D 234

Larval resistance of *Culex quinquefasciatus* to two organophosphorous insecticides, chlorpyrifos and temephos

Larval resistance of *Culex quinquefasciatus*, the main vector of Banccroftian filariasis, to larvicides chlorpyrifos and temephos was investigated in eight selected areas within and outside the endemic filariasis belt of Sri Lanka, during the period of 1992 to 1994. Of the

populations investigated Dehiwela (Deh), Peliyagoda (Pel), Lunawa (Lun) and Panadura (Pan) populations were exposed to spraying of fenthion in the field at weekly intervals whereas Peradeniya (Pera), Kaduwela (kad), Maharagama (Mah) and Gothatuwa (goth) were not.

Pel population showed the highest LC_{50} values for chlorpyrifos and temephos (0.021 and 0.020mg/l respectively)and were significant at 5%level in comparison to susceptible strains, PelSS and Kadss. At LC level, resistance of the Pel population for chlorpyrifos and temephos showed a 70-and 20-fld increase respectively, in comparison to the susceptible PelSS strain. Sri Lankan C. quinquefasciatus populations have never been expossed to either chlorpyrifos or temephos in the field as a control measure. There for the resistance observed in all sprayed populations for chlorpyrifos and emephos could be mainly due to the cross resistance development as a result of fenthion selection pressure present in the field. This study indicates that the degree of cross resistance for chlorpyrifos was higher than that of the temephos in both sprayed and unsprayed populations.