



Constructing Easy and Inexpensive Raised Garden Beds!

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Construction Materials for Raised Beds

Raised garden beds can be made of just about anything! However, it is very important that you know where your materials come from and if they have been treated with any chemicals. For example, pressure treated lumber was once treated with arsenic! Although that process is no longer used today, it's still a good idea to avoid any treated lumber when planting edibles in your garden just to be safe. Also avoid old tires in your construction because they leach toxic compounds into soils after time.

Suggested Materials for Raised Beds:

- **Child's Plastic Wading Pool:** These small pools range from \$9-15 and are offered at a variety of stores. Although they only last a few years outside, these take minutes to install instead of hours. Just cut out enough holes in the bottom to allow the soil to drain (or cut out the entire bottom) and bury 1 to 2 inches in the ground. If you are concerned about the plastic heating and releasing chemicals into the soil, only plant those species that are grown for their fruit, like blueberries, peppers, corn, eggplants, etc. These compounds rarely enter a plant's fruit, usually concentrating in the leaves and roots.
- **Cinderblocks:** These can be found for free occasionally, but cost around \$1.34 per block in stores. Cinderblocks are also easy to install for a bed. Just place the individual blocks where you want them and you're done! You can also plant in the holes of the blocks (strawberries love it there)! For a garden bed 3 x 4 feet, you need about 22 blocks.
- **Lumber:** There are many choices when it comes to building a bed out of lumber. There are many types of wood, cut and treated in a variety of ways. Lumber also is easy to find for free. Ask around your neighborhood or workplace for anyone with a wood pile they wouldn't mind you look through. Just make sure whatever material you use that the bed sides will reach at least 6 inches off the ground. Beds can be raised higher than 6 inches, but that is the minimum depth required for most plants to grow well in a container garden.
- **Soil:** Did you know you don't need to build anything to hold your soil in place? You can just mound it wherever you need the garden to go, but there are a few disadvantages with this method. The soil will erode much faster without something to hold it back. However, you can plant hardy groundcover or border plants, like lilyturf or monkey grass, along the edge of your garden to keep most of the soil in place.

As with most aspects of gardening, choosing your construction materials can be a fun, free, and a creative process!

Soil for Your Raised Beds

Who knew soil could get so expensive! If you don't watch out for pricing and calculate exactly how much you need, gardening soil can use up your whole gardening budget. Of course, you can always ask around to see if anyone will give you soil for free, but make sure to check where the soil originated. You could get a batch of soil filled with weed seeds that will compete with your plants!

For those gardens that need to buy their soil, the following brands are recommended (*pricing based on Lowes' Garden Center retail pricing):

- Sta-Green Flower and Vegetable Planting Mix. \$3.74 per 1 cubic foot.
- Sta-Green Flower and Vegetable Planting Mix plus fertilizer. \$3.49 per 1 cubic foot.
- Scotts Premium TopSoil. \$3.45 per 1 cubic foot.
 - Suggestion: Mix compost in with this soil to add additional nutrients, like Timberline Organic Compost. \$1.58 per 1 cubic foot.

Other cheaper brands might be available at your local nursery or gardening center. Larger chain stores might also offer cheaper prices. Check out several locations to compare prices in your area. And remember to bring your garden bed's measurements to figure out exactly how much soil to purchase.

Mulch: A Gardening Necessity!

Mulch performs several functions when used in a garden. It holds water in the soil longer, stops weeds from germinating, and keeps soil temperature moderate. Mulch is definitely a necessity in any garden!

Mulch can be made of a variety of material: grass clippings, compost, straw, pine straw, chipped wood, leave litter, etc. And it can be gotten in a variety of ways – for FREE! Pine straw can be collected from almost anywhere in North Carolina. Start looking in your yard or a neighbors' for piles of fallen pine needles. Residential neighborhoods often have yard waste pickup service, which means their bags of leaves, grass clippings, and pine needles are just sitting on the side of the road! Also check **Craigslist.com** for postings of free or reduced soil, mulch, or compost. **Raleigh's Yard Waste Facility, located at 900 New Hope Road in Raleigh**, also offers cheap mulch if you have a truck or trailer to haul it away. If you have a little extra in your gardening budget, look for local businesses selling mulch or compost.

No matter what material you use to mulch your garden, make sure the soil is covered all year around. This prevents erosion and leaching of important nutrients from your soil. And it just makes any garden bed look good!

