

Chemical Control/New Products

Codling Moth (*Cydia pomonella*), Apples (*Malus domestica*)

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This study was designed to evaluate the effects of applying V-71639 O.83EC (Valent) or Guthion 50WP (Bayer) for control of codling moth.

Eight plots (0.5 acre, 6 rows x 11 trees) were established in a 16-year-old commercial orchard of Red Delicious apples planted on a 16 x 18 spacing near Yakima, WA. One plot was not treated and served as the untreated check. One plot was treated with V-71639 (30 g (AI)/acre), one plot was treated with V-71639 (40 g (AI)/acre), and one plot was treated with V-71639 (50 g (AI)/acre) at petal fall on 3 May. A second application 21 days after the first using the same rates was applied to these plots on 24 May. One plot was treated with V-71639 (30 g (AI)/acre) at first moth catch on 26 April and this plot received a second application at the same rate 21 days later on 18 May. One plot was treated with V-71639 (30 g (AI)/acre) at 100DD after biofix on 15 May followed by a second application at the same rate 23 days later on 7 June. One plot was treated with V-76139 (30 g (AI)/acre) at 200DD after biofix on 22 May followed by a second application at the same rate 19 days later on 7 June. One plot was treated with Guthion (1 lb (AI)/acre) at 200DD after biofix on 22 May followed by a second application 19 days later on 7 June. All plots were sprayed with a Rears (Eugene, OR) Pak-Blast air-blast sprayer using 100 gallons of water per acre. Bloom in the orchard was at about 90% petal fall on 2 May.

Evaluations for codling moth damage were done 24 June by examining 1,000 randomly selected apples in each of the plots.

Results

V-71639 (30 g (AI)/acre applied on 3 May with a second application on 24 May). There was significantly less codling moth damaged fruit in this plot as compared to the untreated check (Table 1). This rate and timing gave good control of first generation codling moth larvae.

V-71639 (40 g (AI)/acre applied on 3 May with a second application on 24 May). There was significantly less codling moth damaged fruit in this plot as compared to the untreated check (Table 1). This rate and timing gave good control of first generation codling moth larvae.

V-71639 (50 g (AI)/acre applied on 3 May with a second application on 24 May). There was significantly less codling moth damaged fruit in this plot as compared to the untreated check (Table 1). This rate and timing gave excellent control of first generation codling moth larvae.

V-71639 (30 g (AI)/acre applied on 26 April (first moth catch with a second application on 18 May). There was significantly less codling moth damaged fruit in this plot as compared to the untreated check (Table 1). This rate and timing gave excellent control of first generation

codling moth larvae.

V-71639 (30 g (AI)/acre applied on 15 May [first egg lay with a second application on 7 June]). There was significantly less codling moth damaged fruit in this plot as compared to the untreated check (Table 1). This rate and timing gave excellent control of first generation codling moth larvae.

V-71639 (30 g (AI)/acre applied on 22 May [first egg hatch with a second application on 7 June]). There was significantly less codling moth damaged fruit in this plot as compared to the untreated check (Table 1). This rate and timing gave good control of first generation codling moth larvae.

Guthion (1 lb (AI)/acre applied on 22 May with a second application on 7 June). There was significantly less codling moth damaged fruit in this plot as compared to the untreated check (Table 1). This rate and timing gave excellent control of first generation codling moth larvae.

Conclusion

All rates and application timings of V-71639 gave good control of codling moth, therefore it is difficult to reach a conclusion on the best timing of V-71639 for control of codling moth. The results of this test indicate that timing is not critical. However, the last application timing, 200DD after biofix, had the most codling moth larvae. Guthion gave good control of codling moth larvae.

Table 1. The number of codling moth entries found in 1,000 apples on 24 June and the percent damage, Yakima, WA, 1995.

Treatment	AI/acre	No. codling moth entries	% damage
V-71639 0.83EC	30 g	3a	0.3
V-71639 0.83EC	40 g	2a	0.2
V-71639 0.83EC	50 g	0a	0
V-71639 0.83EC (treated at 1 st moth catch)	30 g	0a	0
V-71639 0.83EC (treated at 100DD after biofix)	30 g	0a	0
V-71639 0.83EC (treated at 200DD after biofix)	30 g	4a	0.4
Guthion 50WP	1 lb	0a	0
Untreated check	--	38b	3.8

Means within a column followed by the same letter are not significantly different at the $P=0.05$ level, Tukey's studentized range test.