

Section I.
Invasive and Emerging Pests

**DELIMITATION AND POSSIBLE ERADICATION OR CONTROL OF THE APPLE
MAGGOT (*RHAGOLETIS POMONELLA*) IN THE UMATILLA COUNTY,
OREGON, 2008**

H.W. Rogg, K.J.R. Johnson, and R.L. Westcott
Oregon Department of Agriculture
635 Capitol Street NE, Salem, OR 97301-2532
503-986-4662

hrogg@oda.state.or.us, kjohnson@oda.state.or.us, rwestcot@oda.state.or.us

In 1979, the Apple maggot (AM), *Rhagoletis pomonella* (Walsh) (Diptera, Tephritidae) native to the eastern United States, was first reported in Oregon. Since then it has been found in all counties in western Oregon and east to Wasco County, and in the Pendleton area of Umatilla Co., posing a serious threat to the apple production in Oregon.

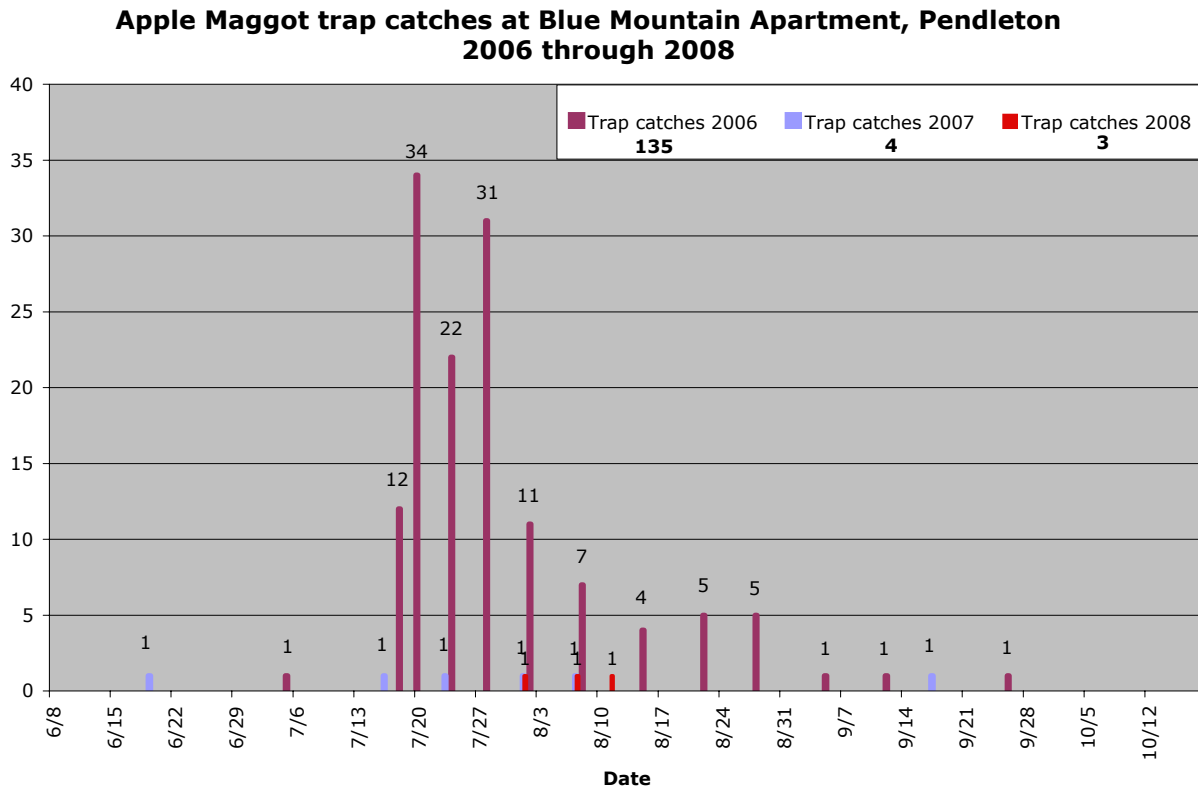
The Oregon Department of Agriculture (ODA) is trapping for AM in Eastern Oregon, in particular in the Milton-Freewater area, for more than 25 years. In 2000, one apple maggot was recorded in Echo; three were recorded in Arlington, and one each in Moro and Condon. Eradication efforts immediately implemented by ODA, OSU and local authorities in Arlington and Echo were successful in eradicating the apple maggot population. In 2001, more than 60 apple maggots were caught in southwest Pendleton on ornamental hawthorn. A delimitation survey in 2002 recorded 387 specimens around the Blue Mountain Apartments in southwest Pendleton. In a combined effort between homeowners, OSU, ODA and the Milton-Freewater private apple industry, host trees were either removed or sprayed. Due to economic limitations the spray actions were stopped after two applications. Continuous surveying in 2004 and 2005 by ODA and OSU showed positive trap catches for the southwestern part of Pendleton but is so far negative for the Milton-Freewater area.

If AM were to spread to the Milton-Freewater area, local apple production would be put at risk and pesticide use would likely significantly increase. These increased pesticide applications by commercial apple producers as well as homeowners may result in increased levels of pesticide residues potentially impacting Oregon watersheds and riparian forest trees.

In 2006, ODA began an AM eradication program at the Blue Mountain apartment complex in Pendleton that included: the removal of 70 hawthorn trees, the setting of yellow sticky baited apple maggot traps on the remaining 29 trees, a chemical treatment program, and the placing of more than 400 meters of fine insect proof netting to prevent apple maggots from hatching out of the soil. In early April 2007, ODA staff and several volunteer OSU Master Gardeners removed soil from around the hawthorns most heavily infested with AM and buried the soil under several feet of dirt to kill any overwintering AM pupae. After the first AM catch, a licensed applicator company applied neonicotinoid (a.i., acetamiprid) and imidacloprid treatments on the ground and foliage of all hawthorns at the apartment complex. Fifty-six traps were placed from June through September in host trees at the infestation site and within a 0.5-mile radius area.

A total of 135 AM were caught at the apartment complex in 2006, 4 AM in 2007, and 3 AM in 2008. Also one AM fly was trapped within the 0.5-mile buffer around the Blue Mountain apartment complex in 2006, and one AM in 2007. No other apple maggot was caught in any other trap outside the Blue Mountain Apartment complex.

In addition to Umatilla County apple maggot traps were also placed in La Grande, Union County (40 traps) and in the Ontario area, Malheur County (21 traps). All traps were negative.



Graph 1: AM catches at the Blue Mountain Apartment complex, Pendleton in 2006 through 2008