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Polytene Chromosome aberrations based Genotoxicity evaluation of Dichlorvos insecticide using *Drosophila malenogaster*

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Abstract : Present research work deals with evaluation of clastogenic and cytotoxic effects of Dichlorvos using larval salivary gland polytene chromosomes of *Drosophila melanogaster*. Exposure limit, LC_{20} , was standardized by considering mortality of second instar larvae exposed to serial dilution of selected insecticide, for 24 hours. Subsequently, third instar larvae were sacrificed for temporary squash preparation of polytene chromosome, along with controls. The structural chromosomal aberration in treated stocks were incidences of ectopic pairings, paracentric inversions, chromatid breaks, chromosomal fusions, asynapses and translocations with respective value 35.7±.10.2 in treated stocks, whereas in control stocks predominant chromosomal aberrations were, paracentric inversions, chromosomal fusions and ectopic pairings with corresponding value 14.5±5.21 . Statistical analysis indicated that Dichlorvos induced significant genotoxicity in exposed larvae in comparison to control.

Key words : Genotoxicity evaluation, Dichlorvos, Polytene chromosomes, *Drosophila melanogaster*.

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