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Total carotenoids, α -carotene and β -carotene of landrace pumpkins (*Cucurbita moschata duch*): A preliminary study

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Introduction: A large part of the population in developing countries, such as Brazil, and those below the poverty line, suffer of Vitamin A deficiency, mainly children and pregnant women. Landrace pumpkins occur in nature and their potential as source of pro-vitamin A may be investigated in order to be used in conventional plant breeding or biofortification programs, aiming to increase the total carotenoids and β -carotene contents. The objective of this study was to determine the total carotenoid, β -carotene and α -carotene contents in two samples (A and B) of raw pumpkins (*Cucurbita moschata Duch*) to verify its seed production potential.

Methodology: The pumpkins were cultivated in June 2009, within a 120 day harvest cycle. High Performance Liquid Chromatography and UV/Visible spectrophotometry were used to determine β -carotene and α -carotene, and total carotenoid contents. All analyses were carried out in triplicate.

Results and Discussion: The results showed mean total carotenoid contents of 344.7 in sample A, and 234.21 $\mu\text{g/g}$ in sample B. The contents of total α -carotene varied from 67.06 to 72.99 $\mu\text{g/g}$ in samples A and B, respectively. Total β -carotene content varied from 258.16 $\mu\text{g/g}$ to 151.69 $\mu\text{g/g}$ of β -carotene in samples A and B, respectively.

Conclusions: The content of total β -carotene in raw sample A showed to be promising for the production of seeds for cultivation and consumption.

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