



Improve Your Garden Soil Structure This Year

The soil in your garden is a medium that needs to be managed so it won't be worn out, used up and wasted. The productivity of your garden is directly related to soil fertility and soil health. If you never did anything to improve the soil, you would notice the decline in your garden's productivity year by year. The decline may show itself in less number of tomatoes or the size of your cucumbers or the health and size of the plants. Sooner or later, your garden would be mediocre or less. That kind of garden is not worth having. It doesn't provide food or color and is not enjoyable to be in.

There's a simple cultural practice that can make a huge difference in the success of your garden. It is the addition of organic matter to the soil. Organic matter improves the structure of the soil. It helps soil particles clump together to give "body" to the soil. Organic matter in the soil holds water - this will make a big difference in droughty times. It holds and provides nutrients and releases them bit by bit over time. Organic matter provides an environment for organisms in the soil that add to the success of your garden. The beneficial organisms that live in the soil include earthworms, insects, fungi, bacteria and other microorganisms. This life is dependent on moisture, nutrients and a suitable environment. Organic matter in the soil provides for these microorganisms.

Organic matter can be added whenever the soil is not frozen. Many farmers and gardeners add it in the fall with applications of leaves, grass clippings, compost or aged manure. It can be applied on top of the soil or for best results, it should be tilled into the soil. When it is tilled in, it becomes a direct benefit to underground life and is less likely to be lost to wind or runoff. Till it to a depth that suits your tools or equipment. If you did not have the chance to add organic matter last fall, you can make an application this spring as soon as the soil thaws. You can add it between your garden rows this summer as another option.

Practical Tips About Organic Matter

- Consider collecting leaves and yard waste such as grass clippings from your own and neighbor's yards. Store these in a pile or heap in a convenient location for easy unloading and use. Consider making a 4 foot high leaf "pen" out of wood and wire fencing or chicken wire. Allow the leaves and grass to decompose over time. A year old pile will decrease in volume by more than 50% and will provide organic matter rich in nutrients to your garden. Be aware of grass clippings from lawns on which herbicides were used. The herbicides in the grass clippings have a residual effect when placed beside your garden plants, distorting or setting them back.
- Search for sources of farm manures in your area. Look in the back of the phone book under "farms" or "horses". Be aware that farm manures will likely have weed seeds. Allow the manures to decompose over time by storing them in a pile or heap. The natural heat of the composting process destroys weed seeds. Aged manure is also easier to handle than fresh manure.

- If you don't have time or space to handle or store bulk organic matter, consider finding local sources of finished compost. Your local garden center or landscape company would likely have compost and deliver it to your site. When planning for the amount to be ordered, tell your source how many square feet of garden space you have. They will bring the appropriate amount. A typical amount is a layer of about 2 to 4 inches deep. The compost will probably be sold by the yard (square yard). There is 27 cubic feet in a square yard.
 - If you don't need enough to meet a minimum order of bulk compost or you'd rather do it yourself, consider purchasing bags of compost or dehydrated manure. Your garden center sells bagged organic matter that can be loaded into the back of your van or the trunk of your car. This form of purchase tends to be more expensive if you calculate price per cubic foot.
 - Allow a minimum of two weeks between organic application and planting time. Organic matter that is not "broken down" or "finished" will rob nitrogen from the plants during the decomposition process underground. Extra nitrogen can be added to compensate for this loss.
 - Have your soil analyzed to determine pH, nutrient needs and the percent organic matter. Keep track of this information and improve on each to optimum levels. The cost of a soil test will pay for itself in savings by not overusing fertilizers, lime or other soil amendments. (For an order form and information on how to submit a sample to the UMass Soil Testing Lab, go to <http://www.umass.edu/soiltest> or call (413) 545-0895.)
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