

GLOBAL DAY OF ACTION

COMPOSTING FOR BEGINNERS A Comprehensive Manual

Tools to help you start composting

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Global Day of Action Overview

The 2023 Global Day of Action (GDA) mobilizes youth worldwide to unite behind a common cause, composting to regenerate our planet. Anyone from anywhere can be a composter! Become connected and participate in the composting process and win the Global Day of Action Legend Award.

QS ImpACT Awards Overview

The QS ImpACT Awards is a celebration of regenerative impact achieved by young people over 2023. The awards highlight young people's demonstrated contribution towards impactful transformations in society towards regeneration.

The 2023 ImpACT Awards is all about '**Regeneration**' - our take on what sustainability should mean. But what is Regeneration? It is a holistic and transformative process that aims to improve previous conditions.

How to Participate:

- **Host a Global Day of Action awareness event in your community by December 17th, 2023**
- **Set up a composting facility in your community or home**
- **Upload your impact report via: <https://qsimpact.org/impacts/>**

Why participate?

Be a part of the solution from the ground up in your community to act on food waste.

Win a prize to recognize your ImpACT:

- QS ImpACT badge, title and social media kit,
- QS ImpACT, now accredited with UNEP offers an opportunity to bring representation opportunities to all the winners,
- All the winners will be featured in the QS Insights magazine.

Minimum Pre-Selection Criteria:

1. Must be registered and have an account with QS ImpACT
2. Must be above 18 years old
3. Must have a minimum of one impact report with us [before 11:59 PM GMT December 22nd, 2023 for GDA & December 15th, 2023 for all other awards]

Only the top 10 performers will be selected for each of the eight categories. Selected individuals can only be nominated (and potentially win) a maximum of 3 separate awards. Finalists will be contracted on January 2nd, 2024!

UPLOAD YOUR IMPACT REPORT



1. Introduction

What is Composting?

While organic waste is biodegradable, it may not necessarily undergo decomposition when disposed of in a landfill. Studies conducted on landfills in the United States have revealed some astonishing findings, such as newspapers remaining readable after more than four decades, carrots appearing brown on the outside but retaining their orange color on the inside even after ten years, and steaks with meat still attached to the bone lasting for two decades (Rathje & Murphy, 2001).

The underlying issue is that landfill conditions are not conducive to effective decomposition. Landfills are often characterized by dry, airless, and inhospitable environments for decomposers.

In cases where organic waste does decompose in landfills, it typically occurs through the anaerobic process, leading to the production of methane gas. Methane is a harmful greenhouse gas with a global warming potential 25 times greater than that of carbon dioxide, making it a significant contributor to the Earth's global warming. Presently, the waste sector is responsible for generating approximately 15 million tonnes of carbon pollution each year, equivalent to 3% of Australia's total emissions.

As a result, **aerobic composting**, whether done at home, in schools, or on an industrial scale, represents a more favorable method for managing organic waste. It not only reduces the release of harmful methane gas into the atmosphere but also offers an environmentally friendly way to process organic waste.

Why Compost at Home?

Composting at home offers numerous advantages, making it a responsible and practical environmental choice.

Here are compelling reasons to engage in home composting:

- **Reduction of Landfill Waste:** When you compost kitchen scraps and yard waste at home, you divert these materials away from landfills, easing the burden on already crowded disposal sites.
- **Enhanced Soil Quality:** Compost acts as a nutrient-rich soil conditioner. When applied to your garden or yard, it improves soil structure, boosts moisture retention, and delivers vital nutrients to plants, fostering their healthy development.
- **Decreased Reliance on Chemical Fertilizers:** Compost serves as a natural nutrient source for your plants. By reducing the need for synthetic fertilizers, you contribute to a healthier and more sustainable environment.
- **Mitigation of Greenhouse Gas Emissions:** In landfills, organic materials decompose anaerobically, producing methane gas—a potent greenhouse gas with significant global warming potential. Home composting, with its aerobic conditions, reduces methane generation, helping combat climate change.
- **Sustainable Waste Management:** Home composting aligns with an eco-friendly and sustainable lifestyle. It showcases your dedication to responsible waste handling and environmental stewardship.
- **Cost Savings on Trash Collection:** By composting, you reduce the amount of waste sent for curbside collection. This can lead to cost savings on trash disposal fees and potentially fewer pickups.
- **Creation of Valuable Resources:** Your home composting efforts yield valuable compost, enriching your garden or landscaping. It's like producing your own natural fertilizer.



