Title Variation of quality traits in cassava roots evaluated in landraces and improved clones

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Citation Euphytica 143 (1-2): 125-133. 2005.

Keywords carotene; crude protein; minerals; postharvest physiological deterioration

Abstract

About 70 million people obtain more than 500 cal per day from cassava roots. The crop is fundamental as food security of poor rural communities, but little is known about variability of root nutritional and quality traits. Roots from 2457 genotypes comprising landraces and improved clones, were screened for their nutritional (cyanogenic potential, carotene, minerals, and sugars contents) and agronomic (dry matter content, color intensity, and postharvest physiological deterioration) traits. The objective was to assess the range of variation for the traits evaluated to define future research strategies. Results are mostly based on unreplicated measurements. Carotene contents in the roots ranged from 0.102 to 1.040 mg/100 g fresh tissue and correlated positively with color intensity ($\rho = 0.860$) and cyanogenic potential ($\rho = 0.305$). Average levels of Fe and Zn were 17.1 and 7.5 mg/kg, respectively. Many clones derived from Meso-America showed high protein levels in the roots, probably as a result of the introgression from wild relatives only found in that region. The observed values for carotene, proteins and minerals contents suggest the potential for improving the nutritive value of cassava.