Pome Fruits—Chemical Control

Prebloom Applications of Insegar for Control of Pear Psylla

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Mature bearing pear trees were sprayed with air carrier equipment applying 400 gal per acre to test prebloom applications of Insegar for control of PP. Plots consisted of unreplicated blocks of 1/2 acre or larger. Treatments were applied at delayed dormant (20 Mar) and at clusterbud (8 Apr) stages of tree development. Additional sprays applied to the entire orchard during the growing season included Dimilin 25% WP 1 lb/acre plus superior type oil 1 gal/acre on May 31, Guthion 35% WP 2.5 lb/acre plus Vendex 4L 2 pt/acre on 11 Jul and Guthion 35% WP 2 lb/acre plus Mitac 50% WP 3 lb/acre on 31 July. Treatments were evaluated by adult, egg and nymph counts on several dates after treatment. Adults were counted by the limb tap method. Early season eggs and nymphs were counted on fruiting spurs collected at random from test plots and examined under magnification in the laboratory. Later egg and nymph samples were counted from 2 50-leaf samples per plot. Leaf samples consisted of the proximal leaf, distal leaf and 3 leaves from the middle of 10 terminal shoots. Leaves were brushed and resulting slides were examined under magnification. PP russet was rated according to US grade standards for fresh market 'Bartlett' and 'd'Anjou' pears on 2 samples of 25 mature fruits per plot. Factors of fruit quality including firmness, soluble solids and size were evaluated from 2 10-fruit samples per plot at normal harvest maturity. Fruit and foliage were examined for phytotoxicity after each spray.

Treatments associated with treatment numbers in the table are as follows:

1. Insegar 25% WP 12 oz/acre plus superior type oil 4 gal/acre applied 20 Mar
   Insegar 25% WP 12 oz/acre plus Morestan 25% WP 4lb/acre applied 8 Apr

2. Insegar 25% WP 12 oz/acre applied 20 Mar
   Insegar 25% WP 12 oz/acre plus Morestan 25% WP 4 lb/acre applied 8 Apr

3. Insegar 25% WP 12 oz/acre plus superior type oil 4 gal/acre applied 20 Mar
   Insegar 25% WP 12 oz/acre applied 8 Apr

4. Insegar 25% WP 12 oz/acre applied 20 Mar
   Insegar 25% WP 12 oz/acre applied 8 Apr

All four programs provided control of PP through July. There was no PP damage to fruit or foliage in any of the treated plots. The surviving overwintered adults in all plots produced rather high densities of eggs, however, these eggs did not hatch and none of the plots developed damaging densities of nymphs. Insegar-oil combination at delayed dormant time killed some overwintered adults but did not provide superior reduction of first generation nymphs over that of Insegar alone. As with the addition of oil at delayed dormant timing, the addition of Morestan

in the clusterbud spray did not reduce first generation nymph density. The apparent mode of action seems to be two-fold: first, sterilizing adults; second, killing eggs laid on residues. There were no plot associated differences in factors of fruit quality or phytotoxicity.

	PP adults per 25 trays											
Treatment no.	26 May	1 Apr	9 Apr	15 Apr	22 Apr	30 Apr	13 May	28 May	10 Jun	25 Jun	8 Jul	22 Jul
1.	50	67	53	9	6	6	6	8	9	7	3	22
2	50	67	45	37	20	14	22	12	6	3	4	16
3.	148	106	81	12	4	13	12	5	3	4	6	5
4.	148	106	114	78	34	22	39	8	10	12	3	4

		PP eggs and nymphs per 10 spurs				PP eggs and nymphs per 100 leaves							
Treatment no.		1 Apr	9 Apr	16 Apr	22 Apr	6 May	20 May	3 Jun	17 Jun	1 Jul	15 Jul	29 Jul	13 Aug
1.	eggs	261	171	205	141	142	2	2	4	4	4	4	8
	nymphs	0	0	0	0	0	0	0	0	0	4	2	6
2	eggs	261	308	233	191	161	0	2	0	4	0	4	0
	nymphs	0	0	0	0	0	2	0	0	2	2	2	4
3.	eggs	127	502	540	674	55	10	0	4	0	4	6	2
	nymphs	0	2	0	0	0	4	0	0	2	4	10	2
4.	eggs	127	370	545	663	432	18	4	2	4	0	0	0
	nymphs	0	0	0	0	0	6	0	4	2	0	0	0

Identification of Pesticides Mentioned in Reports

Trade name	Common name
Agri-Mek .15EC	abamectin (avermectin B_1)
Dimilin 25% WP	diflubenzuron
Guthion 35% WP	azinphosmethyl
Insegar 25% WP	fenoxycarb
Mitac 50% WP	amitraz
Morestan 25% WP	oxythioquinox
Vendex 4L	fenbutatin-oxide