- **Promotion of Biodiversity:** Composting attracts beneficial microorganisms and insects, contributing to healthy soil ecosystems and fostering biodiversity in your garden.
 - **Educational Opportunities:** Home composting offers valuable learning experiences for both children and adults. It educates about the natural decomposition cycle and the significance of responsible waste management.
- **Support for Local Agriculture:** If you cultivate your own food, home composting can significantly enhance the quality and yield of your garden or vegetable patch, promoting self-sufficiency and reducing the reliance on store-bought produce.
- **Reduction of Food Waste:** Composting allows you to utilize kitchen scraps efficiently, decreasing the amount of food waste destined for the trash.
- **Community Involvement:** Composting can foster a sense of community, enabling you to share knowledge, resources, or surplus compost with neighbors and friends.

In summary, home composting is a practical and environmentally conscious choice that not only benefits your immediate surroundings but also contributes to a more sustainable and healthier planet.

It empowers individuals to actively participate in waste reduction, resource conservation, and the promotion of environmental responsibility.



Environmental Benefits of Composting

Composting offers numerous substantial environmental benefits that contribute to a healthier planet and a more sustainable future. Below are the primary environmental advantages of composting:



Landfill Waste Reduction: Composting redirects organic materials like food scraps and yard waste away from landfills. This lessens the volume of waste in landfills, conserving precious landfill space and extending their operational lifespan.



Mitigation of Methane Emissions: In landfills, organic materials decompose in anaerobic conditions, producing methane—a potent greenhouse gas with a significantly higher global warming potential than carbon dioxide. Composting creates an aerobic (oxygen-rich) environment, preventing methane formation and release, thereby mitigating its impact on climate change.



Soil Enhancement: Compost acts as a nutrient-rich soil conditioner, improving soil structure, boosting moisture retention, and providing essential nutrients for plant growth. The use of compost in gardening and agriculture reduces the need for chemical fertilizers, promoting healthier and more fertile soil.



Improved Plant Health: Compost supplies plants with a well-balanced mix of vital nutrients. Consequently, plants grown in soil enriched with compost exhibit greater resistance to diseases, pests, and environmental stresses.



Erosion and Runoff Reduction: Soil amended with compost has improved water holding capacity, reducing erosion and minimizing soil runoff. This helps prevent water bodies from becoming polluted with sediments and chemicals.



Carbon Sequestration: Compost sequesters carbon in the soil for an extended period, serving as a carbon sink. This aids in the fight against climate change by capturing and storing atmospheric carbon.



Encouragement of Biodiversity: Vibrant soil ecosystems, enriched by compost, support diverse communities of microorganisms and beneficial insects. This fosters biodiversity and contributes to a more balanced and resilient ecosystem.



Reduced Dependence on Pesticides: Soil enriched with compost often requires fewer chemical pesticides, diminishing the adverse environmental consequences associated with pesticide use.



Energy Efficiency: Composting reduces the energy and resources needed for waste collection, transportation, and disposal in landfills or incinerators. This translates into overall energy savings and decreased greenhouse gas emissions linked to waste management processes.



Resource Preservation: Composting conserves valuable resources by repurposing organic materials that would otherwise be discarded as waste. It facilitates the closing of the nutrient cycle by returning organic matter to the soil.



Advocacy for Sustainable Practices: Whether practiced at home or on a larger scale, composting encourages individuals, communities, and businesses to embrace more sustainable waste management methods, fostering environmental awareness and responsibility.



Enhancement of Air Quality: Proper composting techniques help manage the odors associated with organic waste and reduce the potential for air pollution, leading to a healthier living environment.

In conclusion, composting is a potent tool for addressing environmental challenges, including waste reduction, climate change mitigation, and the promotion of soil and ecosystem vitality. Embracing composting as a sustainable practice contributes to a more ecologically balanced and environmentally conscious society.

