



The Complete Guide to Home Composting

The Simple Steps To Making Compost At Home

(NO MATTER WHERE YOU LIVE, AND WHY YOU SHOULD)

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About - this - Guide



Feed the soil and let the soil feed the plants. It's one of my forever mantras in the garden. The soil in my beds is the best part of my garden, and the main reason everything I plant there thrives. I attribute that to the faithful addition of compost twice each year.

Of all the ingredients I could add to my garden to make it grow and thrive, without a doubt the single most important input is compost. It's my not-so-secret ingredient to the health of my vegetable garden, landscape plants, thriving lawn and anything growing under my watch.

And the best part is that I make most of what I need at home for free.

Yet composting seems to be an ever-elusive practice. Many would-be participants either never get started, or quit too soon due to the unfounded fear that the process is just too complicated. I find that so unfortunate. Nothing could be farther from the truth and what inspired me to write this eBook.

This project started out as a short article on backyard composting for my blog. By the time I looked up from my keyboard, it had morphed into several thousand words—too long for a blog post but too short to tell the whole story. So I kept writing.

As I neared the end of my first draft, I decided to send an email to my online community of joegardener.com members, asking them what they wanted to know about composting. Within 30 minutes, I had over 100 responses. And the replies kept coming. It was like a scrolling ticker on the stock exchange. A steady stream of emails started rolling in. When the rush had subsided, I had nearly 1,000 replies!

In hindsight, I'm so glad I decided to ask. I almost didn't, assuming I already knew what the questions were. I thought I'd heard them all. I hadn't. So, this book is dedicated to all of you who took the time to send me your questions, and to all of you who are past, present, or future composters.

As you'll learn, compost is the single best amendment we can put into our garden soil. It's also one of the best and easiest things we can do to help the environment, keep waste out of the landfill and reduce the impact of climate change. The principles of making compost are the same, no matter where you live.

So, thanks to all of you for your replies to my email, and for reading this book. If you like it (or not), please let me know. And most of all, please share this with your friends, garden club, etc. and encourage them to join our joe gardener community too.

We're all in this together. Thanks for being a part of it.

What is Compost and Why Does it Work so Well?



This is a small garden on the side of my carport. Knowing that everything I'm growing and feeding my family is clean, free of nasty pesticides and chemicals, and completely safe for my family and the wildlife that visit is the best feeling ever. And I have homemade compost to thank for that.

I am always amazed at how a compost pile can go from a heap of recognizable raw material to the most beautiful rich, dark, earthy soil that becomes nature's super food for plants. With all this talk about compost, what is compost exactly, and what is it that makes it the best soil amendment you can add in to your garden?

In the simplest terms, compost is decomposed organic matter that is used as a soil amendment and fertilizer, especially in organic gardening and farming.

How it gets to this finished state is through the process of composting-- the biological process in which microorganisms convert organic materials such as leaves, paper, grass clippings, food scraps and manure into the soil-like material called compost.

Beyond bacteria and fungi (the microorganisms and main players in the decomposition process), there are many other living creatures that play an important role in breaking down organic matter. This complex interaction taking place is often referred to as soil food web.

It consists of an incredible diversity of organisms that make up the cast of characters breaking down all that matter into compost. They range in size from the tiniest one-celled bacteria, algae, fungi, and protozoa, to the more complex nematodes (microscopic worms), arthropods (invertebrate animals including springtails, beetles, ants, spiders and centipedes), earthworms, insects, and small vertebrates.

Compost includes all the materials necessary for plant growth, including trace elements and humic acid, an important ingredient that helps make plant nutrients available. The nutrients that become available during this progressive decomposition process are contained and stored within the bodies of all the organisms (living and dead) that worked to make it so, as well as the humus created in the process.

Those nutrients are then released over a slow period because they are chemically bound to soil particles, making them resistant to leaching (rather than all at once as with water-soluble fertilizer).

Beyond the nutritional benefits, compost improves the physical, chemical, and biological properties of any soil. It improves the water-holding capacity of sandy soil and improves the drainage and aeration of dense soil.

It contains beneficial fungicides and organisms that help suppress disease-causing organisms by either killing or inhibiting them.

While we know a lot about the science behind why compost works so well for improving soil and aiding in plant growth, we still have much to learn.



Worms are just one of many creatures that make up a healthy soil food web to decompose all the organic matter that eventually becomes compost and vermicompost. Yet their contribution to what makes compost truly amazing is second to none.

There's one other term that comes up quite often when you start talking about compost: humus. Think of humus as the best part of compost. It's the holy grail of why we compost. Suffice it to say, humus is the relatively stable end-product of composting. It is that rich, dark, earthy organic matter that is high in nutrients and most beneficial to the soil and any plants growing in it.

Humus has two main advantages. First, when mixed with native soil, it forms a loosely-structured soil mixture of varying particle sizes (particulates) that create the opportunity for air and water to freely move through it, allowing soil organisms and plant roots to more easily access these important elements.

This same structure allows the humus-rich soil to act like a sponge, soaking up water and storing it to be released later. This increases the moisture-holding capacity in soil while reducing runoff and soil erosion.

Second, humus contains chemical elements that feed the plants and neutralize toxins. These elements chemically bind (lock up) heavy metals that can otherwise make it difficult for plants to take up important nutrients.

The Many Benefits of Compost

You would be hard-pressed to think of anything else you can put in your garden that does more than compost to improve growing conditions and more. If you ever needed a list of some of compost's most beneficial attributes, here it is:

- Enhances soil tilth (the physical condition of the soil)
- Improves soil structure and porosity (creating a better plant root environment)
- Increases moisture infiltration and permeability
- Reduces erosion and runoff
- Filters out and/or binds contaminants that might be contained in surface water
- Improves the moisture-holding capacity of light soils
- Supplies organic matter
- Supplies and aids the proliferation of microorganisms
- Encourages vigorous root growth
- Allows plants to more effectively utilize nutrients
- Reduces nutrient loss by leaching and enables soils to retain nutrients longer
- Improves soil fertility
- Destroys or suppresses many soil pathogens
- Neutralizes toxins (soil organic matter can chemically bind, or lock up, heavy metals)
- Reduces the amount of solid waste going to landfills
- Reduces greenhouse gas emissions

How to Make Compost

(Without Getting Bugged Down In The Details)

It's Not Rocket Science



A simple heap of organic matter from inside and outside the house can create the most amazing compost that's ready to use in only a matter of months. This pile lived in shade and reached sustained temperatures of 149 degrees F. for several weeks. You don't need anything fancy to make amazing compost.

With compost being so well-known as the key input to a thriving garden, I often wonder why more people don't compost at home. Even a small backyard pile will go a long way.

I believe a big reason is that would-be composters don't know where to start or become quickly overwhelmed. And that's a shame, because it simply doesn't have to be that way.

In nature, compost happens without any help from us. It's simply the natural

decomposition of organic matter over time by billions of microorganisms (bacteria and fungi mostly). To be sure, converting organic matter from its initial form to finished compost can be a very slow process. But we gardeners are generally a very impatient bunch. We want compost yesterday, not tomorrow! Fortunately, there are a few simple things we can do to speed up the process.

While the science behind composting can get quite heady, home composters just don't need to get bogged down in such details. Information abounds about the optimal carbon-to-nitrogen ratio (a.k.a., the brown-to-green ratio) to accelerate the composting process, for example. And that stops many would-be composters dead in their tracks. I believe it's one of the biggest impediments to getting started with home composting.

That said, having a good balance of browns to greens is indeed important for producing good compost quicker. Think of it like us having a balanced diet of nutrients in our body. Too much of one type, while not enough of the other, can have an impact on how our bodies function and how healthy we are.

The same is true during the composting process. The stars of the show in making compost are the billions of microorganisms breaking down all the raw inputs that consist of carbon and nitrogen. The microbes need some of both.

The closer you are to the proper ratio, combined with sufficient oxygen and moisture, and the billions of soil microbes will work fast and furious to break down the organic material as they consume the carbon and nitrogen. It's this activity that generates the heat found in a compost heap during the composting process. The hotter the heap, the more in-balance your material is, and the faster it breaks down.

So what is the ideal carbon-to-nitrogen ratio? I will reluctantly tell you it's about 25:1. But don't glaze over here. While it does absolutely help in the speed of decomposition, your compost will eventually break down anyway.

If you're curious about which ingredients are considered carbon-based vs. nitrogen-based, I have provided a list at the back of this guide of some of the most common ingredients (along with their respective ratios) one might add to a compost pile. Yet it still won't tell the whole story. You can find it in an online search, but not here. It's information overload and we're breaking down the barriers to getting started, not putting them up.

MORE ON TEMPERATURE



From the steamy compost picture above, it doesn't take anything special beyond providing the right ingredients to make hot, steamy compost. Having a compost thermometer can really open your eyes to what's happening at the core, and provide important information to help you fine-tune it.

So how hot is hot enough for compost to happen, even a little? While composting does take place down to as low as 50 degrees F (the lower end of the mesophilic range, 50 - 113 degrees F), you'll be waiting a long time for the finished product. The fastest composting takes place above 113 degrees F (the lower end of the thermophilic range, 113 - 158 degrees F). In addition, higher sustained temperatures are necessary to destroy many of the undesirable elements in compost, such as pathogens, weed seed, and fly larvae.

So here's the best news: making compost is not rocket science. In fact, making compost might be the easiest thing you do when it comes to gardening or growing. So don't burden yourself with the science behind the details. In

my decades of making great compost, I've never - ever—geeked out about the ideal ratio. I make amazing, quick compost by just sticking to the basics and I'll teach you how to do the same.

