

ROYAL OAK

COMPOSTING GUIDE

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Royal Oak
SUSTAINABILITY

WHAT IS COMPOST

Compost is an organic material that has been decomposed in a controlled manner. It is commonly referred to as black gold by gardeners and provides some fertility to plants. Whether homemade or store-bought, compost recycles nutrients and organic materials and helps grow trouble-free plants.

WHY COMPOST

In 2022, Michigan declared a goal of cutting food waste in half by 2030. The federal government and the United Nations share Michigan's goal of cutting food waste in half by 2030. It is an ambitious goal that will reduce Michigan food waste by 1 billion pounds annually. Composting is just one way to reduce landfilled food waste.

Compost can help by:

- Decreasing methane: A greenhouse gas that is more than twenty-five times as impactful as carbon dioxide, methane can be significantly reduced through recycling organics.
- Mitigating changes: Compost's return to the soil serves as a "carbon bank," helping to store carbon.
- Reducing fertilizer inputs: Compost helps to reduce the pollution created by manufacturing those inputs.
- Increasing resilience: Compost helps to increase resilience to the effects of climate change, such as drought and extreme weather.

USES FOR FINISHED COMPOST

Compost is ready to harvest when reduced to a crumbly, sweet-smelling material called humus. If some pieces are not decomposed, you can sift those out and use them to start a new batch. Compost improves soil structure, holds moisture and plant nutrients, and promotes strong, healthy root systems for plant growth.

Here are the most common ways to use compost:

Mix it into Soil

- Mix 3-6 inches of compost into lawn or garden soil before seeding for grass or planting seeds or plants for gardening.
- Mix compost into the soil of exposed sloping areas to help fight erosion.

Use it as Mulch

- Add compost as a mulch around flowers/shrubs/trees to help soil retain moisture and protect roots from alternate freezing and thawing during winter months.

BENEFITS OF COMPOST

Improves soil quality

When used as a soil amendment, compost can help retain moisture and suppress plant diseases and pests. It can also eliminate the need for chemical or synthetic fertilizers and helps roots penetrate the soil by reducing soil compaction.

Helps beneficial microorganisms

Fungi and bacteria are unsung heroes in garden soil and spend most of their time converting material into usable nutrients for plants. Compost helps feed the microbial community and can increase earthworm populations.

Saves landfill space

In the United States food scraps and yard waste make up 30% of what we throw away. Composting is an excellent option for both of these materials.

Reduces greenhouse gas emissions

When disposed of in landfills, food and yard clippings generate a significant amount of methane. By composting, the generation of greenhouse gases, particularly methane, is avoided.

ROYAL OAK COMPOSTING ORDINANCE

Composting is permitted subject to the following conditions:

A. All compost shall be adequately and properly contained within a compost bin such as a manufactured composter or approved homemade structure. Approved homemade and manufactured compost bins are outlined in the Royal Oak Composting Guide, which is hereby incorporated by reference. All future amendments and revisions to the Royal Oak Composting Guide, when they become effective, are likewise incorporated and adopted by reference. Notwithstanding any provision in this section, when there is a conflict between this section and the Royal Oak Composting Guide, this section controls.

B. Composting shall be conducted in a manner that does not create a nuisance by reason of unsightliness, odor, or attraction of rodents or other pests.

C. Compost bins shall be located in a rear yard, at least 15 feet from any dwelling on adjacent property and at least five feet from the property line.

D. Compost shall not include meat, fish, dairy products, vegetable or animal oils, animal fats, bones, or pet waste. Plastics, synthetic products, or other nonbiodegradable materials are also prohibited.

E. Compost bins are not permitted in drainage easements.

F. Commercial composting is prohibited at private houses or residential buildings.

Royal Oak Solid Waste Ordinance, Chapter 633, 2024

MICHIGAN'S COMPOSTING LAW

Prior to 1995, leaves and grass comprised over 30% of all household solid waste going to landfills and incinerators. Not only is that a lot of space being filled by a clean resource, but yard clippings in landfills may contribute to methane gas and leachate production which may pollute the air and local water supplies. The moisture in yard waste causes it to burn poorly in incinerators, raising pollution levels, and operating costs. Because of the many problems caused by yard clippings in landfills, starting in 1995, yard clippings were banned from Michigan landfills. Yard clippings are defined as leaves, grass clippings, vegetable or other garden debris, shrubbery, or brush or tree trimmings, less than 4 feet in length and 2 inches in diameter, that can be converted to compost humus.