2. Getting Started

Choosing the Right Location

Choosing an appropriate spot for composting is a critical factor in ensuring the success of your composting endeavors. Here are several factors to take into account when deciding on a suitable location for your compost pile or bin:

- **Proximity to Garden or Yard:** Ideally, your chosen composting area should be in close proximity to where you plan to use the finished compost. This reduces the effort required to transport the compost to your garden, making it less likely for composting to become neglected.
- **Convenience and Accessibility:** Ensure that the composting site is easily accessible. The convenience of access encourages regular composting. Consider having a location near your kitchen for collecting kitchen scraps and another close to your yard for adding yard waste.
- **Sunlight Exposure:** While composting can occur in shaded areas, a location that receives some sunlight is advantageous. Sunlight accelerates the decomposition process and helps maintain a warm compost pile, which can be especially beneficial in cooler climates.
- **Effective Drainage:** Proper drainage is essential to prevent the compost from becoming waterlogged. Avoid areas prone to flooding or water accumulation. You can elevate the compost bin or ensure adequate drainage to address this concern.
- **Adequate Ventilation:** Adequate airflow is vital for aerobic composting, the most common and efficient method. Select a location where air can circulate freely around the compost pile or bin, avoiding completely enclosed spaces.

- **Available Space:** The available space will dictate the size and type of composting system you can implement. Ensure there's enough room for your chosen composting method to function effectively.
- **Odor Management:** Be aware that composting can produce odors during decomposition, particularly if the materials' balance is off or if the pile becomes excessively wet. When selecting the site, take into account the proximity to neighbors and the direction of prevailing winds to minimize potential odor concerns.
- **Pest Control:** If you're concerned about pests like rodents or raccoons accessing your compost pile, choose a location where you can secure the compost bin or employ designs that deter pests.
- **Safety for Children and Pets:** If you have young children or pets, prioritize their safety when selecting a location. Ensure that they cannot easily access the composting area or choose a design that is safe for curious hands and paws.

Future Considerations: Think about potential future changes to your landscape or garden. Avoid placing your composting area in a spot that might be needed for other purposes later on.



Composting Supplies and Tools

To establish and maintain an effective composting system at home, you'll require the appropriate equipment and tools. Below is a list of necessary items:

- **Container for Composting:** The central receptacle for your composting materials. You can choose from various options like compost bins, tumblers, or designate a specific composting area in your yard.
- **Carbon-Rich "Browns":** These materials provide carbon and consist of items like dry leaves, straw, shredded newspaper, and cardboard. They play a crucial role in balancing the carbon-to-nitrogen ratio within your compost pile.
- **Nitrogen-Rich "Greens":** These materials supply nitrogen and encompass kitchen scraps (such as vegetable and fruit peels, coffee grounds, etc.), grass clippings, and fresh yard waste.
- **Water Source:** Composting necessitates moisture, so access to a water source, like a hose or watering can, is essential to maintain the pile at a consistently damp but not overly soggy level. *This is recommended but not necessary*
- **Shovel or Pitchfork:** These tools are indispensable for periodically turning and aerating the compost pile. They facilitate even decomposition and prevent compaction. *This is recommended but not necessary*
- **Thermometer:** A compost thermometer aids in monitoring the temperature of the compost pile. This helps ensure that the pile reaches the optimal temperature for decomposition (typically around 140-160°F or 60-71°C) and allows for troubleshooting if the pile becomes excessively hot or cold. *This is recommended but not necessary*
- **Compost Turner or Aerator:** While a shovel or pitchfork can suffice, specialized compost turners or aerators simplify the task of mixing and aerating the compost effectively. *This is recommended but not necessary*

- **Kitchen Compost Pail:** A small container equipped with a lid for conveniently collecting kitchen scraps. It can be placed on your kitchen countertop or beneath the sink.
- **Supply of Carbon-Rich Materials:** Maintain a stockpile of carbon-rich materials (such as dry leaves, cardboard, and newspaper), particularly during the autumn when these materials are abundant.
- **Container for Collecting Greens:** A container, such as a bucket or bin, designated for gathering kitchen scraps before they're incorporated into the compost pile. Having a lid is beneficial for preventing odors and deterring pests.
- **Mesh or Wire Screen:** Useful for sifting finished compost to eliminate any sizable, undecomposed materials before using it in your garden. A mesh or wire screen can also be used to keep out rodents from your compost pile.
- **Cover or Tarp for Compost:** Using a tarp or lid to cover your compost pile aids in maintaining appropriate moisture levels and prevents excessive rainwater from saturating the pile.

