

Compost recycling information sheet



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Compost forms as a result of the natural breakdown of organic material derived from living animals and plants. The "breaking down" is aerobic i.e. an oxygen using process performed by the bacteria, fungi, insects and animals, which inhabit soil. In a compost heap these organisms generate heat as they decompose organic matter and break it into fine particles. Composting is nature's own and oldest method of waste disposal and soil fertilisation.

The natural composting process

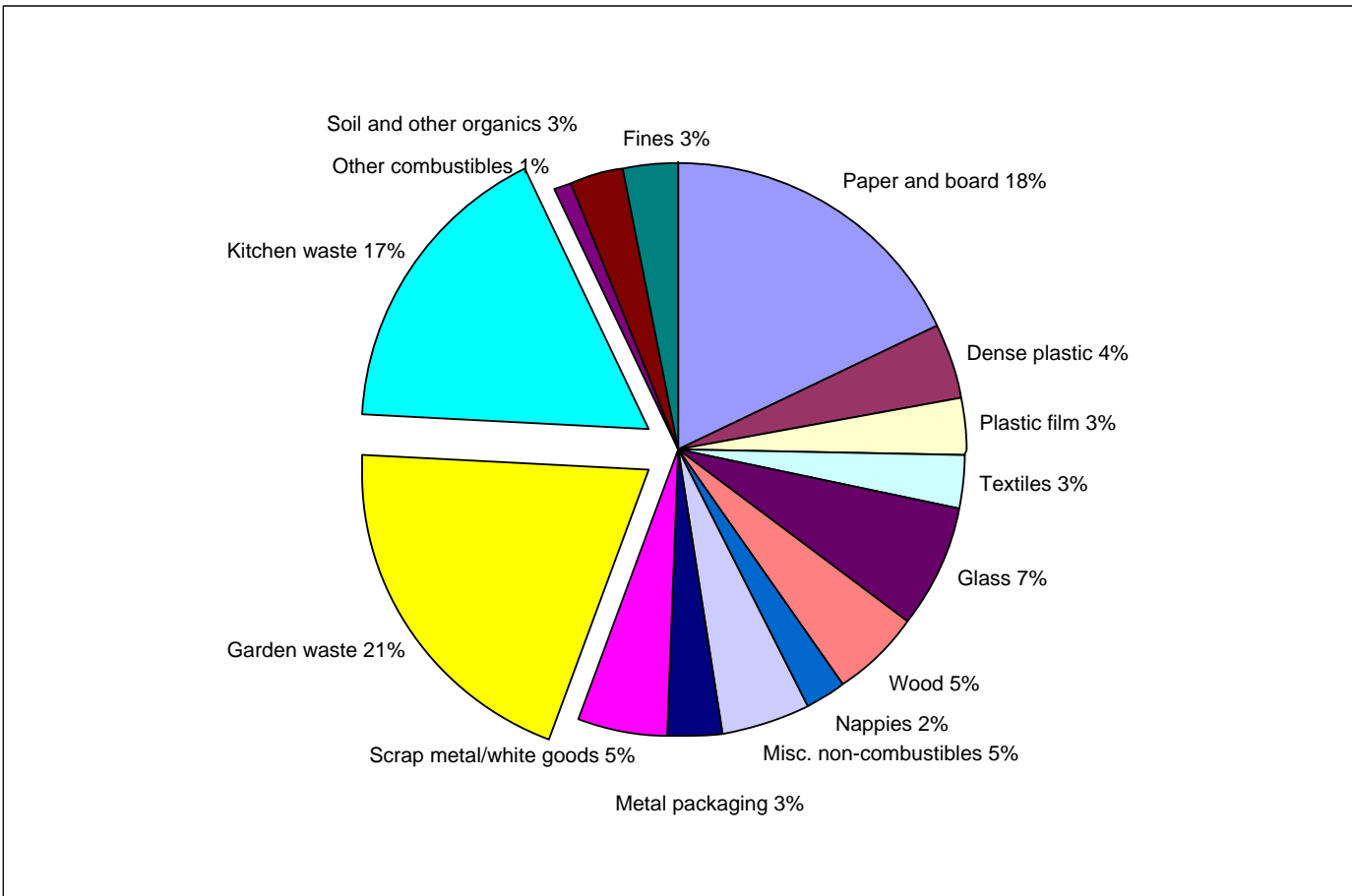
Leaves/other organic matter → breakdown by organisms → humus → mixing of humus and soil with the aid of the organisms → natural soil improvement

