

# Best Management Practices of Invasive Shot Hole Borer and Fusarium Dieback on Avocado in California

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## WHAT TO DO:

- 1- Inspect branches and branch collar for signs of SHBs and FD symptoms in avocado (Fig 1-3).
- 2- If the beetle has not colonized (produced a gallery), no need to make cuts.
- 3- If the beetle has colonized, or a cluster of attack is observed on branches, cut entire branch (Fig 4).
- 4- If the beetle/fungus has colonized on the branch collar, remove the infested branch, including the branch collar (Fig. 3&4).
- 5- When pruning, use the three cut method (See pruning handout).
- 6- Spray pruning wound with *Bacillus subtilis* (2% Serenade ASO®) (Fig. 5)
- 7- Chip and then solarize pruned wood using a clear plastic tarp for several months.



Fig 1. Symptoms of Shot hole borer on avocado



Fig 2. Beetle infestation on an avocado branch collar but no cluster



Fig 3. Beetle infestation on an avocado branch collar with cluster

## PRUNED AND CUT PLANT DEBRIS:

- 1- Do not move infested plant material without chipping the material.
- 2- Chip infested wood on-site to a size of one inch or smaller.
- 3- If the branch is too large to chip, solarize using clear a plastic tarp on-site for several months. (winter at least 3 months, summer 6 weeks)
- 4- 5- After plant material is chipped, it may be safe for use in other locations.

## EQUIPMENT DISINFECTING:

- 1- Sanitation of equipment between each tree during pruning will reduce the spread of fungal pathogens.
- 2- Prior to cutting/pruning, remove organic debris off equipment (hand and power tools used for cutting (e.g. pruning shear, chainsaws), then spray or wipe with either Lysol® or 70% ethanol. Clorox® bleach diluted to 5% may be used.
- 3- Never use disinfectants on pruning wounds, as they could be phytotoxic.



Fig 5. Spray pruning wound



Fig 6. Chip infested pruning wood



Fig 4. Pruning of infested branch collar