

AN EVALUATION OF SOIL SUITABILITY FOR MAIZE PRODUCTION IN OBIARUKU  
COMMUNITY IN NIGERIA

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ABSTRACT

The goal of the study was to assess the suitability of two prominent land parcels for maize production in the Obiaruku Community of Delta State of Nigeria. Specifically, the study assessed soil suitability for maize production by comparing the properties of well-drained soil with those of riverine soil. The quadrat approach was used to collect soil samples from 10 randomly selected plots of 25m<sup>2</sup>. Suitability classes of the two prominent soil facets in the area were determined using Olutatosin's (2005) suitability classes of soil required for maize production. The results show that the well-drained soil though sandy in texture, was classified as highly suitable for maize production due to its high level of essential soil nutrients; whereas, the soil of the riverine area was classified as moderately suitable for maize production due to its medium level of soil chemical nutrients. However, in order, to achieve long-term sustainable production of maize mostly in the highly suitable area, good soil conservation practices such as mulching to avoid the damaging effects of soil erosion and good farming systems such as bush fallowing, continuous addition of dead decaying litter from leaf fall as well as the adoption of vegetated buffer zones were suggested to conserve soil nutrient for improved maize production.

*Keywords:* Soil Evaluation, Grain Production, Soil Management.