Why bother?

Traditionally, gardeners have created their own compost using leaves, grass, shrub clippings and other useful organic materials found in the garden. Applying compost to soils provides an excellent conditioner and mulch, which fertilises and provides soil structure, retains moisture and can restrict weed growth. Man-made compost is an alternative to the peat-based compost extracted from important natural wildlife sites.

In recent years there has been interest in the creation of garden compost from organic household waste, as a result of the growing awareness of the environmental problems created by the traditional disposal methods. In the UK around 30 million tonnes of domestic refuse is produced each year, which contains on average about 38%¹ organic content, such as vegetable peelings, tea bags and food scraps

¹ Analysis of household waste composition and factors driving waste increases - Dr. J. Parfitt, WRAP, December 2002



Source: Analysis of household waste composition and factors driving waste increases - Dr. J. Parfitt, WRAP, December 2002

In 2003-2004, 72% of municipal waste in England ended up in landfill sites². The organic materials within a landfill are the main source of methane in England (a greenhouse gas responsible for global warming, 20³ times more potent than carbon dioxide) and, they produce a liquid called leachate, which may enter and contaminate water supplies. The alternative to landfill, incineration, whilst reducing the mass of the waste, does not dispose of it altogether; approximately 30%⁴ of the original mass remains; it still needs to be landfilled, and is still a waste of resources.

The creation of compost from organic household waste helps the government achieve its target of recycling 33% of all domestic waste by 2015⁵. Individual households can help reach this target by either making their own compost or by participating in a centralised community scheme. In 2003 – 2004 compostable waste was the most popular material collected for recycling, making up 30%⁶ of recyclables collected. The success of both home composting and centralised schemes is dependent upon the separation of organic (putrescible) waste from other waste.

How's, what's and where's of recycling compost

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Centralised Community Composting Schemes

It has been estimated that there is around 105 kg of botanical waste per head of population per year.

Centralised composting schemes involve the collection and centralised processing of various organic wastes including: kitchen and garden waste separated by the householder; "special garden waste" from private and public landscaping and park creation schemes; farm wastes; sewage sludge; and industrial food processing wastes. Many

² <http://www.defra.gov.uk/environment/statistics/waste/wrmunicipal.htm#wrtb3>

³ <http://www.epa.gov/methane/scientific.html>

⁴ <http://www.esauk.org/waste/incineration/residue.asp>

⁵ <http://www.defra.gov.uk/environment/waste/strategy/cm4693/pdf/wastvol1.pdf> - pp7

⁶ <http://www.defra.gov.uk/environment/statistics/wastats/archive/mwb200304.pdf>

local authorities have carried out experiments to make a range of compost and mulch products from either one or a combination of these sources.

For example, collections of pruning's and thinning's from landscaping projects can be converted into wood chippings, which decompose to form mulches and composts. In the majority of situations, weeds, seeds and potentially harmful organisms do not have to be separated out as they will be killed by the heat produced during the "breaking down" process.

Some schemes also involve the mixing of organic and non-organic material. The quality of the finished product is graded according to its organic purity for marketing purposes. Elimination of glass is the main pre-requisite for the production of compost for sale. Glass is extremely difficult to screen out and a small amount renders it difficult to sell directly to the public and impossible to sell through major distribution chains. Other contaminants are generally less common in the waste stream and are more easily screened.

