



## Common Adult Mosquito Control FAQs

Vector Disease Control International (VDCI) is a company built on the foundations of public health, ethics, professionalism, and technical expertise. Large-scale municipal mosquito management is what we do. We stay focused on best practices, abide by regulations, and evaluate the unique environments and needs of each community we serve. Control applications are only a portion of our services. We establish Integrated Mosquito Management (IMM) programs that are based on an understanding of the species' ecology and rooted in the current science of environmentally sound control measures.

### How Does VDCI Decide When and Where to Control Adult Mosquitoes?

Ultra-Low Volume (ULV) adult mosquito control operations are conducted at specific areas based on:

- Threshold numbers established by each municipality. Thresholds can include population density, species identification, or disease activity. Specific threshold numbers must be met prior to scheduling any ULV operations.
- Residents, sharing mosquito annoyance locations, also help VDCI pinpoint potential areas with high populations.
- Weekly, comprehensive surveillance data is gathered from a network of traps. The traps collect mosquitoes that provide our technicians and biologists with a better understanding of population density, local species, and if disease testing should be completed. Surveillance data guide ALL mosquito management and control decisions.

### What Does VDCI Use to Control Adult Mosquitoes?

VDCI uses specialized Ultra-Low Volume (ULV) equipment to control adult mosquitoes. These missions are normally conducted with a synthetic pyrethroid insecticide, permethrin (commonly found in flea and tick shampoos). Permethrin is a man-made version of a natural insecticide derived from a type of chrysanthemum plant. Permethrin is one of the least-toxic products registered with the U.S. EPA and the State of Colorado for public health mosquito control applications.

### How Does VDCI Reduce Pesticide Risk for Humans, Pets, and Non-Target Insects?

VDCI will only use products labeled and approved by the EPA and the State of Colorado for mosquito control purposes. We use the products at rates far lower than the maximum allowed. Peer-reviewed articles indicating that ULV applications for mosquito control do not pose a significant risk to humans or non-target insects because of the low dose

**Adult control operations are conducted with ULV equipment that uses a very small amount of product.** We apply ~0.0035lbs of permethrin over an entire acre (about the size of a football field). This means that your average residential property is exposed to less than 0.0007lbs of active ingredient during a single weekly application. For reference, head lice shampoos, which contain permethrin, suggest 1-2 ounces (0.06 lbs.) be applied directly to a child's scalp every 9 days.

Less than an ounce of "chemical" is aerosolized into fine droplets (less than 20 microns) which cover an entire acre of land. These droplets breakdown very rapidly in the environment, exhibit minimal deposition, and do not bio-accumulate or build up in the environment over time. To further increase the safety of these applications VDCI's equipment is routinely monitored, calibrated, and serviced to ensure the accuracy and minimal product use.

To limit effects on non-target insects VDCI also limits ULV applications until after sunset. Mosquitoes are most active during this time, but beneficial insects like bees and butterflies are not. Weather conditions are continuously monitored.

### Are There Any Non-Chemical Alternatives That Work Against Adult Mosquitoes?

Integrated pest management relies heavily on bacterial larvicides and biological controls which are utilized in all our mosquito control programs. Unfortunately, **there are no biological control alternatives approved for large-scale adult mosquito control operations at this time.** Thinking of a natural predator - like a bat or bird?

Studies have shown that while bats and birds devour a huge number of insects, mosquitoes are only a small part of their diet (think: scrawny little mosquito vs. a fat juicy moth) and do not contribute to significant changes in mosquito populations. In addition, public health professionals have advised that bats can be infected with rabies. Attempting to attract bats to your yard may increase your exposure to this potential deadly disease.

Learn more about mosquitoes, diseases, control measures, and myths at [vdc.net/mosquito-biology-101-life-cycle](http://vdc.net/mosquito-biology-101-life-cycle)