FAY-PRINCE BLACKLIGHT TRAP -- MODEL 812

Instructions

Description

The **Fay-Prince Blacklight Trap Model 812** is a daytime trap which is quite specific for *Aedes aegypti* adults of both sexes; it was designed and field tested by scientists from the Technical Development Laboratories of the Communicable Disease Center, DHEW. Dr. Kirby O. Kloter of the New Orleans Mosquito Control Board modified the trap to include a small blacklight source to make it attractive to other species; subsequent field tests indicated that in addition to *Ae. aegypti*, the **Fay-Prince Blacklight Trap** was an excellent collection device for *Culex quinquefasciatus*, *Aedes albopictus* and other species responding to ultraviolet (UV) radiation. The design is based on the attraction of contrasting gloss black and white panels and UV light, and employs a wind-orienting cover and cylinder housing a suction motor and suspending a collection bag or killing jar.

Operational Details

Trap Location

Trap location is somewhat critical with the **Fay-Prince Blacklight Trap** although not as critical as when using the **Fay-Prince Trap** (Model 712) which is supplied without the blacklight source. This is particularly true when collecting *Ae. aegypti* as they are not strong fliers. As it typically does not fly more than a few hundred meters, traps must be located in the proximity of suspected breeding areas. Since *Ae. aegypti* is a semi-domestic mosquito breeding almost exclusively in artificial containers in and around human habitation, traps should be placed to the rear or between buildings where collections of such containers are likely. Areas protected from the wind are to be preferred and placing the trap about a meter above the ground is ideal. As *Cx. quinquefasciatus* is a stronger flier and breeds in a wider range of habitats, and is apparently more highly attracted to UV light, trap location is less important when collecting this species. Because of the differences in their flight behavior, it is likely that catches of *Cx. quinquefasciatus* reflect the densities of this species over a wider area than corresponding catches of *Ae. aegypti*. The use of dry ice in an insulated container enhances the catch of most species and makes the location of the trap even less critical; we make an inexpensive and very functional dry ice container for use with this trap (PN 1.10).

Electrical

1. The **Model 812** requires ca. 0.500 amperes (500 mAmps) per hour to operate at 12.0 volts DC. Motor cycle, lead-acid, 12 volt batteries which provide one or more days' worth of power on one charge are probably the most common power source. A better source are sealed, rechargeable batteries as they do not leak and do not require the care in charging that nicad batteries do. The trap can not be operated at any voltage other than 12 VDC. You can estimate the maximum run time for a fully-charged and new battery by dividing the amp-hr rating by the consumption (ca. 0.500 amps/hr.); older batteries, even though fully charged will provide substantially less time. An automobile battery with a capacity of 60 amp-hrs would provide current for more than 2 days if completely charged and new.

2. As DC motors reverse their direction of rotation with voltage polarity changes, the battery leads are coded: the red or copper lead goes to the (+) and the black or tinned lead goes to the (-) terminals on the battery. The battery clips are removable on most versions to allow connection to the spade terminals found on many sealed-electrolyte batteries.

Gate-System

Gate-System operation (if so equipped) is also simple. Take care not to bend the counter balance rods with careless handling or storage. Each time the trap is set up, start and stop the trap several times to make sure the gates open and close without binding. If the thin gates get jammed in the closed position, knock then free with a pencil etc., dropped down through the top of the trap. *Please DO NOT try to unjamb them by applying excessive torque to the counter balance rods.*

Useful References

Control of Dengue - Vector Topics # 2. Available from Vector Biology and Control Division, Bureau of Tropical Diseases, Center for Disease Control, DHEW, Atlanta, GA 30333.

Fay, Richard W. and William H. Prince. 1970. A modified visual trap for *Aedes aegypti*. Mosquito News 30: 20-23.

Heiton, Truman E. 1974. Summary of Investigations of Electric Insect Traps. Tech. Bull. No. 1498. 136 pp.

Service, M. W. 1977. Mosquito Ecology - Field Sampling Methods. John Wiley and Sons. New York, New York.