

FIGHT THE BITE!



GRAND FORKS MOSQUITO CONTROL



EVIDENCE BASED MOSQUITO SPRAYING

SURVEILLANCE FIRST

Grand Forks Mosquito Control (GFMC) employs an active mosquito surveillance program. Daily activities include collecting and identifying mosquitoes and conducting West Nile virus tests on mosquitoes and birds. Traps are distributed throughout the community and outlying areas. Information gained from these traps help determine the need for adult mosquito control (fogging).

HOW FAST SHOULD THE VEHICLE BE DRIVING WHEN SPRAYING?

The recommended speed for spraying is 5 - 20 mph. GFMC sprayers are equipped with variable flow technology; this system adjusts the application rate based on the speed of the vehicle. Therefore, the application rate stays the same. Speed does not have a major effect on the efficacy of the spray as long as we're within 5 - 20 mph. When we conduct aerial spraying the insecticide is applied at 200 - 230 mph. Research has indicated an increased mortality rate when increasing travel speed. GFMC monitors the vehicles and sprayers with GPS tracking systems. This GPS system records several data points including location, speed, sprayer output, and more. GFMC sprays alleys at 10 mph and hard-surface roads around 15 mph.



WHAT PRODUCTS ARE SPRAYED?

GFMC use ultra-low volume sprayers that deliver very small droplets and about 1-1.2 oz of a diluted, non-residual insecticide per acre. This public health pesticide (a.i. Permethrin or Etofenprox) is designed to kill mosquitoes. Because we use such a small amount of pesticide, proper timing and good weather conditions are essential to having a successful spray. The pesticide must directly impact mosquitoes, generally while in flight to be effective. If the mosquitoes are resting in the bushes or in the grass, they may not receive a lethal dose of spray. Once the droplets reach the ground, they are no longer effective for killing mosquitoes.



HOW DOES THE CITY MONITOR THE MOSQUITO POPULATION?

GFMC uses a combination of surveillance techniques to monitor adult mosquitoes. New Jersey light traps are used throughout the city to help determine the average population and species composition. Mosquitoes are collected, counted, and identified, and the average trap counts are reported on our website (www.gfmosquito.com). This information is frequently picked up by local media outlets and relayed to the public via radio, newspaper, and TV. Rotator traps are also used to help identify the time when mosquitoes are most active. Information gained from the rotator traps help us determine the best time to spray, thus improving the effectiveness of the spray application. CO2 baited traps are also used throughout the district to monitor and collect mosquitoes. The *Culex tarsalis* mosquitoes, which are most common for transmitting West Nile virus (WNV), are collected, and tested for WNV in our lab.

PROTECTION TIMES FOR TESTED MOSQUITO REPELLENTS

PRODUCT	Active Ingredient	Avg. Protection Time
OFF! Deep Woods	23.8% DEET	5 hours
Sawyer Controlled Release	20% DEET	4 hours
OFF! Skintastic	6.65% DEET	2 hours
Repel Lemon Eucalyptus	Oil of eucalyptus; p-menthane 3, 8-diol (PMD)	2 hours
Bite Blocker for Kids	2% Soybean Oil	1.5 hours
OFF! Skintastic for Kids	4.75% DEET	1.5 hours
Skin-So-Soft Bug Guard+	7.5% IR3535	23 minutes
Natrapel	10% Citronella	20 minutes
Green Ban for People	10% Citronella, 2% peppermint oil	14 minutes
Buzz Away	5% Citronella	14 minutes
Skin-So-Soft Bug Guard	0.1% Citronella	10 minutes
Gone Original Wristband	9.5% DEET	0
Repello Wristband	9.5% DEET	0
Gone+ Repelling Wristband	25% Citronella	0

For more information about mosquito control visit our website at www.gfmosquito.com