Raised Bed Gardening

The history of raised beds goes as far back as humans have been cultivating crops. By 300 BC the South American Quechua had developed a raised-bed system to help prevent soil erosion and increase yields. Their system is still being used in Peru and Bolivia.

There are many different ways to create a raised bed that can include building brick or block boxes, straw bales, wooden forms, berms; everyone can create their own style. It all depends on how much money you want to spend, how much time you want to spend building and personal taste. Whatever style you decide on there are some things you should consider in your planning. And you should be planning ahead. If you find they are in the wrong place or wrong size, shifting all the material could be difficult.

Don’t make the bed too wide. You should be able to reach past the center from where you are standing on the long sides of the bed. Three to 3.5 feet is a good range to shoot for. Don’t make the bed too long, otherwise it is always going to be a long trip around and the temptation to cross over in the middle may be hard to resist. If you find your bed so long that you are walking across it, make a path so you are crossing in the same place all the time rather than crossing randomly. Making the bed a size that is comfortable to work with will make your gardening life easier and reduce some of the aches and pains.

Think about the paths between the beds also. You want to be able to control weeds and grass. Make sure the paths are wide enough for the mower if that is what you plan to do. Are you planning on weed cloth, mulch, gravel or whatever? You want the paths wide enough to maintain them easily.

What are you planning to grow? If it’s vegetables, they need a minimum of six hours of sunlight. If you put the bed under a shade tree, you will end up being frustrated. If you are planting a tree in a raised bed, make sure it is long and deep enough. Yes, you can build raised beds to grow trees.

One of the points for building raised beds is having a site with good drainage. So don’t just put in the soil from your yard unless you have enough compost and sand to make your own soil mix. When you put it into your raised bed, do not compact it. You want a loose mix. DO NOT WALK ON THE BED! Then each year keep adding organic matter. Loose soil promotes plant rooting and growth, which translates into better yields.

Raised beds make it easier to water and to control mois-
In the spring the soil in a raised bed warms quicker than the soil so you can get your garden going earlier.

Something else to consider is whether the system is going to rest directly on the soil or on a barrier. A barrier could be weed cloth which is permeable so water can go through it or you can use plastic which water cannot go through. If you line your bed with plastic you may have created a container, which must be managed accordingly. You do not want the soil to be soggy. If your bed has direct contact with the ground you do not have to worry about drainage. If you have some sort of contaminated soil, (which would be unusual at a home, but not unheard of; for example, if the person who owned the house before you dumped oil in the yard), a barrier would be a good idea. Adding a wildlife barrier, like hardware cloth will keep wildlife out but will not impact the drainage.

Building raised beds is a physical process. If you are doing the job yourself, don’t overdo it. Don’t exhaust yourself. When I put in my raised beds it was a physically demanding process. It took ten wheelbarrows of soil mix to fill each one. If I recall I did one to two a day (I have eight) until I got them done. It was exhausting work and I was a lot younger then!

I found a couple of variations on the raised bed that were interesting. They both cost more and are more labor intensive to set up but have additional advantages.

**Keyhole Garden**

http://www.bakerinstitute.org/search?SearchableText=keyhole+garden&x=4&y=14  (They have some pdf’s you can download with instructions to build a keyhole garden.

http://www.texascooppower.com/texas-stories/nature-outdoors/keyhole-gardening

This type of gardening comes from Africa. It is a circular garden 6 to 8 feet across, with a notch or “keyhole” built in for access. Walls 1 to 3-feet tall surround the garden.

The keyhole is an open area in the center, either circular or rectangular. A 2-foot path leads to the center, hence the look of an old-fashioned keyhole. At the center of the keyhole build a 2 to 3 foot diameter wire cage and another that is 2 to 3 feet higher than the wall. You should be able to reach over the cage to drop in materials.

Line the entire area, the ground and walls, first with cardboard, then newspaper, then straw. Once that is done you can do a lasagna style garden layering soil, compost, leaves, manure, etc. Incline the soil from the outside up to the central keyhole cage. Fill the cage with straw, kitchen scraps, soil and shredded paper.

Plant the garden.

To water, you flood the keyhole. Keep adding compost materials to the keyhole as they disintegrate over time; mix the ingredients occasionally. Water only when the plants need it. You want the roots to grow towards the center.

In the hottest areas you might want to cover the garden with a shade cloth.

These gardens have become popular in Texas with people using all sorts of materials to make them, including water tanks and tires.

**Wicking bed**

www.urbanfoodgarden.org/main/wicking-beds/wicking-beds.htm

I had never heard of a wicking bed for anything other than small scale projects until I did a bit of research on building raised beds. I do not know of anyone who has built a wicking bed or used one so cannot tell you if this would work for our area. I’m just throwing it out as an interesting offshoot of the traditional raised bed.

