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Nectarine—Shoot Strike Monitoring

Supplement to UC IPM Pest Management Guidelines: Nectarine

Grower/Orchard/Variety: _____

Date: _____

Shoot tips are killed when oriental fruit moth and peach twig borer larvae bore inside them and feed, resulting in "shoot strikes". Monitoring shoot strikes helps determine if the oriental fruit moth or peach twig borer populations require treatment. In orchards where mating disruption is used against oriental fruit moths, it gives an indication of whether it is working.

When and How to Sample—The Count Method

When to monitor depends on which species has been more prevalent in the past:

- **Oriental fruit moth** - monitor between 600 and 900 degree-days (DD) after the first trap catch for the 2nd to 4th generations.
- **Peach twig borer** - monitor between 500 and 900 DD after the first trap catch during 1st to 3rd generations.
 1. Inspect a minimum of five trees per block (usually 5-10 acres of trees of the same variety).
 2. Randomly select trees to inspect by starting with an outside tree and moving towards the middle of the block to get a good cross section of the block.
 3. Pick a starting point and circle the tree, looking up, down, and inside the tree, counting all shoot strikes.
 4. Record the total number of shoot strikes on the form below before moving on to next tree. Do not distinguish between old and new shoot strikes, but be careful not to confuse shoot damage from breakage or pests such the plant bug *Calocoris*, which will not leave a tunnel whereas oriental fruit moth and peach twig borer will.
 5. Once five or more trees have been inspected, calculate the average strikes per tree on the form. If you are approaching the *treatment threshold* (an average of three strikes per tree), sample a few more trees.

Date	Generation	Tree 1	Tree 2	Tree 3	Tree 4	Tree 5	Total Strikes	Average strikes/tree*
	1							
	2							
	3							
	4							

*Total strikes divided by number of trees inspected

7. If larvae are present in the shoots, verify the predominant species causing the shoot strikes by examining several strikes. When oriental fruit moth (OFM) is present, fresh strikes may have excrement (frass) on the outside of the hole, whereas this is not the case with peach twig borer (PTB).
8. Pull the shoot apart to find the larva. Use the description of the pests in the individual pest sections and the photos in the online version of this guideline to correctly identify the species. Generally, peach twig borer first appears when leaves are only 1 to 2 inches long. Oriental fruit moth strikes start to first appear when leaves are about 5-8 inches long. After the first generation, the flights tend to overlap and larvae of both species can be present. Knowing for sure which species is predominant is important in spray timing and in the selection of the most effective insecticide.
9. It may be helpful to record your observations on a form like the one below for future reference.

Larval Identification Tree

Date	Generation	Number of OFM larvae	Number of PTB larvae	Number with no larvae
	1			
	2			
	3			
	4			