Pecan Trees

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Q: Caller lives in Redding and has 3 pecan trees, approximately14 years old. Only 1 of the 3 trees produces any nuts, but even it isn't very productive. The trees were grazed by deer when they were younger. What is wrong with the trees and how can she get them to produce?

A: Pecan trees grow best in areas with summer heat and a long growing season for good nut development. Pecan trees are grown in areas of the Sacramento Valley where soil and water conditions are appropriate.

There are several possibilities for the lack of nut production from your pecan trees, as outlined below.

1. Pecan trees are monoecious. This means that they produce separate male and female flowers on the same plant. Male flowers are located on 4-5 inch long catkins, while female flowers are small, yellowish-green, and grow on spikes at the tips of shoots. Fruit (nuts) don't form until the pollen from the male flower is transferred to the female flower. Without pollination, you may have a lot of flowers but not much fruit.

   Oftentimes, a single tree won't produce very many nuts, since the female and male flowers don't bloom at the same time. Pecans that shed pollen (from the male catkin) before the female flower is mature are "Type I" pollinators. When the female flower matures before the pollen from the male flower is mature the trees are described as "Type II" pollinators. Typically, you want to plant both Type 1 and Type II pollinator trees for adequate cross pollination. Therefore, you many need to add another healthy tree to assist in pollination and hence nut production. (See the UC Davis link below for a list of pecan varieties, with early and late pollen shed.)

   Pecans are wind pollinated, so trees should be planted in relatively close proximity to ensure adequate pollination. Pecan trees will often vary between a heavy one year and a light crop the next year.

2. You may have a poor producing variety of pecan tree. Do you know if they are all the same variety of tree? Consider adding another tree that is a good producer. See the UC Davis link below for a list of pecan varieties.

3. Water is probably the most important environmental factor in the growing of pecans. Lack of water will reduce the production of nuts, the size of nuts, as well as leaf and shoot growth. Adequate soil moisture is important from bloom through late summer and fall. For mature pecan trees, the Arizona Cooperative Extension recommends that you "soak the soil four feet deep in an area that is at least three feet wider than the drip line".

4. Pecan trees grow best in well-drained, sandy loam soil, so if you have heavy soils it maybe limiting growth and production of the trees.

5. Pecan trees that are grown from seedlings typically don't produce nuts for 10 years. However, pecan trees grown from grafted rootstock will typically produce in about 4-8 years. Your trees are old enough to produce nuts, but they may be stunted from poor growing conditions, deer grazing, etc.

6. Proper fertilization of the trees is important, especially for nitrogen and zinc.

REFERNCES:

http://homeorchard.ucdavis.edu/plant_Pecan.pdf

http://ipm.ucanr.edu/PMG/selectnewpest.pecans.html