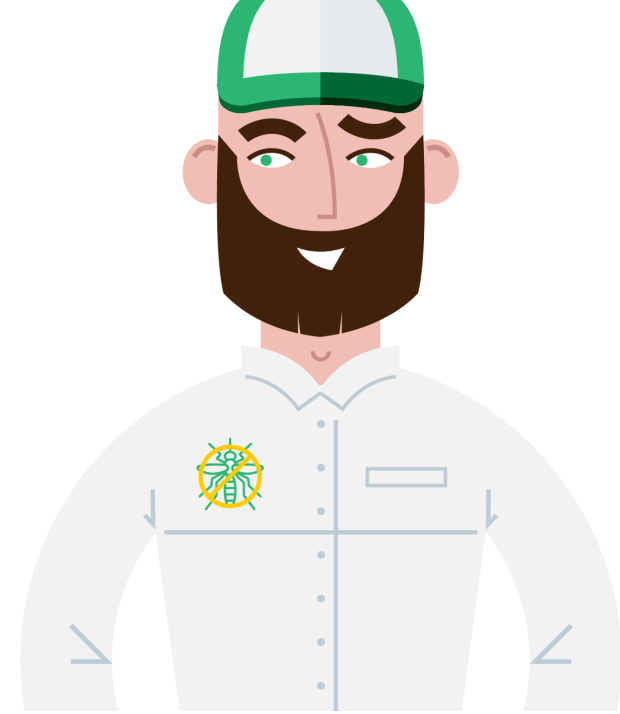


# PREVENT & PROTECT



**MOSQUITO CONTROL MESSAGES  
FOR YOUR COMMUNITY**



## Mosquito Control Communication Toolkit

Dr. Ricky Telg, UF/IFAS PIE Center

Adriane Rogers, Florida Department of Agriculture and Consumer Services



# Overview

- The UF/IFAS Center for Public Issues Education in Agriculture and Natural Resources recently received a grant from the Florida Department of Health to develop informational messages about mosquito control in Florida.



# Overview

- The content in the guide was created with research from **focus groups**, a **professional panel** and **academic publications** to effectively communicate to Floridians so they better understand mosquito control. Professional panel included the Florida Department of Agriculture and Consumer Services, the Centers for Disease Control and Prevention, and the UF Department of Entomology and Nematology.



CDC Southeastern  
Center of Excellence in  
Vector Borne Diseases  
The Gateway Program



# Prevent and Protect

- Two Toolkits
  - Mosquito Control
  - Emergency Response
- Toolkit items
  - Social media posts
  - Social media schedule
  - Customizable Info-sheets
  - Customizable Infographics
  - Informational handouts
  - FAQs
  - Instructions



# piecenter.com/mosquito

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## || PREVENT & PROTECT: MOSQUITO CONTROL MESSAGES FOR YOUR COMMUNITY



