

Creating Raised Bed Gardens

Are you Wondering:

How to build raised beds of wood?

How to design your vegetable plantings for optimal harvest?

How much salad can you grow in a season?

Find answers to these questions and more inside and


Grow Food Everywhere!

At your home, schools, and community settings

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Raised Bed

Is a term used to refer to gardens that are designed with wide, permanent beds and paths between them (vs. rows where one walks between each), or structures, most often made of wood raised off the ground. In both cases, soil is not compacted from walking on the garden or more-so, machinery. Less compaction and more focused soil enhancement (putting compost only where you need it in planting areas) enables more intensive use of growing space. Plus, you can put raised beds on a school yard, lot, or lawn void of or with questionable soil, fill with quality compost and loam, and voila! They can tend to keep small pest animals and ground loving insects like flea beetles at bay, and create defined and accessible gardens especially important in public settings.



Tips for Making Raised Beds with Wood

Dimensions: There is no magical dimension. Consider your site, being able to move around the bed, and reach to the center. We tend to make beds that are 4'x 8' by 16" deep (constructed of 2" x 8"s, cut to size, so one bed of this size requires six 8 foot boards). This allows a nice amount of space and crop diversity and is suitable for small areas. The depth allows for ample root growth for crops such as tomatoes and root crops. If you are growing just salad greens, a shallower depth of 8 to 10 inches is quite sufficient. Bed heights of 24" or more, (three 8"-10" boards stacked) are important for accessibility in public spaces.

Wood and Construction: Choose rot-resistant woods such as cedar, black locust or engineered lumber (Trex or similar) or naturally treat less expensive softwoods. Never use pressure treated wood; it contains chemicals that are bad for people and plants. At Seeds of Solidarity, since we make a lot of beds we use inexpensive local rough-cut such as hemlock or pine and stain it with a non-toxic stain to promote longevity. Vermont Natural Coatings and Valhalla are two good companies making non-toxic treatments. The former comes in stain colors and is whey based (by-product of VT dairies). The Valhalla product turns wood a weathered gray and is a powder to mix, and less expensive. For one or just a few beds, price the difference between a naturally rot resistant wood and less expensive rough cut plus natural treatment and decide for yourself. We screw the sides together by placing a 4" x 4" cut to the total bed height inside each corner and using 4" Timberlock brand screws, 2 per board. The 4"x 4"s take up a bit of interior space but make it pretty easy for anyone to construct these with a screwgun, and create very strong corners. Build the beds on a flat spot, then move them into position with friends. Other wood joinery or use of interior brackets is fine, as appeals to you and is sturdy. Alternately, one can find 'corners' in gardening magazines that you can slide a piece of wood into, but we cannot attest to their function or longevity.



Soil: We use a 50/50 mix of local compost and loam for a wonderful medium. It takes about 1.3 cubic yards to fill a 4' x 8' x 16" bed. This is actually more than you'd think so you'll need a delivery or a truck. Imagine the equivalent of fifty 5-gallon buckets! But then it will last a long time, with just some annual replenishment of a few buckets of compost. We put cardboard down under the bed before dumping in the soil to add a weed barrier if needed (and feed the worms in the soil).

Cost: Very dependent on your wood and compost source and availability (and delivery if needed), and bed size and height, but estimate \$40-60 for the wood (rough-cut softwoods, not cedar), \$20-30 for a good stain, \$15-20 for your Timberlocks, And \$40-50 for your compost/soil.

Growing Salad Greens: A Great Three-Season Crop

Salad greens can be grown in a shallow raised bed (8" tall is ample) as well as in a variety of containers—outdoors, in coldframes, and even on sunny windowsills in shallow wooden or plastic flats.

When can I plant Salad Greens?

In a greenhouse or cold frame, you can plant these greens from Mid March right on through Early October in our Western Massachusetts climate. In garden beds (without a greenhouse or coldframe cover) you can plant them starting late March or early April, season depending, and on through the end of September. Greens take about 3-4 weeks until you can cut and enjoy them (as baby greens) so they are a great crop for schools because students get to experience the process from sowing seeds to harvest, during the spring or fall of the school year.

What types of greens are good to grow for salad gardens?

Any type of lettuce: you can get several colorful blends of "cut and come again" lettuce mix, spinach, pea greens, beet greens, arugula, 'all greens' or 'spicy greens' mix include mustards & asian greens. These are nice mixed with your lettuces after harvest for a colorful, multi-textured and tasty salad.

Sunflower sprouts grow really fast, but are not great for cut and come again methods. You can also use up your packets of



chard and kale, sprinkle-planted like salad greens and harvested as baby size. Johnny's Selected Seeds, Fedco, Seeds from Italy, or others are great sources of greens seeds.

How do you sow and harvest salad greens?

Gently loosen your garden soil (you don't need to turn it over, better to just gently loosen to keep the soil structure intact), removing weeds or debris. Top with an inch or two of fertile topsoil or compost. Reserve some soil to cover your seeds. You can plant rows, but we prefer to make patches, each with a different variety of greens. Moisten the soil before planting. Gently and evenly sprinkle seeds as if you were heavily salting your food, all over the patch. Gently water the area before covering seeds with soil. Then, cover seeds lightly with the reserved soil or compost. Gently water again, and then mark your bed with a label (use pencil or permanent marker) identifying the crop and date. Water gently daily until they germinate, then as needed. While greens will grow at different rates, in 3-4 weeks you should be able to harvest a salad by cutting the greens with a sharp scissor, leaving about a 1/2" of plant above the soil. You can then continue watering, and allow to re-grow... and cut and enjoy salads from these same seeds 5-7 or more times again before replanting!

