Building Raised Beds for Vegetable Production

Vegetable gardens do not need to be large, open, flat spaces. In fact, most families find that managing a vegetable garden is a lot easier if they have smaller gardens, with raised beds being a very good option. Raised beds offer certain advantages over in-ground gardens, particularly in regards to pest management and early season growth capacity. A drawback is that water drains through them more quickly, so they usually need more irrigation. In some parts of our area, high water tables are one key reason to consider raised beds, as the added drainage is necessary for better plant growth.

In its simplest form, a raised bed garden is simply a mounded soil area in which vegetables are planted and the non-raised areas are the walkways. For most situations, putting walls of some sort to your raised beds is a very good idea. They define the boundaries of your management zone, helping most gardeners have a better mental image of the space and creating higher levels of management therein. Bed walls can be built from many different items, with a major decision point being how high you want them to be. There is no magic height of a raised bed, they can range from a couple inches to many feet in height above the soil line. You do want to avoid using railroad ties, CCA or creosote treated wood products, and anything else which you are uncertain of its chemical past.

Non-treated wood makes a fairly cheap, safe material for bed walls, but will not last too many years, even if you use cedar. Composite wood materials last longer, but not all families are comfortable using them around vegetables, due to their additives. Corner connections are key to long-term stability of wood or composite walls – a couple nails in each corner won't hold very well! Instead, use deck type screws and see if you have any metal straps, old hinges, or something similar that you can recycle and use as corner stabilization. Cinder blocks or retaining wall blocks work well, especially for somewhat taller beds. However, they are heavy to work with and more expensive. Additionally, cinder blocks can negatively impact growth of some vegetables. You can also buy kits and simply put them together.

Height of the walls is a very common question, but it is really up to the family and their desires or needs. Base it partially off of your choice of building material and use an incremental approach. If you have anyone with limited physical mobility or past back problems, higher walls may be a good long-term solution that helps keep them in the garden. Building sturdy beds with seating areas on the edges is not overly difficult and creates safer, more stable working zones. As gardeners age, they often see more and more benefits to such situations.

In reality, width of the bed is usually much more important than height or length. If the beds are wider than 3 or 4 feet, you are not able to reach the middle without stepping into the beds. Weeds will definitely be present, and you will need to be able to reach throughout the bed safely and effectively. If you step into the bed, some of the soil structure benefits get decreased.

One of the most important steps is 'making' the soil that goes into your raised bed. Except for raised beds taller than 24 inches, use the native soil in and around the area as your primary component. To the native soil, add compost and/or organic matter sources such as tree leaves. Compost can be added such that it composes about ¼ to ½ of the total soil mix volume. If starting with non-composted organic matter, the volume will settle more quickly, as the material decomposes. It is best to add organic

matter in the fall and use compost in the spring, as the decomposition can cause nutrient deficiencies in your plants.

A very critical step is integrating the soil components together and with the soil remaining underneath the raised area. If you mix soil and compost together and then just put it on top of the native soil to fill in the bed, you may create a container, rather than a raised bed. This occurs because the mix is better for plant roots than the native soil and growth will stay mostly in the above ground portion. This will be more prevalent if the soil is compacted or has any other issues. This is also the reason you don't want to put landscape fabric or cardboard underneath the bed area.

Instead, put a layer of compost onto the area and dig it into the native soil. Then add more soil and compost (you can use the top soil from right around the area and create walkways as one easy way to get soil) and re-dig. Keep doing this until you have added the full volume you desire. This way, you have created a full rooting depth area for whatever plants you are growing. If this is not done, deep rooted vegetables will usually struggle to do well in raised beds, as they do not have sufficient soil volume to grow naturally.

You can grow nearly any vegetable in a raised bed, as long as you take care of them properly and give them enough water. Most vegetables will not need additional nutrients if you have added compost to the beds when constructing them. The exceptions will be high veggies that require lots of nitrogen, such as sweet corn or potatoes.

If you want more information on raised bed gardening, two University of Wisconsin – Madison, Division of Extension publications are available free on the web. They are A3905-04: Raised Beds and Containers for Community Gardens, located at: https://cdn.shopify.com/s/files/1/0145/8808/4272/files/A3905-04.pdf and A3384: Specialized Gardening Techniques: Wide Row Planting, Square Foot Gardening, and Raised Beds, located at: https://cdn.shopify.com/s/files/1/0145/8808/4272/files/A3384.pdf

You are also able to contact Scott Reuss, Marinette County Agriculture & Horticulture Agent, with any questions you may have about constructing raised beds, managing the plants within them, or any other horticulture questions. He can be reached by leaving a voice mail at 715-732-7510 or via e-mail to scott.reuss@wisc.edu