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Walnuts—Aphid Monitoring

Supplement to UC IPM Pest Management Guidelines: Walnuts

Grower _____ Date of survey _____

How to monitor

Begin sampling in May. Sample at head height or the lowest part of the canopy you can reach.

1. Choose 20 trees randomly from different areas in the orchard.
2. From each tree, take 5 first-subterminal compound leaves for a total sample of 100 leaflets.
3. Check the upper surface of each leaflet along the midvein for dusky-veined aphids and mummies and the lower leaf surface for walnut aphids and mummies, counting and recording numbers for each on the monitoring form.
4. If there is 1 mummy per 10 walnut aphids, sample again before making treatment decisions. If mummy numbers increase, it may be unnecessary to treat.
5. Consider treatments for walnut aphid if the average number of healthy (non-parasitized) aphids found on the underside of the subterminal leaflets is over 15 per leaflet.
6. Few mummies will be present with dusky-veined aphids. However, predators can keep them below threshold levels. Before treatment decisions are made, check to see if dusky-veined aphid predators are controlling them.
7. Consider treatment for dusky-veined aphid when an average of 10% of the subterminal leaflets have dusky-veined colonies of six or more feeding on their upper surface along the midvein.

Tree	Leaf	Number of walnut aphids on lower side leaf	Number of walnut aphid mummies	Number of dusky-veined aphids on upper side leaf	Number of dusky-veined aphid mummies	Number of predators
1	1					
	2					
	3					
	4					
	5					
2	1					
	2					
	3					
	4					
	5					
3	1					
	2					
	3					
	4					
	5					
4	1					
	2					
	3					
	4					
	5					
5	1					
	2					
	3					
	4					
	5					
6	1					
	2					
	3					
	4					
	5					
7	1					
	2					
	3					
	4					
	5					

Tree	Leaf	Number of walnut aphids on lower side leaf	Number of walnut aphid mummies	Number of dusky-veined aphids on upper side leaf	Number of dusky-veined aphid mummies	Number of predators
8	1					
	2					
	3					
	4					
	5					
9	1					
	2					
	3					
	4					
	5					
10	1					
	2					
	3					
	4					
	5					
11	1					
	2					
	3					
	4					
	5					
12	1					
	2					
	3					
	4					
	5					
13	1					
	2					
	3					
	4					
	5					
14	1					
	2					
	3					
	4					
	5					
15	1					
	2					
	3					
	4					
	5					
16	1					
	2					
	3					
	4					
	5					
17	1					
	2					
	3					
	4					
	5					
18	1					
	2					
	3					
	4					
	5					



Tree	Leaf	Number of walnut aphids on lower side leaf	Number of walnut aphid mummies	Number of dusky-veined aphids on upper side leaf	Number of dusky-veined aphid mummies	Number of predators
19	1					
	2					
	3					
	4					
	5					
20	1					
	2					
	3					
	4					
	5					
		Total =	Total =	Total number of leaves with 6 or more aphids =	Total =	Total =
		Average =	Average =	Average number leaves with 6 or more aphids =	Average =	Average =
Calculations				Number of leaves with 6 or more aphids on upper surface along leaf midvein= _____ Average number of leaves with 6 or more aphids= _____		
Action threshold		Consider treatment if the average number of non-parasitized aphids on the leaf underside is 15 or more per leaf.		Consider treatment if an avg. of 10% or more of leaves have 6 or more aphids in a colony, feeding		

