Thermal aerosol, mist, and dust applications have been used successfully for many years, and are as effective as ULV applications. Tests in Florida with ground dispersed dusts (19% and 7.5%) of carbaryl produced a 99% reduction in the number of adult salt marsh mosquitoes at a dosage of 0.2 and 0.3 pounds (90 g and 136 g) per acre (0.4 ha).

Thermal aerosol formulations currently recommended for use are chlorpyrifos, fention, and malathion at 40 fluid ounces (120 mL) per minute at 5 mph (8 km/h) and naled at 80 to 120 fluid ounces (240 to 350 mL) per minute at 10 to 15 mph (16 to 24 km/h) (Rathburn 1979).

Mist formulations currently recommended for use are chlorpyrifos, fenthion, malathion, and propoxur at 100 fluid ounces (300 mL) per minute at 4 mph (6.5 km/h) and naled at 0.1 pound (45 g) AI per acre (Rathburn 1979).

Aerial application. — Airplanes have been used for many years to apply insecticide dusts, pellets, sprays, and aerosols. The aerial ULV technique applies 0.5 to 3.0 ounces (16 to 93 g) of highly concentrated insecticide per acre to control adult mosquitoes. Three insecticides are currently approved for ULV application from airplanes: malathion at 3 fluid ounces (9 mL) per acre, naled at 0.5 to 1.0 fluid ounce (1.5 to 3.0 mL) per acre, and pyrethrins and pip. butoxide at 0.06 ounces to 0.1 pound (1.8 to 45 g) AI per acre (Rathburn 1979, Rathburn & Boike 1972, 1975).

Insecticides recommended for low volume aerial application are chlorpyrifos at 0.025 to 0.05 pound (11 to 23 g) AI per acre, fenthion at 0.05 to 0.10 pound (11 to 45 g) AI per acre, malathion at 0.15 to 0.36 pound (68 to 160 g) AI per acre, naled (Tech.) at 0.05 to 0.10 pound (11 to 45 g) AI per care, and propoxur at 0.05 to 0.175 pound (11 to 79 g) AI per acre (Rathburn 1979).

Some insecticides are also recommended for use as aerial thermal aerosols. They are fenthion at 0.03 pound (14 g) AI per acre, malathion at 0.20 pound (90 g) AI per acre, and naled at 0.087 pound (39 g) AI per acre (Rathburn 1979).

Other Methods. — Residual treatments for mosquito control are used in limited outdoor areas, such as small city parks, playgrounds, and picnic areas. Water suspensions or emulsions with a low percent of insecticide are used to treat vegetation.

The use of any insecticide to control the adult reaches only a small portion of the total mosquito population and thus provides only temporary relief. Therefore it is more economical to concentrate most control effort toward the larval stage. Rogers (1978) recently presented a historical overview of mosquito control in Florida for both pest and vector species.