

POTATO TUBERWORM PESTICIDE SCREENING RESULTS IN OREGON

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The potato tuberworm (PTW) *Phthorimaea operculella* (Zeller) is one of the most important constraints to potato productivity worldwide. PTW larvae mine leaves, stems, petioles, and excavate tunnels throughout the potato tubers. The pest is difficult to control and over the years, many farmers in other parts of the world have relied extensively on the use of insecticides.

Pesticide screening. Many insecticides have been tested for their efficacy for controlling PTW. In 2005 and 2006, insecticides or combinations of insecticides via ground or chemigation were tested in screening trials at the Hermiston Agricultural Research and Extension Center in Oregon. Products that have been found to be effective for control of PTW in Oregon are: Monitor, Rimon, Avaunt, Agri-Mek, Asana, Lannate, Imidan, Success, Furadan, Leverage, Baythroid, Assail, Penncap M, and Dipel.

Pesticide Timing. When to begin application of insecticides to reduce tuber damage is a very important and potentially expensive question. Two basic treatment opportunities exist: (1) use insecticides throughout the season to prevent the build up of high numbers of moths (remembering that feeding on foliage does not reduce yields) or (2), wait until vine-kill and begin treating (similar to the methods reported in California). Trials in 2005 and 2006 in the Columbia Basin suggest that when three insecticides (Asana, Monitor 4, and Lannate LV) were applied at different intervals before vine kill, all insecticide treatments significantly reduced tuber damage. Therefore there was no apparent advantage in beginning control efforts earlier in the season compared to later.