

Building a Free-Standing No-Dig Garden

BY CHARLIE NARDOZZI

No-dig gardening techniques are used around the world to grow healthier and more productive gardens with less work.

THE MODERN origins of no-dig stretch back to the 1970s and 1980s. In places such as the United States, Australia, Japan, and England, gardeners started questioning the conventional wisdom of tilling, plowing, or digging the soil in order to grow a garden. Since then, many variations of no-dig gardening have cropped up under different names, including lasagna gardening and sheet composting.

What these garden types all have in common is the desire not to disrupt the soil's structure and life by digging or tilling. Also, these techniques promote soil fertility through the addition of compost and/or organic materials. If you're just starting out with no-dig gardening, it can get confusing and unnecessarily complex when you search the internet for ways to build the beds. Creating a free-standing garden from scratch is one of the best ways to begin.

SITING THE GARDEN

One thing all no-dig gardening methods have in common is the need for the bed/garden to be located in full sun. This is essential for growing the widest variety of fruiting vegetables and sun-loving flowers, such as tomatoes, peppers, zinnias, and cosmos. But if you only have sun on



Situated in full sun, this no-dig bed is perfect for growing leafy green such as Swiss chard.

your site for half the day, you can still use the no-dig technique. You'll just have to limit what you grow to shade-tolerant

vegetables such as root crops and leafy greens, and shade-loving flowers such as impatiens and begonias.

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Ideally your site will not drain water too fast or be flooded for long periods during the growing season. I'd add that the best location for any garden is close to your house and near a water source. Also, pathways should be wide enough so you can easily move materials in and out of the garden. Once you've found the right site, then it's time to start building.

RAISE IT UP

All no-dig garden beds are raised above ground level. Some are framed with cement blocks, wood, bricks, stones, or other material. The freestanding no-dig garden that we'll discuss in this article has no structure framing the beds. The big advantage here is the ability to easily

change the design each year to suit your needs and whimsy. The initial set-up cost is minimal, and there's no need for building or carpentry skills.

THREE NO-DIG GARDEN BEDS

There are three versions of no-dig garden bed construction I'd like to highlight: multi-layered, all compost, and deep mulching. The techniques vary on the amount of compost and other organic materials they use and the way the beds are built. Choose whichever one resonates with your gardening situation and your access to bed-building materials.

■ **Multi-Layered No-Dig Method**
Layering organic materials in the bed

is probably the most popular no-dig method. Many gardeners follow the permaculture philosophy of observing and mimicking natural patterns to garden in balance with nature. Adding layers of organic materials to the garden—similar to the natural layers formed by leaf drop and plant and animal wastes—fits right in with this philosophy. There are many recipes for no-dig gardening in the permaculture world, and layering organic materials certainly isn't limited to those practicing permaculture.

One common version of this method involves constructing your no-dig beds like a compost pile [see the box below]. However, there are a few key differences between layering in compost piles and

LAYERING YOUR NO-DIG BED

This layering technique works great if you have an abundance of organic materials, such as hay, straw, old leaves, seaweed, and grass clippings. It doesn't require a large dose of finished compost to get started. To maintain the bed, simply add a 2-inch-thick compost layer and a 3-inch-thick hay, straw, or chopped leaf layer after every cropping season.

If you build this bed in the fall in a cold-winter climate, the constructed pile will slowly decompose until spring. It will have shrunk by then, and the organic materials will be broken down enough to plant directly into the bed. If you build the bed in the spring in a cold climate or are gardening year-round in a warmer climate, add a thicker final layer of compost on top to be able to plant immediately. The compost will feed the seedlings while the rest of the materials decompose.

