

(around 5.5) and some plants even lower pH (blueberries, also certain ornamentals e.g., azaleas, rhododendron). Fertility control and maintenance is easier if you raise soil organic matter to 3.5 percent or higher by preventing soil erosion and by periodic composting and green manuring. This allows most nutrients to be stored in the organic soil fraction, thus less subject to leaching or volatilization.

Organic matter is also the key to soil moisture control. Its presence enhances stable soil structure in which water is easier absorbed and retained than in the mineral part of the soil. Along with deep rooting space, it makes crops less sensitive to damage from excesses or deficiencies of water. The organic matter also enhances soil biological activity which may protect crops from damaging pests and diseases, thus avoiding the use of toxic pesticide chemicals in gardens.

Our lab printout gives you very general recommendations based on the information you provided and the test results. You are urged to consult with your County Agent or a nearby "master gardener" for specific on-site advice. Ideally, your test results should (for most crops) show pH 6.0-6.5, the four nutrients (P, K, Ca, Mg) in the upper end of the "HI" range (i.e., P 50-80, K 120-240, Ca 2500-4000, Mg 250-500 lb/acre) and organic matter in excess of 3.5 percent. We can analyze organic matter if you send \$4 along with your sample (check to "WVU Soil Testing"). Do not request other nutrient analyses as our WV soils (with rare exceptions) contain all other needed nutrients. For organic gardeners, we issue special recommendations but it is suggested that very infertile soils are first improved using "chemical" fertilizers to bring them to a maintenance fertility level after which "organic recycling" should be sufficient.

Keep an accurate record of annual test results and production for each plot or field. Carefully protect soil structure by avoiding foot or wheel traffic within planting beds or rows, e.g., by using a plywood sheet while spading or planting. Plant beds in diagonal patterns for efficient light interception. Likewise, plant row crops in East-West direction. Rotate sensitive crops between beds and fields. Remove crop residues and recycle them in a proper composting system. Use mechanical or biological, not chemical, insect and pest control. Use fencing or netting to discourage foragers and predators. On slopes, use contour terraces so as to prevent soil erosion and enhance water storage. On stony or poorly-drained sites, build raised beds or planter boxes but pre-test your "top soil" sources.

For further information, contact your WVU County Agent, WVU horticulture or soils specialists, or the WVU Soil Testing Lab (293-6258 or FAX 293-6954).

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