

## Mating Disruption/SIR

### INTEGRATED HIGH EMISSION LOW POINT (I.-H.E.L.P.) MATING DISRUPTION SYSTEMS FOR CODLING MOTH AND LEAFROLLERS

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*Abstract:* Twenty-five 40-acre apple orchards (1,000 acres) were treated with one of five integrated, high emission low point density approaches (I.-H.E.L.P) in the Brewster, Washington area. All puffer-treated orchards received 16 mechanical devices spaced in an internal 100 x 100 m grid beginning 50 m from the edge of the orchard. MBA orchards were treated with 64 screened cages each containing 100 Isomate-C+ dispensers spaced in a 50 x 50 m grid starting 25 m from the orchard's edge. All orchards were also treated with a 10 m wide band of Isomate C+ dispensers around its' perimeter. Comparison orchards were established for each of the twenty-five orchards. These were paired based on similar size, location, pest pressures, cultivar, ownership, and spray practices. All comparison orchards were treated with Isomate C+ dispensers applied at 200 dispensers per acre. Fruit injury was assessed just prior to harvest by sampling thirty fruit from twenty trees within each quadrant of the orchard (2,400 fruit sampled per orchard). All five variants of the I.-H.E.L.P. approach outperformed the standard use of Isomate C+ . Growers preferred the use of these I.-H.E.L.P. approaches over the standard hand-applied system in all cases.