PURIFICATION OF INDUSTRIAL WASTEWATER WITH VETIVER GRASSES (*VETIVERIA ZIZANIOIDES*): THE CASE OF FOOD AND BEVERAGES WASTEWATER IN GHANA

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ABSTRACT

The study focused on the morphological characteristics of the vetiver grass (*vetiveria zizanioides*), and its effectiveness in purifying industrial wastewater before being discharged into the external environment. For this study, vetiver grass was employed as a phytoremediation plant and grown hydroponically on three (3) different samples of industrial wastewater from three (3) selected Food and Beverages industries in the Eastern Region of Ghana. The results indicated that vetiver grass grown in Biogas effluent experienced the best growth where all 5 tillers developed; followed by vetiver grown in Pinora effluent sample, where two (2) tillers developed, and finally, the vetiver grown in Palm Oil Mill effluent experienced the worst growth. The physico-chemical analysis indicated that Biogas effluent experienced the highest removal rate of contaminants, followed by effluent from Pinora Ltd whereas effluent from from Oil Palm industry experienced a low removal efficiency of contaminant.

Keywords: Wastewater, phytoremediation, purification, vetiver grass (vetiveria zizanioides), hydroponically.