A BURNING ISSUE

Another popular method of leaf and brush disposal, backyard burning, pollutes the air, creates a fire hazard, and is a nuisance to neighbors. Since 1995, Michigan's solid waste regulations have prohibited the open burning of grass clippings and leaves in municipalities having a population of 7,500 or more, unless the local governing body has specifically enacted an ordinance authorizing it. Section 340-5 in the Royal Oak Code of Ordinances also prohibits the open burning of fuel, garbage, or other combustible refuse or waste material, including leaves, brush, tree trimmings, and grass. For a cleaner, safer alternative to burning your yard waste, try composting!

Home Composting Guide, State Of Michigan, 2019, Royal Oak Solid Waste Ordinance, Chapter 340-5, 2024

Royal Oak **COMPOST RIGHT AT HOME**

RECOMMENDED COMPOST BINS



There are many different shapes, styles, and materials of composting bins available for purchase. Many plans are also available online that can aid you in making your own composting bin. All bins purchased or made should be constructed of weather-resistant materials such as plastic, metal, chicken wire, bricks, and suitable exterior lumber choices like cedar. The size and shapes of bins can vary but should be appropriate for yard size and composting needs. See Royal Oak's Composting Ordinance for more specifics on bin placement and other requirements.

Compost must be contained in a style bin like those on this page. All bins, purchased or homemade, should contain the composting materials on at least three sides and prevent materials from blowing. Different styles of bins require different maintenance to turn or rotate the pile. Other materials, like pitchforks, shovels, screens, and buckets, make maintenance easier.





Royal Oak COMPOST RIGHT AT HOME

INDOOR AND CURBSIDE OPTIONS



There are options for those who want to compost indoors or cannot compost outdoors. Vermicomposting uses worms to break down your food and is a perfect option for year-round indoor composting. Bokashi composting uses fermentation to break down food waste, typically in a five-gallon sealed bucket. Your Royal Oak Yard Waste Service has some limited options for food waste, and there are private companies servicing Royal Oak offering pick-up services. Visit the Royal Oak Food Waste Website to learn more about these options.



TROUBLESHOOTING

SYMPTOMS	PROBLEMS	SOLUTIONS
Bad Odor	Not enough air, or too much green material	Mix the pile, and/or add in more brown material
Composts too slowly	Not enough water	Moisten and mix pile
Pile is damp and warm only in the center	Pile is too small	Collect more material and mix it into the pile
Pile is damp and sweet smelling but no heat	Lack of green material	Mix in more green material like grass clippings, yard trimmings, and weeds
Fruit Flies	Too much food waste or grass clippings	Mix the pile, add in more brown material to top layer



Royal Oak COMPOST RIGHT AT HOME

TIPS FOR RODENTS

One of the main concerns regarding composting for Royal Oak residents is feeding or providing resources for rats. Rodents can be attracted to compost piles as a food source and a place to live. While this concern is valid, composting properly and knowing a few best practices will ensure you do your part. Many cities with rat and rodent problems are piloting comprehensive composting programs as a solution.

DO

- Use a composting bin designed to prevent rats from accessing by using materials like wire mesh and screens.
- Pick up pet waste.
- Bury and cover food scraps with carbon (brown) materials such as dried leaves and paper or yard waste like grass clippings, trimmings, wood chips, etc.
- Turn compost regularly to increase temperature. A hotter bed turns compost quicker and is not a desirable living area.
- Ensure compost is at the correct moisture level. A dry compost pile could be a potential nesting site.
- Do not compost along rodent hiding spaces like fences, walls, or shrubs.
- Cayenne pepper can deter rats when sprinkled over the compost.
- Ensure that bird feeders are away from compost and are not a food source for rats.
- Use smaller pieces of food to help compost break down faster.

DON'T

- Do not add meat, chicken, fish, oils, cheese, or leftovers containing excessive oil or seasoning.
- Do not leave food scraps on top of your compost pile for rodents to easily find.
- Refrain from placing your compost near fruit trees, garbage cans, outside feeding areas, or places where rats can live easily.

