

## Home Pecan Production Tips

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### **SUNLIGHT**

Pecan trees require abundant sunlight to increase growth and nut production and to reduce limb dieback. Crowding increases alternate bearing and reduces nut size and quality. Shading from adjacent trees of similar height should be limited by planting trees far enough apart to grow in full sun throughout their life. Pecan trees planted 70 feet apart or greater will not crowd one another for approximately four decades.

### **PRUNING**

**Do Not!** Dehorn (radically prune) a pecan tree. Tree shape, aesthetic value to the landscape and nut production will be lost for many years. Do! Plant pecan trees at least 50-70 feet from any house or structure to reduce hazard from falling limbs or falling trees.

Do! Train a tree to a central leader shape to reduce incidence of broken scaffold branches in future years.

Do! Prune broken scaffold branches a prevent limb crotches from collecting water, which may cause heartwood rot and tree decline.

### **POLLINATION**

Pecan varieties include two flowering types; Protandrous which have pollen-bearing catkins (tassles) first; called "Type 1" and Protogynous, which form nutlets first; called "Type 2". To insure good nut set and production, plant both types within sight of each other. Native trees or seedlings on adjoining properties may provide sufficient pollen, which is wind blown great distances in some cases.

### **WATER**

**Water** is vital for producing good sized nuts that are well-filled. The volume of water needed to support a crop-bearing pecan tree is believed to be as much as 150 gallons of water per day or more on large, bearing trees in the hot, mid-summer months. Insufficient water in the months of May, June and July will result in smaller than normal nuts. Insufficient water in the months of August and September will result in wafer-like kernels or hollow nuts. Insufficient water in October may result in shucks that fail to open normally. For best growth and vigor, water year-round, even in winter months, when rainfall is lacking to maintain health of water-absorbing feeder roots.

## **FERTILIZER**

To properly identify nutrient deficiencies, collect soil samples and leaf samples and mail to the **Plant Soil and Water Testing Laboratory at Texas A&M University**. Forms, bags and instructions can be found at your local AgriLife Extension office. The most common nutrient deficiencies of pecan include nitrogen, potassium, zinc, iron, and manganese. The latter three listed are micronutrients and most effectively applied as foliar sprays. Nitrogen and potassium are macronutrients most effectively applied to the soil. Nitrogen should usually be applied every growing season, while potassium should be applied every one to three growing seasons to prevent depletion from the soil and deficiency in the tree.

**Spread granular fertilizer under and beyond the canopy area of bearing pecan trees.** Spring months of March and April are recommended times to fertilize for growth and development of “this year’s” crop. If trees are bearing a heavy crop, additional fertilizer in August or September may help the tree return a crop in the following season.

**In orchard settings, pecan trees receive from 100 to 200 lbs of actual nitrogen per acre.** This translates to approximately 4 to 8 lbs of actual nitrogen delivered to each tree, depending on spacing. Age of the tree and size of the crop should be considered in determining the amount of fertilizer to apply. The diameter of the trunk (distance of a straight line running through the middle of the trunk) is a reliable gauge for estimating tree age and nut-bearing potential. With knowledge of either the age or diameter of the trunk, the Home Pecan Fertilizer Chart (page 3) can be used as a reference for fertilizer application.

## **Zinc**

**Pecan trees need zinc in greater amounts than most plants.** Zinc deficiency results in small leaves, and bunched terminals, thus it is often referred to as “Bunch Disease”. Zinc is not available to pecan roots in high pH soils (6.5 pH or higher), and in such soils must be sprayed on the foliage to prevent or correct a deficiency. If soil pH is less than 6.5, zinc may be applied to the soil with other fertilizers with some effectiveness.

Zinc sprays should coincide with first appearance and growth of new leaves in the spring. Zinc sprays are not helpful once growth flushing on mature trees has ceased. Young trees, that flush growth continually in spring and summer benefit from regular zinc sprays.

