

Pome Fruits—Chemical Control

Seasonal Control of Codling Moth with Imidan

W. Brian Kreowski and Helmut Riedl

Mid-Columbia Agricultural Research and Extension Center, Hood River, OR

Keywords: codling moth, leafroller, pear rust mite, pear psylla, Imidan, Guthion, pear

Two different timings of Imidan were compared with a standard timing of Guthion and an untreated control for control of codling moth (CM). The trial was conducted in a 31-year-old Bartlett pear block. The experiment was a randomized complete block design with four blocks. Spray application were made to each of four single tree replicates per block. Trees were sprayed to runoff with a hydraulic handgun operating at 200 psi at a rate of 400 gal/acre. Sprays were applied at the beginning of egg hatch of first and second CM generations (250 degree-days following biofix) and followed up either once at three weeks or twice at two and four weeks. Pears were inspected at the end of the first generation and at harvest for CM damage and for pear psylla russet, pear rust mite russet, and leafroller damage also at harvest.

Codling moth pressure was heavy with 26.5% infested fruit after the first generation and 58.5% at harvest in untreated controls. Imidan applied at two-week intervals, after beginning of egg hatch, gave the best control. All chemical treatments gave equally adequate control of codling moth. Standard timing of both Imidan and Guthion appeared to increase the amount of pear psylla russet. Leafrollers were controlled by all chemical treatments. None of the treatments affected pear rust mite.

Table 1.

Treatment	Rate form/ 100 gal	Percent damaged fruit									
		6 Jul	28 July								
		1st gen CM	Codling moth			Pear psylla		Pear rust mite		Leafroller	
		Sting	Entry	Total	US #1	US #2	>15%	>30%	Early	Late	
Imidan 50WP ¹	16 oz	1.5a	1.5a	1.0a	2.5bc	30.0cd	4.0NS	44.5NS	8.0NS	0.5NS	0.0a
Imidan 50WP ²	16 oz	0.5a	0.0a	0.0a	0.0ab	18.0bc	1.0	38.5	4.5	0.5	0.0a
Guthion 35WP ¹	7 oz	0.0a	0.0a	1.0a	1.0b	35.0cd	2.0	41.0	8.5	0.5	0.0a
Control	--	26.5b	17.0b	58.5b	75.5cd	12.0ab	0.5	35.0	14.5	0.0	2.0b

Data transformed to log (x+1) for analysis; untransformed means in each column followed by the same letter are not significantly different (P=0.05, Fisher's LSD); NS, not significant.

¹Standard timing: 13 May (246°D); 3 June; 15 July (1257°D).

²Two-week timing: 13 May; 27 May; 16 June; 15 July.