Interplanting: If you have limited space, in late May (after Memorial Day) you can plant seedlings such as tomatoes, peppers, basil, summer squash or beans in between your patches of greens, so long as you are growing in a raised bed that is at least 12"-16" deep. That way, as you are harvesting greens, these 'hot weather loving' summer crops are growing and getting ready to fill your garden beds in the summer months. Then, as they diminish you can plant another round of cool weather loving greens for fall and even into the winter if you try season extension.

Season Extension. A floating row cover or greenhouse plastic over hoops will enable you to grow greens in very early spring and late fall too, and even into the winter. Floating row covers (they go by the brand names such as reemay and agribon) can be laid over your bed to provide a few degrees of cold protection, as well as pest protection. They let water and sun in as they are porous—the thicker the cover, you'll get a few more degrees of protection but a bit less light. You can also create hoops and then cover these with greenhouse plastic, clipped to the hoops for more extreme protection. You can use PVC piping but we don't promote this material and prefer to get 10' lengths of EMT (Electrical Metal Tubing) from our local building supply store—a few dollars each—then use a manufactured (see Johnny's Selected Seeds) or home-made hoop bender to bring this to a 4 foot wide hoop. Measure and drill holes a touch bigger than the pipe diameter in pairs in the top of your garden bed wood (for an 8 foot long bed 3 hoops will be great- one across the center, and the others about 6" in from the ends) or instead of (but not as sturdy as) drilling, insert the hoop ends into the soil as deeply as you can inside the wood if using a deeper bed, or alternately for a shallower salad garden, outside of the wood and into the ground, over stakes or rebar.

How Many Greens Can a Salad Garden Grow?

Greens are great to grow at homes, schools, or community settings. So healthy and tasty, they grow quickly and thrive in spring and fall, which means more food grown in a Northeast climate. When people visit our farm and see hundred-foot beds of arugula, multicolored lettuce, and spinach, it is hard to conceive how much food that really is. So we scaled it down, got our youth leaders involved in a research project, and set out to see how much a four by eight foot garden bed could produce over the season. While there were a few research interrupters (like the neighbor's chickens thinking fresh greens were pretty tasty) we were able to extrapolate results.

We sowed seeds in patches versus rows, and used the cut and come again method over a six-month outdoor greens harvesting season. We found that a salad garden with pea greens, lettuce mix, spinach, arugula and braising mix can provide 9-12 hearty servings from the cutting of a 2'x 2' patch, and be cut every three to four weeks. And so, a 4'x 8' bed can provide two really big bowls of assorted greens a week, or enough for four people to enjoy a serving of salad most days of every month from May through October—about 500 generous servings of salad. And, these numbers increase if greens are grown in a solar hoop-house or low tunnel where the season length and quality is enhanced.

Planting Tips for a Raised Bed Garden with diverse vegetables, herbs and edible flowers



Plants in raised beds can be diverse and planted closely together as the soil is deep and rich. This helps keep out weeds too, and creates a canopy that prevents soil from drying too quickly, retaining moisture. Adding some straw mulch around plants reduces watering too. Using vertical space well—such as a pole for beans in corners enhances yield. We suggest designing your bed by making cardboard squares to indicate the approximate space a given plant or patch of greens (see next section) will take, then laying those out to consider what will go where before planting. Fast growing crops like radishes, or shade-loving greens can be planted in the shade of the above crops, to use your space really fully. 'Square Foot Gardening' methods may be helpful to design your abundant raised bed.

Raise your own, or get seedlings from a local farmer, market or comparable source. Use non-GMO seeds. Keep your seedlings well watered until planting. Carefully remove them from pots keeping as much soil around the roots as possible when placing them in your garden. Water young seedlings well before planting, and then around the base immediately after planting. Most importantly, plant what you love to eat!

How much diversity and food can be produced from a raised bed, mixed vegetable garden?

Here is an example of what we often plant and harvest from over the seasons in one 4' x 8' x 16" deep raised bed:



- Three or four, square foot patches of lettuce, arugula, spinach, baby carrots, radishes, beet greens or pea greens (low growing and best in the front of the bed- Plant in spring, then again at end of summer once other plants begin to fade away)
- Three or four large, leafy greens plants such as kale and chard—harvest outer leaves and enjoy through the season- can grow to shade greens.
- Three or four peppers (bell or hot) and/or eggplants
- Annual herbs such as parsley, cilantro or basil.
- Onions or leeks close to the sides.
- One or two tomatoes (in back of bed)
- A teepee (made of 3-4 poles tied together at the top) with a circle of snap peas in the early spring, then replaced by pole beans for the summer.
- Two cucumber plants to trellis over the front or back corners or bed edges.
- A nasturtium or calendula flower over a front or corner edge for color, pollinator attraction and edible flowers.

Container Gardens: In addition to wooden raised beds, containers of all shapes and sizes make great salad and mixed vegetable/flower gardens. Take food grade 55 gallon drums, cut in half and put holes in the bottom and plant. Food grade five gallon buckets with holes are great too. Old kiddie pools with some drainage holes work well. There are various semi porous, re-usable garden bags one can get to fill and plant, or use old cloth shopping bags. Colanders make great mini salad gardens.



Enjoy!

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