

Procedure for Hot Water Treatment of Pecan Scion Wood to Eliminate the Bacterial Leaf Scorch Pathogen

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The Pecan Bacterial Leaf Scorch (PBLS) pathogen, *Xylella fastidiosa*, can be transmitted through pecan scion wood into newly developing trees following grafting and cause disease development. While it is best to collect and use scion wood from trees that are not infected, it is not always possible to do so. Symptoms may be missed if trees are not observed at the right time. Also, uninfected source trees may not be available to meet the scion wood needs of the grower. Hot water treatment of scion wood prior to grafting can be used to eliminate the PBLS pathogen from infected scion wood. While the treatment may not be 100% effective, it can greatly reduce the degree of infection of new trees from scion wood.

Procedure for Hot Water Treatment of Pecan Scion Wood:

1. Collect scion wood during winter months and store under refrigeration using standard methods.
2. When ready to graft in the spring, treat scion wood with hot water as follows to eliminate the PBLS pathogen:
 - a. Bundle several scions together using rubber bands, string, etc. (Figure 1). Groups of five work well, but you can probably group at least ten scions together.
 - b. Add something to the bundle to weigh it down so that the bundle will be completely submerged in the water. Some type of metal bar, screwdriver, crescent wrench, etc., will work.



Figure 1: Scions bundled together with metal rod for heat treatment.

- c. Preheat water to 115°F. There is some room for going a little over this temperature; however, some visible damage to the scion wood has occurred when scions were kept at 125°F for 30 minutes. A large pot on a stove top at the lowest heat setting would work.
- d. When the proper temperature is reached, submerge the scion bundle in the hot water (Figure 2) for 30 minutes. It is **important** to monitor the water temperature with a thermometer and maintain the temperature in the 115 – 125°F range throughout the 30 minute period.



Figure 2: Scion bundles submerged in 115°F water bath.

- e. Following the heat treatment, it is **important** to quickly submerge the bundles in room temperature water for one or two minutes to quickly remove the heat.
3. The scions are now ready for grafting.

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