Getting Started with Raised Beds

The next step up from container gardening is raised bed gardens. Raised beds have several advantages. They can be built almost anywhere. Even if all you have is a bare concrete or asphalt space, you can put a raised bed in and garden successfully. They can be relatively inexpensive to build. You can even build them at waist height if bending over or getting on your knees is a problem.

Raising vegetables, or any plant, in confined spaces presents a special category of challenges. The biggest problem that many space confined urban gardeners face is sunlight. Most vegetables require between 6 to 8 hours of direct sunlight; small spaces often are shaded. When possible, orient your grow beds north and south. This optimizes the amount of sunlight your plants will receive as the sun passes overhead. Morning sun is a better choice if you can arrange your space to gain that advantage.

The next consideration is the size of your raised bed. We suggest that beds be no wider than 4ft provided you can arrange a walkway on both sides of the bed. About 2 feet is the best most of us can comfortably reach when working. The length of the beds is usually dependent on the size of the space with which you are working.

Materials for your grow bed walls are your next decision. Almost anything can be used for this purpose with a few exceptions.

Never use railroad ties. They are treated with creosote which can leach into your soil. We also suggest that you don't use pressure treated lumber. It too is treated with preservative chemicals that may leach into your soil.

Probably the cheapest material is concrete blocks. They typically can be sourced new for less than 2 dollars each. If you have a scavengers heart, you might be able to get a few for the cost of hauling them off.

Wood is probably the perennial favorite. The best option is cedar, but it is also expensive. The bed shown above is built from construction grade 2 x 8's. Another cost saving tip. The material used in the bed above was purchased at a local big box store from their "cull" discount bin. Periodically almost all lumber sellers will cull twisted, warped and split lumber and usually sell it at a deep discount. Watching these discount bins will often yield lumber that, when trimmed judiciously, can provide quite useable bed lumber at a fraction of the cost.

This untreated construction grade lumber won't last as long in contact with the soil as cedar or some other material. There is always a tradeoff.

We mentioned concrete building blocks. Closely kin to them are the landscape and retaining wall stones. They are more expensive than concrete block but can be much more attractive which may be important if your raised beds are part of an overall landscape design.

Almost anything can be used for your raised beds as long as you are cognizant of any environmental or health hazards that might be present in the material.

Our preference is never to have closed bottom beds. The soil in your raised bed needs to be connected to the soil beneath your garden space. As you learn more about soil biology you will understand that the mycorrhizal life in your raised bed soil will connect to the rest of your under garden soil and it will eventually become one huge ecosystem. We recommend that your beds be at least 12 inches deep. Many people will build their higher. Some of our are 18 inches.

If you want to build your beds to waist height, it is almost impossible to do that by just building extra tall raised bed walls. Not only is it difficult to build stable walls that tall with considerable construction effort, the amount of soil it takes to fill them would be prohibitive. That means that you will have to disconnect your beds from the soil base. This presents more challenges and is more akin to container gardening than raised bed gardening. Special attention needs to be paid to both the material that you chose for construction and the construction itself. The soil will be heavy and the materials chosen must be water resistant.

Once you have your beds built, it is time to tend to the soil. Where possible, we recommend that you use soil from your property. However, we recognize that often the purpose of using raised beds is to mitigate problems with soil, or lack of soil if you are gardening on a hardscape such as asphalt.

Try to source composted garden soil if possible. This is usually available from big box gardening centers in 40 or 50 lb bags. Some landscape companies will have garden soil in bulk, but that will require something in which to haul the soil and hand wheelbarrowing the soil to the garden. Buy enough to fill your beds to within about 6 inches of the top of the bed. You do not want to fill them to the very brim. You also want to allow room to add some amendments to the soul before you plant.

Building your Soil – The Recipe

Here is our recipe for preparing the soil in your raised bed. You should only need to do this once. After that, if you follow the organic system in your garden, your soil should continue to mature becoming more and more healthy and productive over time.

