

Implementation Programs

The Use of Pheromone-Oil in the Codling Moth Areawide Management Program (CAMP) for the Pear Pest Complex in Southern Oregon

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A program to control arthropod pests of pear in southern Oregon utilizing codling moth (CM) mating disruption and three horticultural spray oil applications during the foliar season was initiated in 1995 on 300 acres and has expanded to over 500 acres in 1997. During 1995, 1996 and 1997, the program reduced foliar use of organophosphates by 72%, 73% and 70%, respectively, and overall synthetic pesticide use by 80%, 81% and 78%, respectively. Besides reducing pesticide use, the program has continued to achieve suppression of primary and secondary pear pests, maintaining damage between 1.5 and 2.4% fruit downgrading, while lowering the cost of arthropod control by about \$179 to \$200 per acre. The weaknesses of the program which have yet to be resolved are the prediction of CM and leafroller damage from pheromone trap catches, management of true bugs and concerns regarding gradual buildup in CM and other arthropod pest levels.

Basic Spray Program:

Timing of application	Target pest(s)	Material and rate
Dormant	Pear psylla (PP)	Oil, 4 gal
Delayed dormant	PP, San Jose scale (SJS), pear rust mite (PRM), codling moth (CM), twospotted mite (TSM)	Oil, 4 gal Lime sulfur 12 gal or Sulforix 2.5 gal
Just prior to codling moth biofix (ca. 200 DD from January 1)	CM, PP, TSM, etc.	Pheromone dispensers Isomate C+ 400/acre
200 DD post-CM biofix	CM, PP, TSM	Orchex 796 base oil 1%
400 DD post-CM biofix	CM, PP, TSM	Orchex 796 base oil 1%
600 DD post-CM biofix	CM, PP, TSM	Orchex 796 base oil 1%
1250 DD post-CM biofix	CM	Guthion 50WP 2.5 lb or Imidan 70W 4 lb

Percent fruit damage by pest:

Pest	1995	1996	1997
Codling moth	0.26	0.04	0.09
Leafroller	0.45	0.32	0.23
Pear psylla	0.06	0.04	0.01
True bugs	0.38	0.89	1.82
Other	0.38	0.23	0.25
Total	1.53	1.53	2.40

Summary of foliar treatments conventional vs. CAMP blocks, Bosc cultivar only.

Management type	No. of orchards	Total no. applications	No. OPs	No. other synthetics	Total no. synthetics
1995					
Conventional	15	5.4	3.2	2.8	6.0
CAMP	7	4.3	0.9	0.4	1.3
1996					
Conventional	10	4.2	3.7	3.0	6.7
CAMP	7	4.9	1.0	0.3	1.3
1997					
Conventional	4	3.8	3.3	2.5	5.8
CAMP	4	3.8	1.0	0.3	1.3

Note: Pheromone dispenser installation not included.