

# Bismarck



**Public Health**  
Prevent. Promote. Protect.

**Bismarck-Burleigh Public Health**

## Mosquito Control: Larviciding

The first three stages of a mosquito's life cycle are the egg, larva, and pupa. Each of these stages occurs in water. By treating standing water with larvicide, mosquitoes can be eliminated before they emerge from the water as adult mosquitoes. Larvicide application sites include storm drains, catch basins, roadside ditches, waste treatment holding ponds, and any other areas of stag water. The City of Bismarck uses two types of larvicide: biological and chemical.

Methoprene is the active ingredient in the chemical larvicide used by the city of Bismarck. Methoprene acts as an insect growth regulator, which prevents the development of adult mosquitoes from larvae. Methoprene is target specific and will not affect mammals, fish, or waterfowl. The methoprene larvicide used is in briquette form and is hand tossed by vector staff into standing water areas.

Bacillus sphaericus is the active ingredient in the biological larvicide used by the city of Bismarck. Bacillus sphaericus is a naturally occurring bacterium that is found throughout the world and effectively kills mosquito larvae present in water. Bacillus sphaericus is effective only when activated by the larva's specific gut pH and enzymes, causing damage to the gut of the larva. Bacillus sphaericus is target specific and will not affect pets, humans, birds, fish and other non-target organisms. The products used by vector staff that contain Bacillus sphaericus are typically in granular form. This granular larvicide is dispersed onto the treatment areas using a side by side UTV with an attached sprayer that distributes the granular larvicide at the proper rate for the area being treated.



*Vector staff applying larvicide using UTV with sprayer.*



*Granular larvicide in water after application.*