

Project No. 05-JU-01

Project Title: Almond leaf scorch: Evaluation of two rootstocks on tree growth, disease impact and nut quality

Project Leaders: Douglas Gubler/Jerry Uyemoto

2005-2006 Budget: \$6,400.00

Work accomplished during 2005-2006.

Pathogen inoculations. After bud-break, 50 test trees were “shaped” by removing excess side branches (no head cuts). On 29th April, 25 test trees were inoculated with a suspension of *Xylella fastidiosa* @10⁹ CFUs. This was done by drilling a hole at the base of the tree, pipetting 20 ul of suspension in the hole, and the entrance covered with parafilm. Control trees received water and otherwise treated in like manner.

After three months incubation and symptoms failing to develop, the same test trees were “bottle grafted” with two ALS diseased shoots (1st August). Following another 6 weeks incubation, grafted shoots were examined and seven of 25 grafted trees had live inoculum shoots. On 17th September, the 18 test trees were regrafted. As of 11th October, all inoculum shoots were live.

In spring 2006, several inoculum shoots remain alive. Trees to be scored as positive or negative in August.

Trunk circumference measurements. Tree trunks were measured @foot above the soil line and data analyzed statistically (Alpha 0.05; LSD 0.7375).

<u>t Grouping</u>	<u>Means (inches)</u>	<u>N</u>	<u>Treatments</u>
A	6.050	5	Sonora/Nemaguard Healthy
A	6.000	4	Peerless/Lovell Healthy
A	5.960	5	Nonpareil/Titan Inoculated
B A	5.850	5	Sonora/M2624 Healthy
B A	5.725	5	Peerless/M2624 Healthy
B A	5.650	5	Nonpareil/Titan Healthy
B A	5.500	5	Peerless/M2624 Inoculated
B A	5.475	5	Sonora/N2624 Inoculated
B A	5.425	5	Peerless/Lovell Inoculated
B	5.125	5	Sonora/Nemaguard Inoculated

Additional work planned prior to dormancy. All inoculated limbs and inoculum shoots will be encased with foam insulation as “protection” from low winter temperature.