ABSTRACT

VALIDATION ANALYSIS METHOD OF Pb USING FLAME ATOMIC ABSORPTION SPECTROSCOPY FOR BIOGEOCHEMISTRY AND TOXICITY STUDIES OF LEAD IN TOMATO (*Lycopersicum esculentum*)

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Validation analysis method of Pb using flame atomic absorption spectroscopy had been conducted for biogeochemistry and toxicity studies of lead in tomato (*Lycopersicum esculentum*). The method was conducted by an Atomic Absorption Spectroscopy (AAS) AA 240FS with six validation method parameters including: linearity, selectivity, limit of detection, limit of quantification, precision, and accuration. Validation method of determining the concentration of lead in tomato plants and soil showed a correlation coefficient is 0,9982, limit of detection for plants and soil are 0,595 and 1,984 ppm, limit of quantification are 0,787 and 2,623 ppm, precision with relative standard deviation (RSD) values < 5 %, and percent recovery in the range 92 – 102 %. Accumulation of lead in the soil is greather than the plant parts. The concentrations of lead was detected in all part of the tomato plant root, leaves, stems, and fruit. The highest exposure are at the roots and the lowest is fruit.

Keywords: Validation method analysis, Pb, Tomato, AAS.