Proceedings published at http://www.m.elewa.org/econferenceIeCAB.php

Numerical variation of plant characters among long cayenne pepper accessions (*Capsicum fructescens* L.)

Abstract ID: IeCAB011-402

Idowu-Agida, O.O and Ajayi, E.O
National Horticultural Research Institute Ibadan,
*__Corresponding author__: oluwakayodefunmi@gmail.com

ABSTRACT

Objective: This study aimed to assess variation of plant traits among cayenne pepper accessions to identify means of improving productivity through breeding.
Methodology and results: Nine quantitative characters were observed on 31 accessions of Long Cayenne pepper (*Capsicum frutesens L.*) collected from 7 States in Southwestern Nigeria. The trials were evaluated at the National Horticultural Research Institute (NIHORT), Ibadan, during the first and second cropping seasons of 2008. Experimental design was randomized complete block with three blocks. Accession × season interaction was significant for fruit yield. Correlation between fruit yield in the first and second season was very low (r =0.004) and not significant. Average fruit yield in the first season ranged from 26.0 g/plant for the accession from Sango to 118.7 g/plant for Akure while it ranged from 60.8 g/plant for Offa to 207.5 g/plant for Ifon in the second season. Most of the accessions, with the exception of Ado-Ekiti, Aramoko, Offa and Akure, had higher fruit yield in the second season compared to the first season. WCA summarized the relationships among the accessions at various levels of similarity into a dendogram to optimize the

minimum variance within clusters given percentage similarity between some groups, suggested some degree of phenotic. The intra-accession variability observed for fruit length suggests that the accessions are heterogeneous. Akure accession with yield not lower than 100g per plant in each of the two seasons shows stable, high performance and could be selected for further studies. Number of fruits per plant was a major determinant of fruit weight per plant (r = 0.85).
Application: An improvement in fruit weight per plant may be achieved through the breeding of Long Cayenne pepper varieties with high number of fruits per plant. The second season is more promising for Long Cayenne pepper production in Ibadan, Nigeria.

Key words: *Long Cayenne pepper, variation, correlation analysis.*