The most economical form of zinc to apply is zinc sulfate wettable powder. It should be mixed in water at a rate of 2 tsps/gallon of water. Liquid zinc nitrate may also be used, and is available from agricultural suppliers.

## Home Pecan Fertilization Chart (when soil & leaf testing is not available)

Instructions: a) Measure or estimate trunk diameter; b) select desired fertilizer and apply rate per inch trunk diameter. NOTE: 21-0-0 delivers nitrogen only, while 10-10-10 delivers nitrogen, phosphorus, & potassium. If using a fertilizer with higher or lower nitrogen percentage (*N is the first number in the analysis*), adjust accordingly to account for different percent active fertilizer. A mixture of both a complete fertilizer and a nitrogen-only fertilizer may be used, provided that the total amount of nitrogen delivered is considered.

Trunk diameter (inches)	Nut-Bearing Status**	Approximate Tree age (years)	Amount of granular fertilizer to apply using 10-10-10	Amount of granular fertilizer to apply using 21-0-0
1-2"	Young, not bearing nuts	2-3	1.0 pound per inch	1/2 pound per inch
3-6"	Young, not bearing nuts	4-7	2.0 pound per inch	1.0 pound per inch
7-11"	Bearing normal crop	8-14	3.0 pounds per inch	1.5 pounds per inch
12-16"	Bearing normal crop	15-18	3.0 pounds per inch	1.5 pounds per inch
17-20"	Bearing normal crop	19-25	3.0 pounds per inch	1.5 pounds per inch
20-27"	Bearing normal crop	25-30	3.0 pounds per inch	1.5 pounds per inch
Greater than 27	Bearing normal crop	30+	3.0 pounds per inch; maximum of 80 lbs per tree	1.5 pounds per inch; maximum of 40 lbs per tree

**Using the rate guides shown above, only one of the two fertilizer types shown should be used. If a combination of fertilizer types is desired, rates should be readjusted to deliver the appropriate amount of nitrogen for the age of the tree.**

\*\*If the crop is large, a supplemental fertilizer in mid August to September may be applied at 1/3 of the rates shown here to help return a crop the following season. Mature trees bearing less than normal crop should be fertilized 30-50% less than displayed rates.

## Insect and Disease Control



Pecan trees are challenged by a number of foliage and nut feeding insects as well as fungal and bacterial diseases that can cause foliage and crop loss. Properly identifying the cause of a problem is the most important step toward successful control. AgriLife Extension agents in each county in Texas can assist you in proper sample collection and/or digital photography that will facilitate identification of the insect, pest, pathogen or stress that is causing the problem. A directory of AgriLife locations is found at: **<http://agrilifeextension.tamu.edu>**.

While there are pesticides available at garden centers to control many pest problems of pecans, it may be difficult to spray a large pecan tree effectively without the aid of orchard spray equipment. Custom spraying services are much less available today than they once were and cost of control may make routine spraying in urban settings impractical.

AgriLife specialists will work with you to find the best options available for producing pecans successfully.

## Additional Help & Education

Pecan Management Shortcourse, conducted by Texas AgriLife specialists is conducted last full week in January each year on Texas A&M campus. Contact Monte Nesbitt, 979-862-1218 for more info.

Mini-Pecan Shortcourse is held in conjunction with Texas Pecan Growers Association annual conference and trade show in early July each year. 979-846-3285 for dates and location.

The Texas Pecan Handbook is a valuable encyclopedia of pecan orchard management, available for \$20.00. The handbook can be ordered online through the Texas AgriLife Extension Bookstore: <http://agrilifebookstore.org>

Or purchased from Texas Pecan Growers Association:  
<http://www.tpga.org>

### Important Websites:

<http://aggie-horticulture.tamu.edu/fruit-nut>

<http://pecankernel.tamu.edu>

<http://pncforecast.tamu.edu>

<http://pecan.ipmpipe.org>

<http://www.tpga.org>