MIDDLESEX COUNTY MOSQUITO EXTERMINATION COMMISSION

200 PARSONAGE ROAD
EDISON, N.J. 08837-2118

TELEPHONE: (732) 549-0665
FAX: (732) 603-0280

Deepak Matadha, PhD
Superintendent

2015 Public Notice for Adult Mosquito Control Treatment

Mosquito control is everyone's responsibility; please do your part by preventing mosquito production on your property. For more information on mosquitoes and mosquito control, contact the Middlesex County Mosquito Extermination Commission (MCMEC) at 732-549-0665 and/or visit our website at www.co.Middlesex.nj.us/mosquito/index.asp. In compliance with section 9.10 and 9.15 of the New Jersey Pesticide Control Code (N.J.A.C. Title 7, Chapter 30) the MCMEC may be applying mosquito control products for the control of adult mosquito populations on an area-wide basis, as needed, throughout Middlesex County during the period of May 1st, 2015 through October 31st, 2015. The mosquito control products used will be those recommended by the New Jersey Agricultural Experiment Station (NJAES) Rutgers University for the control of adult mosquitoes which include: Malathion (Fyfanon ULV®, Atrapa®, or MicroFloMalathion®); Etofenprox (Zenivex® E20, requiring dilution or Zenivex® E4, ready to use). Products will be applied from the ground by truck or handheld equipment and/or by aircraft, all using low volume (LV) or ultra low volume (ULV) techniques. All applications will be according to product labeling. Contact the National Pesticide Information Center at 1-800-858-7378 for routine pesticide related health inquiries. Call the New Jersey Pesticide Control Program at 1-609-984-6507 for pesticide regulation information, pesticide complaints and health referrals. In the case of any pesticide emergency please contact the New Jersey Poison Information and Education System at 1-800-222-1222. "Upon request the MCMEC shall provide a resident with notification at least 12 hours prior to the application, except for Quarantine and Disease Vector Control only, when conditions necessitate pesticide applications sooner than that time". This phone number/website is for updated information on time and location of adult mosquito control application(s);732-549-0665/www.co.middlesex.nj.us/mosquito/spray.asp. Those seeking further information regarding the MCMEC activities are requested to contact the Superintendent, MCMEC at 732-549-0665, 200 Parsonage Road, Edison, NJ 08837.

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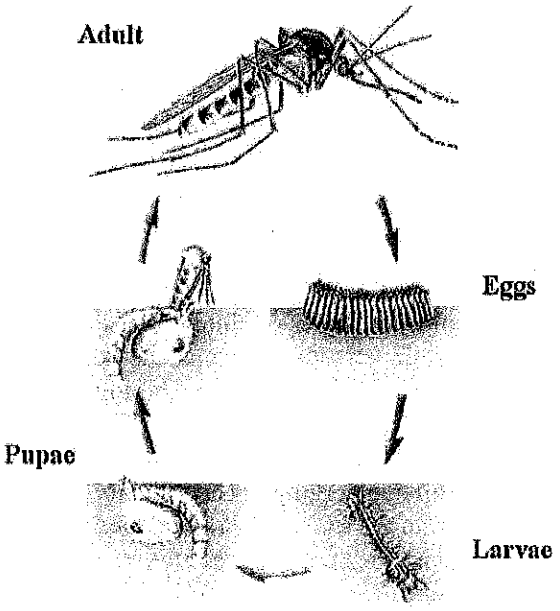
MOSQUITOES....WHAT EVERYONE SHOULD KNOW
Questions & Answers

What is the life cycle of mosquito?

Mosquitoes have four stages of development - egg, larva, pupa, and adult. They spend their larval and pupal stages in water. Female mosquitoes of most species deposit eggs on moist surfaces such as mud or fallen leaves. Rain re-floods these surfaces and stimulates the hatching of the eggs, starting the life cycle. Other mosquito species lay their eggs on permanent water surfaces. Since the water source is constant, egg hatching and larval development is an on-going process. Mosquitoes take approximately one week to develop from egg to adult. After emerging from the aquatic stages, adult mosquitoes mate and females seek a blood meal to obtain nutrients necessary for egg development. Only the female mosquitoes bite. Adult male mosquitoes feed on plant nectar and die shortly after mating. The average life span for adult mosquitoes is 2 – 3 weeks.



