

## ABSTRACT

A Comparison of the Performance of Pennisetum americanum X P. purpureum Hybrids and Local Elephant Grass (P. purpureum) at Wallerfield, Trinidad.

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Eight Hybrids of Pennisetum were evaluated in conjunction with a naturalised P. purpureum, Elephant grass. The hybrids were propagated initially from seeds. Stem cuttings of mature plants of the hybrids and Elephant grass were used to establish the experimental plots. A split plot design was used for the experiment in which the grasses were the main plots and two cutting frequencies of 6 and 8 weeks were the subplots. The hybrids were similar to Elephant grass in most morphological characteristics except their ability to flower continuously throughout the year. Dry matter yields (kg/ha) of forage produced by the hybrids were not significantly ( $p < 0.05$ ) different from the control. However dry matter production in the dry season expressed as a percentage of the total yield per annum (dry and wet period) was greater for all the hybrids than for Elephant grass.

The laboratory analyses revealed that the hybrids at 6 weeks regrowth in the wet season all had significantly higher crude protein contents than the Elephant grass control. At the same regrowth stage the in vitro dry matter digestibilities, (using the pepsin cellulase method) of the hybrids were either significantly lower or comparable with Elephant grass.

The ability of the hybrids to flower more profusely than the control was believed to be related to the lower digestibility values obtained.

The acid detergent fibre values were not significantly different between any two of the grasses, and there was a tendency for this similarity to decrease with the longer cutting frequency.

Three hybrids, N43, N8, and N29 were recommended based on their consistently good performance as potential grasses for further study.