



## **RUGGEDIZED STORM SEWER LIGHT TRAP**

**Model 519.55**

### *Instructions*

#### ***Background***

The Ruggedized Storm Sewer Trap was developed in concert with entomologists with the Mosquito Control Division of the Harris County Public Health and Environmental Services in 2002-2003 for trapping primarily *Culex quinquefasciatus* females in the storm sewer system of Harris County surrounding the city of Houston. The body and lid are made of virtually indestructible ABS plastic; the other parts of the trap are either aluminum, stainless steel, or bronze.

The trap comes complete with a double-ring collection bag and D-cell battery holders mounted to the side of the trap. A rotary switch permits the trap to be turned on and off without removing or installing the batteries. The trap operates at 3 volts DC using 4 alkaline batteries; this wiring permits at least two trap nights per set of batteries.

#### **Key features**

This trap can be used above or below ground; it is essentially nothing more than a ruggedized version of some of our other miniature light traps such as the Model 512. The major differences include:

1. An ABS body that does not permit light transmission (unlike the transparent acrylic body of the Model 512).
2. Operation at 3 volts vs. 6 volts for other, similar traps. This results in a slower fan speed and light output shifted towards the yellow end of the spectrum.

#### ***Operation Details***

##### **Trap placement**

Insert four fresh alkaline batteries in the trap-mounted battery holders. The orientation of all batteries is with the positive terminal of the battery up. Harris County Mosquito Control Division run these traps by suspending them to the underside of a storm sewer manhole cover using a small metal angle clip available from your local hardware store. The manhole cover is lifted open, the clip is installed in the pry-bar hold, and the trap is attached to the clip. The cover is then replaced with the trap below.



## ***Operational Details, cont'd.***

### **Carbon dioxide use**

Harris County suspends the ruggedized trap below our Insulated Dry-Ice Container (Igloo) (PN 1.10). The addition of dry ice which involves CO<sub>2</sub> gas, results in significant increases in the number and diversity of mosquitoes caught and makes the location of the trap less critical. Our Insulated Dry Ice Container is simply a modified Igloo® drink cooler with stainless steel hardware to make it easy to use with about 2kg of dry ice. The insulation slows the rate of sublimation and by hanging the trap from the hook below the cooler, the CO<sub>2</sub> is released at the correct location, right above the trap.

### **Granular Media CO<sub>2</sub> Sachets (PN 1.25)**

This trap can capture hard-to-collect species with a granular formulation that releases carbon dioxide and water vapor for 24 hours after activation. The sachets are simply wrapped around the bottom of the trap after the collection bag is attached to the trap using a (supplied) rubber band. Sachets are a handy way to supplement catch using CO<sub>2</sub> without the expense of CO<sub>2</sub> tanks and regulators. See our web site for addition details.

## ***Useful References***

- American Cyanamid Company. 1972. Modern Mosquito Control, 3rd ed. American Cyanamid Co., Princeton, NJ 30 pp.
- Carpenter, S. J. and W. J. LaCasse. 1975. Mosquitoes of North America (North of Mexico). Univ. Calif. Press, Berkeley, CA 360 pp.
- Centers for Disease Control (CDC), Public Health Service, U.S. Department of Health and Human Services. 1977. Mosquitoes of Public Health Importance and Their Control. (HEW Publication No. (CDC) 77-8140) 55 pp.
- Louisiana Mosquito Control Assoc. 1983. Mosquito Control Training Manual. Louisiana Mosquito Control Assoc., 6601 Lakeshore Dr., New Orleans, LA 70126 (\$10.00).
- Mulhern, T. D. A Manual for Mosquito Control Personnel. Calif Mosq. Cont. Assoc., Visalia, CA 190 PP.
- Service, M. W. 1977. Mosquito Ecology - Field Sampling Methods. John Wiley and Sons. New York, New York.