Here's How To Put The Pep Back In Your Pecan Tree

Leimone Waite, Master Gardener, Nov. 22, 2019

Q: I live in Redding and have three pecan trees that are about 14 years old. Only one of the three trees produces any nuts, but even that tree isn't very productive. When the trees were younger, they were grazed by deer which set them back in growth. What is wrong with the trees and how can I get them to produce?

A: Pecan trees like the summer heat and the long growing season that we have in Redding, as long as it does not get too hot for good nut development.

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.

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

Provided, that you are giving them adequate water and fertilizer required for a tree that is producing nuts or fruit, I can think of several other possible reasons for the lack of nut production from your pecan trees.

A pecan grower examines a tree in New Mexico. (Photo: Wade Cavitt)

First, pecan trees are monoecious. This means that they produce separate male and female flowers on the same plant. Male flowers are located on four- to five-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.

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 crop one year and a light crop the next year. Without pollination, you may have a lot of flowers but not much fruit. If we get hail or a windstorm at the time of flowering this may knock off flowers and limit your nut production.

Some of the larger pecan trees in NMSU's Fabian Garcia Science Center orchard still sport old metal identification tags. This veteran's tags identify its location and variety as ROW 1 TREE 4, STUART. Stuart was among the 17 varieties planted in the original pecan orchard in 1916, according to an Agricultural Experiment Station bulletin published in 1925. (Photo: Jay A. Rodman - NMSU Photo)

A second reason for the lack of nuts maybe that your trees bloom at differing times. When you have a single tree, the tree won't produce very many nuts, since the female and male flowers don't bloom at the same time. This can also happen if you have trees that are all the same type of pecan variety.

There are two types of pecans: Ones that shed pollen before the female flower is mature (Type I pollinators), and ones where the female flower matures before the pollen from the male flower is mature (Type II pollinators).

Typically, you want to plant both Type I and Type II pollinator trees for adequate cross pollination. Therefore, you many need to add another healthy tree from a different pollinator type to assist in pollination, hence nut production. See the U.C. Davis file on pecans (below) for a list of pecan varieties with early and late pollen shed.

You may have a poor producing variety of pecan tree. Do you know if they are all the same variety of tree? Also keep in mind that 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 four to eight years.

Your trees are old enough to produce nuts, but they may be stunted from poor growing conditions, deer grazing; or if they were grafted varieties, the deer may have eaten the grafted variety and you are left with just to root stock that is a poor nut producer.

To learn more about pecan varieties go to U.C. Davis' plant database at http://homeorchard.ucdavis.edu/plant_Pecan.pdf.

The Shasta Master Gardeners Program can be reached by phone at 242-2219 or email mastergardener@shastacollege.edu. The gardener office is staffed by volunteers trained by the University of California to answer gardeners' questions using information based on scientific research.