Chemical Control/New Products

Control of Codling Moth in Organic Pear Orchards

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Abstract: Codling moth (*Cydia* (Laspeyresia) *pomonella*) (CM) mating disruption (MD) has become the standard practice in the California pear industry. Organic growers are currently permitted to utilize only hand-applied dispensers. In 1991, 2001, and 2003 potentially effective, organically acceptable alternative insecticides were tested to supplement CMMD. Various combinations of CMMD and *Bacillus thuringiensis* (BT), petroleum-based oils, CM Granulosis Virus (CMGV), spinosad, pyrethrum and kaolinic clay were applied in ten replicated trials in Lake, Mendocino, Sacramento and Solano counties. Trials were either grower or handgun applied and all conducted in orchards with a history of CM damage. Materials were applied 3 to 11 times, depending on the trial. In most cases MD alone was the control treatment. Completely untreated controls were included in two trials. Overall results showed that MD alone provided about 60% added control. MD plus supplemental insecticides provided an average of 69% control above MD alone and 89% above untreated plots. Of the materials tested, only the commercial pyrethrum product, Pyganic®, failed to provide significantly more control versus MD alone. Entrust® simultaneously controlled pear slug (*Caliroa cerasi*) in one trial, while counts of European red mites (*Panonychus ulmi*) were significantly higher in plots treated with Surround® in two trials. While many applications may be required in high population orchards, results showed that several new materials are available to organic pear growers to supplement CMMD.