

DETERMINATION OF PESTICIDE RESIDUES IN CABBAGE AND OKRA COLLECTED FROM CUMILLA DISTRICT OF BANGLADESH

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Extended Summary

Vegetables provide carbohydrate, vitamins, minerals, fiber and other kinds of important element which helps to maintain our healthy life. Cabbage and Okra is one of main vegetables in Bangladesh which fulfill so many nutritional requirements and provide antioxidants. To control the pest and insect in Cabbage and Okra, pesticide application in Bangladesh has increased manifold in recent years. Most of the farmers do not maintain pre-harvesting interval (PHI) time of pesticides in their crops which create health hazards of food after consume them. A study was conducted to analyze pesticide residues in Cabbage and Okra collected from five local markets of Cumilla district during January 2018 to May 2018. The collected samples were carried to the Pesticide Analytical Laboratory, Entomology Division, Bangladesh Agricultural Research Institute (BARI), Gazipur on the same sampling day. The samples were analyzed using Quick, Easy, Cheap, Effective, Rugged and Safe (QuEChERS) extraction technique and Gas Chromatography (GC) coupled with flame thermionic detector (FTD) for the determination of pesticide residues in 40 samples of cabbage and 40 samples of okra. Among the 40 analyzed samples of cabbage, 5 samples (12.5% of the total) contained residues of dimethoate and diazinon where 1 sample contained multiple residues and 5 samples contained residue above the maximum residue limits (MRLs). Out of 40 samples of okra, 4 samples (10% of the total) contained residues of dimethoate and diazinon, where 2 samples contained multiple residues and 4 sample contained pesticide residues above MRL. This study reflects a scenario of pesticide residue remain in cabbage and okra collected from local markets of Cumilla district, which will help the consumer to be aware of their health and safety.

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