

# MOSQUITOES...WHAT EVERYONE SHOULD KNOW

## **Camden County Mosquito Extermination Commission**

All Camden County municipalities are encouraged to share this information with all the residents of their community.

Mosquitoes have always been a pest to humans and animals all around the world. Only in the last century did scientist prove that many diseases are caused by various pathogens such as bacteria, viruses, and various parasites. Scientist also showed that some of these organisms are spread through the skin piercing and blood sucking behavior of mosquitoes. Immediately, the State of New Jersey and the County of Camden organized mosquito control agencies to combat these pests and their threat to Public Health.

The following information, in Question and Answer form, provides general explanations of how and why mosquitoes are controlled. Sources of more detailed information are also included.

### **What diseases can a person get from a mosquito bite?**

Malaria, yellow fever and dengue are some of the great human killer diseases in history. They are all now very rare in the United States. In Camden County we have had a relatively high number of cases of Eastern Equine Encephalitis (EEE), St. Louis Encephalitis, and now West Nile Fever (WNF). Viruses that attack the central nervous system cause these diseases.

### **Can my pets get the same mosquito-borne diseases?**

The same viruses that cause EEE, St. Louis Encephalitis and West Nile Fever in humans will cause inflammation and damage in horses and most birds. Dogs and cats do not seem to become ill from these viruses. There are vaccines for horses as protection against EEE and WNF.

A mosquito bite is the only way a dog becomes infected with Dog Heartworm. Consult your Veterinarian for testing and the preventive drugs best suited for your dog.

## **Why does the life of the simple mosquito impact so many other creatures?**

All mosquitoes start as eggs that hatch into larvae that feed and grow in standing water. A larva turns into a pupa for another day or two in the water as it develops adult features. Then the pupa case opens and an adult steps out onto the water surface, dries its new wings and flies away. Adults mate and may produce hundreds of new eggs. Both the male and female feed on plant juices for energy. The female also needs protein to develop the eggs and gets it by feeding on blood. Different species of mosquito have favorite sources of blood. Some prefer reptiles and amphibians while some feed on birds and other favor large animals including humans. Unfortunately, some mosquito species will feed on any animal and thus spread disease organisms to humans.

## **Why are mosquito populations so high at different times and places?**

There are 65 species of mosquitoes with a variety of habitats in New Jersey. More than half are found in Camden County. A large group of species lay their eggs on the surface of standing water, which takes advantage of recent rainfall. The other group of species lay eggs along the waterline on mud in puddles or the walls of containers. These eggs must remain dry for at least a few days but may stay dry as long as four years before they hatch. The eggs hatch the next time they are submerged, thus taking advantage of the next big rainfall.

## **How can mosquitoes be controlled?**

Mosquitoes must be found to be a problem and then techniques of control are evaluated. Most large mosquito breeding sites are natural swamps, shallow woodland pools and tidal marshes. Smaller sites are ditches, storm drains and retention basins. Residential breeding is in artificial containers such as swimming pools, boat covers and buckets. Management of the water is always the first consideration as it may provide long term prevention. This Commission performs ditch and stream maintenance in the winter to help prevent next year's mosquitoes. We also stock fish which give long lasting control. If the water cannot be managed to eliminate mosquito breeding it can be treated with insecticides by the Camden County Mosquito Commission. If adult mosquitoes are present people may repel them by applying lotions and sprays to their skin and clothing. When many adult mosquitoes are present or disease has been detected an area-wide treatment may be conducted by the Mosquito Commission. These are all steps in our Integrated Pest Management approach to controlling mosquitoes.

## **What insecticides are used?**

All insecticides are registered with the state and federal government. Then we only use those insecticides recommended by the N.J. Agricultural Experiment Station based on their efficiency, economy, environmental impact and needs in specific New Jersey conditions.

Larvacides are either a bacterium (*B.t.i.* or *Bacillus sphaericus*) that kills the larvae or a mosquito hormone that prevents them from becoming adults. Both have impacts very specific to mosquito larvae.

Pupae are controlled with high-grade mineral oil or similar products that kill by suffocation.

Adult mosquitoes can be targeted with the technique of Ultra Low Volume (ULV) application of insecticides in very small drops. This allows effective treatment with just a few ounces per acre.

## **How do these insecticides affect people and our pets?**

The larvacides, even in their concentrated forms have extremely low toxicity to most other insects, to pets or humans. Most are applied as solids and always directly to stagnant water so your exposure and hazards are extremely low.

Pupacides have very low toxicity and are used for their physical properties. Since these products could kill or interfere with other insects, they are used in sites where the mosquito is generally the only insect present.

The Adulticides we use are similar to products available to the general public. We are effective using them in large areas due to the special equipment and techniques (ULV) used. These products are toxic to other insects but not generally at the low rate we use them. The concentrate is toxic to humans but at the rate used there should be no impact. The material decomposes in nature quickly so there is little residue to affect pets or wild animals.

## **What can I do to control mosquitoes?**

Homeowners should look for any condition or container that holds water and dump it out. Look at buckets, wheelbarrows, boats and boat covers, roof gutters, toys and tires.

Items that are meant to hold water such as fountains and birdbaths should be flushed and refilled at least once each week. Rain barrels should be covered with screen.

For more information – call the Camden County Mosquito Extermination Commission (856) 566-2945.

See: [www.camdencounty.com](http://www.camdencounty.com) and go to Departments and then Mosquito Commission. See also [www.njmosquito.org](http://www.njmosquito.org)