Pome Fruits—Chemical Control

Early Chemical Applications for Control of *Campylomma verbasci* Meyer on 'Golden Delicious'

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Campylomma is a direct pest on sensitive apple varieties, particularly 'Red' and 'Golden Delicious'. 'Golden Delicious' appear to be the most sensitive variety to campylomma feeding injury. At this point, Carzol 1 lb/acre at full bloom is the standard control for this pest. In 1992 we had success with early pesticide applications on 'Delicious'. Lorsban, Thiodan, Carzol and Diazinon were all tested at full field rate. This year we retested these chemicals at the early spray timing (half-inch green and pink) on 'Golden Delicious' and compared lower rates with their full field rate.

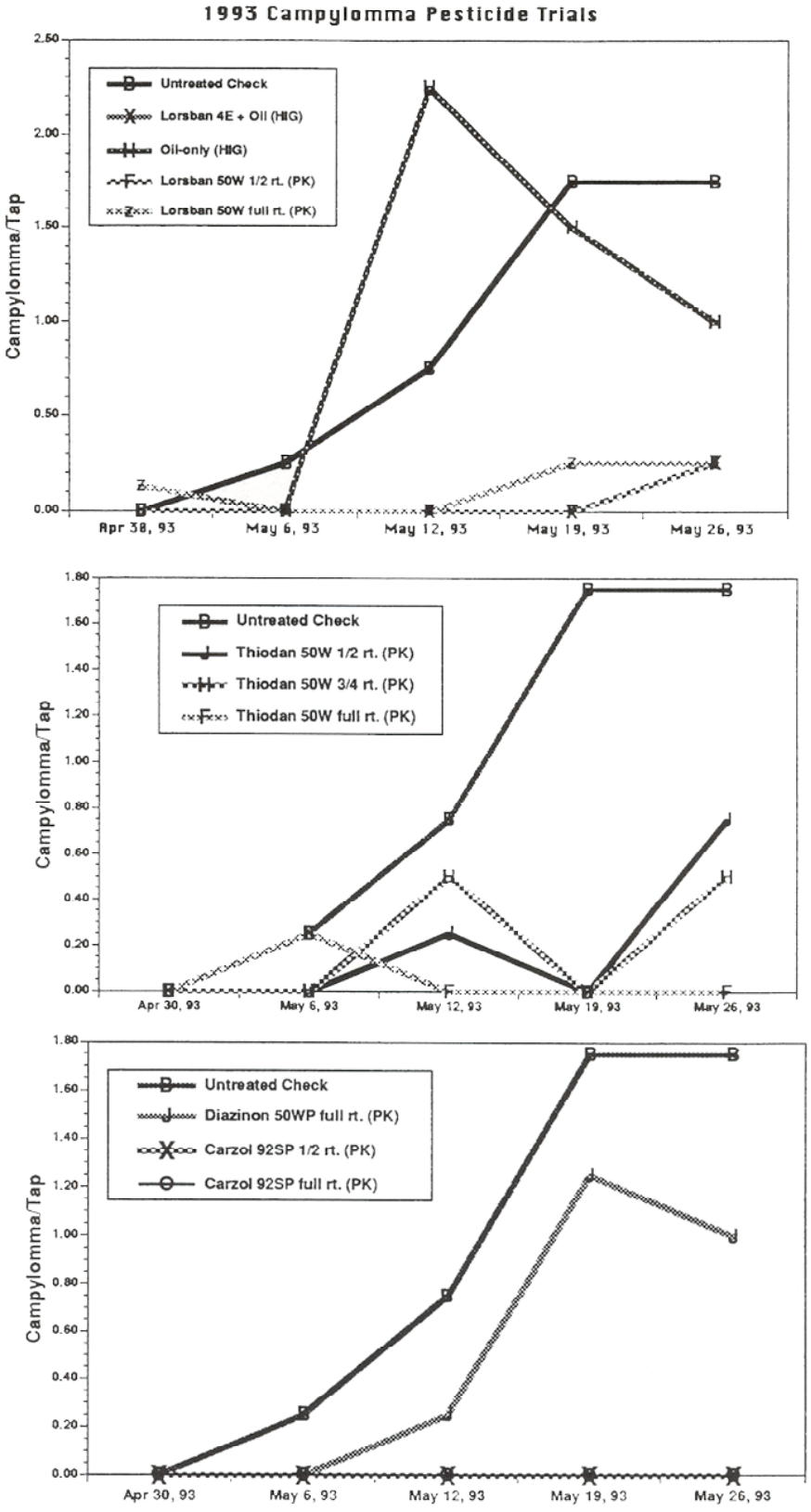
The orchard contained a standard planting of 'Golden Delicious' 4-5 m tall. The experimental design was a randomized complete block with 11 treatments and four single-tree replications per treatment. All treatments were applied with a handgun sprayer to point of drip, the oil + Lorsban and oil only treatments were applied at 300 psi, while all other treatments were applied at 400 psi. Per acre application rates were based on 400 gal/acre. Post-treatment nymph densities were sampled from one limb of each replicate tree per sampling date by striking the limb sharply three times over 45 x 45 cm black cloth tray (the limb-tap method). Fruit evaluations were conducted at June drop and preharvest. Eighty fruits per replicate per sampling date were evaluated. Fruit with at least one campylomma sting were considered culls.

