

## OPERATIONAL AND SCIENTIFIC NOTES

RESISTANCE OF THE PUERTO RICAN FILARIASIS VECTOR, *Culex quinquefasciatus*, TO DIELDRIN. The ineffectiveness of DDT in controlling *Culex quinquefasciatus* larvae in San Juan, Puerto Rico has been recognized since 1952. Recent observations indicated that the same species was also resistant to dieldrin and the tests reported here were performed to obtain objective information.

The techniques recommended by the U. S.

secticide dosages of 0.1, 0.025, 0.05, 0.012, and 0.005 p.p.m. The mortalities at the 0.025 p.p.m. dosage level are indicative of the general results obtained. Table 1 shows the susceptibility of larvae to concentrations of 0.025 p.p.m. of DDT, dieldrin, EPN, lindane, and chlordion.

It is evident that, while Chlordion and EPN caused a high percent mortality (over 80 percent in most tests), the mortality resulting from ex-

TABLE 1.—Tests on the resistance of Puerto Rican *Culex quinquefasciatus* fourth-instar larvae to insecticidal action based on 24-hour mortalities at 0.025 p.p.m.

Insecticides	Total Stations	Dead	Alive	24-Hour Mortality	Total Replicates
DDT	8	78	647	10.76%	29
Dieldrin	7	2	473	0.42%	19
EPN	4	286	64	81.71%	14
Lindane	1	24	51	32.00%	3
Malathion	1	9	66	12.00%	3
Chlordion	2	186	14	93.00%	8

Department of Agriculture\* were used for testing susceptibility of fourth instar larvae from representative habitats. The method cited compares the 24-hour mortality of the allegedly resistant strain of *C. quinquefasciatus* with that recorded for a known non-resistant strain at in-

posure to DDT and dieldrin was markedly lower than expected.

These data seem to indicate partial and low resistance to DDT and definite uniform high resistance to dieldrin, and suggest the need for continued periodic inquiry into this phenomenon.

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\* "A Laboratory Method for Determining Insecticide Resistance in Mosquito Larvae"—published by U. S. Department of Agriculture, Agricultural Research Service, Entomology Research Branch, and reproduced by U. S. Naval Air Station, U. S. Navy, Preventive Medicine Unit No. 1, Jacksonville, Florida (PMU-1 Tech. Bull. 55-1).