

## PREFACE

The present dissertation entitled “**BIOCHEMICAL AND MOLECULAR STUDIES ON PESTICIDE-EXPOSED WORKERS OF TEA GARDENS OF NORTH BENGAL**” is submitted to fulfil the requirements for the degree of Doctor of Philosophy of the University of North Bengal. This thesis embodies the results of investigations on how pesticides are capable of causing adverse effects on the pesticide-exposed tea garden workers of northern part of West Bengal, India compared to the non-exposed controls, smokers and alcohol consumers. The work presented in this thesis will be a useful guide to detect the level of DNA damage caused by pesticides. All the studies presented in this dissertation have been carried out in Molecular Cell Biology and Genetics Laboratory, Department of Zoology, University of North Bengal under the supervision of Professor Min Bahadur, Department of Zoology, University of North Bengal, Siliguri-734 013. The thesis consists of six chapters. A brief introduction is given in **Chapter 1**. **Chapter 2** describes the level of acetylcholinesterase and butyrylcholinesterase in the pesticide-exposed workers, controls, smokers and alcohol consumers. In **Chapter 3** the use of micronucleus assay in detecting pesticide induced genome damage has been represented. **Chapter 4** focuses on the extent of damage on the peripheral blood lymphocytes of occupationally exposed tea garden workers and other non-exposed groups estimated by comet assay. **Chapter 5** describes the polymorphism of CYP2C9 gene in the tea garden workers and non-tea garden workers. **Chapter 6** sums up the conclusions of this research work. A list of publications and papers presented at symposia and seminars has been listed under **Appendix**.

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