WHAT IF YOU HAVE A RODENT PROBLEM

Remove all food sources from compost while troubleshooting using the tips above. Rats and rodents will not stay where there is no food or shelter. Test food scraps moving forward to see if certain types need to be eliminated altogether. Egg shells, for example, have been known to cause no problems for some while providing issues for others.



Royal Oak COMPOST RIGHT AT HOME

A well-functioning compost contains roughly 50% greens and 50% browns. That percentage can vary, but not too far. Partial sun is ideal for maintaining the right temperature, but with modifications, it can work in full shade or full sun. Ideal moisture levels should be consistent with a rung-out sponge; turning your compost periodically can increase productivity.

CAN COMPOST

FRUITS



VEGETABLES



BREADS/GRAINS



PERSONAL CARE



YARD WASTE



HAIR / NAIL CLIPPING



VEGAN LEFTOVERS



PAPER PRODUCTS



COFFEE & TEA



CANNOT COMPOST

MEAT & DAIRY



PET WASTE



PLASTIC



BPI CERTIFIED DINNERWARE



Learn how to compost
just about anything!

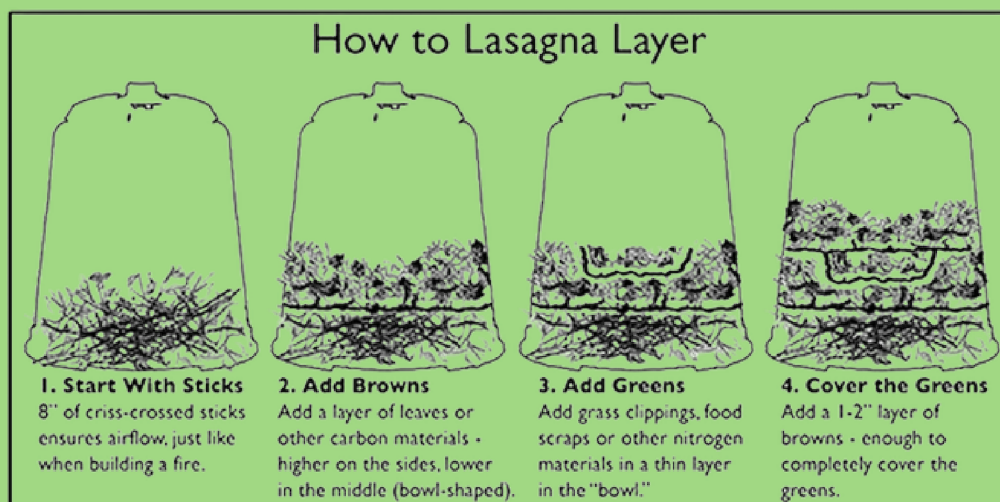


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Royal Oak COMPOST RIGHT AT HOME

HELPFUL TIPS & TRICKS



Quick Start Guide to Compost, Cornell University, 2021

USING COMPOST

... in the Garden

Compost may be added to garden soil at any time. Spread compost on top of the garden in a 1 to 3 inch layer and dig it in several weeks before planting. During the growing season, use compost as a top-dressing to give your plants a healthy "snack."



...for Container Gardening

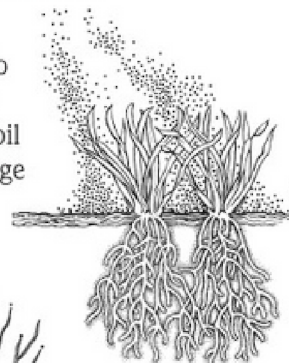


Add sifted compost to potting soil or container garden soil mixes. For best results, compost should not exceed one-

third of the total amount of soil. Small amounts of compost can be sprinkled around potted plants at any time.