Tailor your selection of equipment and tools to align with your preferred composting method and the scale of your composting endeavor. Well-chosen and properly maintained tools can enhance the efficiency and enjoyment of the composting process.



Types of Composting Bins

There are several types of composting bins available, each designed to suit different needs and preferences. Here are some common types of composting bins:

- **Open Pile or Heap:** This is the simplest form of composting, where organic materials are piled up in an open area or designated spot in your yard. While it's the most basic method, it may not be the most aesthetically pleasing option, and it may be more challenging to manage.
- **Compost Bin:** Compost bins are enclosed containers designed for composting. They come in various styles, including plastic, wood, and metal. Some have lids and doors for easy access, while others are simple containers. Compost bins are a popular choice for backyard composting due to their neat appearance and ease of use. Many people create their own compost bins using materials like wooden pallets, wire mesh, or recycled containers. DIY bins can be customized to fit your space and needs. [This method is recommended for composting at home, with 2nd used materials you can easily and cheaply find around you.](#)
- **Tumbling Composter:** Tumbling composters are bins mounted on a frame that allows you to easily turn and aerate the compost by rotating the bin. They facilitate faster decomposition and are convenient for people with limited space or those who want to avoid manual turning.
- **Worm Bin (Vermicomposter):** Worm bins are specifically designed for vermiculture, where red worms are used to break down organic waste. These bins are usually compact and can be kept indoors or on a small balcony. They're ideal for those who generate a significant amount of kitchen scraps.
- **Bokashi Bin:** Bokashi bins are used for anaerobic fermentation of kitchen scraps with the help of beneficial microorganisms. This method is suitable for small spaces and is odor-free. Bokashi bins are typically airtight containers.
- **Pit or Trench Composting:** Instead of using a bin, you can dig a pit or trench in your garden or yard to bury organic waste. Over time, the waste decomposes and enriches the soil. This method requires less equipment and is suitable for larger quantities of yard waste.

- **Indoor Composting Units:** These are compact composting systems designed for use inside the home, such as under the kitchen sink. They typically use methods like aerobic decomposition or vermiculture and are suitable for households with limited outdoor space.
- **In-Ground Composting Systems:** These systems involve burying a container or compostable bags in the ground to compost organic waste. They are often used for pet waste or small-scale composting in the garden.
- **Hot Composting Systems:** Hot composting systems are designed to generate high temperatures quickly for rapid decomposition. They often use specialized designs, such as aerated static piles or bioreactors.
- **Community Composting Bins:** Some communities provide communal composting bins or facilities for residents to drop off their organic waste. These bins are typically managed by local authorities or composting organizations.

When choosing a composting bin, consider factors such as the amount of organic waste you generate, available space, climate, and your level of involvement in managing the composting process. The right type of bin can make composting more convenient and efficient for your specific circumstances.



3. What to Compost

Composting is a natural process that converts organic matter into a nutrient-rich soil conditioner. A wide variety of materials can be composted, including kitchen leftovers such as fruit and vegetable peels, coffee grounds, and eggshells, as well as outdoor debris like grass cuttings, leaves, and small branches.

Furthermore, compostable substances such as cardboard, paper, and wood chips can be incorporated into the mix. It is crucial to maintain a suitable balance between "browns" (carbon-rich materials like dry leaves and newspaper) and "greens" (nitrogen-rich materials like kitchen scraps and grass clippings) to ensure effective decomposition.

To prevent potential odor problems and the introduction of pathogens into the compost, it is advisable to refrain from composting meat, dairy, oily foods, pet waste, or diseased plants.

Greens vs. Browns

Aspect	Greens	Browns
Nitrogen Content	High	Low to Moderate
Color	Often Green or Moist	Typically Brown or Dry
Examples	Kitchen Scraps (e.g., fruit/vegetable peels, coffee grounds), Grass Clippings, Fresh Leaves, Plant Trimmings	Dry Leaves, Straw, Cardboard, Newspaper, Wood Chips
Decomposition Speed	Rapid	Slower
Moisture Content	High (Moist)	Low (Dry)
Carbon-to-Nitrogen Ratio	Low (More Nitrogen)	High (More Carbon)
Role in Compost Pile	Provides Nitrogen for Microorganisms, Helps Heat Up Pile	Provides Carbon for Structure, Balances Nitrogen, Aids Aeration
Common Uses	Activators, Early Layer in Pile	Bulk Material, Insulation, Balancing Layer

Items to Avoid Composting

Remember that composting should focus on organic, biodegradable materials to create nutrient-rich soil. Avoiding these items will help maintain a healthy and effective compost pile.

