

## European Cherry Fruit Fly

*Rhagoletis cerasi*

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### Introduction

An insect pest native to Europe and parts of Asia, European cherry fruit fly can infest *Prunus spp.* such as sweet cherry, tart cherry, all saints cherry, mahaleb cherry, and black cherry. This insect can also infest fruit of honeysuckle (*Lonicera spp.*), including those of invasive honeysuckles (*L. tartarica* and *L. morrowii*). Concern has been raised about the devastation European cherry fruit fly could cause to cherry crops in the United States as it was found in association with honeysuckle in Ontario, Canada in 2016. In 2017, European cherry fruit fly adults were found in Niagara County, New York on traps set along the Niagara River in wild cherry and honeysuckle.

### Concern

A serious problem in Europe, European cherry fruit fly has the potential to infest 100% of sweet and tart cherry crops causing cherries to be unmarketable. With a value of about \$767 million for sweet cherries, and \$106 million for tart cherries in the U.S., infestation could cause large economic losses for growers. Two other Tephritid fruit flies are native to North America that can infest cherries – black cherry fruit fly (*R. fausta*) and cherry fruit fly (*R. cingulata*). Introduction of another species could disrupt existing IPM programs in cherries, making control more difficult, or, if the life history of this newly introduced cherry fruit fly is similar to the other two, it may readily be controlled along with the others.



Female European cherry fruit fly on cherry. Photo: R. Coutin /OPIE



Adult European CFF female (left) and male (right). Photo: C. Daniel and J. Grunder. Ncbi.nlm.nih.gov

## Description

Female European cherry fruit flies are typically 3/16 inch (5 mm) in length and males are 1/8 inch (4 mm) in length. Flies have a tan head and a black body with a distinctive yellow spot on the thorax. The wings are clear with four large distinct blue-black bands and one small band. Larvae are white in color and are about 1/4 inch (6 mm) in length. Overwintering in the soil, pupae are light yellow-brown and approximately 1/8 inch (3-4 mm) long. Adult European cherry fruit flies are often observed on sunlit portions of cherry trees or honeysuckle bushes because females prefer to lay eggs in fruit bathed in sunlight.

## Damage

Cherries in which an egg has been laid will exhibit a puncture wound and as the larva develops in the fruit, the tissue around the wound will become brown and soft. When cutting or breaking open suspect fruit, the larvae and internal fruit damage can be seen easily. Typically, only one egg-laying or oviposition site is found per cherry, although it is possible to have more. Infested cherries may shrivel, display soft spots, and rot. Infested fruit may also have small holes formed when larvae exit fruit to drop to the ground to pupate. Growers cannot sell infested cherries for fresh or processed fruit and must dump them or sell to distilleries at a financial loss.

## For More Information

European cherry fruit fly. 2010. Michigan State University's invasive species factsheets. [http://www.ipm.msu.edu/uploads/files/forecasting\\_invasion\\_risks/europeancherryfruitfly.pdf](http://www.ipm.msu.edu/uploads/files/forecasting_invasion_risks/europeancherryfruitfly.pdf)

*Rhagoletis cerasi* (European Cherry Fruit Fly) - Fact Sheet. 2017. Canadian Food Inspection Agency. <http://www.inspection.gc.ca/plants/plant-pests-invasive-species/insects/european-cherry-fruit-fly/fact-sheet/eng/1467913088353/1467914654510>

European Cherry Fruit Fly (*Rhagoletis cerasi*). 2011. Stone Fruit Commodity-Based Pest Survey. USDA APHIS. <https://caps.ceris.purdue.edu/dmm/1276>



Damage on cherries from an oviposition site. Photo: R. Coutin /OPIE



Damage to cherries caused by larvae. Photo: C. Daniel and J. Grunder. [Ncbi.nlm.nih.gov](http://Ncbi.nlm.nih.gov)



Pupae in the soil. Photo: C. Daniel and J. Grunder. [Ncbi.nlm.nih.gov](http://Ncbi.nlm.nih.gov)