Riverview Garden Club Helpful Hints

January 2020

Holidays are now over. What's next? It's time to think about your gardens, specifically things like your soil-- how to improve it, where to start and when. We often disregard the impact soil has on the health and vigor of our plants. If our soil is not correct, our gardens will struggle to reach its full potential.

Is your soil dense, heavy, and clump together when wet, or is it loose and free flowing, or something in between? Soil is a mixture of mineral particles of clay, sand, and silt usually containing higher amounts of one type of particle relative to the others which can affect their density, drainage rate, and capacity to hold nutrients.

Clay soils have tiny, dense particles that hold large reserves of moisture and nutrients that drains slowly and can become hard or compacted when dry. Sandy soils have large particles where water moves through easily including important nutrients. Silts have fine particles that pack together tightly inhibiting drainage and air circulation. Loam is the ideal soil for most plants because it contains a balance of all three mineral particles and is rich in humus which is what is left after organic matter decomposes. Adding organic material is the best way to make your soil more loam-like and improve its structure.

The pH of your soil is one of the more important factors in determining its fertility. If your soil is too alkaline with a pH above 7.5 or too acidic with a pH below 5.5, will make a difference in which nutrients are available to plants. Most plants tolerate a wide range of pH levels and prefer slightly acidic soils with a pH of 6 to 7 because important nutrients such as nitrogen, phosphorus, potassium, calcium, and magnesium dissolve readily in that environment. In soils that are too acidic or alkaline, plants may get too much of some nutrients and not enough of others. It is best to get your soil tested professionally where it is sent to a lab which will analyze your soil pH and nutrient content as well as its capacity to retain nutrients. Take soil samples from different sites in your garden because the pH can vary. If your pH reading is low or acidic, correct it by adding lime. If your pH is too high, add powdered sulfur or aluminum sulfate.

Any type of soil can be improved by the addition of organic matter such as composted yard waste, manure, or fallen leaves. In sandy soil organic matter improves water holding capacity and the retention of nutrients. In clay soils it loosens up the minerals that become sticky when the soil is wet and hard when the soil is dry. In all soils it provides a rich supply of slow release nutrients for plants as well as food for beneficial soil organisms. Over time a well amended soil will provide most of the nutrients plants need, reducing fertilizer requirements.

Most soil amendments work best if worked into the soil in the fall, so they are well decomposed before planting the following spring. Work the organic matter down to root level by using a garden fork to mix the material into the top four to six inches of soil. In vegetable gardens amendments can be done each season. Perennial gardens should be amended prior to planting so plant roots are not disturbed. Many perennials must be dug up every few years for division, providing a good opportunity to work in additional organic matter.

Organisms, including earthworms, insects, fungi, and beneficial bacteria, will convert dead leaves and plant debris into readily available nutrients. They also help to aerate the soil and convert organic matter into humus. To encourage soil life, keep your soil evenly moist, well aerated, and minimize the use of pesticides. Avoid the use of concentrated fast acting fertilizers which can harm earthworms and other soil organism. Instead, use less concentrated organic fertilizers and slow release formulas.

Of course you can't do anything to improve your soil until spring, but hopefully I gave you something to think about until then.

--Sandy