Building Your Raised Bed

There are many options when it comes to building a raised garden bed. And there are LOTS of resources available on the internet. However, you can design and create your own raised bed by just following a few steps:

- **Marking the boundaries of your bed:** Using a tape measure or ruler, mark out your bed where you want to build it in the desired dimensions.
- **Clear away any debris in your bed:** Pull up any weeds/unwanted plants and clear away branches, dead leaves, or pine straw in the bed. Don't worry about tearing up any grass/turf.
- **Dig a trench along your garden boundaries:** Depending on the type of bed you are constructing, this trench can be as shallow as 1-2 inches or as deep as 1 foot.
- **Place your side material:** If you choose to construct a frame for your garden bed, place the framing material in the trench you dug and replace the displaced soil to secure your frame. For lumber or material that will not stand on its own, you can prop each piece up with a stake in the ground. Old tent stakes or 12 inch galvanized spike from a hardware store works very well (just \$0.65 per spike – usually found in the nail section).
- **Secure your sides:** If you have access to nails or screws, you can attach your lumber frame together if desired. However, this step can be optional. If your supporting stakes are securely set in the ground, the sides should hold up the weight of the soil you place in the bed by just leaning against the stakes.
- **Sheet mulch the bed bottom:** To make sure weeds do not sprout up through your soil, it's always a good idea to sheet mulch any new garden bed. Just layer some corrugated cardboard or 3-4 layers of newspaper (no glossy paper) along the bottom of your bed. Soak the material with water and let the bed sit overnight. This will allow the cardboard or paper to more easily decompose while still inhibiting weed seed germination.
- **Fill in your bed:** And now to add the soil. This is the time to add any amendments to your soil as needed: compost, fertilizers, etc. If you bought a garden soil mix bag, amendments are probably not needed. But it is always a good idea to add compost to any garden soil if it is available because of its' slow-release nutrients.
- **Plant:** Now is the fun part – planting your garden! It's a good idea to draw out your garden plan before putting anything in the soil. This gives you an opportunity to look at where each plant should go for optimum growth. Do you have some really tall plants like sunflowers, corn, or beans that might shade out other plants? Do any of your plants spread like watermelons, squash, or strawberries? Ask your local Cooperative Extension agent, Master Gardener, or garden center employee to help you with your garden design.

Here are a few videos on how to build a raised bed. Most of these videos show tool-heavy construction techniques. Although there are easier ways to construct beds, ask around for someone who enjoys construction projects, like an Eagle Scout or a neighbor that enjoys carpentry projects. They might have the tools and the know-how to construct a more permanent raised bed that will last you for years!

- “How to Build a Raised Vegetable Garden Bed” by DigtheDirtTV. <http://www.youtube.com/watch?v=w0WX1CEopQI&feature=related>
- “How to Build a Raised Bed Garden” by GardenGirlTV. <http://www.youtube.com/watch?v=mPrMvItUIuQ&feature=related>
- “Growing Your Own Food, Part I – Episode 703” by In The Garden with Bryce Lane. <http://www.unctv.org/inthegarden/season07.html>

Gardening Resources

Even experienced gardeners need help sometimes! Don't be afraid to ask questions and take advantage of the great resources in your area.

- **Wake County Cooperative Extension Master Gardeners:** These trained volunteers can answer any gardening questions and point you in the right direction for your own garden. Just call (919)250-1184.
- **Public Libraries or Used Bookstores:** Libraries often have extensive gardening book collections on a wide variety of topics.
- **Nurseries and Gardening Centers:** Supporting your local gardening businesses helps the local economy and gives you a great resource to use. The employees live and work in your area, so they can often give the best advice for growing certain plants in certain climates. See the list of local nurseries at the end of this resource guide!
- **Gardens and Arboretums:** Although these types of gardens are often used for plant collections, they can give home gardeners great ideas about plant selection and combinations. Most are usually staffed with very experienced volunteer staff as well. Check out the list of gardens at the end of this resource guide!
- **Advocates for Health in Action:** AHA is a collaborative in Wake County working to increase access to healthy food and physical activity. They have a page on their website devoted strictly to local food and community gardens in Wake County! They also hold tool drives on a regular basis and may have some available for your garden!
www.advocatesforhealthinaction.org

Tips for Easy Garden Maintenance

So you've built this beautiful raised bed, filled it with healthy soil, sowed your seeds, and planted your potted plants. Now what? Your garden now needs some care to maintain its' health and vigor. Here are a few quick tips to keeping your garden beautiful:

- **Weeding:** Check your garden a few times a week and look for plants that don't look like they belong. If the leaves don't look like the plants you planted, it's a good chance you have a weed. Just pull it up with as many roots attached as you can and throw it away.
- **Watering:** An easy way to check if you need to water is feeling the soil. If it is crumbly and dry, it's definitely time to water. If the soil feels almost muddy, wait a day or two before dragging out the hose. Also look at your plants – they will tell you when they need water by showing signs of wilt.



