



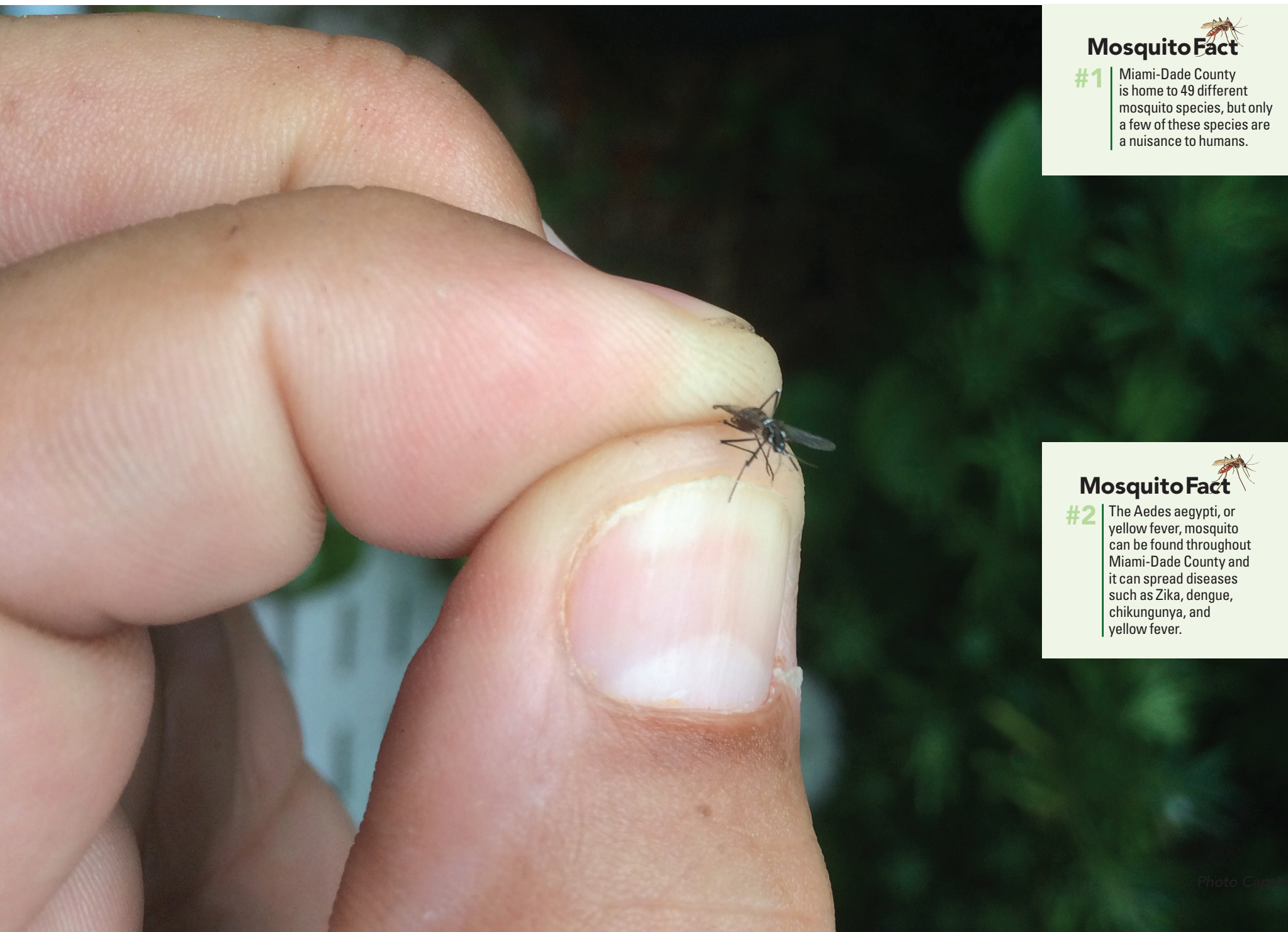
Solid Waste Management  
Mosquito Control and  
Habitat Management Division  
[www.miamidade.gov/mosquito](http://www.miamidade.gov/mosquito)

# What is Mosquito Control?





# What is Mosquito Control?



## Mosquito Fact

**#1** Miami-Dade County is home to 49 different mosquito species, but only a few of these species are a nuisance to humans.

## Mosquito Fact

**#2** The *Aedes aegypti*, or yellow fever, mosquito can be found throughout Miami-Dade County and it can spread diseases such as Zika, dengue, chikungunya, and yellow fever.

Mosquito control programs include surveillance to determine the amount and species of mosquitoes within a defined area; removing or treating sources of water where mosquitoes can breed; eliminating biting adult mosquitoes and mosquito larvae; and an education or outreach program to inform residents about the importance of mosquito control and how to keep safe from mosquito bites.

Mosquito control programs were created because mosquitoes can be a nuisance, biting people and animals to obtain blood for their eggs. Additionally, mosquitoes can spread a number of diseases such as: dengue, chikungunya, Zika, West Nile fever, and more.



**Mosquito control is a comprehensive system of managing the mosquito population using various techniques (collectively known as “integrated pest management”).**

## Mosquito Fact

**#3** Even animals can get diseases from mosquitoes.

**#4** Some scientists believe that each mosquito species buzzes at its own unique pitch.





# What Miami-Dade Mosquito Control Does

Miami-Dade Mosquito Control responds to complaints of mosquito nuisances from residents as well as referrals from the Florida Department of Health (FDOH).





### Mosquito Fact

#5 The *Aedes aegypti* mosquito is originally from Africa but can now be found in many tropical and subtropical areas around the world—including Miami-Dade County.

