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IFAS EXTENSION

**Friday's Feature**

**By**

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January 14, 2006

### **Bed preparation is the key to successful flowers and vegetables**

Garden catalogues are arriving every day. As you start making plans for your spring vegetable or flower garden, reflect back and ask yourself how your plants performed last year.

Did the water drain well after the heavy rains? Did the roots expand outside the rootball? Did your plants perform well? If you answered no to one or more of these questions, then you may want to pay special attention to your bed preparation this year.

Annual flower and vegetable beds that seem to produce less with repeated use are often suffering from declining soil health. This declining health is usually due to several factors including reduced soil organic matter, a buildup of soil-borne diseases, increased nematode populations, compaction or depleted nutrients.

The key to successful gardening, especially with annual flowers and vegetables, is good soil. Plants require oxygen, nutrients and water for proper growth. The soil texture plays the most important role in determining whether or not those three needs are met sufficiently to allow the plant to become established and perform to expectations. Desirable soil has the ability to hold water while allowing for adequate drainage. It also provides proper oxygen for root development.

Florida's soils are typically sandy and have very low nutrient and water holding capacities. Amending flower and vegetable beds is one of the best ways to improve sandy soil conditions. Amend with organic matter such as fine pine bark, (pieces less than one-half inch), leaf mold, compost, or peat. Adding a three to four inch layer of organic matter allows the bed to be built up and improves drainage. Organic matter also increases the soil's ability to hold nutrients which enhances plant growth.

Incorporate the organic matter into the upper six to ten inches of the native soil by tilling or spading. "Double digging" is practiced by many vegetable gardeners in order to eliminate compaction and prepare a deeper root zone for improved plant growth. To "double dig," first shovel off a twelve inch layer of soil into a pile, turn the bottom twelve inch layer then replace the topsoil while mixing in your organic matter.

Amend garden beds approximately three weeks prior to planting. Sufficient time is needed for the organic material to complete some biological activity prior to planting.

Extremely fresh organic material has an immediate impact once tilled or spaded into the soil. When introduced to the native soil there is a rapid increase in the numbers of soil microorganisms. These soil microbes reach tremendous numbers as they help to decompose or break down the organic materials to a more usable form. If young plants or seeds are planted while these microbes are highly active, there is a good chance that they will experience nitrogen deficiency, root rot or seedling blights.

A small amount of fertilizer can also be applied during soil preparation. This may be helpful if the organic amendments are too fresh. A little extra nitrogen will help speed up microbial activity.

Some gardeners will also amend the soil with lime during bed preparation. While lime may be necessary in some situations, don't add it until you've had a pH test run by a reliable lab. Too much lime in the soil may be just as bad as too little. A high pH, caused by excessive lime, can cause many problems such as making some nutrients unavailable to plants. So, keep in mind the old adage, "Don't guess, soil test!"

After amending and tilling, the result will be a flower or vegetable bed full of soft soil several inches deep. Few plants can resist the excellent drainage and easy-to-penetrate conditions in a bed like this. The only problem is that it won't last forever because the organic matter gradually disappears.

Theresa Friday is the Residential Horticulture Extension Agent for Santa Rosa County. The use of trade names, if used in this article, is solely for the purpose of providing specific information. It is not a guarantee, warranty, or endorsement of the product name(s) and does not signify that they are approved to the exclusion of others.