- **Meat and Dairy Products:** These can attract pests and create unpleasant odors in your compost pile.
- **Oily and Greasy Foods:** Items like cooking oils, fatty foods, and butter should be kept out of the compost.
- **Diseased Plants:** Plants with diseases or pests may introduce pathogens to the compost.
 - o **Pet Waste:** Pet feces can contain harmful pathogens and should not be composted in a regular compost pile.
- **Synthetic Materials:** Avoid composting plastics, metals, or any non-organic materials.
 - o **Weeds with Mature Seeds:** Composting weeds with mature seeds can lead to their spread in your garden.
- **Coal or Charcoal Ash:** These can contain harmful substances and should not be added to compost.
- **Large Branches or Wood:** Wood takes a long time to decompose and should be avoided unless you have a dedicated wood chip composting system.
- **Non-Biodegradable Materials:** These include items like glass, ceramics, and disposable diapers, which should never be added to compost.

4. Setting Up Your Compost Pile

Layering Green and Brown Materials

Layering green and brown materials in composting is a fundamental technique to create a well balanced compost pile. The proper balance between these materials ensures that your compost pile decomposes efficiently and produces nutrient-rich compost.

Here's how to layer green and brown materials in composting:

- **Choose a Composting Container:** Select a compost bin or designated composting area in your yard. Make sure it has good drainage and aeration.
- **Start with a Base Layer:** Begin with a layer of brown materials, which are carbon-rich. This helps provide structure and aeration to the pile. Dry leaves, straw, or shredded cardboard are excellent choices.
- **Add Green Materials:** On top of the brown layer, add green materials, which are nitrogen-rich. This includes kitchen scraps, grass clippings, and fresh yard waste.
- **Maintain the Balance:** Continue layering brown and green materials in alternating layers. Aim for approximately equal volumes of each, although some variation is acceptable.
- **Moisten the Layers:** After adding each layer, lightly moisten it with a hose or watering can. The compost pile should be consistently damp, like a wrung-out sponge, but not waterlogged.
- **Aim for a Mix:** Ideally, the compost pile should resemble a lasagna, with distinct layers. This layering encourages a healthy mix of carbon and nitrogen for decomposition.
 - o **Turn or Aerate:** Periodically turn or aerate the compost pile to ensure good airflow and mixing of materials. This helps speed up decomposition.

- **Cover the Pile:** Covering the compost pile with a tarp or lid helps retain moisture, prevent excessive rainwater from entering, and keep pests out.
- **Monitor and Adjust:** Check the compost pile regularly for moisture content and temperature. If it's too dry, add water; if too wet, add more brown materials. A well balanced pile will heat up as it decomposes.
- **Patience:** Composting takes time, and the length of the process can vary. With proper layering and maintenance, you'll eventually produce rich, dark compost for your garden.

By layering green and brown materials in your compost pile, you create an environment where beneficial microorganisms can thrive and break down the organic matter efficiently. This balanced approach leads to the creation of high-quality compost that can enrich your soil and promote healthy plant growth.



Maintaining the Right Balance

Maintaining the right balance in composting is crucial to ensure that the decomposition process proceeds efficiently and produces high-quality compost. The key to achieving and maintaining this balance lies in managing the ratio of green (nitrogen-rich) and brown (carbon-rich) materials in your compost pile.

