

# Raised Bed Gardening

**I** University of Idaho  
Extension  
Kootenai County

1250 W Ironwood, Ste 107  
Coeur d'Alene, ID 83814

Phone: (208) 292-2525

Plant Clinic: (208) 292-1377

E-mail: [kootenaimg@uidaho.edu](mailto:kootenaimg@uidaho.edu)

Web: [uidaho.edu/kootenai](http://uidaho.edu/kootenai)



Maureen Carl, Master Gardener  
Kara Carleton, Idaho Master Gardener Coordinator  
University of Idaho Kootenai County Extension

Raised bed gardens are an excellent way to plant a garden when the ground you have is not very serviceable, high in clay or if space is limited.

The raised bed allows the gardener to concentrate on soil preparation in small areas and is effective in use of soil amendments and a way of creating the ideal environment for the vegetables you choose to grow. Soil preparation is key to successful raised bed gardening. Mix the soil of your choice with 50% compost when placing the soil in the raised bed. Also add a portion of drainage material like perlite or vermiculite. Sand will cause the mixture to compact over time. Do not press the soil down. It should be somewhat fluffy and loose. Providing soil that is rich in humus and nutrients is what is needed when gardening in small environments. Always start off with a soil test to get a baseline of nutrients needed. To grow closely together, plants must have adequate nutrients and water. Providing fertilizers and irrigation will help, but there is no substitute for deep, fertile soil high in organic matter.

Raised bed gardens can be low to the ground (8 inches high) or they can be knee depth. I recommend the latter height. Beds are generally built three (3) to four (4) feet wide and can be as long as desired. By keeping them three (3) or four (4) feet wide you can reach the center when planting and weeding without having to enter the garden bed. You can also build them with a bench along the side so that you can sit as you work in the garden. The gardener can work from either side of the bed, reducing the need to enter the bed or walking on the soil, which causes compaction.

Raised beds can be built from many different woods. Fir, cedar or redwood is recommended, as it will last longer than many of the other woods. Do not purchase treated woods. The treatment in the wood can be transferred into the soil and cause the plants to deteriorate. Non-treated wood is recommended. 2x8 inch boards are recommended for the sides of the bed with a post at the corners to screw the sideboards into. This will make a very sturdy corner. My recommendation is three (3) boards high (or knee deep) sides made from 2"x8"x12' boards. The end boards should be three (3) to four (4) feet wide. This provides a large enough bed for growing a varied amount of vegetables. If building more than one raised bed, the beds should be two (2) to four (4) feet apart, depending on your garden area. This will allow for a wheelbarrow or other tools to be placed or moved between them. Concrete blocks or rocks can be used to create the sides of the bed as well. Mounding soil into rows with a flat center and sloping sides is a great substitute as well.

Using treated lumber – New EPA approved chemicals without arsenic have replaced chromated copper arsenate (CCA) for home and garden use. CCA is still available for other applications. Before buying treated lumber, be sure you know the use intended by reviewing the appropriate end use categories. This tag is usually stapled to the end of the boards

For a 12 foot by four (4) foot raised garden bed you will need the following items:

Six (6) each 2"x8"x12' boards (fir, redwood, cedar) three (3) for each side. (If you wish to have a bench on each side two (2) additional 12 foot boards will be needed.)

Six (6) each 2"x8"x4' boards

Four (4) each 4"x4"x4' posts

1 package screws or nails 3 ½ inches in length

Tools necessary: A drill, level, screwdriver, square, hammer, measuring tape and saw for cutting the wood to the appropriate length, if not purchased in final lengths needed.

Site preparation will include a shovel, wheelbarrow, spading fork and soil components.

If you have burrowing animals in your area you may wish to line the bottom of the raised bed with a metal hardware cloth to prevent burrows to be made into your garden. A layer of sand in the bottom two (2) inches deep may provide additional drainage for your raised garden bed.

Combining a raised bed with a hoop house provides you with an inexpensive, easily constructed greenhouse that extends the growing season from early spring through late fall. Be sure to open the hoop house up on bright days to prevent overheating. Temperatures inside a hoop house can easily exceed 100 degrees during clear weather and even on cooler days.

Should you wish to cover your raised bed to extend the growing season, PVC pipe can be used to allow hoops to extend from side to side of your raised bed and plastic can be placed over the PVC hoops to protect the plants. You will need two different diameters of pipe 1 ½ inch PVC pipe for the braces and one (1) inch PVC pipe for the hoops. The one (1) inch pipe will fit inside the 1 ½ inch pipe braces. Cut 12" pieces of the 1 ½ inch PVC pipe and attach them at the corners and every three (3) feet on the sides of the garden bed (vertically) on the inside of the garden bed. Use plumbers tape or pipe brackets to hold the PVC pipe section to the side of the garden bed (make sure not to fill the PVC pipes with soil when filling the garden bed). Purchase four (4) sections of the one (1) inch PVC pipe that are long enough to bend and reach each side of the garden to create a hoop. Once all the PVC pieces are in place you may cover the hoops with heavy plastic film to cover the garden bed. Greenhouse film is more durable than the plastic found at your local hardware store. Four (4) to six (6) millimeter plastic is recommended (six (6) millimeter is heavier and more durable).

Watering can be easy as well. Once the raised bed is completed, a watering system could be installed along the edge of the bed with drip hoses or small sprinklers with hoses can be attached to the bed to ensure complete water coverage. Either can be attached to a water timer to ensure a proper watering schedule.

