Chemical Control/New Products

Walnut Trials Using the Codling Moth Kairomone, Pear Ester-MEC, as an Insecticide Spray Adjuvant

Douglas Light and Paula Bouyssounouse
USDA, ARS, Western Regional Research Center, Albany, CA

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Abstract: The pear ester kairomone, in a micro-encapsulated formulation (PE-MEC) (CIDETRAK DA-MEC, Trécé, Inc.), was tested for its efficacy as a spray adjuvant to various insecticides in field trials in a walnut orchard (Chandler variety) in California. To allow the adjuvant activity of the PE-MEC to be resolved, the rates of insecticides used were challenged by reducing them by as much as one-half the label rates. The insecticides tested were two OPs (chlorpyrifos and phosmet), an IGR (methoxyfenozide), and a granulosis virus. PE-MEC adjuvant was tested at rates of 0.2, 0.6, and 1.7 g/acre. Treatments were reduced-rate insecticide vs. reduced-rate insecticide + PE-MEC, and treatments without insecticides were PE-MEC alone and a “blank-MEC.” Sprays were applied by handgun to 8 replicate single trees per treatment. Test trees were distributed in a randomized block design throughout a 20-acre walnut orchard that received no grower sprays. Application rate of water was 3.5 gal/tree or 160 gal/acre, and it was applied six times through the season due to CM flight pressure. Treatment control efficacy was evaluated through both canopy-count visual assessments and nut knock-down collections just prior to harvest in late September. Results show that the PE-MEC adjuvant reduced CM and navel orangeworm damage rates from 49% to 88% below the low damage rates incurred with insecticides alone.