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“Bridging the gap between increasing knowledge and decreasing resources”

Use Pattern of Insecticides in Eggplant and their Residues in Farm Gate and Market Samples

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Abstract

A survey was conducted in intensive eggplant (*Solanum melongena*) growing areas like Jessore district of Bangladesh on the insecticide use pattern of farmers on this crop. On the basis of questionnaires, 96 farmers were interviewed concerning the types of insecticides used, the frequency and pre-harvest interval of insecticide application and the major insect pests observed in their eggplant field. About 100% farmers reported that the eggplant shoot and fruit borer (BSFB) was the major pest of eggplant and other minor pests were epilachna beetle, aphid, thrips, leaf hopper and mite. Twenty eight insecticides belonging to different groups were found to be commonly used on Eggplant by the respondent farmers to control these pests. The commonly used insecticides were Cartap (Suntap 50 SP), Carbaryl (Sevin 85 SP), Carbosulfun (Marshal 20 EC), Chloropyrifos (Dursban 20 EC), Fenitrothion (Sumithion 50 EC), Quinalphos (Korulux 25 EC), and Cypermethrin (Ustaad 10 EC, Ripcord 10 EC, Cymbush 10 EC). As a general practice, the eggplant growers used different combinations of insecticides instead of single insecticide. All of the insecticides used in different combinations were non-selective and highly toxic to both pests and natural enemies. In the eight selected locations, 8.3 to 41.7% farmers applied different insecticides everyday and in some cases even twice a day on eggplant. On an average, 47% farmers in those study areas applied insecticides at a frequency range of 131–160 times per cropping season. In order to assess the residue levels of insecticides, fresh fruits, leaves, and soil and water samples were collected from the farmer's fields and markets of 8 selected locations in Jessore. The residue analysis of such 28 samples was carried out in the Pesticide Analytical laboratory, Entomology Division of Bangladesh Agricultural Research Institute (BARI), Gazipur. Among these samples, 12 samples contained insecticides residue. Out of these 12 samples, 4 had insecticide residue above maximum residue limits (MRLs). The detected insecticides residues in those samples were of Malathion, Quinalphos, Fenitrothion and Cypermethrin.

Keywords: Farm gate & market sample, insecticide, MRL, residue