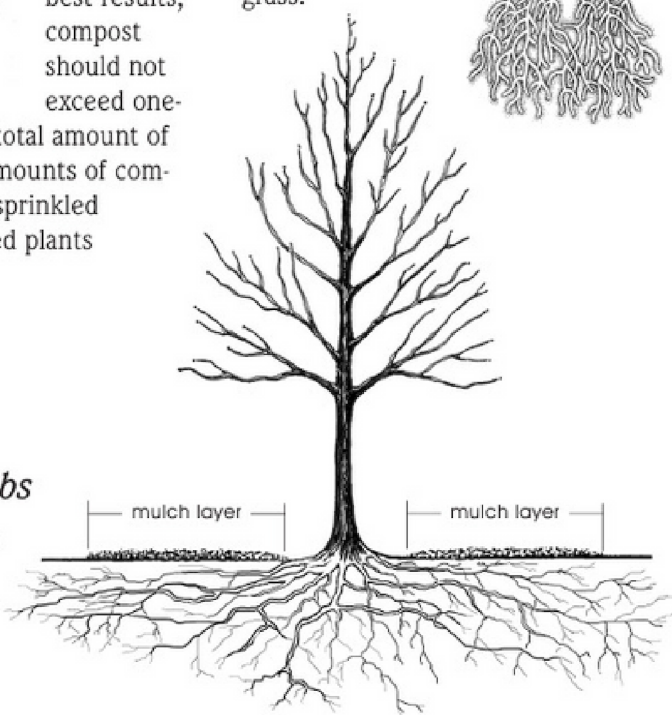
... as a Top-Dressing for the Lawn

Rake sifted compost into the lawn to help build soil and encourage healthy grass.



... As a Mulch Around Trees and Shrubs

Spread an inch of compost under the canopy of trees and shrubs. Compost will gradually release nutrients to delicate tree roots. Shredded bark or wood chips can be placed over the compost to reduce weeds and help hold in moisture.





Royal Oak COMPOST RIGHT AT HOME

GLOSSARY OF TERMS

Aerobic (with oxygen): a naturally occurring process in nature where organic waste is converted into humus.

Anaerobic (without oxygen): decomposition that often uses fermentation or putrefaction.

Bokashi: Bokashi is a fermented material that is used as a microbial inoculant and/or fermentation starter.

Browns: Carbon component in the composting process. ie. leaves, sawdust, and wood chips.

Compost: Partially decomposed organic matter.

Compost Bin: A commercial composting container or a homemade structure meant to protect compost from the elements and pests and allow for easier material handling.

Composting: Controlled decomposition of organic materials.

Compost Tea: Also known as Leachate, the liquid that drains from the mix of fresh organic matter.

Greens: Nitrogen component in the composting process. ie. grass clippings, food waste, spent flowers, and plant trimmings.

Humus: Completely decomposed organic matter.

Microbes: Microbes are tiny living things found all around us and are too small to be seen by the naked eye.

Moisture Content: weight of water in a material divided by the weight of solids in a material.

Mulch: Material (such as leaves and woodchips) spread around to enrich or insulate the soil.

Turning: The process of mixing a compost pile to redistribute materials.

Vermicomposting: Using worms to consume and break down organic materials.

Yard Trimmings: grass clippings, leaves, weeds, and shrub and tree prunings six inches or less in diameter from a residence or business.

COMPOSTING RESOURCES

Royal Oak Composting Resources | Royal Oak | www.romi.gov/1581/Recycling-Compost-and-Waste
Royal Oak Library | Plenty of Composting Books, Articles, workshops, and a Seed Library
Healthy Gardens Project | Southeastern Oakland County Water Authority | www.socwa.org
Composting Resources | State Of Michigan | www.michigan.gov/eglecompost
Compost Research & Education Foundation | <https://compostfoundation.org/>
Michigan State University Extension | https://www.canr.msu.edu/home_gardening/index
Environmental Protection Agency | Composting At Home | <https://www.epa.gov/recycle/composting-home>
USDA | Composting | <https://www.usda.gov/peoples-garden/food-access-food-waste/composting>

EDUCATIONAL PARTNERS

This guide was created with help from the following community partners.

Make Food Not Waste
website: makefoodnotwaste.org

Walking Lightly
website: walkinglightly.net

The Suburban Rat Hater's
Guide To Composting
website: facebook.com/rat.hater.composts

Royal Oak Environmental Advisory Board
website: romi.gov/eab

ROYAL OAK SUSTAINABILITY

Royal Oak Sustainability is a collaborative group of city departments, the Royal Oak Environmental Advisory Board, and the Sustainability Manager. We strive to make Royal Oak a more sustainable and just place to live, work, and play.

