



Pest e-alerts



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Pecan Phylloxera Treatment Time

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Producers that had phylloxera last season should consider treatment time soon. After budbreak, but before there is more than 2 inches of new leaf growth is the ideal time to treat for this insect pest. Once phylloxera crawlers are imbedded in the new tissue and the galls are observed it is too late. Spot treatments are an option with this insect in that treatments only need to be applied to those trees that had galls in 2018.

While several phylloxera species are common on pecan, the primary concern is with pecan stem phylloxera, *Phylloxera devastatrix*. Anywhere pecans grow, you can commonly find pecan phylloxera. There are likely as many as three generations per year with only the first generation causing damage. This insect overwinters as an egg in the dead body of sexual female phylloxera. These dead females are located under the bark of larger limbs, within old galls, or on any areas where protection from harsh weather events are possible. After eggs hatch, the nymphal stage, known as the stem mother, moves to the opening buds and begins feeding. The presence of this insect causes the plant to respond by “upwalling” tissue around the feeding nymph, and forming a gall, where the now mature stem mother deposits her eggs. The eggs of the stem mother hatch into winged females, referred to as winged migrants. These migrants have a yellowish body, but because of the smokey-black wings they appear darker and may be confused with yellow aphids. This stage is responsible for distribution of the insects throughout an orchard. Eggs deposited by the winged migrants hatch into wingless males and females, which mate and the female eventually dies with an egg inside her body, and the cycle repeats.

The galls or knots formed by these insects on leaf, petiole, and stem tissue can be very unsightly, but can be tolerated in the first year they are observed. In subsequent years, these insects should be treated before the upwelling occurs. In a two-year study in Stillwater, Oklahoma in 2000 and 2001, we discovered that emergence began around the first of April (March 30 – April 4) and peaked around mid-April (April 19 – 23). This peak period is generally the ideal time to treat for this pest; however, timing is very dependent on tree phenology (leaf expansion as noted above). Cold weather events (freezes) that occur during that time can also affect phylloxera populations.

Treatment options for phylloxera include the products mentioned previously as well as formulations of chlorpyrifos (Lorsban®), Warrior®, Silencer®, Fanfare®, Besiege®, Movento® and many others. Homeowners can use Malathion® and or Neemix®. The latter material is considered an organic treatment. Please keep in mind that this insect is not highly mobile and is generally carried on winds from one tree to another. In addition, routine treatment each year for this pest on every tree should be avoided, as early use of many of these products can cause mortality of early emerging beneficial organisms.



Phylloxera nymph



cross section of gall with many Phylloxera nymphs



Phylloxera leaf galls



Phylloxera petiole and stem galls

Disease and Insect Diagnostic Laboratory

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