

Chemical Control/New Products

Technique for Determining Residual Control of Certain Products

John Attaway  
Ukiah, CA

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A trial sponsored by Gowan Chemical Co. was conducted in Mendocino County, California, to compare residual control of Azinphos both with and without oil.

**Procedure**

Each treatment was applied to non-randomized four-tree plots on 7/22 via handgun at 250 gpa.

On eight dates, beginning on the afternoon of 7/22 and then every 3 to 4 days (final date 8/15), fruit were infested as follows: Codling moth egg sheets containing ready-to-hatch eggs were cut into pieces containing 5 to 8 eggs. These pieces were attached to the calyx area of 20 fruit per treatment (from 2 to 7 ft) with a small adhesive tab. Paper cups with a 2.25 inch opening were then attached over the end of the fruit with masking tape. Fruit were picked 3 to 4 days following each infestation and brought to the lab. The cups were carefully removed and counts were made of the number of larvae stuck on either the tape or on the adhesive tabs, of the number of dead larvae in the cups or on the fruit surface, of the number of entries with worms and, by the 4th evaluation, of the number of feeding "stings" noted that had no worms. Each fruit and each entry were dissected.

**Treatments**

1. Azinphos-M 50WSB 1.5 lb a.i./acre
2. Azinphos-M 50WSB 1.5 lb a.i./acre + Gavicide Super 90 1.5 gal/100 gal
3. UTC

**Conclusion**

The number of worms hatched on each fruit averaged 4.3. Treatment 1 provided the best and most consistent control which lasted until 24 days. Treatment 2 worked until around day 21 after which it lost effectiveness rapidly.

**Comment**

The eggs came via federal express from Canada and spent 2 to 3 days in shipment. Optimally, they would arrive on a Thursday and would be used for the next day's (Friday) infestation and again the following Monday (two infesting days/shipment). However, there were times when they were not ready to hatch on the correct date or, in the case of one shipment, were not in adequate concentration on the paper, and older eggs were used. When this was necessary, more than 5 to 8 were used on the assumption that older eggs would be less viable.

These results should not surprise anyone, but I felt that discussion of this technique might

help in its improvement or adaptation to other studies or areas of research.

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**Table 1.** Average number of hatched larvae (stuck + dead + entries).

7/25	7/29	8/1	8/5	8/8	8/12	8/15	8/19
5	2.99	2.57	3.87	4.17	4.79	5.76	5.34

**Table 2.** Percent control of first instar codling moth larvae using 20 infested fruit per treatment per date.

Treatment no.	7/25	7/29	8/1	8/5
1	95a	100a	100a	95a
2	70b	95ab	95a	80a
3	0c	0c	50b	35b
	8/8	8/12	8/15	8/19
1	70a	85a	80a	80a
2	65a	70ab	30b	40bc
3	0c	0c	30b	5d

Means followed by the same letter are not significantly different (P=0.05, DMRT).