The highest quality compost, which is contaminant free, is ideal for horticulture. Compost which is slightly contaminated with glass and plastics may be suitable for landscaping, tree planting, use in municipal parks and gardens or agricultural fertilisation (provided the land would not be used for grazing). The grossly contaminated compost derived from a combination of municipal solid wastes and sewage sludge's can be utilised for land reclamation and restoration of landfill sites.

Large-scale, centralised schemes involve management, outlay and maintenance costs and are often dependent upon householders to sort their own domestic rubbish. However, the sale of compost and mulch products may offset production costs and the costs of alternative waste disposal methods. Householders who dispose of their own organic waste by creating their own compost do not impose any costs upon the local community.

Examples of centralised composting schemes

Devon Community Composting

Devon Community Composting Network who launched their first group in 1993 now have 27⁷ community composting groups, more than any other county. Composting in the community was recognised in Devon's 2003 Devon Municipal Waste Management Strategy which commits to support the expansion of such programmes, advocating the 'Compost Ambassadors' project to raise awareness, provide information, advice, and best practice for home composting.

Essex County Council

In 2001/02 15797 tonnes of green waste was collected through kerbside schemes and 42146 tonnes through civic amenity and recycling centres. The use of the end product is encouraged in the local authority parks and gardens. Whilst in 2003 Remade Essex ran a number of trials to monitor how the compost performed as a replacement for peat within commercial horticultural businesses in the county, with very favourable results.

WyeCycle

WyeCycle community scheme in partnership with Kent County Council and Ashford Borough Council collects kitchen scraps, and garden waste from around 1000 homes as part of their Zero Organic Waste Project. Garden waste collection is charged at 25p a bag to encourage home composting, and WyeCycle works closely with Kent County Council in promoting their reduced home composters as well as providing their own pallet based bins to households for free.

Other schemes

The London Borough of Sutton currently offers residents on their wheeled bin system, the opportunity to receive compost makers (the worm bin, green cone, rotol converter) for free to encourage home composting.

Weymouth & Portland Borough Council operates a recycling compound for converting green waste into compost. The council is offering householders the opportunity to purchase AssiDomän Sacks' biodegradable paper sacks so that the green waste can be collected in dedicated vehicles and transported directly to the compound for composting.

Leeds City Council 'Get Composting' campaign offers a free trial of home composters.

Gloucester City Council, in association with Garden Waste Recycling at Stroud, collects garden waste from public amenity sites which is composted and sold.

Seven North London Boroughs participate in a scheme to collect organic waste from parks, civic amenity sites, commercial and industrial premises and send it to a composting plant in Edmonton. The compost is packaged for sale under the brand name Dickenson's.

⁷ http://www.dccn.org.uk/pages/projects_list.asp

Household Compost Makers Available for Sale

If you're interested in composting at home first contact your local authority for information on obtaining a home compost bin. Many now provide subsidised home composters

Blackwall Products market a "tumbler", which can produce compost from kitchen and garden waste in about 3 weeks. Cost £49.95 inc. p&p. They also produce various other products including static compost bins, worm bins. Blackwall Products, 10 Glover Way, Parkside, Leeds LS11 5JP t 0113 201 8000 f 0113 201 8001

The Bin Company – Supplier of biodegradable bags, composters and wormeries.
The Hawthorns, Oxhill Road, Tysoe, Warwickshire. t 0845 6023 630 <http://www.thebincompany.com>

Green Cone A unique food waste digestion system where all organic kitchen waste is converted into 90% water, oxygen and a small amount of soil conditioner which seeps in to the surrounding soil. Made from 50% recycled plastic. Green Cone Ltd, Innovation House, Daleside Road, Nottingham, NG2 4DH, t 0115 911 4372 f 0115 9100 747
<http://www.greencone.com>

