

## ABSTRACT

# Classification and Evaluation of Indigenous and Introduced *Leucaena* Germplasm in the Caribbean

Howard F. Batson

Two studies were conducted in which 142 accessions of *Leucaena* sp. were evaluated agronomically and classified on the basis of morphological and agronomic characteristics. These studies were conducted in Trinidad at the University of the West Indies Field Station on a slightly acid (pH 6.0) soil. The first study consisted of 18 accessions, from extra-regional sources, representing three species (*L. leucocephala*, *L. diversifolia* and *L. shannoni*) and one hybrid (*L. leucocephala* x *L. diversifolia*). The second study consisted of 124 accessions of *L. leucocephala*, which were collected from six Caribbean territories, Jamaica, Trinidad and Tobago, Grenada, Antigua, Barbados and St. Lucia. The accessions were classified by numerical methods, namely, cluster analysis and principal component analysis. Differences in the agronomic characteristics recorded were analysed by univariate statistical methods.

In the first study three phenetic groups were defined based on the overall similarity of the morphological and agronomic characteristics of the 18 accessions. There were significant differences in plant height, diameter breast height and number of lower branches among groups.

The L. leucocephala germplasm from the Caribbean region was classified into two broad phenetic groups. These groups were identified as L. leucocephala var. leucocephala or the common type leucaena, and L. leucocephala var. glabrata or the giant type leucaena.

The common type was concluded to be typical of the region as it was present in all the territories sampled. Also, with 107 accessions it was the larger of the groups. The giant type was found mainly in St. Lucia.

The giant type was significantly taller, more vigorous and higher yielding than the common type. It was also higher in crude protein content and dry matter digestibility. The giant type seems to have good potential for forage production and further studies are recommended.

extending laboratory facilities and equipment.

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