Here are some essential tips for maintaining the right balance in composting:

- **Understanding the Carbon-to-Nitrogen (C:N) Ratio:** The ideal C:N ratio for a compost pile is generally around 25-30 parts carbon to 1 part nitrogen. This balance provides an optimal environment for decomposition.
- **Green Materials (Nitrogen-Rich):**
 - Include kitchen scraps (fruit and vegetable peels, coffee grounds, eggshells).
 - Add grass clippings and fresh yard waste.
 - Incorporate plant trimmings and garden debris.
- **Brown Materials (Carbon-Rich):**
 - Use dry leaves, straw, shredded newspaper, and cardboard.
 - Include wood chips, sawdust, and dried plant stems.
 - Use fall leaves abundantly as they become available.
- **Layering:** Alternate layers of green and brown materials in your compost pile. Start with a brown layer, add a green layer, and continue this pattern. Each layer should be a few inches thick.
- **Adequate Moisture:** Maintain proper moisture levels in the compost pile. It should be as moist as a wrung-out sponge. If it's too dry, add water; if too wet, mix in more brown materials.

- **Aeration:** Regularly turn or aerate the compost pile to provide oxygen to the microorganisms responsible for decomposition. This helps prevent the pile from becoming too compacted and anaerobic.
- **Size Matters:** Chop or shred larger materials into smaller pieces to speed up decomposition and create a more homogeneous mix.
- **Temperature Monitoring:** Use a compost thermometer to check the internal temperature of the pile. A well-balanced compost pile will heat up as it decomposes. It's generally best when the temperature reaches 140-160°F (60-71°C).
- **Avoid Overloading:** Avoid adding too much of one type of material at once. For example, excessive grass clippings can create a slimy, smelly pile. Balance is key.
- **Patience:** Composting is a gradual process. Be patient and allow your compost pile time to decompose fully. It can take several months to a year or more, depending on various factors.
- **Troubleshooting:** If your compost pile develops issues like odors or pests, adjust the balance by adding more brown materials to correct the problem.
- **Cover the Pile:** Use a tarp or lid to cover the compost pile. This helps maintain consistent moisture levels and prevents excessive rain from entering.

By consistently maintaining the right balance between green and brown materials, along with proper moisture and aeration, you'll create an optimal environment for the decomposition process. This will result in nutrient-rich compost that can enhance your garden's soil and promote healthy plant growth.

Watering Your Compost

Watering your compost pile is a crucial aspect of the composting process, as it helps create the ideal environment for decomposition. Proper moisture levels are essential for the activity of beneficial microorganisms responsible for breaking down organic materials.

Here are some tips on how to effectively water your compost:

- **Start with a Moist Base:** When initially setting up your compost pile or bin, begin with a layer of moist brown materials, such as leaves or straw, at the bottom. This provides a good foundation for retaining moisture.
- **Layer as You Go:** As you add kitchen scraps (greens) and yard waste (greens and browns) to the pile, sprinkle water lightly over each layer. This ensures even moisture distribution throughout the compost pile.
- **Use a Watering Can or Hose:** A watering can with a gentle rose attachment or a hose with a spray nozzle is ideal for evenly distributing water. Avoid using a strong jet of water, which can compact the pile.
- **Moisten, Don't Drench:** The compost pile should be as moist as a wrung-out sponge but not soaking wet. Excessive water can lead to anaerobic conditions and unpleasant odors.
- **Pay Attention to Dry Spots:** Check the compost pile for any dry spots or areas that appear too dry. Add water specifically to those areas to ensure uniform moisture levels.
- **Cover the Pile:** A tarp or lid on your compost bin helps prevent excessive rainwater from entering the pile and leaching away nutrients. It also helps maintain consistent moisture levels during wet weather.
- **Turn or Aerate Regularly:** Regularly turning or aerating the compost pile helps mix the materials and distribute moisture more evenly. It also prevents the pile from becoming compacted.

- **Monitor Moisture Levels:** Periodically check the moisture content by squeezing a handful of compost. If a few drops of water can be squeezed out, it's adequately moist. If it's too dry, add water; if too wet, mix in more brown materials.
- **Consider a Rain Barrel:** Collect rainwater in a barrel and use it for watering your compost pile. This is a sustainable way to ensure a consistent water supply.
- **Compost Cover:** If your compost bin or pile doesn't have a lid, consider using a compost cover or tarp to regulate moisture and prevent over-wetting.

Remember that maintaining proper moisture levels is essential for the decomposition process. Consistently moist compost encourages the growth of beneficial microorganisms and helps break down organic matter efficiently. By paying attention to watering and moisture management, you'll produce nutrient-rich compost that can benefit your garden or plants.



