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About Trees: Fertilizer may be detrimental to trees

By Fred Morgan, Special to The Commercial Appeal

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Spring is the traditional time to fertilize plants and trees. But don't be fooled into thinking the cure for any tree problem is to throw fertilizer at it.

That can sometimes do more harm than good. For example, one root-rot disease called phytophthora thrives on nitrogen almost in the same way fire thrives on gasoline.

Almost all fertilizer formulas are identified by a three-number designation that corresponds the amounts of nitrogen, phosphorus and potassium in that order.

Triple Thirteen (13-13-13) means that there are 13 pounds of nitrogen per hundred (13 percent nitrogen), 13 percent phosphorus and the same amount of potassium or potash.

Some minerals are better utilized by plants in the spring, while others are mostly beneficial for fall functions like root growth.

In Memphis, as long as the soil temperature stays above 40 degrees, roots continue to grow even through the winter. That's why fall is a better time to plant here, giving transplants a head start before they must use sugar energy to produce leaves and stem growth.

Different minerals hang around in the soil for varying periods. Nitrogen is usually the first to disappear (leach out). For that reason a slow-release form of nitrogen is frequently preferable, dispensing its benefits over a longer period of time in the spring.

When it comes to longevity in the soil, potassium is in the middle range. And phosphorus can be stable in the soil for years.

How can you know what to add?

A soil test can be helpful before you fertilize. Not only will a complete soil report tell you about pH values, it will give the estimated rate of nitrogen release and the levels of macro-elements in the soil (phosphorus, potassium, calcium and magnesium).

It will advise about the organic content of your soil. Organic content is important because clay soils with low organic content tend to aerate poorly and drain slowly, creating a possible toxic anaerobic (oxygen void) condition that can rot roots.

While you cannot usually change the nature of your soil, the best response to an anaerobic soil condition may be not fertilizing. It may be more helpful to consider mulching, adding organic soil amendments, mycorrhizal spore inoculations or even installation of vertical columns for soil aeration and water dissipation.

If the pH of your soil is not right -- if it's too high or too low -- even plenty of fertilizer does not help. A value between 5.6 and 6.2 is good for most trees.

Soil reports and the instructions and kits for collection are available through the Agricultural Extension office or A&L Laboratories on Whitten Road. You can also have your tree company do this work for you.

Certified arborist Fred Morgan of Cordova owns and operates Morgan Tree Service. Contact him through his Web site: morgantreeservice.com.