1. Site your garden in the appropriate place for sun, water drainage, and convenience.
2. Cut the grass or weeds in that area.
3. Gather newspaper with black or colored ink. Avoid using glossy newsprint, which may contain heavy chemicals that can leach into the soil. For heavily weeded areas, consider using cardboard instead of newspaper. It's slower to break down but better at stopping tough perennial weeds. Remove any tape, plastic, and staples from the cardboard.
4. Wet the newspaper and lay 4 to 6 layers down, overlapping the edges where the beds will be located. The newspaper will kill grass and weeds, hold moisture, and break down quickly, allowing plant roots access to the underlying soil. A single layer of cardboard will take longer to break down.
5. Add a 3- to 4-inch-thick layer of green, or high-nitrogen, organic materials such as fresh grass clippings, seaweed, kitchen scrap veggies, or fresh weeds without seed heads or roots.
6. Add a 1- to 2-inch-thick layer of composted manure or compost.
7. Add a 3- to 4-inch-thick layer of carbon-rich (brown) material such as straw, chopped leaves, shredded paper, sawdust, or hay.
8. Continue alternating layers of green materials, compost, and brown materials until you've achieved the height you like. Water well.
9. As the bed settles over time, you may have to add more compost or layers to build it back up.



Layering a no-dig garden bed is like building a compost pile, but one that can be planted. Alternating layers of brown and green materials break down into humus-rich compost over time.



Once completed, a layered no-dig garden bed may be tall, but it will shrink and settle over time as the materials decompose. Here, straw was used to mulch the paths between freestanding no-dig beds that have been planted with both edibles and ornamentals.

layering in no-dig beds. In the compost pile, you want to be more exact about the ratio of nitrogen (green) and carbon (brown) materials added to the pile, as well as the moisture content. You also want the compost pile to heat up, so it is often turned and dug to aerate and stimulate microbial activity. In a no-dig bed, alternating green and brown materials is still a good idea, but you don't have to be as exact with the ratios. Also, the bed is open to the elements and is built to naturally drain excess moisture. In no-dig beds, we often add finished compost as a layer and/or on top, and we never turn the bed. The organic materials beneath eventually decompose into useable compost that your plants will love. It just may not be as quick or efficient as a well-constructed compost pile.

■ **All-Compost No-Dig Method** The second, and probably the simplest method of free-standing raised bed, no-dig gardening, is to fill the bed area with compost and/or topsoil only. This method requires a good amount of finished compost and soil to start, especially if you're filling multiple large beds.

When starting your all-compost no-dig garden from scratch, mow down the area. If it's just grass without many perennial weeds, simply add a 6-inch-thick layer of compost and soil on top. If it's a weedy site, add a layer of moistened cardboard or newspaper over the ground and cover it with the thick layer of compost and soil. Some gardeners like to lay cardboard, compost, and soil over the whole area, including the paths, which can be covered with mulch, such as wood chips or straw.

This helps water drain better in the paths and thwarts weeds from creeping into the beds from the pathways.

The cardboard breaks down over time, killing the underlying grass and smothering the weeds. With this method, you can plant immediately in the beds. A few hard-to-kill weeds may pop through the compost and soil over time, but they are easy to remove. However, if you use cardboard under the 6 inches of soil, you will be limited the first year to growing shallow-rooted greens, bush beans, radishes, onions, small herbs, and flowers, as the cardboard will take time to decompose. If you wish to grow thicker-rooted plants, add a thicker layer of compost and soil. If you use newspaper as the bottom layer, it will break down faster than cardboard, so you can plant any vegetable.



Newspaper makes a good bottom layer for a no-dig bed because it suppresses weeds but also decomposes quickly, allowing you to grow a greater variety of vegetables in short time.

The combination of adding compost every year and not compacting the soil with foot traffic or machinery helps preserve the soil structure so air and water flow freely through the soil, not puddling in the beds or paths. It also provides the food soil microbes need to release the nutrients for plant growth.

The one downside of this technique is the need for lots of compost and topsoil to fill the beds, which can become expensive.

Using only compost and soil creates a clean-looking garden. It's especially helpful in places with wet climates, such as the British Isles, western Canada, the United States Pacific Northwest, and parts of

Japan, where slugs and snails thrive and enjoy hiding in the fresh organic materials used in the multi-layer method of no-dig gardening.

