



## Bronx Green-Up THE NEW YORK BOTANICAL GARDEN

Bronx Green-Up, the community gardening outreach program of The New York Botanical Garden, provides horticultural advice, technical assistance, and training to local gardeners, urban farmers, school groups, and other organizations interested in improving neighborhoods through greening projects. At the heart of Bronx Green-Up are the community gardens, school gardens, and urban farms of the Bronx. For additional information, contact Bronx Green-Up at 718.817.8026 or [bronxgreenup@nybg.org](mailto:bronxgreenup@nybg.org), or visit [www.nybg.org/green\\_up](http://www.nybg.org/green_up)

### BUILD A COLD FRAME

A cold frame is a bottomless box with a top made of glass or clear plastic that is set in a garden bed to extend the growing season by letting in **sunlight but keeping out cold air**. Eliot Coleman, a farmer, author, and inventor from Maine, tells of joyful harvests of gourmet greens in early March at his Four Season Farm. See the following page for more information on the benefits of cold frames and how to use one.

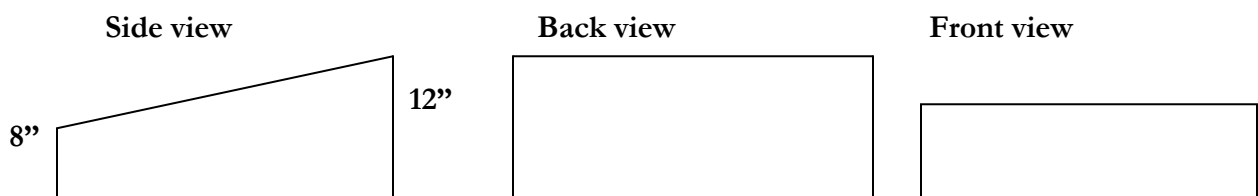
A cold frame can be made to any size. Some are built to match the size of an old window to be used as the top of the cold frame. The building plan that follows is for a wooden cold frame that measures three feet wide and four feet deep. If you will be growing food in the cold frame, use untreated lumber.

#### Materials

- 1 2x8 board, 3 feet long
- 1 2x12 board, 12 feet long
- Saw
- Drill
- Drill bit
- Box of 3½-inch outdoor screws
- Plastic or glass or old window to be used for the top of the frame
- 1 or 2 small door hinges (to join the top to the frame)

#### Directions

1. **Cut the lumber.**
  - a. Cut the 2x8 board to 3 feet long. This will be the front wall.
  - b. Cut the 2x12 board to create three lengths: a 3-foot long segment for the back wall, and two four-foot long segments to be used for both sides.
  - c. Cut at an angle the two side pieces so that the height measures 8 inches on one end (the front) and 12 inches on the other (the back).



2. **Assemble the cold frame.** On a flat surface, join one corner at a time. Pre-drill holes for screws.
3. **Attach the top.** Use the hinges to secure the window, glass, or plastic top in place.

## USING YOUR COLD FRAME<sup>1</sup>

- Place the cold frame facing south, to receive the maximum amount of light.
- Extend the growing season by using a cold frame to start seeds earlier in the spring or later in the fall. Sow the seeds in trays placed in the cold frame or directly in the soil; later transplant seedlings into the garden. The benefit of seed-starting in a cold frame is that plants will be adapted to their environment. They won't need to be introduced to the elements slowly, a process called hardening off, which is needed if seeds are started indoors.
- Recommended plants for growing in cold frames include arugula, lettuce, parsley, radish, scallion, spinach, and swiss chard (you'll need to harvest these as baby greens). Tall crops won't fit in a cold frame with the top closed.
- Time your planting according to when you want to harvest: For example, spinach planted during August can be harvested from mid-October to the end of November. (As the weather begins to cool, close the top on the frame to keep plants warm.) If planted mid-September to mid-October, expect to harvest between early December and spring, as the crop will overwinter at different rates depending on the conditions.
- On warm days you will need to vent the cold frame. Aim for a 70°F temperature inside the frame in spring, and 65°F in fall. Keep track of the temperature by placing a thermometer on the soil surface, yet out of direct sunlight. Venting is not needed on rainy days, unless it is extremely warm. If you want the plants to receive rain water, simply open the top completely. Gardening catalogs sell adjustable vents, but the top can also be staked open.
- How much to vent will depend on the season. It is better to vent too much rather than too little so that the crops grow as hardy as possible to survive the cold conditions they will face. If they grew from seedlings in cooler conditions, they will adapt and be sturdier later on in winter.
  - In winter (around November to February 15): little to no venting is necessary
  - In late winter/early spring (late February to mid-April): vent more and more as the days get warmer
  - In summer: (late August to mid-September): Leave the cover off the cold frame, but start your seeds inside for fall harvest
  - In fall: vent less and less as the temperature drops
- If you are overwintering plants in a cold frame, snow can act as an insulator, but don't let too much pile up on the glass top or it may break.
- Watering the plants in your cold frame will depend on what season it is, as well as the stage of plant growth. If seed-starting, you will need to keep the soil consistently moist for germination to occur, so you will need to monitor the moisture level closely. As plants mature, you will want to make sure that the soil remains moist but not wet in the root zone. You can best tell if your plants need water by probing down three inches.

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<sup>1</sup> Adapted from: Coleman, Eliot (1999). *Four Season Harvest: Organic vegetables from your home garden all year long*. White River Junction, VT, Chelsea Green Publishing.