How many kinds of mosquitoes are there?

In Middlesex County, there are more than 40 different mosquito species, with more than 63 species found in New Jersey. Fortunately, most mosquito species either do not prefer to feed on humans or do not occur in high enough numbers to cause a problem.

What human diseases do mosquitoes transmit?

West Nile virus (WNV), St. Louis (SLE) and Eastern Equine encephalitis (EEE) are several diseases that can be transmitted by mosquitoes found in Middlesex County. WNV was first identified in the United States in New York City and surrounding areas in the fall of 1999. The primary transmitter of WNV and SLE are mosquitoes commonly found around homes. They are mosquitoes that will readily utilize tires or any container holding water. Both of these diseases can pose a significant threat to the very young and old, as well as individuals with compromised immune systems. EEE, while rare in Middlesex County, is a more dangerous disease and is transmitted by mosquitoes that are produced in permanent swamps and saltwater marshes.

What animal diseases do mosquitoes transmit?

Dogs and horses are also susceptible to mosquito-transmitted diseases. Dog heartworm is a serious threat to your pet's life and is costly to treat once it is contracted through the bite of an infected mosquito. Fortunately, a preventative medicine to protect your dog from contracting heartworm is available. WNV

and EEE are threats to horses as well as to humans. Vaccines that can protect your horse against EEE and WNV are also readily available. Contact your local veterinarian to get more information. WNV has also been responsible for the death of numerous birds, mostly in the wild bird population.

What does the Commission do?

The Middlesex County Mosquito Extermination Commission (the Commission) has been in existence since 1914, providing the residents of Middlesex County with over a century of quality mosquito control. Presently, as in the past, mosquito-borne disease control and quality of life assurance are the principal concerns of the Commission. The statutory mandate of the Commission is "To perform all acts which in its opinion may be necessary for the elimination of mosquito breeding areas, or which will tend to exterminate mosquitoes within the county." Key to the Commission's activities is a comprehensive surveillance program. The presence of a mosquito problem must be documented before any control measures can be initiated. Emphasis is placed on the elimination of mosquito production habitat and the control of mosquitoes while they are still in the aquatic stages of their development. The Commission's Board is comprised of a Freeholder and Freeholder-appointed citizens whose job it is to oversee the Commission's operations.

What control efforts does the Commission utilize?

The Commission uses an Integrated Pest Management (IPM) approach to controlling mosquitoes. An IPM program employs various methods of control including, but not limited to: surveillance, water management, source reduction, biological control, biological and man-made pesticides, and education. With an IPM strategy, control efforts focus primarily on the immature, water-borne stages of the mosquito. These immature stages are more concentrated and accessible than the adult mosquitoes, which disperse after emerging. The primary insecticide applied from the ground is a bio-rational insecticide derived from the bacteria, *Bacillus thuringiensis* var. *israelensis* (Bti), which is specific to the mosquito's metabolism. Fish are available to the Commission from the NJ Division of Fish, Game & Wildlife as part of the State Mosquito Control Commission's bio-control program. The fish available are Fathead minnows, Fresh Water killies, sunfish and the Mosquito fish. The Commission will supply fish free of charge to any county resident to control mosquitoes after NJ Department of Environmental Protection (NJDEP) fish stocking criteria are satisfied. The Commission conducts year round water management (source reduction) projects that control mosquitoes by eliminating mosquito habitat water. These operations are accomplished following the NJDEP Best Management Practices manual. Hand labor and excavating equipment are utilized for this work. The Commission also collects illegally discarded tires to eliminate them as larval production sources for mosquitoes. The Commission has collected and recycled well over 100,000 illegally discarded tires since the programs inception in 1991. If surveillance indicates that a nuisance level of mosquitoes is reached or disease is detected, a spray for adult mosquitoes may be applied by hand-held or truck-mounted sprayers or from the air. All pesticides used are registered with the US Environmental Protection Agency (USEPA), and the NJDEP, and are legal for use in New Jersey. These products are also reviewed and recommended by the New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences/Rutgers University.

What are the winter activities of the Commission?

