Mating Disruption/SIR

Advances in Use and Augmentation of Lower Rates of Sprayable Pheromone for Mating Disruption of Codling Moths in Walnuts

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Abstract: The efficacy of applying lower rates (both 5 and 10 grams/acre) of microencapsulated sprayable pheromone (Ph-MEC, Certis, Inc.) was tested in mating disruption (MD) trials on codling moth (CM) in California walnut orchards. These tests also investigated the novel use of a microencapsulated sprayable formulation of the pear-ester kairomone (ethyl (2E, 4Z)-2,4-decadienoate) (DA-MEC, Trécé, Inc.) as an adjuvant to augment the disruption efficacy of Ph-MEC in walnut orchards. The ability of the kairomone DA-MEC to augment and enhance the MD activity of the Ph-MEC was conducted in two studies in 17 walnut orchards/blocks. The design was to test whether the DA-MEC will 1) perform similarly to sprayable pheromone in “shutting-down” or decreasing CM capture in kairomone-baited monitoring traps (6 traps/treatment block), 2) affect the pheromone control efficacy and 3) influence the degree and number of female matings. The first or “fixed-rate” study was replicated in six walnut orchards (Vina, Serr, Hartley and Chandler var.). The second or “variable-rate” study was replicated in 11 blocks in two walnut orchards (Hartley var.). Impact of these two studies shows that reduced rates of Ph-MEC will control CM in low to moderate CM population orchards and that the DA-MEC adjuvant might improve the efficacy of these more affordable lower rates of pheromone MEC in MD.