

Implementation Programs

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

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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 1994 on 80 acres, expanded to 300 acres in 1995 and to over 400 acres in 1996. During 1995 and 1996 the program reduced foliar use of organophosphates by 72 and 73%, respectively, and overall synthetic pesticide use by 80% in 1995 and 81% in 1996. Besides reducing pesticide use, the program has continued to achieve suppression of primary and secondary pear pests, maintaining damage at a level of 1.5% fruit downgrading, while lowering the cost of arthropod control by about \$200 per acre. The weaknesses of the program which were identified in 1995 and have yet to be resolved are the prediction of CM and leafroller damage from pheromone trap catches, along with the protocols for monitoring sucking bugs and natural enemies; concerns regarding long-term chronic effects of oil on pear; and concerns regarding gradual buildup in CM and other arthropod pest levels.

Table 1. Basic spray program.

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

Table 2. Overall fruit damage by pest.

Pest	% fruit damage (1995)	% fruit damage (1996)
Codling moth	0.26	0.04
Leafroller	0.45	0.32
Pear psylla	0.06	0.04
Early lygus	0.05	0.13
Other	0.33	0.76
Total bugs	0.38	0.89
Other	0.38	0.23
Total	1.53	1.53

Table 3. Summary of foliar treatments conventional vs CAMP blocks: Bosc cultivar only.

Management type	No. orchards	Total no. applications	No. OPs	No. other synthetic	Total no. synthetic
1995	15	5.4	3.2	2.8	6.0
Conventional					
CAMP	7	4.3	0.9	0.4	1.3
1996	10	4.2	3.7	3.0	6.7
Conventional					
CAMP	7	4.9	1.0	0.3	1.3

Note: pheromone dispenser installation not included.