

Home Composting



Introduction to Composting

Composting is the natural process of decomposition that turns garden materials and plant-derived food scraps into a dark, crumbly and earthy smelling material called compost. Compost is rich in nutrients and full of life. When used in your garden, it feeds the ecosystem of the soil and slowly releases nutrients that plants can absorb. Using compost is the foundation of maintaining healthy soil for stimulating all plant growth and creating a beautiful garden. Composting is an inexpensive, hygienic and natural way of recycling biodegradable waste materials at home.

Why Compost at Home?

- **Reduce Waste** – On average, food and garden wastes make up over 33% of the contents of our rubbish bins.
- **Save Money** – By composting at home, you can reduce your bin charges as well as money spent at the garden centre purchasing expensive soil amendments.
- **Enhance Your Garden** – Compost improves soil fertility, texture and structure. Healthy soil is essential for growing vibrant and disease resistant plants. Compost is magical stuff!
- **Preserve Our Environment** – By composting at home, you reduce the need to collect, transport, treat and process organic food and garden waste. This is great for our environment as it will reduce greenhouse gas emissions.

How does it work?

Composting is a biological process that involves a wide variety of organisms which are naturally present in our environment. In the beginning of the process, air loving bacteria are the first to start breaking down plant tissue. Later other organisms, such as protozoa, fungi, moulds, worms and insects, also take part. No one organism or group of organisms are responsible for composting. It's a succession of creatures that makes it all happen. An eco-system creates the compost.



Composting Essentials

The compost pile is really a teeming microbial farm. Like any good farmer, we need to feed our microbial livestock a balanced diet and ensure conditions are right. Here are the essentials of composting;

- **Balanced Diet of Green and Brown Materials** – Most materials that come from the garden are already well balanced (e.g. weeds, flowers, bush trimmings). However, there are some materials that are too wet and green to compost well on their own (e.g. grass cuttings and food scraps). If we try to compost only food waste or only grass cuttings, they will become a gooey mess. To avoid this, grass and food scraps need to be balanced with other high carbon materials from the garden (e.g. chopped plants, weeds, leaves, straw). Remember that variety is the spice of a compost pile's life!
- **Moisture** – All life needs moisture to survive and the composting organisms are no different. In fact, the composting bacteria live in the moisture that surrounds each composting particle. Without this thin film of moisture, there is nowhere for the composting organisms to live and thrive. On the other hand, too much moisture can drown your pile and remove the air necessary for optimal composting. If your pile gets too wet, anaerobic bacteria (which thrive in the absence of air) will take over and create foul smells. Ideally, materials should be as damp as a wrung-out sponge.
- **Air** – Composting bacteria also need oxygen. As the material in your composter breaks down, oxygen is used up. Without enough air, the composting process will slow down. Aeration can be sustained by making sure there is enough structural material in your pile such as bush trimmings or cut up plant stalks. These create air spaces within the pile and allow it to breathe. Aeration can also be enhanced by mixing or turning your pile on a regular basis to loosen it up again and introduce air. While turning is not necessary, it can speed up the composting process.
- **Particle Size and Surface Area** – Composting begins on the surface of material and works inward. The smaller the particle, the faster it will decay as there is more surface area for the bacteria to work on. For this reason, it is important to shred, cut or chop materials as you garden to a size less than 15CM in length. Chopping materials up helps make a better mix when forming your compost heap. Keeping materials smaller also makes it easier to turn your pile later for faster composting. If materials are too big or long, the pile can dry out which stalls the composting process.

What Can Be Composted?

Essentially anything that was once living can be composted. However, to avoid foul smells and attracting unwanted pests (e.g. rodents and flies), a vegetarian diet is recommended for your composter.

Here is a list of materials that can be and should not be composted at home.

Do Compost:

Greens from the garden: grass cuttings, ornamental garden plants, vegetable plants, flowering plants, annual weeds before they go to seed, potted plants, cut or deadheaded flowers, moss and bush trimmings.