Basically a wicking bed is a variation of a raised bed where a waterproof liner is used to create a reservoir of water at the bottom of the bed. The water is drawn up into the soil by the wicking action via soil osmosis or through the roots of plants. It is a large self-watering pot.
The walls of the bed can be lumber and the reservoir is created with a pond liner. Plastic tubs or any container that can hold water will also work. You do not want to use something that will corrode.

Advantages:
- A wicking bed uses between 40 and 50% less water than a conventional garden.
- Since the soil surface is dryer it is harder for weed seeds to germinate.
- Since you don’t have to water everyday, it frees you up to do other things, take a vacation-whatever! You can leave the garden for 2 to 3 weeks without the garden drying out, (this depends on your climate and size of the reservoir).
- Needs only a low pressure water system so it can be watered with rain barrels or other source using just a pressure pump.
- Invasive roots are less of a problem because it is difficult for the roots to penetrate.

Disadvantages:
- More expensive to build-three to four times more.
- More complicated to build-need a higher level of building skills.
- Not good for plants that need dryer conditions.
- Uses more material than a conventional bed.

Self-Watering Container


This is the patio version of the raised bed and in our climate has some advantages over the regular container that you water from above. You will use less water and it allows you to leave for a few days if you need a vacation! The containers can be moved around, unlike an-on-the-ground bed.


There a variety of pdfs and videos you can use to make your own wicking beds. They aren’t difficult to build but you will need to assemble a variety of materials before you start.

Pumpkin Muffins

by Nora Graf

Search engines are wonderful things, well most of the time. I used the U of A search to find out when was the last time I had written about pumpkins. Well, apparently in my world, November is pumpkin month, as I have written something nearly every November for years. Instead of discouraging me, it tells me that I have started a tradition. So get out the pumpkin, fresh or canned and start cooking.

Pumpkin Muffins
Gourmet  | November 2008
yield: Makes 12 muffins
total time: 45 min

1/3 cup golden raisins
2 cups all-purpose flour
2 teaspoon baking powder
1/4 teaspoon baking soda
1 teaspoon ground cinnamon
3/4 teaspoon ground ginger
1/8 teaspoon ground allspice
1/8 teaspoon ground cloves
1/2 teaspoon salt
1 stick unsalted butter, melted and cooled
3/4 cup packed light brown sugar
3/4 cup canned pure pumpkin
1/4 cup well-shaken buttermilk
2 large eggs
1 teaspoon pure vanilla extract
3 tablespoon raw green (hulled) pumpkin seeds, divided

Equipment: a muffin pan (preferably nonstick) with 12 (1/2-cup) muffin cups
Preparation: Preheat oven to 400°F with rack in middle. Butter muffin pan if not nonstick.

Soak raisins in hot water 5 minutes, then drain.
Meanwhile, whisk together flour, baking powder, baking soda, spices, and salt in a large bowl.

In a separate bowl, whisk together butter, brown sugar, pumpkin, buttermilk, eggs, and vanilla. Add to dry ingredients and stir until just combined, then stir in raisins and 2 tablespoons pumpkin seeds.

Divide batter among muffin cups and sprinkle with remaining seeds. Bake until a wooden pick comes out clean, about 20 minutes. Cool slightly on a rack.

Nutritional information, per serving
234 cal, Sat fat 5 g, Poyunsaturated .7g, Mono 2g, Cholesterol 36g, Sodium 87g, Carbs 41g, fiber 2 g, sugar 22 g, protein 4g.
Terrilyn Green (Picnic Organizer) didn’t travel far from her Sedona red rocks home to scope out the Alcantara Winery picnic pavilion. Nestled among the grapevines overlooking the Verde Valley, the pavilion proved to be an ideal location for the October Master Gardener Recognition Picnic.

91 MGs and assorted significant others gathered in the warm Sunday sunshine to eat, talk and applaud the many achievements of their fellows. The potluck picnic proved bountiful. Then, after a short introduction by MGA President, Ron Zmyslinski, Cathy Michener (Membership) and Jeff Schalau handed out the many awards based on volunteer hours. The crowning achievement for 3000 hours was awarded Kathy McCauley and Richard Wise.

Lynn Becker, Elinor Benes, Judy Mannen, Rosh Preuss, Bev Turnbull and Carlon Woodson were ushered into the rarified distinction of Master Gardener Emeritus. To reach emeritus status, Master Gardeners volunteer 10 consecutive years.

Mary Barnes (Volunteer Coordinator) recognized the many committees organized to do the various tasks we are all familiar with. Terrilyn indicated nearly 20 individuals banded together to make the Recognition Picnic a huge success.