Allow me to walk you through the process and simplicity of making your own compost at home.

Just Four Ingredients

Imagine having a recipe that required only four ingredients to make the most awesome dish you've ever had. Even better, that recipe allowed for tons of substitutions. If you didn't have one thing, you could substitute something else. And then, it didn't require precise measurements, or even a certain temperature or cooking time.

Making compost is that simple—a four-ingredient recipe for the most awesome amendment to make everything growing in your garden grow better.

Recipe for Great Homemade Compost

INGREDIENTS: Air, Water, Carbon (browns) and Nitrogen (greens)

TO PREPARE:

1. Combine generous portions of all ingredients and allow to cook outdoors for several months.
2. Continue to add ingredients until pile is approximate 4' x 4' x 4'.
3. Mix often (every week is good) and add water to moisten (about like a damp sponge).

Compost is ready to serve when the ingredients are unrecognizable, the internal temperature is ambient, and the contents smell rich and earthy. Add to existing garden soil at about 30% by volume and mix into the top four inches of any garden bed.

MORE ABOUT THE INGREDIENTS

When you understand that compost is made up of billions of beneficial microscopic living organisms, it's easy to see why air and water would be key ingredients to sustaining life, even for the smallest forms of life.

Yet it's this oxygen and moisture that allows them, and other organisms in the process, to utilize the other two ingredients -- carbon and nitrogen -- to biodegrade the raw material into finished compost.

AIR (OXYGEN, REALLY): Microorganisms can't live without it. It's that simple.

WATER: When it comes to remembering how wet your compost should be, think in terms of making and keeping it at the moisture level of a damp sponge. Now, if you want to know a little more, read on.



Greens and browns (reduced to small pieces), kept moist, and aerated by turning once a week or so goes a long way to making compost quickly.

The organisms consuming the organic material in your compost pile cannot survive without moisture. It's also responsible for providing the medium for the chemical reactions and the mode of transport for both the nutrients and the microorganisms.

If you had a way of knowing the moisture content in your pile was between 40 and 65%, you'd be in the ideal range for water content. But in the real world, that's easier said than done. A simple way of knowing is to take a handful of compost and squeeze it. If water drains from your hand, it's too wet. Conversely, if it does not feel moist or bind together when squeezed, it's too dry.

Keeping your composting material consistently moist is a major factor in making compost faster.

THE RAW MATERIAL: Fortunately, you don't have to know anything about science to figure out how to get a reasonable balance of the carbon (browns) and nitrogen (greens) into the mix. I think in terms of anything that came from the earth originally in some living plant form (no matter what it is today) is biodegradable and can be added into your composting system. And that's pretty much my guide for considering what I put into my compost.

It also helps to know that all organic matter has varying amounts of both brown (carbon) and green (nitrogen) matter.

Common examples of brown waste ingredients include dried leaves, small twigs, yard debris, coffee grounds, shredded paper and newspapers, paper towel rolls and brown paper bags.

Common examples of green waste include fresh grass clippings, plant trimmings and food scraps such as vegetables and salad greens.

(For a comprehensive list of compostable ingredients, check out the reference at the back of this book.)

Questionable Characters

A few common things you might be tempted to add to your compost should be avoided. (I should note some composters I know don't subscribe to the following rules. But they are expert composters and consistently get their compost cooking hot enough to neutralize or eliminate the risks). If you want to play it safe, keep these out of your compost:

What Not to Add

FROM OUTSIDE

- Weeds going to seed (you don't want weed seeds surviving only to sprout in your garden compost next spring).
- Diseased plants. While it's possible the diseases won't over-winter, the safe bet is to leave them out of your compost ingredients.
- Animal waste (from carnivores).
- Chemically-treated plants and grass. While most consumer lawn and garden chemicals break down rather quickly when exposed to the elements, some do not. In fact, they're very persistent. If you want to avoid the risk of chemicals making it back into your garden, then simply keep them out of your compost pile to begin with.

WHAT NOT TO ADD FROM INSIDE

Animal products. This includes meat, bones, grease and dairy. Reasons to keep these away from your compost include the risk of potential disease pathogens, short term odor, and critter attractant. While all can be composted, that doesn't mean you should. In home systems, lean toward the conservative side, especially when starting out.

Using Wood Ash in Compost

With the abundance of wood ash many of us deal with, especially in winter, this question always arises: can you put it in your compost pile?

The quick but qualified answer is yes, but *only* in moderation. While wood ash does have beneficial properties, it also can impact overall soil quality in an adverse way.

On the positive side, wood ash is high in potassium, phosphorus, calcium, boron, and other important nutrients plants need to grow. But it's also free of nitrogen and very alkaline, which will raise the pH level in your compost or soil. Unless you have acidic soil to begin with, you don't want to make alkaline soil even more so.

The pH of finished compost hovers around neutral (7.0). But adding an abundance of wood ash periodically throughout the composting cycle can raise the overall compost pH level into the alkaline range above what most plants need to thrive, even to a detrimental level. If you want to add some to your compost, do so, but only a small amount that you can mix in thoroughly to avoid high concentrations.

So if you can't or shouldn't add it to your compost, what *can* you do with it?

The easiest way to distribute a large amount of ashes all at once is to sprinkle them lightly and evenly over your lawn. Most lawns prefer a neutral pH. And many soils tend toward the acidic side. That's why the recommendation for adding lime for lawn health is so common. It's an easy way to raise the soil pH. And wood ash will do that also, but you'll need about twice as much compared to lime.

Similarly, you can do the same thing around your trees, especially fruit trees, and particularly apples.

But don't apply wood ash around acid-loving plants such as blueberries, rhododendrons, azaleas, camellias, and many native woodland plants.

Finally, before spreading ashes anywhere, get a soil test to know what your current soil pH is. The ash that you spread will raise the pH of the surrounding area. You may not need that. And don't use ash from charcoal briquettes, or fake logs anywhere if you want to avoid the extra chemicals that these contain. At the very least, don't add them to your compost.

Inoculants and Accelerators: Are They Worth it?

While Mother Nature and her workers do an amazing job of decomposing organic matter without our help, we're an impatient bunch. In this day of nearly instant everything, we want our compost to be that, too. But the fact remains, composting is a process that can take a few to many months to finish in the home environment.

Even so, there are products marketed and sold that are said to speed up the process. Such additions are known as activators or accelerators. By definition, they are any substance that stimulates biological decomposition.

Inorganic, synthetic versions of activators are nitrogen-rich, chemically-synthesized compounds commonly found in fertilizers. These ingredients include ammonia, ammonium sulfate, urea and phosphate.

However, my opinion on synthetic activators is this: Why would you add these to your organic compost? It just goes against the spirit of building soil health, which comes from compost created the natural way.

Commonly-used natural activators are microorganism inoculants. When added to feedstock, they are believed to help break down organic matter faster. However, most studies have shown that adding these are unnecessary. The lack of microorganisms is rarely a problem as they are naturally present in abundance nearly all the time.

A second approach to making compost quicker is by providing extra food for the existing microbes in the form of nitrogen-rich material.

Some of the most common organic, nitrogen-rich food activators include manure, dried blood meal and urine. Even so, the only time I use an inoculant

or activator is when I add a large supply of fresh material. My organic addition of choice to help stimulate additional microbial decomposition, especially at this earliest stage, is existing compost from a neighboring bin.

Build your compost the way I discuss throughout this guide and you will have compost as quickly as possible without the need for supplemental accelerators. If you find your in-process compost is cooling down and stalling out, the addition of nitrogen-rich organic ingredients, along with turning and added moisture, can help jump start a stalled pile.

The bottom line is this: focus on the basics of creating a healthy, balanced composting environment. That is what best determines how quickly feedstock becomes finished compost.

Organic Fertilizer Supplements in Compost

There are two questions I frequently get from new and experienced composters: “What can I add to compost to enhance nutrient levels?” and “Should I supplement composted beds with fertilizer?”

Regarding the first question, the greater the variety of materials used to make compost, the greater the diversity of nutrients within the finished product, including minor elements and micronutrients. If you add a diverse array of ingredients to make your compost, you should have a balanced, nutrient-rich amendment that is sufficient to feed your soil and plants all the elements they need to thrive.

In my case, I never supplement existing compost in the making with additional organic nutrients. However, if you feel the need, there’s no harm if doing so in moderation and using organic inputs.

SOME OF THE MOST COMMON ORGANIC PRIMARY NUTRIENTS THAT COULD BE ADDED TO COMPOST INCLUDE:

- 1. NITROGEN:** Dried blood, blood meal, cottonseed meal, fish emulsion and seaweed extract
- 2. PHOSPHORUS:** Bone meal, rock phosphate
- 3. POTASSIUM:** Greensand, sulfate of potash

Regarding the question about adding organic fertilizer to composted beds, my answer to this question is similar to the first. While you could apply additional fertilizer, you don't need to but it won't hurt under the right conditions. That said, I would not add synthetic, salt-based fertilizers. The main premise of using compost is to feed the soil so the soil can feed the plants. Adding synthetic fertilizers will feed the plants, but not the soil. In fact, it can have a detrimental impact on the soil due to the high salt content.

There are occasions where I do add some organic liquid fish emulsion to newly planted seedlings, or to provide a mid-season boost to my vegetable garden. Other times I provide a light application of a slow-release organic nitrogen fertilizer (I use Milorganite) to boost the nutrient capacity in the soil and get my new seedlings off to a fast start.

