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 ° 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.

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.