



Washington
State Department of
Agriculture

PEST PROGRAM

Apple Industry Guide to the Apple Maggot Quarantine

Apple Maggot and the Quarantine

The apple maggot (*Rhagoletis pomonella*) is a species of fruit fly which is native to the Northeastern United States and was likely introduced to Washington State as a result of the movement of infested fruit. Some of the host plants where the pest can be found include apple, crab apple, native hawthorn, and ornamental hawthorn trees.

Female apple maggots puncture the skin of the fruit and lay their eggs under the surface. As the larva hatches, it begins to feed and tunnel through the flesh of the fruit. The larva matures and eventually drops to the ground, where it burrows into the top two inches of soil and overwinters as a pupa. The adult flies emerge in early June through September, and begin repeating the reproductive cycle, creating a new generation of flies.

WSDA's Pest Program conducts annual apple maggot surveys during the fly's emergence period to monitor the pest throughout the state. Traps are deployed in areas at greatest risk for apple maggot introductions, such as residential host trees in populated areas, abandoned apple orchards, and roadside host trees.

To prevent the spread of this pest, WSDA has enacted quarantines for parts of Washington where the apple maggot is established. Commodities regulated for apple maggot under WAC 16-470-111 are restricted from being transported from a quarantine area to a pest free area without a WSDA issued permit or certificate. These commodities include the fresh fruits of apple, cherry, hawthorn, pear, plum, prune, and quince, as well as municipal solid waste and municipal green waste.



Photo: Joseph Berger, Bugwood.org



Within those four categories, the status of an orchard can either be considered threatened with an apple maggot infestation or not threatened with an infestation. The actions that an orchard is required to take to transport their apples into a pest free area for packing or marketing depends on which category an orchard falls into and what the threatened/not-threatened status of the orchard is.

The following tables depict what is required based on the category and status of an orchard.

1. Orchards in a pest free area:

Orchard Status	F&V field inspection required	Cold treatment required for Canada	Cold treatment required for China	Bulk movement certificate required
NOT threatened by AM	No	No	No	No
Threatened by AM	Yes	No – If no AM is found	No – If no AM is found	No – If no AM is found

2. Orchards in a quarantine area that are surveyed annually* for apple maggot:

Orchard Status	F&V field inspection required	Cold treatment required for Canada	Cold treatment required for China (not qualified as ALPP)	Bulk movement certificate required
NOT threatened by AM	No	Yes	Yes	No
Threatened by AM	Yes	Yes	Yes	No – If no AM is found

*Counties surveyed annually for apple maggot include Yakima, Kittitas, Chelan, and Okanogan. If your orchard is found to be threatened by apple maggot, WSDA and F&V Inspectors will contact you to see if you wish to have your fruit inspected.

3. Orchards in the quarantine area of upper Yakima County qualifying as an ALPP:

Orchard Status	F&V field inspection required	Cold treatment required for Canada	Cold treatment required for China	Bulk movement certificate required
NOT threatened by AM	No	Yes	No	No
Threatened by AM	Yes	Yes	No – If no AM is found	No – If no AM is found

4. All orchards located in the following counties are required to have an F&V field inspection, Bulk Movement Certificate, and cold treatment in order to transport or export apples. This is because these counties are under quarantine for apple maggot and are not surveyed annually by the WSDA Pest Program.

Spokane	Pierce	Cowlitz	Grays Harbor
Lincoln*	King	Lewis	Whatcom
Skamania	Kitsap	Wahkiakum	Skagit
Clark	Mason	Pacific	Island
Clallam	Jefferson	Thurston	Snohomish

*The portion of Lincoln County quarantined for apple maggot.

Packers and Shippers

If you're a commercial apple packer or shipper who receives apples from growers located in a quarantined area for apple maggot, there are important regulations to be aware of.

Apple growers located in an established or quarantined area who want to transport apples into or through a pest free area, area required to meet the conditions outlined in WAC 16-470-113, WAC 16-470-115, WAC 16-470-118, WAC 16-470-122.

For apples originating in Washington State

The grower must receive a Bulk Movement Certificate (see example below) issued by WSDA verifying one of the following (warehouse personnel should receive a copy of this document upon receipt of the product):

- The apples came from orchards or production sites that are not threatened with infestation. The orchard has been surveyed annually by WSDA and apple maggot has not been found.
- The apples have undergone cold treatment for at least 90 days at 37.9 °F or at least 40 days at 32°F.
- An orchard inspection of the apples was conducted by WSDA with no apple maggot found and a Bulk Movement Certificate was issued.



