

CONTROL OF *Cx. NIGRIPALPUS* POPULATIONS

Success in mosquito control depends on knowledge of the species of mosquitoes and their habits in the particular region where they are to be controlled. With this knowledge, efforts to reduce mosquito production can be more successful. Therefore, the information presented in this report should be of help to Mosquito Control personnel to achieve better control of this species in Florida.

Rathburn (1979) has detailed controlling methods for both larvae and adults of *Cx. nigripalpus* and other mosquito species. These methods and others recommended for control of *Cx. nigripalpus* (Control of St. Louis Encephalitis 1976) are summarized below:

CONTROL OF LARVAE

- a) **Non-Chemical Control.** — One of the main non-chemical control methods is the permanent elimination of breeding sites in an environmentally acceptable manner. Filling open ditches, subsoil drainage, and pumping and diking are all effective in controlling breeding sites. Keeping fresh water ponds, sewage stabilization lagoons, and open storm sewers free of vegetation reduces mosquito production. In grove swales and irrigated lands, water should not be allowed to collect and stand for more than 3 to 4 days at a time, since the larval development of *Cx. nigripalpus* requires 6 to 9 days (see 'Larval Development'). Borrow pits should be constructed with steep shorelines and kept free of vegetation. The proper grading of fields eliminates standing water and the mosquitoes that breed there.
- b) **Biological Control.** — Biological agents mentioned above (see Antagonists) should be used when available.
- c) **Chemical Control.** — In areas which cannot be drained or filled at an acceptable cost and where impounding or biological control is not possible, larviciding is a reasonable alternative. Insecticides that are currently registered for use as larvicides are as follows:
 - i) **Organophosphates:**
 - chlorpyrifos (Dursban)** 0.0125 to 0.05 lb/acre, or 1.0% briquettes (10% encapsulated at 1.5 ppm)/20 ft² in small pools (McDonald & Dickens 1970).
 - fenthion (Baytex)** 0.05 to 0.10 lb/acre.
 - malathion (Cythion)** 0.4 to 0.5 lb/acre.
 - parathion, ethyl 0.1 lb/acre.
 - parathion, methyl 0.1 lb/acre.
 - temephos (Abate)** 0.05 to 0.1 lb/acre.

*These groups of insecticides have not been recommended for use in Florida by the FAMA or DHRS as larvicides since 1957.

**Trade names in parentheses.