Recognition Awards

**50 Hours**
Jim Sheehan
Susan Williams
Lee Vadnais
David Sawyer
Sally Bethea
Andy Switanek
Nancy Deane
Marla Giordano

John Prentice
Gwynne Reese
Barbara Saul
Barb Waldie

Marilyn Perkins
Jackie Rizzo
Barbara Saul
Faun Vogel
Robin Weesner

**250 Hours**
Betsy Brouwer
Bob Busch
Eileen Ferguson
Christine Graff
Kris Holt
Donna Hunter
Joy Inman
Linda Kimberly
Jane McGraw
Garry Neil
Jean Norris
Danna o’Rourke

**500 Hours**
Christi Armer
Ken Earls
Bob Gessner
Pete Heisinger
Douglas McMillan
Ron Zmyslinski
Michele Herrick

**1000 Hours**
Pam Bowman
Judy Cowan
Suzette Russi
Melissa Sandeen
Janet Schieber
Bernadette Selna
Carlon Woodson

**1500 Hours**
Evelyn Becker
Bill Cart
Sherry Howard

**3000 Hours**
Kathy McCauley
Richard Wise
What we do in our fall gardens will greatly affect the success of our gardens next spring, so don’t put off putting the garden to bed, so to speak!

Till in what is left of the plants after you have harvested the fruit and vegetables from them. If you leave the plants where they are now you will create a haven for insects, worms and diseases. After the plants are tilled into the ground, microorganisms will break them down so they will become part of the soil. You can also put the plants on the compost pile. (Please note that not all plants should be tilled into the soil. Any plant with a disease or serious pest problem should not be put into the compost pile.)

If you can, plant a cover crop or an alternative. An alternative that is recommended is to mulch the areas you are going to plant in the spring. It will make the soil much easier to work. It will also act as an herbicide and discourage unwanted guests such as garden pests and diseases.

With your winter crops such as broccoli, cabbage, Brussels sprouts, celery, lettuce, beets and carrots, plant a cover right in with them such as annual rye grass. Do not put the rye grass seed into the very same holes you plant the winter crops. You might sow the rye in a separate row between the crops.

Now we are faced with a real dilemma. What will we do with summertime plants that were not hit by the early frost? Shall we pull them up to make space for the wintertime vegetables? Even if we have had a mild start to winter weather, we know to expect more severe and damaging freezes in the next few weeks. Should we gamble?

Remember last spring plants took a little longer than usual to get established. Well a similar period this coming spring can be avoided. Preserve your old summer vegetable plants by repotting them into five-gallon buckets before Jack Frost gets to them. Now remember that many of the harmful bacteria and fungi that we are trying to avoid in our plants are helped along by having the very same soil in containers also available to them. We have to take as much of the soil off of the plants, being careful not to injure them and add new soil to the containers.

Prune the straggly top growth and make short main stems from it. This encourages new growth and on that growth we hope to see flowers that turn into fruit next spring.

After the plants are carefully placed in their containers, place the containers in a tunnel covered with clear plastic. To make this tunnel you need a framework. Using construction mesh, the 6-inch square material, most easily does this. Cut off a 10-foot length from the 100-foot roll you buy (you might share with a friend). The rolls come in widths of 5 or 6 feet. A 10-foot length makes a nice arch over a 4-foot bed. This can be neatly covered by a roll of clear plastic 12-feet wide and 4 to 6 mils thick. The extra two feet of the plastic enables you to anchor it down along the sides with bricks. You will need extra material to close up the ends of the tunnel.

On sunny days, keep the tunnel closed and allow moisture to build up inside. Moist air absorbs heat and holds it better than dry air. Watch the plants inside to make sure they don’t get too hot or the closed, warm atmosphere doesn’t encourage aphids or molds. On really hot days open up one end, or maybe both, to cool things off and let the breezes in. Remember; don’t let the soil dry out!
FROM THE EDITOR: Please send or email articles and announcements to the address below. All articles must be in my hands by the 10th of the month. Short announcements (no more than 2 or 3 lines) will be accepted until the 25th.

Nora Graf
PO Box 3652
Camp Verde, AZ  86322
mesquite2@hotmail.com
(928) 567-6703

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Next Meeting

Because of the Thanksgiving holiday the November MG meeting has been moved to November 14.

Dr. Archie Dickey, currently dean of the biology department at Embry Riddle, will be our November 14th speaker.

As you develop gardens in the Prescott area, you might find it interesting that native plants growing in and near your garden area may have been used by Native Americans and early pioneers as food. He will talk about some of the more common Ethnobotanical plants of the Prescott regi