MOVEMENT OF BULK FRUIT For Packing/Processing

ID No. _____

*Washington State Department of Agriculture
Commodity Inspection Division
Fruit & Vegetable Inspection*

Yakima F&V Office
Phone: (509) 225-2650
Fax: (509) 575-2537

Wenatchee F&V Office
Phone: (509) 662-6161
Fax: (509) 663-3030

THIS DOCUMENT MUST ACCOMPANY EACH SHIPMENT FAX OR SEND ORIGINAL (WHITE) TO DISTRICT OFFICE WITHIN 24 HOURS OF SHIPMENT.

SHIPPER NAME		DATE	
ADDRESS			
CITY		STATE	ZIP
NUMBER OF BOXES / BINS		ID MARKS	
GROWER IDENTIFICATION AND VARIETY			
<input type="checkbox"/> The apples originate from orchards from within _____ County and have been threatened with infestation. Meets quarantine WAC 16-470.		SHIPPED TO:	
<input type="checkbox"/> The apples originate from orchards from within _____ County and have not been threatened with infestation. Meets quarantine WAC 16-470.			
MEETS SPECIAL PERMITS REQUIREMENTS?			
SHIP DATE	MEANS OF CONVEYANCE		
SIGNATURE OF DULY AUTHORIZED STATE REPRESENTATIVE		TITLE	DATE

AGR 840-8008 (R/8/04)
DISTRIBUTION: WHITE — District Office CANARY — Accompany Shipment PINK — Shipper

For apples originating from Oregon, Idaho, or Utah

The shipment must be accompanied by a certificate issued by the plant protection organization of the state of origin showing at least one of the following:

- The apples have undergone cold treatment for at least 90 days at 37.9°F or at least 40 days at 32°F.
- A permit has been established between WSDA and the state of origin plant protection organization, which specifies that the organization has conducted an adequate detection program and will provide immediate written notification to WSDA if apple maggot is detected in counties where it has not previously been found.
- The state of origin plant protection organization certifies that the fruit originated in areas where apple maggot is not established, was grown in a commercial orchard, and has not been placed under quarantine.
- Each lot or shipment consists of repacked fruit, which was grown outside the area under quarantine and has been identified and maintained separately from fruit specified in WAC 16-470-111 grown within the area under quarantine.
- For repacked fruit, the certificate must show the following information:
 - » The state in which the fruit was grown
 - » The point of repacking and reshipment
 - » The amount and kind of commodities comprising the lot or shipment
 - » The names and addresses of the shipper and consignee
- The fruit originated outside the area under quarantine for apple maggot and is a reshipment in original, unopened containers. The containers must each bear labels or other identifying marks evidencing origin outside the area under quarantine.
- The fruit is frozen solid.

For apples being exported:

- Canada (British Columbia only) – All apples that were produced within an established or quarantine area must be cold treated for at least 90 days at 38°F or at least 42 days at 33°F to be eligible for shipment to British Columbia.
- China – All apples that were produced within an established or quarantine area must be cold treated for at least 90 days at 37.9°F or at least 40 days at 32°F to be eligible for shipment. One exception to this is if the production area qualifies as an area of low pest prevalence.



Key Terms

Pest free area:

An area in which apple maggot is not established and is maintained in a way to prevent establishment in the future.

Quarantine area:

An area where apple maggot is established and eradication is no longer possible.

Established:

Multiple life stages of apple maggot have been identified and the pest will continue to multiply.

Threatened:

An apple orchard is considered threatened with an infestation if any life stage of apple maggot has been found within one-half mile of an orchard or other production site, including any portion of an orchard outside or beyond the one-half mile area. Orchards or production sites in the quarantine area which are not surveyed are considered threatened.

F&V Field Inspection:

An apple orchard inspection must be performed by WSDA Fruit and Vegetable inspectors if the orchard is considered threatened or in an established area, and the orchard wants to transport their apples into or through the pest free area to be packed or marketed. For more information visit agr.wa.gov/services/inspections-and-investigations/inspections/fruit-and-vegetable to contact an F&V representative in your area.

Bulk Movement Certificate:

This certificate applies to apple orchards located in areas where apple maggot is established or in a quarantine area where the orchard is considered threatened. The certificate allows the orchard to transport apples into or through a pest free area. In order to qualify for this certificate, apples must be inspected by F&V and all shipments must be accompanied by the F&V issued certificate. For more information visit agr.wa.gov/Inspection/FVInspection/ContactUs.aspx to contact an F&V representative in your area.

Area of low pest prevalence (ALPP):

This typically applies to orchards wishing to export apples to China that are located in the quarantine area in upper Yakima County. For more information, contact Northwest Fruit Exporters at (509) 576-8004.