5. Composting Methods

Composting Method	Description	Materials Used	Aeration/Turning	Advantages
Traditional Pile Composting	Creating an open compost pile on the ground	Kitchen scraps, yard waste, leaves, and more	Requires periodic turning or aerating	Simple, low-cost, suitable for larger amounts of waste
Compost Bins and Tumblers	Using enclosed containers for controlled composting	Similar materials as traditional composting	Some designs have built-in aeration systems or tumbling mechanisms	Neat and contained, efficient decomposition, ideal for small spaces
Vermicomposting (Worm Composting)	Utilizing red worms to break down organic waste	Kitchen scraps and bedding material (e.g., shredded newspaper)	Worms naturally aerate the material	High-quality compost and worm castings, suitable for small spaces, minimal odor
Bokashi Composting	Anaerobic fermentation with beneficial microorganisms	Kitchen waste layered with Bokashi bran in an airtight container	No turning required	Odor-free, suitable for small spaces, fast process, composts a wide range of materials



6. Maintaining Your Compost

Troubleshooting Common Issues

Maintaining your compost pile is crucial for efficient decomposition and high-quality compost production.

Here are some essential steps for maintaining your compost and addressing common issues:

- **Regular Turning:** Ensure you turn or aerate the compost pile at least every 1-2 weeks. This promotes oxygen circulation, even moisture distribution, and thorough mixing for consistent decomposition.
- **Balancing Greens and Browns:** Keep adding green and brown materials in approximately equal amounts to maintain the required carbon-to-nitrogen (C:N) ratio for decomposition. Adjust the mixture as needed to achieve the right balance.
- **Moisture Management:** Maintain a consistently moist compost pile, akin to a wrung out sponge. Water when necessary to prevent over-drying or excessive wetness.
- **Temperature Monitoring:** Utilize a compost thermometer to monitor the pile's internal temperature. A properly balanced compost pile generates heat, with an ideal range of 140-160°F (60-71°C).
- **Addressing Common Issues:** Act promptly to resolve common composting challenges:
 - **Foul Odors:** Foul odors often stem from anaerobic conditions (lack of oxygen). To counter this, increase the frequency of turning, add more brown materials, and avoid overloading with wet kitchen scraps.
 - **Pest Infestation:** If pests like flies or rodents are attracted to your compost, bury kitchen scraps deeper within the pile, use a lid or cover, and refrain from adding meat or dairy products.

- **Slow Decomposition:** A slow composting pile may require more greens, regular turning, or smaller material sizes. Ensure that the C:N ratio remains balanced.
- **Dry or Wet Pile:** Adjust moisture levels by adding water when the pile is too dry or more brown materials when it's too wet. Regular turning helps improve aeration.
- **Harvesting Your Compost:** Once your compost has darkened, cooled, and has an earthy scent (typically after several months to a year), it's ready for use. You can sift the compost to remove any large, undecomposed materials before applying it to your garden.
- **Starting a New Pile:** When your current compost pile is nearing completion, consider initiating a new one. This ensures that you can continue composting while allowing the finished compost to mature.
- **Patience and Observation:** Remember that composting is a natural process that takes time. Be patient and regularly observe your pile to make necessary adjustments.

By following these maintenance steps and addressing any issues as they arise, you'll create a thriving compost pile that transforms organic waste into nutrient-rich compost for your gardening and landscaping needs.



7. Harvesting Your Compost

Harvesting your compost is the final step in the composting process, where you obtain the finished, nutrient-rich compost that can be used to enhance your garden or landscape.

Here's how to do it effectively:

Signs of Ready-to-Use Compost

- **Dark, Earthy Appearance:** Finished compost is typically dark brown or black in color, resembling rich, crumbly soil. It should have a pleasant, earthy smell, devoid of any foul odors.
- **Cool Temperature:** The compost pile's internal temperature should have cooled down significantly, approaching the ambient temperature of your surroundings. This indicates that active decomposition has ceased.
- **Crumble Test:** Take a handful of the compost and squeeze it. If it crumbles easily and feels like a damp sponge that has been wrung out, it's ready for use. If it's too wet or sticky, it may need more time to mature.

