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## **SOIL ADDITIVES – What to add and how much:**

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As fall approaches many area gardeners are working feverishly on a wide range of landscape renovation projects. Given some of the “challenges” left behind by hurricane Ike, there are numerous questions on how best to treat soils before and after planting. Following is a brief overview that will hopefully address some of these concerns.

### **Gypsum:**

The use of gypsum has been a major topic of discussion among many gardeners. The primary agricultural/horticultural use of gypsum is to maintain soil structure. It helps soils retain an aggregate structure by preventing soils from becoming dispersed as these aggregates break apart in to individual soil particles. This concept is extremely important for commercial agriculture/horticulture production. For most landscape applications – not so much.



### **Why is this important?**

Most landscape situations consist of an amended soil – not a pure mineral soil. Most of these landscape soils consist of a minimum of 10% organic matter. Even lawn areas have considerable organic matter. So the notion that gypsum will somehow impact the structure of an amended landscape soil is a bit of a stretch.

Gypsum (actually the calcium component of gypsum) does have the ability to replace sodium in the soil. Since many gardeners are concerned about residual sodium left behind by prolonged tidal surge flooding, gypsum would seem like a good solution. But notice I said replace – not remove. True - gypsum’s calcium component will bump the sodium off the soil’s exchange complex but that means that sodium will now be in the soil solution, ready to be absorbed by the root system OR leached from the soil as the result of rainfall or irrigation. Given the porous nature of our sandy soils, there is a good chance that most of the sodium originally left behind by tidal surge has already been leached out of the root zone. No need for gypsum.

Here are some additional thoughts concerning the use of gypsum in landscape situations:

Gypsum is not recommended for use in amended landscape soils (i.e. > 10% organic matter)

Gypsum is not effective in sandy (well drained) soils.

The effects of gypsum applications are short-lived, usually a matter of 4 – 6 weeks.

Excessive levels of calcium, resulting from gypsum applications, can interfere with normal plant nutrition.

The use of gypsum in most landscape situations is not cost effective.

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**Root Stimulators:**

Products bearing the name “Root Stimulator” are not subject to regulation by the Texas Department of Agriculture or any regulatory agency. That means pretty much – anything goes. Generally speaking there is not adequate information to support the recommendation of a root stimulator to enhance the establishment of newly planted trees, shrubs or other plant materials. On the other hand, there’s not enough information out there to state that “some” of these products don’t work. Root stimulators definitely fall in the category of - buyer beware.

There is evidence showing that some plant hormones can be used to increase root formation in certain plants. However, it is highly unlikely that a plant will fail to become established in the landscape without the addition of a root stimulator.

Do your homework before using any of these products and be sure you can separate the sizzle from the steak.

**Fertilizers:**

Many gardeners have significantly reduced or eliminated the use of fertilizers in the landscape. This is largely based on increased concerns about water quality and potential environmental contamination.

True – mishandling and misapplication of fertilizers can result in serious environmental problems. However, the appropriate use/application of fertilizers pose little, if any, long-term threat to the environment and can play a significant role in the establishment of newly planted trees, shrubs and other plant materials in the landscape. Here are a few reminders about the safe use and handling of fertilizers.

Base fertilizer applications on the results of a soil test. Generally speaking, do not apply more than 1 – 2lbs of actual nitrogen (N) per 1000 square feet of area.

Use no/low phosphorous (P) fertilizers. Most landscape soils are high in P and continuous applications can result in harmful accumulations, as well as environmental contamination from runoff.

Apply fertilizers to the target area only and avoid getting fertilizer materials on walks, driveways, streets, storm drains, ponds, creeks, drainage ditches or any area that may potentially contaminate surface and groundwater resources.

Store fertilizer materials safely and in a manner that will prevent potential contamination of surface and groundwater resources.

Getting a landscape renovation project off the ground will require some basic soil preparation. Most chemical additives are short-lived and their effects may have detrimental results if mishandled or misapplied.