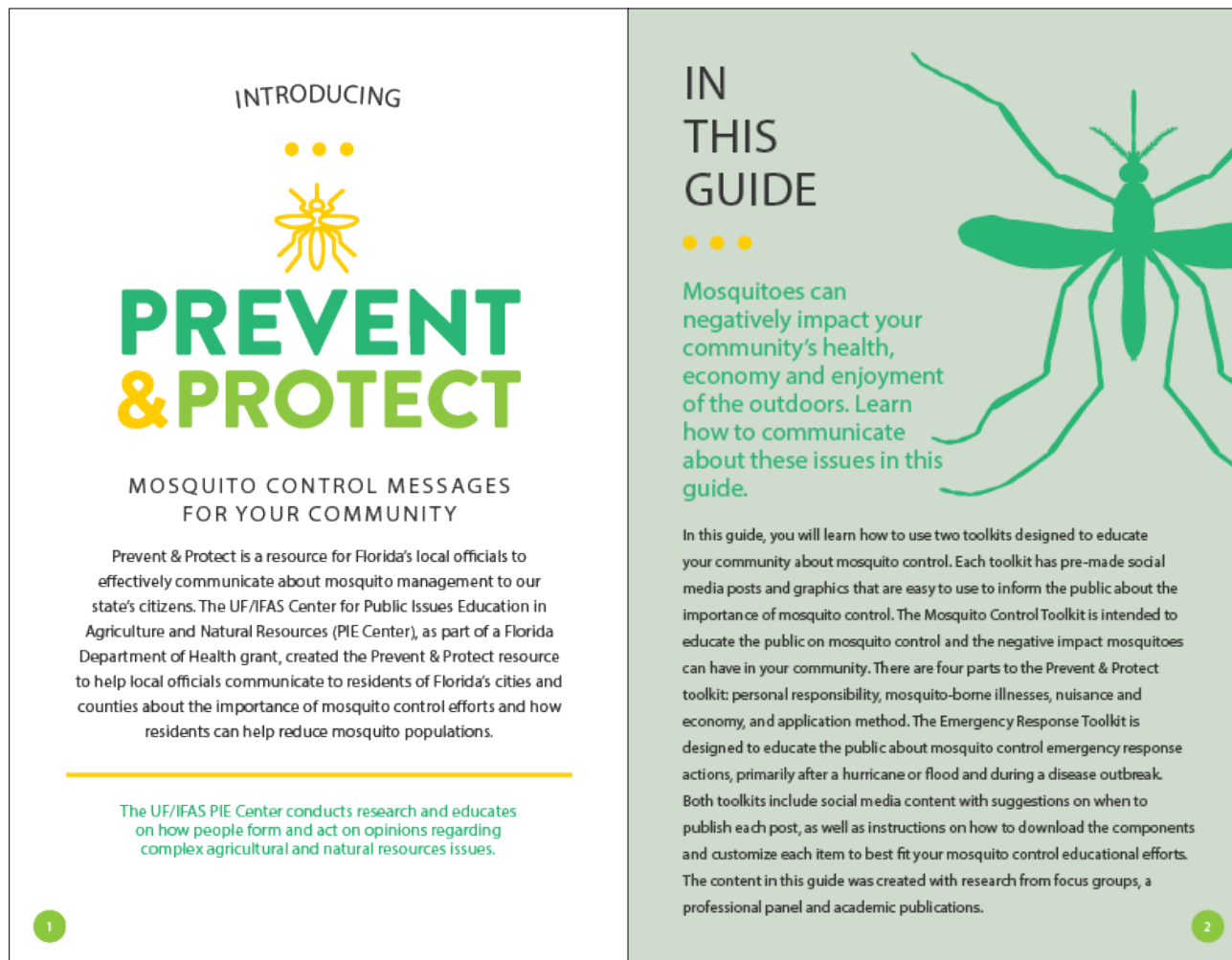
**Prevent and Protect: Mosquito Control Messages for Your Community** is a resource for Florida's local officials to effectively communicate about mosquito management to our state's citizens. *The UF/IFAS Center for Public Issues Education In Agriculture and Natural Resources (PIE Center)*, as part of a Florida Department of Health grant, created the **Prevent and Protect** web page and related materials below to help local officials communicate to residents of Florida's cities and counties about the importance of mosquito control efforts and how residents can help reduce mosquito populations. The PIE Center has also compiled helpful [resources](#) from the Florida Department of Agriculture and Consumer Services, Florida Department of Health, Centers for Disease Control, and the Environmental Protection Agency.

[Download the toolkit](#)

Want helpful tips and content to use when communicating with residents about mosquito control during an emergency, such as a hurricane or disease outbreak? [Check out the emergency response toolkit.](#)

[Visit Emergency Response](#)

# Toolkit Booklet



# Social Media

- Social media schedule and customizable posts available. Includes four weeks of content for Facebook and Twitter.
- Each week has a different theme:
  - Personal Responsibility
  - Mosquito-borne illness
  - Nuisance and Economy
  - Application method



## || Social media plan

The social media plan includes four weeks of content for Facebook and Twitter. Carefully crafted content, including text posts and graphics, can be used on social media to initiate conversations about personal responsibility, mosquito-borne illnesses, nuisance economy, and application methods, which could lead to an increased awareness of mosquito control.



## || Customizable social media posts

Each post mentioned in the social media plan is customizable for your mosquito control efforts. The PIE Center encourages you to not change the message of the social media post, but suggests that you make each post personal to your organization. We have provided a section of each social media post where you can add a logo/graphic or a link to your city or county's mosquito control Facebook or web page. Be sure to include the tagline "Prevent & Protect" in each of your social media posts!



