

## OPERATION OF ADULT MOSQUITO TRAPS

Since 2003 adult mosquito surveillance has provided valuable indicators of the risk of West Nile Virus to human health. Adult mosquito surveillance includes trapping of adult mosquitoes and testing for the presence of West Nile Virus.

Traps are set in approximately 15 communities in Saskatchewan. Information gathered from adult mosquito trap surveillance informs on what species are found in a particular area, when they occur, and numbers and types of mosquitoes that are infected with West Nile virus (i.e. *Culex tarsalis* mosquitoes). This will help to estimate the current risk of infection for humans in that community or similar communities in the vicinity.

Most communities where permanent adult mosquito traps were set in previous years will have mosquito traps set up so that analysis of year-to-year trends can occur. Factors considered in selecting these communities for adult mosquito surveillance include:

- Population density
- Historical/current evidence of WNV
- Geographic distribution throughout Saskatchewan

***Mosquito surveillance is usually undertaken by municipalities. However, in some cases private volunteers run the traps.***

Ideal trap sites within a community would be those that:

- Are within a fairly open space with some bushes and trees, but not densely treed. Preferably at the edge or interface between shrubs/trees and open areas.
- Are secure from interference by the public either in a fenced (short) enclosure, (e.g. a back yard), or out of normal public view and at least 30 feet away from buildings.
- Are away from competing light sources such as yard lights.
- Are in a sheltered location out of wind and free from dust or other pollutants.
- Are easily accessible to collect the mosquitoes.

### **The Role of Communities in Operating Mosquito Traps**

Communities can play an important role in assisting Saskatchewan Ministry of Health and your Regional Health Authority by operating mosquito traps in their own community. This can be accomplished through having municipal staff or volunteers operate the traps and send in the mosquito samples each week. There are two types of traps that are used:

1. ***New Jersey Light Traps*** – These traps collect mosquitoes using a light source (25 watt). The mosquitoes are attracted to the light and then are sucked into a collection cup by a fan.
  - These traps require a power source and operate on a 24-hour timer which starts the trap at 9:00 p.m. and then runs until it is shut off the next morning.
  - The traps run for three nights per week.

- Mosquitoes are collected each morning; air dried (if moist) and sent in the mail each week to the mosquito identification centers in Regina.
- Containers and prepaid mailers are provided.
- Results are reported back to the trap operators and the community on a weekly basis.
- These traps operate from May 15 to September 30 in most locations.

2. ***Center for Disease Control (CDC) Traps*** – These traps use light and carbon dioxide to attract mosquitoes. Mosquitoes are collected live in a collection cup and placed in a freezer each day. These samples are then sent into the lab for identification and testing for WN virus.

- These traps use 6-volt batteries for power or can be adapted to run off a regular power source if one is nearby. They also deliver CO<sub>2</sub> through a regulator attached to a 20 lb canister.
- These traps run for two nights per week from dusk to dawn (They have a light-sensitive sensor to turn the trap light and CO<sub>2</sub> on in the evening).
- Mosquitoes are collected each morning and placed in a freezer.
- After the second night of collection, the samples are sent by bus or courier in a cooler with ice-packs to Regina.
- Results are reported back to the trap operators and the community.
- These traps operate from June 1 to September 4 in most locations.

Regional West Nile virus Coordinators from Saskatchewan Ministry of Health or staff from local health regions assist trap operators with all traps, equipment and other supplies and with placement of traps. They are also available to work with trap operators to deal with sample shipment, labeling, data recording or any problems that may occur throughout the trapping season.