**Home Pecan Fertilization**

Comanche County is home to many pecan orchards and pecan trees in the home landscape. Tending to pecan trees in the yard can be a challenge, but the potential for a good crop of pecans makes the work worthwhile. If you want your home pecan tree to remain healthy and productive you must establish a good fertilization program.

Nitrogen (N) and Zinc (Zn) are the only mineral elements that pecan trees normally need for good growth and production. Nitrogen may be applied on the soil surface, or it can be applied in water through a drip irrigation system. Zinc must be applied as a foliar spray. Zinc applied to the soil is soon tied up in a form unavailable to the tree.

**Young Tree -** Nitrogen is necessary for rapid tree growth and is the only soil-applied nutrient that most pecan trees ever need. It is important to apply nitrogen in frequent small amounts during the first few years.

Spread fertilizer on the soil surface, under the tree, but well away from the trunk. Nitrogen fertilizers are very soluble and are readily moved into the soil by watering. It is inefficient and unnecessary to make holes around the tree to pour the fertilizer into the ground. If the trees are not making rapid growth, do not fertilize the first year. Poor growth by a first-year tree usually indicates problems other than lack of nutrition, and fertilizer may hinder rather than help the tree. Ammonium sulfate (21-0-0) and ammonium nitrate (33-0-0) are common, economical nitrogen fertilizers that can be used. Table 1 gives guidelines for determining how much fertilizer to apply and when. Freeze damage is very common on young pecan trees fertilized after the month of June, so do not fertilize after this date.

Table 1. Cups of ammonium sulfate or ammonium nitrate per tree. \*

 April May June

Year 1 1

Year 2 1 1 1

Year 3-4 2 2 2

Year 5-7 4 4 4

\*1 cup equals approximately 1/2 pound.

**Mature Trees** - Apply 1 pound (2 cups) of 21-0-0 or 33-0-0 for each inch of trunk diameter in late March before bud break. If the tree produces a **very heavy nut** set in May, make a second application in late May or early June. Apply the fertilizer broadcast on the surface starting 3 to 5 feet from the trunk and extending out a few feet past the tree canopy. Water the fertilizer into the soil promptly. Avoid scattering fertilizer on sidewalks or paved driveways because some materials can cause unsightly, although seldom permanent, spotting.

**Zinc** - Frequent zinc sprays are essential for rapid tree growth. Trees deficient in zinc usually have small, weak leaves, highly branched (rosetted) twigs at shoot tips, and in severe cases, dieback of twigs and branches. During the first 7 years, trees grow best if foliar sprays of zinc are applied at least every 2 weeks throughout the growing season of April through early August. If the trees are not growing, reduce the spray frequency. Spray mature trees with zinc at least three times between bud break in late March or early April and early June. Zinc is needed primarily by young expanding leaflets. Leaflet expansion on mature trees usually stops by mid-June. Two of several choices of zinc materials to spray are:

**Zinc nitrate**- formulated as a liquid. Use 2 to 4 teaspoons per gallon or 1 to 2 quarts per 100 gallons of water.

**Zinc sulfate**- formulated as a powder. Use 2 teaspoons per gallon or 2 pounds per 100 gallons of water. UAN liquid fertilizer (32-0-0) can be added at a rate of 1 quart per 100 gallons of the zinc sulfate solution to improve penetration of zinc into the foliage. Zinc sulfate spray can cause leaf burn on other trees in the home landscape, especially peaches, plums, and other stone fruits. Zinc sprays are most effective if applied early or late in the day with little or no wind. The higher humidity under these conditions allows longer wetting and more zinc absorption. Zinc sprays pose a minimal hazard to man and animals, yet care should be taken not to contact the spray directly. Zinc sprays are not likely to stain sidewalks, houses, cars, etc.

**Irrigation-** In many years, homeowner pecans will get adequate rainfall to make a decent crop. Here lately we have not had many of those types of years and so far, this year is not looking very good for moisture. If you feel you need to water your pecan tree, infrequent deep thorough waterings are best. Depending on temperatures and any rainfall we might receive, this deep watering may be needed once every week to once every 10 days to 2 weeks. A soaker hose placed around the dripline of the tree works very well and minimizes loss to evaporation. Hopefully, we will start getting enough rainfall so that supplemental watering will not be required.

The zinc materials listed above can be mixed and sprayed in combination with most chemicals labeled for insect and disease control. Consult Texas AgriLife Extension Publication E-145, Homeowner's Fruit and Nut Spray Guide for recommended combinations. The publication can be found at http://agrilifebookstore.org or at the Extension office.