



Soil Health Practices for Gardening

5 Soil Health Principles



gardening practices

| keep it covered | minimize disturbance | keep a living root | add diversity | integrate animals |
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additional information

mulch around plants



Mulch covers the soil and protects it from sun and erosion. It also suppresses weeds so you don't have to cultivate the soil around your plants with a hoe. You can use straw, pine straw or wood mulch. These mulches will break down and enrich your soil. If you rotate through different types of mulches, it adds more diversity to your system as well. Mulch over cardboard in garden paths deters weeds and keeps your boots cleaner.

plant cover crops



Plants protect soils from the baking sun and erosion so cover crops count as covering the soil. Cover crops are often planted in the fall on fields that would be fallow in the winter. This keeps a living root in the ground year-round. Usually cover crops are not a cash crop, so they add diversity. Cover crops often have flowers that bring in pollinators that add diversity (and count as incorporating animals).

minimize foot traffic



Compaction is a disturbance. If you can step only in pathways in your garden, your microbiome will be happier.

till less



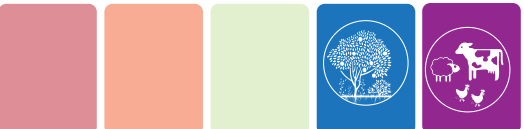
Tilling breaks up beneficial fungi, cuts earthworms and upsets the underground ecosystem. Tilling less may be accomplished by growing more intensively (like square foot gardening), transitioning to raised beds, or using mulch to limit cultivation.

plant wildflowers



Wildflowers add root diversity and bring in beneficial insects, thus incorporating more animals. Plant near or with other plants for maximum impact.

add compost



This is an easy way to incorporate animals if you don't have a farm. The microbiome in the compost counts as animals as well. Rotating through different types of composts also adds diversity to your garden.



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additional information

implement intercropping



Intercropping is the cultivation of two or more crops at the same time on the same field or row. This adds extra cover to the soil, adds a living root, and adds diversity.

minimize insecticides



Chemicals can count as a disturbance. In a well-balanced system, there will be some insect pests, but there will also be many beneficial bugs and animals to prey on the pests. For every pest species, there are between 400 and 1,700 species of insects that are beneficial to humans. When you use insecticides you kill the pests, and also the beneficials. Try to research insects to make sure they are pests, and encourage habitat for beneficials.

minimize chemical fertilizers



Synthetic fertilizer interrupts the relationship between microbes and plant roots because the fertilizer gives plants "free" nutrients, so they don't need to trade sugars for nutrients from microbes. Organic fertilizers, while usually not as strong as chemical fertilizers, will add macronutrients slowly and they also have the micronutrients that your plants need. Organic fertilizers can be blood meal, bone meal, or fish emulsion, all of which count as animal inputs into the system.

minimize herbicides



Herbicides can be a disturbance. Most people do not enjoy seeing weeds in their gardens, but weeds add to the diversity of the garden and help to keep the soil covered. While weeds that are big enough to compete with your plants will harm your yield, smaller weeds like henbit and chickweed will melt away when the weather gets hot. They also add flowers that native pollinators love. Moderation is the key, and you'll get better at managing weeds with mulch and cardboard with practice.

test your soil



Get your soil tested at your local Extension office. This test will tell you what nutrients your soil is missing, and just as importantly, what pH your soil is. When your soil pH is too high or too low, the plants cannot uptake nutrients efficiently, even if the nutrients are already in the soil. If the plants can't thrive, you have no living root and bare soil.