

Thresholds and Monitoring

APPLE MAGGOT MONITORING IN WASHINGTON

Michael W. Klaus

Washington State Department of Agriculture, Yakima, WA

Keywords: apple maggot, *Rhagoletis pomonella*, quarantine, certification, monitoring, pest-free area, mating disruption, IPM, apple

WSDA has conducted surveys for various fruit flies since 1980. Based on survey results from 1980-2000, all of western Washington except for San Juan County is now considered infested with apple maggot (AM). A monitoring and detection program for AM remains necessary for Washington growers to be able to ship fresh apples to various domestic and foreign markets. Recent changes in IPM practices with emphasis on mating disruption and other tactics may increase the risk of AM infestation of commercial fruit in areas where AM occurs.

The objectives of the 2000 AM survey were:

1. To determine which areas of Washington meet the official pest-free areas designation, as defined by the North American Plant Protection Organization (NAPPO, 1994).
2. To conduct certification monitoring in or around commercial orchards, as required to determine which growers could meet regulations for shipping fresh apples out of the AM quarantined areas of Washington.
3. Implementation of the Apple Maggot Detection Response Plan—a plan intended to prevent the establishment of AM.

Materials and Methods

WSDA monitored for AM from June 19 through September using standard AM Yellow panel sticky traps baited with ammonium carbonate “supercharger” lures. Traps were checked every two to four weeks and were changed at least every four weeks. Trap deployment focused on noncommercial residential host trees in populated areas, abandoned apple orchards and wild, roadside host trees. Major host trees included apple, crabapple, ornamental and native hawthorn.

Results and Discussion

The 2000 AM survey included 4,954 trap sites. Table 1 lists the 2000 survey trap totals and results. There were several significant detections of AM in 2000 including Wenatchee, Ellensburg and Yakima. These catches prompted the implementation of the Apple Maggot Detection Response Plan.

The AM Detection Response Plan includes high-density trap placement around recent detection sites in cooperation with local Horticultural Pest and Disease Board AM control efforts.

Table 1. 2000 apple maggot trap placement and catch summary

County	# of general survey trap sites (# of special grid trap sites or certification trap sites)	# of AM (# of AM in special grids)	# of catch sites (# of sites in special grids)
Benton	338	0	0
	(158)	(0)	(0)
Chelan	257	1	1
	(241)	(0)	(0)
Douglas	122	0	0
Franklin	20	0	0
Grant	72	0	0
Kittitas	12	0	0
	(925)	(12)	(11)
Klickitat	30	48	8
Okanogan	440	0	0
Skagit	(493)	(141)	(51)
Spokane	23	10	1
Walla Walla	2	0	0
Whatcom	9	9	4
	(105)	(1)	(1)
Yakima	199	0	0
	(1508)	(3)	(2)
Subtotals	1524	68	14
	(3430)	(157)	(65)
Totals	4,954	225	79