Mating Disruption/SIR

Female-Equivalent Formulations for Control of CM and OFM

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Abstract: Wax, microfiber and microflake formulations that emit pheromone at rates slightly above that of a female are being developed for control of oriental fruit moth and codling moth. Wax drops (0.1 ml) applied at a density of 30 per tree were highly effective in disrupting high population densities of oriental fruit moth in small plot trials. Furthermore, this application density of wax drops performed significantly better than the commercial standard polyethylene 'rope' dispenser and required only a third of the total pheromone dispensed by polyethylene ropes. In contrast, high application densities of wax drops did not improve mating disruption of CM above the unacceptable level of ca. 70% orientational disruption achieved by polyethylene ropes. Scentry fiber and Hercon flake formulations of pheromone for CM were tested in large plots in commercial orchards. During the first flight, the aerially applied fiber treatment did not prevent males from finding traps. Assessment of the fate of fibers revealed that 100% of them were lost from the trees within the first week following their application. The fibers fared better following the second application. Approximately 50% of the fibers that stuck to trees were still attached after 7 weeks and the treatment provided close to a 70% inhibition of CM moth captures in traps. Fruit injury at harvest in the fiber plots ranged from 0.5 to 1.6%. Less damage was recorded in adjacent Isomate C Plus and no pheromone (insecticide only) plots. The performance of flakes applied in mid-summer was similar to that of the fibers, showing promise but still in need of technical improvements. Over 50% of the flakes that landed on trees were still attached after 10 weeks. Under heavy pest pressure a single application of flakes provided about 65% trap shutdown.