

How to Acidify Your Soil Naturally

A forest soil is rich with humic acid. This is what you smell walking in the woods after a rain. Humic acid gives the soil that tangy “earthy” aroma. Humus is the product of the decomposition of vegetative materials by microbes. Humic acid fosters the growth of fungi. Most trees, shrubs and perennials prefer a fungal soil. Fungi form associations with plant roots that allow the plants to absorb more nutrients from the soil. A surprising number of annual vegetables also prefer a fungal soil, such as all cucurbits (squash, melons, cucumbers) potatoes and legumes (beans, peas.)

A standard practice of acidifying soil is to apply ammonium sulfate or elemental sulfur. However, this practice requires frequent soil tests to monitor the pH. Also, excessive sulfur in the soil can act as a fungicide and insecticide, the opposite of what a savvy gardener strives to achieve! Another practice is to use large amounts of peat, which is harvested unsustainably from Canadian peat bogs. Everything we need to create a forest soil exists all around us in our fertile state of Iowa (and Vermont!)! The favored Permaculture method is known as *hugelkultur*.

Hugelkultur is like building compost but with a lot more wood. As the wood decays it releases nutrients and stores water. The composting process continues through the winter and warms the soil for spring growth. Expect a slightly longer growing season for several years. Hugelkultur can be built as a raised bed right on top of existing soil or even atop concrete! Another option is a hugelkultur trench, in which the woody materials are buried slightly below ground level.

How to Build a Hugelkultur Bed

1. Gather woody waste materials such as dead logs, extra firewood, pruned or clipped branches, and more. The wood can be either rotting or fresh, although already rotting wood decomposes fastest.
2. Lay the wood in a mound about 1-2 feet high and stomp on it a bit to settle the pile. You can dig a trench to lay the wood in, if you wish. Water the materials generously as you layer them.
3. Cover the wood with other compost materials such as autumn leaves, grass clippings, garden and kitchen wastes, and manure. (This stage is optional if you aren't planning to plant the bed immediately.)
4. Cover the wood and compost with a few inches of dirt and/or prepared compost.
5. Finish with a mulch layer of woodchips to protect the bare soil. Plant the bed with cover crops for the first year to improve the fertility even more before adding vegetables or other plants. Dutch white clover can be planted into woodchips and the clover fixes nitrogen to aid in the breakdown of the mulch. Clover can be sown early in the spring and act as a ground cover beneath the berries.



Holzer's methods of gardening and cultivation

