

Soil Nutrient Restoration Potentials of *EichhorniaCrassipes* (Water Hyacinth) Compost on a Nutrient Depleted Soil

Carlo C. Bondoc
Patrick Bryan N. Teodoro

Abstract

Water hyacinth (*Eichhorniacrassipes*) is an invasiveaquatic weed that may cause a serious problem to the society and ecosystem in many parts of the world. This weed can withstand varied environmental conditions such as temperature, humidity, illumination, pH, salinity, wind, etc. The probable means of combating its propagation and the various means of getting rid of this weed not proved much. This study intended to investigate the potentials of *E. crassipes* in restoring nitrogen, phosphorus and potassium (NPK) in a nutrient depleted soil. Using an experimental approach, the water hyacinth was tested comparing two conditions: (1) the sundried compost; and (2) the fresh compost in restoring the NPK in soil. The experiment lasted for 31 days, enough for the water hyacinth to decompose. The data were gathered by testing the compost samples with NPK separately one by one when the soil was already credible for testing using the Soil Test Kit. The data gathered were then analyzed using One-Way Analysis of Variance (ANOVA). Results revealed that NPK improved from low to medium and high levels. Among sundried and fresh water hyacinth composts, there were significant effects in the nitrogen and phosphorous level in sundried treatment. Others did not have significant differences in NPK content before and after the composting, however all nutrient level means increased.

Keywords: water hyacinth, nutrient restoration, nutrient depleted soil, compost, NPK