

## Mosquito-borne Diseases

Many types of viruses have been isolated from mosquitoes in nature. Fortunately, only several are of concern in the United States and even fewer are of significant health importance in Ohio. It should be noted that mosquitoes cannot transmit all viruses. For example, the Human Immuno-deficiency Virus (HIV), which causes AIDS in humans, doesn't survive in mosquitoes, and therefore cannot be transmitted when they bite. In general, mosquito-borne virus transmission cycles are complicated and may involve birds and/or other animals. For example, West Nile virus (WNV) is maintained in a bird-mosquito cycle. The virus is transmitted among birds, principally by *Culex pipiens*, a mosquito species that prefers to feed on birds. Normally, viral transmission is limited to this natural cycle. However, in years with large populations of mosquitoes, the amount of viral infection in birds 'amplifies', and the virus gets transmitted to humans via mosquitoes that serve as "bridge vectors". Bridge vectors are mosquitoes with broad feeding preferences that might bite a bird for one meal, and later take another blood meal from a mammal. Human cases of mosquito-borne viruses typically occur late in the season because it takes time for mosquito populations to increase, and for the virus to build up in bird populations to the point where it might be picked up by bridge vectors. Finally, additional time is needed for infected mosquitoes to transmit the virus to humans and other mammals.

For more information contact the:  
[Local Contact Info]

## Concerned about Spraying?

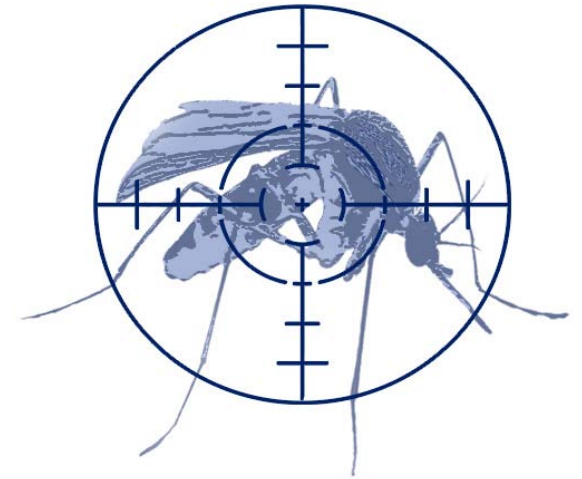
To avoid or minimize exposure, you should:

- Stay indoors during hours when spraying activities are taking place.
- Keeping your windows shut and air conditioners and window fans off during spraying.
- Keeping children's toys indoors.
- Keeping pets indoors, as well as their food, water dishes and toys.
- Use insect repellent DEET (20-30%, adults), Picaridin or Oil of Lemon Eucalyptus. Make sure you follow label directions!
- Limit outdoor activity at dawn and dusk when mosquitoes are most active.
- Visit our website to learn about the control being done in your area.

[www.localwebsite.com/spraying](http://www.localwebsite.com/spraying)

Since the effects of the ground spraying dissipate in a few hours, it is not necessary to wash off outdoor furniture or playground equipment before use, although doing so will not diminish the effectiveness of the pesticide applied

# Mosquito Control



Vector Disease Control, Inc.

Mosquito Control Program

800-413-4445

[www.vdci.net](http://www.vdci.net)

[custom logo  
or address]

## Frequently Asked Questions?

### What adulticide is being used?

The FCBH uses synthetic pyrethroids and/or natural pyrethrin that are mixed with Piperonyl Butoxide (PBO) to control adult mosquitoes. Other pesticide products containing these ingredients are used indoors and on pets to control insects such as fleas, ticks and ants.

### How will the pesticide be applied and how much?

These products are applied as an ultra-low volume (ULV) mist from equipment mounted on trucks. The trucks apply less than 1/10 of an ounce per acre. The mist produced by the ULV equipment is clear to white in color and is very fine with droplet size of 15-25 microns (pollen is 53 microns).

### Are these products harmful to my health?

Since adulticides are applied at very low concentrations, it is unlikely that adverse health effects will occur. However, some individuals may experience mild health effects due to short-term exposure. For these reasons, individuals should take common sense steps to minimize their exposure when pesticides are applied to control mosquitoes.

### Should I be concerned about cancer because of the spraying program?

Available information suggests that synthetic pyrethroids are not likely to cause cancer if people are exposed during or following a spraying program. Furthermore, all available information indicates that PBO is unlikely to cause cancer in humans as a result of its use to control mosquitoes.

### Can pets go outside during the spraying?

Products containing synthetic pyrethroids and PBO can be applied directly on pets to control ticks and fleas; therefore, there is no need to keep pets indoors.

### Should I be concerned about the fish in my outdoor fishpond?

All synthetic pyrethroids are considered to be toxic to fish. However, considering the low application rate and the fact that these products degrade rapidly in sunlight and water, fish populations should not be adversely affected. To minimize exposure, fishponds can be covered with a tarp or the fish brought indoors.

### Should I be concerned about my private swimming pool?

Synthetic pyrethroids break down fairly quickly in water and in sunlight. You could cover your pool before the spraying occurs; however, given the small concentrations of product being sprayed, no special precautions or waiting periods are recommended for swimming pools.

### Does the spraying pose a risk to wildlife or the environment?

Pesticides used in mosquito control programs do not pose unreasonable risk to wildlife or the environment. Synthetic pyrethroids are very low in toxicity to mammals and practically non-toxic to birds. These chemicals break down rapidly in the environment; high temperatures and sunlight accelerate this process. However, they are potentially toxic to fish. For this reason, the EPA has established specific precautions on the label to reduce such risks including restrictions that prohibit the direct application of products to open water.

## What the Board of Health Does?

### Larval Mosquito Surveillance

Larval surveillance involves sampling a wide range of aquatic habitats for the presence of pest species during their developmental stages.

### Adult Mosquito Surveillance

Adult surveillance measures mosquito populations that have successfully developed and emerged.

The primary surveillance tool used by the County is the gravid trap. These traps are ideal for collecting the *Culex* mosquitoes that transmit West Nile virus.

### Disease Monitoring

Mosquito specimens are tested for virus on a weekly basis.

### Mosquito Control Operations

The FCBH's integrated approach to controlling mosquitoes includes habitat management and the limited use of insecticides. When possible, our first action is to eliminate or modify mosquito breeding sites so that they no longer produce mosquitoes.

In some cases, we have to apply insecticides to reduce larval mosquito populations. The application of larvicides greatly reduces the need to spray to kill adult mosquitoes.

However, at times, we use trucks equipped with ultra low volume (ULV) spray machines to control adult mosquitoes throughout an entire neighborhood.

All products used for mosquito control in Franklin County are registered by the US Environmental Protection Agency (USEPA).