

PROGRESS IN ENHANCING CAROTENOIDS CONTENT IN CASSAVA ROOTS THROUGH THE YEAR 2008

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The harvest of new segregating progenies made during the year 2008 was affected by excess of water in a plot that turned out to have deficient drainages. At the time of harvest, therefore, there were too many genotypes that had rotten roots. Nonetheless there was a group of eight genotypes that showed excellent levels of total carotenoids content (TCC) with an average above 13 $\mu\text{g}\cdot\text{g}^{-1}$ FW. Unfortunately logistic problems precluded the evaluation of these roots through HPLC on fresh samples but on frozen ones (-20 °C), which turned out to have obvious overestimations by a factor that cannot be assessed. These genotypes have been cloned and are being evaluated again during 2009. Average total carotenoids content (at 10 months of age) was 8.9 $\mu\text{g}\cdot\text{g}^{-1}$ FW and, when measured again at 12 months, levels had increased to an average of 13.5 $\mu\text{g}\cdot\text{g}^{-1}$ FW. This demonstrates again the effect of age in the accumulation of TCC and the need to take the age factor into consideration in further evaluations. Roots from genotype GM 1521-9 (MCOL2547 x MPER297), when harvested at eight months of age (March 2009), provided a TCC value of 14.3 $\mu\text{g}\cdot\text{g}^{-1}$ FW. It is expected that the same genotype harvested at 12 months of age (August 2009) will have significantly higher values.

Keywords: Carotenoids, cassava, plant breeding.

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