Building raised beds

Gardening is a challenge if your soil dries slowly in the spring or is hard to till. In the summer, you may face crusts, clods, and poor water absorption.

Fortunately, you can improve your soil by adding organic matter and creating raised beds. This lets you plant earlier in the spring because of improved drainage and faster soil warming. When fall rains begin, better drainage means healthier plants that yield longer.

You’ll need a lot of organic matter, so choose a source that is readily available and inexpensive. Sawdust, ground bark, leaves, manure, or chipped pruning materials are good options. Other satisfactory materials, although more expensive, include planting mixes. If the materials are composted, so much the better.

The following method is easy and permits good garden production the first year:

Step 1

If the soil is compacted, till it first if possible, even if only to a depth of 2 or 3 inches. Do not rush this step; wait until the soil is dry enough to crumble and will not turn up in large chunks.

Step 2

Spread a 2- to 3-inch layer of organic material over the soil. You will need two-thirds of a cubic yard per 100 square feet (6 to 7 cubic yards per 1,000 square feet).

Step 3

Unless you used a composted product, manure, or fortified planting mix, add nitrogen fertilizer. Nitrogen is needed for breakdown of organic matter (e.g., sawdust, leaves, or grass clippings) and for plant growth. Broadcast one of the following evenly over the organic material:

<table>
<thead>
<tr>
<th>Product</th>
<th>Pounds per 1,000 sq ft*</th>
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<tbody>
<tr>
<td>Ammonium sulfate</td>
<td>20</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>12</td>
</tr>
<tr>
<td>Urea</td>
<td>9</td>
</tr>
<tr>
<td>Poultry droppings</td>
<td>400–700</td>
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</tbody>
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*Assuming you added 2 inches of organic material.

Step 4

Till to about 6 inches. You can use a spade, but a tiller makes the job easier and the results more uniform.

Step 5

Create 48-inch-wide beds by shoveling a walkway between them. Make the walkway 14 to 16 inches wide and 6 inches deep. Add the excavated soil to the top of the beds. You now have a soil–organic matter mixture about 8 inches deep.

Step 6

Rake the beds level. The slope of the soil will leave about 36 inches of flat planting space on top of each 48-inch–wide bed.

Once you finish shaping the beds, walk only in the paths. Add sawdust or bark to the paths to reduce mud.

Retaining walls are unnecessary unless you want to create special shapes or use narrower walkways. They hold the soil in place but also create hiding places for slugs. Boards, blocks, or railroad ties make good retaining walls.

When you plant in your raised beds, you’ll need to apply additional fertilizer because the nitrogen you added in step 3 took care of only the 2-inch organic layer.

Proper irrigation is important. The soil–organic matter mixture in raised beds dries faster than clay soil. On the other hand, it is loose so it absorbs water faster. Soaker or sprinkler hoses work well; with low pressure, they water only the raised bed. Keep walkways as dry as possible to control weeds. Place stakes at the corners of the beds to prevent hoses from damaging plants.

Organic matter decomposes and disappears, so add more each year. In the summer, use compost to provide nutrients. In the fall, cover the beds with 2 inches of leaves or other organic material.
If you lack space for a garden, consider raising vegetables in containers. You can grow any vegetable in a container with enough preparation and care. Start by finding a container large enough to support fully grown plants and with adequate soil-holding capacity to accommodate the plants' root systems. The container must have drainage holes.

You can grow vegetables in almost anything, including barrels, flower pots, milk jugs, bleach bottles, window boxes, baskets, tile pipes, and cinder blocks. For most plants, containers should be at least 6 inches deep.

A fairly lightweight potting soil is the best growing medium for container plants. Garden soil is too heavy for container growing. Most commercially sold potting mixes are too lightweight for garden plants because they don't offer adequate support for plant roots.

If you buy a potting mix, add soil or compost to provide bulk and weight. Or mix your own with equal parts peat moss or well-rotted compost; loamy garden soil; and clean, coarse builder's sand. Add a slow-acting, balanced fertilizer (slow-release synthetic or organic fertilizers work best) according to container size. Add lime to bring the mixture's pH to around 6.5.

The ideal vegetables for containers are those that take little space—such as carrots, radishes, lettuce, and parsley—or those that yield produce over a long period of time—such as tomatoes, peppers, herbs, and eggplants.

When planting, first carefully clean out the container, then fill it to within ½ inch of the top with slightly dampened soil mix. Sow the seeds or set transplants. Gently water the soil with warm water, taking care not to wash out the seeds. Label each container with the name and variety of plant and planting date. When seedlings have two or three leaves, thin them for proper spacing between plants.

Water container plants whenever the soil feels dry. Apply water until it begins to run out of the container's drain holes.

Container plants need more fertilizer than plants in regular gardens because the frequent watering constantly leaches fertilizer minerals out of the soil. For best results, start a feeding program for container plants 2 months after planting. Use a water-soluble fertilizer at its recommended rate of application every 2 to 3 weeks.

An occasional application of fish emulsion or compost will add trace elements to container soil. Do not add more than the recommended rate of any fertilizer.

Too much can harm plant roots.

Watch for and control plant insect pests. Place containers where they will receive maximum sunlight and good ventilation. During periods of high temperatures and bright sunshine, move the containers into shade during the hottest part of the day. Shelter plants from severe rain, hail, and wind storms.

The versatility and mobility of a container garden allow you to grow a wider variety of vegetable plants over a longer time span than the usual spring/summer/fall growing period. By starting your garden indoors in the spring, moving it outdoors for the summer and then back indoors in the fall for frost protection, you can use nearly every growing day.

For more information
How to Build Your Own Raised Bed Cloche (EC 1627)
Raised Bed Gardening (FS 270)
Available in the OSU Extension catalog: http://extension.oregonstate.edu/catalog