

Nuts—Chemical Control

Evaluation of RH 5992 for Control of Codling Moth in Walnuts

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Ashley walnut trees were sprayed with a handgun operating at 300 psi in order to evaluate season-long control of CM. Spray volume was 400 gal/acre (5.7 gal/tree). This orchard had experienced damage in excess of 20% infested nuts the previous year. Treatments on individual trees were replicated 4 times (Table 1).

Evaluation of the first application was made by inspecting all dropped nuts for worms, on a weekly schedule, from May 28 through July 1. All materials performed significantly better than did the untreated control. However, even the highest rate of RH 5992 had a trend toward more dropped nuts than the Lorsban standard. There was not a rate effect from the 0.125 rate to the 0.25 rate of the IGR (Table 2).

The second and third applications were evaluated at commercial harvest on Sept. 20 from a 100 nut per tree sample. All materials had significantly fewer CM-infested nuts at harvest than did the untreated control. The RH 5992 treatments had more infested nuts than the grower standard program. The majority of NOW infested nuts was the result from NOW damaging previously infested CM nuts.

For future testing, we feel that a program of 4 applications of the IGR at the .125 rate could provide the additional coverage necessary for better control of CM in walnuts, using a minimum amount of materials. This year, that additional application timing would have come in the last part of May (Table 3).

**Table 1.** Treatments on individual walnut trees, replicated 4 times, 1991.

Calendar date	Day degrees and timing	Treatments
31 March	7 DD biofix	---
2 May	1/2 inch nut size—(268 DD)	RH 5992 + Lorsban
18 June	Traps indicate second flight starts—(0 DD) (1028)	
21 June	Oviposition—(35 DD)	RH 5992
7 July	5-10% hatch—(365 DD)	Guthion
19 July	4-week follow-up	RH 5992
2 August	4-week follow-up	Guthion

**Table 2.** Codling moth infested dropped nuts.

Treatment	Pounds/acre	Mean* no. dropped nuts/tree
Lorsban	2.0	15.5a
RH 5992	0.5	29.3a
RH 5992	0.25	61.0b
RH 5992	0.125	58.5b
Untreated	---	93.8c

\*Means followed by the same letter were not significantly different at the 5% level (DMRT).

**Table 3.** Infested nuts at commercial harvest, Woodland, CA, 1991.

Treatment	Rate lb (AI)/acre	Mean % nuts infested with:		
		Codling moth	Navel orangeworm	Total worm
Grower standard*		0.00a	0.25a	0.25a
RH 5992	0.5	5.00b	2.00b	7.00b
RH 5992	0.25	7.00b	2.75b	9.75b
RH 5992	0.125	5.50b	3.25b	8.75b
Untreated	---	15.25c	10.75c	26.00c

Means followed by the same letter were not significantly different at the 5% level (DMRT).

\*Grower standard was 2.0 lb (AI)/acre of Lorsban for the first application and 1.5 lb (AI)/acre of Guthion for the second and third applications.

