

Initial Growth and Nutrient Content of Recently Introduced Hybrid Napier and Sorghum Cultivars in Mid Country, Wet Zone

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Several hybrid fodder sorghum and Napier cultivars have been recently introduced to Sri Lanka for dairy cattle feeding. Present study investigated the initial growth and nutrient contents of two hybrid Napier cultivars and a hybrid sorghum cultivar in the mid country, wet zone during Maha season. The land was prepared, and the experimental plots (25 m²) were arranged in to a Randomized Complete Block Design with 4 replicates. Double-node stem cuttings of CO-5 (*Pennisetum glaucum* x *P. purpureum* Schumacher) and Red Napier (*Pennisetum purpureum* cross) were planted in 30 x 30 x 30 cm holes (2 cuttings per hole) at 1 x 1 m spacing. Sugargraze (*Sorghum bicolor* cv. Sugargraze) seeds were planted (2 seeds/ hole) at 2 cm depth at 15 x 45 cm spacing. The height and density of plants/ shoots and the length, width and density of leaves were measured, weekly. When Sugargraze reached 25% flowering stage (9th week) all fodder cultivars were harvested. The yield and nutrient contents of the harvest was estimated using randomly selected samples. The effect of variety, age and their interaction were significant ($P < 0.05$) on growth parameters. At 9th week, the height, plants/ shoots density and leaf density were the highest ($P < 0.05$) for Sugargraze (113.74 cm, 33.00, 251.25, respectively) followed by CO5 and Red Napier. The effect of variety was significant ($P < 0.05$) on yield and composition of the harvest. Sugargraze harvest had higher ($P < 0.05$) dry matter (15.44 %) and organic matter (90.32 %) contents than those in CO5 and Red Napier. Further, Sugargraze recorded the highest ($P < 0.05$) fresh matter and dry matter yields (22.08 MT/ha, 3.43 MT/ha, respectively) owing to high plant and leaf densities observed. Harvesting Red Napier and CO5 cultivars after 9 weeks age with greater dry matter content may result in higher dry matter yield.

Keywords: Composition, Dry matter yield, Fresh matter yield, Leaf density, Plant/shoot density

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