

## **Evaluation of Varietal Variation in Initial Growth and Development of Sugarcane (*Saccharum officinarum*.L) Under Irrigation**

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Sugarcane is a commercial crop grown in Sri Lanka for manufacturing sugar. Hybrid sugarcane genotypes have been developed and selected to cultivate in different locations in Sri Lanka. However, the gap between potential and actual yield in sugarcane is significant in all sugarcane growing locations. Cane and sugar yield varies on different factors such as varieties, growing condition, management practices, climatic and soil characteristics in the location. Thus, the objective of this study was to investigate the initial growth performance of selected sugarcane varieties in Hingurana under irrigated conditions to select the most suitable varieties in Hingurana area. The experiment was conducted at the agronomy field in the Gal-Oya plantations, Hingurana, Ampara. Five sugarcane varieties, M 438/59 (T1), SL 7130 (T2), SL 96 328 (T3), SL 88 116 (T4) and SL 92 4918 (T5) were tested in a randomized complete block design with three replicates. Following observations in initial growth stages of sugarcane were made: time taken to emerge first shoot, germination percentage, time taken to emerge first, second and third tiller, tiller counts at 45, 60 and 75 days after planting (DAP), leaf area index and above ground total biomass, bulk density and soil moisture content. There was a significant ( $P < 0.05$ ) varietal variation in time taken for germination of first shoot, germination percentage at 45 DAP, total tillers at 60 DAP and 75 DAP and time taken for first second tillering. Bulk density of each plot was similar and around 1.47 to 1.49 t/m<sup>3</sup>. The average soil moisture content in 1 m soil profile was greater than 20% (dry weight basis) since planting up to 2 months after planting. According to overall results, initial growth performances of the variety SL 96 328 were better in Hingurana area compared with the other tested varieties.

**Keywords:** Sugarcane, Varietal variation, Hybrid varieties