In recent years there has been an increasing concern that pesticides constitute a risk to the general population through residues in the food supply, water or soil. Estimation of the amount of pesticides and their safety risk assessment in various commodities following their application is urgently needed. Moreover decontamination of water contaminated with pesticides is also an important issue. The research work described in this dissertation entitled “STUDIES ON THE CHEMISTRY, FATE AND BEHAVIOUR OF SOME PESTICIDES IN CROP, SOIL AND WATER” is basically motivated by these issues and deals with development of some residue analytical methods for different pesticides in various substrates, their behavioural fate under environmental and controlled conditions and methodologies to degrade them with focus on better environmental compliance.

The present dissertation comprises three Parts. Chapter I of Part 1 deals with fate of thiacloprid in tea crop and Chapter II of this Part include a study on dissipation of propineb in tea and its safety risk assessment. Each Chapter begins with an introductory overview of prior art in the area (Section A) followed by details of experiments conducted (Section B), results (Section C) and References. The Part 2 of the thesis is concerned Persistence and dissipation behavior of fipronil and its degradates in chili, soil and water (Chapter I). The Part 3 deals with transformation of thiacloprid by Fenton, Fenton-like and chelate-assisted Fenton reaction.

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