

ABSTRACT

Malathion was administered to the parental generation of white-eyed mutant and red-eyed wild-type *Drosophila melanogaster* at the established non-lethal dose of 0.063 mL/1 L water mixed in the food medium. The F1 generations that arose from the Malathion-treated parental generation were crossbred. There were two crosses done: the first cross was between red-eyed (wild-type) heterozygous males and white-eyed (mutant) homozygous recessive females and the second cross between red-eyed heterozygous females and white-eyed homozygous recessive males. The phenotypic ratios of the eye color of the F2 generation from these crosses were determined and compared with the expected ratio using Chi Square. The observed ratio of the first cross was 26.33:36.67 and is statistically equal to the expected ratio (31.5:31.5) at 0.05 level of significance with a Chi-square value of 1.697. The observed ratio of the second cross was 30.67:30 and is also statistically equal to the expected ratio (30.34:30.34) with a Chi-square value of 0.007. There were no significant differences between the observed phenotypic ratio and the expected phenotypic ratio of the fruit flies. Malathion has no mutagenic effect on the phenotypic ratio of eye color of *D. melanogaster*.