Greens from the house: house plants, cooked and uncooked vegetables, vegetable trimmings, fruit peels, cores, fruit rinds, tea bags, coffee grounds, baked goods (including bread, biscuits and crackers), rice, grains, pasta, cereals and herbivore pet waste (e.g. gerbils, rabbits, guinea pigs, hamsters and birds).

Other greens: Seaweed, cattle or horse manure can also be used in making compost at home. Be sure the seaweed is rinsed to remove excess salt. Freshly bedded manure can help heat up your pile up for faster composting.

Browns from the garden: Autumn leaves, twigs, shredded tree trimmings, straw, hay, pine needs and bark.

Browns from the house: paper, newspaper, egg cartons, paper towels, paper napkins, uncoated paper plates and cups and clean or soiled cardboard. All must be torn up or shredded to be used effectively.

Don't Compost

From the garden: diseased or insect infested plants, noxious weeds that spread by root or runner (e.g. briars, Scutch Grass, Ivy & Bindweed), invasive weeds (e.g. Japanese Knotweed, Horsetails, Giant Hayweed, Giant Rhubarb, Himalayan Balsam and Old Man's Beard), weeds that have already gone to seed (e.g. Dandelion, Buttercup, Dock or Thistle), timber or large woody items.

From the house: Anything animal based (e.g. meat, fish, poultry, dairy, cheese, oils or grease, bones, skins and shells), vacuum cleaner bags and contents, lint from the dryer, ashes from coal, peat or wood, nappies or sanitary towels, wipes, dog waste or cat litter, chemical or pharmaceuticals, plastic, glass, cans or metal foil of any kind.

YES	COMMENTS
Vegetable and food waste	Cooked and uncooked vegetables, vegetable trimmings, fruit peels, cores, fruit rinds, coffee grounds, baked goods (including bread, biscuits and crackers), rice, grains, pasta and cereals. Some tea bags are made with plastic, these should be ripped open to remove the tea.
Plants from the house	Ornamental house plants and herb plants.
Plants and greens from the garden	Grass cuttings, ornamental garden plants, vegetable plants, flowering plants, annual weeds before they go to seed, potted plants, cut or deadheaded flowers, moss and bush trimmings.
Seaweed and manure from vegetarian animals	Ensure seaweed is rinsed to remove excess salt before adding to your compost pile. Herbivore pet waste (e.g., gerbils, rabbits, guinea pigs, hamsters, birds, horse or cattle manure). Animal manure is rich in nitrogen and needs to be mixed with straw, leaves, wood shavings or sawdust.
Browns from the house	Very small amounts of paper newspaper, egg cartons, paper towels, paper napkins, uncoated paper plates and cups and clean or soiled cardboard. All must be shredded before adding to the compost pile.
Browns from the garden	Autumn leaves, twigs, shredded tree trimmings, straw, hay, pine needs and bark.

NO	COMMENTS
Disposable nappies	These contain plastic and moisture absorbing polymers that will not break down. They may also contain harmful pathogens.
Excrement	Human, cat and dog excrement carry harmful pathogens and could spread disease.
Shiny card/bright coloured paper	Some inks contain heavy metals. Some cardboard and shiny papers are plastic coated. Large amounts of newspaper, paper and cardboard should be placed in your household recyclable bin.
Hard objects	Stones, glass, plastic and metals do not break down in a compost pile.
Household & garden chemicals	These can be toxic. They will contaminate your compost and garden.
Meat, fish, skins, bones & shells	These can attract pests and create foul smells.
Dairy products	Spoiled milk, mouldy cheese and sour yoghurt can attract pests and create foul odours.
Destructive pernicious weeds	Weeds that spread by root (e.g. briars, Scutch Grass, Ivy & Bindweed), invasive weeds (e.g. Japanese Knotweed, Horsetails, Giant Hayweed), weeds that have already gone to seed (e.g. Dandelion, Buttercup, Thistle) should not be composted. Many of these can survive the composting process and spread back into your garden.
Textiles and clothes	Most are made with plastic fibers that do not break down. All should be donated or recycled in clothing banks.

