

## COMPOSTING OF FRUITS AND VEGETABLE WASTES: PHYSICO-CHEMICAL AND MICROBIOLOGICAL ANALYSES

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**Abstract:** In this paper, food waste like fruits (apple, banana, orange and kiwi peels) and vegetables (cabbage leaves, potato and carrot peels) were composted at laboratory level. Three samples with different composition were considered in this study. pH meter IQ240 and CyberScan CON 510 Conductivity Meter were used for measuring of pH and electrical conductivity (EC), while DK Series Kjeldahl Digestion Units - VELP Scientifica was used for determination of nitrogen content. The heavy metals content from the obtained compost was determined with ICP – MS Agilent Technologies 7500 Series. Results showed that in the first week pH is acid and EC values are high for all three samples, and then the pH values are increasing during the composting process, while EC values are decreasing. The nitrogen content is low in all samples and will decrease during the composting process for samples S2 and S3, while for the first sample will remains around 1%. Cr, Cu, Ni and Zn values in the all three compost samples are below threshold values. Evolution of the yeasts and molds, mesophilic aerobic bacteria, lactic bacteria and coliform bacteria number was observed during the composting process.

**Keywords:** aerobic process, food waste, heavy metals, microorganisms, nitrogen content