

Dry matter and nutrient partitioning of kenaf (*Hibiscus cannabinus* L.) varieties grown on sandy bris soil.

ABSTRACT

Dry matter and nutrient partitioning of different kenaf varieties grown on sandy Beach Ridges Interspersed with Swales (BRIS) soils were investigated. The experiment was conducted under a shade house condition. Five kenaf varieties, V36, G4, KK60, HC2 and HC95 were grown in pots, replicated four times in a randomized complete block design. Plants were partitioned into roots, stems, and leaves and the dry weights were recorded at harvesting time. The dry matter accumulation differed significantly among varieties. Total biomasses for the different varieties ranged from 56.19g to 63.33g. Stem accounted for the greatest proportion of dry matter (63.98%), followed by root (18.99%). The proportion of the dry matter accumulation in stem was highest (64.28%) in HC2, followed by V36 (64.04%). The average dry matters were 76.83% and 20.56% in stems and leaves, respectively. The proportion of the macro- and micronutrients in kenaf parts differed significantly among varieties. Nitrogen content had the highest proportion (27.54 to 28.04%) in leaves and lowest (8.06 to 8.24%) in stem, which followed by K, Ca, P and Mg. Most of the kenaf varieties showed variation in nutrient use efficiency (NUE), respect to the measured nutrient elements. The NUE values of < 1.0 g dry matter mg⁻¹nutrient were observed for macronutrients, whereas higher NUE values obtained for micronutrients. Total nutrient accumulation in the plant components differed among the kenaf varieties. Partitioning of dry matter and nutrients in kenaf provides a means to select better varieties and makes it possible to grow kenaf on BRIS soil using better fertilizer program.

Keyword: Dry matter partitioning; BRIS soil; Nutrient allocation; Kenaf varieties.