



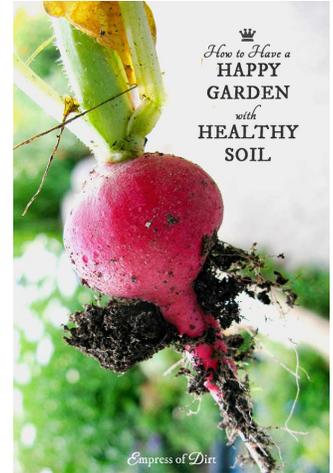
# GARDENING WITH HEALTHY SOIL

All types of gardener can use healthy soil practices that will enable them to grow healthy and sustainable ornamentals, vegetables and fruits, while at the same time storing carbon in the soil to help address climate change. Collectively, millions of gardeners can make an enormous impact minimizing harmful runoff into our streams, lakes and wetlands, while reducing their climate footprint. But it all starts with the actions of individual gardeners outside their homes and in community gardens.

“Healthy soil is the key to organic gardening ... Healthy soil is living soil, filled with billions of microbes and beneficial, microscopic fungi, nematodes, earthworms and other beneficial organisms.”<sup>1</sup>

Two key recommendations to follow for building and maintaining healthy soil<sup>2</sup>:

- a) Stop using harmful chemicals. Synthetic fertilizer salts and pesticides kill the good organisms and encourage more pathogenic activity.
- b) Feed the soil. This means put materials in the soil that feeds the bacteria and fungus that is GOOD for your plants.



Be careful when purchasing fertilizer, read the label on the bag because fertilizer sold as organic can sometimes include sulfur, phosphorus or nitrogen. In place of chemical pesticides, try using beneficial insects such as nematodes.

“Gardeners can do more than merely adapt to global warming, however—they can make choices in their gardens that don’t add to the problem. That’s because each patch of soil (and the plants that grow in it) takes in and gives off various types and amounts of heat-trapping gases, depending on how it is managed.”<sup>3</sup>

## Gardener’s to-do list for healthy soil<sup>4</sup>

- ✓ **Test for nutrient content and pH**, as well as structure and texture of soil. Do-it-yourself test kits are available at garden centers, while you may be able to get more detailed information from your local Master Gardener. Check out the master gardener program of your state’s agricultural extension service. In Maryland go to: <https://extension.umd.edu/mg> and in DC go to: <http://bit.ly/2TfLOCL> and in Virginia go to: <http://bit.ly/2EzIQ6y>
- ✓ **Be patient** – don’t start working the soil when it is too wet and too cold. It should reach a temperature of 50 degrees.
- ✓ **Amend with organic compost** and follow application instructions on the bag.
- ✓ **Mulch** every year to reduce excessive drying of the soil, suppress weeds and moderate soil temperature.
- ✓ **Weed** as needed without chemical pesticides.

<sup>1</sup> “The Dirty Truth About Soil Health”. Planet Natural Research Center. <https://www.planetnatural.com/healthy-soil/>

<sup>2</sup> “How to Make Healthy Soil”. Andrew Weil. <http://bit.ly/2EJq3Ha>

<sup>3</sup> “The Climate-Friendly Gardener” p.2. Union of Concerned Scientists. <http://bit.ly/2TeQ8ql>

<sup>4</sup> “How to build healthy soil”. Marin Master Gardeners. <http://bit.ly/2EsjpnA>

Check out this interactive website from the American Horticultural Society to find a master gardener in your state:  
<http://bit.ly/2VE7gD7>

Finally, Cornell Botanic Gardens offers some specific suggestions for reducing your garden's carbon footprint:<sup>5</sup>

- ✓ Vary your vegetables. Adding diversity to your vegetables by interplanting perennial vegetables and herbs with annual crops requires less fertilizer and maintenance than monoculture beds of annual plants.
- ✓ Make your garden a carbon sink. Till your garden less and instead let plants decompose and become part of the soil's organic matter naturally.
- ✓ Choose native plants, which are adapted to local climate, soil, pests and diseases and require less protection, water and fertilizer.
- ✓ Look for the "Veriflora Certified Sustainable Grown" label on plants, which means it meets standards for environmental and social responsibility.



Useful additional resources...

- ✓ "The Climate-Friendly Gardener" – A guide to Combating Global Warming from the Ground Up". Union of Concerned Scientists. <http://bit.ly/2TeQ8ql>
- ✓ "Organic Gardens" – comprehensive information from the Planet Natural Research Center: <https://www.planetnatural.com/category/gardening/organic/>
- ✓ "8 Steps for Making Better Garden Soil", Mother Earth News: <https://www.motherearthnews.com/organic-gardening/8-steps-to-make-better-garden-soil-zmaz07jjzsel>
- ✓ "Advice to Gardeners from a Climate Change Expert", Cornell Botanic Gardens
- ✓ "Smart gardens begin with healthy soil", Michigan State University Extension: [https://www.canr.msu.edu/news/smart\\_gardens\\_begin\\_with\\_healthy\\_soil](https://www.canr.msu.edu/news/smart_gardens_begin_with_healthy_soil)
- ✓ "Living soil, healthy garden", University of Michigan Extension
- ✓ "Building Healthy Soil", by Kathy LaLiberte: <https://www.gardeners.com/how-to/building-healthy-soil/5060.html>

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<sup>5</sup> "Advice to Gardeners from a Climate Change Expert". Cornell Botanic Gardens. <http://bit.ly/2UeEZIX>