Slug: Ask the Master Gardener
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Contact: WSU/Skagit County Cooperative Extension: 428-4270

As the days shorten and our weather becomes cooler, gardeners can take time for a respite from the chores of summer gardening. It is an ideal time to consider the health of the soil on which all our gardening efforts depend. Gardening is really all about soil and if you have a dollar to spend on your garden, ninety cents should got to improving the soil and ten cents should go to purchasing plants.

Soil is the substance that supports the roots of the plants and allows them to access nutrients, water and air: three things they must have to grow. Soil is composed of minerals, organic matter both living and dead, and spaces in which air and water are present in varying degrees. In a purely natural environment, soil is recreated annually by the addition of plant debris (dead leaves), dead animals decaying and organic matter that decomposes over time. In combination with earthworms, bacteria, fungi and other micro-life, the soil is regularly enriched. In areas where there is lots of vegetation, decayed material and other organisms, the soil is constantly revitalized. Where there is no vegetation to provide the debris and decay, the soil is less fertile. Most of our gardens fall somewhere in between because the land on which we build our gardens has been disturbed by building and development and does not collect organic matter from the surrounding vegetation. Choosing the right plants for you soil is one option that allows you to use what you have.

Soil testing for fertility and pH can be done every 3 to 5 years. Contact the WSU Extension office for a list of places that conduct soil tests.

Both old and new garden soil may need additional material. Replenishing soil with organic matter is one of the simplest ways of continually assuring garden health. Although processed fertilizers will feed your plants and are especially useful when plants need a high concentration of nutrients in the spring, organic matter can be applied in the fall and winter and acts to both condition the soil and to slowly release nutrients all through the year.

There are various organic materials available for gardeners to use that will build soil and promote healthy plant growth. Undiluted manure and blood meal are rich in nitrogen, but must be used in small amounts or over-fertilization can occur. Raw manure should be applied one to two months prior to planting. Compost, leaf mulches and spring-incorporated cover crops are lower in nutrients, but they condition soil and provide a slow release of water-soluble nutrients. Compost can be applied liberally (2 inches) as a top dressing. The worms and microbes that accompany the compost will carry it into the soil. In the first year of compost or mulch application, the garden should be checked carefully in the spring and summer for low nitrogen (poor growth and yellowing leaves are symptoms to look for) because mulches and compost are slow release fertilizers with a relatively low nitrogen content. This is especially true for mulches with a high wood content. In the succeeding years, enough nitrogen will be released to deter this effect. Adding high nitrogen fertilizer the first year will correct the problem if it occurs. Many garden soils contain ample nitrogen, so additional nitrogen may not be necessary.

Commercially produced compost and mulches are readily available for purchase and should be free of weeds and pathogens. In the garden, leaf mulches can be made from the leaves that are available and composted or left to compost where they fall. Garden debris (grass clippings, leaves, straw, woody material) and manure can be combined and aged to create excellent compost that is both rich in nutrients and provide humus to

condition the soil.

Applying organic materials in the fall and winter when the garden activity is lowest allows for a long period of time and sufficient amount of rain to distribute the nutrients and allow for soil conditioning all winter long. The result is a garden soil that grows richer and more sustainable with each year and healthier, stronger plants throughout the seasons. So, before you put away your wheel barrow and take that well-earned rest this winter, take a little while to nurture your soil so it can be ready for your plants in the spring!

This column is written by Washington State University/Skagit County certified Master Gardeners. Questions may be submitted to WSU/Skagit County Cooperative Extension, 306 S. First, Mount Vernon, WA 98273-3805.