Chemical Control/New Products

Rate and Timing of Assail (acetamiprid), Actara (thiamethoxam), Calypso (thiacloprid) and Applaud (buprofezin) on Pear Psylla, 2003

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Abstract: Assail was applied at four different timings and two different rates—April 7 for Clusterbud, May 1 for Petalfall, June 20 for Summer 1, and July 31 for Summer 2 application. Actara, Calypso and Applaud were sprayed April 7 for Clusterbud, June 20 for Summer 1 and July 31 for Summer 2. Oil was added to all treatments at a rate of 0.25% v/v. All trees were treated by handgun to simulate a rate of 400 gpa and sprayed until drip. The trial was single tree replicated four times in a complete random block design.

A pre-treatment count was performed on all treatments on March 13. The plots were sampled weekly thereafter. Adult pear psylla were sampled with 4 beating trays per tree. Pear psylla eggs and nymphs were initially counted by collecting 5 spurs per tree and then examining them under a binocular microscope. From May 13 through June 9, 25 leaves were collected from lower scaffold branches (1.5-2 m in height). Pear psylla, spider mites and rust mites were then removed from the leaves onto glass plates using a standard leaf brushing machine. The numbers of insects were then determined by examining one-half of the plate using a binocular microscope. From June 16 through the end of the season, 25 leaves were taken from lower scaffold branches and another 25 were collected from shoots in the upper canopy. These samples were then also brushed and examined using a binocular microscope.

From the data collected this year it would appear that timing applications at clusterbud rather than petalfall would be a more effective approach for controlling pear psylla nymphs. The one petalfall application of Assail paralleled the generational decline observed in the untreated check, preventing conclusions about the efficacy at this time. This may have been due to a delay in the development of the pear trees this season, causing them to be out of sync with the target pest. Later observations showed no significant difference between treatments.