Chemical Control/New Products

Strategies for Using Imidan (phosmet) in a Seasonal Codling Moth Control Program

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Abstract: Imidan (phosmet) is an ‘old’ organophosphate insecticide which has been available for codling moth control for many years. However, because of cost and a perception of being less effective, Imidan use on apple and pear has been relatively low compared with Guthion. Use of Imidan for codling moth control has increased some after the recent label changes for Guthion. Research on Imidan for codling moth control conducted over the last ten years at the Mid-Columbia Agricultural Research and Extension Center has focused on optimizing rates; alternating Imidan with non-OP insecticides, i.e., Intrepid (methoxyfenozide), Assail (acetamiprid); assessing the potential for inducing secondary pests; evaluating Imidan’s selectivity to natural enemies, especially on pear; and monitoring for resistance. A more basic question arose in recent years about the appropriate timing and frequency of sprays in a seasonal codling moth control program due to changing emergence patterns and a spring flight, which now seems to extend into July. In 2003, we compared two control programs with Imidan. The standard program consisted of two sprays against each generation (total of four sprays per season) where sprays were applied at the beginning of egg hatch and three weeks later. This program leaves a large gap between the second spray against the spring generation and the first spray against the summer generation. The second program consisted of three sprays against each generation (total of six sprays per season) where the first spray (full rate) in each generation was also applied at the beginning of egg hatch but subsequent sprays (half rate) followed at two-week intervals. The total amount of Imidan applied per season was the same in both programs. The effectiveness of the two control programs was evaluated in the laboratory by caging neonate larvae on fruit and checking for survival and damage seven days later and in the field by checking for infested fruit during the season and at harvest.