Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Virginia Cooperative Extension
Knowledge for the CommonWealth
VIRGINIA STATE UNIVERSITY

Understanding and Using Compost

Contact: Diane Relf, Extension Specialist, Environmental Horticulture

Posted April 1997

Compost is produced when organic matter, such as garden and lawn waste, is broken down by bacteria and fungi. It contains humus, which helps hold nutrients in the soil. Humus reduces the need for chemical fertilizers and helps prevent leaching of nitrogen into groundwater. Humus-rich soil promotes healthy plants which are less susceptible to diseases and insect pests thus reducing the need for chemical pesticides. Humus also improves soil structure; sandy soils will hold water better while clays will drain faster. The improved soil structure helps reduce erosion as better drainage allows water to flow into lower soil layers, rather than puddling on top and running off. Improved soil structure also helps the growth of roots which hold soil in place.

Compost promotes biologically healthy soil by providing food for earthworms, soil insects, and beneficial microorganisms. Of great value also, compost recycles garden wastes that would otherwise end up in our landfills. However, compost should not be considered a fertilizer. Compared to organic materials like manure, compost is low in nitrogen. Some of the nitrogen in plant wastes is lost during the composting process. Much of the remaining nitrogen is incorporated into organic compounds and is released slowly when the compost is applied to the soil.

USING COMPOST

- **Container Gardening:**
  When mixed with coarser materials, compost creates a good container-gardening medium. Strain the compost through a sieve to eliminate large particles. Then mix 1/3 compost, 1/3 garden loam, and 1/3 perlite or sand. You can also substitute compost for peat moss in other potting mixtures.

- **Vegetable and Flower Gardening:**
  If you produce large amounts of compost, spread about 2 inches over your entire garden annually and work it into the soil. More than 2 inches may encourage the appearance of grub worms. If your supply of compost is small, use it with transplants. Dig the hole for your transplant and add a trowel of compost to the

backfill. The compost will loosen the soil for the young plant's roots and provide it with micronutrients.

Raised beds are excellent for intensive vegetable gardening. Create these by generously mixing compost with the top 6 to 8 inches of soil. Dig topsoil from pathways to build a bed 10 to 12 inches deep, 3 to 4 feet wide, and as long as desired.

- **Shrubs:**
  Add about 1 inch of compost to the soil around your shrubs in late spring, gently raking it into the surface. As the compost breaks down, humic acid will penetrate deeper into the soil, improving the moisture retention, aeration, and fertility of the soil around your shrubs.

  Finished compost should not be used as a mulch as it tends to encourage weed growth. Instead, shred piles of leaves with a lawn mower and spread them around the shrubs. Shredded leaves won't mat and will allow better water penetration than unshredded leaves or compost.

- **Turf:**
  Incorporating compost into soil is excellent for establishing or renovating a lawn. Spread about 2 inches of compost and till into the soil before laying turf or planting grass seed. Do not spread compost on an established lawn as this may contribute to thatch buildup. Too much thatch can lead to disease, insect problems, and temperature and drought stress.

(Originally published as "Understanding And Using Compost," by David McKissack, Master Gardener Coordinator, in The Virginia Gardener Newsletter, Volume 10, Number 6.)