

New Jersey Light Trap Procedures

(modified from Virginia Arbovirus Surveillance Response Plan, 2004)

The New Jersey light trap depends on a 110-volt source of electric power, which somewhat restricts its use. Most often, the collection is funneled into a collection jar. This makes the collection suitable for relative abundance studies, but unacceptable for arbovirus studies that require live specimens. The traps can be very useful in monitoring changes in abundance and species diversity in an area. They can also be used to document efficacy of control efforts.

Not all mosquito species are attracted to or collected by New Jersey light traps. There is considerable variation in the relative attractiveness of different mosquito species to light. Generally, light traps do not reflect the abundance or presence of species that are negatively phototaxic or only active during the day. In addition, mosquito species that inhabit wooded areas are less attracted to light traps than those that prefer open areas. The following table shows which species **can** and **cannot** be accurately monitored by the New Jersey light trap:

Species readily collected in NJ Light Traps

<i>Ae. vexans</i>	<i>Oc. trivittatus</i>	<i>Cq. perturbans</i>
<i>Oc. cantator</i>	<i>An. bradleyi</i>	<i>Ps. columbiae</i>
<i>Oc. sollicitans</i>	<i>Cx. pipiens</i>	
<i>Oc. taeniorhynchus</i>	<i>Cx. salinarius</i>	

Species not readily collected in NJ Light Traps

<i>Ae. albopictus</i>	<i>Oc. excrucians</i>	<i>An. quadrimaculatus</i>
<i>Oc. canadensis</i>	<i>Cx. restuans</i>	<i>Cs. melanura</i>
<i>Oc. stimulans</i>	<i>Cx. territans</i>	<i>Ps. ferox</i>
<i>Oc. triseriatus</i>	<i>An. punctipennis</i>	

Guidelines for New Jersey Trapping: The following guidelines are offered to minimize variability in the use of New Jersey traps for mosquito surveillance.

- 1) Select a location with little or no competing light source. The area must have an electrical source to power the trap.
- 2) Hang the trap on a pole or tree limb sturdy enough to hold 20 lbs. The height should be around 1.5 meters. Once the trap is hung the automatic timer (if the unit does not have a photo-sensor) must be set to turn the unit on at dusk and off at dawn. The collection jar with a vapona strip as a killing agent and a 7oz. Dixie cup with small holes in the bottom are placed inside the jar to capture the mosquitoes.
- 3) Samples are collected from the New Jersey traps three (3) times per week by taking an extra sample jar to empty the contents of the kill jar in and returning the sample to the lab for enumeration and species identification. These mosquitoes are not used for viral testing but all data is recorded and maintained on file.