

**DELIMITATION AND POSSIBLE ERADICATION OR CONTROL OF THE APPLE MAGGOT
(*RHAGOLETIS POMONELLA*) IN THE UMATILLA COUNTY, OREGON, 2006**

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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..

Comment [IA1]: It can be considered established in every county in western Oregon, and east to Wasco Co.

The Apple maggot belongs to a complex of four sister species: *Rhagoletis mendax* (blueberry maggot), *R. cornivora* (dogwood berry maggot), *R. zephyria* (snowberry maggot) and *R. pomonella*. Originally it fed in the fruit of wild hawthorn (*Crataegus* spp.), but during the past 130 years it has become a primary pest of cultivated apples, especially in the northeastern United States and southeastern Canada.

The Oregon Department of Agriculture is trapping for AM in Eastern Oregon, in particular in the Milton-Freewater area, for more than 23 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 shows 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.

The 2006-apple maggot control project started in June 23 with the removal of 70 hawthorn trees at the Blue Mountain Apartment complex. Yellow sticky baited apple maggot traps were hung on the remaining 29 trees. All traps were additionally baited with a Trece 5g-ammonium bi-carbonate lure. By the end of June, a total of 422 traps were placed between Pendleton (248 traps), Weston (10), Adams (4), Athena (10), and Milton-Freewater (150) including several sites along the Umatilla River and other rivers. Traps were serviced weekly at the Blue Mountain Apartment complex and biweekly for the other areas.

In order to prevent apple maggots from hatching out of the soil more than 400 meters of fine insect proof netting was securely placed on the ground along the drip line of the hawthorn trees at the south and west side of the Blue Mountain Apartment complex.

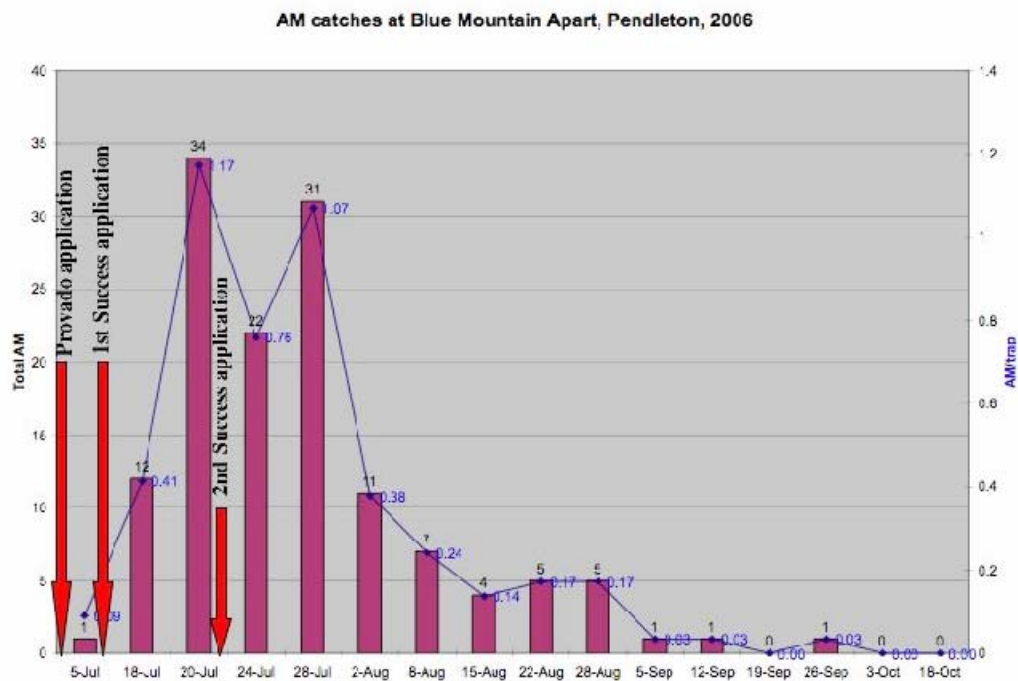
On June 29, a licensed pesticide company applied imidacloprid below the hawthorn trees at the Blue Mountain Apartment complex. On July 7, the canopies of all the remaining hawthorn trees were sprayed with spinosad. The spinosad application was repeated on July 21. The chemical control was paid for by the Milton-Freewater apple industry.

In 2006, the first apple maggot found in Umatilla County was reported in the week of July 3-7 at the Blue Mountain Apartment complex. In total, 135 apple maggots were caught over a period of four months at the Blue Mountain Apartment complex. One apple maggot was caught in a trap at the USDA Forestry Building, about 50 meters below

the Blue Mountain Apartment complex. No other apple maggot was caught in any other trap outside the Blue Mountain Apartment complex.

Traps outside a 0.5-mile radius around the Blue Mountain Apartment complex were removed by mid September. At the Blue Mountain Apartment complex traps were removed by mid October.

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 between June 5 and October 18, 2006