## || Download

[Overall social media plan](#)

[Download Twitter content](#)

[Download Facebook content](#)

## || Download

[Personal responsibility social media graphics](#)

[Mosquito-borne illness social media graphics](#)

[Nuisance and economy social media graphics](#)

[Application methods social media graphics](#)

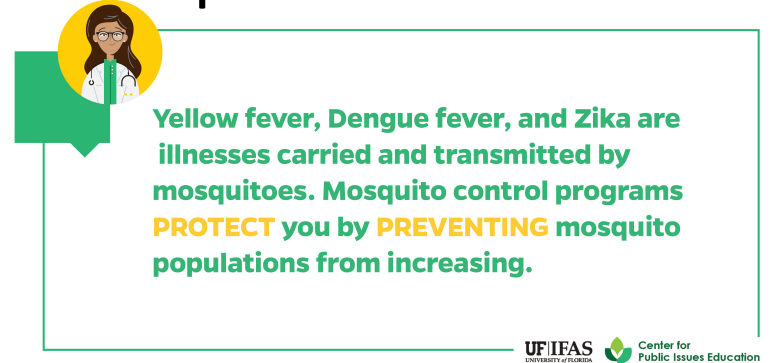


# Sample posts

## Personal Responsibility



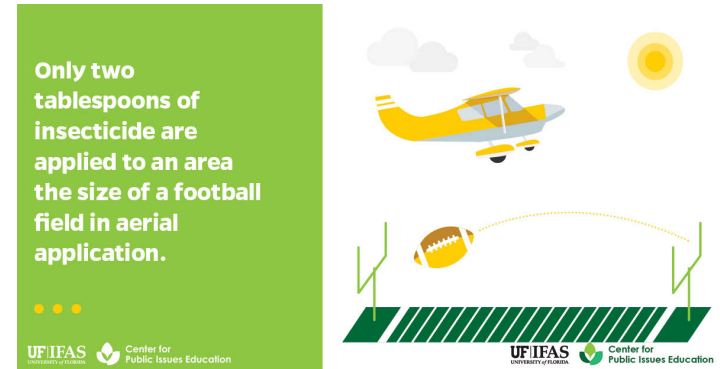
## Mosquito-borne illness



## Nuisance and Economy



## Application Method



# Prevent and Protect Characters



Dr. Diaz

Health Care Provider in Florida



Brad

Mosquito Control Operator in Florida

# Customizable information sheets and infographics

## || Customizable information sheets and infographics

The PIE Center worked with graphic designers to develop a set of informational handouts in various formats to best suit your educational programming. Two full page infographics were created to educate various stakeholders about aerial treatment and how residents can prevent mosquitoes at their home. These infographics are also provided in an alternative layout, often referred to as a rack card. The PIE Center recommends working with your local printer to print these rack cards, which can be handed out in your office or left at residents' homes. Two fact sheets were also created to provide information about the impact of mosquitoes on Florida's economy and tourism and the impact of mosquito control on honey bees. These fact sheets can be used to answer questions you may receive from the public or used as supplemental educational materials. Each item can be customized by placing your organization's logo in the recommended section.

**DID YOU KNOW?**

When airplanes are used to treat a large area with a very small amount of insecticide to kill either the mosquito larvae that hatch from eggs or adult mosquitoes, it's called an aerial treatment. Aerial treatment is a safe, quick, and efficient way to help control mosquitoes that can carry viruses and make people sick.



During treatment, about 1 ounce (2 tablespoons) of insecticide is used per acre (average football field size)

UFIFAS Center for Public Issues Education

## || Download

[Info sheet- Impact of Honey Bees](#)

[Info sheet- Impact of Florida Economy](#)

[Info sheet- Impact of Florida Economy \(editable\)](#)

[Rack Card- Aerial Treatment](#)

[Rack Card- Prevent and Protect](#)

[Infographic- Prevent and Protect](#)

[Infographic- Aerial Treatment](#)

[Infographic- Prevent and Protect \(editable\)](#)

[Infographic- Aerial Treatment \(editable\)](#)

# Customizable infographics

- Use online or print them out

**PREVENT & PROTECT** WHAT YOU CAN DO TO HELP ELIMINATE MOSQUITOES AT YOUR HOME

**KEEP THEM OUTSIDE**  
Mosquitoes can live indoors and will bite at any time, day or night

- Keep doors and windows shut
- Use air conditioning
- Keep screens on all windows
- Repair any ripped screens

**STOP THEM FROM BREEDING**  
Mosquitoes breed by laying eggs in and near standing water

- Put away items that are outside and not being used
- Flush out water-holding plants with a hose once a week
- Once a week, empty, turn over or cover anything that could hold water

UF IFAS Center for Public Issues Education

11 inches

8.5 inches

**PREVENT & PROTECT** USING AERIAL TREATMENT FOR MOSQUITO CONTROL

Insecticides used for aerial treatment have been studied for their effectiveness and safety. The small amount that is used to treat is not expected to pose a health risk for people or pets!

