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## Grape—Caterpillar Monitoring Form

### Supplement to UC IPM Pest Management Guidelines: Grape

Grower/Vineyard: \_\_\_\_\_ Date: \_\_\_\_\_

Comments: \_\_\_\_\_

**Directions:**

1. **At rapid shoot growth**, start to monitor 20 vines weekly by looking at 5 vines in each quadrant of the vineyard for omnivorous leafroller, orange tortrix (in coastal areas), and light brown apple moth (LBAM).
2. **From bloom onward**, continue monitoring omnivorous leafroller, orange tortrix (in coastal areas), and light brown apple moth, and start monitoring for grape leaffolder and western grape leaf skeletonizer.
3. On each vine, check for pests and the damage they cause according to the pests in the seasons below.

Season	Omnivorous leafroller	Orange tortrix (coastal areas) / LBAM	Grape leaffolder	Western grapeleaf skeletonizer
<b>Early in rapid shoot growth</b>	<ul style="list-style-type: none"> <li>• Monitor for webbed leaves.</li> <li>• If you see webbing and frass, look for caterpillars.</li> <li>• Map out areas of concern for bloom monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor for webbed leaves.</li> <li>• Unroll the leaves and look for leafroller larvae, pupa, or parasite cocoon.</li> <li>• Map out areas of concern for bloom monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>• See bloom below.</li> </ul>	<ul style="list-style-type: none"> <li>• See bloom below.</li> </ul>
<b>Bloom and after</b>	<ul style="list-style-type: none"> <li>• Examine 10 flower/fruit clusters in the center of each of the 20 vines, for a total of 200 clusters.</li> <li>• Record the number of infested clusters.</li> </ul>	<ul style="list-style-type: none"> <li>• Examine 10 flower/fruit clusters in the center of each of the 20 vines, for a total of 200 clusters.</li> <li>• Record the number of infested clusters, note parasitization.</li> </ul>	<ul style="list-style-type: none"> <li>• Count the number of rolled leaves per vine.</li> <li>• Unroll leaves and look for both healthy and parasitized larvae.</li> <li>• Record the number of leaffolder caterpillars and parasitized larvae.</li> </ul>	<ul style="list-style-type: none"> <li>• Check for skeletonized leaves.</li> <li>• Record presence or absence of healthy or infected larvae.</li> </ul>

**Record your results and treat if needed using the treatment table thresholds on page 2.**

**Map of your vineyard (quadrants)**

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Grower/Vineyard: \_\_\_\_\_ Date: \_\_\_\_\_

Comments: \_\_\_\_\_

Quadrant	Vine	Omnivorous leafroller	Orange tortrix / LBAM	Grape leaffolder		Western grapeleaf skeletonizer	
		Number of flower/fruit clusters infested out of 10	Number of flower/fruit clusters infested out of 10 (note parasitization)	Number of grape leaffolder	Number of parasitized larvae	WGLS (+ or -)	Infected with virus (+ or -)
1	1						
	2						
	3						
	4						
	5						
2	6						
	7						
	8						
	9						
	10						
3	11						
	12						
	13						
	14						
	15						
4	16						
	17						
	18						
	19						
	20						
		<b>Total infested:</b>	<b>Total infested:</b>	<b>Total:</b>	<b>Total:</b>	<b>Total:</b>	<b>Total:</b>
			<b>Average: (Total/200 x100) _____</b>				
		At bloom, treat if any larvae are found. After bloom, treat if 2 or more clusters (1% or more) are infested.	<b>Orange tortrix:</b> Treatment may be warranted if an average of 0.5 to 1 larva per vine is found and no parasites are present. <b>LBAM:</b> Treat before bunch closure if any verified larvae found.	Treatment may be warranted if population levels increase. Treat when larvae are young, before they roll leaves around themselves.		Treat if larvae are found and no granulosis virus is evident.	

