A STUDY OF SOIL PROPERTIES IN MACHAERIUM LUNATUM ENVIRONMENT OF NIGER DELTA, NIGERIA

Ifeoma Gladys Ugiomoh & Donatus Ikechukwu Anyanwu
Department of Plant Science and Biotechnology, University of Port Harcourt
NIGERIA

ABSTRACT

Machaerium lunatum Linn F Ducke is a shrub of the Fabaceae family. It grows along river banks in fresh, brackish and salt water especially in marsh and tidal areas. A study of the soil properties of the plant was conducted in selected areas of the Niger Delta, Nigeria. These areas include Aluu, Choba, Emohua, Ogbia, Ogoni and Okrika and flank between 4º - 4º45´N and 6º - 6°20´E. Conductivity, pH, alkalinity, as well as the soil mineral elements (sulphate, phosphate and Nitrate) contents and total organic matter were the parameters evaluated. The study showed that the pH levels of these areas were of the weak acid range without any significant variation between the sites. Conductivity was higher in the wet season for surface soil. Alkalinity values were generally low for both the wet and dry season but the highest value was in Emohua. The sulphate content was low in both seasons especially at Emohua. Phosphate values varied significantly but there was no difference in Choba and Okrika in both seasons. Nitrate values were high in both seasons but Ogbia was higher in the wet season. The total organic matter showed higher values for surface soil in the wet season at all sites. Conclusively, despite variation in soil chemical properties observed of the different study locations, the plant was observed to thrive in the environment as long as the tidal action provides the moisture needed.

Keywords: *Machaerium lunatum*, mineral elements, soil physicochemical properties.