bought compost, dry it out before use if you wish.

### ***The bin is damp and sweet smelling and quite cool***

You may need to add more nitrogen. Add lots of green material like kitchen scraps or grass. Or if the material is breaking down well, you may have a vermicomposter or worm-rich bin, which is lucky for you!

### ***I am getting a lot of flies in the compost bin***

Try putting a 5-10 cm layer of torn up paper or grass cuttings on the top on the bin every day and leave the lid open for a few hours.

### ***I think I have a rodent getting into the bin!***

You will only occasionally have animals near the bin. Sometimes hedgehogs try to hibernate in them because of the warmth and ready supply of worms! Rodents aren't attracted to compost bins but you often see them as nearly all gardens in Ireland have resident rodents and the odd mouse may investigate. To prevent this, place the composter on a layer of bird cage wire (with 0.5 cm holes) under the bin and turn up the edges. If you live in an area near rivers, streams or old hedgerows your garden may have a larger population of rodents and you may feel you have more problems. Mice in a compost bin are no more harmful than anywhere else in the garden and like any gardening activity be sure to wash your hands before eating.

### **GRASS**

***Don't put layers thicker than about 15 cm of grass in the bin. If you find you have too much grass find a spot where you can leave it in bags or in a pile and add a little bit at a time to the bin.***

### **MULCHING**

***Grass, leaves (deciduous or evergreen) and pine needles make excellent mulches for flowerbeds and shrubs. They cut down on weeds, keep in moisture and help to get worms aerating the soil. Just place them straight onto the beds or borders.***

If the contents of the bin are turned regularly and mixed - say on a monthly basis - decomposition is faster, if just left to sit, it can take months to rot but it will still work.

## **HOW TO USE YOUR COMPOST**

When your compost is well-rotted it will look dark brown/black and when dry will be crumbly. Don't worry too much about small pieces of twigs or egg shells that haven't fully rotted, the garden itself and the worms in the soil will look after these. If you want the compost finer, sieve it in an old fashioned garden sieve or old colander. If your compost is very wet and heavy - don't worry - leave it in plastic bags with holes punched on the bottom in a dry area of the garden. Composting may continue for a while but the compost will dry out over time. You might like to dry it out in the air on warm dry spring days, laid out on a sheet of plastic before bagging it or use.

### **Once the compost is ready there are a number of ways it may be used:**



To enrich flower and vegetable beds, spread a layer of compost 8 cm deep and either leave it there over winter to break down into the soil or dig it in.



Compost will give heavy soil a lighter consistency and better drainage. It binds sandy soil, giving a better texture. Spread compost in a heavy layer of about 8-10 cm deep.

For houseplants and potting, mix the compost with equal amounts of garden soil and sand.





You can make 'compost tea' for houseplants, hanging baskets and window boxes by half filling a bucket with compost. Fill it up with water, stir well and leave to settle. Use the liquid to water plants as a feed. Alternatively, you may soak a cloth bag of compost overnight in a bucket and then there is no need to worry about 'bits' in the watering can.

Use sieved compost mixed with sand as a seed-starting mix or as a lawn top-dressing.



Compost makes a good mulch or top-dressing for flower beds and shrub borders and hedges. Sprinkle on the soil when it is warm and wet and it will conserve water in the soil and prevent weeds, as well as feeding plants.



Use when planting trees or shrubs by mixing a bucketful with the soil at the bottom of the planting hole.

Why not make your own grow-bag with a plastic bag.

Compost may be stored in bags for future use.

The soil under the compost bin will become extremely rich - you can dig it out every couple of years and replace it with poor soil



The best time to use compost is in the spring and summer or just before planting. Unlike manure it does not 'burn' young or delicate plants.

Avoid using compost on herbs as they prefer a poor soil or on newly planted bedding plants as it encourages too much leaf and not enough flowers. For these areas, dig in the compost the previous winter.

## COMPOST TROUBLE-SHOOTER

### *My compost is slimy and smells!*

This is usually caused by too much sappy nitrogen rich material such as grass. Try to find tougher material to balance the mixture. (Add more brown ingredients such as woody material or paper.) If the problem persists, use less grass; perhaps use the grass as a direct mulch on shrub beds.

### *My compost is taking ages to decompose!*

Be patient . . . It can take some months to produce good compost. Try turning it regularly, maybe even once a week to speed up the process. Make sure it isn't too dry - it should be the consistency of sponge cake about a hand's depth below the surface! Also remember that the material you put in will reduce by about 95% of its volume - so it takes a while to build up a stock of compost.

### *My compost bin is very hot and has a strong smell!*

A very hot bin may start to give off ammonia fumes. Reduce the heat by not shredding everything finely, leave more 'chunks' of woody material. Try leaving the lid open overnight or in light rain and turn the compost in the bin.

### *There are slugs in my bin!*

Slugs are just one of the creatures that help make compost happen. Unfortunately we also don't like what they do to our plants! Try picking out any that climb to the top and use any organic method of disposal - never use any pesticides in the bin. They will not cause an explosion of the slug population in the garden and they might even be attracted away from your tender plants!

### *I get lots of weed seedlings after I spread out the compost!*

The bin is not getting hot enough to kill off weed seeds. Try to make the bin hotter by shredding the ingredients finely or make sure you don't add seeds in the first place. If you dig the compost into the garden beds, weed seeds have less of a chance to grow than if it is spread. Try leaving the compost in the open air for a couple of weeks to let the seeds sprout and pick them out before using the compost.

### *Do I have to turn the compost?*

No . . . just leave it there, but it will be slower.

### *My compost smells like rotten eggs!*

Not enough air causes this. Turn the contents every day for a few days and add some soil and woody material to create air pockets.

