



PROFILE OF COPPER, NICKEL AND ZINC ON THREE SELECTED VEGETABLE FARMS AT CABINTAN, ORMOC CITY, PHILIPPINES

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ABSTRACT - The study was conducted to (a) determine the levels of copper, nickel, and zinc on three selected vegetable farms at Cabintan, Ormoc City, Leyte, (b) investigate the distribution of copper, nickel and zinc on the soil profile of the three selected vegetable farms, and (c) evaluate whether the copper, nickel and zinc contents of the vegetable farms are within the standard set by the United States Environmental Protection Agency (US EPA) for agricultural soils. The three heavy metals were analyzed through Flame Atomic Absorption Spectrophotometer at the Central Analytical Services Laboratory of the PhilRootcrops, Visayas State University, Baybay City, Leyte. Results showed that Farm 1 had the highest Cu concentration (0.413 ± 0.136 ppm) and Farm 3 had the highest Ni and Zn concentrations of 0.058 ± 0.045 ppm and 0.393 ± 0.456 ppm, respectively. The levels of Cu, Ni, and Zn were statistically the same in the surface, subsurface, and subsoil soil layers in each vegetable farms. The soil pH (4.1 ± 1.6 , 4.5 ± 0.3 and 4.6 ± 0.2) of the farms which considered the major contributing factor for the heavy metals' vertical mobility was acidic and statistically the same. This study revealed that the levels of the three heavy metals were still below the tolerable limits of US EPA for contaminated agricultural soil. The three selected vegetable farms were considered safe for agricultural use.

Keywords: copper, heavy metal, nickel, soil profile, zinc



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