Original Organics sells wormeries and two types of waste collection bins; one for kitchen waste and one for mixed kitchen and garden waste. The wormery is designed for a family of four and costs £49.90. A smaller version is available at £29.95. The "Rotol" converter works on both kitchen and garden waste and costs about £29.99 for a 300 litre version and £27.49 for a 220 litre model.
Original Organics Ltd, Unit 9, Langlands Business Park, Uffculme, Cullompton, Devon EX15 3DA t 01884 841 515 f 01884 841 717 <http://www.originalorganics.co.uk>

Recycle Works Supplier of a wide range of domestic compost bins in various styles (many made from FSC timber), wormeries and shredders. Unit 1, Bee Mill, Ribchester, Nr Longridge PR3 3XJ t 01254 820088
<http://www.recycleworks.co.uk>

Wiggly Wigglers Suppliers of can 'o worms wormery and various gardening products.
<http://www.wigglywigglers.co.uk>

The Organic Gardening Catalogue www.organiccatalogue.co.uk

What you can do

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Making Your Own Compost

This can either be done by making a traditional compost heap, or by using a worm bin. There are numerous containers now on the market for making a compost heap, although perfectly satisfactory ones can be constructed from scrap timber, old tyres, bricks or wire mesh. Advice on making a compost heap is widely available through gardening books and magazines, or from sources listed under contacts and further information.

A **worm bin** is a container housing a colony of special types of worms, known as brandlings, tiger worms or redworms. Worm bins can be kept indoors (with careful management) or out, and are ideal for households with no garden, as they produce only a small quantity of compost and a liquid, which forms a concentrated plant food. There are a variety of worm bins available for sale, complete with "worm starter kits". However it is possible to make your own, and suitable worms can be obtained from fishing shops.



How to Make a Worm Composter

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Worm composting is a fantastic and natural way of recycling all those vegetable scraps, banana skins and tea bags from your kitchen. And it's easy to make one! Just follow these simple steps but remember to get an adult to help you.

What you need...

- 400 Compost worms (often called tiger or brandling worms). Available from most fishing shops or farmers' muck heaps!
- A plastic dustbin.
- A plastic tap.

- Some sand or gravel.
- Some small pieces of wood.
- Some bedding material (for the worms!)

How to make your worm composter...

1. Drill some breathing holes into the lid of the bin.
2. Place 3 inches of sand or gravel at the bottom of the bin for drainage.
3. Place wooden slats on top of the sand or gravel, to separate the drainage material from the compost you are going to produce.
4. On top of the wooden slats, put down 4 inches of damp bedding material. An old growbag is ideal, or you could use shredded newspaper or straw.
5. Drill a tap into the bin just above the gravel / sand, where the wooden slats are placed. You can buy taps from most hardware or garden shops.

Once you have built your wormery, dig a small hollow in the bedding material and place the worms inside. Then you can start adding your food scraps. Always make sure the scraps are chopped up well. There are two main ways of feeding the worms:

1. Place the food scraps on the surface of the bedding in a layer (up to 2" deep), but never cover the whole surface as the worms need a small area to escape if conditions get unpleasant.
2. Alternatively you can bury small batches of food scraps in the bedding, around the bin. Some people prefer this way as they feel the waste is covered up and is out of the way of the flies.

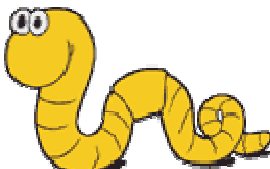
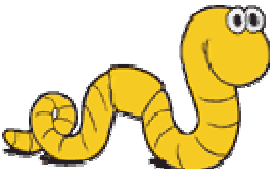
With both methods you need to keep a thick sheet of wet newspapers over the surface to keep the light out and moisture in. Only add more food when the worms have finished their last lot. The speed the food is processed will depend on the number of worms, the time of year and the type of food added.

CAUTION...
Never overfeed the wormery. The food will just rot, upsetting the worms and making nasty smells!

