

Look Out for Pistachio Winter Juvenile Tree Dieback (WJTD) at Leaf-Out

An examination of the records from that temperature recorder in your orchard will likely show that the trees were subject to an early fall freeze event that was fairly widespread across the southern San Joaquin Valley this past November (November 9-11). Daytime temperatures were in the high 50s and low 60s during the day, but dropped abruptly to below freezing three nights in a row beginning November 9 in many locations. When this happens this early in the fall, some WJTD is sure to follow. The most likely locations for juvenile tree damage are orchards planted to rootstocks with pure *P. integerrima* heritage and/or vigorous clonal rootstocks, in soils with elevated salinity and poor drainage, and in low elevation areas such as old lake beds. Affected trees are much easier to find at leaf-out than during the dormant season. The most obvious symptom, in February, is that the dead leaves from last year may still be stuck to the dead branch wood. For more details on WJTD, including tree symptoms in the spring, download a recent newsletter on the subject by clicking the following link: http://cekern.ucanr.edu/news_80/Pistachio_Notes_Newsletter/?newsletteritem=80446

Get the Early-Blooming Cultivars Pruned Earlier!

It's probably already a little late and varies with the year, but it is important to train/prune the early flowering pistachio cultivars such as Gumdrop, Golden Hills and Lost Hills by around February 1 or so. The big buds on the end of those long branches wake up first in the spring, and send out chemical messages to the buds below them not to push. If the plan is to cut those long shoots for tree training or maintaining tree size, the idea is to cut those terminal buds off before they wake up, otherwise, you may end up with branches that look like those in the picture below. Long branches are normally cut to encourage branching and/or reduce overall tree size, however, if you do not want branches to branch further, there is no requirement that they be cut at all. There's always another opportunity next year.



Pistachio branches pruned too late in the spring.

The Dormant Period is a Good Time to Leach Salt but Should be Conducted with Nitrogen in Mind.

In the southern San Joaquin Valley, salt build-up in the soil can be a problem. Many growers take advantage of the pistachio dormant period, usually from around the last week in December into February to leach excess salt from the upper soil profile by applying large volumes of water to the field. Deep leaching of salt, depending on the amount of salt that has built up in the soil, can require fairly large volumes of water and many soils planted to pistachio do not drain very well. This situation can make deep leaching a slow process, and the soils can remain saturated for long periods of time. If deep leaching is conducted during the growing season, soils may remain too wet for the roots to breathe and damage to the roots and crown of the tree can result. During the late fall and winter, trees are not totally dormant, but are much less metabolically active. There is less chance of damaging the tree by deep leaching salt at this time.

Nitrogen (N), of course, should be applied to fields after deep leaching and not before. Nitrogen, usually in the form of nitrate, leaches easily from the soil and more readily than most other salts. A good time to apply nitrogen in pistachio, especially in orchards where deep leaching has occurred, is when the trees are beginning to wake up in the spring. Again, the earlier blooming cultivars will wake up first, and applying nitrogen in mid-March to early April, depending on the cultivar, should be early enough. Soil nitrogen testing can be very useful in improving the efficiency of a N fertilization program. Soil nitrogen testing should be done to at least a depth of 4 feet in older trees. The roots, probably, are much deeper than this. Soil testing prior to leaching can be very informative. If deep leaching is planned, available nitrogen stored in the soil profile should be minimal going into the winter, because any left in the soil may well be lost to leaching and end up as a potential pollutant. By soil testing in the fall, a grower can determine if N was under or over applied through the growing season, and this information will improve future N fertilization rates and procedures. Testing the soil, early in the spring, prior to

fertilizing, can be a money-saver as well. If soil nitrate is high, even if a couple of feet deep in the profile, the pistachio trees will be able to access a portion of it. High soil N in the spring will allow the grower to reduce N applied in the upcoming season. Combining information from the leaf-tissue analyses conducted the previous late July or early August, in conjunction with the soil testing conducted the previous fall and now, after deep salt leaching, and noting whether the nut yield of the upcoming year is an on or off-bearing year, the grower will have useful feedback to help determine how much N should be applied this spring and through the remainder of the season.

Craig Kallsen, Pistachios/Subtropical Horticulture Advisor
cekallsen@ucdavis.edu or 661-868-6221

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