RESPONSE OF SWEETPOTATO DUAL PURPOSE VARIETIES TO HARVESTING REGIME

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Abstract (A2044)
Feeds are a major constraint to livestock production in Kenya. Sweetpotato dual purpose varieties can be used to reduce feed resource competition and provide high quality livestock feeds during dry seasons. A study was done to evaluate the dry matter yields of six sweet potato varieties. Specific objectives were to determine dry matter yield of vines and tubers, root to vine ratios, marketable roots, and performance of the six varieties at different harvesting regimes (75 and 150 days post planting). The varieties tested were Gweri, Kemb-23, Naspot-1, Musinyamu, Wagabolige and 103001.152. The research was conducted at the Kabete Campus Field Station, University of Nairobi and was laid out in a split plot randomised block design replicated three times. Varieties constituted the main plots while the numbers of days to harvest were the sub-plots. Dry matter vine yield of Musinyamu variety (3.9 tDM/ha) was higher (P<0.05) than 103001.152 (1.3 tDM/ha). Tuber yield of Naspot-1 was higher (P<0.05) (5.1 tDM/ha) than Gweri (1.2 tDM/ha); 103001.152 had higher root to vine ratio (3.0) than Gweri (0.3), while Naspot-1 produced more marketable roots (P<0.05) than Gweri. Dry matter yields of vines and tubers root to vine ratios and marketable roots increased as the number of days to harvest increased. Dry matter yields of both vines and tubers increased with age due to reduction in moisture content and increased cell wall contents. Harvesting vines at 75 days negatively affected root production at 150 days, showing that frequent defoliation of sweet potato plants disrupted the photosynthetic process reducing root production. The R/V ratios obtained classified Gweri (0.3), Kemb-23 (0.8), Wagabolige (0.7) and Musinyamu (0.6) as forage varieties, 103001.152 (3.0) as low root production and Naspot-1 (1.7) as high dual purpose variety. The study shows that sweet potatoes can be used both as livestock feeds and food for humans.

Keywords: Harvesting regime, Marketable roots, Sweetpotato, Vine: root ratio, Dual-purpose, Dry matter