While compost contains a wide array of nutrients, the biggest benefit is in its ability to improve the quality of soil and facilitate what nature does best when given the best conditions. Compost does that. The supplemental nutrients I occasionally add do not detract from what compost is doing. It simply adds an additional and complementary boost of organic nutrients.

Newspapers, Magazines, Copy Paper and Glossy Circulars



I love emptying the contents of my shredder whenever it gets full. It's such an easy way to bulk up the ingredients of your carbon/brown source of organic matter. The best part, I diverted it from the landfill and this paper becomes unrecognizable within two weeks.

Unlike inks commonly used decades ago that contained heavy metals, most newspapers today use water- or vegetable-based inks. While these may contain small amounts of toxic compounds, the trace amounts are below the levels to be of toxicological concern.

One of my favorite ingredients for the compost bin is shredded paper from emails, junk mail, bills, bank statements, etc. A good shredder cuts them down to very small pieces. Within two weeks of hitting the compost heap, they're unrecognizable.

However, some caution should still be used with magazines, which sometimes use heavy metal based inks to produce vivid colors and plastic-like coatings to make it bright and glossy. Fortunately, magazines make a great contribution to the recycle bin so that's exactly where they should go, instead of the compost bin.

Manure: What You Need to Know Before Adding it to Compost



Chicken manure and bedding is a fantastic, hot source of nitrogen and carbon. I make a weekly deposit to my pile from our coop. It's the single biggest reason my compost breaks down so fast. It's also a great way to boost the nitrogen that plants need to thrive.

One of the most readily-available ingredients for compost is livestock manure. While it's high in nitrogen and nutrient rich, manure should be added to compost only in moderation. Excess manure can be set aside in any sized pile to compost on its own.

While not all manure consists of the same nutrient makeup, generally they are similar and all are hot when fresh, meaning high levels of nitrogen that can harm plants if used immediately. Composting manure first is a great way to mellow this effect and get a cold compost pile cooking again.

Another word of caution when considering using manure in your compost is the likely inclusion of weed seeds. Grazing animals invariably will consume weeds in their diet which will make it into the manure. Unless your compost gets very hot, those seeds may not be killed off and therefore persist to germinate wherever you distribute your finished compost.

I would be remiss if I did not warn you against the potential hazards of using horse manure tainted with persistent herbicides. They will not break down in your compost pile. It's a very sad and unfortunate situation for home gardeners but a very real possibility for anyone using horse manure. It can kill or severely maim certain garden plants, especially tomatoes. It happened to me and I knew better.



I immediately knew the mistake I had made of adding composted, persistent herbicide-tainted manure to my garden beds as soon as I saw how it impacted my plants. Wilted, distorted, or stunted growth is a sure sign pesticides have disrupted their normal growth. It took me three years to finally deactivate the efficacy of these persistent herbicides from impacting my plants.

If you'd like to learn more about what I call "killer compost," I've addressed that thoroughly in separate posts where you can learn much more, including how to easily test composted manure before adding it to compost or in your garden beds. I highly recommend you read up on this if you ever think about using horse manure in your compost or garden.

Finally, never add manure from any carnivorous creature. That especially includes dogs, cats and, yes, humans. Very dangerous pathogens can be found in this that are absent from herbivorous animals.

How Long Does It Take to Make Finished Compost?

(And How To Make It Faster)



This is a typical compost bin by my garden. The chicken bedding dominates the contents much of the year. I'm not complaining, though. It breaks down quickly and gives my plants everything they need. I have ready-to-use compost from raw material in about 3 months.

Suffice it to say, composting happens fastest when the conditions that encourage the growth of microorganisms (which eat the organic matter) are established and maintained. Yet many aspects of composting are far from precise.

The process of composting and the rate at which organic matter breaks down to compost can vary greatly. That can range from about 8 weeks in optimal conditions (rarely achieved in a backyard environment), to at least several months, generally 6 to 12 and even longer if you're an absentee composter.

The good news is that you can play a significant role in how quickly your compost is ready.

As I mentioned earlier in this discussion, for compost to happen it just needs

four ingredients: air, water, carbon and nitrogen. As long as you have a good blend of the browns (carbon) and greens (nitrogen), keep your pile turned or mixed up every week or so (more is better), and keep it moist like a damp sponge (but never saturated), your compost ingredients will have all they need to break down quickly. The more you turn it and make sure it has moisture, the quicker it will break down.

Remember that it's the microorganisms that are consuming the organic matter and converting it to compost. But those organisms consume vast amounts of oxygen first. Without oxygen, the aerobic decomposition process slows and can eventually stop. Therefore, a steady supply of oxygen must be provided since the microorganisms consume it quickly.

When we turn or mix compost material in our bin or pile, it adds back a quick supply of oxygen and increases pore space, allowing air to move through easier. As oxygen becomes scarce, internal temperatures within compost material fall as microbial activity decreases. The best way to remedy this condition is to turn the pile again. That introduces more oxygen and stimulates new, even intense microbial activity and temperatures will rise again if organisms are still present to consume the material.

Conversely, if you're a lazy composter (which is fine), where you don't turn your pile often (if at all), and you don't spray it with water consistently, your pile will still break down, albeit much slower.

Even under ideal conditions, the ingredients added to create your compost will also affect how quickly it breaks down. Woody material for example takes longer to decompose due to the presence of lignin (a complex organic polymer found in the cell walls of many plants, making them rigid and woody).

The Smaller the Better



Whenever I can, I like to break up the big stuff or shred what I can by running over the ingredients with a mower equipped with a bagging attachment. That's what makes up what you see here—mostly grass and leaves. It's perfect for composting. Although this is the start of the pile, it quickly builds up with more like this, and breaks down just as fast—just as you want it to.

Decomposition happens on the physical surface of whatever ingredient is added. So to help speed up the process, breaking down the particle sizes before adding them to your compost will increase the surface area of the material. The smaller the pieces going in, the quicker they break down. This especially applies to sticks, twigs, and paper and cardboard products since they tend to start out large and are inherently slow to break down anyway. So before tossing each ingredient into your bin, break it up, cut it down, chop it up or shred it. While it's certainly not a requirement, it makes a big difference.

There is one more bit of advice that will help you reach a quicker rate of decomposition. Getting your compost pile to an optimal size helps tremendously. The ideal and most practical and attainable size of a general backyard compost heap is about 4' x 4' x 4'.

If it's too big, there's more mass to break down. While that doesn't always correlate to slower composting, in the backyard scenario, it usually does. Conversely, if your pile is too small, there's not enough critical mass for the microorganisms to break down the inputs as efficiently.

Once your inputs get to the optimal level, stop adding new ingredients to the existing pile and start a new one close by. More on that later.

Joe's Top 5 Tips for Quick Compost

1. Add all the organic material you can from inside and outside the house to rapidly build up the mass of your pile to an approximate size of 4' x 4' x 4'. (See list at the back of this guide for compostable ingredients.)
2. Keep the ingredients small or reduce their size to break down faster.
3. Seek out extra ingredients to build up your feedstock faster (coffee shop grounds and vegetable culls from the produce department are my favorite ways to do that quickly).
4. Find someone who raises chickens or rabbits who will give you their bedding. It's a great source of carbon and nitrogen.
5. Mix the ingredients often and every time you mix, spray with water.

When is Compost Ready to Use?



This is the very compost that came from the pallet bin in the previous picture. It's obviously quite different than how it started. But mix it right with greens and browns, keep it moist, and turn it every so often. In a few short months, you will have compost that looks like this.

The composting process of converting raw material to finished compost does not stop until all sources of available carbon have been exhausted. While you won't be able to know when this happens, you can safely assume compost is ready to use is once two things have occurred:

First, you can no longer recognize any of the original ingredients. It should look and smell rich and earthy, rather than any distinctive or offensive odor. However, this alone is not a sufficient indicator.

Ingredients during the composting process can achieve this stage well before stability is reached.

Second, the sustained temperature of the compost ingredients has reached ambient levels at the core, even after turning and sufficient moisture is present.

It should be noted that even though a pile can smell and look earthy, and temperatures are sustained near ambient levels, that does not ensure it's finished if moisture is absent from the pile. The best way to know compost has stabilized is to turn the pile again while ensuring it has sufficient moisture. Then re-check the internal temperature after about a day. If the reading is close to ambient temperature, stability has been reached and you can start using your compost.

Now, if you're a very patient gardener, allowing your compost to rest for about a month beyond this point can have added benefits including more beneficial and disease-fighting microorganisms and humus (the star ingredient of compost).

Where to Place Your Compost Pile (Does it Have to be in a Sunny Place?)

Since heat is a big part of what happens in an active, living compost pile, most people assume that the most logical placement of their pile or bin is in a sunny spot. The truth is, while that won't hurt, it has little to do with why compost really gets hot. Shady locations (like mine) work just as well with internal core temperatures reaching 150 degrees F.

The heat that builds up and releases during the active process of composting is directly related to the activity and energy of billions of microorganisms busily moving about and consuming and breaking down all that organic matter around them.



This is about as close to the house as you can get. It's certainly convenient and it doesn't smell. It's also not in full sun. Nor does it have to be.

In fact, with the right ingredients in the mix, even with a brand-new pile, you may notice a temperature change within a few hours as the microbial activity starts to happen. A hot pile is the best indicator of an active composting process.

Over the first few weeks, composting material will heat up to between 120-150 degrees F and hold there for several weeks during the active composting process. As decomposition slows, temperatures gradually fall to about 110 and ultimately to ambient temperature.

