



Pesticide Residues in Food Items: A Study of Organized and Unorganized Retail Outlets in Ludhiana District

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Abstract: Samples of cereals and raw vegetables were collected from 30 households along with the information about sourcing of the food item i.e. from organized retail outlets or unorganized retail outlets. No pesticide residues were found in the rice and wheat flour samples sourced from both organized and unorganized retail outlets. Except for cauliflower, pesticide residues found in the samples of various raw vegetables were lower than (Maximum Residue Limits) MRL listed in the official standards of Codex. The pesticide residue of chlorpyrifos (0.200 ppm) in cauliflower sample was above the MRL recommended by Codex. The samples of cauliflower sourced from the organized retail outlet were having higher residues compared to the samples gathered from the unorganized retail outlets. No pesticide residue was found in brinjal and cabbage samples of organized sector whereas brinjal samples from unorganized sector had pesticide residues of triazophos: 0.117ppm and chlorpyrifos: 0.04 ppm and that of cabbage had chlorpyrifos: 0.1 ppm and endosulfan total: 0.01 ppm. Pesticide residues were there in case of tomato [Organized: chlorpyrifos: 0.056 ppm, profenophos: 0.310 ppm and Unorganized: chlorpyrifos: 0.025 ppm] and okra [Organized: chlorpyrifos: 0.012 ppm, triazophos: 0.013 ppm, ethion: 0.017 ppm and Unorganized: chlorpyrifos: 0.05 ppm, endosulfan Total: 0.02 ppm, malathion: 0.534 ppm] thus, indicating the presence of pesticide residues in tomato and okra samples obtained from both organized and unorganized sectors. It was also found that the majority of the pesticides found in the vegetable samples were not in the official recommended list of Codex Alimentarius Commission.

Key Words: Brinjal, Cabbage, Cauliflower, Maximum Residue Limit, Pesticide Residues, Okra, Tomato.