A little imagination can make the raised bed gardening process very easy. Raised beds can be completed in as little as one day or easily can be a weekend project.

**BOXED  
BEDS  
WITH PVC  
FOUNDATIONS**

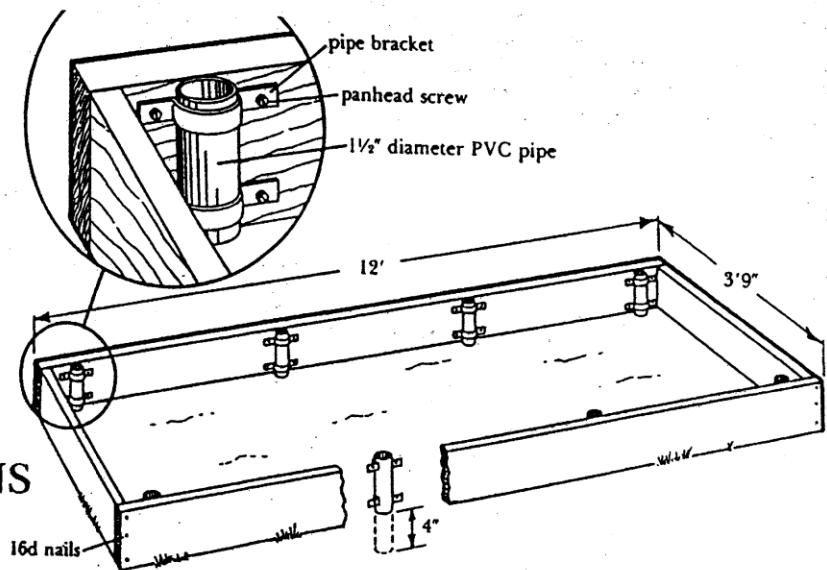


Illustration 2-5

**Wooden Raised beds (12' x 4') Do not use Pressure treated lumber**

**Shopping list**

- Lumber (fir, redwood, cedar)- 31'- 2 "x 8" x 12' (cut into 2-12' lengths & 2- 43'9" lengths)
- 8' of inch and a half PVC pipe, cut into 12" lengths
- pipe brackets, or plumbers tape
- 32 panhead zinc plated screws, #10 x 1"
- galvanized nails- 16d

**Tools**

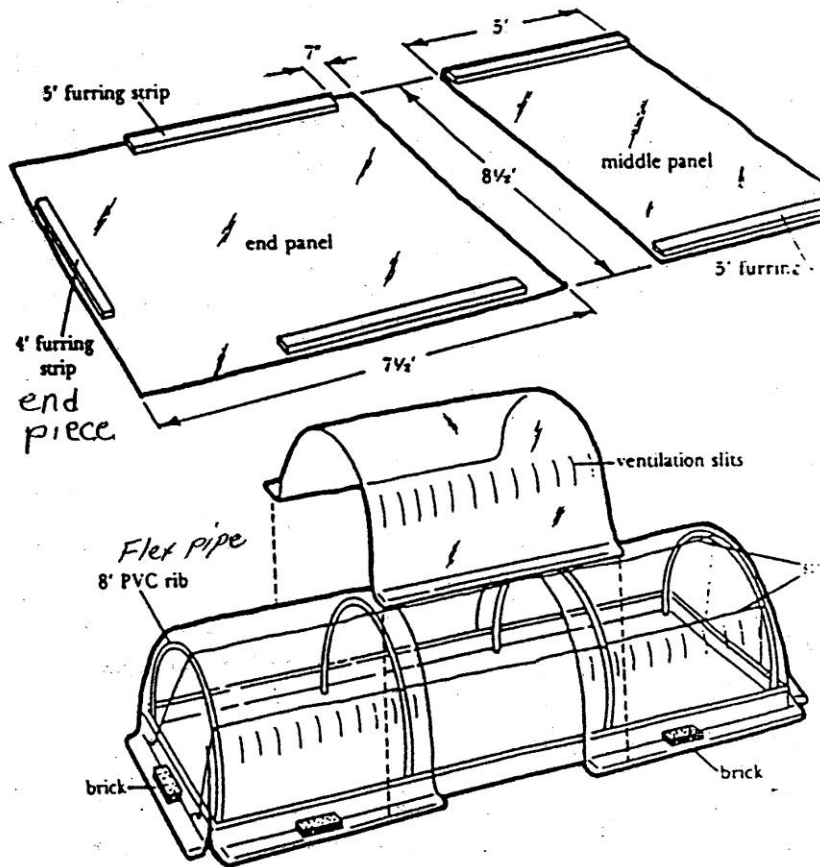
- Drill
- Hammer
- Level
- Screw driver

**Site prep**

- Shovel
- Spading fork
- Square
- 12' measuring tape

## Raised Bed Hoophouse

Combining a raised bed with a hoophouse provides you with an inexpensive, easily-constructed greenhouse that extends the growing season from early spring through late fall. Be sure to open the house up on bright days to prevent overheating. Temperatures inside hoophouses can easily exceed 100 degrees during clear weather, even on cold days. Use heavy plastic film to cover the house. Greenhouse film is more durable than the plastic sheets found in most hardware stores.



### Tunnels (hoop houses)

#### Shopping list

- 4-6 mil plastic (6 mil heavier)
- 1" x 2" furring strips- 5' lengths
- 1" flex pipe - 8' lengths
- 6 nails
- pins made from coat hangers or bricks  
to hold plastic down
- string

#### Tools

- Scissors
- Staples
- Staple gun