While the Commission practices an IPM approach to mosquito control, the pesticide portion of the IPM program is not conducted during the time of year when larval production sources are not active. However, all other activities are continuous throughout the year. Appropriate permits are pursued for the water management projects. Necessary repairs and maintenance are performed on excavation and pesticide application equipment. Follow-up record keeping on the past season's mosquito control

activities at all larval production sources continues beyond the active mosquito season. The inspection routes are reviewed and revised as necessary to record new larval sources and remove sources that no longer exist. Larval production sources that were difficult to access due to the presence of dense vegetation are inspected after the foliage falls for a clearer view of the areas. These sources then may have paths cleared to allow easier access during the next mosquito production season, and debris dams are cleared from drainage structures. Site evaluation is conducted on potential areas for fish stocking or for water management projects. Beehives are located to avoid accidental pesticide exposure to honey bees in the event adult mosquito spraying (adulticiding) is required. Presentations are made at schools, civic organizations and interested groups on mosquitoes and mosquito control. Commission employees attend training classes to maintain their NJDEP-issued Certified Pesticide Applicators license.

What can homeowners do?

- Homeowners can control mosquitoes by eliminating standing water on their property. Any container holding water is a potential mosquito-production source and is likely to cause problems around your home. Of particular concern are clogged gutters, scattered tires and unopened swimming pools. All tend to collect leaves and water and provide very attractive larval sources for mosquitoes. These containers dry out very slowly. Keep gutters clean and free flowing. Remove or overturn containers that may collect water.
- Remove water from swimming pool covers. If pools are not covered, make sure the water is clean so it is not attractive to mosquitoes. Natural depressions in your yard can hold water. They will not be a problem, however, if the water disappears within 4 to 5 days. Artificial containers will remain wet for a much longer period of time. If you wish to collect rainwater, tightly screen the tops of the containers to prevent mosquitoes from depositing their eggs on the waters surface. Items such as pet water bowls and birdbaths should be emptied and refilled at least once a week.
- Small depressions in your yard can be filled to prevent the collection of water. If larger wet areas exist on your property, bring them to the attention of Commission personnel.
- Make sure windows and door screens are properly fitted and holes are patched to prevent mosquitoes from entering the house.
- A wide variety of repellents are available to provide relief from mosquitoes and other insects. Always **read and follow the label** before using any repellant.

What can I do if there are adult mosquitoes around my home?

If mosquitoes present a problem in your area, contact the Commission's office at (732) 549-0665. Our staff will investigate your call promptly. Each area is inspected to locate mosquito-production sources and to verify the presence of adult mosquitoes. If an adult or larval mosquito problem is identified, insecticides may be applied for their control.

What pesticides are used to control mosquitoes?

The majority of the pesticides used are insecticides to control immature mosquitoes in the water. These insecticides may be applied either by ground equipment or aircraft. If a major adult mosquito problem is identified, or if disease-carrying mosquitoes are detected, an adulticide may be applied throughout the area of infestation. For more information regarding the pesticides used by Commission personnel for adult mosquito control, please refer to the accompanying NJDEP approved pesticide fact sheets. It should be noted that some of the insecticides used for the control of mosquitoes are used to control other pests. The dosage rates used for mosquito control are usually much less, as low as 5/8ths of an ounce per acre to control mosquito larvae.

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Where can I find more specific information on spraying for adult mosquitoes in Middlesex County and will I be notified of the spraying?

All spraying for adult mosquitoes on more than 3 acres aggregate, whether conducted from the ground or air, will be advertised in the Home News Tribune and the Star Ledger. The advertisements will contain information such as intended application dates or range of application dates, location, contact name, and phone number. The Commission's automated phone system (732-549-0665) can also be accessed during non-working hours to determine if an adult mosquito spray is scheduled for the County. This information is also available by accessing the Commission's web page on the Middlesex County website (http://www.co.middlesex.nj.us/Government/Departments/PSH/Pages/MCMosquito.aspx). Individual homeowners can request to be notified prior to an adulticide application near their home. Contact the Commission for details on the procedure to request notification.

3-11-2015

MUNICIPALITIES ARE ENCOURGED TO SHARE THIS INFORMATION WITH ALL RESIDENTS IN THEIR COMMUNITY

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"Zenivex"

This Fact Sheet answers some basic questions about mosquito control products in use in your County. The Middlesex County Mosquito Commission, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is *Etofenprox* and how is it used?

