Burlington County Mosquito Control FAQ's

Q: What is Burlington County Mosquito Control's objective?

A: Our objective is to manage mosquito populations through an *integrated pest management (IPM)* approach, thereby reducing disease-vector and nuisance populations which protect the health and welfare of the citizens, visitors and animals of Burlington County. Some examples used in our *IPM* program are as follows:

Disease and Population Surveillance - New Jersey light traps are strategically placed throughout the county to monitor adult mosquito populations. New Jersey has 64 species of mosquitoes, many of which are nuisance pests as well as disease vectors. Samples of mosquito larvae are brought into the laboratory on a daily basis by our Inspectors and are then identified by the Entomologist. This is the best way of determining what type of mosquitoes are present and their exact location. Landing rate stations are also used to monitor populations. During a landing rate survey, an Inspector counts the number of mosquitoes that land from the waist down in a one minute period. These mosquitoes can be collected with an aspirator and submitted for identification. Burlington County Mosquito Control has an extensive disease surveillance program and has the capability to test for West Nile Virus in the lab. Mosquito specimens are sent to the state lab for testing as well.

Biological Control – Populations of mosquito fish (*Gambusia affinis*) are maintained in holding ponds and stocked in mosquito breeding habitats where applicable. These fish are great for ornamental ponds and can consume an exorbitant amount of mosquito larvae. They are available to the public upon request; however, stocking is subject to strict guidelines due to the fact that they are a non-native species.

The Mosquito Control Division also uses *Bti* (*Bacillus thuringiensis* subspecies *israelensis*) and *Bs* (*Bacillus sphaericus*). These bacteria produce spores that cause death after being eaten by the larvae. The spores attach and destroy the gut wall thereby killing them before they even get a chance to become an adult.

Our agency also uses Methoprene which is an Insect Growth Regulator (IGR) and is classified as a biorational control agent. It interferes with normal metamorphosis of the immature mosquito and does not allow it to form into an adult. The immature mosquito then dies. Methoprene has been approved by the World Health Organization (WHO) for application to drinking water in some countries.

Water Management and Source Reduction – Heavy machinery is used to eliminate or reduce mosquito breeding habitat by altering terrain and eliminating standing water on a large scale. Cleaning of ditches, catch basins and streams are done by hand on a smaller scale. Although water management projects are labor intensive and time consuming, the benefits are well worth the effort. Mosquito populations, chemical use and labor will be reduced significantly (sometimes completely) within that particular area.

Chemical – The use of chemical adulticides and larvicides are an integral part of the mosquito control puzzle; without them, certain parts of our county would be uninhabitable. The adulticides used by our division are malathion and resmethrin w/piperonyl butoxide. These chemicals are applied sparingly by Ultra Low Volume (ULV) machines that are mounted to trucks and aircraft. Smaller ULV machines can even be strapped to the back of an applicator or held in the hand. These chemicals biodegrade very rapidly and therefore do not accumulate in the environment. Both Malathion and Resmethrin w/Piperonyl Butoxide are used ONLY to control adult mosquitoes.

The Burlington County Mosquito Division currently uses one chemical larvicide, Temephos. Temephos has been in use in mosquito control since 1965 and is approved by the EPA and DEP for treatment of mosquito larvae in New Jersey. This chemical is used only to treat mosquitoes in the larval or immature stage, and is most often applied by helicopter. The Temephos formulation used by Burlington County is a solid granular, not a liquid. Since Temephos is a mosquito larvicide, it is only applied to water containing the immature mosquito. Temephos is not used on mosquitoes in the pupal or adult stage. All chemicals used by our department are applied by New Jersey licensed applicators.

Our agency also uses mineral oil as an effective larvicide and pupacide. This oil increases the water surface tension. When the larvae or pupae come to the water surface to breathe they cannot break the thin film of oil; therefore, the mosquito's breathing tube cannot obtain oxygen and suffocation is the end result. It is mainly used in containers such as tires where it is extremely difficult to dump out all the water. It is also used in areas where there are high numbers of pupae, since almost all other larvicides are useless at this point of the mosquito growth stage.

Q: How can you control mosquitoes in your neighborhood?

A: You can control mosquitoes in your neighborhood by starting with your own yard. Make sure all containers such as plastic buckets, bird baths, flower pot saucers, pet bowls, children's pools/toys and even seashells are turned over as not to collect any rain water. Pool covers tend to sink down and collect rain as well. If you use rain barrels, be sure to cover them with screen, preferably 20 mesh; this way you will be simultaneously collecting water for the garden and denying access to the female mosquito when she comes to lay her eggs. Also, be sure to rid your yard of any tires. They are wonderful mosquito breeding habitats that have the potential to produce thousands of mosquitoes per tire per year. Occasionally the county has free tire round-up programs. If you must keep tires on your property they should be stacked neatly with one on top of the other with the top tire covered by a piece of heavy plywood. Remember, the type of mosquitoes that live in tires and containers are the ones that frequently test positive for West Nile Virus (WNV). Before the spring rains come, make sure your gutters are free flowing by clearing out leaves, sticks and other debris. Fill in tire ruts and other depressions in your yard that hold water after a rain shower. Finally, get your neighbors involved!

Q: What are some general symptoms of overexposure to pesticide?

A: Some general symptoms include the following: headache, dizziness, nausea, diarrhea, excessive perspiration and trembling.

Q: How can you avoid exposure to pesticides?

A: Make sure you read the label on the container and follow it carefully when applying any pesticide. Do not apply pesticides in inclement weather where wind and rain can carry your pesticide to a non-target site. If someone is applying pesticides in your area, it is recommended that you stay inside until the fog or mist subsides. Remember, all pesticides used by Burlington County Mosquito Control are registered with both the USEPA and the NJDEP, which means that they are legal for use in New Jersey. All the pesticides applied by the Burlington County Mosquito Control are done so by NJDEP licensed applicators and operators.

Q: Where can you get more information?

A: The Burlington County Mosquito Control Website is a great source for West Nile Virus Information at http://co.burlington.nj.us/.
In case of any pesticide emergency please contact the New Jersey Poison Information and Education System at 1-800-222-1222.
For routine health inquiries and to obtain information about signs and symptoms of pesticide exposure, contact The National Pesticide Information Center at 1-800-858-7378.
For pesticide regulation information in New Jersey, pesticide complaints and health referrals contact the New Jersey Pesticide Control Program at 609-984-6507. For federal pesticide regulation call USEPA Region 2 Office of Pesticide Program at 732-321-6759.

Q: Where can I find more specific information on mosquito spraying in Burlington County and how will I be notified of the spraying?

A: Call the Burlington County Mosquito Control Agency office at 609-265-5064. Attached is an example of our newspaper notice that is placed in three local newspapers (The Courier Post, The Burlington County Times and The Press) throughout the mosquito control treatment season. A citizen has the right to ask the agency for specific information about a planned application in the county prior to the application.