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Mosquitoes and Larvicides: General Fact Sheet

Life Cycle of a Mosquito Mosquitoes have four life stages: egg, larval, pupal and adult. Adult mosquitoes are a well-known nuisance to many people. The adult female bites for the blood necessary to mature her eggs. Her eggs are laid in or near standing water sources. Eggs will then hatch in the water and become larvae. The larvae live in water, eating microscopic food particles, before completing their development into pupae. Pupae then change to adults; thus, completing the mosquito life cycle.

Ways to Prevent Mosquitoes

There are three control methods used to reduce mosquito populations:

1) Larviciding - the action taken to destroy mosquito larvae in standing water. Mosquitoes are most vulnerable in the larval stage because they are highly concentrated and not moving from place to place. The best method to control mosquitoes in this stage is larviciding. Larviciding is the first line of defense in reducing mosquito populations. Larvae left untreated will become biting, adult mosquitoes, which, in many cases, cause a nuisance or public health threat.

2) Adulticiding –chemicals sprayed into the air to control adult mosquitoes. This tends to kill many other insects present, including bees and other beneficial insects. Adulticides only kill the insects present at the time of application, unlike larvicides that can keep mosquito larvae under control for many weeks.

3) Source Elimination – the method of eliminating water sources where mosquitoes can breed. Removing or emptying any unnecessary containers holding water, such as bird baths, old tires or flower pots, will eliminate mosquito breeding sites on your property.

What are larvicides?

Larvicides are applied into water containing mosquito larvae. Biological larvicides are naturally-occurring soil bacterium that causes mosquito larvae to stop feeding and die before reaching adulthood. Larvicides are used to control mosquitoes, black flies and other fly pests.

Who uses larvicides?

Mosquito control professionals and other public health and pest control managers use larvicides once they have determined that

mosquito larvae are present at high enough concentrations to warrant application. These professionals have been thoroughly trained to determine the most effective product and application methods to control mosquitoes. Many are also certified by state or national organizations.

Where are larvicides used? The most common sites where larvicides may be applied include:

- Street catch basins
- Roadside Ditches
- Floodwaters
- Pastures or crop land that are flooded for irrigation
- Duck clubs or other flooded hunting areas
- Waste lagoons
- Storm water drainage systems and detention basins
- Salt Marshes
- Waste tire piles

How safe are larvicides? Studies show biological larvicides pose little threat or toxicity to human, fish, wildlife or beneficial insect species. Because of the specific way biological larvicides affect mosquitoes, there are virtually no negative consequences in using these products for pest control. Because of this, biological larvicides are often the choice for environmentally-sensitive habitats, including parks, wildlife refuges and fish habitats.

How Can I help? The best way to help reduce mosquito populations in your area is by eliminating any standing water. Remove or empty containers that hold water, including:

- Old tires
- Bird baths
- Flower pots
- Wading pools
- Toys
- Buckets
- Wheelbarrows
- Cargo trailers
- Boats

Ensure water does not stand for more than four days by:

- Clearing out gutters frequently in the warmer months
- Removing leaves, trash or other items that might clog drainage ditches
- Filling in low areas of your lawn that hold water
- Changing water in bird baths by flushing with a hose every few days
- Draining excess water in flower pots

Since female mosquitoes will not lay eggs in moving water, you can eliminate standing pools of water and create movement, by:

- Adding a fountain, pump, bubbler or waterfall to ornamental ponds
- Making sure water pumps in pools or ponds circulate water vigorously.

By surveying your property and encouraging your neighbors and community to do the same, many mosquito-breeding sites can be eliminated.

Where can I go for more information?

Visit www.mosquitoawareness.com for more information or contact your local public health official to determine if and how larvicides are being used in your community.

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