Department of Solid Waste Management
Technical Services & Environmental Affairs Division
Mosquito Control Section

Chalmers Vasquez, Operations Manager
Mosquito Control Program

Mosquito Control districts and county programs state-wide are established, regulated, and operated under the authority of the Mosquito Control Act, Chapter 388 Florida Statutes (F.S.) and the associated Rules - Chapter 5E-13, Florida Administrative Code (F.A.C.)

Chapter 388.0101 (F.S.)
Declaration of Legislative Intent. It is declared to be the public policy of this state to achieve and maintain such levels of arthropod control as will protect human health and safety and foster the quality of life of the people, promote the economic development of the state, and facilitate the enjoyment of its natural attractions by reducing the number of pestiferous and disease-carrying arthropods. It is further declared to be the policy of the state to conduct arthropod control in a manner consistent with protection of the environmental and ecological integrity of all lands and waters throughout the state.
Mosquitoes of Florida

- There are 80 species of mosquitoes known to occur in Florida.
- Thirty-three species can cause pest problems for man and/or domestic animals in all or parts of the state.
- Thirteen species are capable of transmitting pathogens that cause disease in humans and animals.
- They all vary to some extent in their individual preferences for types of blood meals, egg laying sites, time of day they will fly, temperature at which they are most active, seasonality and distribution.
- Forty-eight species make Miami Dade County their home.
Mosquito Life Cycle

- Egg
- Larva
- Pupa
- Adult
Vector Mosquitoes Species in Miami-Dade

The Yellow Fever Mosquito

Aedes aegypti

- Most prevalent species in urban areas
- Breeds in man-made containers, bromeliads, and tree holes
- Transmits yellow fever, dengue, chikungunya and Zika
- Active at dawn and dusk
- Flights are for very short distances, less than one city block from the breeding location
- Typically controlled by source reduction and portable sprayer treatments
The Asian Tiger Mosquito (Aedes albopictus)

- Arrived in Houston, TX in 1985, now in many US states
- Breeds in natural and artificial containers in undeveloped tracks of land, urban and suburban
- Opportunistic feeder and aggressive daytime biter
- May be a vector of Zika virus????
- Utilizes water-filled containers around or further away from households
Zika Risk Map

NASA/ National Center for Atmospheric Research

Estimated monthly average arrivals to the U.S. from countries on CDC Zika travel advisory

- High
- Moderate
- Low

Approximate observed maximum extent of Ae. aegypti

- Number of people
  - 500,000–1,000,000
  - 1,000,000–2,000,000
  - 2,000,000–5,000,000
  - Less than 1,000
Mosquito Breeding Around The Home

MIAMI DADE COUNTY MOSQUITO CONTROL
Prevent dengue, chikungunya and Zika
Eliminate or manage all sources of standing water

Anything that will hold water for more than a few days can breed mosquitoes
More on Mosquitoes

Mosquitoes are not merely annoying, but they can spread life-threatening diseases.

To report a mosquito nuisance, or learn more about mosquito control, call the Miami-Dade Contact Center at 311 or visit www.miamidade.gov/mosquito.
Preventing Mosquito Breeding in Your Bromeliads

The disease-spreading Aedes aegypti mosquito takes about seven days to go from egg to adult—sometimes less, if the weather is particularly warm. That’s why it’s important to maintain your bromeliads on a weekly basis.

Here are a few things you can do to keep your plants from breeding these mosquitoes:

- Flush the water—and the mosquito larvae and eggs—out of your bromeliads. A good strong hosing will flush the water with larvae out of your bromeliads. But be sure to do this at least once a week to disrupt the mosquitoes’ life cycle.

- Coat the water in the bromeliads with a small amount of food-grade oil. Either quickly spray the surface of any water in the plant with non-stick cooking spray, or place a few drops of cooking oil in the water. The oil will cover the surface of the water and keep any mosquito larvae present from breathing.

- Treat the water in your bromeliads with a safe larvicide. Bacillus thuringiensis israelensis, or Bti, and methoprene are commercially available larvicides which are safe for use with plants, people and pets, when used as directed. You can find either one in pellet or granule form at hardware stores, as well as online. They should be applied about every two weeks or so for maximum effectiveness.

Bromeliads. They’re a popular ornamental plant you’ll find in many Miami-Dade County gardens. People love them because they’re attractive and easy to maintain.

Unfortunately, something else loves bromeliads: mosquitoes.

Some types of bromeliads, called tank bromeliads, can hold water between their leaves.

In Miami-Dade County, several species of mosquitoes lay their eggs in tank bromeliads, including the Aedes aegypti, or yellow fever mosquito. The eggs hatch when water is present and after a few days, become adult mosquitoes which can bite people and spread diseases such as yellow fever, dengue fever, chikungunya and most recently, Zika.

The good news is you can keep your bromeliads from breeding mosquitoes with just a little effort.
Code Enforcement

- Chapter 26A-2.1 of the Code of Miami-Dade County.
  Prohibition of nuisance. “It shall be a violation of this section for any person to allow the existence of, create, keep, or maintain an artificially induced mosquito breeding area”. (Five mosquitoes in the larval stage)
- Violators are allowed five (5) days for correction without penalty. These are reduced to two (2) days under a medical alert or state of health emergency.
- A $200 per day citation is issued on the 6th day if violation is not corrected.
- After the 5th day, the division takes corrective action to abate the violation.
- The property owner is responsible for all costs involved in the abatement and enforcement process.
- A lien may be filed if the owner fails to pay for costs.
As of August 05, 2016, there are 104 confirmed travel-related cases of Zika in Miami-Dade. There 15 locally acquired cases of the virus to date.

- Number of service requests received from February 3 through August 05 — 9,073.
- Number of requisitions received from the DoH for Zika (imported-suspected cases) from February 3 through August 05 — 585
- Total number of requisitions received from the DoH for Zika (imported-suspected cases) from December 23 through July 14 — 536
Thank You

Questions?