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### Occupational and environmental health and safety implications of pesticide use and pesticide residues

**Statement of the Problem:** Eggplant (*Solanum melongena L.*) is an important vegetable crop that is widely cultivated in the tropical and subtropical areas in Asia. Globally, the top three eggplant producers are China, India, and Egypt. The Philippines has been one of the top 10 eggplant-producing countries based on area planted and crop productivity. This research study aims to describe the insecticide residues found in soil, water, and eggplant fruits in eggplant farms in Sta. Maria, Pangasinan.

**Methodology & Theoretical Orientation:** The study design is a cross sectional of randomly selected eggplant farms in Sta. Maria, Pangasinan. Soil, water, and eggplant fruits were collected and subjected to gas chromatography analysis for multi-pesticide residues.

**Findings:** Farmers from Sta. Maria, Pangasinan were found to be applying a broad spectrum of insecticides on their eggplant crop. Soil samples from 11 (about 42%) out of the 26 farms tested positive for the insecticide residues, six of which from four farms exceeded or surpassed the acceptable maximum residue limit. These residues were profenofos, triazophos, chlorpyrifos, cypermethrin, and malathion. No insecticide residues were detected from water samples taken from the 26 farms. The farmers reported applying Prevathon and Malathion to control pests in their eggplant crops. The farmers and farm workers in the soil and water study reported experiencing itchiness of the skin (63.8%), redness of the eyes (29.3%), muscle pains (27.6%), and headaches (27.6%), as being related to their pesticide exposure.

**Conclusion & Significance:** In summary, a maximum of 20% of the eggplant samples tested positive for insecticide residues at any one stage of sampling done.

### Biography

Jinky Leilanie Lu holds a Master's Degree of Occupational Health and Ph.D, and a Research Professor of the National Institutes of Health, University of the Philippines Manila with the Institute of Health Policy and Development Studies. She has authored two books, *Gender, Information Technology, and Health* which won the National Academy of Science and Technology book award in 2010, and reprinted by the University of Hawaii Press, 2007, and *Basics of Occupational Health and Safety: Guidebook for Practitioners and Industries*. She has produced 51 journal articles, and 28 of which are Science Citation Indexed. She also contributed a chapter in the Handbook of Anthropometry Physical Measures of Human Form in Health and Disease, published by Springer in 2012. She is a staunch advocate, both as an engaged academic and scientist, in promoting epidemiology of occupational health and safety.

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