



## Stone Fruit Commodity-Based Pest Survey



# Peach Fruit Fly

## *Bactrocera spp. zonata*

### Introduction

The peach fruit fly (Figure 1) is a pest of stone fruits, pear, citrus, guava, and more than 40 other cultivated and wild fruits. This fruit fly is native to Asia.

### Biology

This fruit fly is active at temperatures above 60 °F, and development of all life stages stops when temperatures dip below 50 °F. The optimum temperature for activity (feeding, egg laying, etc.) and development is around 77 to 85 °F. These flies are not active when temperatures exceed 95 °F or at night. Adults have been spotted as early as late March and as late as mid-November. The peach fruit fly has been reported to travel at least 15 miles in search of new hosts. Adults are relatively long-lived (with three to nine overlapping generations per year).

Adults need to feed on nectar, plant sap, and decaying fruit to mature sexually and for general survival. They normally feed during the morning but will also feed during full daylight; night is spent under foliage or any other protective crevice of hosts and non-hosts. The peach fruit fly mates typically at dusk, and lays eggs when immature fruit appears. Females puncture the skin of the fruit, create a small cavity, and lay three to nine eggs. Larvae hatch as quickly as 1 day after the eggs are laid and feed on the fruit for 4 to 21 days; after maturing, they drop to the ground and burrow into the soil to pupate. The pupal stage can last from 4 weeks in the summer to 6 weeks in the winter.

### Symptoms

After the eggs are deposited within the fruit, a sticky fluid normally seeps from this hole, eventually forming a brown, resinous deposit. The larvae feed throughout the fruit and cause premature fruit drop and significant yield reduction. Peach fruit fly causes damage similar to that of the Oriental fruit fly (*B. dorsalis*); these two species often compete against one another and are attracted to the same trap-and-lure combination.

### Hosts

There are more than 40 identified hosts for the peach fruit fly, with peach and apricot as its preferred hosts. Other hosts include: acerola (*Malpighia emarginata*), apple (*Malus* spp.), citrus (*Citrus* spp.), custard apple (*Annona reticulata*), date palm (*Phoenix dactylifera*), fig (*Ficus* spp.), guava (*Psidium guajava*), loquat (*Eriobotrya japonica*), mango (*Mangifera indica*), okra (*Abelmoschus esculentus*), papaya (*Carica papaya*), pear (*Pyrus* spp.), pomegranate (*Punica granatum*), quince (*Cydonia oblonga*), stone fruits (*Prunus* spp.), sugar apple (*Annona squamosa*), tomato and eggplant (*Solanum* spp.), and tropical almond (*Terminalia catappa*).

According to the California Department of Food and Agriculture, the peach fruit fly attacks early fruit such as jujube, loquat, and peach, then moves to cucurbits, mango, citrus, guava, pomegranate, and sapodilla for the rest of the year.



**FIGURE 1.** Adult peach fruit fly (*Bactrocera zonata*). Photo courtesy of Natasha Wright, Florida Department of Agriculture and Consumer Services, Bugwood.org.

## Distribution

Though the peach fruit fly is native to south and southeast Asia, its distribution as of 2010 included: **Asia:** Bangladesh, Bhutan, India, Iran, Laos, Myanmar, Oman, Pakistan, Saudi Arabia, Sri Lanka, Thailand, United Arab Emirates, Vietnam, and Yemen.

**Africa:** Egypt, Mauritius, and Réunion.

## Identification

This species can be identified by examining its form and structure (morphological characteristics). It can be distinguished from many of the fruit fly species (*Bactrocera* spp.) by wing patterns, spots on its head, lines on its thorax, and abdominal markings.

## Survey

A trap and lure combination is the common method used to survey for this pest.

Details on trap type and lure compounds can be found at <http://pest.ceris.purdue.edu/services/napisquery/query.php?code=cam2012>.

## What Can We Do?

If you find an insect that you suspect is the peach fruit fly, please contact your local extension office or State plant regulatory official to have the specimen properly identified. For contact information, visit [www.aphis.usda.gov/StateOffices](http://www.aphis.usda.gov/StateOffices), [www.nationalplantboard.org/member/index.html](http://www.nationalplantboard.org/member/index.html), or [www.nifa.usda.gov/Extension/index.html](http://www.nifa.usda.gov/Extension/index.html).

References for the above information can be found on the Cooperative Agricultural Pest Survey (CAPS) Web site at <http://caps.ceris.purdue.edu/stonefruit/references>.

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**FIGURE 2.** Jackson trap. Photo courtesy of R. Anson Eaglin, USDA.