Zenivex™ contains a pesticide called Etofenprox, a member of the category of pesticides called *non-ester pyrethroids*, which are synthetic versions of pesticides produced by plants called pyrethrins. Traditional pyrethroid/piperonyl butoxide mixtures are recommended for Ultra-Low-Volume (ULV) mosquito control in New Jersey by Rutgers, The State University of New Jersey. *Zenivex™* is a non-ester pyrethroid, and therefore does not require a synergist such as piperonyl butoxide. The U.S. Environmental Protection Agency (EPA) has classified Etofenprox as a reduced risk molecule. It poses a low risk to human health and the environment when used properly as part of an integrated mosquito control program. As formulated in *Zenivex™* adulticide, Etofenprox is considered a non-carcinogen, non-teratogen and non-mutagen.

This non-ester pyrethroid-containing product is used for the control of adult mosquitoes. While habitat management and measures to control immature mosquitoes in water are preferred and most used, the spraying of adult mosquitoes is necessary when biting populations reach critical levels or when a disease organism is present in adult mosquitoes. A very fine mist is sprayed into the air since flying mosquitoes must directly contact the pesticide in order for it to be effective.

How can I reduce my exposure to Etofenprox?

Because of the very small amounts of active ingredients released per acre, the risk to the general public from the use of non-ester pyrethroid-containing products is minimal. Avoiding exposure is always the safest course of action. Any possible exposure risk can be reduced by following some common sense actions:

- Pay attention to notices about spraying found through newspapers, websites, automated telephone messages, or distributed by municipal, county or state agencies.
- Plan your activities to limit time spent outside during times of possible pesticide treatments.
- Move your pets, their food, and water dishes inside during ULV applications. Also bring clothing and children's toys inside.
- Stay away from application equipment, whether or not it is in use.
- Whenever possible, remain indoors with windows closed, window air conditioners on non-vent (closed to the outside air), and window fans turned off during spraying.

- Avoid direct contact with surfaces still wet from pesticide spraying. Do not allow children to play in areas that have been sprayed until they have completely dried (approximately one hour).
- If you must remain outdoors, avoid eye and skin contact with the spray. If you get spray in your eyes or on your skin, immediately flush and rinse with water.

What are the symptoms of exposure to Etofenprox?

Symptoms of over-exposure can include irritation to skin and eyes. The chance of experiencing these symptoms of over-exposure with proper use is low. You should contact your physician, other medical providers, or the New Jersey Poison Information and Education System (NJPIES) at 1-800-222-1222 if you experience these symptoms following a pesticide spraying.

How long will Etofenprox last in the environment?

The non-ester pyrethroid in Etofenprox has a half-life of 1.7 days in water and 4.4 days in soil. The Etofenprox molecule rapidly degrades in sunlight at the soil and water surface into its constituent elements Carbon, Hydrogen, and Oxygen.

Where can I get more information on this adulticide?

The following are resources for more information regarding Etofenprox and mosquito control in your area (unless otherwise noted, available during normal business hours):

For overall pesticide-specific information – 9:30am to 7:30pm:
National Pesticide Information Center **800-858-7378**

For pesticide health information & possible exposures – 24 hours:
New Jersey Poison Information & Education System **800-222-1222**

For New Jersey pesticide regulation & misuse complaints:
NJDEP Pesticide Control Program **609-984-6507**

For Federal pesticide regulation:
USEPA Region 2 Office of Pesticide Programs **732-321-6759**

For statewide mosquito control information:
NJDEP Office of Mosquito Control Coordination **609-292-3649**

For local mosquito control information:
Middlesex County Mosquito Commission **732-549-0665**
For mosquito control recommendations:
Rutgers University, Department of Entomology **732-932-9437**

Spraying for adult mosquitoes is a last resort. Most mosquito control work goes on "behind the scenes", using water management, fish, and products to control immature mosquitoes in the water where they begin their life cycle. Controlling adult mosquitoes is more difficult because they are spread out and moving.

