

## GARDEN SOIL PREPARATION AND SOIL ENRICHMENT

Proper soil preparation is one of the keys to gardening success. You will get more produce from a small, well prepared garden, then from a large poorly prepared garden. For vegetable gardens, till the soil 7-8 inches deep before planting, turning under manure, compost, fertilizer and this allows moisture to penetrate more easily.

Washtenaw county has a wide range of soil types, ranging from clay to sand. Clay soils are fine textured, making cultivation difficult. Clay soil is slow to drain & eventually dry in a hard, cake fashion, which fails to absorb water readily. Adding organic matter helps break apart the hard lumps & improves moisture retention.

Sandy soils drain well but are low in moisture & nutrient-holding capacity. Adding organic matter such as peat, compost, manure, grass clippings or leaves improves sandy soil. Adding organic matter needs to be done yearly to replenish the soil.

Fall is a good time to add organic matter as this allows the matter to decompose over the winter.

Fall is also a good time to turn over the soil to allow insects & diseases to be exposed to the cold weather, this may reduce their numbers. This is something to consider after this growing season.

It takes about one-third new soil material to alter the structure of clay or sandy soils. A standard truckload of topsoil or compost is five cubic yards. This will cover 500 square feet to a depth of 3 inches. That is equal to a garden 20 X 25 feet. This amount of soil should be worked into the top six inches of the existing soil.

A soil test every 3 years will indicate fertilizing needs. A good recommendation is 25 pounds of a balanced fertilizer such as 12-12-12 per 1000 square feet of garden. DO NOT add lime unless it is recommended by a soil test, as many soils in Washtenaw County are too alkaline.

Composting is a valuable aid to the home gardener. Organic materials for composting include sod, grass clippings, leaves hay, newspaper, wood ashes, hedge clippings, and many kinds of plant refuse from the garden. DO NOT use diseased plants from the garden as some disease organisms are not killed by composting. Avoid composting weeds heavily laden with seeds as not all the seeds will be killed. Avoid garbage with meat or

fat, it attracts animals & it will smell bad.

The recommended size for a home compost pile is no smaller than 3 feet X 3 feet X 3 feet, and no larger than 5 feet X 5 feet X 5 feet. A smaller pile may not heat up high

enough for efficient breakdown, or it may lose heat and quickly slow down the process. A larger pile may hold too much water not allowing air into the center. This would create an anaerobic environment. Air naturally penetrates 18 to 24 inches into a pile from all directions. The biggest problem with a large pile is physically turning the pile. It can be too much for some people to manage.

One method is to construct a three-sided enclosure with a fence, blocks or other materials. Locate the pile near a water source and in the shade. Begin the pile by spreading a 6 - 8 inch layer of organic matter. Place materials that tend to mat, such as grass clippings, in a layer only 2-3 inches thick. Moisten the pile but DO NOT soak. The next step is to add a 1 - 2 inch layer of soil. Soil contains the microorganisms that help start the decomposition process, causing temperatures in the pile to approach 140-160 degrees Fahrenheit at the pile center. This temperature kills some weeds seeds and disease organisms.

Continue this layering process as you build up the compost pile. Keep the pile moist not soggy. For the fastest decomposition turn or mix the pile every 2 to 4 weeks in summer and less in winter.

Planting a cover crop, is a great way to revitalize the soil in your garden. Cover crops increases the number of microorganisms in the soil and the amount of nitrogen fixing, which frees up nitrogen to be used by your garden plants during the next growing season. Planting a cover crop is often referred to as green manure, which dates back to Ancient Greece where it was first recognized that these cover crops provided needed nutrients for the soil.

Choose one that grows fast but can be easily discouraged next year. Oats or annual rye are easy to find and will not persist next spring. In the spring, the green manure should be terminated or killed at least 30 days prior to planting of the garden crop by tilling it under or by mowing and tilling it under the soil surface.

The **Master Gardener Hotline** is open from April to October, Monday through Friday. Lines are available 9:00 am to noon and 1:00 pm to 4:00 pm at 888-678-3464

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