Control of Codling Moth
In Organic Pear Orchards

Abstract

Bacillus thurengiensis (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 3-11 times, depending on the trial. In most cases MD alone was the control treatment. Completely untreated controls were included in ten trials. Overall results showed that MD alone provided about 60% added control. MD plus supplemental materials provided an average of 60% control above MD alone and 80% above untreated plots. Of the materials tested, only the commercial pyrethrum product, Pyganic® b, provided significantly more control versus MD alone. Entrust® simultaneously controlled pear slug, Cydia pomonella, and increased European red mite populations in two trials (data not shown). Results

Materials and Methods

In 1991, 1992 and 2001-2003 trials were replicated ten times. Trials were carried out in pear orchards in Lake, Mendocino, Sacramento and Solano counties of Northern California. Treatments were Sprays of acceptable materials versus nothing (MD) and/or completely untreated controls. Sprays were applied either to the foliage by using a backpack sprayer or by cooperatively growing using commercial air spraying equipment. Replicate rows ranged from one tree to 2 acres. In six trials, codling moth (CM) presence and damage were evaluated prior to commercial harvest. Additional CM samples included for damage assessment and quantification were collected before and after spraying. Pseudoponyna kuiyaranae were also measured in plots treated with Surround® WP (data not shown). Mean percent codling moth damage in Ukiah, Mendocino Co., CA, was 61.6% in 2002, and 52.6% in 2003.

Results

In Organic Pear Orchards

Conclusions and Discussion

Control of CM in organic pear orchards (except Pyganic® b) provided significantly more control versus MD alone. Entrust® simultaneously controlled pear slug, Cydia pomonella, and increased European red mite populations in two trials (data not shown). Results from these trials have been published in recent Cooperative Extension publications. We also thank Abbot Laboratories (Entrust®), Dr. Barat Bisabri of Dow AgroSciences (Cyd-X®), Rob Fritts, Jr. of Certis USA, LLC (Cyd-X®), Mitchell King of Engelhard Corp. (Surround® WP), Don Sundquist of McLaughlin Gormley King Co. (Pyganic® 14 EC®), and Brian Fiset of Semtico Chemical Corp. (Carpovirusine® c).

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References


