

Products Used by the Program

Bactimos (Bti) - *Bacillus thuringiensis* var. *israelensis* is a natural soil bacteria that works in the larval stage. It is nontoxic to humans and other beneficial aquatic organisms. This is used in solid and liquid forms.

Altosid (Methoprene) - this is an insect growth regulator. It is environmentally sensitive, and research has shown no harmful effects on humans, animals or plants. Treatment works only in the larval stage, but the larvae will continue to develop normally until the pupal state, where they will die. This is used in solid and liquid forms.

Malathion and Permethrin - when adult spraying proves necessary, these are the two adulticides used. Adulticides are used according to label requirements, and spraying operations are conducted only under favorable conditions.

These products are registered by the Environmental Protection Agency (EPA) for their intended use, and by the NYS Department of Environmental Conservation (DEC) for use within the state. All of our pesticide applicators are certified through DEC-sponsored education and testing.

If you have excessive standing water or an adult mosquito problem, please call us at 631-5990 x 5926 for an evaluation and possible treatment.

What You Can Do to Reduce Mosquitoes Around Your Home

- Empty anything in your yard that may hold water (buckets, wheelbarrows, kids' swimming pools and toys, and empty flower pots, for example)
- Change water regularly in bird baths (at least once a week)
- Drain off pool covers when pools won't be in use for extended periods of time, and make sure open pools are cleaned and chlorinated regularly
- Fill in areas of your yard that may collect water after snow melts or rain falls
- Clean out gutters regularly
- Discard any old tires that may be outside collecting water
- Keep ornamental fish ponds stocked with fish, and remove any excess vegetation
- Keep grass and shrubbery well trimmed so adult mosquitoes will not have a resting place during daylight hours
- Use window screens and screen doors that close properly to keep mosquitoes out of the home

T O W N O F A M H E R S T
H I G H W A Y
D E P A R T M E N T

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A Homeowner's Guide to Mosquito Control



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Mosquito Control Division
631-5990 x 5926

T O W N O F A M H E R S T
H I G H W A Y
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Did you know that numerous mosquito-borne viruses have been isolated in Amherst?

The Town of Amherst Highway Department's Mosquito Control Division has been working against the threat of mosquito-borne illness for over 30 years. With the introduction of West Nile Virus in 2000, additional importance is being placed on the timely elimination of the mosquito population, preferably before they start flying and biting.

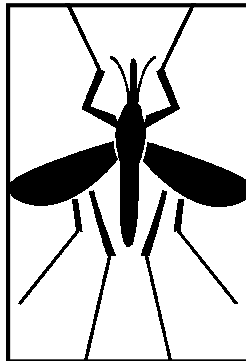
Through a series of actions that includes surveillance, larviciding and adulticiding, the Town's Mosquito Control Division works to alleviate both the nuisance and health threat of mosquitoes. With this pamphlet, we would like to encourage you, the residents of Amherst, to become proactive in your Mosquito Control program.

The Mosquito Life Cycle

Mosquitoes need water to complete their life cycle, which lasts approximately seven to 10 days in optimal weather conditions. Mosquitoes breed wherever standing water is present - shallow depressions, swimming pools and covers, troughs, cans, tires, planters, jars, buckets, tree holes, gutters...anything that will hold water for at least seven days.

There are four stages in the mosquito life cycle:

- 1) **Egg** - some mosquitoes lay egg rafts containing 100 to 400 eggs that float on water; others lay their eggs singularly on the water or in damp soil. The eggs then hatch into larvae.
- 2) **Larva** - the "wiggler" comes to the surface to breathe through a siphon tube. It molts (sheds its skin) four times in its life cycle, growing rapidly between each molt, or instar. Following the fourth instar, it molts into a pupa.
- 3) **Pupa** - the "tumbler" cannot eat; it breathes through two tubes on its back. An adult mosquito develops inside the pupal case and when it is fully developed, it splits the skin and emerges as an adult.
- 4) **Adult** - the adult mosquito emerges and rests on the water surface until it is strong enough to fly away and feed.



Adult mosquitoes commonly rest in grass and shrubbery during daylight hours. Some species remain close to their immature breeding habitat, while others can fly 20 miles or more away from it.

Only the female mosquito bites for a blood meal; the meal is used to nourish developing eggs. She may live anywhere from three weeks during the summer to several months over the winter in order to lay her eggs the following spring. The male mosquito feeds only on plant nectar.

Many species are capable of transmitting various mosquito-borne diseases, including California Serogroup encephalitis viruses and West Nile Virus.

Some Mosquitoes Found in Amherst

Aedes: vexans

Ochlerotatus: canadensis, communis, japonicus, stimulans, trivittatus, triseriatus

Culex: pipiens-restuans

Anopheles: punctipennis

Coquillettidia: perturbans

The Mosquito Control Division

There are three main functions of the Mosquito Control Division in Amherst: larviciding, adulticiding and surveillance.

The Town's larviciding program occurs in two phases: an early-season program focusing on spring floodwater and snowmelt mosquitoes and a summer program focusing on mosquitoes that breed in roadside storm receivers. With more than 1,500 acres of wetlands and over 6,000 storm receivers throughout the Town, both of these processes take many weeks to complete.

Adulticiding is considered a last resort, and is done based on resident complaints. Most spraying is done to combat the summer species that breed in ponding rainwater, as these species can develop in as little as five to seven days.

All pesticides used by the Amherst Mosquito Control Division are registered with the NYS Department of Environmental Conservation and the Environmental Protection Agency. All of our chemical applicators are professionally trained and licensed in the use of pesticides through NYSDEC education and testing.

Surveillance is conducted between early March and early October, on both the larval and adult mosquito levels. Larval and adult specimens are both identified to species, and adult specimens are counted and sent to Albany to be tested for the presence of viruses by the NYS Department of Health.