While direct sunlight can certainly make an exposed compost pile feel warmer, the hottest part of a healthy heap is at its core. With the proper balance of the big four -- air, water, carbon and nitrogen -- internal temperatures can exceed 160 degrees F. in a commercial operation. That's because professional composting operations have it down to a science, literally. They can dial in and fine-tune the perfect combination to achieve very high heat levels (which is great for speeding up the decomposition process, and killing harmful pathogens and noxious weed seeds).

In the home setting, it's unlikely we can ever get that "just-right" combination. But fear not. You don't need to. In my composting piles and bins, I consistently am able to get to about 150 degrees F. That's plenty hot for making quick compost in about 4 months.

CONVENIENCE IS KEY

So where is the ideal spot to place your compost? Wherever is convenient.

You need it to be close enough so you'll make frequent visits to it for making deposits of new feedstock. You also need it to be within reach of a hose since spraying it with water periodically is very important.

The closer it is to your daily backyard traffic pattern, the more you'll make those brief but oh-so-important stops for the periodic attention that dramatically helps you achieve your composting goal quicker.

While convenience is key, you may also want to consider placing it where it's not in plain view or in the direct line of site of your neighbor's window. While I personally don't find any compost bin or heap to be unsightly, beauty is in the eye of the beholder. The old saying, "one man's trash is another's treasure," is certainly fitting in this case.

The bottom line is this: place your composting station in a place that is convenient enough that you will visit it consistently (if you intend to be an active composter). Make sure you still have access to water, but not so close to your neighbors where sight or smell could be an issue. While there is the unlikely but potential issue of odor, albeit short-lived, others could find it objectionable.

Open vs. Closed Systems



If you'd like to start composting but you're not sold on having an open pile or heap in the back corner of your yard for whatever reason, I have very good news.

Whatever your objection for not composting, be it the fear of attracting critters, odor, or just having a pile of biodegradable organic matter within view of you or your neighbors, there is a solution—a *closed-bin system*.

In a closed-bin system, all the ingredients for making compost are contained in a closed environment with a tight-fitting lid. In such a system, critters can't get in, odors don't get out, and there's no open pile of organic matter for anyone to see. Just a benign barrel-like device, typically mounted on a stand.



A double bin, closed system like this is the ideal setup if you want something easy to turn (and who doesn't), up at the right height, and bins for new and in-process/finished compost. If you're going to invest in a closed-bin system, I highly recommend you get a two-bin system. You won't regret it.

While these benefits should certainly eliminate any of the primary concerns for not composting, there's a fourth benefit that I think is the most important — ease of turning your ingredients.

We've already discussed the importance and need to constantly bring air into the core of the composting mass. However, I find this to be the one activity that gets done the least, and the main reason why compost for most home gardeners takes much longer to break down. They frequently skip this step.

I get it. It's the hardest part. But it's also one of the most important steps for getting finished compost faster.

Closed systems on a stand typically have a crank or a way for you to easily turn the entire bin so that what is inside gets mixed up thoroughly. I must admit, it is a lot easier this way than taking a turning fork or spade to an open heap to do the same manually.

For this reason alone, I strongly encourage you to try a closed system. There are many on the market and I've tried most. Look for systems that have a large crank handle and well-designed gears. It makes even the heaviest loads a breeze to turn.

The science behind how the various systems work is the same. It's just how they're designed to rotate that makes the biggest difference and where gardeners often find their preferred closed-bin composting system of choice.

DRAWBACKS TO CLOSED-BIN SYSTEMS

Closed-bin systems have several important benefits. But there are some other considerations that don't make these the perfect system. (In all fairness, I've never found the perfect system.)

By nature of their design, these are self-contained systems. The lid is tight, and there is little opportunity for anything to get in or out accidentally. The downside is that these systems don't always allow enough air flow into the bins on their own, in my opinion. Even when turning, although you're mixing the pile up, there's not much in the way of new airflow coming into the bin.

Consequently, the ingredients tend to stay on the overly damp side. Even if you keep up with consistently mixing it up as I have done through the years, if the lid remains on, there's not a lot of opportunity for the moisture to evaporate and air to circulate. Too much moisture and not enough air is what can lead to the soggy material that never seems to dry out sufficiently to get to the finished compost state in closed systems.

But there's an easy fix here, too. If you trust me when I say your ingredients won't stink (once it dries out), and critters won't be throwing a party in there, then simply remove the lid during the day or for a few days at a time. Alternatively, (for best results) also add more dry, brown (carbon) material into the bin and give it a few turns before removing the lid temporarily.

By allowing for more opportunity for fresh air to circulate and evaporation to take place, you eliminate one of the two biggest issues I see with these systems.

Passive and Forced Air Composting

Perhaps the most universally loathed human intervention during the home composting process is the physical turning or agitation of the pile to introduce more oxygen. It's why certain composting devices like the closed-bin systems that make it easier to turn the vessel are so popular.

Alternatively, you can adopt a cold/passive composting process where you do nothing. But you'll be waiting quite a long time to have finished compost.

The compromise is creating alternate ways within the composting pile for air to flow. The simplest method is to layer compost with different size twigs or branches to create open pockets within the pile. Eventually those sticks break but don't break down as quickly as the other ingredients. When it's finally time to harvest compost, many of these sticks are in the way. I find these more of a nuisance than benefit.

Another approach is placing large diameter PVC pipes horizontally and/or vertically into the pile with large holes drilled into them. It's a simple way to **passively** draw air through the pipes and provide areas in the heap, especially near the core, with much-needed oxygen to aid in the decomposition process.

How many you add and whether you go vertical or horizontal is up to you. But anything you can do to create a way for air to reach the center of the pile, the quicker you'll have finished compost.

If you want to turbocharge your composting speed, you could create a simple **forced-air** system. Here, a network of buried PVC pipes -- with holes drilled throughout -- delivers air deep into the pile by way of an external supply. A typical method is with an electric leaf blower. A coupling from the blower to the supply pipe can be fashioned from readily available plumbing supplies. You could even put it on autopilot by connecting an outdoor timer to the blower for ultra-consistent aeration.

While the details of such a system are beyond the scope of this discussion, it's not complicated and is very effective in getting air into your pile without having to lift a finger. Check out YouTube for video examples.

Hot vs. Cold Composting

I get a lot of questions from people who want to make compost but don't have the time, inclination, or ability to be involved in the process beyond making their initial deposits into the composting bank. Will they still be able to make compost, they ask? The answer is yes, but much more slowly.



Any composting system, no matter how simple or sophisticated, can break down its contents slowly or quickly. You have a great deal of influence on how quickly that happens.

The key to quick compost is **hot composting**. But building up temperatures to levels hot enough to break down ingredients quickly and kill disease pathogens and weed seeds above 140 degrees F typically doesn't happen on its own. It takes a healthy supply of nitrogen-rich (green) ingredients to feed the carbon-heavy (brown) ingredients (about 3 times carbon to nitrogen), along with sufficient oxygen and moisture to achieve and sustain it at this temperature level.

In the home environment, maintaining a hot compost pile requires some ongoing input to keep it cooking: mainly manual-turning of the pile and the addition of moisture. A compost thermometer can let you know how well it's cooking. Assuming you have a good diversity of organic matter, the more involved you are, the quicker the ingredients will break down into finished compost.

Cold composting (also known as passive or lazy composting) is a hands-off way to make compost (but much slower).

Essentially, cold composting consists of adding ingredients to a pile and waiting it out (just like in nature). Sometimes the ingredients are added into a pit or depression for **in-ground composting**. The time it takes to make compost this way varies greatly depending on the ingredients and size of the mass material. Expect it to take at least one year and likely two. With this composting method, be especially careful not to add diseased plants or weeds going to seed. The composting process will not get hot enough to kill either.



Putting Compost to Work

(When, How, Where)



Adding a one-inch layer of compost to your garden beds once or twice a year, goes a very long way to building and keeping your soil health at optimal levels. That's exactly what I do between each growing season in early spring and early fall. The empty beds make it easy to spread. Once I turn it into the top 4 inches of soil, I am good to go and my plants love it!

While any time is a good time to use compost, I believe you should add compost to your garden beds well ahead of the growing season. The billions of beneficial organisms in compost need time to colonize, reproduce and thoroughly inhabit the surrounding soil to improve it.

While a small amount of compost will go a long way to improving overall soil, it takes time for that to happen. The more time you allow, the better off your garden plants will be.

Have you ever noticed that mature garden beds over several seasons typically do better than first year gardens with newly added soil? I have. The ongoing expansion of a healthy soil food web takes time to mature. The sooner you get started, the sooner your plants will reap the benefits. While first season results

will be good, it only gets better, especially when you continue to add more compost over time.

Once you fall in love with the results you get by using compost -- from the way it improves your soil, to the health and vigor of your plants -- you'll want to use all you can. In fact, that common expression that if some is good, more is better, will no doubt enter your thoughts -- many times.

The good news here is that a little bit of compost goes a long way in the garden. In fact, the U.S. Composting Council suggests we "strive for 5" -- meaning 5% (by weight) of our soil makeup should be organic matter.



Finished compost that's been sifted is a beautiful thing. While your plants may not be as picky, it really is more than just aesthetic. When sifted, more of what you're adding is going to work immediately. The larger material that doesn't make it through the screen, can and should get tossed back into the compost pile.

It's natural to think if compost is that good, why not plant my garden in 100% compost? The answer is because it's not necessary or even advisable. Think of compost as an amendment to your soil, not the soil itself.

While the ingredients in compost are incredible, they work best when added to existing soil. Recall that ideal soil is a mix of sand, silt, clay, air, water and organic matter (which makes up the smallest percentage). Compost is the organic matter.

