Tomato: Potato Aphid & Tomato Fruitworm Monitoring

Supplement to UC IPM Pest Management Guidelines: Tomato · www.ipm.ucanr.edu

For Print Use Only

Grower _____ **Date of survey** _____

Field location _____ **Date planted**_____

Comments _____

Start sampling for potato aphids 6 to 8 weeks before harvest.
Start sampling for fruitworm eggs after adults are trapped in pheromone traps in late July or early August.

HOW TO MONITOR

1. Pick the leaf below the highest open flower on 30 plants selected at random throughout the field.
2. Record presence or absence of potato aphid on each leaf. Also note natural enemies.
3. Count fruitworm eggs on each leaf, noting whether eggs are white or black (parasitized).
4. If less than 3 healthy eggs are found in the fruitworm sample, stop sampling. If 5 or more healthy eggs are found, treat. If 3 to 5 healthy eggs are found, take another 30 leaf samples and follow guidelines below.
5. To take parasitism into account in the Sacramento Valley, use the "Assess egg parasitism" table below.
6. Review treatment thresholds on page 2. Refer to the Pest Management Guidelines for information on treatment.

Leaf	Potato aphid (+/-)	Natural enemies (+/-)	Leaf	Fruitworm*		Leaf	Fruitworm*	
				White egg count	Black egg count		White egg count	Black egg count
1			1			31		
2			2			32		
3			3			33		
4			4			34		
5			5			35		
6			6			36		
7			7			37		
8			8			38		
9			9			39		
10			10			40		
11			11			41		
12			12			42		
13			13			43		
14			14			44		
15			15			45		
16			16			46		
17			17			47		
18			18			48		
19			19			49		
20			20			50		
21			21			51		
22			22			52		
23			23			53		
24			24			54		
25			25			55		
26			26			56		
27			27			57		
28			28			58		
29			29			59		
30			30			60		
Total lvs infested=			**Total eggs in 30 lvs=**					

Treatment thresholds	Treatment is warranted if 50–60% of leaves are infested. High rates of parasitization or predators may reduce aphid numbers before they reach these thresholds.	If fewer than 3 eggs are found, stop sampling. If 3 or more eggs found in 30 leaf-sample, sample 30 more leaves. If fewer than 5 eggs found in second 30-leaf sample, stop sampling.	If 5 or more eggs found in second 30-leaf sample, assess egg parasitism to see if treatment is warranted. See PMG for treatment details.

Number of black eggs	**Number of white eggs**							
	4 to 8	**9**	**10**	**11**	**12**	**13**	**14**	**15**
0	T	T	T	T	T	T	T	T
1		T	T	T	T	T	T	T
2				T	T	T	T	T
3					T	T	T	T
4						T	T	T
4						T	T	T
6						T	T	T
7							T	T
8							T	T
9								T
10								T

Count the number of black (parasitized) eggs and compare them to the number of white eggs in the table (left). The adjusted treatment letter "T" (left) indicates the ratio at which treatment is recommended. If no black eggs are recorded, collect and observe white eggs for 48 hours and subtract those that turn black due to parasitism.