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Degradation Effect of Palm Oil Mill Effluent (pome) on Physical and Chemical Properties of the Soils of Uga, South Eastern Nigeria.

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Abstract

This study investigated the impact of long term application of palm oil waste on the physical and chemical properties of sandy Ultisols (Arenic Kandiustult) in Uga, Nigeria. Soil samples were collected from the surface (0-10 cm) and subsurface (15-25cm) of the palm oil-polluted site. Another surface (0-10) and subsurface (15-25) samples were collected 15 meters away in the palm oil unpolluted (control site). Core samples were from both soils. All the samples were analyzed for selected physical and chemical properties. The result showed that both soils were loamy sand but varied in other physical properties like bulk density and total porosity. The two soils were strongly acidic but had more carbon, nitrogen and phosphorus in the palm oil-polluted soils than in the unpolluted soils. The result indicated that the area affected with the palm oil mill effluent (POME) had more nutrient status but reduced plant growth due to clogging of water and restricted aeration. The other forms of land degradation identified in the area were erosion, deforestation, bush burning, and sand quarrying. Efforts at combating land degradation by the Uga indigenes in other to protect their land from environmental devastation should be intensified. Knowledge of the component and proper disposition of these pollutants should be made known to the people of Uga.

Keywords: Palm Oil, Mill Effluent