Fill your bed to about 6 to 8 inches of the top of the bed walls with composted garden soil. You should understand that because this soil has been composted it is sterile. The heat generated in the composting process kills the weeds, weed seeds parasitic organisms and harmful insects. It also kills most of the beneficial microbial life, the fungi, and any good bugs and worms. We need to inoculate all of these back into the soil to jump start your soil biology.

Add four to 6 inches of high-quality organic compost to the beds.

Add organic fertilizer. There are any number of good organic fertilizer blends on the market. You can get a list of the organic fertilizers and their manufacturers elsewhere on this website. Apply the fertilizer at 2lbs per 100 square feet. You can also use your compost or compost tea if you have enough on hand.

You also need to add some rock mineral content. This can be lava sand, green sand or one of the commercial products. Just be sure it is not washed concrete sand. We use decomposed granite a lot because it is easy to find in the local landscape rock and material sellers. Add at a rate of 10 pounds per 100 square feet.

You also need to add something that will feed the fungi and bacteria as they get established. One of the best products is whole gluten cornmeal if you can find it. This is NOT your grocery store cornmeal. The cornmeal sold in the grocery stores has had the gluten removed before milling. You want the entire corn kernel. Another possibility is dried molasses. Many garden centers now stock dried molasses, and it works almost as well as whole corn gluten meal.

The last addition is worm castings. This is essential. Worm casting are not only rich as a soil amendment, they contain all the microbial life, fungal organisms and work egg casings that you need to jump start that life in your soil. Apply five lbs of castings per 100 sq feet.

Till in all these additions to your soil to a depth of about 8 inches. This can be done by hand. If you have a large bed or several beds, a small battery powered tiller may be more convenient and easier.

A note about tilling. We usually don't recommend tilling your soil. In this case, because you are regenerating soil, it is important that all the ingredients be mixed uniformly to provide the needed nutrients to establish the biological parts of your soil quickly. You should never need to till your garden soil again if you follow the organic system.

It is not time to plant your garden. Don't wait too long after you prepare your soil. If there is going to be more than a day before you can plant, you should add a top dressing of 3 to 4 inches of wood chip mulch over the entire bed. This will help hold what moisture is in the bed in place. I will also help protect the living organisms we have put into the soil from the effect of the UV light from the sun and keep weed seeds from drifting in on the wind.

When you are ready to plant, carefully pull back the mulch and put your transplants into the soil you have prepared. Carefully remove your transplants from the containers. If the roots have begun to circle the pot, gently open them and spread them. I suggest that you make sure that the root ball on your plants are thoroughly soaked before you plant them. Put them in a container of water while you prepare everything else. Plant your transplants according to the instructions that came with the plant, apply the mulch and then water thoroughly.

Watering

We prefer to use drip systems to water our raised beds. Drip systems deliver water slowly and exactly where you want it to be. The secret to watering is a slow deep application only when the plant needs it. None of our drip systems are on automatic controls. Watering too much will cause root rot, invite disease and insects and eventually stress the plant. Stressed plants are an invitation to failure. You want to maintain an even water distribution throughout the soil. As you water, the air is driven out of the soil. As the soil dries it pulls fresh air back into the soil. You must have this pulse effect for healthy soil.

If you must water with a can or a hose, do so carefully. Again, slow watering is the best. Allow the water to infiltrate the soil. Fast heavy watering will cause the top layer of your soil to compact and form a crust. This will cause the water to subsequently run to the sides of the grow bed and simply wick down between your soil and the walls of the raised bed to the bottom. Very little will get to the roots of the plant.

Feeding

Feed your plants regularly using a high-quality organic fertilizer. It is quite easy to make your own but there are acceptable brands on the market. One of the best and easiest to make organic fertilizers is compost tea. See our Composting area for more information on making compost tea.

Feed about every two weeks. It is hard to overfeed with organic fertilizers.

More than anything else, have fun and enjoy yourself. Growing vegetables, or any plant for that matter, is a magical thing.