

## 7. Mating Disruption/SIR

### Third Year of Puffer Trails in Oregon and Washington

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Codling moth mating disruption trials utilizing aerosol atomizers for dispersion of the pheromone were carried out for the third year in 1999. The number of trial locations was expanded to nine in 1999 and included sites in both Oregon and Washington. A total of 250 acres were treated at locations in Medford, Parkdale, Odell, Wapato, Yakima, Royal Slope, Pateros (2) and Brewster. Treated orchards ranged in size from 5 to 57 acres. Most, but not all, sites had a previous history of mating disruption and codling moth pressure was considered low to moderate in all blocks.

The puffers utilized in these trials were obtained from Technical Concepts (Elk Grove, IL.). In 1999 the individual cans were loaded with a mixture of codlemone, methanol and propellant (34.5 grams of codlemone + 61.4 grams of ethanol + 95.6 grams of propellant). The dispensers were operated on battery powered timers set to puff approximately every 25 minutes (+/- 20%), 24 hours each day. In 1999, 50  $\mu$ l vales were utilized that emitted approximately 7.5 mg of codlemone per puff or approximately 432 mg per day. Each can contained enough formulation for 4,600 puffs or enough to last approximately 79 days. Cans were replaced between day 72 and day 75 at all locations. Dispenser density ranged from one unit per acre to 1.8 units per acre.

All cooperators involved in the 1999 program felt that the results were commercially acceptable and cost effective. Cumulative moth trap capture in traps baited with 10x pheromone lures ranged from as low as 0.23 per to as high as 3.48 per trap. Fruit damage did not exceed 0.1% in any location. Supplemental insecticide treatments around borders were conducted at all locations and in some locations supplemental cover sprays were made on all or portions of the treated blocks.