Plants need more than just what compost provides. And under optimal growing conditions, incorporating too much compost is unnecessary, wasteful, and even detrimental to providing the best growing environment in the soil.

Sifting or Screening Compost

As your compost reaches its finished state, you will no doubt be anxious to add it to your garden. Even though finished compost appears uniform in many ways, it's probable that you will have larger pieces of woody material and such that just haven't degraded to the same particle size as the rest of your compost.

You could simply ignore the fact that it's not all the same size and forge ahead with using it as-is. Or, pick out the larger pieces that need more time to biodegrade, and toss them back in to the bin.



Compost sifters are such a simple thing to make. And they make such a difference when trying to get the most from your compost in the garden. It's an easy, and inexpensive project that will serve you for years to come. Do yourself a favor and make a compost sifter or two.

Another option if you like the compost you're adding to your garden to be uniform and completely soil-like is to build a compost sifter to screen your compost before adding it all to your garden. It's an easy project that anyone can do in just a few minutes with minimal tools.

Step-by-step instructions to make a simple compost sifter are provided in the supplemental information at the back of this guide.

Two Bins are Better Than One



Once you understand that you need a way to separate in-process or nearly finished compost from new ingredients, you will never go back to a single bin system. I now use four bins during peak season to house my compost in various stages of breaking down (fresh, somewhat fresh, mostly finished, finished). But even in slow times, two bins are better than one.

By now, you know the process of going from raw material to finished compost. But if you only have a single bin composting system that you continue to feed, it won't take long for you to ask yourself when will it ever be ready?

You're doing all the right things, the inputs are breaking down, you're seeing results, and you just can't wait to add this black gold to your garden. There's just one problem. How do you get your compost to degrade all the inputs so it's finally finished if you're continuing to add new inputs? You can't.

As long as you continue to add new to the old, you'll never have 100% finished compost. You must get your pile or bin to a point where you allow it to break down just what's there, without the constant addition of new material. Only then will you be able to harvest finished compost.

This is why I suggest you plan on having a second pile, bin or collection site. Once you get to a critical mass, stop adding new ingredients and allow what's there to finish. But don't stop composting.

By having a second place to deposit your compostable ingredients, you'll continue to have compost working at different stages. The beauty of having two separate sources is that you improve your chances of always having compost that's ready to use or nearly so.

Just as one source is finishing and ready for the garden, you'll already have another source of in-process compost cooking down as well. But eventually

you'll need to stop adding new ingredients to this second location so it can finish, too.

Once you've used up all the finished compost from the first source, you can and should start adding new ingredients to this location again. But once you get serious about composting, you don't have to stop at two separate sources.

In fact, the more active you are with making compost, the more likely you will build up each area to its critical mass quicker and you'll need to start a new pile. Which means you might want to go to three piles or bins. It's what I have and it makes a big difference. If you're actively adding ingredients and have a lot of it, a 3-bin system should provide compost that's ready to use throughout the year.

In a 3-bin system, you start your first pile and build it up to the point where you need to move on to the second bin. But then if you get that pile up to its critical mass before the first pile is finished, you move on to the third bin.

This way, you'll have compost breaking down at any time in three basic stages: new, in-process, and finished. If you find the need to have three input sources, then good for you and congratulations. You won't be able to imagine ever composting again with less. It's a beautiful thing.

In a subsequent section of this guide, I've included step-by-step instructions on how to make the 3-bin system I have using free (untreated) shipping pallets. I'm sold on the 3-bin system. (You can also [watch the episode](#) where we made this system on the show.)

How to Use When You Only Have a Little



Fortunately, a little compost goes a long way. I top dress all my beds because I have enough to do so. But if I had limited amounts, I would focus on keeping it where the plant roots will be and work out from there.

When deciding how to get the most mileage out of a finite supply of compost, start by adding it to the immediate area around where the roots will meet soil amended with compost.

My suggestion is to apply about 1 inch of compost around where you will add plants or seeds and work it into the soil about 4 inches deep. If you have more compost to work with, increase the volume of what you add, as well as the area out from where your plants will grow.

Certainly, all soil benefits from the addition of compost. However, the immediate goal when the supply is limited is to focus on getting compost to where your plant roots will be able to access it first.

Compost Tea

Many people ask about compost tea. If you don't know, think of it as a non-heated brew of compost or manure (usually composted manure) with the addition of sugar. The result is a bacteria-rich tea that is applied to plant foliage and soil for disease suppression and a quick-feed nutrient boost.

Although compost tea sounds like a slam-dunk way to deliver the best soil amendment in a liquid form, it is not without controversy.

A quick online search will produce a number of scientific and academic studies

that show compost tea doesn't work (even when properly mixed and brewed as proponents would argue in defense of such findings). Another issue is the risk that compost tea can promote an environment that fosters increased levels of harmful bacteria.

I know people on both sides of this argument that I greatly respect. Although I don't make or use compost tea, I have seen the results of its beneficial effect as a foliar feed, primarily in organic lawn applications. I have also talked to many avid gardeners I know and trust who are convinced it works for them.

While there is no shortage of information online on both sides of this issue, you'll have to go there to learn more for now. A more in-depth discussion on this subject is beyond the scope of what I'm willing and able to include here. (Perhaps a dedicated guide on this topic later might be in order.)

How to Store Finished Compost



Covering your finished compost to keep it on the dry side is best. Even a simple burlap layer, clearly not waterproof, will help protect finished compost, especially from washing away. A hard surface cover is even better.

Once the initial activity of the composting process has subsided and the internal temperatures have cooled, it's best to keep compost relatively dry and in piles small enough to allow aerobic respiration throughout.

Challenges with Composting

Keeping Up With the Routine: Make it a Family Affair (Stainless Bowl on Counter Top)



Meet our family kitchen countertop composting bowl. It gets a lot of use! Fortunately, my family knows the routine and feeds it often. I make nearly daily trips to the compost bin to empty it. The stainless steel is great since it doesn't absorb odors. A tight-fitting lid is the only other part to this first-stage bin.

Around my house, composting is a way of life. From the time my kids could walk (and maybe before), they knew we didn't throw anything away that could be composted.

A dedicated stainless steel bowl lives on the counter top and everyone knows that if it can be composted, it goes in the bowl. Even when the bowl doesn't quite make it back to the counter top after a visit to the compost pile, my

family knows to leave their deposits on the counter and I will quickly snatch them up and into the bowl.

It's become such a part of our family routine for so long now, we don't know any different and I believe everyone enjoys the process of knowing those scraps are going to produce great compost for our garden that ultimately comes back to us as nutritious organic fruits and vegetables. In fact, engaging your family -- especially your kids from an early age -- into the entire process, (from chopping larger pieces of produce into smaller parts for the bowl, to mixing it into the outside pile, to ultimately adding it to the garden and picking that first ripe strawberry, or tomato), they see full-circle how it all happens. Hands down, it is one of the best ways I know to hook them for life on an incredible activity that offers so much in return.

Composting in Winter



Composting does go on during winter, but admittedly at a much slower pace. But that should not stop you from finding or creating a place to make deposits. They are valuable ingredients that shouldn't be wasted by throwing away. Plus, you'll have a huge head start in spring from your winter contributions.

Composting can indeed continue through cold winter weather, albeit at a much slower rate. Even so, that should not stop you from continuing to collect ingredients to add to your system.

Tomato cages that are temporarily out of service make great storage bins for fall leaves, or any other organic material that you continue to collect over winter. A frame of old straw or hay bales stacked two high and covered with plywood makes a great storage bin for accepting all your winter inputs. As long as you can lift the wood to add more ingredients, you're in business.

Alternatively, you could leave an opening in one side to insert material. Then cover the front opening if you choose. Moreover, the straw or hay bales will provide additional brown/carbon material to get you even farther along to accessing finished compost in spring.

In cases where a compost pile freezes, the composting process is halted temporarily.

The primary reason for slower decomposition in winter is due to the organisms living in the material that do the work to break it down. Microbes that decompose raw materials fall into two main categories:

MESOPHILIC: Here, microbes live and grow in temperatures of 50 - 113 degrees F. Activity is much less intense and the decomposition process slows greatly.

THERMOPHILIC: Here, microbes live and grow in temperatures of 113 - 158 degrees F. During the warmer months, the microbes that live in this range are intensely active in consuming material which generates the heat that “cooks” the compost.

The best way to facilitate composting ingredients continuing to decompose (or even partially so) is to have a pile large enough so that more heat is generated than lost. A pile 4' x 4' x 4' should be adequate to maintain a level of insulation from external temperature extremes in winter while allowing some interior decomposition.

Indoor Composting

One of the biggest challenges to urban dwellers living in apartments, condos, townhouses, and homes with tiny yards is finding a good way to compost with little to no space. While the heart is willing, the reality and practicality of doing so includes unique challenges. I would love to say anyone can compost anywhere, but the truth is, the results will be minimal in small spaces.



The lid. It's the key to a happy family. If you're storing compostable ingredients indoors, a lid is a must. This is the one that lives on top of my bowl—which didn't come with the lid. But you can easily find just the lid, like I did, at most big stores for under \$20. Just make sure it fits perfectly over the top with no gaps.

I'll address the two most common methods of indoor composting at the end of this section. But first, let's talk about the practicality of traditional composting, inside the home.

To successfully make a practical quantity of compost the way described throughout this guide, the collective ingredients must be substantial enough to gain critical mass—certainly larger than the space that a yardless home provides. The truth is, creating compost from raw material to the finished product inside an apartment, condo or townhome environment using

traditional methods is not for the faint of heart. However, there is no reason you can't or shouldn't at least start the process there.

