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DETERMINATION OF SUSCEPTIBILITY STATUS OF CULEX LARVAE TO FENTHION VIS-À-VIS TEMEPHOS AND BACILLUS THURINGIENSIS VAR ISRAELENSIS (BTI)

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OBJECTIVES

1. To determine susceptibility status of Culex larvae to Fenthion and to determine its optimal dosage.
2. To evaluate differential efficacy of Fenthion, Bti and Temephos against Culex larvae in laboratory.
3. To undertake field evaluation of larvicides against Culex.

METHODOLOGY

The egg rafts of Culex quinquefasciatus were collected using standard dripping method from their natural habitat. The late third to early fourth instar larvae were selected and kept in dechlorinated water. Bioassay were carried out in test containers held at 25-28 ^{0} C and preferably a photo period of 12 h light followed by 12 h dark. The standard WHO method for determining the susceptibility of mosquito larvae using diagnostic dose was used to determine the susceptibility status of Culex quinquefasciatus to Temephos and Fenthion. The efficacy of Bti was also evaluated at the recommended dose of 1.0 mg/l.

RESULTS

The study findings of the susceptibility testing indicate development of resistance among Culex quinquefasciatus larvae to Fenthion in 27% of total sites in Pune, while tolerance was seen in 40% of sites. Resistance among Culex quinquefasciatus larvae to Temephos was seen in 38% of total sites in Pune, while tolerance was seen in 39% of sites. As for Bti, it was found to bring about 86-100% control of culex larvae in all except one site.

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CONCLUSION

The resistance to Temephos among Culex quinquefasciatus larvae was found to be much more rampant and widespread as compared to Fenthion. Bti was found to be effective larvicide for Culex larval control.