You can keep your worm bin outside but in winter, the worms will be warmer (and hungrier) if you keep them inside a garage or shed.

After a few weeks you should be able to collect some liquid through the tap which you can use as a liquid feed for your plants. After a few months you can empty the bin, put the worms back and start again! And of course you'll have some excellent compost which the worms will have left behind to help everything grow better in the garden.

What can I put in my worm compost bin?

 Worms Like	 Worms Don't Like
<ul style="list-style-type: none"> • Egg shells (worms need calcium and egg shells are an excellent way of supplying this and keeping the bin from getting too acidic) • Coffee grounds and tea bags • Cereals • Baked beans • Fruit • Annual weeds (not seed heads) • Cooked potatoes • Cheese 	<ul style="list-style-type: none"> • Meat and fish (worms will eat these but they are best avoided as they tend to putrify and attract rats and flies) • Grass in any quantity (heats up and gives off ammonia, both of which will kill worms) • Weed seeds • Diseased plant material • Cat/dog faeces (these contain human parasites)

<ul style="list-style-type: none"> • Tomatoes • Bread • Green leaves • Cow/horse manure • Rice or pasta • Vegetable peelings • Onions 	
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Your problems solved

- **I have lots of tiny flies in my worm bin - is this a health risk?**
No. These are probably fruit flies, which commonly occur on rotting fruit and vegetables. A tight fitting lid will help to exclude them. Also, if you bury the vegetable waste as you add it, or keep it covered with damp newspaper, they are less likely to be a problem. Flies do not harm the compost, although they can be irritating and offensive to some people.
- **I have masses of tiny white worms in my worm compost - are they a problem?**
These are probably pot worms (enchytraeids). They do a similar job to brandling worms and are nothing to worry about; you find them in most worm bins. They are very tolerant of waterlogged/acid conditions so if you find them proliferating, and your worms are getting fewer, improve the drainage. Mixing in some shredded newspaper will help. You can also add a sprinkling of calcified seaweed or rock limestone (dolomite) to correct the acidity.
Newly hatched brandling worms are also whitish and only half an inch long. You can distinguish them from pot worms by their blood vessel which gives a pinkish tinge.
- **I opened my worm bin to find hundreds of worms around the lid - why?**
Either they have run out of food or the conditions in the bin have become unsuitable for them. Worms hate waterlogged, acidic compost. Piling in a thick layer of kitchen waste so that it begins to putrefy and exclude the air will cause this sort of problem. Adding fresh green materials that heat up as they decompose will also kill worms or drive them away.
Plastic worm bins do not always allow enough drainage from the compost; make sure that liquids are not collecting in the bottom of the bin to flood the compost.
- **I am going on holiday - will my worms die if not fed?**
An established worm bin can be left for up to four weeks with no adverse effects if you feed the worms well before you leave. Left for longer periods the worm population would slowly decline.
- **The contents of my worm bin are mouldy - am I doing something wrong?**
No. This can happen as vegetable waste starts to decompose. It will not harm the worms and should soon disappear. Turning the waste into the bedding with a small fork can help.

Leaf mould can be made by placing leaves in a large black bag or in an open topped wire cage. After one year they will form a mulch, and after two years a fine textured potting compost will be produced.

What does the law say?

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The Landfill Directive - the Landfill Directive aims to improve standards of landfilling across Europe, by setting specific requirements for the design, operation and aftercare of landfills, and for the types of waste that can be accepted at landfill sites.

The Directive:

- requires a substantial reduction in the amount of biodegradable municipal waste (BMW) being landfilled
 - by 2010 to reduce BMW landfilled to 75% (by weight) of that produced in 1995
 - by 2013 to reduce BMW landfilled to 50% (by weight) of that produced in 1995
 - by 2020 to reduce BMW landfilled to 35% (by weight) of that produced in 1995
- requires a plan for the reduction of all biodegradable wastes in landfill to be produced by 2003

This means that Local Authorities need to reduce the amount of green and kitchen waste going into householders bins.

