

EVALUATION OF CAROTENOID AND CYANOGEN CONTENT OF CASSAVA CHIP FLOUR

Luciana Alves de Oliveira¹; Soraia Machado da Silveira²; Mieko Kimura³; Vanderlei Silva Santos¹; Jaciene Lopes de Jesus¹; Antonio Uilian Rebouças Fiuza⁴; José Luiz Viana de Carvalho⁵

¹Embrapa Cassava and Fruits, Rua Embrapa S/N, 44380-000 Cruz das Almas, Bahia, Brazil; ²Maria Milza Faculty - FAMAM, Praça Manoel Caetano da Rocha Passos 308, 44380-000 Cruz das Almas, Bahia, Brazil, Paulista State University - UNESP, Rua Cristovão Colombo 2265, 15054-000 São José do Rio Preto, São Paulo, Brazil; ⁴Bahia Recôncavo Federal University - UFRB, Rua Rui Barbosa 710, 44380-000 Cruz das Almas, Bahia, Brazil; ⁵Embrapa Food Technology, Avenida das Américas 29501, 23020-470 Rio de Janeiro, Rio de Janeiro, Brazil.

Large genetic variation in carotenoid content has been reported to roots of cassava genotypes. Moreover, these pigments have to withstand different processing methods before cassava is consumed. This study aimed to evaluate the total carotenoids content and total cyanogen in the different root cassava and cassava chip flour. The oven-dried scraping flour was evaluated, using seven cassava sweet hybrids (03-11, 03-15, 03-27, 03-36, 14-16, 14-17 and 15-01). Eight cassava roots of each hybrid were harvested in the experimental field of Embrapa in Cruz das Almas, Bahia. The peeled roots were grated, spread in trays and dried in an oven at 55°C (16 to 20 hours). The fresh root showed 62.1 to 72.7% moisture and cassava chip flour 2.7 to 4.1%. The carotenoids content was between 15.5 to 23.8 $\mu\text{g g}^{-1}$ flour and 6.6 to 11.3 $\mu\text{g g}^{-1}$ fresh cassava. The total cyanogenic compounds showed values close to the fresh root and processed, 11.0 to 18.1 $\mu\text{g of HCN g}^{-1}$ and 10.6 to 21.7 $\mu\text{g of HCN g}^{-1}$, respectively. The 03-27 hybrid showed the highest carotenoid content in fresh cassava (11.3 $\mu\text{g g}^{-1}$) and flour (23.8 $\mu\text{g g}^{-1}$). The 03-36 genotype had the highest moisture (72.7%) and lowest carotenoid content (6.2 $\mu\text{g g}^{-1}$ fresh cassava), however this hybrid showed high carotenoid content in flour (21.0 $\mu\text{g g}^{-1}$). Of the seven hybrids, three showed carotenoid content in flour between 19.1 $\mu\text{g g}^{-1}$ (14-16) to 23.8 $\mu\text{g g}^{-1}$ (03-27). The hybrids 03-27, 03-36 and 14-16 showed high carotenoid content in cassava chip flour.