



SURVEILLANCE & DISEASE TESTING

Integrated Mosquito Management (IMM) programs are the gold standard for mosquito control, but cannot be successful without regular surveillance and disease testing. Surveillance generates valuable insights about mosquito species, their distribution, breeding habits, and disease presence, while measuring the success of management efforts. Surveillance data also helps determine when and where insecticide applications are required, helping to optimize budget and limit product use.

LARVAL SURVEILLANCE

Mosquito larval surveillance involves monitoring three types of mosquito habitats to determine their breeding location and presence in a given area. Dip cups and tubular dippers are used to collect larval samples for laboratory analysis. Larval habitats include:

Permanent Habitats

Ponds, marshes, and other waterbodies



Container Habitats

Buckets, tires, tree holes, planters, bird baths, etc



Floodwater Habitats

Stormwater basins, canals, river banks, and fields



ADULT SURVEILLANCE

Adult mosquito trapping provides insights on population dynamics and species distribution. It also helps determine action thresholds. Experts select traps based on the region, target species, and program objectives:

CDC Light Trap



BG-Sentinel Trap



Gravid Trap



New Jersey Light Trap



LABORATORY TESTING

At VDCI's state-of-the-art laboratories, collected larval and adult mosquitoes are analyzed to gain a comprehensive view of the challenges and threats that they may pose in a target region:



Counting and Identification

Over 175 mosquito species are present in North America, many capable of transmitting diseases. Species identification and counting allow experts to assess mosquito population density and distribution in a given area.



Disease Testing

Testing for diseases like West Nile virus, Eastern Equine Encephalitis, and dengue helps experts intervene before they can transmit the disease to many humans or animals.



Insecticide Resistance Monitoring

Tests are performed to determine if mosquitoes have become resistant to the products used to manage them. The results will help determine if adjustments must be made to product types, formulations, rates, or application frequency.



Understanding Action Thresholds

An action threshold is a predefined level of mosquito activity or disease risk that triggers mosquito management response. Ongoing surveillance is central to these efforts; by establishing baseline data, experts can deploy applications only when needed and verify their effectiveness post-application.

Surveillance and disease testing are cornerstones of an effective mosquito management program, providing experts with a robust foundation of data to predict emerging public health threats, prevent insecticide resistance, and assess the effectiveness of response efforts.

We're here to support your efforts, whether it's managing your surveillance and testing needs or running an integrated mosquito management program.