Genetic variability and development of cassava based products using morphometric and RAPD markers.

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Abstract : Background and Objective: Cassava (Manihot esculenta Crantz) and its product development are important to the diversification of the crop to enhance income, food sufficiency and security. Genetic variability among 12 cassava (Manihot esculenta Crantz) varieties were assessed using morphometric and RAPD markers aimed toward product development from the varieties. Materials and Methods: Twelve morphometric characters and five random primers were employed in the genetic assessment analyses using descriptive statistics, Correlation Coefficient (CC) and Cluster Analysis (CA). Results: All morphometric characters were significantly different ($p>0.01$) for the varieties. Harvest index (Hi) ranged from 0.41-0.46. The five random primers with an average of 55.2% polymorphism generated 139 polymorphic bands with primer P7 generating 68.05% of the cumulative variability observed. The RAPD analysis complemented the morphometric evaluation. The cluster analysis segregated the varieties into two major cluster groups with similar outcomes. Conclusion: The study provides improved understanding of the genetic basis of the varieties which can be exploited toward product development for commercial purpose and to ensure food security.

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