The good news is that anyone, anywhere can start the composting process. You just may not be able to finish it given your space limitations. Fortunately, there are companies and organizations around the country that will, for a fee, pick up your compostable waste on a weekly basis and transport it to an outdoor composting site. Unfortunately, such services are not in every city. You should do your homework and see if such an opportunity exists for you. It's the perfect way to do your part to help protect the planet, and grow great plants, too.

The first lesson for saving food scraps indoors is that you can only store them for so long there. It's only a matter of time before the fruit flies or smell will have you looking for the fastest way to take it outside.

If fruit flies do become a problem, you can make a simple but effective trap. Take a plastic soda bottle of any size and cut the bottle in half. Pour about an inch of cider vinegar into the bottom. Invert the top half of the bottle and insert

it into the bottom half. This will serve as a funnel to direct fruit flies towards the highly-attractive vinegar where they will be trapped or drown.

If not having a place to periodically deposit your compost ingredients applies to you, think about this very important step before you even get started. You need a place outside of your indoor living space where you can take these ingredients—preferably a composting pile, either yours or a friend's, or a community garden, etc.

If you don't have access to such, at least set up an intermediate place outside your main living area to store the ingredients in a larger holding bucket. Then someone (or a company as mentioned above) can collect that and take it to a composting location to finish the process.

If you're still on board with at least starting the process at home, you'll need a good initial storage bin to collect the fresh ingredients. I find a large stainless steel bowl with a tight-fitting lid works great. Stainless won't absorb odors and it's easy to clean. And a lid is a must! Trust me on this.

My countertop system is nothing fancy. Just the bowl and a lid I purchased separately which fits perfectly over the top. However, you have numerous options to buy “composting crocks” or countertop devices that are made (or adapted) for this purpose. Some even include a charcoal filter to help absorb potential odors. You can also purchase compostable bag liners to make the disposal and cleanup process easier. But take it from me, if your indoor compost bin of ingredients starts to smell, it's time to take it outside, with or without a charcoal filter.

MOST POPULAR METHODS OF INDOOR COMPOSTING

There are two methods of indoor composting that seem to dominate the small space or indoor composting discussion. The first is ***Bokashi*** (the term is a Japanese word that means “fermented compost”). The actual process uses

anaerobic composting that relies on inoculated bran to ferment all kinds of kitchen waste including meat and dairy. The output is a nutrient-rich tea that you apply to your plants and soil.

While the process is not difficult once you master it, it does require some special equipment and products to process the waste. The required conversation necessary to explain this method further is beyond the scope of what can be included here. (That said, a separate discussion may follow in a subsequent guide). Fortunately, there is plenty of information readily available online if you care to investigate this further. Only you can decide if the effort is worth the results.

The second method of composting indoors is **vermicomposting** (composting using earthworms to breakdown the organic material). The general concept is that you have some sort of homemade bin or commercially purchased system that stores the worms and the food scraps (usually indoors). The storage bin can live under your kitchen counter, in a basement or some part of your house that stays relatively warm (worms won't survive freezing temperatures).

To start, you create bedding for your worms with shredded newspaper, paper towel rolls, some soil and vegetable scraps, and a few thousand red wiggler worms (about a pound). The voracious worms consume everything in the bin (you have to keep feeding them). The output is a rich coffee-ground like material known as vermicompost (worm manure really).

The value of vermicompost is undeniable as a nutrient-rich soil amendment you can add directly to your garden beds or supplement your standard compost. The caveat is that you will most likely be dealing with hundreds of tiny fruit flies. Plus you have to keep feeding the worms. While the entire operation can be rather self-contained, odorless, and not as messy as you might imagine, you should do further research before deciding this is something you want to try indoors.

Where there's a will, there's a way. You just need to find it.

For more information on my personal experience and first attempt at indoor vermicompost, I wrote about that here (GrowingAGreenerWorld.com/vermicomposting).

We've also filmed a segment on Growing a Greener World on how to make your own outdoor vermicompost bin. That is what I use now and find it far more practical for my purposes. The details and pictures of how to make it are here (GrowingAGreenerWorld.com/how-to-make-our-custom-worm-bin).

Lastly, perhaps one of the best benefits of vermicomposting is the liquid effluent that results in the process. It's like a super organic liquid fertilizer. It's how I fell in love with vermicomposting in the first place. I wrote all about my experience with this liquid gold here (GrowingAGreenerWorld.com/liquid-worm-juice-superfood-for-my-organic-garden).

Odor

When organic matter typically found in a compost pile is in balance -- generally the right amounts of air, moisture, carbon (browns) and nitrogen (greens) -- odor is a non-issue. In the decades that I've been composting, it's never been an issue. Well, except just once.

A big heap of cut wet grass after mowing the lawn sat on top of my compost pile for a day or two and the smell was certainly noticeable. While not offensive, it did catch your attention.

But it was and is an easy fix. If and when your compost *aroma* gets your or your neighbor's attention, it is likely too much moisture on fresh, high-nitrogen feedstock and not enough air.

Although grass clippings are a fantastic nitrogen addition to your compost station, they are a particularly notorious and problematic example. Their inherent high nitrogen and moisture content, combined with the propensity to clump when wet, sets up the perfect environment for anaerobic respiration (respiration in the absence of oxygen, where organisms convert organic matter into methane gas, ammonia, alcohols, or other organic compounds and carbon dioxide).

In such conditions, you will experience a very good example of when a compost pile or bin that gets noticed first, before you see it.

Fortunately, the solution is simple. Mix up the new feedstock with older stock so that you're incorporating more of the old with the new. Or add more dry brown/carbon stock, like hay, straw, or shredded dry leaves.

That will do two things. First, it brings in more oxygen to help dry up the saturated parts (which won't readily break down without it, and the reason it smells), and agitation returns the inputs back to an oxygen-rich aerobic state which is what you need as part of the four main components for organic matter to biodegrade.

Second, mixing old with new also helps inoculate the fresh stock and jump-starts the decomposition process.

The bottom line is this: *aerobic* composting does not generate odorous compounds, while *anaerobic* compounds do. If you ever notice your compost is starting to smell, it's likely one of three issues, all which can be easily addressed.

The first is the raw material (feedstock). However, the most likely ingredients found in a home composting system are not the materials that typically cause offensive odors, especially if added to the pile soon after discard. It's usually only after storage over time that such ingredients begin to become odorous. The key is simply to start the materials composting as soon as possible.

The second is conditions where ammonia is released from high nitrogen material (the wet grass clippings above are a classic example). The pungent odor can be quickly reduced by mixing in extra carbon (such as dry leaves into the mix).

The third is overly wet raw material. While moist is good, wet or saturated is not, especially with high nitrogen ingredients. Keeping ingredients consistently mixed will aid in better evaporation and the reduction of excessive moisture.

In all cases, simply mix it up. Within a day, you should be back on track with no objectionable lingering odors.

Side note: ironically, in my opinion (and the opinion of many others), finished compost is some of the best-smelling stuff on the planet. It's rich, earthy and even has a sweetness to it that makes for a combination like no other. And for that, we can thank *actinomyces*. They are a group of fungi-like bacteria that produce that characteristic light-colored branching found in decomposing organic matter and are responsible for the earthy, heavenly smell of compost.

Critter and Rodent Control

One of the most common questions (and objections for not getting started) is the concern that having a compost pile will attract critters.

While there's no doubt critters may be attracted to a new playground, in my decades of composting, I have never found that to be a problem. The main reason for that is I am not putting ingredients into my pile that are attractive to them.

As you read from the previous mention about what not to put in your compost pile, animal products such as meat, grease, and dairy don't go into mine. Accordingly, neither do the critters. At least as far as I can tell. The best way to

keep critters from frequenting your compost pile is to avoid adding the main food products that would attract them—which shouldn't be there anyway.

If you stick to the basics of leafy greens and veggies from the kitchen, and yard debris from outside, there is really not much there to make your compost desirable to critters. But if you want to be extra cautious in deterring rodents and other critters from foraging your compost pile, keep it turned and watered often, and whenever you add new food scraps, cover them with a layer of existing compost, or leaves, straw, etc. In this way, food waste will quickly break down and become even less of an attraction to unwanted visitors.

While we can't control what lurks in the night, critters are curious creatures and may investigate your heap just like anything else. Foraging is the major job of their waking life. That said, I see it as a non-issue and certainly no reason to not make compost.

Deterring Fire Ants

If you find your compost pile overrun with fire ants, your first action should be to turn it more often and add more moisture. By turning your pile frequently, ants will have less time to colonize. They also prefer a drier environment. By keeping your compost moist, the ants will eventually move on. But do keep in mind, don't discourage all ants. Black ants are harmless to you and an active member of the soil food web, helping to break down material into finished compost while also improving airflow within the pile.

Dealing with Flies

Flies around a compost pile tend to show up only when food scraps are exposed to the air. Instead, cover them with a layer of brown material such as compost, leaves or wood shavings. The same goes for worm bins. Bury food scraps in the bedding rather than placing them on the surface. It's that simple.

Plastic Bins and Tires: Are They Harmful?

Information on any risks associated with using plastic bins for recycling is minimal. From my research, it does not sufficiently address this topic conclusively. However, what I have found is that the plastic used for making compost bins is thicker and more stable than the plastics that are known to leach potentially hazardous chemicals. My advice would be to contact the manufacturer of the specific product to see if you can learn more.

As for old tires, the risk of leaching is greater over time as they slowly degrade. Zinc and several carcinogenic compounds have been shown to leach into adjacent soil.

How Much Do You Need

(And Where to Get More?)