This plant needs water! The leaves are limp and wrinkling – signs of wilting.

- **Pest Watch:** Plants can become infested with insects or diseases. Your plants will usually tell you if they are sick. Leaves will look wilted or discolored, holes will appear in fruits or leaves, and whole branches/stems will brown and die. This is a time to consult one of your resources – call a Master Gardener or bring a sample of your plant to your favorite nursery. They can diagnose the pest and give you advice about how to treat it. Never use a pesticide or herbicide without consulting a professional first! If used incorrectly, they can have unintended and unfortunate side effects.
- **Pruning:** Sometimes cutting off a few branches or stems can really improve a plant's health. If one of your plants looks bad, use your gardening resources to find out if pruning might be a good idea for that species. For example, pumpkin vines produce much better pumpkins if some of the flower buds are pruned off before they develop into mature pumpkins.

Gardening Centers and Nurseries in Wake County

- **Plant Delights Nursery:** 9241 Sauls Road, Raleigh NC 27603
- **Garden Hut:** 1004 Old Honeycutt Road, Fuquay Varina NC 27526
- **New Age Garden Center:** 3814 Bonneville Court, Raleigh NC 27604
- **Pender Nursery Inc:** 2630 Wall Store Road, Garner NC 27529
- **TREES2GO.com Planting Care:** 4920 Mial Plantation Road, Raleigh NC 27610
- **Ken's Produce and Garden Center:** 3175 Benson Hwy, Garner NC 27529
- **Cill Ide Native Plant Nursery:** 621 Starburst Lane, Raleigh NC 27603
- **Bynum's Greenhouse and Pumpkin Farm:** 1022 Martin Branch Road, Garner NC 27529
- **Longhill Nursery:** 5901 Farm Well Road, Raleigh NC 27610
- **The Little Herb House:** 5800 Holland Church Road, Raleigh NC 27603
- **Ashley Porter Farms & Nursery:** 3504 NC Highway 42, Willow Springs NC 27592
- **Williams Nursery & Produce:** 2832 NC Hwy 42 West, Willow Springs NC 27504
- **Ogburn Landscape Supplies:** 6840 Mt Pleasant Road, Willow Springs NC 27592

***This is not a complete list of businesses in Wake County.**

Public Gardens and Arboretums in the Triangle of North Carolina

- **JC Raulston Arboretum:** 4415 Beryl Road, Raleigh NC 27606
- **Coker Arboretum:** University of North Carolina – CH (near Morehead Planetarium), Chapel Hill NC 27514
- **North Carolina Botanical Garden:** University of North Carolina – CH, Mason Farm Road (off US 15/501 Bypass), Chapel Hill NC 27514
- **Sarah P. Duke Gardens:** Duke University on West Campus, Anderson Drive, Durham NC 27710
- **Jaycee Daylily Garden:** Jaycee Park 2405 Wade Ave., Raleigh NC 27607
- **Ellen Mordecai Garden:** Mordecai Historic Park, Corner of Wake Forest Road and Mimosa Street, Raleigh NC 27604
- **Juniper Level Botanical Garden:** 9241 Sauls Road, Raleigh NC 27603
- **Raleigh Rose Garden:** 301 Pogue Street, Raleigh NC 27607
- **WRAL Azalea Gardens:** 2619 Western Boulevard, Raleigh NC 27606
- **Hemlock Bluffs Nature Preserve:** 2616 Kildaire Road, Cary NC 27511

***For a more complete list of gardens in your area, check out:**

<http://www.ces.ncsu.edu/depts/hort/consumer/pgpages.html>.

Do you have more gardening questions?

- **Contact the [Wake County Cooperative Extension Office](#) at (919)250-1100, located on 4001-E Carya Dr. in Raleigh, NC 27610.**
- **Or call the [Wake County Master Gardener hotline](#) at (919)250-1084.**
- **Visit our office's website as well to learn more about our programs and services:**
<http://wake.ces.ncsu.edu/index.php?page=home>