



Olive News



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Olive Knot Disease - Two Sprays Are Better Than One

Olive Knot Disease is caused by the bacteria, *Pseudomonas savastanoi* (Figure 1). The bacteria is spread about by wind and rain gaining access to the tree through openings such as leaf scars, pruning wounds and frost cracks. Infections can occur at any time, but gall development is dependant on tree growth. The galls are disorganized plant tissue incapable of conducting water or nutrients. When the galls girdle twigs and branches, they can be killed. Of the varieties commonly grown in the Sacramento Valley, Manzanillo is the most susceptible followed by Sevillano and then Ascolano and Mission. The common practice has been to apply a single copper treatment in the fall after harvest aimed at controlling both Olive Leaf Spot Disease (Peacock Spot) and Olive Knot Disease.

From 1997 to 2000 we conducted research aimed at improving control of Olive Knot Disease. The trials were carried out on Manzanillo trees in Tehama County. To simulate natural infections, olive twigs were defoliated approximately monthly through the winter and spring. Copper treatments were applied at different times throughout the period to test the efficacy of different timings and multiple sprays. This research yielded the following relevant information.

1. The majority of “knots” developed from spring rather than winter infections. Relatively low levels of disease developed on twigs defoliated from December through February and the disease incidence was not influenced by the amount of rain that occurred within 9 days of defoliation. In contrast, disease incidence on twigs defoliated in the spring (March through May) was much higher and was positively correlated with rainfall.
2. The ability of copper sprays applied in December to reduce infection on defoliated twigs generally ran out by March or April.

(continued)

3. Multiple sprays were more effective in reducing disease incidence than single sprays. Two sprays were more effective than one and three were more effective than two. If a single spray was applied, spring sprays (March and April) were more effective than winter sprays (December and February).

Previous research showed that pruning wounds are susceptible to infection for about two weeks.

In conclusion, fall copper sprays need to be applied to control Olive Leaf Spot disease, but spring copper sprays are more important for control of olive knot disease. Two sprays are more effective than one. The combination of a fall and spring copper spray will result in improved disease control.



Figure 1. Olive Knot Disease

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