

SOIL IMPROVEMENT IS A CONTINUAL PROCESS

By Stephen S. Cramer

Logan County Extension Horticulturist

One of the biggest problems for horticulture in our area is that of poor soil for good growing conditions.

One main culprit is that Mother Nature needs more moisture to break down plants to add organic matter to our soils. In an effort to improve our soils, we can add natural and artificial amendments to hopefully improve growing conditions.

Soil improvement is a process. It often takes 10 or more years to make a productive garden soil. If your soil is too sandy or too high in clay, the solution to both extremes is essentially the same – add organic matter. In a sandy soil, organic matter acts much like a sponge to hold moisture and nutrients. In clay, organic matter helps to aggregate the finer particles allowing for larger pore spaces, thus improving aeration and drainage.

It is possible, especially in clay soils, to create a soluble salt problem by adding too much organic matter all at once. The general “rule of thumb” is to incorporate no more than three cubic yards of organic matter per 1,000 square feet per year. This is roughly equivalent to one inch of amendment on the soil surface before it is tilled in. All amendments added should be thoroughly tilled into the soil, making it a uniform mixture.

Never mix sand to clay or clay to sand, as this increases the possibility of creating bricks, especially when organic matter and water are added.

The best organic amendments include

relatively coarse, partially decomposed compost and aged barnyard manure. The type of manure is not important, but it should be at least one year old, if planting is anticipated soon after amendment. Fresh manure usually is too high in ammonia, which injures plant roots. If the manure has a strong acrid odor, avoid using it or let the amended ground lie fallow for several months before planting. Because of high salts avoid repeated use of most feedlot manures.

Coarse sphagnum peat is a good amendment, but is expensive, compared with manure or compost. Avoid using the “native sedge peats, unless mixed with coarser material. Most are too fine in texture and can act as a “glue,” further complicating a tight soil situation. Also, many brands of less expensive peat moss have a higher pH than does the sphagnum. Since our soils have a high pH, which is not conducive to healthy plant growth, use them sparingly. Composted materials are some of the best soil amendments.

Like household detergents, liquid products break the surface tension of water around the soil particle and allow deeper water penetration. They in no way increase the pore space of a soil. The liquid “conditioners,” therefore, cannot be considered as soil amendments and are properly called “adjuvants.” At best, they may provide a temporary improvement of water penetration, but do not “break up clay soils”. Adjuvants are not substitutes for soil amendments.

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PH: 970-356-4710 * FAX: 970-356-1267
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