According to the U.S. Composting Council, the goal for organic matter composition in your soil is 5% to the dry weight of your plantable area. Generally, an inch worked into the top four inches of soil will give you excellent results and get you close to that target.

There are numerous free online calculators and apps that will determine how much compost you'll need to cover any given area. Just search for them online. All you need to enter is the depth of organic matter you want in inches and the dimensions of the area you want to cover.

Where to Buy: Buying Compost in Bulk



When you just can't make as much as you need, you can still get high-quality compost. I have it delivered in bulk and use a manure spreader to cover my acreage with a generous topdressing of compost. The results are nothing short of amazing.

I love having land and plenty of room to grow. Although I wouldn't trade it for anything, it does come with certain challenges that require a little "out of the bag" thinking—especially when it comes to using large quantities of compost.

For smaller applications, you can make all the compost you're likely to need. But the fact is, if you have an average-sized yard, you probably need more than you can reasonably make.

Fortunately, bagged products of compost are readily available at nurseries, garden centers and box stores. If you have modest to moderate needs for compost, this can be a simple solution. Plus, you can't beat the convenience of picking up a few bags to keep on hand whenever the need arises. But here's where the convenience of bags starts to lose its appeal to a more cost-effective solution.



The lawn after the bulk compost has been spread over the top in fall. While it may not be much to look at then, by spring, the results are amazing!

Assume that you only need about one-cubic yard of compost (half a pickup truck load). That would require 27 bags from the garden center! Alternatively, it's just one scoop from the bulk supplier.

If you have a need for compost beyond even a half pickup truck load, buying in bulk will save you significant money over bags (while saving a lot of plastic from the landfills). Plus, anything you don't use can be stored for later use.

You can find bulk suppliers by searching for landscape supplies or contacting a local landscaper. Facilities that sell bulk compost to homeowners will load your truck. Typically, they will also deliver for a modest fee. For the big jobs, this is the most practical way to get the quantity you need quickly.

Before You Buy

You should be aware that all compost is not created equal. Finished compost is the result of the decomposition of whatever the organic inputs or feedstock were. That includes whatever chemicals were on the original material to begin with.

Compost quality is based on uniformity, stability, pH, soluble salts, the presence of undesirable components such as heavy metals, weed seeds, phytotoxic compounds, particle size and foreign objects.

Clearly, the best way to control the quality of your compost is to make it yourself. However, the limitations of what you can reasonably make, compared to how much you need, often necessitates finding another source.

If you want to know that the compost you're buying has gone through a quality-testing protocol, find a retailer or supplier offering *Certified Compost*, as designated by the U.S Composting Council*. Compost carrying this Seal of Testing Assurance certification has gone through a series of representative sample testing to help ensure what you're buying has passed quality assurance standards for safety and effectiveness. Short of making it yourself, I don't know of a better way to avoid a potential problem when buying in bulk.

Supplemental Information

DIY Compost Sifter: My Favorite Tool for Preparing Compost for the Garden



The compost sifter in the lower right of this picture has seen a lot of use in this Seattle community garden.

STEPS TO BUILDING A SIMPLE COMPOST SIFTER

SUPPLIES NEEDED: 2x4s cut to size, 3-inch galvanized screws, drill, hardware cloth, 3/4-inch galvanized staples (or similar), wire cutter

1. **MAKE THE FRAME.** Cut 2x4 lumber into pieces to make up the frame so that it's large enough to rest solidly on top of a wheelbarrow, cart, or collection tub, etc. A good uniform frame size is 24" x 48". That's the size of the frames

I built and they work beautifully. They're also easy to handle and store. In all cases, choose a width for the frame that matches (or is narrower) than the width of the screening material known as hardware cloth (galvanized meshed wire) that you'll be securing to the frame in the next step.

Using your drill, secure the frame together using 3-inch decking or weather-resistant screws. I use two screws per joint.

2. SELECT THE RIGHT HARDWARE CLOTH. Hardware cloth comes in rolls that you can find at any box or hardware store. It also comes in different dimensions regarding the spacing of the openings. First, select a roll that is as wide or wider than your frame width. You can always cut it back to the width you need. The most commonly available sizes for width are 24", 30", and 36".

Next, select the wire that has the spacing size you prefer. Common options are 1/2-inch and 1-inch. I strongly suggest the 1-inch spacing. You simply don't need to sift compost down any finer.

3. SECURE THE HARDWARE CLOTH TO THE FRAME. Place the frame on a solid surface and line up the wire onto the frame so the edges of the hardware cloth line up perfectly with the frame edges. You can now cut the length of the cloth to fit the frame, or just beyond, to make it easier to work with now, or wait until you're ready to staple that end.

Use 3/4-inch galvanized u-shaped, nailable staples to secure the wire to the frame every few inches. Or you could use anything similar that you have on hand. Whatever you choose, the goal is to have a tightly-fitting screen that matches the dimensions of the frame, and is well-secured with the staples around the entire perimeter.

Last, cut the edges so there is no exposed wire beyond the frame edge. You now have a compost sifter that you'll use often and should last for years to come.

DIY Compost Bin: My Favorite Composting Bin and How to Make it For Free in Minutes



My 3-bay pallet composting bin is fantastic. If you start with good quality hardwood pallets that are all the same size, your bin can be finished as fast as you can screw it together. It's been my composting system of choice now for over 10 years. The accessories, like the covered roof, are a nice addition. However, totally not required.

Not long ago, we filmed an episode for Growing a Greener World, which was all about composting. To this day, we get many requests for the instructions on how to build the three-bin composting system made from used shipping pallets that I constructed during the episode.

The beauty in the design was its simplicity, low cost, and the ability to repurpose some of those ubiquitous pallets that pile up everywhere. With a drill and a box of all-weather screws, anyone can assemble a multiple-bin pallet composting system quickly and inexpensively. In my case, with the help of a neighbor simply to hold the pallets in place as I drilled the screws, we had a basic three-bin composting system securely in place in a matter of minutes, literally.

The bin was so functional yet simple, I started thinking of ways to enhance it. By the next day, I added a hinged roof to the section of the bin that would store the finished compost, and more hinges to the outer pallet wall of the finished compost section to allow for easier access.

BUILDING THE 3-BIN COMPOSTING SYSTEM

PALLET SELECTION. Pallets are made from all different types of wood. For a compost bin, it's preferable to find those that are rot resistant, such as oak or cedar. Although easy to find, pine does not stand up to the elements as long. For strength and durability, you can't beat hardwood.

Also, be aware that pallets are not always uniform in size. For this system, it's preferable that they're all the same size. It makes for a better looking finished product and helps during assembly.

Most importantly, choose pallets that have not been chemically treated. The most common treatment methods for pests and pathogens are either heat-treating (marked on the pallet with "HT") or fumigation, using Methyl Bromide (marked MB). **Don't use MB pallets.** This is a dangerous chemical and has no place in a composting environment. Stick with heat-treated or new virgin wood if you can find it.

ASSEMBLY. Start with a level surface for the area where your system will set and assemble it in place. For this 3-bin system, you will need seven pallets: one

for each outer wall, two for the dividers to separate the bins, and three across the back. Assembly is straightforward and intuitive. Start by attaching the left outer wall pallet to the back pallet with several screws. Then add one of the inner pallet dividers and secure it against the back pallet. With the remaining pallets, work your way across for the next two sections in this same manner. In no time, you are finished with the basic set-up and ready to compost.

THE OPTIONS. When I created my system, the assembly was so fast and easy, I felt like I wanted to spiff mine up some more. Although totally unnecessary, I liked the idea of having a cover over the bin that would hold my finished compost. My improvised solution consisted of a cut-to-fit sheet of corrugated plastic, screwed to a wooden frame made of 2x2 pine. I then attached two hinges to the frame and secured them to the outside of the back pallet.



If you make the pallet bin, try to have some extra slats on hand to fill the gaps. Pallets can have wide openings and the slats are an easy way to keep more of your compost inside.

Two larger hinges were also used to attach the outside pallet wall of the finished compost section to the back pallet. My thinking was it would be a nice way to swing open that side so I had better access for retrieving compost. In hindsight, it's not necessary and more trouble than it's worth. Four years ago, I built a new pallet composting bin at the Garden Farm where I now live and it's still going strong. It's a no-frills, basic model which is frankly the best overall and easiest to make by far.

TWO FINAL THOUGHTS: I strongly suggest grabbing an extra pallet to use just for additional parts. I removed the slats from it to place in between other slats of my finished bins wherever I wanted to close some of the gaps. It's a smart and simple fix to help keep more of your precious compost in place. Alternatively, you could line the interior of each bin with one-inch hardware cloth or similar to reduce the amount of compost falling through the gaps. I will

likely do this for my next series of bins.

