

Pome Fruits—Chemical Control

Control of Pear Pests Under Organic and Conventional Programs

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This was the second year of a multi-year study to compare the effectiveness and economics of organic and conventional pest control programs in mature Anjou pear orchards of the Hood River Valley. Organic growers used oil, sulfur, pyrellin and rotenone in their prebloom programs and frequent soap sprays, some *Bt* and rotenone during the summer. Conventional growers relied primarily on oil, sulfur, Thiodan, Baythroid and Morestan for prebloom control and on Guthion, Agri-Mek and Mitac for foliar applications. Orchards were sampled every two weeks from mid-May until early October. Growers were provided with monitoring information on pest levels and beneficials, but made their own decisions as to type and timing of pesticide applications.

Pear psylla (PP) control was satisfactory in one organic block. Beneficials supplemented by frequent soap sprays kept population levels low enough to prevent honeydew russet on the fruit. The other organic block was a cooler site and was treated with a similar spray program of soap and occasional rotenone. However, beneficials did not build up early enough and failed to respond to a large PP increase in July which caused extensive russet. A cool spring prevented early establishment of beneficials. PP control in the two orchards under conventional programs was good. One of the two blocks experienced PP resurgence in late September. The major natural enemies in organic blocks were the mirid *Deraeocoris brevis*, the parasitoid *Trechnites insidiosus*, lacewings and spiders. Few beneficials were present in conventional orchards, primarily spiders, *Trechnites* and lacewings.

Pear rust mite became again a major problem in one organic block. Codling moth increased from the year before in one organic block but was well control in conventional blocks in spite of minimal spray programs.

In a handgun trial at the MCAREC, Agri-Mek and soap sprays were least disruptive to beneficials. The OP insecticide Imidan was only moderately disruptive and allowed substantial survival of *D. brevis* nymphs. Mitac (amitraz) was the most disruptive to beneficials of all materials tested.