

## **Original Research Article**

Diversity in fluted pumpkin (*Telfairia occidentalis*) phenotypic traits ~~in fluted pumpkin~~  
~~(*Telfairia occidentalis*)~~

### **ABSTRACT**

Fluted pumpkin (*Telfairia occidentalis*) is an important indigenous leaf and seed vegetable of West Africa. It is among the neglected and underutilized crops with high nutritional, medicinal and industrial potentials. Twenty five genotypes of fluted pumpkin collected from eleven states in Nigeria were planted in the 2012 and 2013 rainy seasons of 2012 and 2013 in Abeokuta and Akure to determine the genetic diversity in phenotypic traits among the genotypes. Randomized Complete Block Design (RCBD) was used and data were collected on growth and yield characters. Principal Component Analysis (PCA) and Single Linkage Cluster Analysis (SLCA) were employed to analyse the magnitude and pattern of diversity among the genotypes. Efficiency of the techniques in classifying these genotypes was also examined. The first eight PCA axes captured 90.77% of the total variance. The PCA identified marketable leaf yield, vine length, leaf fresh weight, vine fresh weight, leaf area, number of leaves, fruit weight, fruit length, number of seeds and seed weight as most important characters in discriminating the 25 fluted pumpkin genotypes. The genotypes were grouped into six clusters based on their level of similarity by the SLCA. These clusters displayed a wide range of diversity for most of the traits. SLCA proved to be an effective method in grouping the genotypes for efficient breeding programmes. The diverse genotypes identified in the different clusters could be used as parents and when crossed, heterosis could be achieved which would translate higher seed and leaf yield.

Comment [D01]: CONSIDER USING AT

Comment [D02]: ABEOKUTA AND

Comment [D03]: AKURE INSTEAD OF USING OF ABEOKUTA AND AKURE