

Title Carotenoid content in fresh and dry pepper *Capsicum annuum* L. fruits for paprika production

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Abstract

Regarding the tendency of food industry to use natural colorants, ground paprika and oleoresins have become especially attractive. However, carotenoids, the main coloring agents of paprika are prone to oxidative degradation. In order to achieve standard quality of the final products, there is a need to understand carotenoid composition and content change during the period of ripening, postharvest manipulation and technological process of ground paprika production. Thus, the aim of this study was to determine carotenoid composition and content in fresh and dry pepper fruits. In order to achieve that, variety of *Capsicum annuum* AlevaNK intended for production of paprika powder in brown phase of maturity was used. Carotenoids were extracted from fresh and dry pepper samples with acetone and after purification, separation and determination of extracted carotenoids was performed by reverse phase HPLC system with DAD detection. Referring to the obtained results, drying and milling of pepper fruits caused a decrease in number of free and esterified carotenoids. Ripening, milling and drying processes resulted in decrease in number of identified carotenoids of paprika. Also, increase of proportion of mono and diesterified carotenoids, increase of proportion of red carotenoids and decrease of proportion of yellow ones and increase of proportion of capsanthin occurred during the postharvest treatment of paprika .