Although nymph densities exceeded the economic injury level for 'Golden Delicious', they were not high (<2.25 nymphs/tap). All treatments except oil-only suppressed nymph densities, although suppression faltered for Diazinon before other treatments. Damage was moderate in the control and the oil-only treatment (3.44% injured fruit in both treatments), all other treatments provided adequate protection (<1% injury)at preharvest

Table 1. 'Golden Delicious' (four single-tree replicates per treatment).

Compound	Date applied	Timing	Rate fm/ acre	Rate AI/ acre	Percent culled fruit 3 Sep 1993
Lorsban 4E + oil	16 Apr 1993	HIG	3 pt + 1%	1.5 lb	0.94b
Lorsban 50W	1 May 1993	Pink	1.5 lb	0.75 lb	0.94b
Lorsban 50W	1 May 1993	Pink	3 lb	1.5 lb	0.94b
Thiodan 50W	1 May 1993	Pink	2 lb	1.0 lb	0.63b
Thiodan 50W	1 May 1993	Pink	3 lb	1.5 lb	0.31b
Thiodan 50W	1 May 1993	Pink	4 lb	2.0 lb	0.63b
Diazinon 50WP	1 May 1993	Pink	4 lb	2.0 lb	0.63b
Carzol 92SP	1 May 1993	Pink	0.5 lb	0.46 lb	0.94b
Carzol 92SP	1 May 1993	Pink	1 lb	0.92 lb	0.00b
Oil	16 Apr 1993	HIG	1%		3.44a
Untreated check					3.44a

Treatments within the same column followed by the same letter are not significantly different, Fisher's least-significant-difference test P<0.05.


1993 Campylomma Pesticide Trials
Campylomma/Tap
Untreated Check
Lorsban 4E + Oil (HIG)
Oil-only (HIG)
Lorsban 50W 1/2 rt. (PK)
Lorsban 50W full rt. (PK)
Apr 38, 93
May 6, 93
May 12, 93
May 19, 93
May 26, 93
Campylomma/Tap
Untreated Check
Thiodan 50W 1/2 rt. (PK)
Thiodan 50W 3/4 rt. (PK)
Thiodan 50W full rt. (PK)
Apr 30, 93
May 6, 93
May 12, 93
May 19, 93
May 26, 93
Campylomma/Tap
Untreated Check
Diazinon 50WP full rt. (PK)
Carzol 92SP 1/2 rt. (PK)
Carzol 92SP full rt. (PK)
Apr 30, 93
May 6, 93
May 12, 93
May 19, 93
May 26, 93