Getting Started

- Choose a site** – Place the bin close to the house with easy access. This makes it quick and easy to add materials to the heap regularly. It should be placed in a shady or partially shaded area on bare soil or grass. This allows micro-organisms and worms to enter the bin and excess water to drain away.
- Pick a composting system** – When choosing a bin, consider how much waste you are producing. This may vary depending on the size of your garden and the size of your household. Many DIY stores sell plastic composting bins of various sizes. Alternatively, you can make your own compost bin by, for example, roping together four pallets or making a cage out of old fencing.
- Add materials**– When starting off, place a layer of twigs or coarse material on the bottom. This lifts the pile up and facilitates air flow up through the composting materials. At first, only add garden materials until the bin is about a third full. Simply mix and water a variety of garden materials outside of the bin, then add it to the system. If you'd like to include plant derived kitchen scraps, either cooked or uncooked, you can mix them into the existing materials within the bin and then add a layer of mixed garden materials on top. It is important to always bury and mix food scraps into your heap and not just open the lid and dump them in. The dump and run method of adding food scraps can attract unwanted pests and create foul odours.
- Monitor your pile for moisture** – Before you add materials to your heap, monitor the moisture level of your pile. If it is too dry, sprinkle with water and mix it into the materials. If it is too wet, add and mix in drier brown materials such as leaves or cover with plastic, an old carpet, a piece of plywood or galvanized roofing. In our wet winters, it may be best to cover the pile, so it does not get too wet.



Composting Tips

- Use a variety of landscape and garden materials to start your pile.
- Balance wetter green materials (such as grass cuttings and food scraps) with well-balanced plant cuttings or brown garden materials (e.g. bush trimmings or leaves).
- Mix and water green and brown materials together on the ground before placing them into the bin. Dropping in layers of green materials, brown materials or soil suffocates the pile. Ensure all materials types are mixed.
- Don't let the pile get soaking wet or dusty dry. Keep the compost pile slightly damp.
- Mix or turn the pile to speed up the composting process.
- Chop food scraps into 3-6cm pieces for faster breakdown.
- Always bury food scraps at least 20-30cm into the pile. Remember to dig in, mix up and cover over!
- Store fallen autumn leaves for mixing with grass cuttings and food scraps later in the year.



How do you know when your compost is ready?

- **Look at it:** if the compost is dark in colour and it is hard to recognise the original raw materials you added, it looks ready.
- **Touch it:** if the compost is cool to touch, has a texture of rich soil, breaks apart easily and is crumbly to the touch, it feels ready.
- **Smell it:** if the compost has a pleasant earthy smell, not a putrid, foul or ammonia odour, and it looks and feels ready, then it is ready to use.

If the composting material is hot, smells strong, or you can recognise the raw materials in the pile, then it is not ready to use and will need more time. Just let it compost a while longer.

Where there are plants, there is a need for compost. Compost has so many uses you will never run out of ways to use this black gold. Before using your finished compost, you may want to sieve it to remove any bulky or undecomposed materials such as large twigs or wood chips. These can be returned to the compost pile for further composting or can be used as a mulch in your garden.

Your sieved compost can then be used as a:

- **Mulch** in annual or perennial planting areas by applying 3-6cm to the surface of the soil. Keep away from the plant stems.
- **Top dressing** on lawns or grassy areas spread thinly and evenly on top.
- **Soil Amendment** when preparing soil for laying sod or planting annuals, perennials, shrubs and trees. For garden beds, add and mix in 6-8cm of compost into the top 20-30 cm of soil.
- **Ingredient in a potting mix** of two-thirds garden soil and one-third compost.
- **Ingredient in a seed starting mix** of half sand and half compost.



Frequently Asked Questions

Q: Can I compost weeds?

