

Leaf nutrient concentrations in oil palm as affected by genotypes, irrigation and terrain

ABSTRACT

Four clonal oil palm materials namely AVROS, Yangambi, La Me and NIFOR and two DxP hybrid Yangambi, grown on terraced and untterraced fields were subjected to irrigated and non-irrigated conditions. There were significant differences in all leaf nutrient concentrations for all the planting materials for both terrain and irrigation conditions. For non-irrigated palms, most of the leaf nutrients were higher than the irrigated palms, especially K and Mg concentrations. Most of the leaf nutrient concentrations in palms grown on undulating area were also high, especially for leaf Mg and K concentrations. Leaf K concentration for DxP hybrid Yangambi-DQ8 was consistently lower than AVROS-A122 by almost 15-20% in all the growing conditions. In contrast, the leaf K contents for Yangambi-DQ8 and Yangambi-Y103 were comparable to that of AVROS-A122 and these three planting materials produced the highest oil yields. In view of future high current fertilizer cost, selecting oil palm genotypes that are able to produce good oil yields on low fertilizer inputs and giving consistent leaf nutrition need to be given consideration.

Keyword: Leaf nutrients; Irrigation; Terrain; Oil palm; Clones