Screening and Storing Compost

- **Screening Compost:** To ensure a fine, uniform texture and remove any large, undecomposed materials, consider screening the compost. Use a mesh or wire screen with appropriately sized holes. Place the screen over a wheelbarrow or container and sift the compost through it.
- **Collect and Reuse Unfinished Materials:** Any materials that don't pass through the screen should be collected and added to a new compost pile or bin. This allows you to continue the decomposition process and minimize waste.
- **Storage Containers:** Store your screened compost in containers or bins with lids to protect it from excess moisture and pests. Properly stored compost can be kept for several months to a year.
- **Compost Storage Location:** Store the compost in a convenient location near your garden or landscape where it will be readily accessible when needed for planting or soil improvement.
- **Cover and Label:** Cover your compost storage containers with lids or tarps to keep out rain and maintain the compost's moisture level. Label the containers with the date of harvesting to keep track of aging.
- **Application:** When using your compost, apply it to garden beds, vegetable plots, or around plants as a soil amendment. You can also use it as mulch to improve moisture retention and weed suppression.

Remember that the quality of your finished compost will depend on the materials used, the composting process, and the time it has had to mature. Regularly maintaining and turning your compost pile, as well as ensuring the right balance of greens and browns, will lead to high quality compost that benefits your garden and the environment.



8. Practical Uses of Compost

Compost is a valuable resource with various practical uses in gardening and landscaping.

Here are some of its primary applications:

1. Soil Enrichment and Improvement

Compost is an excellent soil conditioner. When mixed into garden soil or spread on the surface, it enhances soil structure, improves moisture retention, and provides essential nutrients. Compost enriches the soil with organic matter, which promotes beneficial microbial activity and enhances overall soil fertility. This, in turn, leads to healthier and more productive plants.

2. Mulching

Compost can be used as mulch around trees, shrubs, and garden beds. A layer of compost helps suppress weeds by blocking sunlight and provides insulation against extreme temperature fluctuations. It also conserves soil moisture, reducing the need for frequent watering. Over time, as the mulch breaks down, it contributes valuable nutrients to the soil.

3. Compost Tea

Compost tea is a liquid solution made by steeping compost in water. It's a nutrient-rich liquid that can be applied to plants as a foliar spray or soil drench. Compost tea provides a concentrated dose of beneficial microorganisms and nutrients, promoting plant growth, improving soil health, and enhancing disease resistance. It's an eco-friendly alternative to chemical fertilizers.

By incorporating compost into your gardening and landscaping practices, you can improve soil quality, conserve water, reduce the need for synthetic fertilizers, and promote the overall health and vitality of your plants and garden.



9. Frequently Asked Questions

Can I compost kitchen scraps?

Yes, you can compost kitchen scraps. Kitchen scraps like fruit and vegetable peels, coffee grounds, eggshells, and more are excellent compostable materials. These "green" materials provide nitrogen to your compost pile.

However, it's crucial to balance them with "brown" materials like dry leaves, cardboard, or shredded newspaper to maintain the right carbon-to nitrogen ratio for effective decomposition.

What if I don't have a backyard?

If you don't have a backyard, you can still compost using alternative methods:

- **Indoor Composting:** Consider vermiculture (worm composting) using a specialized worm bin. Worms can efficiently compost kitchen scraps in a small space without odors or pests. Bokashi composting is another option, as it can be done indoors and is suitable for apartments or small homes.
- **Community Composting:** Many communities offer composting programs or drop-off locations where you can contribute your kitchen scraps and yard waste. Check with your local waste management or environmental agencies for options in your area.
- **Balcony or Patio Composting:** If you have a balcony or patio, you can use a compact compost bin or tumbler designed for small spaces. These containers can efficiently compost kitchen scraps and are suitable for urban environments.
- **Share with Neighbors:** If your neighbors have yards, you might be able to collaborate on composting. They can provide the space, and you can contribute your kitchen scraps.
- **Local Community Gardens:** Some community gardens accept compostable materials from residents who don't have backyard space for composting. Contact nearby community gardens to inquire about their composting programs.
- **Municipal Composting Programs:** In some cities, municipal composting programs collect kitchen scraps along with yard waste. Check with your local government to see if such a program exists in your area.

Regardless of your living situation, there are usually composting options available to help you reduce kitchen waste and contribute to a more sustainable lifestyle.

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