If you have questions about Zenivex or any other mosquito control related products or practices, please feel free to call the Middlesex County Mosquito Commission at (732) 549-0665 (Mon-Fri; 7:00 AM – 3:30 PM), or visit our web site at http://www.co.middlesex.nj.us/Government/Departments/PSH/Pages/MCMosquito.aspx.

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Superintendant

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Adult Mosquito Control Product

"Fyfanon"

This **fact sheet** answers some basic questions about a mosquito control product used in your county. The Middlesex County Mosquito Extermination Commission, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is Fyfanon and how is it used?

Fyfanon is an insecticide product that is recommended for mosquito control in New Jersey by Rutgers, The State University of New Jersey. It contains the pesticide malathion. The U.S. Environmental Protection Agency (EPA) "evaluates and registers (licenses) pesticides to ensure they can be used safely", and their current evaluation of products containing malathion shows them to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Malathion is used for the control of adult mosquitoes in an integrated pest management (IPM) approach to mosquito control. IPM strategy includes habitat management, source reduction, biological control and other measures to control immature mosquitoes, augmented by adult mosquito control when needed. The spraying of adult mosquitoes is called for when biting populations reach critical annoyance levels or when a disease organism is present in adult mosquitoes. A fine mist of malathion is applied during times of peak mosquito activity, since flying mosquitoes must directly contact the pesticide in order for it to be effective.

How can I avoid exposure to Fyfanon?

Risk to the public from the use of Fyfanon is minimal. Avoiding exposure is always the safest course of action, particularly for those that may be at higher risk such as pregnant women, children, the elderly, and those with

chronic illnesses. Any possible exposure risk can be reduced by following some common sense actions:

- Pay attention to notices about spraying found through newspapers, websites, automated telephone messages or distributed by municipal, county or state agencies.
- Plan your activities to limit time spent outside during times of potential pesticide treatments, usually at sunset and sunrise.
- Move children's toys out of application areas.
- Move animals and their food and water dishes out of application areas.
- Stay away from application equipment, whether in use or not.
- Whenever possible during spraying, remain indoors with windows closed, window air conditioners set on non-vent (closed to the outside air), and window fans turned off.
- Avoid direct contact with surfaces that are wet from pesticide spraying. Do not allow children to play in areas that have been sprayed until they have completely dried (approximately one hour).
- If you must remain outdoors, avoid eye and skin contact with the spray. If you get spray in your eyes or on your skin, flush and rinse with water.

What are the symptoms of exposure to Fyfanon?

Symptoms of exposure can include headache, nausea, dizziness, excessive sweating, salivation, excessive tearing and a runny nose. The chance of experiencing these symptoms of exposure with proper use is extremely low. You should contact your physician, other medical providers, or the New Jersey Poison Information and Education System (NJPIES) at 1-800-222-1222 if you experience these symptoms following a pesticide spraying. Bring this sheet with you if you visit a physician or other medical provider.

How long will Fyfanon last in the environment?

The Fyfanon spray stays in the air for a short time until it settles out and lands on surfaces. Fyfanon has a low persistence and lasts no longer than 25 days in water and soil. Fyfanon breaks down quickly in sunlight.

Where can I get more information on Fyfanon?

The following are resources for more information regarding Fyfanon and mosquito control in your area (unless otherwise noted, available during normal business hours):

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For pesticide-specific information – 9:30am to 7:30pm EST:
National Pesticide Information Center 800-858-7378
http://npic.orst.edu/

For pesticide health information and possible exposures – 24 hours:
New Jersey Poison Information and Education System
800-222-1222

For New Jersey pesticide regulations and misuse complaints:
NJDEP Pesticide Control Program 609-984-6507
http://www.nj.gov/dep/enforcement/pcp/bpo.htm

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs 732-321-6759
http://www.epa.gov/pesticides

For state-wide mosquito control information:
NJDEP Office of Mosquito Control Coordination 609-292-3649

For local health information:
Your Municipal Health Department-Check your telephone book for the number.

For local mosquito control information:
The Middlesex County Mosquito Commission 732-549-0665
http://www.co.middlesex.nj.us/Government/Departments/PSH/Pages/MCMosquito.aspx

For mosquito control recommendations:
Rutgers University, Department of Entomology 732-932-9437
http://vectorbio.rutgers.edu/outreach/