Agronomic Suitability for Oil Palm Growing in Uganda

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Abstract

The ever-increasing demand for vegetable oils with its products in Uganda, calls for new areas to be put under oil palm cultivation. A study was conducted to investigate the agronomic suitability of oil palm cultivation in six areas located within a 30 km radius off-shore, on the island and more than 30 km radius off-shore on the mainland. The experiment was superimposed on 45 × 45 m plots in oil palm adaptive trial plantations established in 2008 in Bugiri, Mayuge, Buvuma, Mukono, Kibaale and Masaka districts. The experiment was laid out in a randomized complete block design with three replications. Data on number of oil palm bunches, bunch weight and yield was collected while climatic data (rainfall, temperature, relative humidity and radiation) was acquired from meteorological stations near the experimental locations. Rainfall data analyzed and dry season duration suggested that Mayuge, Masaka, Mukono, Buvuma and Kibaale were moderately favorable for oil palm growing, while temperature and radiation data indicated that all study locations were suitable for oil palm growing. Furthermore, based on relative humidity, Buvuma, Mayuge and Bugiri were suitable for oil palm cultivation but Kibaale, Masaka and Mukono were moderately suitable. Oil palm yield varied significantly ($P < 0.05$) across locations. The yield was much greater in Mukono (17.7 t/ha/yr) followed by Buvuma (13.8 t/ha/yr) and Kibaale (12.9 t/ha/yr) then Mayuge (10.7 t/ha/yr), Bugiri (10.2 t/ha/yr), and Masaka (10.3 t/ha/yr). The significantly high yield of oil palm observed in Mukono was attributed to the high rainfall received in this location. Based on research findings, Mukono, Masaka, Bugiri, Buvuma, Kibaale and areas within the 30 km radius of Lake Victoria are agronomically suitable for oil palm cultivation.

Keywords: oil palm, growth, study areas, suitability