I also recommend adding a long, treated 2x4 across the back side of the pallet wall towards the top edge. The extra stability it provides is a simple and inexpensive option to reinforce the entire system. For additional information and pictures on how I built this bin, I wrote about that here: GrowingAGreenerWorld.com/building-pallet-compost-bin

You can watch the composting episode and see just how I built this bin here: GrowingAGreenerWorld.com/episode225



Comprehensive List of Ingredients That Can be Composted

MATERIAL	BROWN OR GREEN Carbon (C) or Nitrogen (N)	COMMENTS
Grass clippings	Green	When saturated, fresh clippings will clump and emit an unpleasant odor temporarily.
Leaves	Brown	Shred or chop first for faster breakdown. A mulching mower works great for this.
Leaves - Oak	Brown	Acidic, slow to breakdown.
Leaves - Black Walnut	Brown	Initially toxic to some plants. Neutralized during composting.
Sticks and twigs	Brown	The smaller the better. Slow to break down.
Yard debris	Brown & Green	Cut or chop into small pieces.
Hay or straw	Brown	May contain persistent herbicides that can survive the composting process. Use with caution. (See section below on manure for more info)
Pine needles	Brown	Acidic. Slow to break down.
Sawdust	Brown	
Wood mulch (natural)	Brown	
Manure	Green	High in nitrogen. Use caution when using horse manure due to risk of persistent herbicides that can survive composting process. (See section below on manure for more info)
Pet bedding	Green	Small animals (hamsters, rabbits, guinea pigs, etc.) Herbivorous animal bedding only.
Vegetable scraps	Green	
Citrus and fruit waste	Brown	Rinds, seeds, fruit, peelings.
Corncobs	Brown	Slow to break down.
Eggshells	n/a	Crush first for faster breakdown.
Breads	Brown	

Cereal (hot or cold)	Brown	
Coffee grounds (and filters)	Green	
Popcorn	Brown	
Pasta	Brown	Cooked or uncooked.
Tea leaves/tea bags	Green	
Cardboard	Brown	The smaller the better.
Egg cartons	Brown	Cardboard only.
Wine corks	Brown	Natural cork only.
Dryer lint	Brown	
Vacuum cleaner bag contents	Brown	Remove inorganic material.
Hair	Brown	Human or animal is fine.
Paper (plain)	Brown	Shred first if possible. Avoid glossy.
Paper towel	Brown	Without grease or oil.
Envelopes	Brown	Avoid window envelopes.
Pet food-dry only	Brown	
Seaweed/kelp	Green	
Wood ash	Brown	Use very sparingly (raises pH).
Nutshells	Brown	Crush if possible.
Natural twine	Brown	
Natural fiber material	Brown	Cotton, burlap, bamboo, wool.
Cotton balls, Q-tips	Brown	Cardboard only swabs-no plastic.

Best Conditions for Making Rapid Compost

Carbon-to-Nitrogen Ratio (C:N) - Good: 20:1 – 40:1, Better: 25:1 – 30:1

Moisture Content - Good: 40-65%, Better: 50-60%

Oxygen concentration - Good: Greater than 5%, Better: Much greater than 5%

Temperature - Good: 110-150 degrees F., Better: 130-150 degrees F.

Carbon-to-Nitrogen Ratio (C:N)

The ratio of carbon to nitrogen is referred to as the C:N ratio. The relative amount of carbon to nitrogen, e.g., a 2:1 ratio, means that there is twice as much carbon as nitrogen.

Microorganisms use carbon for both energy and growth while nitrogen is essential for protein and reproduction. In general, biological organisms need about 25 times more carbon than nitrogen. Achieving a carbon-to-nitrogen ratio of about 25:1 is an important factor in creating favorable conditions for backyard composting. By providing them with materials that provide these elements in the proper proportion, they thrive and proliferate in the composting environment.

While I don't want to discount the importance of the C:N discussion, and its significance in the composting process, I don't want you to get overwhelmed by it either. Frankly, I've never worried about trying to hit that just-right ratio. By providing a good mix of greens and browns from inside and outside the house, you and I will make beautiful compost quick enough. Life's too short to get bogged down in the details for me.

However...I am providing the following table for those who want to know more. After all, this is ***The "Complete" Guide to Home Composting***. These are approximate ratios. (Each product can vary widely; in such cases, an average is provided.)

COMMON CARBON & NITROGEN COMPOST INGREDIENTS	CARBON:NITROGEN RATIO BY VOLUME(C:N)
COMMON CARBON INGREDIENTS	
Grass clippings (dried)	50:1
Leaves (dry)	60:1
Sawdust	400:1
Cardboard	350:1
Newspaper	170:1
Paper towel	110:1
Hay (dry)	25:1
Straw (dry)	75:1
Pine straw (pine needles)	80:1
Wood chips	400:1
Twigs & branches	500:1
Tree trimmings	16:1
Shrub trimmings	53:1
Wood ash	25:1
COMMON NITROGEN INGREDIENTS	
Blood meal	3:1
Coffee grounds	20:1
Grass clippings (fresh)	15:1
Hair	10:1
Hay (fresh)	25:1
Garden debris	40:1
Kitchen scraps	20:1
Seaweed	20:1
COMMON MANURE INGREDIENTS	
Cattle manure	20:1
Horse manure	25:1
Swine manure	10:1
Rabbit manure	12:1
Chicken/poultry manure	7:1
Sheep manure	15:1

Troubleshooting

PROBLEM	CAUSE	OTHER SYMPTOMS	SOLUTION
Compost not getting hot enough	Material too wet	Material clumps together, odor, looks/feels soggy.	Add dry ingredients such as shredded leaves or paper. Mix well.
	Material too dry	Material is too loose, will not bind together when squeezed.	Spray thoroughly with water. Add wet ingredients. Mix well.
	Not enough nitrogen	Too much browns (carbon/woody material) to greens (nitrogen/fresh material).	Add more nitrogen-rich ingredients (fresh grass clippings, manure, food scraps).
	Pile is too small (especially in winter)	Pile size is less than 4 ft. or not enough ingredients in closed system.	Add more material (both green and brown debris).
	Not enough oxygen	Temperature stays low or drops steadily.	Turn pile.
	Composting process approaching finished state	Unable to raise internal temperature significantly, even after turning and moisture addition.	No action required.
Compost getting too hot	Not enough air circulation to release heat	Pile is neither wet or dry.	Add water and turn pile to release heat.
Noticeable Odor	Too much nitrogen	Wet or clumpy, ammonia odor.	Add dry, carbon-based material such as shredded paper or leaves. Turn pile.
	Not enough air combined with too much water	Unpleasant, putrid odor such as rotten eggs continuously.	Turn pile to increase airflow, add dry material and greater diversity of carbon-based products and smaller size.
	Odorous feedstock		Turn more frequently, add dry, brown material.

Flies - Mosquitos	More than normal activity around compost	Fresh feedstock remains on top of pile and not mixed in.	Mix pile more frequently and cover fresh raw material with decomposed matter. Look for standing water and grade area to eliminate pooling areas.
Critters active in compost	Possible inclusion of animal-based products (meat, grease, dairy)	Small animals, rodents frequently observed. (Occasional visits by squirrels, chipmunks, turtles, snakes, etc. are normal and should be tolerated in an open composting system.)	Eliminate use of animal-based products, turn pile more frequently, maintain even moisture level. The elimination of meat, grease, and dairy, combined with periodic turning and moisture addition will minimize unwelcome visitors to compost.

Special Thanks

SUSAN MULVIHILL: Thank you for the fantastic contributions and suggested changes in this eBook. I am especially thankful for your sharp eye in catching my many corrections. Your grace under pressure is amazing!

NATALIE MCGUIRE: If you like the look of this eBook, my website, logo... it's all Natalie! NatalieMcGuireDesign.com

PHOTO CREDITS

THERESA LOE: ComposTumbler behind gate door

ALIDA SAXON: brown double ComposTumbler bin

MARILYN GYURICZA DORNER: double closed bin next to wooden bin

JORDAN BRANNOCK CROSSINGHAM: cover, compost in hand, compost on fork, compost in red bucket, etc.

COURTENAY VANDERBILT: shredded paper going into compost bin

REFERENCES AND SOURCES CONSULTED IN PREPARING THIS GUIDE

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Cornell Composting: Compost.css.cornell.edu

DISCLAIMERS

Disclosure of Material Connection: At the time of this writing, I am a compensated spokesperson for the U.S. Composting Council (USCC). Compensation can take the form of a cash payment, gift, or something else of tangible value. However, the USCC did not ask me to write this guide nor did they have any direct involvement in it. Any members of the council may have been consulted, solely for their expertise on a particular subject only. Suffice it to say no word in this guide was influenced by my relationship with them. Rest assured, the thoughts and opinions in this post are indeed my own. Any relationship I have with a company, or content I create is only done so if and when I genuinely believe in a product or service, use it personally, or believe it to be good information worth sharing with my audience. All of that is true in this case. Thank you.

- About - Joe Lamp'1

Joe Lamp'1's (aka joe gardener®) infatuation with gardening and nature began as a child. After a run-in with his parents' favorite shrub, he panicked and jammed the broken branch into the ground. A few weeks later, it had taken root. Joe was not only relieved; he was also hooked on horticulture.

As one of the country's most recognized and trusted personalities in gardening and green-living, that passion for living a greener life is evident to a nationwide audience who

watches Joe in his current role as **Creator, Executive Producer** and **Host** of the award-winning PBS series, ***Growing a Greener World***® and previously as host of *Fresh from the Garden* on DIY Network and *GardenSMART* on PBS. Joe also shares his know-how on NBC's *TODAY SHOW*, ABC's *Good Morning America*, *The Weather Channel* and through his popular books, podcast series, nationally syndicated newspaper column and more.

The American Horticultural Society selected Joe as the recipient of the Society's B.Y. Morrison Communication Award, which recognizes effective and inspirational communication—through print, radio, television, and online media. The Garden Writers Association has twice named Joe as Best On-Air Talent for Television.



Off-camera, Joe is founder and Joe behind joegardener.com—a website and digital media platform devoted to environmentally responsible gardening and sustainable outdoor living. Joe is deeply committed to “growing a greener world” through his television series, podcasts and books including, *The Green Gardener’s Guide*, nationally syndicated newspaper column and more.

When not talking or writing about gardening and living green, Joe can likely be found in and around his organic garden and spending time with his family on their north Atlanta, GA farm.

Let's Connect!