Animal By-Products Regulation (ABPR) 2005⁸ - All those who deal with animal by-products, including the waste disposal industry, the animal feed industry, slaughterhouse operators, tanneries, farmers, food manufacturing premises, catering outlets, food retailers and zoos are affected by the ABPR. The legislation splits animal waste into three categories:

- Category 1 The highest risk category, it includes materials suspected of being infected with BSE or TSE. Alternative methods of disposal methods are via approval, but do not include composting
- Category 2 High risk materials e.g. diseased animals and animals not suitable for human consumption. Composting is not generally permitted.
- Category 3 Low risk animal by-products permitted for use in composting

Useful contacts

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Chase Organics

Riverdene Business Park. Molesey Road. Walton on Thames. KT12 4RG
t 01932 253666
Available through The Organic Gardening Catalogue
Mail-order for HDRA. Worm bins.

Complete Guide to Garden Composting by P Bardos
Published by Taylor Marketing Services Limited, Bamford House, Old Northants, NN6 9QX
t 01604 781 076, £5.99 inc. p&p.
Covers all aspects of the theory and practice of garden composting.

Friends of the Earth

26-28 Underwood Street, London N1 7NJ
info@foe.co.uk
<http://www.foe.co.uk>
Send SAE for pubs list, including Gardening Without Peat, a booklet on home composting.

Organic Resource Agency

Organic Resource Agency Ltd. Malvern Hills Science Park, Geraldine Road, Malvern, WR14 3SZ
t 01684 585423 f 01684 585422
<http://www.o-r-a.co.uk>
Works with Local authorities, commercial producers of organic waste, waste management companies and farmers on the collection and composting of organic waste and on compost marketing and end users.

The Wildlife Trusts

The Kiln, Waterside, Mather Road, Newark, Lincolnshire, NG24 1WT.
t 01636 677 711 f 01636 670 001
info@wildlife-trusts.cix.co.uk
<http://www.wildlifetrust.org.uk>

Community Composting Network

67 Alexandra Road, Sheffield S2 3EE
t/f 0114 258 0483
info@communitycompost.org
<http://www.communitycompost.org>
Provides advice, support and encouragement to people running, or wanting to start a community composting scheme.

Composting Association - The

Avon House, Tithe Barn Road, Wellingborough, Northamptonshire, NN8 1DH
info@compost.org.uk
<http://www.compost.org.uk>
Promotes and sets standards for green waste composting. Advice and information for members.

HDRA

Ryton Organic Gardens
Coventry
Warwickshire
United Kingdom
CV8 3LG
t 024 7630 3517 f 024 7663 9229
enquiry@hdra.org.uk
Advice and information on organic gardening.

The Soil Association

Bristol House, 40-56 Victoria Street, Bristol BS1 6BY
t 0117 929 0661 f 0117 925 2504
<http://www.soilassociation.org.uk>
Sets standards for organic products, including composts.

⁸ <http://www.opsi.gov.uk/si/si2005/20052347.htm>

Updated: September-05

<http://www.wasteonline.org.uk>

<http://www.wastewatch.org.uk>

Due to changes in funding, we are no longer able to offer a public information service. Should you have further questions on waste and recycling, please contact one of these groups:

Householders and students should call the [Recycle Now](#) helpline on 0845 331 31 31 for further waste based information, and where to find your local recycling facilities.

Small to medium businesses should visit the [Envirowise](#) website, or call 0800 585 794, for further information on waste issues. Larger businesses should visit www.businesslink.gov.uk.

For industry based questions, please use the WRAP technical helpline on 0808 100 2040 for advice on markets and recycling company development, or visit www.letsrecycle.com for listings of recyclers and reprocessors.

If you find a mistake on this page, or have a technical question regarding the wasteonline website, please email info@wastewatch.org.uk.

Thank you, and apologies for any inconvenience.