ASSET Series A (2004) 4 (1): 17-27

ASSET
An International Journal

PRELIMINARY STUDIES OF DRY MATTER YIELDS AND NUTRITIVE QUALITY OF FORAGES FROM GUINEA GRASS -VERANO STYLO MIXTURE, N-FERTILIZED AND UNFERTILIZED GUINEA GRASS UNDER A CUTTING REGIME SUITABLE FOR STALL-FED SMALL RUMINANT PRODUCTION

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ABSTRACT

A preliminary investigation was carried out to determine the dry matter (DM) yields and nutritive quality of N-fertilized Guinea grass (NFG), Guinea-Verano stylo mixture (GVSM) as well as sole and unfertilized Guinea grass (UFG) under a daily harvesting scheme where the herbage could be used for confined small ruminant. The forage treatments were established on plot size 40 x 15 m each, with 42 replication within each plot. The cutting system adopted made possible the daily harvest of 6 weeks (42 days) old forage. Data collection using a randomized complete block design indicated that the total dry matter yields of NFG (11.32 t/ha) was not significantly different ($P>0.05$) from that of GVSM (11.24 t/ha), while both produced significantly higher ($P<0.05$) yields than UFG (7.08 t/ha). The NFG yielded significantly higher DM than the 6.41 t/ha obtained for the grass component of GVSM (GGVSM). Nitrogen (N) content (g/100 g DM) was significantly highest ($P<0.05$) in Verano stylo (VS, 12.15) component of GVSM, followed by NFG (9.66) and least in UFG (6.65). The NDF values were not significantly ($P> 0.05$) different among the grass treatments but VS had significantly lowest ($P<0.05$) value. The value (g/100 g Dm) ranged from 51.8 in VS to 70.45 in NFG. Nitrogen component of the leaves of the grass treatments was more than that of the stem and vice-versa for NDF. All the forages were high in some of the major mineral component (g/100g DM) such as Mg (0.40-0.4.47), K (1.30 - 2.65) as well as Ca (0.36 –1.40). They were however low in Na (0.02- 0.03), Cl (0.07– 0.09) and S (0.04– 0.12). The results have indicated that planting Verano stylo with Guinea grass could make possible the production of good forage yield as much as the more expensive nitrogen fertilization of grass. The Verano stylo, although does not have marked effect on the nitrogen content of the associated grass, as in the case of nitrogen fertilizer treatment, but its high content of nitrogen could complement for low nitrogen of the grass when both are fed as mixture to livestock. The forages, irrespective of the treatment received were high in Mg, K and Ca but poor in Na, Cl and S.

Keywords: Dry matter yield; Guinea grass; Nitrogen fertilizer; Nutrient composition; Verano stylo.