



March 6, 2010

Originally published in  
the *Contra Costa Times*

## Using Pressure-Treated Lumber for Raised Beds

by Emma Connery, Contra Costa Master Gardener Program Coordinator

Consider various types of building materials  
when constructing raised beds.

### SUMMARY

Gardening in raised beds has become increasingly popular. But pressure-treated lumber may not be the best choice for constructing your raised beds, especially if you plan to grow food. Consider other alternatives such as untreated lumber, recycled plastic lumber, stone, concrete block, brick, steel, or even concrete rubble.

Raised bed gardening is growing steadily in popularity, with good reason. It's one way to have good soil without extensive digging and amending. It's a good way to deal with slopes or oddly-shaped spaces. And it brings the plants up to the gardener, saving the knees and back. Well-constructed raised beds also create a neat and attractive look in the garden.

One question frequently asked by callers to the Master Gardener hotline is "Is pressure-treated lumber appropriate and safe to use for raised beds when my intent is to eat the food that is grown in it?"

### Types of Pressure-Treated Lumber:

Pressure-treated lumber contains chemicals that give it properties to resist insects and rot and thus provide a longer life in an outdoor environment. Pressure-treated lumber is identified by the chemicals that have been infused into it. Some common treatment types are:

- **CAA - Chromated Copper Arsenate.** Since 2004 this treatment is no longer available for the more common residential applications. CAA contains arsenic, a known carcinogen. Studies have shown that the chemicals in CAA (chromium, copper, and arsenic) leach into the soil and that vegetables grown immediately adjacent to the treated wood may take up limited amounts of arsenic. U.S. Public Health Service standards indicate that these vegetables would still be safe for human consumption. However, another study indicated that when soil pH levels were low, root crops absorbed levels that could be of concern. UC suggests inserting a layer of plastic sheeting between the wood and soil to reduce these effects. For a free download of the UC publication *Using CCA Preservative-Treated Lumber in Gardens and Landscaping* that contains additional information on the use of CCA go to (next page):





<http://anrcatalog.ucdavis.edu/pdf/8128.pdf>

- **ACQ – Alkaline (or Amine) Copper Quaternary** – Very high levels of copper have replaced the arsenic. The high copper content causes corrosion so one must build using stainless steel connectors. ACQ has been deemed safer than CAA by the EPA, but copper and other chemicals used in the preservative process can still be leached from the wood and potentially taken up by the plants. As with CAA above, inserting a layer of plastic sheeting between the wood and soil might reduce plant contact with leached materials.
- **Creosote** – A tar based treatment most commonly found on railroad

ties. Creosote can harm plants, and worse, it is carcinogenic and is therefore not suitable for use in any type of garden, particularly one that is used to grow food.

**Consider the Options:**

For gardeners concerned about the chemicals used as preservatives, there are plenty of other, more desirable options, including:

- untreated redwood and cedar (which are naturally rot- and insect-resistant),
- concrete rubble (especially cost-effective if you are already removing a driveway or sidewalk),
- stone, concrete block, or brick,
- steel,
- recycled plastic lumber.

*“For gardeners concerned about preservative chemicals, there are plenty of other more desirable options...”*



A raised bed constructed from concrete rubble. Photo: Sharon Gibson.



**CONTRA COSTA MASTER GARDENERS**

UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

75 Santa Barbara Road, Pleasant Hill, CA 94523

HELP DESK: (925) 646-6586 or [mgcontracosta@ucdavis.edu](mailto:mgcontracosta@ucdavis.edu) ♦ WEB: [ccmg.ucdavis.edu](http://ccmg.ucdavis.edu)