

Mating Disruption/SIR

Effects of Pear Ester Kairomone on Mating Disruption of Codling Moths in California Apples and Walnuts

Douglas Light, Janet Caprile, Kathy Reynolds, Paula Bouyssounouse, Matilda Gross, Pat Weddle, Robert Fritts and Bill Lingren  
USDA, ARS, Western Regional Research Center, Albany, CA

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*Abstract:* The effect of the pear ester kairomone [ethyl (2E, 4Z)-2,4-decadienoate, termed "DA"-kairomone] adjuvant on the efficacy of pheromone-based mating disruption was tested using sprayable microencapsulated formulations (MEC) in walnut orchard trials and using hand-applied dispensers in apple orchard trials. The sprayable pear ester kairomone (CIDETRAK DA-MEC, Trécé, Inc.) was tank mixed at a rate of 2 grams/acre with reduced-rates of 10 grams/acre sprayable pheromone (MEC-CM, Certis, Inc.) and applied by fan-sprayer at 100 gal/acre. The pear ester hand-applied dispensers (CIDETRAK DA, Trécé, Inc.) evaluated were polymeric matrix dispensers formulated either as DA-alone that was co-hung with Isomate pheromone dispensers (Pacific Biocontrol, Inc.) or DA combined with pheromone in "Combo-dispensers." Coverage and residual activity of the MD applications were evaluated by the "shut-down" of pheromone-baited monitoring traps. Treatment control efficacy was evaluated through fruit/nut injury assessments. Results show that reduced rates of pheromone MEC or dispensers will control CM in low to moderate population orchards and that the kairomone adjuvants help improve the efficacy and cost of these lower rates of pheromone application in MD. A key contribution of the kairomone adjuvant was the reduction in percentage of multiple matings by females.