

FERTILIZATION TECHNIQUES FOR YOUR TREES AND SHRUBS

By Tom Teets, Urban Horticulturist Palm Beach County

There have been a lot of questions lately about the best method to fertilize trees and shrubs in the landscapes. What do you think we should do; punch holes and pour fertilizer in (spiking), stick a pipe below the soil and inject liquid fertilizer (deep-root feeding), spray fertilizer on the leaves (foliar feeding), should we drill a hole in the tree trunk and inject into the tree (injection), or scatter fertilizer on the soil surface (broadcast)? I don't know how you feel about fertilizing, but most people prefer to get it done as quickly, most efficiently and most effectively as possible. Certain situations, conditions and deficiencies will influence the method to be used as well.

Let's look at the different methods and what they have to offer.

1) **Spiking** — Granular fertilizer is placed in holes either dug or punched in the soil. These holes are scattered beyond the dripline around the tree. The problem occurring in this situation is the fertilizer is being applied at a high concentration to a small area. Where the fertilizer is applied the high salt concentration may burn

roots, while in areas between the holes the roots receive no fertilizer. In sandy soils fertilizer moves only downward and very little laterally.

- 2) **Deep-root feeding** — This Method uses primarily soluble liquid fertilizers which are injected below the soil surface. For quick green-up deep-root injection can be effective if the fertilizer is applied very shallow. In the vast majority of cases 80-90% of tree roots are located in the top 8-16 inches of soil. Most trees do not truly have deep roots, therefore, injecting liquid fertilizer will probably miss a large portion of the root area. Liquid fertilizer is more soluble than granular, therefore, leaching below the root zone will be fairly rapid.
- 3) **Foliar feeding** — This method is frequently used to apply micronutrients such as iron, manganese and zinc. In situations where there is a high soil pH the micronutrients are unavailable and deficiency symptoms persist this method is very effective. Addition of urea to the spray mixture will help to increase the micronutrient uptake. If buildings are located nearby, it is important to avoid hitting them with these sprays since they may stain.
- 4) **Trunk injection** — Usually this method is only used as the technique of last resort. Primarily micronutrients are injected using this method. Injection has been used on slash pines in order to rectify micronutrient deficiencies caused by elevated pH and high nitrogen levels found in golf course situations. A potential problem caused by trunk injection is the introduction of fungus into the tree at the site of the injection wound.
- 5) **Broadcast fertilization** — This method is employed using granular fertilizers. The fertilizer should be scattered starting at the dripline and outward over a broad area. Where grass is present the fertilizer should be watered in thoroughly to work it below the grass. Since most tree roots are quite shallow, the fertilizer will be introduced into the area of soil where it will be the most beneficial. By using the granular formulations slow-release sources of the more soluble nutrients can be used in an efficient manner. Broadcast fertilization has been found to be the most effective as well as most cost effective way to fertilize trees and shrubs.

As you can see there are many fertilization techniques available. It is important to use the technique which will be most beneficial to the trees and shrubs you are trying to grow. ■

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