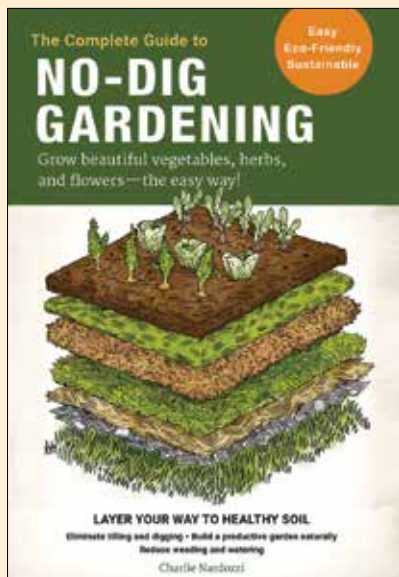
■ Deep-Mulching No-Dig Method

The third method of no-dig gardening that I'd like to mention is deep mulching. Deep mulching takes the no-dig bed-building ideas and simplifies them even further. The best way to describe the deep-mulching no-dig technique is to tell the story of its modern founder, Ruth Stout.

In the 1970s, Ruth challenged the conventional wisdom of plowing her garden each spring as if she was a farmer. She noticed the soil sprouted an abundance of weeds after plowing, making lots of work for her all summer. Plus, she always seemed to have to wait for the farmer to come to plow, often missing golden opportunities in spring to sow plants and seeds. Ruth took matters into her own hands and started experimenting with no-dig gardening. She dug shallow trenches, planted seeds and plants, and then mulched heavily around them to stop the weed growth. Ruth used a combination of old hay and leaves spread 8 inches thick. Once the vegetables and



Finished compost alone can form easy-to-create no-dig beds, but you will need access to large amounts of it on a continuing basis.



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flowers were established, she added more mulch around the plants. Instead of adding layers of brown and green materials or even finished compost, she just mulched the whole garden with hay and leaves each year, never leaving the soil bare. She found the mulch slowly broke down into compost that fed the plants. In time, she stopped using manure, extra compost, lime, and fertilizers when planting.

To Ruth's amazement—and the surprise of neighboring farmers—the plants grew great. Her workload was reduced to planting, thinning, occasionally spreading mulch, and harvesting vegetables. She kept a supply of hay and leaves around to bury any weeds that popped through. After a few years, Ruth started planting large-seeded crops, such as corn, peas, beans, and potatoes, on the soil surface, not even digging the soil. She then lightly mulched over them. The plants grew fine without disturbing the soil.

Unlike in raised beds where we try to never walk on the soil, Ruth stomped around her garden frequently. But because of the perennial mulch layer, the soil was insulated from compacting. Ruth said she never had problems with slugs and mice eating her plants, but that would be something to watch for, especially when

ORGANIC MATERIALS FOR BUILDING YOUR BEDS

The great part about building a layered no-dig garden is that you can make the layers with materials commonly found around your yard. While you can use green (high in nitrogen) and brown (high in carbon) layers of organic materials to build a no-dig bed, you may choose to maintain the fertility of your bed, once constructed, by simply adding compost each growing cycle.



You certainly can purchase compost locally to add to your garden, but it's not that hard to make your own. The materials you need to make compost piles or layers in the no-dig bed are also all around you. You just need to identify what they are, where to find them, and how to use them. In forested areas, chopped leaves are a good resource. Near the ocean, you can use seaweed to make compost. In prairies or Mediterranean areas, harvested wild grasses are great additions to a compost pile or no-dig layer. In suburban and urban areas, you may have to rely on leaves collected from your neighbor's yard, compost brought into the city, or food or household waste from your home. You can even make small amounts of compost by farming worms (vermicomposting) indoors or in a small yard.

In most areas around the world, organic materials are widely available and often are just considered waste. They can be used to create the finished compost your plants need to thrive, or they can be used to create layers in your no-dig garden bed. —C.N.

gardening in cool, humid summer climates that slugs love. Weed seeds from the old hay weren't a problem, because she kept a fresh layer of mulch on the garden year-round, smothering and preventing any weed seeds from germinating.

So, if you have an abundance of hay, straw, grasses, and leaves in your area, the deep mulching method may be worth a try. The key is to keep the soil permanently mulched. As the years go by, the humus layer from the decomposing organic materials will build without you having to make compost piles, buy compost, or add other fertilizers.

SEE FOR YOURSELF

Regardless of the method, no-dig gardening increases soil health and fertility, reduces weeding, watering, and fertilizing, and requires fewer outside inputs. I hope you're inspired to try it this year. It's a simple way to lessen our impact on the planet while growing our own food and flowers.

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