

Cyanide content and distribution in cassava plants, in association with physiological age

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Cassava is the major staple food of tropical Africa roots whereas leaves are mostly considered as a byproduct which are good source of protein, vitamins and minerals also they are available throughout the year and they should be accorded as much importance as the roots. A concern however is the risk of cyanide formation if leaves are insufficiently processed since these contain the cyanogenic glycosides linamarin (approximately 93% of total glucosides; 2-(β -D-glucopyranosyloxy)isobutyronitrile; derived from valine) and lotaustralin (2-(β -D-glucopyranosyloxy)- 2-methylbutyronitrile, derived from isoleucine). Fortunately, there are simple processes that remove the HCN from the leaves making them available for animal and human consumption. Trials with 50 cassava genotypes (*Manihot esculenta* Cranzt) from the genetic diversity collection of CIAT (Cali, Colombia) were used to assess the diversity of cyanide contents in cassava leaves and roots (external peels and parenchyma). The cyanide concentration in leaves was determined in 11 genotypes at three different physiological ages. (3, 6 y 11 months). Analysis of the data by seven diversity groups corresponding to the centers of domestication of the genus *Manihot* in Latin America put in evidence significant differences in terms of cyanide contents in leaves, peels and parenchyma. In particular, the Amazon and Andean groups were associated with high cyanide and low cyanide contents, respectively. This study showed that peels and leaves have a major cyanide content than parenchyma. Furthermore, the cyanide concentration is higher in young leaves, as they mature the content of HCN decreases over time. **These findings on cyanide content in a large number of genotypes and its relation with physiological age are important to identify genotypes with attractive attributes for increased utilization of cassava leaves.**