# Evaluation of Growth Performance and Nutritional Composition of Three Fodder Crops (Maize, Sugargraze and Nutrifeed) Cultivated in Omanthai, Northern Region of Sri Lanka

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Feeding high quality forages is a vital factor to get high production from dairy cattle. However, rainfall is a key limiting factor in Northern region of Sri Lanka resulting lower forage production and higher variations. This field experiment was conducted in Omanthai, Vavuniya (8.8908°N, 80.507°E, annual rainfall 1434 mm, average temperature 27.4□C) during Maha Season (October–December 2018) to study the growth performances and nutritional composition of three fodder crops and identify the most suitable crop variety to the region. Three fodder varieties, Sugargraze (*Sorghum bicolor*), Maize 984 (Zea *maize*) and Nutrifeed/Pearl millet (*Pennisetum glaucum*) were tested in a Completely Randomized Design with 3 replicates. A total of 10 randomly selected plants from each plot were weekly measured for growth parameters (plant height, number of leaves, leaf length and number of tillers) up to 60$^{th}$ days of planting for sugargraze and maize, and up to 45 days for Nutrifeed. Harvested fodders were measured for fresh matter (FM) and dry matter (DM) yield and subjected to the proximate analysis (crude protein, and total ash content). The results revealed that the Sugargraze (*Sorghum bicolor*) showed a higher ($p<0.05$) plant height (252.18±4.5cm) followed by Maize 984 (241.29±3.0cm). However, Maize 984 (Zea *maize*) resulted the highest FM (90.67±0.15 t ha$^{-1}$ cut$^{-1}$) and DM (26.76±1.39 t ha$^{-1}$ cut$^{-1}$) contents ($p<0.05$). Nutrifeed/Pearl millet (*Pennisetum glaucum*) was significantly higher in number of leaves (60.00±1.66) and tillers (6.07±0.15) ($p<0.05$) but lowest in FM (30.13±1.69 t ha$^{-1}$ cut$^{-1}$) and DM (18.76±0.39 t ha$^{1-}$ cut$^{-1}$). The highest crude protein content was recorded in Nutrifeed (12.65%) in comparison of Maize (6.33%) and Sugargraze (10.16%). Nutrifeed had the highest total ash (10.43%). These findings revealed that maize performed better in growth performances, however nutritive value was high in Nutrifeed cultivated in Omanthai, Vavuniya, Northern region under low rainfall.

*Keywords*: Growth performance, Maize, Nutrifeed, Nutritional composition, Sugergraze