Aerial treatment is the preferred method for insecticide when people are getting sick with viruses like Zika, Dengue, or West Nile

You do not need to do anything to prepare for aerial treatment

Aerial treatment is just one way to help control mosquitoes

Aerial treatment quickly reduces the number of mosquitoes in an area, but does not provide long-lasting mosquito control.

UF IFAS Center for Public Issues Education

8.5 inches

3.5 inches

# Customizable infographics

Your organization's logo goes here.

**PREVENT & PROTECT** USING AERIAL TREATMENT FOR MOSQUITO CONTROL

**DID YOU KNOW?**

When airplanes are used to treat a large area with a very small amount of insecticide to kill either the mosquito larvae that hatch from eggs or adult mosquitoes, it's called an aerial treatment. When conducted according to regulation, aerial treatment is a safe, quick, and efficient way to help control mosquitoes that can carry viruses and make people sick.

During treatment, about **1 ounce** (2 tablespoons) of insecticide is used **per acre** (average football field size).

Aerial treatment is the preferred method for insecticide when people are getting sick with viruses like Zika, Dengue, or West Nile.

You do not need to do anything to prepare for aerial treatment.

\*\*\*

Aerial treatment is just one way to help control mosquitoes.

Insecticides used for aerial treatment have been studied for their effectiveness and safety. The small amount that is used to treat is not expected to pose a health risk for people or pets!

UF IFAS Center for Public Issues Education



# Customizable information sheets

## Impact of Mosquitoes on Florida's Economy and Tourism



### DID YOU KNOW?

While visiting Florida, out-of-state visitors spend more than \$110 billion in a single year. In 2016, more than 875,000 jobs were directly supported through tourism in Florida. That is one out of every six jobs<sup>1</sup>.

However, Florida's tourism was not always this successful. Mosquito populations posed a serious threat to both the livelihood of Floridians and appeal to visitors. Since the 1950s, mosquito population control efforts have reduced the number of mosquitoes in Florida by more than 90 percent<sup>2</sup>. Mosquito control has had positive results for the state of Florida. Not only can 21 million people call Florida home, millions of tourists can enjoy its parks, cities and beaches without constant worry of nuisance mosquitoes. The control of mosquitoes leads to increased jobs, revenue and enjoyment.



WHILE IN FLORIDA, TOURISTS CAN BE EXPOSED TO ANY OF THE **80 SPECIES OF MOSQUITOES**

AS FLORIDA'S MOSQUITO POPULATION DECREASED

FLORIDA'S TOURISM INDUSTRY INCREASED



### FAILURE TO CONTROL MOSQUITOES CAN NEGATIVELY AFFECT FLORIDA'S



ECONOMY



VISITORS



HEALTH



JOB

<sup>1</sup> <https://www.visitflorida.org/media/20079/Florida-visitor-economic-impact-study.pdf>  
<sup>2</sup> <https://www.floridastate.com/PublicHealthManual2011.pdf>  
 This publication was produced with funding provided by the Florida Department of Health.



## Impact of Mosquito Control on Honey Bees



### DID YOU KNOW?

Mosquito control that focuses on breeding habitat and mosquitoes that have not reached adulthood do not pose any significant harm to bees. According to the University of Florida Institute of Food and Agricultural Sciences, Bti, a naturally occurring bacterium found in soils, is not harmful to honey bees when used as a larval treatment<sup>1</sup>.

Aerial treatment for adult mosquitoes can impact bees outside of their hives; however, there are precautions beekeepers can take to protect their bees. Beekeepers should work with their local mosquito control program to stay informed on spraying times and dates and inform programs where bees are located<sup>2</sup>. Beekeepers can also temporarily cover the tops of hives with plywood that extends out one foot on all sides, creating a spray shadow for insecticide droplets.

Mosquito control programs can help protect bees by applying aerial treatment before dawn or after dusk when bees are in their hives. During aerial treatment for adult mosquitoes, only 2 tablespoons of insecticide are applied per acre (approximately the size of a football field). According to the Centers for Disease Control and Prevention, there is no significant difference in honey production between hives in treated and untreated sites over the course of a season<sup>3</sup>.