A: Weeds will survive in most garden compost heaps that commonly have slow and cold composting conditions. To compost annual weeds, it is best to pick them before they go to seed. For perennial weeds that spread by root or runner (e.g. Bindweed), you can dry them out completely in the sun before adding them to your heap. Otherwise keep these types of weeds out of your compost pile. Invasive weeds (e.g. Horsetail or Japanese Knotweed) should not be composted at all. In expert hot composting system, weeds with seeds and chopped up perennial weeds can be composted effectively but achieving temperatures in excess of 60°C is very difficult and requires careful management.

Q: Can I compost ashes from the fire, stove or BBQ?

A: Ashes should not be added to your compost system because they fill in air spaces needed to promote adequate aeration. Additionally, they are alkaline in nature and can upset the near neutral pH balance of the compost.

Q: Can I compost animal waste?

A: Waste from herbivore plant eating pets (e.g. rabbits, hamsters, guinea pigs, gerbils and birds) can be safely composted at home. Human excitement and pet waste from meat eating pets (e.g. dogs and cats) should not be composted in the garden because of the potential to spread disease.



Q: Should I purchase a compost activator?

A: No, you do not need to buy an activator or inoculant to start your compost pile. All the bacteria you need are already on the materials you want to compost. You simply need to create the right conditions.

Q: Is there anything I can do to speed up the composting process?

A: Yes. Chopping up materials into smaller pieces, properly balancing green with brown materials, turning the pile to increase aeration and ensuring the compost heap remains slightly damp will all speed up the process.

Q: Should I cover my compost heap?

A: Yes. In rainy Ireland, covering your composter is a great idea! During the winter, a cover stops the materials becoming waterlogged. In summer months, covering the pile keeps moisture in. Remember to monitor the contents of your bin to ensure it does not dry out.

Q: How can I stop flies swarming at the compost heap?

A: Flies are attracted to food rotting on top of your heap. To avoid this, mix and bury your food scraps within the pile. Then add a layer of mixed garden materials or wet leaves on top. Also be sure to collect food scraps in a covered container within your kitchen. This will prevent flies from laying eggs into the food prior to you adding them to your composter.

Q: My compost heap smells. What can I do?

A: The compost may begin to smell if it becomes too wet, has too high a proportion of green material (e.g. grass or food waste) or if animal products have been added (e.g. meat, dairy). To solve the problem add dry brown materials (e.g. leaves) and mix the heap. Avoid adding any animal products to the compost.



Q: Does my compost need to be turned?

A: Turning will add air to the heap and distribute moisture. While not necessary, turning can speed up composting.

Q: The material in the composter looks very dry and seems to be doing nothing. What should I do?

A: If the materials in your composting system dry out, composting will stall. Simply add and mix in water to get it going again.

Q: There are lots of worms around the lid of my compost unit. Is there something wrong?

A: Worms in your bin is a good sign. Worms naturally make their way to the lid of the compost bin and will make their own way back down.

Q: Are rodents a problem when composting?

A: Rodents come to composters looking for food or a place to nest, especially in winter months. They will be attracted by easily accessible food scraps or to any animal products. To discourage rodents, bury food scraps within composting materials, avoid composting food containing animal products, secure the bottom of the composter with wire mesh and place it within a well visited area of the garden.

Q: How long does it take to make finished compost?

A: This depends on the system you use, the types of material composted and how the heap is managed. If you are using a single bin system, you can expect that any materials you add in one gardening season will be ready the following year.

Q: Why is my compost taking a long time to decompose?

A: This may be caused by adding too much of one type of material. To solve this problem, shred all material and add a balance of material types. Another cause may be that the compost is too dry. If this is the case, then simply add in some water and mix.

Q: There are a lot of weed seedlings when I spread out the compost. Why?

A: Weed seeds can survive in most composting piles unless a large hot pile is made all at once and you can reach temperatures in excess of 60°C for more than three days. The best solution is to avoid adding weeds with seeds to your composting system.



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