NEW YORK STATE IPM Integrated Pest Management PROGRAM

Invasive Species & Exotic Pests

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, mahaleb cherry, black cherry and other wild cherries. This insect can also infest fruit of honeysuckle *(Lonicera spp.),* including those of invasive honeysuckles *(L. tartarica and L. morrowii)*. European cherry fruit fly was confirmed found in Ontario, Canada in 2016. In 2017, European cherry fruit fly adults were found in Western New York on traps set in wild cherry and honeysuckle along the Niagara River. Since then, it has spread from the Niagara River inland along Lake Erie and Lake Ontario.

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

Concern

A serious problem in Europe, European cherry fruit fly (ECFF) infests sweet and tart cherry crops, causing cherries to be unmarketable. With a U.S. value of about $767 million for sweet cherries, and $106 million for tart cherries, ECFF has the potential to cause large economic losses unless the management programs for our native *Rhagoletis* fruit flies will also protect the crop from the European species. Three native *Rhagoletis* fruit flies can infest cherries – western cherry fruit fly *(R. indifferens),* black cherry fruit fly *(R. fausta)* and cherry fruit fly *(R. cingulata).* The introduction of ECFF may complicate existing cherry pest management programs in North American cherries and could affect U.S. access to foreign markets. However, if the life history and biology of this newly introduced cherry fruit fly is similar enough to our natives, it may readily be controlled.

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

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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. The adult flies emerge from the soil May through June and live approximately two to four weeks. Flies have a tan head and 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. The white, 1/4-inch-long (6 mm) larvae feed in fruit for up to six weeks. They overwinter in the soil under or near their host plant as pupae, which 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 plants because females prefer to lay eggs in fruit bathed in sunlight.

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

Damage

Cherries in which an egg has been laid will exhibit a puncture wound. 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.

Damage to cherries caused by larvae. Photo: C. Daniel and J. Grunder. Ncbi.nlm.nih.gov

For More Information

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

European Cherry Fruit Fly. USDA APHIS. aphis.usda.gov/aphis/resources/pests-diseases/hungry-pests/ecff/cherry-fruit-fly

Pupae in the soil. Pupae darken to yellow-brown as they age. Photo: C. Daniel and J. Grunder. Ncbi.nlm.nih.gov

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