

# Pest Alert

Animal and Plant Health Inspection Service  
Plant Protection and Quarantine

## Mediterranean Fruit Fly (*Ceratitis capitata*)



Medfly adult (USDA ARS, Scott Bauer)



Medfly adult (USDA APHIS)



Medflies can be produced in the laboratory by bathing their eggs in warm water—a process that kills the female embryos but doesn't harm the male embryos. In the pupal stage, the males can be irradiated to render them sexually sterile. (USDA ARS, Scott Bauer)

The Mediterranean fruit fly, commonly called medfly, or Moscamed in Spanish, is one of the world's most destructive agricultural pests, threatening more than 300 kinds of fruits, nuts, and vegetables. The female medfly attacks ripening fruit, piercing the soft skin and laying eggs in the pulp. The eggs hatch into larvae, or maggots, that feed inside the fruit pulp. This causes the fruit to rot.

### Distribution

The medfly is found in most tropical and subtropical areas of the world. Originating in Africa, the pest has since spread throughout the Mediterranean region, southern Europe, the Middle East, Western Australia, South and Central America, and Hawaii. Most recently, it was also detected in the Caribbean.

In general, the medfly's presence in the United States has been limited. The only State with an established medfly population is Hawaii, where it has been present since 1910. No eradication program is underway in Hawaii. On the U.S. mainland,

the first infestations occurred in Florida in 1929. Several infestations have been found and eradicated on the mainland since then. These efforts have kept the medfly from becoming established in the mainland United States.

In 2015, the medfly was discovered in Punta Cana, Dominican Republic, and Cabo Rojo in Puerto Rico. The Caribbean had previously been free of this pest. In 2014, the medfly was also detected in Riverside County, CA. These detections are now being eradicated.

### Damage

In the United States, the medfly could attack apples, apricots, avocados, citrus, cherries, figs, grapes, guavas, kumquats, loquats, mangoes, nectarines, papayas, peaches, pears, peppers, persimmons, plums, tomatoes, and several types of nuts, among many other crops. The damage medflies cause makes the product unfit for sale to consumers.

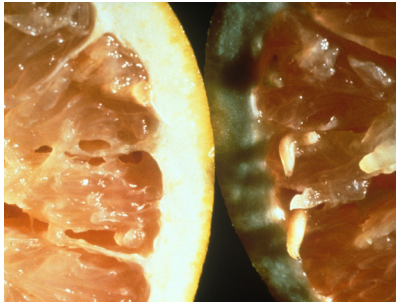
If the medfly were to become established in our country, consumer prices would go up and produce would become less available. Also, pesticide use would increase in backyard gardens and commercial farms. Other impacts would include damage to the economy from export sanctions, lost markets, treatment costs, reduced crop yields, and premature fruit drop.

### Appearance and Life Cycle

The adult medfly is slightly smaller than a common housefly and is very colorful. It has dark blue eyes; a shiny, black thorax (back); and a yellowish abdomen with silvery crossbands. Its wings, normally drooping, display a blotchy pattern with yellow, brown, and black spots and bands.

The life cycle of the medfly has five phases:

- 1) The adult female deposits eggs under the fruit's skin.
- 2) The eggs hatch and produce wormlike larvae (maggots).



Medfly larva (USDA APHIS)



Medfly larvae consuming a highly nutritious, corn-based diet (USDA ARS, Scott Bauer)



Medfly trap (USDA APHIS)

- 3) The larvae feed on the fruit's pulp before dropping to the ground, where the larvae burrow into the soil.
- 4) The larvae transform into pupae in the soil.
- 5) The pupae mature into adults (flies) and emerge from the soil.

Under tropical summer weather conditions, the medfly completes its life cycle in 21 to 30 days.

### **Preventing Medfly Spread**

If we find an infestation in the United States, the U.S. Department of Agriculture (USDA) and the States impose quarantine regulations to help keep the pest from spreading through the movement of infested fruit—via trade shipments or by people unknowingly carrying infested fruit from one place to another. Federal quarantine laws regulate the interstate movement of any products that may harbor the fly. State regulations control the movement of these products going to uninfested areas within a State.

Regulated items include all medfly-host fruits and vegetables present in the quarantine area. Open-air fruit and vegetable stand owners, mobile vendors, and other fruit handlers must sign compliance agreements with

the medfly eradication program to conduct business. Under these agreements, handlers must take basic steps to protect host material from pest infestation and sell only approved fruits and vegetables. Commercial and homegrown produce may not be moved without inspection, treatment, and certification by program officials.

### **What You Can Do**

We need your help to keep the medfly from spreading. Please cooperate with agricultural workers who may be in your area surveying for the pest and applying treatments to eradicate it. Know and follow any quarantine restrictions in medfly-infested areas. Also, when traveling, declare all food, live animals, and plant or animal products to a U.S. Customs and Border Protection officer or agriculture specialist at the first port of entry.

### **Learn More**

For more information about medfly, go to [www.aphis.usda.gov/plant-health/medfly](http://www.aphis.usda.gov/plant-health/medfly) or visit [www.HungryPests.com](http://www.HungryPests.com). You may also call your nearest USDA Animal and Plant Health Inspection Service (APHIS) office. A list of contacts is on our Web site at [www.aphis.usda.gov/planthealth/sphd](http://www.aphis.usda.gov/planthealth/sphd).

Be on the lookout for the medfly, and support control and eradication efforts in your area.

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