

Yield and nutritive value of four Napier (*Pennisetum purpureum*) cultivars at different harvesting ages

ABSTRACT

An experiment was conducted to assess the yield and nutritive value of four Napier (*Pennisetum purpureum*) cultivars (Common, Silver, Red and Dwarf Napier) harvested at three different ages (4th, 6th and 8th weeks old). The interaction of cultivars and harvesting ages ($P < 0.05$) was observed on dry matter yield (DMY) and nutritive value. Napier cultivars with the highest nutritive value were observed at the early age of cutting, 4th weeks old. Consequently, limited DMY obtained at the early age of growth. Dwarf Napier had superior quality ($P < 0.05$), in particular the crude protein (CP) content and in-vitro dry matter digestibility (IVDMD) across the harvesting age. Red Napier yielded highest DMY (6.1 tonnes/ha/cut) at 8th weeks old with the highest nutritive value observed among the tall cultivars across the harvesting age. The DMY of Common Napier peaked (5.7 tonnes/ha/cut) as early as 6th weeks old. Nevertheless, the presence of extensive lignification bound on the structural carbohydrate inhibited the IVDMD. Silver Napier had no advantages in term of DMY and nutritive value over the other cultivars. Therefore, Dwarf Napier could be harvested on 6th week (maximize CP content) or 8th week old (maximize DMY) since there was no change ($P > 0.05$) in IVDMD. Red Napier is suggested to be harvested on 8th weeks old to maximize the DMY. Common Napier was best harvested at 6th weeks where the highest DMY can be attained without incur further losses in term of nutritive value.

Keyword: Harvesting ages, Napier cultivars, Nutritive value