TREATMENT APPLIED AT DAWN OR DUSK CAN REDUCE EXPOSURE TO BEES



### HOW CAN BEEKEEPERS HELP BEES?

COVER TOP OF HIVE WITH PLYWOOD EXTENDING OUT ONE FOOT



WORK WITH MOSQUITO CONTROL PROGRAMS

STAY INFORMED ON TREATMENT SCHEDULES

ONLY **2** TABLESPOONS OF ADULT MOSQUITO CONTROL TREATMENT ARE APPLIED TO AN AREA THE SIZE OF A FOOTBALL FIELD



<sup>1</sup> <http://blogs.ifas.ufl.edu/entnemdept/2017/09/22/mosquito-control-florida-beekeepers/>  
<sup>2</sup> <http://edis.ifas.ufl.edu/IN833>  
<sup>3</sup> <https://www.cdc.gov/westnile/vectorcontrol/aerial-spraying.html>  
 This publication was produced with funding provided by the Florida Department of Health.



# Emergency Response Toolkit

- One week of posts to be used immediately after a natural disaster
  - Educate the public on mosquito activity after a natural disaster
- One week of posts to be used during a disease outbreak
  - Inform the public on the negative effects disease outbreaks can have on public health and the economy



# piecenter.com/mosquito

## || PREVENT & PROTECT: MOSQUITO CONTROL MESSAGES FOR YOUR COMMUNITY

Type keywords...



## PREVENT & PROTECT

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[Download the toolkit](#)

Want helpful tips and content to use when communicating with residents about mosquito control during an emergency, such as a hurricane or disease outbreak? [Check out the emergency response toolkit.](#)

[Visit Emergency Response](#)





# Emergency Response Toolkit

## || PREVENT & PROTECT: EMERGENCY RESPONSE

Type keywords...



**Prevent and Protect: Emergency Response** is a resource for Florida's local officials to effectively communicate to our state's citizens about mosquito management during emergency response actions or disease outbreak. *The UF/IFAS Center for Public Issues Education in Agriculture and Natural Resources (PIE Center)*, as part of a Florida Department of Health grant, created the **Prevent and Protect: Emergency Response** web page and related materials below to help local officials communicate to residents of Florida's cities and counties about the importance of mosquito control during emergency response efforts and disease outbreaks. The PIE Center has also compiled helpful [resources](#) from the Florida Department of Agriculture and Consumer Services, Florida Department of Health, Centers for Disease Control, and the Environmental Protection Agency.

[Download the toolkit](#)

Want to learn more about how you can communicate to your constituents and local residents about mosquito control? Visit [Prevent & Protect: Mosquito Control Messages for Your Community](#).



# Emergency Response Toolkit

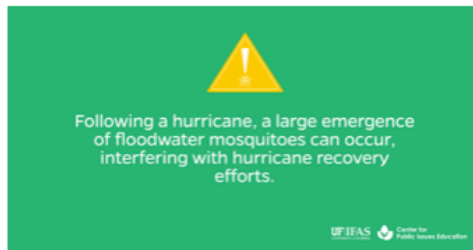
## || Social media plan

The social media plan includes two content themes for Facebook and Twitter. Carefully crafted content, including text posts and graphics, can be used on social media to initiate conversations about mosquito control after a natural disaster, such as a hurricane, or during a mosquito-borne disease outbreak.



## || Customizable social media posts

Each post mentioned in the social media plan is customizable for your emergency response efforts. The PIE Center encourages you to not change the message of the social media post, but suggests that you make each post personal to your organization. We have provided a section of each social media post where you can add a logo/graphic or a link to your city or county's mosquito control Facebook or web page. Be sure to include the tagline "Prevent & Protect" in each of your social media posts!



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[Overall social media plan](#)

[Download Twitter content](#)

[Download Facebook content](#)

[Social media summaries](#)

## || Download

[Disease outbreak social media graphics](#)

[Natural disaster social media graphics](#)

# Special thanks to...

## Rhoel Dinglasan

Associate Professor of Infectious Diseases, University of Florida

Director of the CDC Southeastern Regional Center of Excellence in Vector Borne Diseases

## Adriane Rogers

Chief of the Bureau of Scientific Evaluation and Technical Assistance

Florida Department of Agriculture and Consumer Services, Division of Agricultural Environmental Services

## Davis Daiker

Assistant Division Director, Division of Agricultural Environmental Services

Florida Department of Agriculture and Consumer Services

## Blair Siegfried

Professor and Chair in the University of Florida Department of Entomology and Nematology



# PREVENT & PROTECT



MOSQUITO CONTROL MESSAGES  
FOR YOUR COMMUNITY

Learn more at  
[piecenter.com/mosquito](http://piecenter.com/mosquito)

