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## STUDY ON DETECTION AND QUANTIFICATION OF PESTICIDES RESIDUE IN LEAFY VEGETABLES OF BANGLADESH

Shamsun Naher\*<sup>1</sup>, Md. Aminul Haque<sup>1</sup>, Md. Abdulla Al Hamide<sup>1</sup>, Mala Khan<sup>2</sup> and Mirola Afroze<sup>2</sup>

<sup>1</sup>Department of chemistry, Jagannath University, Dhaka-1100, Bangladesh

<sup>2</sup>DRiCM, BCSIR laboratories, Dr. Qudrat-I-Khuda Road, Dhaka-1205

Email: shamsunnaher2002@yahoo.com

Malathion E50, Alpha-Cypermethrin, chlorpyrifos and Lambda-Cyhalothrin residues were determined and quantified in different leafy vegetables. Acetonitrile was used for extraction to determine residues of those pesticides. Gas Chromatography-Mass Spectrometry (GC-MS) was used for detection as well as for quantification of pesticides. From the results, it was concluded that different vegetables contained different concentration of pesticides and the rate of adsorption was different for each pesticide and vegetable. Higher degree of organophosphorous pesticides (OPPs) residue was determined in the samples. It was clear that OPPs were widely used in crops pest control at Hazratpur in Bangladesh. Due to its excess present, it was harmful for environment as well as animals and human health. 12 samples were analyzed on the basis of their contamination with the used pesticides. Among them, 41.67% samples were contaminated with Malathion E50, 25% samples were contaminated with Alpha-Cypermethrin, 8.33% samples were contaminated with Chlorpyrifos and 33.33% samples were contaminated with Lambda-Cyhalothrin. 41.67% samples were not contaminated with any pesticide residues (12 samples). Indian Spinach, Amaranth Leaves, Red Spinach and Jute Leaves were contaminated with pesticides. The detected pesticide concentration had been exceeded the Maximum Residue Limit (MRL) of the total samples under this investigation.

**Key Words:** Leafy vegetables, Malathion E50, Alpha-Cypermethrin, Gas Chromatography-Mass Spectrometry (GC-MS), QuEChERS method, Acetonitrile (MeCN), MRL.

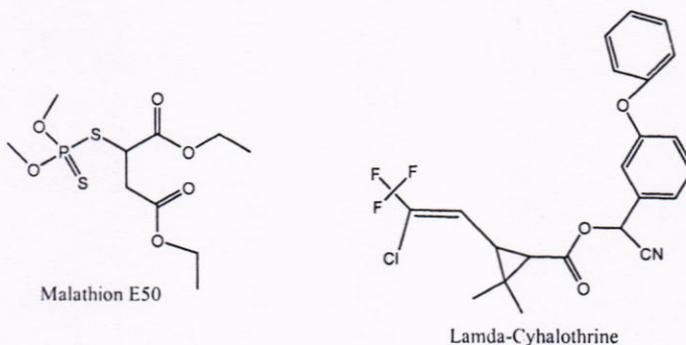


Figure: Structure of some detected and quantified pesticides