

Test of Zinc (Zn) Heavy Metal Content in Irrigation Water, Soil and Water spinach Vegetables in Industrial Estates, Margaasih District, Bandung Regency

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Abstract

Margaasih Subdistrict is one of the industrial areas in Bandung Regency. Industrial developments in addition to providing jobs also increase the amount of waste generated. This study aims to obtain data and information to determine the content of heavy metal zinc (Zn) contained in irrigation water, soil and water spinach vegetables in the industrial area of Margaasih District, Bandung Regency. This research was conducted in May 2022. The method used is descriptive analysis with sampling technique using purposive sampling method on three observation plots and analyzed using Atomic Absorption Spectrophotometry (AAS) at the Central Laboratory of Padjajaran University. The results showed that the heavy metal content of zinc (Zn) in irrigation water was 0.0452 mg/L which was below the quality standard stipulated by Government Regulation of the Republic of Indonesia No. 22 of 2021. In soil, 171,4225 mg/Kg is above the quality standard set by the Ministry of State for Population and Environment of Indonesia and Dalhousie University, Canada (1992). For water spinach, 12.4450 mg/Kg is below the quality standard set by the Directorate General of POM No. 03725/B/SKVII/89. The environmental conditions measured at the time of the study were air temperature in the range of 28,77 °C, light intensity in the range of 23867.77 Lux, while the pH of the soil was in the range of 6.4. Based on the research conducted, it shows the status of the quality standard of water spinach vegetables in the industrial area of Margaasih District, Bandung Regency, which is lightly polluted by zinc metal (Zn).

Keywords: Heavy metals, zinc (Zn), irrigation water, soil and water spinach