UNIVERSITY OF MARYLAND EXTENSION

GROW IT · EAT IT SEED TO SUPPER

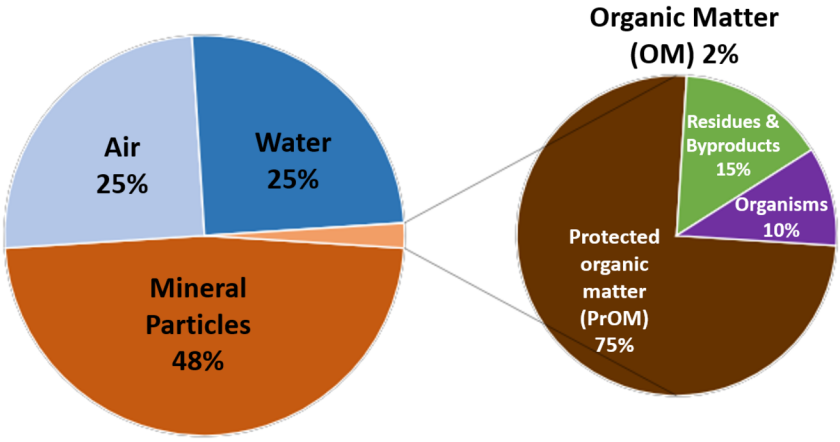
A MASTER GARDENER PROGRAM

Getting Started with Healthy Soil

Soil is more than dirt! It's a complex, living ecosystem that supports all life on earth.

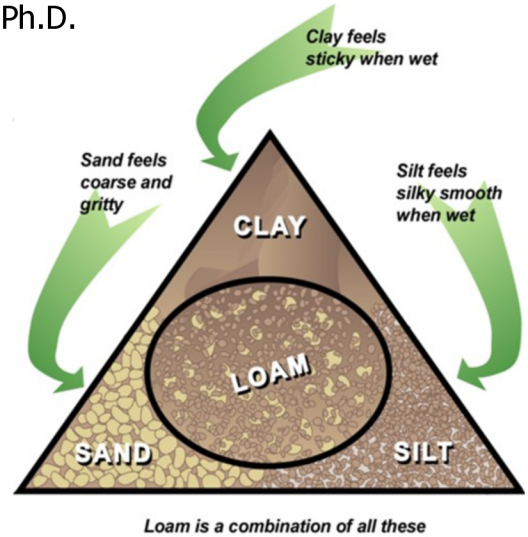
About half of a soil's volume is pore space filled with air and water. The other half is made up of

- sand, silt, and clay particles from rocks that have broken down and weathered over thousands of years, and
- organic matter- living, dead, and decomposing plants, tiny animals, and huge numbers of beneficial soil microbes



Source: MG Training materials developed by P. Steinhilber, Ph.D. and M. Wilson, Ph.D.

Maryland has many soil types; almost all are good for growing vegetables. Healthy soils drain well, are dark in color, crumbly, easy to plant in, and contain plenty of organic matter. Unhealthy soils are hard to dig, low in nutrients, and have poor drainage. They can cause more plant problems than insect pests and diseases!



Source: USDA-NRCS Bozeman Montana

Healthy soils grow healthy plants! Some tips to help you take good care of your soil:

1 **Get it tested.** It's essential to test your soil for lead when growing food crops. The University of Delaware Soil Testing Lab has a basic soil test that will give you information on your soil's pH (level of acidity), nutrient and organic matter levels, and lead levels. They also provide instructions for taking a soil sample.

udel.edu/academics/colleges/canr/cooperative-extension/environmental-stewardship/soil-testing/

2 **Add organic matter regularly.** Feed your soil with organic matter, and your soil will feed your plants. Organic matter, like compost, contains all the major and minor nutrients plants require.

The nutrients are released slowly during the growing season and picked up by plant roots. Organic matter also helps the soil hold water during dry periods and contributes beneficial fungi and bacteria that help prevent and fight plant diseases. Composting your yard, garden, and food waste and adding the compost to your garden beds allow you to recycle nutrients on-site.

3 **Protect your soil!** Cover bare soil with garden plants and mulch to help it stay cool and hold water during dry periods. Plant roots and mulch hold the soil in place and prevent it from blowing or washing away during storms. Spread tree leaves over garden beds in the fall.

Grass clippings (from lawns not treated with herbicides) make a good growing-season mulch around plants.

4 **Minimize digging and tilling.** You need to dig in the soil to plant seeds and transplants. But too much digging brings weed seeds to the surface, where they can germinate. It can also disrupt soil life and increase carbon loss from the rapid breakdown of organic matter.

Learn more:

Web pages- go.umd.edu/FoodGardening
Blog articles- https://marylandgrows.umd.edu/?s=vegetables

Videos- https://www.youtube.com/UMDHGIC
Get answers to your gardening questions- go.umd.edu/AskExtension