Miami-Dade Mosquito Control also conducts enhanced surveillance of mosquitoes throughout the County and in areas of special concern. Traps are deployed to determine mosquito species in a zone, as well as to have an idea of the number of adult mosquitoes present, to identify locations that require a mosquito control inspection and possible treatment.

Once a site has been identified for inspection, a mosquito control inspector searches the area and neighboring properties for

evidence of standing water and mosquito breeding. Water-holding containers are emptied; those that cannot be emptied are treated with larvicide to eliminate mosquito larvae.

If inspectors observe adult mosquitoes, they will spray adulticide to kill the mosquitoes, using a portable sprayer. Miami-Dade uses four different pyrethroid-based adulticides, rotating them to reduce the likelihood of mosquitoes developing insecticide resistance.


In the case of referrals from FDOH that are related

to a disease outbreak, Miami-Dade Mosquito Control conducts an established inspection and treatment protocol which includes several truck-spraying missions, as well as increased ground efforts.

In addition to the traditional treatments previously mentioned, areas with chronic mosquito issues or localized mosquito-borne disease transmission zones may see the use of more innovative vector control technologies. These include In2Care mosquito traps, BG Sentinel traps and AGO (Autocidal Gravid

Ovitrap) traps. Miami-Dade Mosquito Control is also investigating the potential use of irradiated (sterile) male mosquitoes, Wolbachia-infected mosquitoes and genetically modified (GMO) mosquitoes.

The Miami-Dade Mosquito Control program also includes an education



### Mosquito Fact

#6 Although an adult *Aedes aegypti* mosquito lives only about a month, eggs laid by the mosquito can survive about a year in a dry state before hatching in water.

and outreach campaign. Titled “Fight the Bite! Drain and Cover,” the campaign reminds residents about their important role in reducing the population of mosquitoes in the County.

The 2016 arrival of Zika in Miami-Dade created new challenges for Mosquito Control. County officials and Mosquito Control management staff partnered with various agencies—including the U.S. Centers for Disease Control and Prevention (CDC), FDOH, and the Florida Department of Agriculture and Consumer Services—as it dealt with

the first active zones of Zika transmission in the United States.

Based on recommendations from these partner agencies, Miami-Dade Mosquito Control sprayed the transmission zones aurally with naled, an EPA-registered adulticide. Additionally, Miami-Dade Mosquito Control sprayed (both aurally and by truck) larvicide in the designated Zika transmission zones.

Aerial spraying allowed Miami-Dade Mosquito Control to cover large and inaccessible areas quickly. Larvicide spraying—both



### Mosquito Fact

#7 Spraying adult mosquitoes with insecticides is not enough to control mosquitoes; a comprehensive mosquito control program also includes using insecticides on mosquito larvae (larvicide) and reducing sources of water where mosquitoes can breed.

aerially and with trucks equipped with specialized spray equipment, which simulates aerial spraying—also helped Miami-Dade Mosquito Control cover hard-to-reach areas.

The “one-two” punch of adulticide and larvicide spraying helped Miami-Dade Mosquito Control become the first mosquito control agency to stop the spread of Zika in designated transmission zones.



# What You Can Do to Help

**It's important for you to do your part and eliminate standing water where mosquitoes can breed. The smallest, least obvious container can be the place that breeds mosquitoes in your yard.**

You know your home and property better than anyone. Check it regularly for those nooks and crannies that can hold water; a new spot can fill with water and breed mosquitoes. Don't overlook the less obvious places.

## MosquitoFact

**#8** *Aedes aegypti* mosquitoes rarely fly beyond a city block but salt marsh mosquitoes can fly distances as far as 40 miles (with some help from the wind).



## Mosquito Life Cycle

adult mosquito

eggs (in egg raft)

larva (wriggler)

pupa

**As long as you follow these measures, you should be able to enjoy the outdoors with little mosquito nuisance.**



Flowerpots, potted plants and some plants can hold water where mosquitoes can breed. Remove them, flush the water out once a week, or treat them with larvicide.



Swimming pools should be maintained properly. Mosquitoes won't lay their eggs in pools with a proper chemical balance and pump that moves the water around regularly.



Remove containers you don't need. Something as small as a bottle cap can fill up with water and breed mosquitoes.



Containers you do need that are small and/or light enough should be tipped over so they can't fill with water, or kept indoors.



Containers, such as birdbaths or decorative fountains, should be flushed out at least once a week. Or they can be treated regularly with a larvicide.



Keep the lid closed on your garbage and recycling carts/cans. Store them in a location where they can't accumulate water.



Large boats should be covered to keep water from getting inside. And check the cover for dips or hollows that can hold water where mosquitoes can also breed. Small boats, kayaks and canoes should be stored upside down.

## BACKYARD MOSQUITO CONTROL Checklist

- ☐ Remove containers that can hold water, or drain them
- ☐ Gently scrub recently emptied containers to remove any residual mosquito eggs
- ☐ Cover your boat
- ☐ Keep your swimming pool well maintained and run the pump regularly
- ☐ Empty out plastic kiddie pools
- ☐ Clear out your gutters
- ☐ Cover doors, windows, porches and patios with screens, and repair broken screens

## MosquitoFact

**#9** Mosquitoes weigh about 2.5 milligrams and fly about 1.5 miles per hour.

To report a mosquito nuisance, visit [www.miamidade.gov/311direct](http://www.miamidade.gov/311direct), call 311 or download our free 311 Direct Mobile App

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#DrainAndCoverMiami #FightTheBite





# Fight the bite!



Apply insect repellent to bare skin and clothing to keep mosquitoes away.

**DRAIN & COVER**



[www.miamidade.gov/mosquito](http://www.miamidade.gov/mosquito)



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