

Summer Diseases....

Since this has been such a dry year, spring disease problems that are triggered and aggravated by rainfall such as anthracnose, almond scab, and leaf blight have been almost non-existent. Summer diseases showing up now include:

Almond Leaf Scorch (ALS). This bacterial disease (*Xylella fastidiosa*) invades xylem tissues of almond trees and causes leaf burn symptoms by plugging the xylem and possibly by producing toxins. Leaves on infected trees appear normal in spring but develop scorched symptoms in late June to mid-July as temperatures increase. Parts of affected leaves will turn yellow, then brown, and a golden yellow band appears between the brown necrotic edge and the inner green tissues of the leaf (Fig. 1). The intensity of the yellow band varies with variety. Peerless is especially susceptible but I have also observed the disease on Nonpareil, Sonora, Livingston, and Winters. Butte, Carmel, and Mission are less affected in the field.



Figure 1. Almond leaf scorch symptom on leaves.

Identify and mark ALS affected trees now while healthy trees still look green and vigorous. After harvest it is much harder to detect ALS trees or branches among those that are dusty, have mites, are water stressed, etc. Once trees are marked, conduct your normal harvest and consider removing the affected scaffolds or trees this fall. On trees where you remove affected scaffolds or branches make sure they remain flagged so you can examine them closely next year to make sure the disease has not re-occurred. There is no treatment for almond leaf scorch other than removal of infected trees or scaffolds. Give me a call if you want to discuss this further.

***Alternaria* leaf spot.** With fires in the mountains, it's been smoky and more humid for the past six weeks. It seems these conditions may have contributed to outbreaks of *Alternaria* leaf spot in some orchards. If you have ¼ inch spots on your almond leaves with a dark black center you have *Alternaria* rather than almond scab. *Alternaria* also causes leaf drop. Abound® is registered to control this disease but it's too late for this year since it has a 28 day pre-harvest interval. If Abound® has been used extensively for scab control we have also confirmed that in some orchards almond scab and *Alternaria* are both resistant to this fungicide so a treatment may not be effective. If you have *Alternaria* defoliating your trees this year make a note and plan a program for better control next year. Visit the UCIPM website for more information.



Figure 2. *Alternaria alternata* fungus leaf spot.